TRANSPORTATION ASSESSMENT FOR THE FOURTH & CENTRAL PROJECT

LOS ANGELES, CALIFORNIA

JULY 2022

PREPARED FOR

CP LA COLD STORAGE LAND, LLC

PREPARED BY

Gibson
transportation consulting, inc.

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Chapter 1
Introduction

This study presents the transportation assessment for the proposed Fourth & Central Project (Project) generally located at 400 S. Central Avenue (Project Site) in the *Central City Community Plan* (Los Angeles Department of City Planning [LADCP], Updated September 2016) area of the City of Los Angeles, California (City). The methodology and base assumptions used in the analysis were established based on direction from the Los Angeles Department of Transportation (LADOT).

PROJECT DESCRIPTION

The Project Site consists of six parcels clustered across three blocks:

- APN 5147-001-007 (North Site)
- APN 5147-013-016 (South Site)
- APNs 5147-012-015, 5147-011-015, -016, -017 (West Site)

The 360,734 sf of cold storage warehouse uses on the North Site and South Site and the existing surface parking lot on the West Site would be removed to accommodate the Project. The Project intends to adaptively reuse a portion of existing cold storage warehouse uses on the North Site.

The Project would include a mix of residential, office, commercial restaurant/retail, and hotel uses within 10 distinct buildings across the Project Site. This includes 1,521 residential units, 68 hotel rooms, 411,113 square feet (sf) of office, and 114,112 sf of commercial retail and restaurant uses[1]. The Project Site would also provide amenities for the residents, guests, and employees to the Project, such as communal open space.

[1] The Project includes 101,088 sf restaurant/retail floor area for purposes of calculating floor area per Los Angeles Municipal Code (LAMC) requirements. An additional potential 13,024 sf of outdoor dining/patio space may be incorporated into the Project, which does not count towards the LAMC calculation of floor area. To provide a conservative analysis of potential transportation impacts associated with the Project's retail/restaurant uses, the analyses included herein evaluates a total of 114,112 sf of restaurant/retail uses. It is assumed there would be 45,266 sf of retail uses and 68,846 sf of restaurant uses.

The North Site includes approximately 449 residential units, and 29,072 sf of commercial retail and restaurant uses. The South Site includes 928 apartment units, 68 hotel rooms, approximately 411,113 sf of office space, and approximately 85,040 sf of commercial retail and restaurant uses. The West Site includes the remaining 144 residential units.

A total of 2,475 parking spaces, including electric vehicle parking, would be provided on-site within at-grade and subterranean parking levels at the three sites. The Project would also provide 740 bicycle parking spaces, including both short-term and long-term spaces, throughout the Project Site. The Project would also include publicly accessible open space consisting of paseos connecting Central Avenue and Alameda Street, plazas, and pocket parks within the North and South Sites. The Project would also include mobility features such as bicycle parking and amenities and a bikeshare station, while also locating development in proximity to the future Los Angeles County Metropolitan Transportation Authority's (Metro) Regional Connector.

Primary vehicular access would be provided via driveways along 4th Street, Central Avenue, Gladys Avenue, and Alameda Street to the three sites and is described as follows:

- South Site: Two driveways would be provided along the east side of Central Avenue and one driveway would be provided along Alameda Street. A designated passenger drop-off area would be provided on-site along Alameda Street, located just south of 4th Street. The driveway on Alameda Street and the northernmost driveway on Central Avenue would be connected by an internal east-west drive aisle and would accommodate right-turn and left-turn ingress and egress movements. The southernmost driveway on Central Avenue would align with the existing traffic signal at 5th Street and would accommodate all ingress and egress movements. Passenger loading and unloading areas would also be provided on-site and may also be provided along Alameda Street subject to City approval.

- North Site: One driveway would be provided along Central Avenue and one along 4th Street, with an internal drive aisle connecting them to provide access to the parking podium and subterranean levels. The Central Avenue driveway would accommodate both left-turn and right-turn ingress and egress movements. The 4th Street driveway would accommodate left-turn ingress and egress movements only due to the one-way orientation of 4th Street. Additional delivery and truck loading access would be provided

from the internal drive aisle, with ingress from the Central Avenue driveway and egress from the 4th Street driveway.

- West Site: One driveway would be provided along Central Avenue and one driveway would be provided along Gladys Avenue to access to residential uses. The Central Avenue driveway would accommodate both right-turn and left-turn ingress and egress movements, while the Gladys Avenue driveway would accommodate right-turn ingress and egress movements only.

The Project is anticipated to be completed in Year 2030. The conceptual Project site plan is shown in Figure 1.

PROJECT LOCATION

As illustrated in Figure 2, the Project Site consists of the North Site, which is generally bounded by commercial uses to the north, a surface parking lot and commercial uses to the east, 4th Street to the south, and Central Avenue to the west; the South Site, which is generally bounded by 4th Street to the north, Alameda Street to the east, industrial uses to the south, and Central Avenue to the west; and the West Site, which is generally bounded by commercial uses to the north and west, Central Avenue to the east, and 5th Street and commercial uses to the south. The Project Site is located in a highly urbanized area that is largely developed with general commercial and manufacturing uses such as wholesale, warehouse, and food processing facilities.

Regional Access

The Project is located approximately 0.75 miles south of the Hollywood Freeway (US 101), approximately 1.30 miles north of the Santa Monica Freeway (I-10), and approximately 1.00 miles west of Santa Ana Freeway (I-5). The Project Site is primarily served by arterial streets such as Alameda Street, Central Avenue, 4th Street, and 6th Street.

Transit Access

The Project Site is located approximately 0.50 miles south of the existing street-level Metro L Line (formerly Gold Line) Little Tokyo/Arts District Station. The L Line travels between Azusa and East Los Angeles. Since October 2020, the existing street-level Metro L Line Little Tokyo/Arts District Station has been permanently closed due to construction of the Metro Regional Connector project, and bus shuttles have replaced service between Union Station and the Pico/Aliso Station while construction of the Metro Regional Connector is underway. As part of the final construction of the Metro Regional Connector, the existing street-level Metro L Line Little Tokyo/Arts District Station will be demolished and replaced with a future underground station located at Central Avenue & 1st Street, which is within 0.40 miles of the Project Site and scheduled to be open in late Year 2022. The future underground Little Tokyo/Arts District Station will also serve the Metro Regional Connector, which is scheduled to be open and operational in late Year 2022. Additionally, the Project is served by multiple bus and shuttle lines operated by Metro, LADOT Downtown Area Short Hop (DASH), and Montebello Bus along 1st Street, 4th Street, 7th Street, Central Avenue, and Alameda Street.

Bicycle Access

In the vicinity of the Project Site, existing bicycle lanes are provided on 3rd Street between San Pedro Street and Santa Fe Avenue, 5th Street west of Central Avenue, and Mateo Street between Santa Fe Avenue and 6th Street. 1st Street and 2nd Street west of Santa Fe Avenue have been designated as bicycle routes.

STUDY SCOPE

The scope of analysis for this study was developed in consultation with LADOT and is consistent with *Transportation Assessment Guidelines* (LADOT, July 2020) (TAG) and in compliance with the California Environmental Quality Act (CEQA) Guidelines. The base assumptions and technical methodologies (i.e., trip generation, study locations, analysis methodology, etc.) were identified as part of the study approach and were outlined in a Memorandum of Understanding (MOU) that was reviewed and approved by LADOT in December 2021 and is provided in Appendix A.

ORGANIZATION OF REPORT

This report is divided into six chapters, including this introduction. Chapter 2 describes the Project context including the existing and future circulation system, traffic volumes, and traffic conditions in the Study Area. Chapter 3 describes the Project traffic assumptions and trip generation. Chapter 4 presents the CEQA analysis of transportation impacts. Chapter 5 details the non-CEQA transportation analyses. Chapter 6 summarizes the analyses and study conclusions. The appendices contain supporting documentation, including the MOU that outlines the study scope and assumptions, and additional details supporting the technical analyses.



Source: Studio One Eleven. April, 2021.

PROJECT SITE PLAN

FIGURE 1



PROJECT SITE LOCATION

FIGURE 2

Chapter 2
Project Context

A comprehensive data collection effort was undertaken to develop a detailed description of existing and future conditions in the Study Area.

The Existing Conditions analysis includes an assessment of the existing transportation infrastructure and conditions of the Study Area including freeway and street systems and public transit service, as well as pedestrian and bicycle circulation, at the time the MOU was approved in December 2021. An inventory of lane configurations, signal phasing, parking restrictions, etc., for the analyzed intersections was also collected.

In addition, this Chapter contains a discussion of the future conditions detailing the assumptions used to develop the Future without Project Conditions in Year 2030, which correspond to anticipated occupancy of the Project.

STUDY AREA

The Project's non-CEQA operational analysis Study Area, shown in Figure 3, includes a geographic area that is generally bounded by 1st Street to the north, Merrick Street/Molino Street to the east, 7th Street to the south, and San Pedro Street to the west. This Study Area was established in consultation with LADOT based on the following factors identified in the TAG:

1. Primary driveway(s)
2. Intersections at either end of the block on which the Project is located or up to 600 feet from the primary Project driveway(s)
3. Unsignalized intersections adjacent to the Project site that are integral to the Project's site access and circulation plan
4. Signalized intersections in proximity to the Project Site where 100 or more Project trips would be added

As listed in Table 1, a total of 18 study intersections, including 17 signalized and one unsignalized, were identified for detailed analysis during the MOU process and are illustrated in Figure 3. The existing lane configurations at the analyzed intersections are provided in Figure 4.

EXISTING TRANSPORTATION CONDITIONS

Existing Street System

The existing street system in the Study Area consists of a regional roadway system including arterials and local streets that provide regional, sub-regional, or local access and circulation to the Project. These transportation facilities generally provide two to four travel lanes and usually allow parking on one or both sides of the street. Typically, the speed limits range between 25 and 35 miles per hour (mph) on the streets and between 55 and 65 mph on the freeways surrounding downtown.

Street classifications are designated in *Mobility Plan 2035, An Element of the General Plan* (LADCP, September 2016) (Mobility Plan). The Mobility Plan defined specific street standards in an effort to provide an enhanced balance between traffic flow and other important street functions including transit routes and stops, pedestrian environments, bicycle routes, building design and site access, etc. The Mobility Plan defines street classifications are defined as follows:

- Arterial Streets are major streets that serve through traffic, as well as provide access to major commercial activity centers. Arterials are divided into two categories:
    - Boulevards represent the widest Arterial 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, and generally includes a right-of-way (ROW) width of 136 feet and pavement width of 100 feet.
        - Boulevard II provides up to three travel lanes in each direction with a target operating speed of 35 mph, with ROW widths varying from 100-110 feet, and pavement widths from 70-80 feet.
    - Avenues are typically narrower Arterial Streets that pass through both residential and commercial areas and include three categories:

- Avenue I provides up to two travel lanes in each direction with a target operating speed of 35 mph, with a ROW width of 100 feet and pavement width of 70 feet.

- Avenue II provides up to two travel lanes in each direction with a target operating speed of 30 mph, with a ROW width of 86 feet and pavement width of 56 feet.

- Avenue III provides up to two travel lanes in each direction with a target operating speed of 25 mph, with a ROW width of 72 feet and pavement width of 46 feet.

- Collector Streets are generally located in residential neighborhoods and provide access to and from Arterial Streets for local traffic and are not intended for cut-through traffic. They provide one travel lane in each direction with operating speed of 25 mph, with a ROW width of 66 feet and pavement width of 40 feet.

- Local Streets are intended to accommodate lower volumes of vehicle traffic and provide parking on both sides of the street. They provide one travel lane in each direction with a target operating speed of 15 to 20 mph. Pavement widths may vary between 30-36 feet within a ROW width of 50-60 feet.

Primary regional access to the Project Site is provided by US 101, I-5, and I-10. The arterials providing access to the Project Site includes 4th Street, Alameda Street, and Central Avenue. The following is a brief description of the roadways in the Study Area, including their classifications under the Mobility Plan:

Freeways

- US 101 – US 101 generally runs in the north-south direction and is located less than 1.00 mile east and 0.75 miles north of the Project Site. In the vicinity of the Project Site, US 101 provides three travel lanes in each direction. Access to and from US 101 is available via interchanges at 1st Street, 4th Street, and Alameda Street.

- I-5 – I-5 generally runs in the north-south direction and is located less than 1.00 miles east of the Project Site. In the vicinity of the Project Site, I-5 provides five travel lanes in each direction. Access to and from I-5 is available via interchanges at 4th Street.

- I-10 – I-10 generally runs in the east-west direction and is located 1.30 miles south of the Project Site. In the vicinity of the Project Site, I-10 provides three to five travel lanes in each direction. Access to and from I-10 is available via interchanges at Alameda Street.

Roadways

- San Pedro Street – San Pedro Street is a designated Avenue II and travels in the northeast-southwest direction. It is located west of the Project Site and provides four travel lanes, two lanes in each direction, with left-turn lanes at major intersections. Unmetered parking is generally available south of 6th Street on the west side of San Pedro Street; elsewhere, parking is generally prohibited within the Study Area. Metered parking is generally available on both sides of the street north of 5th Street within the Study Area.

- Gladys Avenue – Gladys Avenue is a designated Local Street. It travels in the north-south direction and is located on the eastern boundary of the West Site. It provides two travel lanes, one in each direction. Unmetered parking is generally available on both sides of the street within the Study Area.

- Central Avenue – Central Avenue is a designated Avenue I. It travels in the north-south direction and is located adjacent to the western boundary of the North and South Sites and the eastern boundary of the West Site. It provides four travel lanes, two in each direction, with left-turn lanes provided at major intersections. Metered and unmetered parking is generally available on both sides of the street north of 6th Street within the Study Area.

- Alameda Street – Alameda Street is a designated Avenue I. It travels in the north-south direction and is located on the eastern boundary of the South Site. It provides four travel lanes, two in each direction, with left-turn lanes at intersections and a two-way left-turn median. Metered parking is available on the west side of the street between 3rd and 4th Streets and on the east side of the street north of 2nd Street; elsewhere, parking is generally prohibited within the Study Area.

- Hewitt Street – Hewitt Street is a designated Collector Street. It travels in the north-south direction and is located east of the Project Site. It provides two travel lanes, one in each direction. Unmetered parking is generally available within the Study Area.

- Molino Street – Molino Street is a designated Collector Street. It travels in the north-south direction and is located east of the Project Site. It provides two travel lanes, one in each direction. Unmetered parking is generally available on both sides of the street within the Study Area.

- Merrick Street – Merrick Street is a designated Collector Street. It travels in the north-south direction and is located east of the Project Site. It provides two travel lanes, one in each direction. Unmetered parking is generally available on both sides of the street within the Study Area.

- 1st Street – 1st Street is a designated Avenue II east of Alameda Street and a designated Modified Avenue II west of Alameda Street within the Study Area. It travels in the east-west direction and is located north of the Project Site. It provides four travel lanes, two in each direction, with left-turn lanes at select intersections. Bicycle routes with shared lane markings (“sharrows”) are provided in the eastbound and westbound directions within the Study Area. Parking is generally prohibited east of Alameda Street, with metered spots available on both sides of the street west of Alameda Street.

- 2nd Street – 2nd Street is a designated Collector Street east of Alameda Street and a designated Modified Collector Street west of Alameda Street. It travels in the east-west direction and is located north of the Project Site. Bicycle routes with sharrows are provided in the eastbound and westbound directions west of Santa Fe Avenue within the Study Area. It provides two travel lanes, one in each direction. Metered and unmetered parking is generally available on both sides of the street within the Study Area.

- 3rd Street – 3rd Street is a designated Collector Street east of Alameda Street and a designated Avenue II west of Alameda Street. It travels in the east-west direction and is located north of the Project Site. It provides four one-way westbound travel lanes with a striped bicycle lane between San Pedro Street and Santa Fe Avenue. Unmetered parking is generally available within the Study Area and is metered west of Alameda Street.

- 4th Place – 4th Place is a designated Avenue II between Alameda Street and 4th Street and a designated Collector Street between Molino Street and 4th Street. It travels in the east-west direction and is located northeast of the Project Site. 4th Place diverges from 4th Street at Hewitt Street and converges with 3rd Street at Alameda Street. It provides four one-way westbound travel lanes between Alameda Street and 4th Street and two travel lanes, one in each direction, between Molino Street and 4th Street. Unmetered parking is generally available within the Study Area and is metered between Alameda Street and 4th Street.

- 4th Street – 4th Street is a designated Avenue III between Alameda Street and 4th Place, directly adjacent to the Project Site, and transitions to a designated Avenue II west of Alameda Street. It generally travels in the east-west direction and is located on the northern boundary of the South Site and southern boundary of the North Site. It provides five travel lanes, two in each direction and a bi-directional center lane, east of Hewitt Street and four eastbound lanes west of Hewitt Street. Unmetered parking is generally available on both sides of the street with morning and afternoon peak hour restrictions west of Hewitt Street within the Study Area. Parking is generally prohibited east of Hewitt Street.

- 5th Street – 5th Street is a designated Avenue II west of Central Avenue and a designated Collector Street east of Alameda Street. It travels in the east-west direction. 5th Street is discontinuous between Central Avenue and Alameda Street where it intersects with the Project Site. It provides two one-way westbound lanes and a bus-only lane that operates on weekdays from 7:00 AM to 7:00 PM on the north side of the street and a protected bicycle lane on the south side of the street, west of Central Avenue. It provides two travel lanes, one in each direction, east of Alameda Street. Unmetered parking is generally available on both sides of the street east of Alameda Street within the Study Area.

- 6th Street – 6th Street is a designated Avenue II. It travels in the east-west direction and is located south of the Project Site. It provides four travel lanes, two in each direction, with left-turn lanes at major intersections. Metered and unmetered parking is generally available within the Study Area.

- 7th Street – 7th Street is a designated Avenue II. It travels in the east-west direction and is located south of the Project Site. It provides four travel lanes, two in each direction, with left-turn lanes at major intersections. Unmetered parking is generally available with morning and afternoon peak hour restrictions on both sides of the street within the Study Area.

As required by the TAG, an inventory was conducted of facilities serving pedestrians, bicyclists, and transit riders. The existing mobility facilities at each of the analyzed Study Area intersections are detailed in Figure 5 and the street designations per the Mobility Plan are shown in Figure 6.

Existing Pedestrian Facilities

The walkability of existing facilities is based on the availability of pedestrian routes necessary to accomplish daily tasks without the use of an automobile; these attributes are quantified by WalkScore.com and assigned a score out of 100 points. With the various commercial businesses and entertainment facilities adjacent to residential uses, the walkability of the area is approximately 92 points[2].

The signalized intersections surrounding the Project Site provide pedestrian phasing, continental crosswalk striping[3], and Americans with Disabilities Act (ADA) accessible ramps. Adjacent to the Project Site, 14-foot wide sidewalks are provided along Central Avenue, eight-foot wide sidewalks are provided along Alameda Street, 10-foot to 26-foot wide sidewalks are provided along 4th Street, and 10-foot sidewalks are provided along Gladys Avenue. Additional pedestrian facilities, not immediately adjacent to the Project Site, are located within the Study Area and are further detailed in Figure 7.

Vision Zero

As described in *Vision Zero: Eliminating Traffic Deaths in Los Angeles by 2025* (City of Los Angeles, August 2015), Vision Zero is a traffic safety policy that promotes strategies to eliminate transportation-related collisions that result in severe injury or death. Vision Zero has identified the High Injury Network (HIN), a network of streets included based on collision data from the last five years, where strategic investments will have the biggest impact in reducing death and severe

[2] Walk Score (www.walkscore.com) rates the Project Site with a score of 92 of 100 possible points (scores accessed on January 4, 2022, for 400 S. Central Avenue). Walk Score calculates the walkability of specific addresses by taking into account the ease of living in the neighborhood with a reduced reliance on automobile travel.

[3] Continental crosswalks are high-visibility roadway markings designed with thick vertical striping.

injury. As shown in Figure 8, the following streets located within the Study Area have been identified in the HIN:

- 4th Street between San Pedro Street and Alameda Street
- Alameda Street north of 6th Street
- Central Avenue (entirety within the Study Area)
- 1st Street west of Alameda Street
- 2nd Street between Central Avenue and Alameda Street
- 5th Street west of Stanford Avenue
- 6th Street between Alameda Street and Mateo Street and west of Stanford Avenue
- 7th Street (entirety within the Study Area)

Existing Transit System

Figure 9 illustrates the existing transit service and transit stops within the Study Area, which are served by bus lines operated by Metro, LADOT DASH, and Montebello Bus Lines. In addition to the bus lines, the Metro L Line operates within the Study Area, with the Little Tokyo/Arts District Station located approximately 0.50 miles from the Project Site.

Table 2 summarizes the various transit lines operating in the Project Area for each of the service providers in the region, the type of service (peak vs. off-peak, express vs. local), and frequency of service. The average headways during the peak hour were conservatively estimated using detailed trip and ridership data provided by Metro from April 2019, prior to the State and City response to COVID-19 and the implementation of service improvements as part of Metro's NextGen Bus Plan, as well as schedule information from each respective transit provider.

Tables 3A and 3B summarize the available capacity of the Metro, LADOT DASH, and Montebello Bus transit lines during the morning and afternoon peak hours, based on the frequency of service of each line, detailed ridership data provided by the transit provider, and the maximum seated and standing capacity. As shown, the transit lines within the Study Area currently have available capacity for 9,091 additional riders during the morning peak hour and 8,673 additional riders during the afternoon peak hour.

Existing Bicycle System

Based on *2010 Bicycle Plan, A Component of the City of Los Angeles Transportation Element* (LADCP, adopted March 1, 2011) (2010 Bicycle Plan), the existing bicycle system consists of a limited network of bicycle lanes (Class II) and bicycle routes (Class III). Class II bicycle lanes are a component of street design with dedicated striping, separating vehicular traffic from bicycle traffic. These facilities offer a safer environment for both cyclists and motorists. Class III bicycle routes and bicycle-friendly streets are those where motorists and cyclists share the roadway and there is no separated striping for bicycle travel. Bicycle routes and bicycle-friendly streets are preferably placed on Collector and lower volume Arterial Streets. Bicycle routes with sharrows remind bicyclists to ride farther from parked cars to prevent collisions, increase awareness of motorists that bicycles may be in the travel lane, and shows bicyclists the correct direction of travel.

The components of the 2010 Bicycle Plan have been incorporated into the bicycle network of the Mobility Plan. The Mobility Plan consists of a Bicycle Enhanced System (Low-Stress Network) and a Bicycle Lane Network. The Bicycle Enhanced Network is a subset of and supplement to the 2010 Bicycle Plan and is composed of a network of streets that prioritize bicyclists and provide bicycle paths and protected bicycle lanes (Class IV). Class IV protected bicycle lanes including cycle tracks, bicycle traffic signals, and demarcated areas to facilitate turns at intersections and along neighborhood streets, provide further protection from other travel lanes. These Class IV networks typically provide mini-roundabouts, cross-street stop signs, crossing islands at major intersection crossings, improved street lighting, bicycle boxes, and bicycle-only left-turn pockets. Once implemented, these facilities would offer a safer environment for both cyclists and motorists. The Bicycle Lane Network consists of Class II bicycle lanes with striped separation.

As shown in Figure 8, the following bicycle facilities are provided along corridors within the Study Area:

Bicycle Lanes (Class II)

- 3rd Street between San Pedro Street and Santa Fe Avenue
- Mateo Street between 4th Street and 6th Street
- 5th Street west of Central Avenue

Bicycle Routes (Class III)

- 1st Street west of Alameda Street
- 2nd Street west of Santa Fe Avenue

Existing Traffic Volumes

Due to the ongoing construction of the 6th Street Viaduct and the resulting closure of 6th Street between Mateo Street and US 101, traffic traveling in the east/west direction has shifted to detour routes, specifically 4th Street and 7th Street. In addition, due to the current traffic conditions related to the State and City response to COVID-19, LADOT has directed transportation assessments to utilize traffic counts collected before March 1, 2020, prior to the Safer At Home order, when local schools were in session, businesses were operational, etc. Based on discussions with LADOT staff, the collection of new traffic counts was not recommended, as new traffic counts would not reflect typical traffic patterns within the Study Area. Therefore, historical traffic count data from Years 1995 to 2017 were utilized. An ambient growth rate of 1% per year was applied to the traffic counts to reflect regional growth and development between the year of the traffic count and the existing year. Although the turning movement counts were conducted during different days and months of the year, a review of the data and existing conditions indicated that the traffic volume flow through the Study Area were consistent. Thus, for the purposes of this analysis, the Existing Conditions traffic volumes represent conditions as of the approval of the Project's MOU. The existing intersection peak hour traffic volumes are illustrated in Figure 10. The traffic count worksheets are provided in Appendix B.

FUTURE CUMULATIVE TRANSPORTATION CONDITIONS

The forecast of Future without Project Conditions was prepared in accordance with procedures outlined in the TAG. Specifically, two requirements are provided for developing the cumulative traffic volume forecast:

> "The Transportation Assessment must estimate ambient traffic conditions for the study horizon year selected during the scoping phase and recorded in the executed MOU. The study must clearly identify the horizon year and annual ambient growth rate used for the study. The horizon year should align with the development project's

expected completion year. For development projects constructed in phases over several years, the Transportation Assessment should analyze intermediary milestones before the buildout and completion of the project. The annual ambient growth rate shall be determined by LADOT staff during the scoping process and can be based on an adopted TSP, the most recent SCAG regional transportation model, the citywide transportation model, or other empirical information approved by LADOT.

"The Transportation Assessment must consider related projects. For related development projects, this should include the associated trip generation for known development projects within one-half mile (2,640 foot) radius of the project site and one-quarter mile (1,320 foot) radius of the farthest outlying study intersections. Consultation with the Department of City Planning and LADOT may be required to compile the related projects list. The City's ZIMAS database can be used to assist in identifying development projects that have submitted applications to the City of Los Angeles. Project access and circulation constraints would be determined by adding project-generated trips to future base traffic volumes including ambient growth and related projects and conducting the operational analysis."

As described in detail below, this analysis includes increases to traffic from future projects and from regional growth projections. The ambient growth factor discussed below likely includes some traffic increases resulting from the Related Projects (defined below). Therefore, through some inherent double-counting of vehicles, the traffic analysis provides a highly conservative estimate of Future without Project traffic volumes.

The Future without Project traffic volumes, therefore, include ambient growth, which reflects increases in traffic due to regional growth and development outside the Study Area, as well as traffic generated by ongoing or entitled projects near or within the Study Area.

Ambient Traffic Growth

Traffic levels are expected to increase over time as a result of regional growth and development in and around the Study Area. Based on discussions with LADOT during the MOU process, a conservative ambient growth factor of 1% per year compounded annually was applied by adjusting the existing traffic volumes to reflect Year 2030 traffic volumes. The total adjustment applied over the nine-year period corresponding to the buildout year of the Project was 9.37%. This growth factor accounts for increases in traffic due to potential projects plus projects not yet proposed and projects located outside the Study Area.

Related Projects

In accordance with the TAG, this study also considered the effects of the Project in relation to other developments either proposed, approved, or under construction (collectively, the Related Projects). Including this analysis step, the potential impact of the Project is evaluated within the context of past, present, and probable future developments capable of producing cumulative impacts.

The list of Related Projects is based on information provided by LADCP and LADOT, as well as recent traffic studies prepared for projects in the area. The Related Projects are detailed in Table 4 and shown in Figure 11.

Though the buildout years of many of these Related Projects are uncertain and may be well beyond the buildout year of the Project, and notwithstanding that some may never be approved or developed, and some may be approved for a smaller development envelope than currently proposed, all were considered as part of this study and conservatively assumed to be completed by the Project buildout Year 2030. Therefore, the traffic growth due to the development of Related Projects considered in this analysis is highly conservative and, by itself, substantially overestimates the actual traffic volume growth in the Study Area that would likely occur prior to Project buildout. With the addition of the 1% per year ambient growth factor previously discussed, the Future without Project cumulative condition is even more conservative.

Using these assumptions, the potential transportation effects of the Project were evaluated. The development of estimated traffic volumes added to the Study Area as a result of Related Projects involves the use of a three-step process: trip generation, trip distribution, and trip assignment.

Trip Generation. Trip generation estimates for the Related Projects were provided by LADOT or were calculated using a combination of previous study findings and the trip generation rates contained in the *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers [ITE], 2017). The Related Projects trip generation estimates summarized in Table 4 are conservative in that they do not in every case account for either the existing uses to be removed or the likely use of other travel modes (transit, walk, etc.) Further, in many cases, they do not account for the internal capture trips within a multi-use development, nor the interaction of trips between multiple Related Projects within the Study Area, in which one Related Project serves as the origin for a trip destined for another Related Project.

Trip Distribution. The geographic distribution of the traffic generated by the Related Projects is dependent on several factors. These include the type and density of the proposed land uses, the geographic distribution of the population from which the employees/residents and potential patrons of the proposed developments are drawn, and the location of these projects in relation to the surrounding street system. These factors are considered along with logical travel routes through the street system to develop a reasonable pattern of trip distribution.

Trip Assignment. The trip generation estimates for the Related Projects were assigned to the local street system using the trip distribution pattern described above. Figure 12 shows the peak hour traffic volumes associated with these Related Projects at the study intersections.

Future without Project Traffic Volumes

The Related Project volumes were then added to the existing traffic volumes after adjustment for ambient growth through the projected buildout year of 2030. As discussed above, this is a conservative approach as many of the Related Projects may already be reflected in the ambient growth rate. These volumes represent the Future without Project Conditions (i.e., ambient traffic growth and Related Project traffic added to existing traffic volumes) for the 18 study intersections and are shown in Figure 13.

Future Roadway Improvements

The analysis of Future Conditions considered roadway improvements that were funded and reasonably expected to be implemented prior to the buildout of the Project in Year 2030. Any roadway improvement that would result in changes to the physical configuration at the study intersections would be incorporated into the analysis. Other proposed traffic / trip reduction strategies such as transportation demand management (TDM) programs for individual buildings and developments were omitted from the Future Conditions analyses. Figure 14A illustrates the future transportation facilities improvements within the Study Area, while Figure 14B includes future transit, bicycle, and pedestrian facilities per the Mobility Plan within the Study Area. The following projects were evaluated for their potential effects on the future roadway configurations.

6th Street Viaduct Replacement Project. Due to a rare chemical reaction in the cement supports and seismic vulnerability, the 6th Street Viaduct, which provided a connection between the Arts District and the Boyle Heights neighborhood, was demolished in early Year 2016 as part of the 6th Street Viaduct Replacement Project. As a result, 6th Street/Whittier Street between Mateo Street and US 101 is closed to through traffic. Traffic count data collected prior to the closure of 6th Street were utilized as the basis of the operational analysis. Therefore, the traffic volumes represent typical conditions, and no traffic redistribution was required in the Future Conditions operational analysis to account for the re-opening of 6th Street. Construction of the new bridge is anticipated to be complete in Summer 2022.

Arts District Active Transportation Program. Recent Active Transportation Program (ATP) funding was awarded to Council District 14 to create a more multi-modal environment in the Arts District. Construction of the ATP improvements began in Year 2020. ATP improvements within the Study Area include the installation of bicycle facilities on Santa Fe Avenue, Mateo Street, and Traction Avenue. These bicycle improvements would not require the removal of any travel lanes. However, the Arts District ATP does include the realignment of Merrick Street/Molino Street & 4th Street (Intersection #18) to accommodate a new pedestrian plaza. This improvement would require the removal of one southbound approach lane and would also modify traffic signal phasing at the intersection, as shown in Figure 4 and Appendix C. Completion of the ATP improvements is projected in Year 2022. Thus, the Future Conditions analysis assumes the completion of ATP improvements by the time of the Project buildout year of 2030.

LADOT DASH Route Expansion. LADOT is conducting a thorough line-by-line analysis of its existing transit services to determine whether expectations are being met and to identify expansion opportunities to existing transit service and routes. Within the Study Area, LADOT has proposed changes to the DASH A and DASH F lines.

As described previously, DASH A currently travels between City West and Little Tokyo and DASH F currently travels between the Financial District and Exposition Park/University of Southern California. With the proposed changes, DASH A would run between the Los Angeles Sports and Entertainment District and Little Tokyo. Adjacent to the Project Site, minor route changes would shift DASH A from Merrick Street to Hewitt Street via Traction Avenue. The proposed changes to DASH F would extend the route to Union Station via 7th Street and Santa Fe Avenue. Detailed information about the proposed route changes is provided in Appendix D. The timeline of

implementation for these improvements to DASH A and F began in July 2021 and would continue through the end of Year 2024. Nonetheless, the improvements would not affect the configurations of the corridors in the Study Area.

Metro Regional Connector. The Metro Regional Connector project is a 1.90-mile underground light-rail system that will extend from the Little Tokyo/Arts District Station to the 7th Street/Metro Center Station, allowing passengers to make direct transfers between the A, B, D, E, and L Lines. The Metro Regional Connector will improve access to both local and regional destinations by providing continuous service between these lines and providing connectors to other rail lines via the 7th Street/Metro Center Station. Three new transit stations will be developed with the operation of the Metro Regional Connector. The closest new transit station will be located at 1st Street & Central Avenue, approximately 0.40 miles north of the Project Site, which would also serve the Metro L Line. The Metro Regional Connector is anticipated to be complete and in operation in late Year 2022. The Metro Regional Connector will be underground and will not affect the configurations of the corridors in the Study Area.

Connect US Action Plan. Metro's *Connect US Action Plan* (Metro, 2015) is a strategy to encourage walking and bicycling to Union Station and the future Metro Regional Connector 1st/Central Station from surrounding neighborhoods. *Connect US Action Plan* consists of constructing Esplanades, Walk-Bike Streets, and Walk Streets within existing public ROW, without additional dedication or acquisition of additional ROW. Within the Study Area, Alameda Street north of 3rd Street/4th Place will be transformed into an esplanade with widened sidewalks and walkways. A walkway and two-way bicycle path will be provided on Alameda Street north of 2nd Street. 3rd Street from San Pedro Street to Alameda Street will eliminate one travel lane and add two-way bicycle tracks to replace the existing bicycle lane and maintain street parking on both sides of the street. The timeline of implementation for these improvements is currently unknown; however, the improvements were included in the Future Conditions analysis. *Connect US Action Plan* would result in the following intersection configurations, as detailed in Figure 3.

- Intersection #1, San Pedro Street & 3rd Street. The westbound approach will be restriped to provide one shared through/left-turn lane, one through lane, and one shared through/right-turn lane. A two-way bicycle track will be provided on the north side of the street. This improvement would result in the removal of one westbound through lane on 3rd Street.

- Intersection #6, Central Avenue & 3rd Street. The westbound approach will be restriped to provide one shared through/left-turn lane, one through lane, and one shared through/right-turn lane. A two-way bicycle track will be provided on the north side of the street. This improvement would result in the removal of one westbound through lane on 3rd Street.

- Intersection #13, Alameda Street & 3rd Street / 4th Place. The westbound approach will be restriped to provide one shared through/left-turn lane, one through lane, and one shared through/right-turn lane. A two-way bicycle track will be provided on the north side of the street. This improvement would result in the removal of one westbound through lane on 3rd Street.

Metro West Santa Ana Branch (WSAB). Metro's WSAB Transit Corridor project would provide a new 19-mile light rail transit line connecting downtown Los Angeles with southeast Los Angeles County. Metro recently selected the Locally Preferred Alternative, which proposes a first phase of the WSAB that includes a 14.8 mile, nine-station transit line connecting the Metro A Line Slauson Station to the City of Artesia. The Final Environmental Impact Statement/Environmental Impact Report for this first phase is scheduled for certification by the end of Year 2022. Metro has also selected Union Station as the terminus for the WSAB project. However, Metro is still in the process of evaluating potential alignment routes that would connect the Metro A Line Slauson Station to Union Station. Thus, the operations of the WSAB and resulting impacts to the Project area are currently unknown at this time. A separate study for this portion of the WSAB is scheduled for completion in early Year 2023.

Mobility Plan. In the Mobility Plan, the City identifies key corridors as components of various "mobility-enhanced networks." Each network is intended to focus on improving a particular aspect of urban mobility, including transit, neighborhood connectivity, bicycles, pedestrians, and vehicles. The specific improvements that may be implemented in those networks have not yet been identified, and there is no schedule for implementation; therefore, no changes to vehicular lane configurations were made as a result of the Mobility Plan. However, the following mobility-enhanced networks included corridors within the Study Area and depicted in Figure 14B:

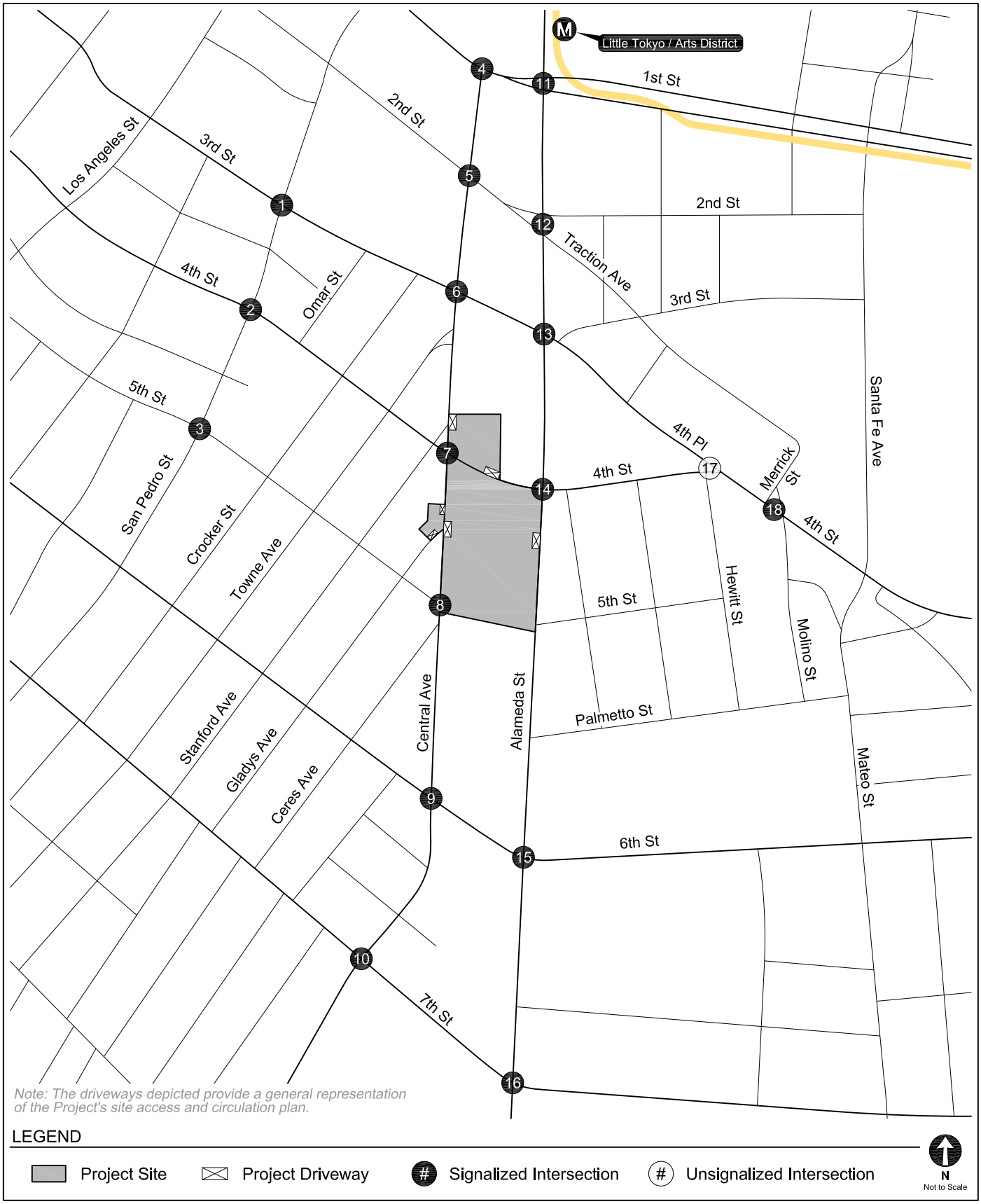
- Transit Enhanced Network (TEN): The TEN aims to improve existing and future bus services through reliable and frequent transit service in order to increase transit ridership, reduce single-occupancy vehicle trips, and integrate transit infrastructure investments

within the surrounding street system. The TEN has designated 1st Street west of Alameda Street, 5th Street west of Central Avenue, 6th Street, San Pedro Street, and Central Avenue within the Study Area as part of the network.

- Neighborhood Enhanced Network (NEN): The NEN reflects the synthesis of the bicycle and pedestrian networks and serves as a system of Local Streets that are slow moving and safe enough to connect neighborhoods through active transportation. The NEN has designated San Pedro Street, Stanford Avenue south of 4th Street, Santa Fe Avenue, Mateo Street, and 2nd Street between Central Avenue and Alameda Street within the Study Area as part of the network.

- Bicycle Enhanced Network (BEN) / Bicycle Lane Network (BLN): Within the Study Area, the BEN designates Central Avenue, Alameda Street north of 6th Street, Santa Fe Avenue north of 2nd Street, Mateo Street, 1st Street, 3rd Street west of Alameda Street, 6th Street east of Central Avenue, and 7th Street west of Central Avenue as part of the BEN. 2nd Street west of Alameda Street, 3rd Street between 4th Place and Santa Fe Avenue, Santa Fe Avenue south of 2nd Street, and 7th Street east of Central Avenue has been designated as part of the BLN within the Study Area.

- Pedestrian Enhanced District (PED): The Mobility Plan aims to promote walking to reduce the reliance on automobile travel by providing more attractive and pedestrian-friendly sidewalks, as well as adding pedestrian signalizations, street trees, and pedestrian-oriented design features. The PED has designated San Pedro Street north of Azusa Street and south of 5th Street, Central Avenue, Alameda Street north of 3rd Street and south of 6th Street, Santa Fe Avenue, Mateo Street, 1st Street west of Vignes Street, 3rd Street between Omar Street and 4th Place, 4th Place between 3rd Street and 4th Street, 4th Street east of 4th Place, 6th Street west of Stanford Avenue, between Central Avenue and Alameda Street, and east of Mateo Street, and 7th Street west of Gladys Avenue and east of Merchant Street within the Study Area as part of the Pedestrian Segments, where pedestrian improvements could be prioritized to provide better connectivity to and from major destinations within communities.

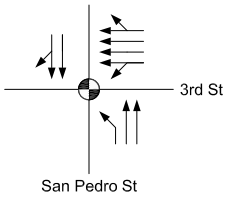
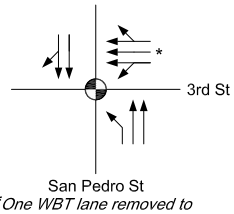
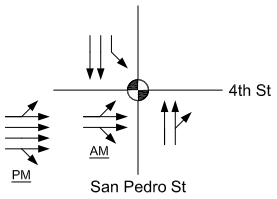
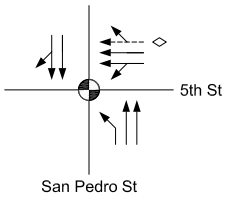
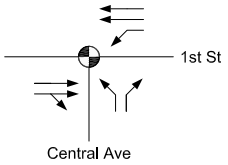
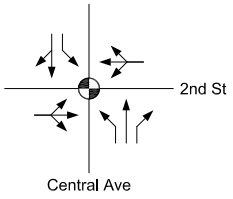
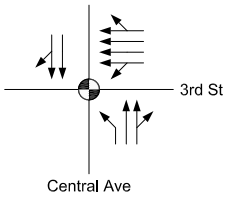
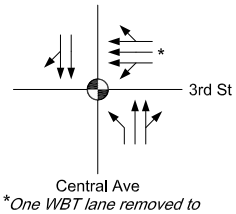
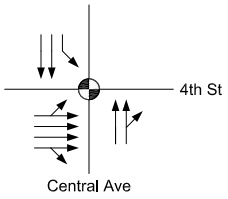


STUDY AREA & ANALYZED INTERSECTIONS

FIGURE 3

LEGEND

- Traffic Signal
- Stop Sign
- ◊ Bus Only Lane

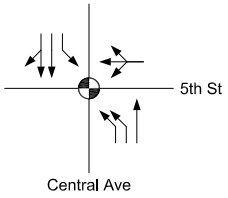
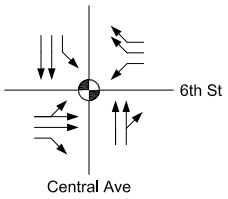
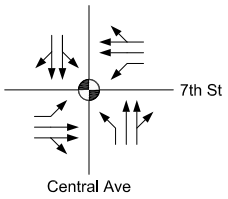
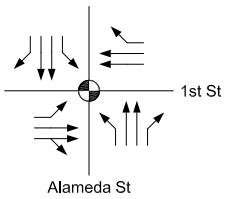
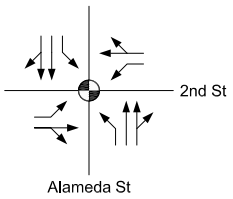
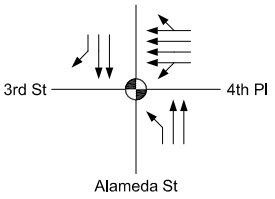
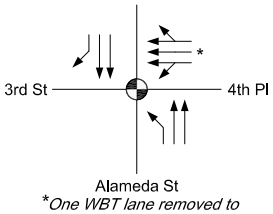
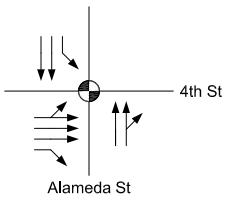
	EXISTING CONDITIONS (YEAR 2021)	FUTURE CONDITIONS (YEAR 2030)
1. San Pedro Street & 3rd Street		 *One WBT lane removed to accommodate future bike lane
2. San Pedro Street & 4th Street		Same as Existing Conditions
3. San Pedro Street & 5th Street		Same as Existing Conditions
4. Central Avenue & 1st Street		Same as Existing Conditions
5. Central Avenue & 2nd Street		Same as Existing Conditions
6. Central Avenue & 3rd Street		 *One WBT lane removed to accommodate future bike lane
7. Central Avenue & 4th Street		Same as Existing Conditions

INTERSECTION LANE CONFIGURATIONS

FIGURE 4

LEGEND

- Traffic Signal
- Stop Sign
- ◊ Bus Only Lane

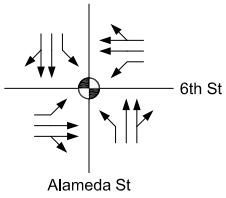
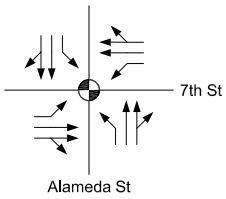
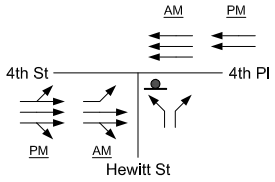
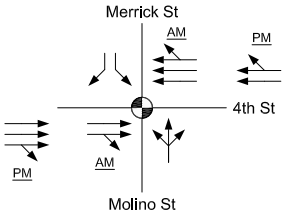
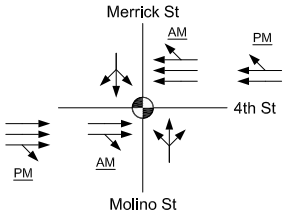
	EXISTING CONDITIONS (YEAR 2021)	FUTURE CONDITIONS (YEAR 2030)
8. Central Avenue & 5th Street		Same as Existing Conditions
9. Central Avenue & 6th Street		Same as Existing Conditions
10. Central Avenue & 7th Street		Same as Existing Conditions
11. Alameda Street & 1st Street		Same as Existing Conditions
12. Alameda Street & 2nd Street		Same as Existing Conditions
13. Alameda Street & 3rd Street / 4th Place		 *One WBT lane removed to accommodate future bike lane
14. Alameda Street & 4th Street		Same as Existing Conditions

INTERSECTION LANE CONFIGURATIONS

FIGURE 4 (CONT.)

LEGEND

- Traffic Signal
- Stop Sign
- ◊ Bus Only Lane

	EXISTING CONDITIONS (YEAR 2021)	FUTURE CONDITIONS (YEAR 2030)
15. Alameda Street & 6th Street		Same as Existing Conditions
16. Alameda Street & 7th Street		Same as Existing Conditions
17. Hewitt Street & 4th Street / 4th Place		Same as Existing Conditions
18. Merrick Street / Molino Street & 4th Street		

INTERSECTION LANE CONFIGURATIONS

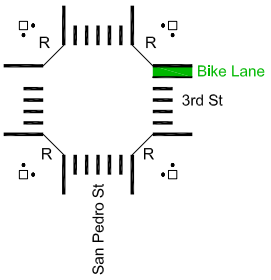
FIGURE 4 (CONT.)

LEGEND

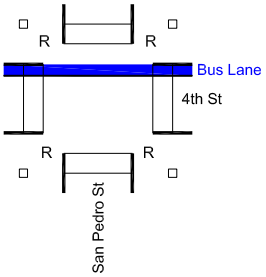
- Continental Crosswalk
- R Ramp
- Tactile Curb
- Ped Signal
- Ped Call Button
- Bus Stop
- Bus Facilities
- Bikeshare
- Bike Facilities

N
Not to Scale

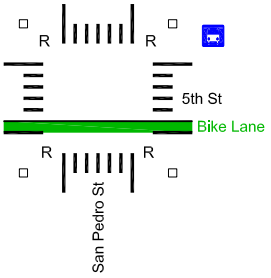
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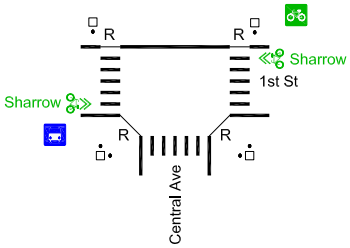
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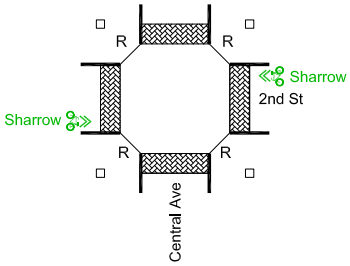
3. San Pedro Street & 5th Street



4. Central Avenue & 1st Street



5. Central Avenue & 2nd Street



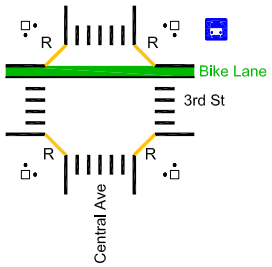
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE 5

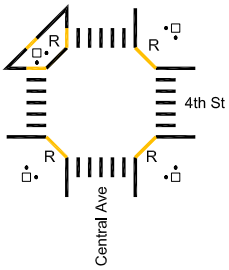
LEGEND

- Continental Crosswalk
- R Ramp
- Tactile Curb
- Ped Signal
- Ped Call Button
- Bus Stop
- Bus Facilities
- Bikeshare
- Bike Facilities

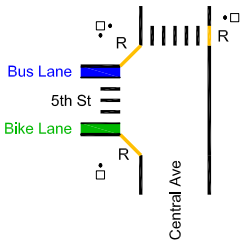
6. Central Avenue & 3rd Street



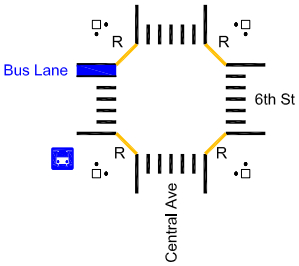
7. Central Avenue & 4th Street



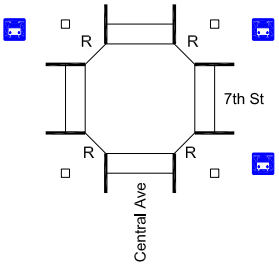
8. Central Avenue & 5th Street



9. Central Avenue & 6th Street



10. Central Avenue & 7th Street



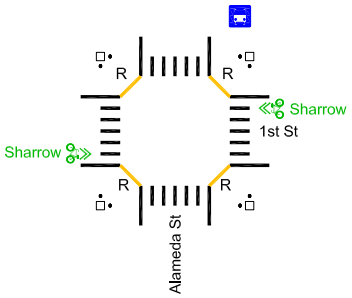
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE 5 (CONT.)

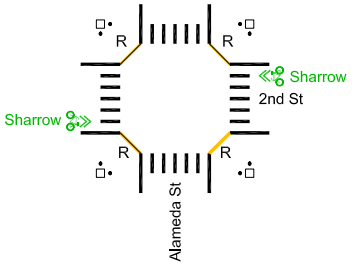
LEGEND

- Continental Crosswalk
- R Ramp
- Tactile Curb
- Ped Signal
- Ped Call Button
- Bus Stop
- Bus Facilities
- Bikeshare
- Bike Facilities

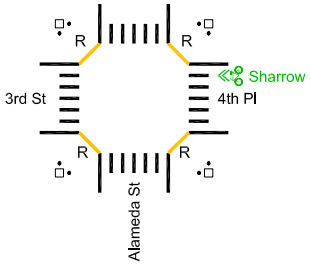
11. Alameda Street & 1st Street



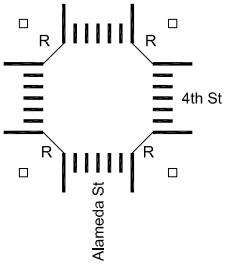
12. Alameda Street & 2nd Street



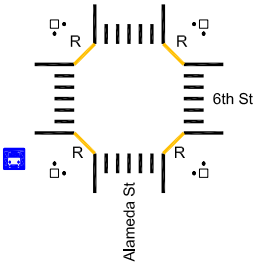
13. Alameda Street & 3rd Street / 4th Place



14. Alameda Street & 4th Street



15. Alameda Street & 6th Street



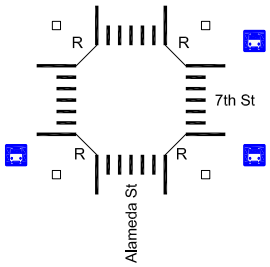
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE 5 (CONT.)

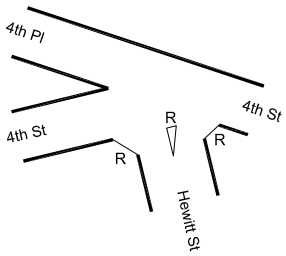
LEGEND

- Continental Crosswalk
- R Ramp
- Tactile Curb
- Ped Signal
- Ped Call Button
- Bus Stop
- Bus Facilities
- Bikeshare
- Bike Facilities

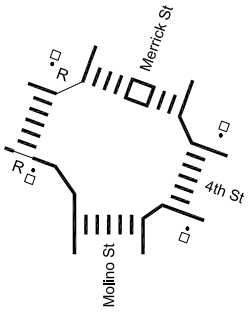
16. Alameda Street & 7th Street



17. Hewitt Street & 4th Street / 4th Place



18. Merrick / Molino Street & 4th Street



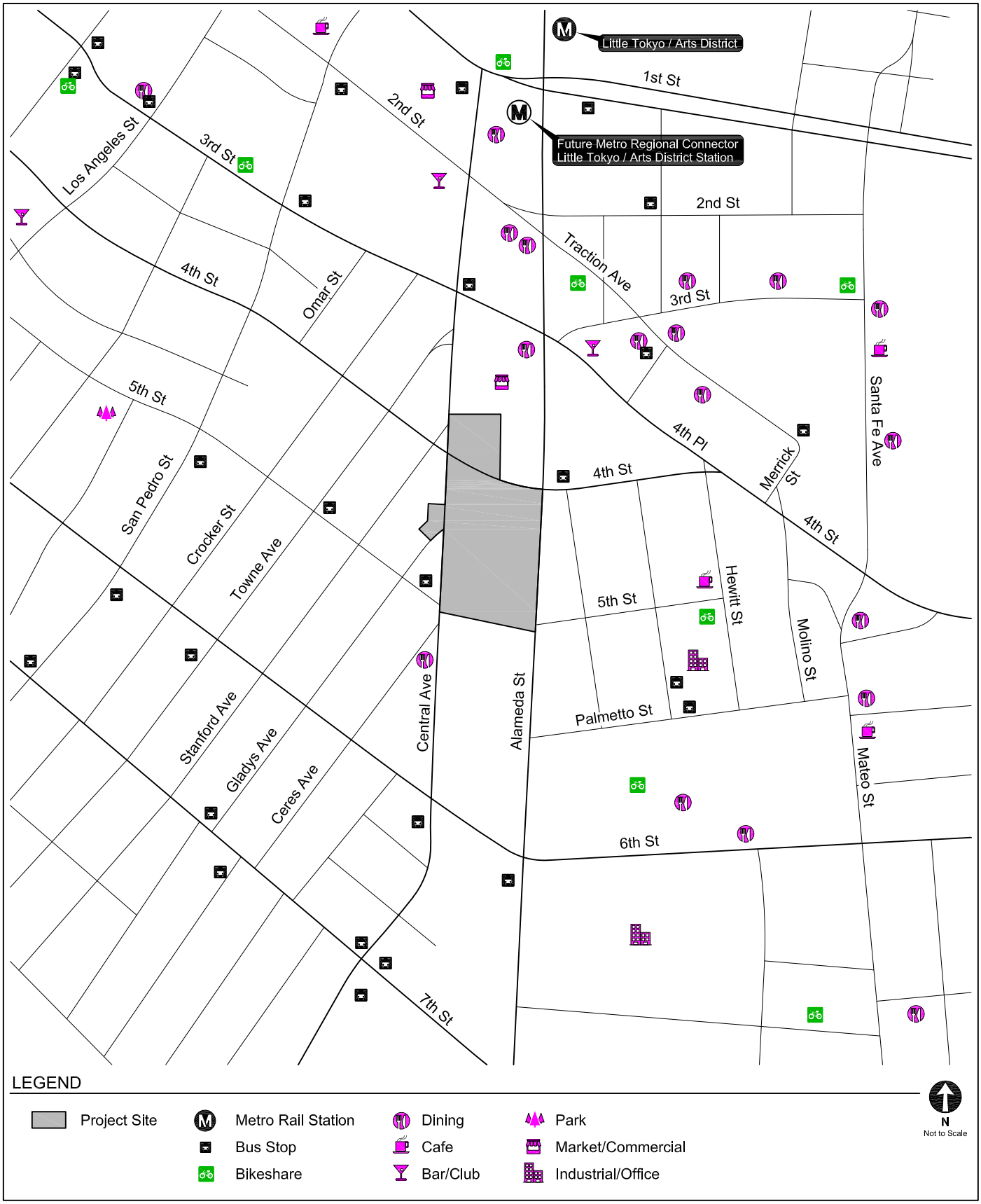
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE 5 (CONT.)



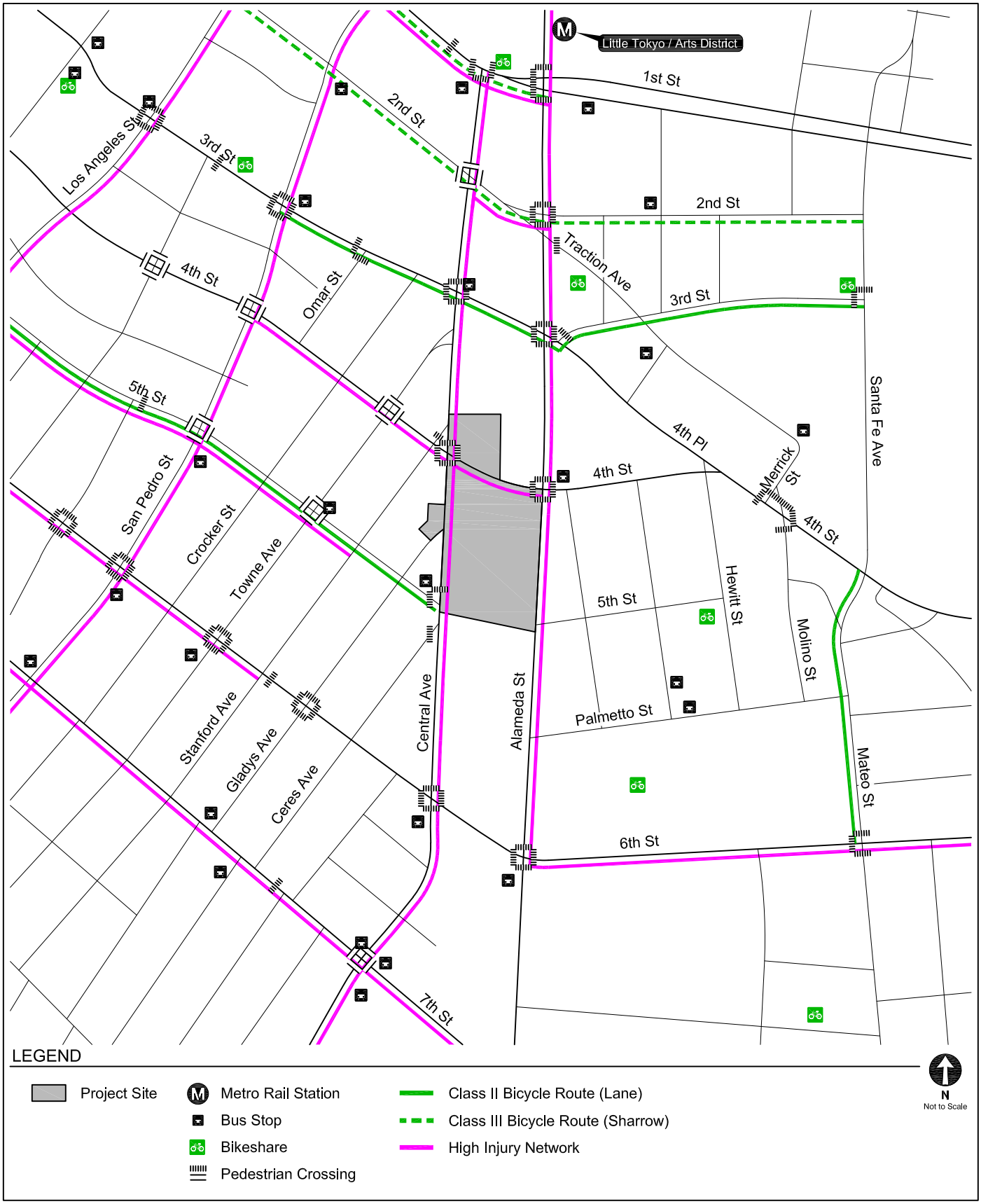
MOBILITY PLAN STREET DESIGNATIONS

FIGURE 6



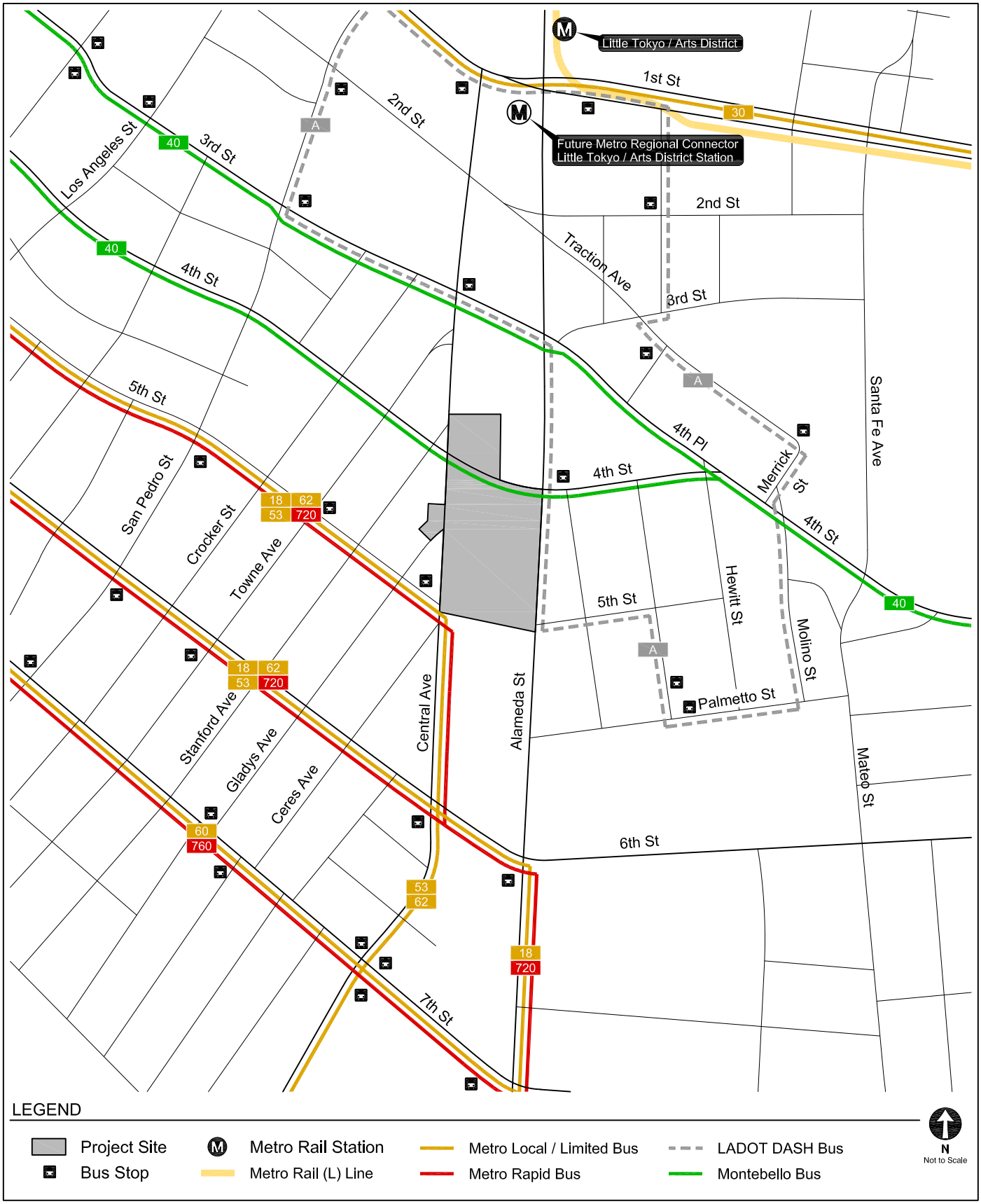
PEDESTRIAN DESTINATIONS

FIGURE 7



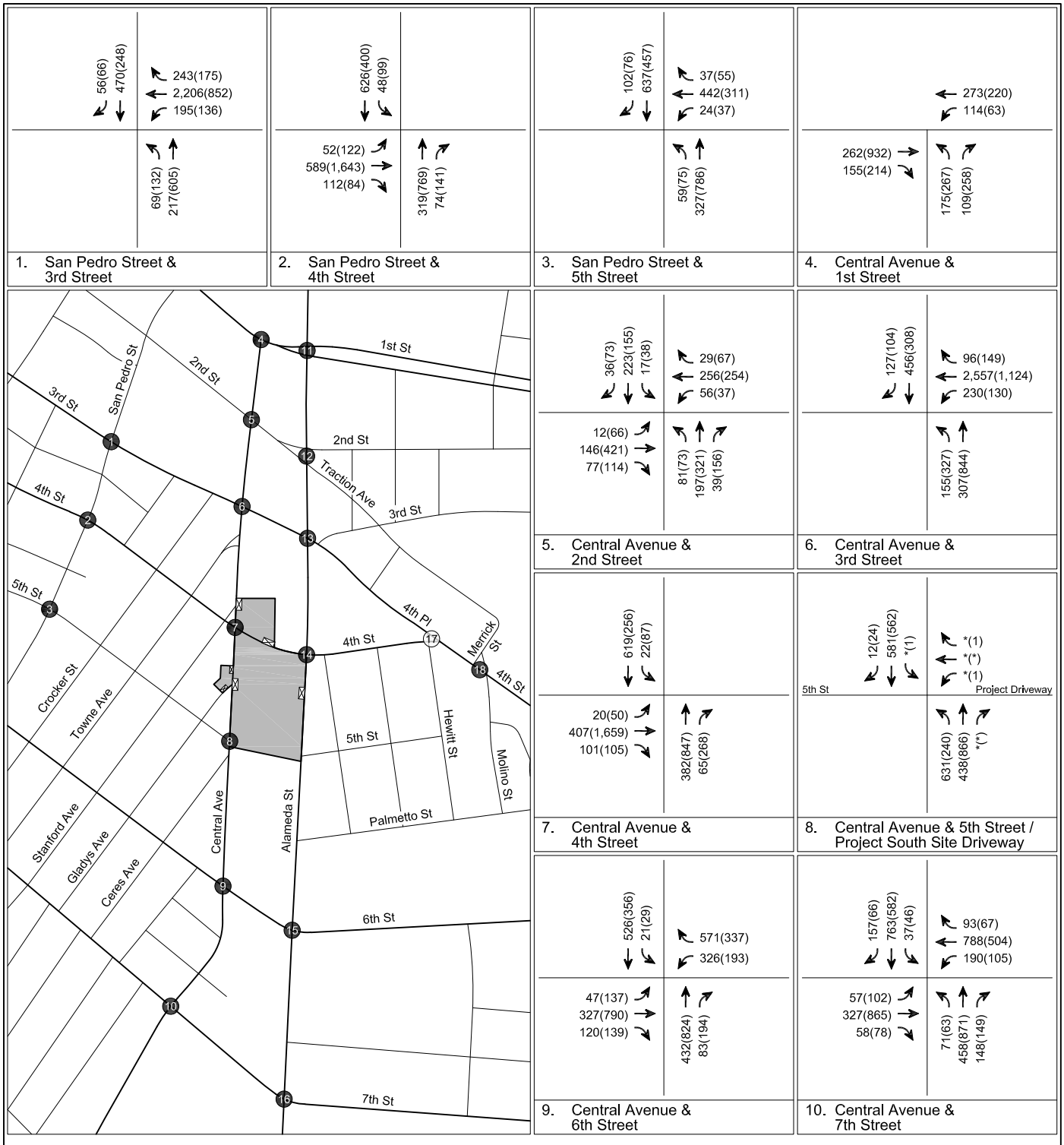
EXISTING TRANSPORTATION FACILITIES

FIGURE 8



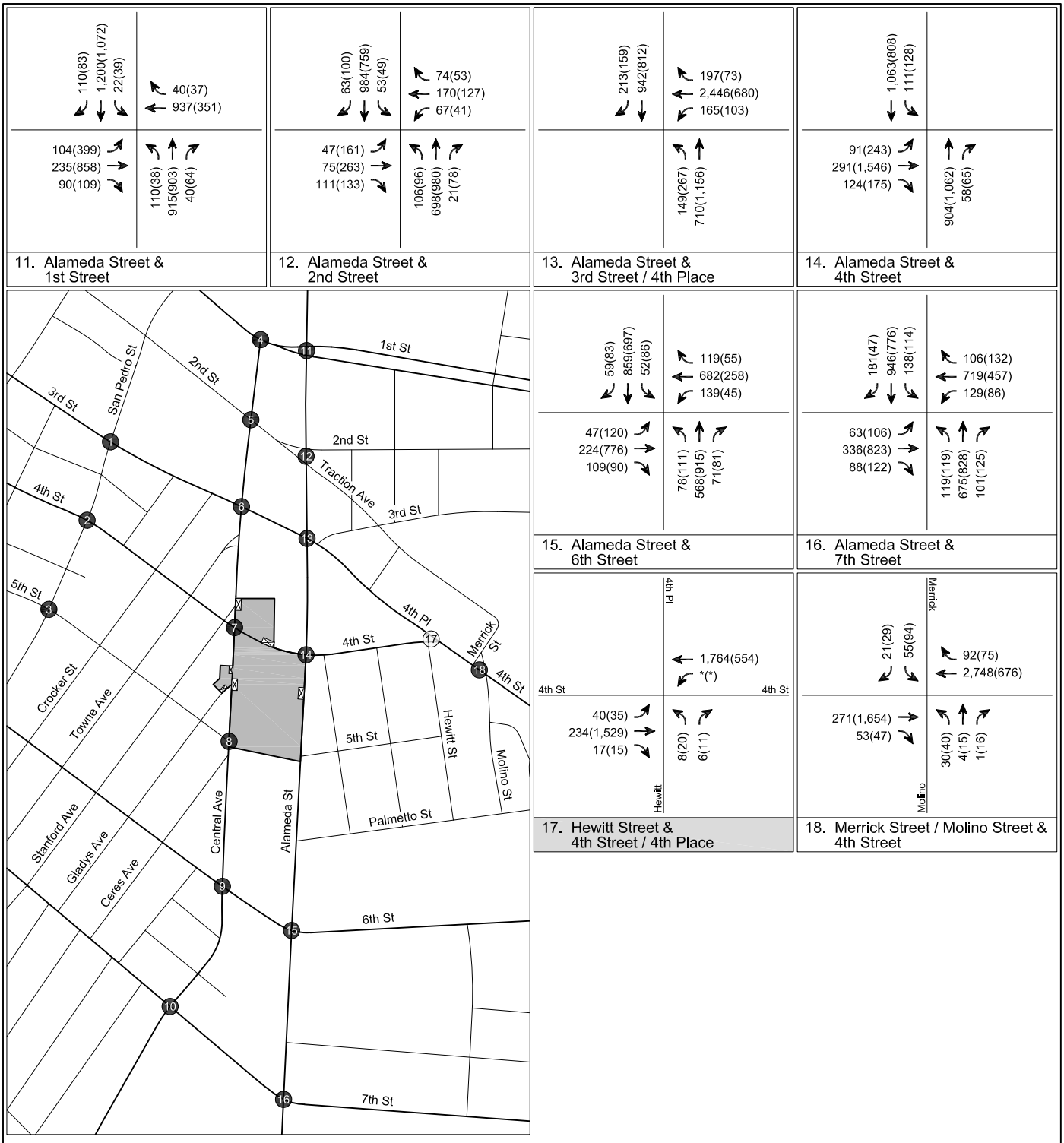
EXISTING TRANSIT SERVICE

FIGURE 9



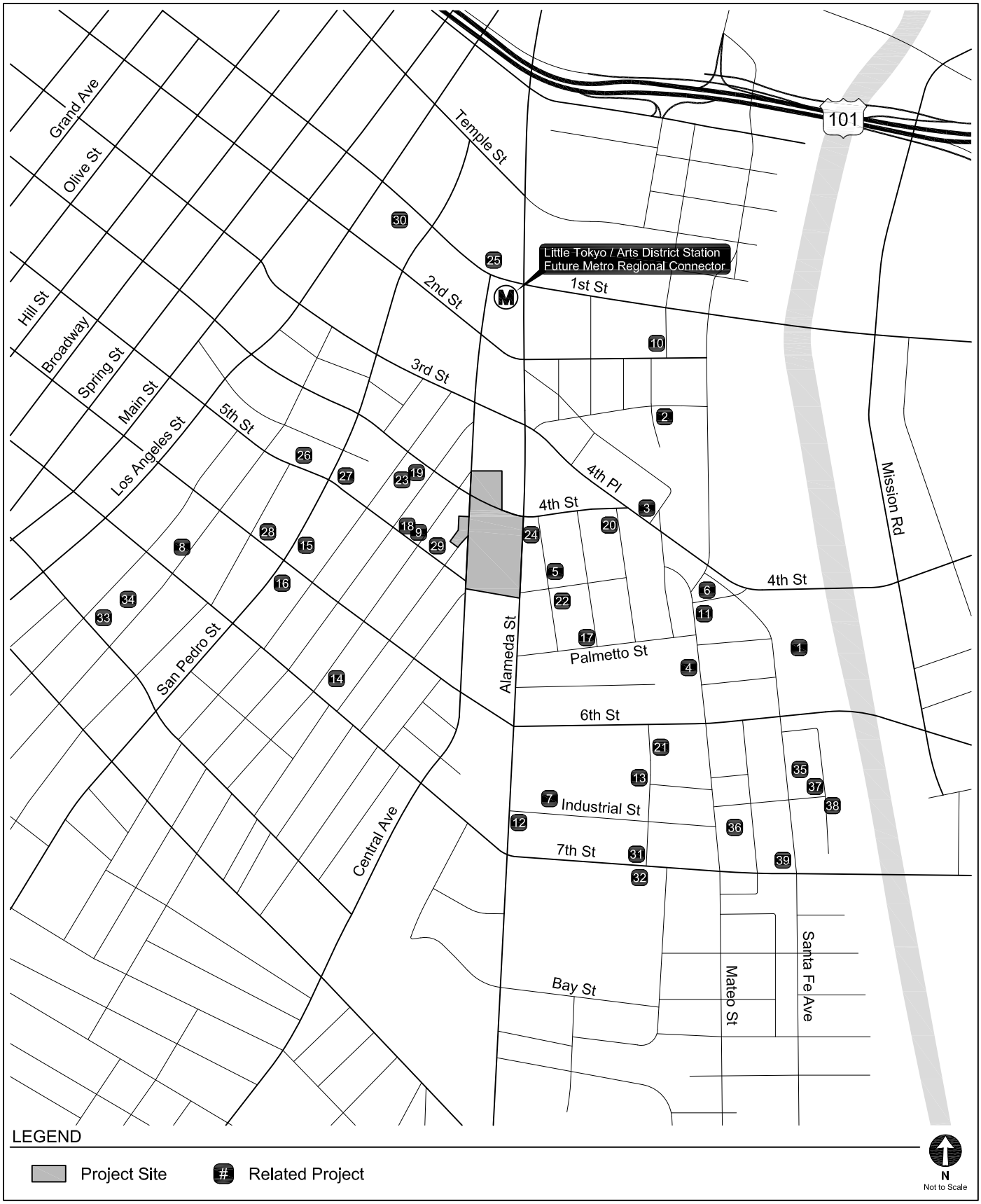
EXISTING CONDITIONS (YEAR 2021)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 10



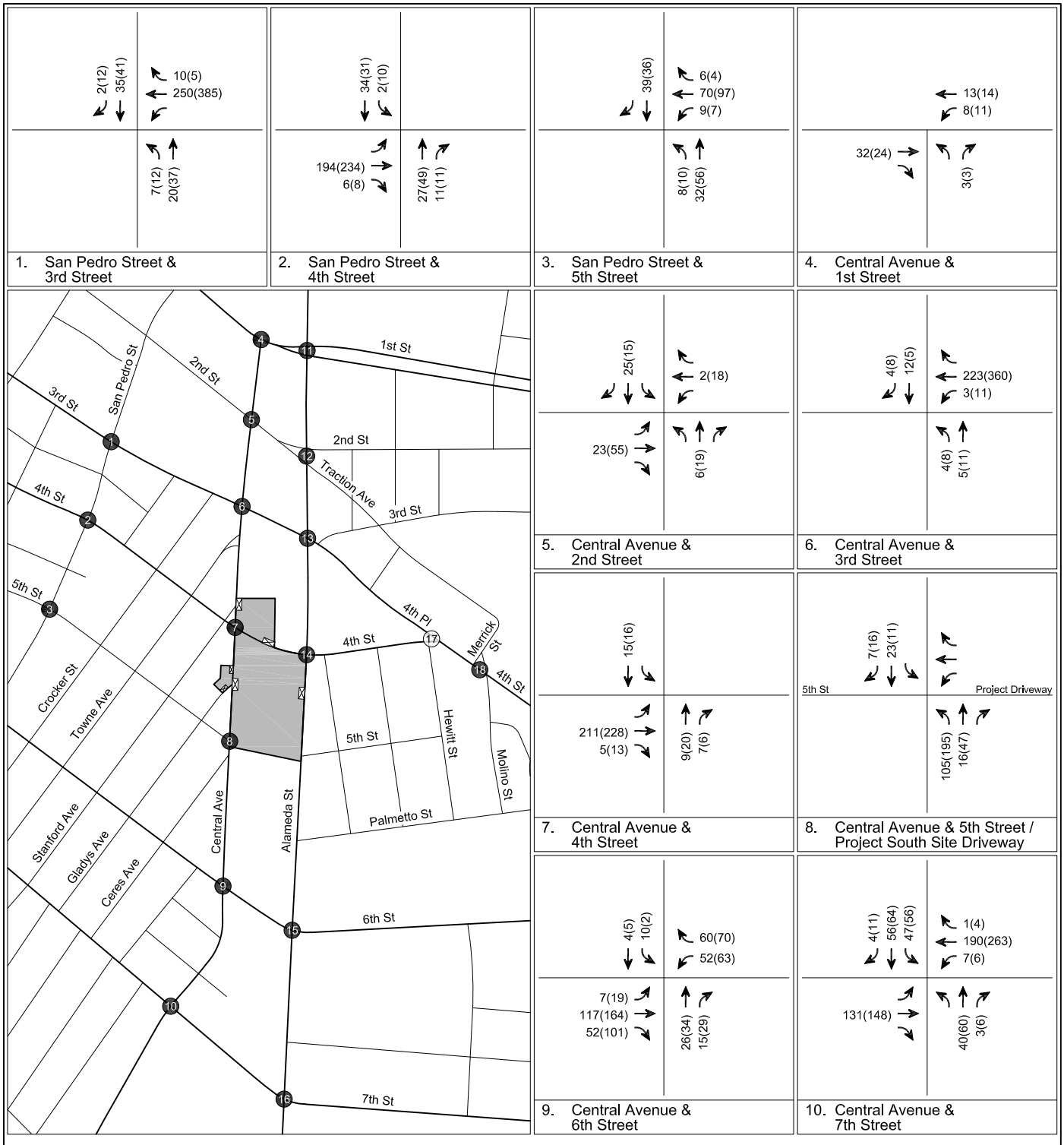
EXISTING CONDITIONS (YEAR 2021)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
10 (CONT.)



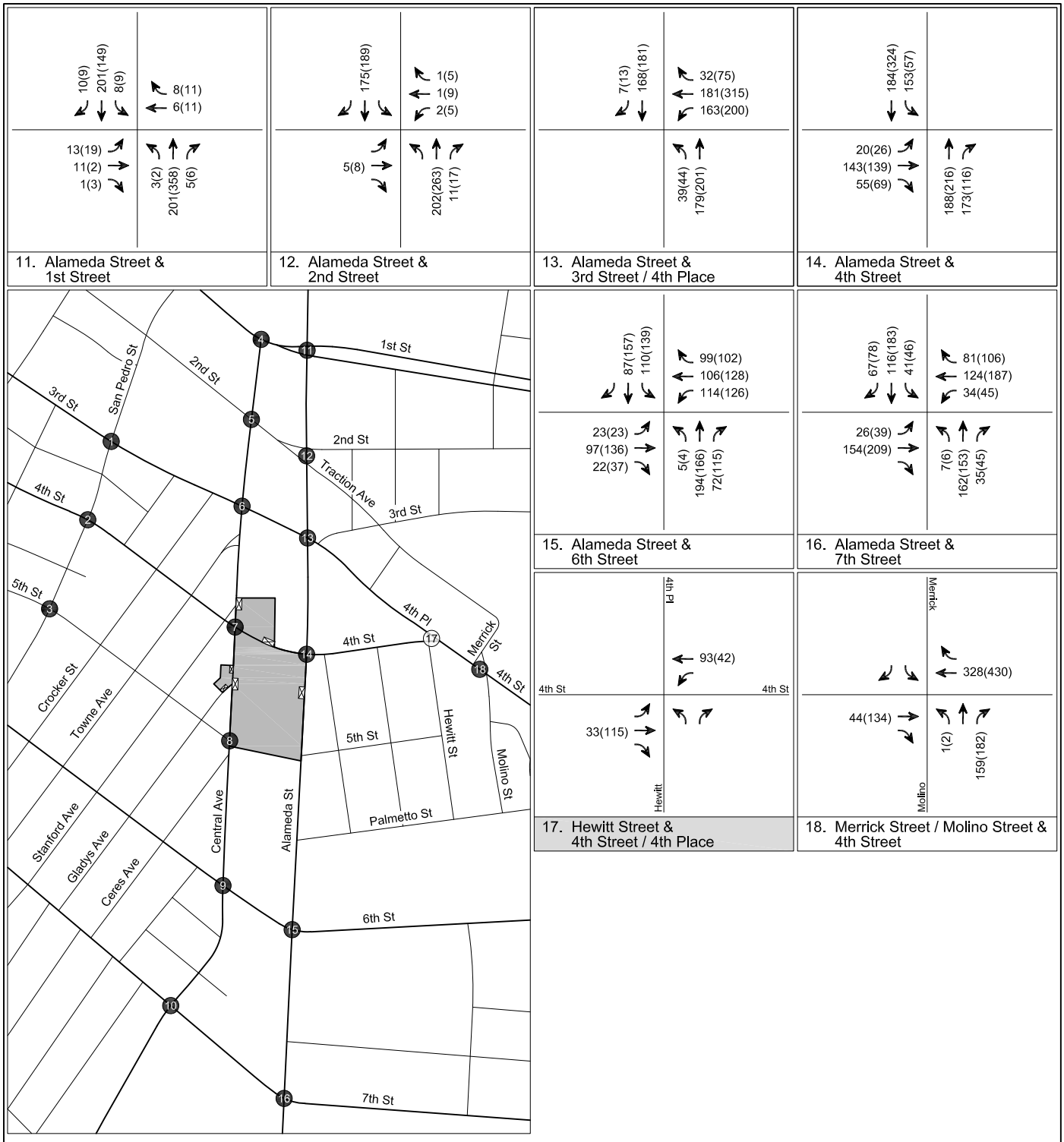
LOCATIONS OF RELATED PROJECTS

FIGURE 11



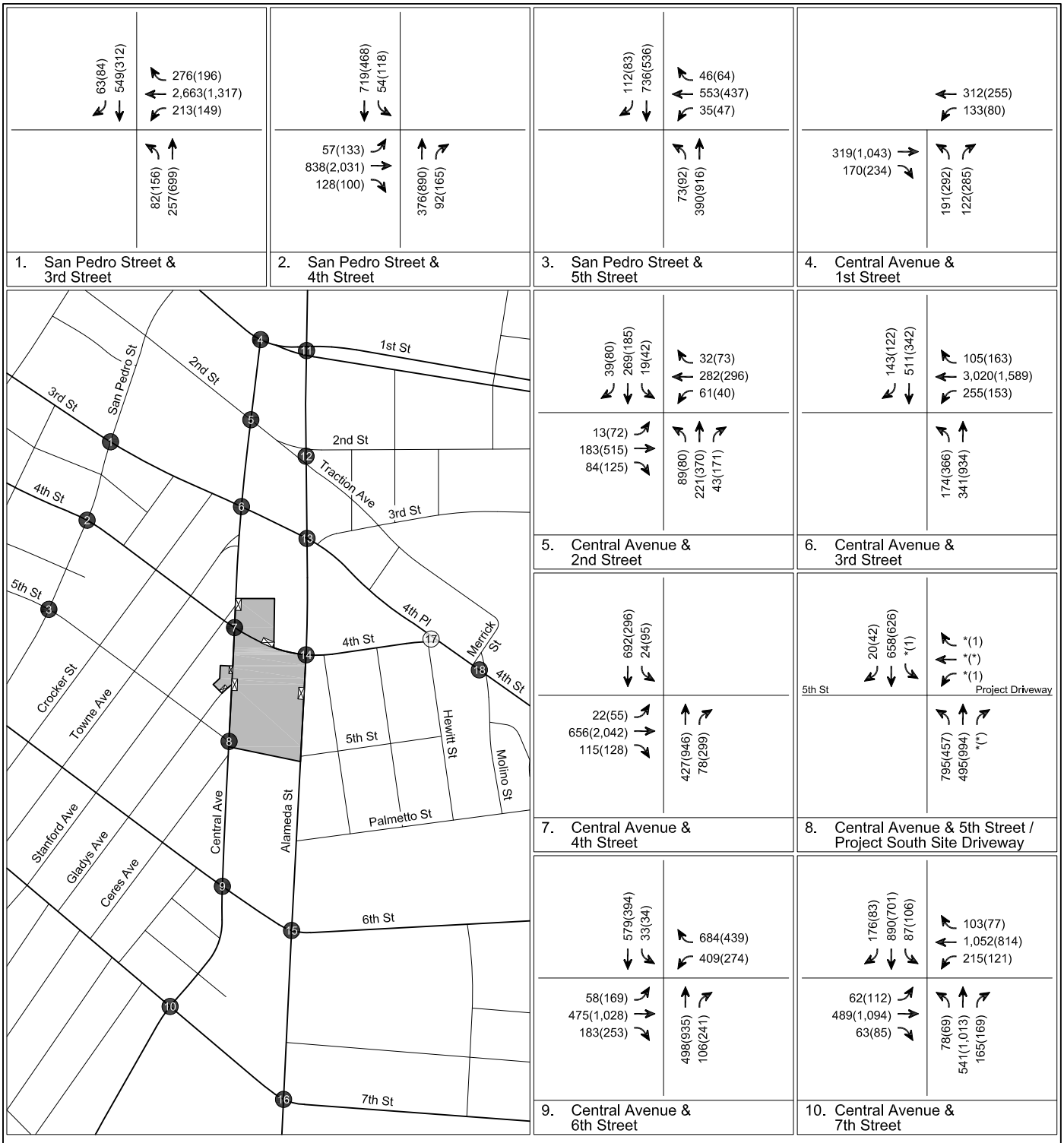
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
12



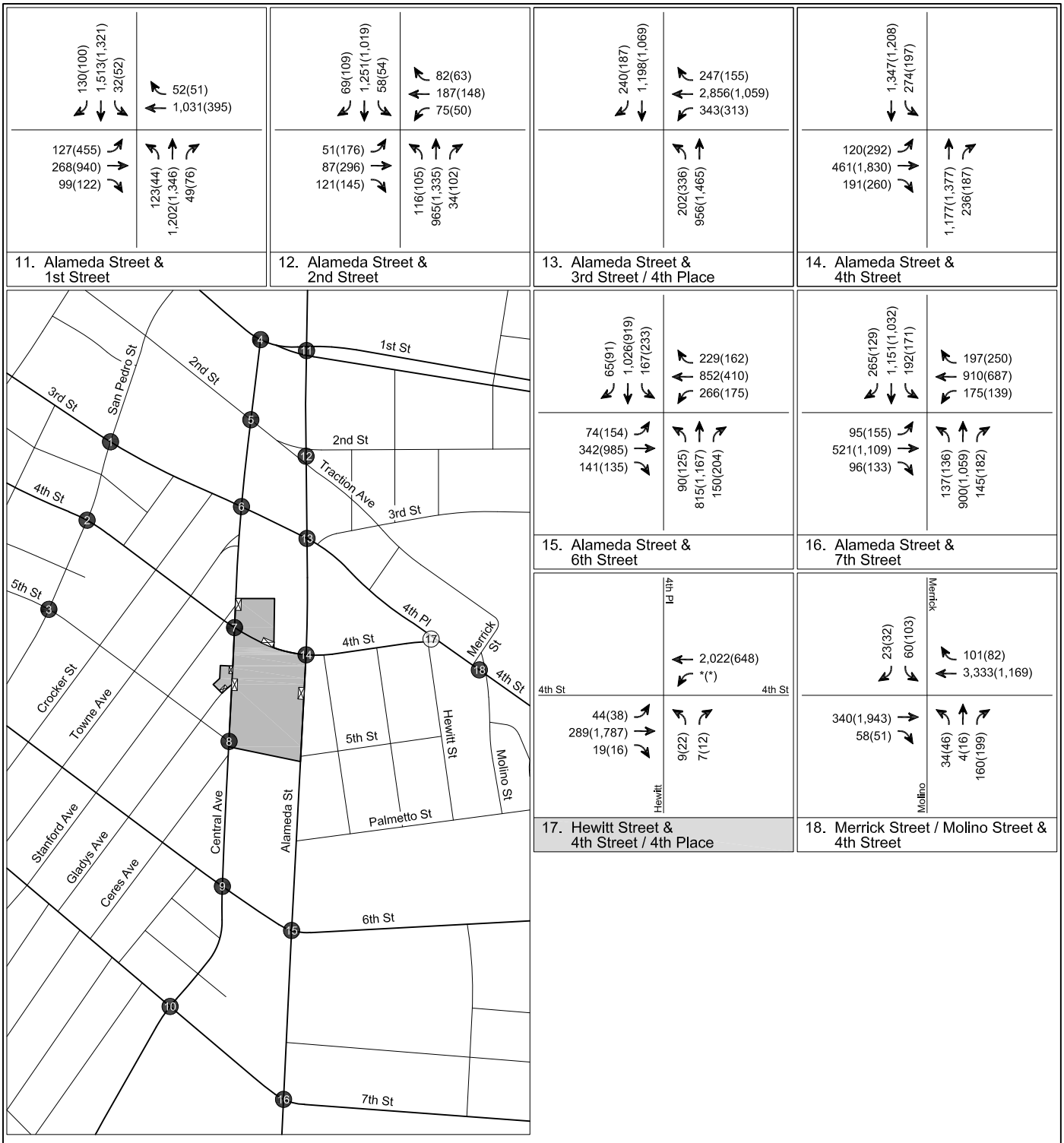
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
12 (CONT.)



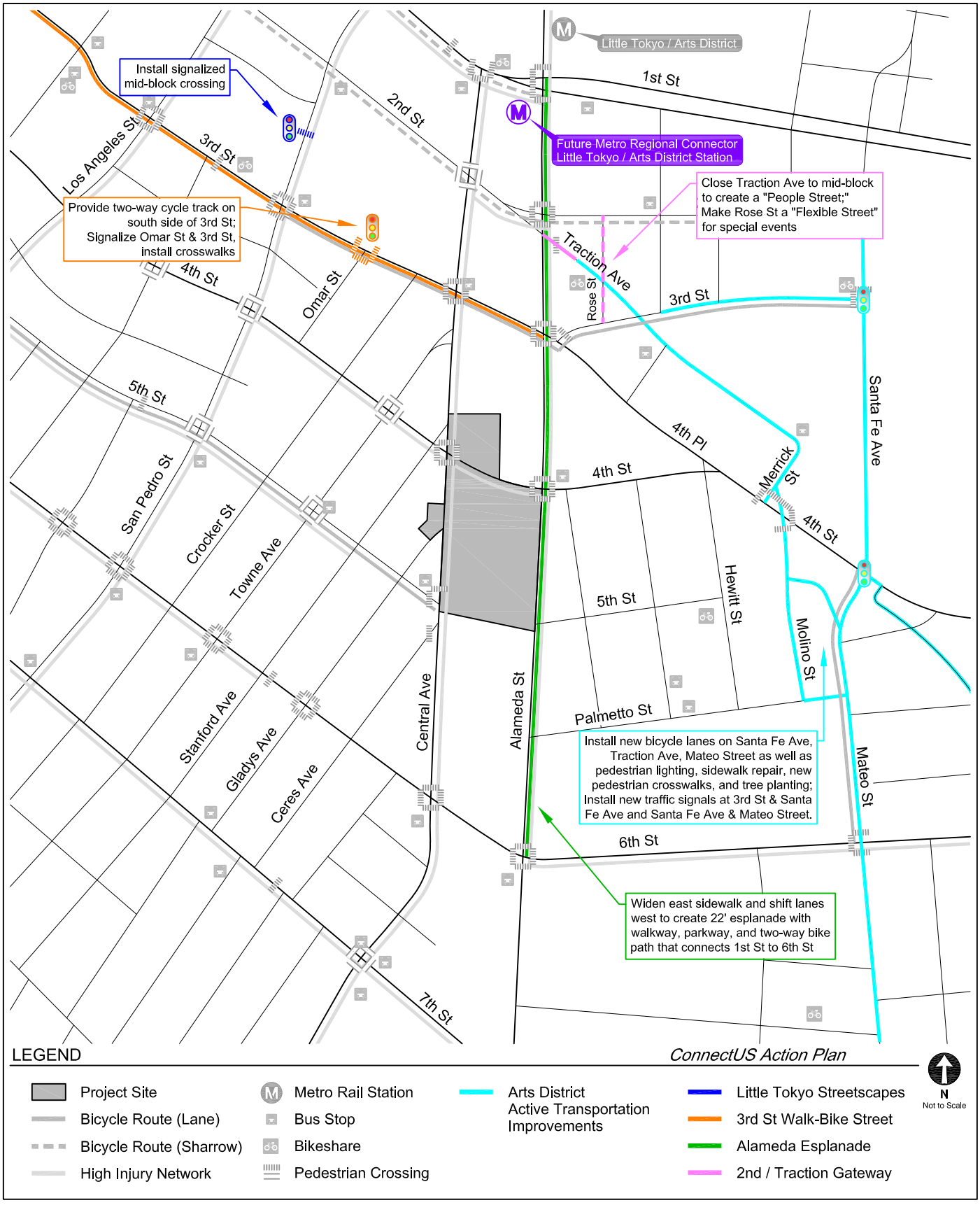
FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2030)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 13



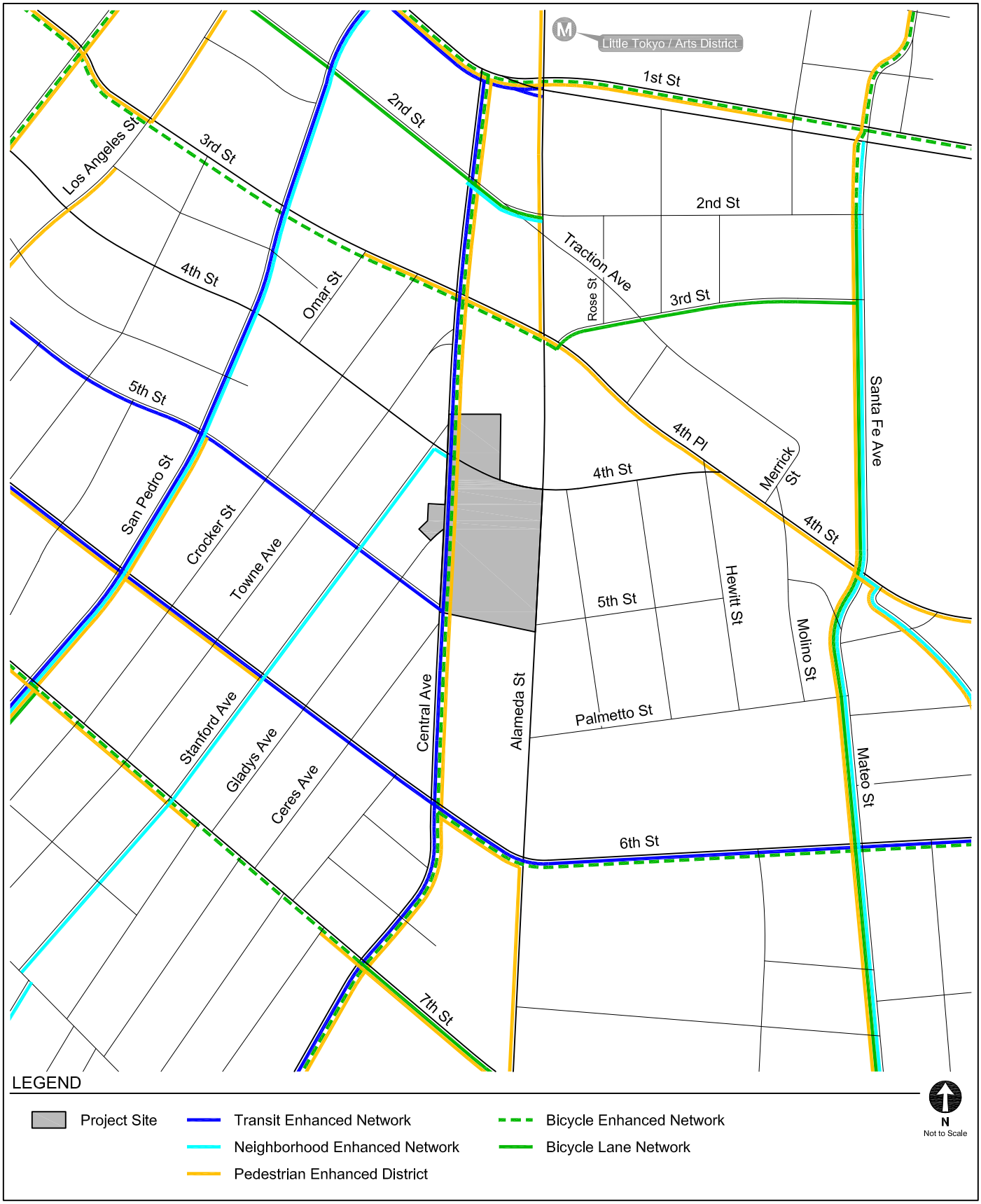
FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2030)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
13 (CONT.)



FUTURE TRANSPORTATION FACILITIES

FIGURE 14A



MOBILITY ENHANCED NETWORK

FIGURE 14B

TABLE 1
STUDY INTERSECTIONS

No.	N/S Steet	E/W Street
1.	San Pedro Street	3rd Street
2.	San Pedro Street	4th Street
3.	San Pedro Street	5th Street
4.	Central Avenue	1st Street
5.	Central Avenue	2nd Street
6.	Central Avenue	3rd Street
7.	Central Avenue	4th Street
8.	Central Avenue	5th Street/Project South Site Driveway
9.	Central Avenue	6th Street
10.	Central Avenue	7th Street
11.	Alameda Street	1st Street
12.	Alameda Street	2nd Street
13.	Alameda Street	3rd Street/4th Place
14.	Alameda Street	4th Street
15.	Alameda Street	6th Street
16.	Alameda Street	7th Street
17. [a]	Hewitt Street	4th Street/4th Place
18.	Merrick Street/Molino Street	4th Street

Notes:
[a] Intersection is unsignalized.

TABLE 2
EXISTING TRANSIT SERVICE

Provider, Route, and Service Area		Service Type	Hours of Operation	Average Headway (minutes)			
				AM Peak Period		PM Peak Period	
Metro				**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
18	Wilshire Center - Downtown Los Angeles - Montebello via 6th St and Whittier Blvd	Local	24-Hour	7	6	6	6
30	East Los Angeles - Downtown Los Angeles/Mid-City via Pico Bl & 1st St	Local	24-Hour	13	13	11	11
53	Downtown Los Angeles - CSU Dominguez Hills via Central Ave	Local	4:45 AM - 12:15 AM	10	10	10	10
60	Downtown Los Angeles - Artesia Station via Long Beach Blvd	Local	24-Hour	7	7	6	6
62	Downtown Los Angeles - Hawaiian Gardens via Telegraph Rd	Local	5:00 AM - 12:15 AM	48	30	24	60
720	Santa Monica - Downtown Los Angeles via Wilshire Blvd	Rapid	3:00 AM - 12:30 AM	6	5	5	5
LADOT DASH				**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
A	Little Tokyo, City West	Local	6:00 AM - 6:30 PM	7	7	7	7
Montebello Bus Lines				**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
M40	Downtown Los Angeles - Montebello - Whittier via Beverly Blvd	Local	4:45 AM - 11:00 PM	11	12	11	11
Metro Rail				**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
L	Azusa - East Los Angeles	Rail	4:30 AM - 3:30 AM	8	8	8	8

Notes
Metro: Los Angeles County Metropolitan Transportation Authority
LADOT DASH: Los Angeles Department of Transportation Downtown Area Short Hop
Montebello Bus Lines: City of Montebello
AM Peak from 6-10 AM
PM Peak from 3-7 PM
[a] Average headways are based on the total number of trips during the peak period as indicated in Metro, Montebello, and LADOT data from September, 2021.

TABLE 3A
TRANSIT SYSTEM CAPACITY IN STUDY AREA - MORNING PEAK HOUR

Provider, Route, and Service Area		Capacity per Trip [a]	Peak Hour Ridership [b]				Average Remaining Capacity per Trip		Remaining Peak Hour Capacity	
			Peak Load		Average Load					
			NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Metro Bus Service										
18	Wilshire Center - Downtown Los Angeles - Montebello via 6th St and Whittier Blvd	50	28	22	17	16	33	34	297	323
30	East Los Angeles - Downtown Los Angeles/Mid-City via Pico Bl & 1st St	50	7	19	4	7	46	43	219	204
53	Downtown Los Angeles - CSU Dominguez Hills via Central Ave	50	24	22	17	18	33	32	190	192
60	Downtown Los Angeles - Artesia Station via Long Beach Blvd	50	26	31	17	21	33	29	281	254
62	Downtown Los Angeles - Hawaiian Gardens via Telegraph Rd	50	19	23	16	18	34	32	43	64
720	Santa Monica - Downtown Los Angeles via Wilshire Blvd	75	24	37	12	12	63	63	677	772
LADOT DASH Bus Service										
A	Little Tokyo, City West	30	4	N/A	2	N/A	28	N/A	252	N/A
Montebello Bus Lines										
M40	Downtown Los Angeles - Montebello - Whittier via Beverly Blvd	30	*No information provided.*				30	N/A	158	N/A
Metro Rail Service										
L	Azusa - East Los Angeles	400	*No information provided.*		77	34	323	366	2,423	2,745
								Remaining Bus Service Capcity		3,924
								Remaining Rail Transit Capacity		5,168
								Total Remaining Transit System Capacity		**9,091**

Notes

Metro: Los Angeles County Metropolitan Transportation Authority.

LADOT DASH: Los Angeles Department of Transportation Downtown Area Short Hop

[a] Capacity assumptions:

Metro Regular Bus - 40 seated / 50 seated and standing.

Metro Articulated Bus - 66 seated / 75 seated and standing standing.

Metro Gold Rail - 76 seated / 133 standing (175% of seated capacity) per car x 3 cars per train = 400 patrons.

LADOT DASH - 25 seated / 30 seated and standing.

Montebello Bus Lines - 25 seated / 30 seated and standing.

[b] Ridership capacity based on data from Metro for April 2019, the most recent available prior to the COVID-19 Pandemic and Next Gen Bus Plan updates in June 2021 and September 2021. Transit ridership data for LADOT DASH based on data from 2019. No data was available for Montebello Bus Lines.

TABLE 3B
TRANSIT SYSTEM CAPACITY IN STUDY AREA - AFTERNOON PEAK HOUR

Provider, Route, and Service Area		Capacity per Trip [a]	Peak Hour Ridership [b]				Average Remaining Capacity per Trip		Remaining Peak Hour Capacity	
			Peak Load		Average Load					
			NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Metro Bus Service										
18	Wilshire Center - Downtown Los Angeles - Montebello via 6th St and Whittier Blvd	50	27	30	20	19	30	31	300	287
30	East Los Angeles - Downtown Los Angeles/Mid-City via Pico Bl & 1st St	50	24	14	8	5	42	45	231	248
53	Downtown Los Angeles - CSU Dominguez Hills via Central Ave	50	23	43	19	24	31	26	186	150
60	Downtown Los Angeles - Artesia Station via Long Beach Blvd	50	28	30	20	18	30	32	315	320
62	Downtown Los Angeles - Hawaiian Gardens via Telegraph Rd	50	28	27	22	20	28	30	70	30
720	Santa Monica - Downtown Los Angeles via Wilshire Blvd	75	40	30	14	18	61	57	763	641
LADOT DASH Bus Service										
A	Little Tokyo, City West	30	11	N/A	3	N/A	27	N/A	243	N/A
Montebello Bus Lines										
M40	Downtown Los Angeles - Montebello - Whittier via Beverly Blvd	30	*No information provided.*				30	N/A	165	N/A
Metro Rail Service										
L	Azusa - East Los Angeles	400	*No information provided.*		92	78	308	322	2,310	2,415
								Remaining Bus Service Capcity	3,948	
								Remaining Rail Transit Capacity	4,725	
								Total Remaining Transit System Capacity	**8,673**	

Notes

Metro: Los Angeles County Metropolitan Transportation Authority.

LADOT DASH: Los Angeles Department of Transportation Downtown Area Short Hop

[a] Capacity assumptions:

Metro Regular Bus - 40 seated / 50 seated and standing.

Metro Articulated Bus - 66 seated / 75 seated and standing standing.

Metro Gold Rail - 76 seated / 133 standing (175% of seated capacity) per car x 3 cars per train = 400 patrons.

LADOT DASH - 25 seated / 30 seated and standing.

Montebello Bus Lines - 25 seated / 30 seated and standing.

[b] Ridership capacity based on data from Metro for April 2019, the most recent available prior to the COVID-19 Pandemic and Next Gen Bus Plan updates in June 2021 and September 2021. Transit ridership data for LADOT DASH based on data from 2019. No data was available for Montebello Bus Lines.

TABLE 4
RELATED PROJECTS

No.	LADOT ID	CPC Case No.	Project	Address	Description	Trip Generation [a]						
						Daily	Morning Peak Hour			Afternoon Peak Hour		
							In	Out	Total	In	Out	Total
≤ 0.5 miles from Project Site												
1. [b]	40927	DIR-2013-1829-SPR	Switchyard	540 S Santa Fe Ave	98,825 sf office building	726	90	12	102	17	81	98
2. [b]	41295	ZA-2000-1712-CUZ-SUB-ZV-SPR-ZAI	Santa Fe Freight Yard Redevelopment	950 E 3rd St	472 live/work condo units, nine commercial condo units, 22,554 sf of commercial/retail uses, 744 on-site parking spaces	6,372	162	177	339	245	213	458
3. [b]	41918	ZA-2014-2442-CUB-ZV-SPR	Mixed-Use (Coca Cola)	963 E. 4th St	Conversion of existing 117,448 sf manufacturing/warehouse building into 72,448 sf office, 25,000 sf retail, and 20,000 sf restaurant	2,512	106	22	128	113	138	251
4. [b]	42563	ENV-2014-3948-MND	At Mateo	555 S Mateo St	Approximately 73,291 sf of retail space, 48,040 sf of creative office space, 2,000 sf of retail space set aside in a specialty market for off-site sales of alcoholic beverages, and 47,575 sf of restaurant space,	4,300	5	30	35	220	205	425
5.	43414	ENV-2016-4475-EIR	Arts District Center (Mixed-Use)	1129 & 1101 E. 5th St, 445-457 S. Colyton St, 450-456 S. Seaton St	129 live/work condominium units, a 113-room hotel, and 81,326 square feet of commercial space to be used for art galleries, retail, restaurant, and artist collaborative space. Of the 129 live/work units, 15 units (11%) would be set aside for Very Low Income households	4,713	133	140	273	157	72	229
6. [b]	43417	ZA-2014-3503-CUB or ENV-2014-3504-MND	Restaurant	500 S Mateo St	12,682 sf restaurant, 4,818 sf patio, 2,983 sf mezzanine	1,052	48	41	89	50	31	81
7.	41113	CPC-2013-2993-GPA-VZC-HD-DB-MCUP-SPR	Camden Arts Mixed-Use	1525 E Industrial St	336,304 sf mixed-use, 344 live/work units, 7,458 sf of leasing/amenity area, 24,774 sf of creative office usses, 4,042 sf of restaurant space	1,729	37	59	96	69	44	113
8. [b]	43554	DIR-2015-3202-SPR	Clinic at 7th & Wall	649 S Wall St	Medical clinic with 55 affordable housing residential units and one market-rate residential unit	104	24	5	29	3	24	27
9.	43871	ZA-2021-9890-ZV	Mixed Use	719 E 5th St	Re-establish hotel uses with 42 guest rooms	1,033	15	58	73	59	37	96
10.	44072	CPC-2016-1080-GPA-ZC-HD-MCUP-ZV-SPR-1A	Mixed-Use (Private Club)	929 E 2nd St	42,019 sf retail, 18,261 sf event space, 40,249 sf office, 5,383 sf health club	2,014	61	9	70	101	88	189
11.	44400	CPC-2016-3853-GPA-VZC-HD-ZAD-SPR	520 Mateo	520 Mateo St	475 live/work units, 10,000 sf of restaurant space, 10,000 sf of retail space, and 105,000 sf office	4,995	157	220	377	274	223	497

TABLE 4 (CONTINUED)
RELATED PROJECTS

No.	LADOT ID	CPC Case No.	Project	Address	Description	Trip Generation [a]						
						Daily	Morning Peak Hour			Afternoon Peak Hour		
							In	Out	Total	In	Out	Total
12.	44914	CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WDI	668 S Alameda St Mixed-Use	668 S Alameda St	475 live/work units, 15,815 sf of arts and production space, 15,105 sf grocery store, 9,943 SF of commercial/retail space, 16,140 sf restaurant/café/bar, and 4,200 sf of other supporting space	4,004	120	184	304	215	153	368
13.	45544	CPC-2016-3756-GPA-VZC-SP	6AM	1206-1338 E 6th St/1205-1321 Wholesale St	412-room hotel, 1,736 dwelling units, 316,632 sf warehouse, 253,514 sf office, 45,278 sf restaurant, 82,332 sf retail, 300 student enrollment and 22,429 sf art museum	14,258	437	585	1,022	710	642	1,352
14. [b]	45631	CPC-2017-849-GPAJ-VZCJ-HD-SPR	656 S Stanford Ave	656 S Stanford Ave	82 apartment units	545	8	33	41	33	18	51
15.	45655	CPC-2017-614-GPAJ-ZCJ-HD-SPR	Weingart Tower - Affordable Housing	554 S San Pedro St	401 affordable housing units and six market-rate housing units, and 12,300 sf commercial space	629	30	29	59	31	32	63
16.	45656	CPC-2017-589-GPAJ-ZCJ-HD-SPR	600 S San Pedro St	600 S San Pedro St	303 apartment units and 19,909 sf commercial	636	38	25	63	30	37	67
17.	45849	CPC-2016-3399-GPA-VZC-HD-MCUP-ZAI-SPR	Palmetto	527 S Colyton St	310 apartment units, 11,375 sf commercial, and 11,736 sf production space	2,095	36	116	152	121	74	195
18.	45851	CPC-2017-420-GPAJ-VZCJ-HD-SPR	Residential	713 E 5th St	51 apartment units	208	15	10	25	9	8	17
19.	46076	CPC-2017-403-GPAJ-VZCJ-HD-SPR-RDP	508 E 4th St	508 E 4th St	41 apartment units	167	8	12	20	8	6	14
20.	49411	CPC-2017-469-GPA-VZC-HD-MCUP-SPR	4th & Hewitt	405 S Hewitt St	255,514 sf office, 4,970 sf retail, 9,940 sf restaurant, and 7,800 sf museum	3,493	365	76	441	100	324	424
21.	50742	ZA-2018-3405-ZAD-SPR	Mixed-Use	1340 E 6th St	170 apartment units and 16,518 sf retail	530	(91)	16	(75)	10	(67)	(57)
22.	48931	CPC-2016-3726-GPAJ-VZC-HD-MCUP-ZAA-DB-SPR	1100 5th Mixed-Use	1100 E 5th St	218 live/work units with 11% set aside for ver low income and 21,975 sf open space and recreational amenities such asa resident gallery	2,556	78	107	185	130	80	210
23.	48857	CPC-2020-87-VZCJ-GPAJ-HD-SPR-HCA-PHP	414 Crocker St Mixed-Use Project	414 S Crocker St	175 affordable housing units, 8,691 sf commercial space	N/A	30	36	66	32	32	66

TABLE 4 (CONTINUED)
RELATED PROJECTS

No.	LADOT ID	CPC Case No.	Project	Address	Description	Trip Generation [a]						
						Daily	Morning Peak Hour			Afternoon Peak Hour		
							In	Out	Total	In	Out	Total
24.	43378	CPC-2016-3655-GPA-ZC-HD-CUB-ZAA-SPR	400 S Alameda Street	400 S Alameda St	66 hotel rooms and 5,400 sf ground-floor restaurant and specialty retail uses	512	20	18	38	23	14	37
25. [c]	51094	DIR-2021-3772-TOC-CDO-HCA-PHP	Go For Broke Apartments	200 N. Central Ave, 122-128, 130-230 N. Judge John Aiso St, 308-312 & 307-331 E. Jackson St	29,800 sf of commercial space, 10,763 sf of philanthropic institutional uses, 2,460 sf of restaurant uses, and 248 dwelling units, reserving 245 for low income households	N/A	51	54	105	76	59	135
26. [d]	N/A	CPC-2019-4298-DB-SPR-SIP	5th Street Permanent Supportive Modular Housing	407 E. 5th Street	150 affordable residential units	624	27	47	74	30	23	53
27. [d]	N/A	CPC-2021-2544-GPAJ-ZCJ-SPR-PSH-HCA	Downtown Women's Center	501 E. 5th Street	98 supportive housing units	85	5	3	8	5	4	9
28. [d]	N/A	DIR-2019-6011-SPR-SIP	Mercy Housing	401 E. 6th Street	95 supportive housing units	83	5	3	8	5	4	9
29. [d]	N/A	ENV-2019-2725-CE	5th and Central	803 E. 5th Street	94 affordable residential units, 1 manager unit, and 9,210 sf commercial	1,285	61	64	125	64	44	108
> 0.5 miles from Project Site & ≤ 0.25 miles from Furthest Outlying Intersection												
30.	42715	DIR-2014-4148-SPR-CDO	Lotus 77 Apartments	118 S. Astronaut e.s. Onizuka St	77 apartment units	97	(1)	20	19	19	6	25
31. [b]	43808	TT-71705-CN	1745 E 7th Street	1745 E 7th St	57 apartment units, 6,000 sf commercial	635	10	25	35	34	23	57
32.	44454	CPC-2016-2683-GPA-VZC-HD-CU-CUB-DB-SPR	Mixed Use (Revised)	1800 E 7th St	122 residential units, 9,500 sf commercial uses, and 5,885 sf of amenity space	816	26	45	71	45	37	82
Additional Related Projects for Consideration [e]												
33.	44296	CPC-2016-3683-GPA-VZC-HD-SPR	7th & Maple Mixed-Use	701 S Maple Ave	452 units, including 19 live/work units, and 11% set aside for very low income with 13,603 sf of commercial space	3,199	67	179	246	185	105	290

TABLE 4 (CONTINUED)
RELATED PROJECTS

No.	LADOT ID	CPC Case No.	Project	Address	Description	Trip Generation [a]						
						Daily	Morning Peak Hour			Afternoon Peak Hour		
							In	Out	Total	In	Out	Total
34.	45029	CPC-2016-3990-GPA-VZC-CUB-ZV-SPR	Southern California Flower Market Project	755 S Wall St	323 apartment units including 32 moderate income housing units, 64,363 sf office, 4,385 sf retail, 63,785 sf wholesale space and storage, 13,420 food and beverage space, and 21,295 sf event space	2,499	112	79	191	164	141	305
35. [b]	46046	ENV-2016-3860-CE	Mixed-Use	640 S Santa Fe Ave	107,224 square-foot office building, with ground floor commercial	1,330	90	8	98	43	114	157
36.	48932	CPC-2016-3689-GPA-VZC-HD-MCUP-DB-SPR	676 Mateo Mixed-Use	676 S Mateo St	172 live/work units and 23,025 sf commercial space	1,991	64	81	145	100	68	168
37. [d]	N/A	ENV-2020-6829-EAF; CPC-2020-6828-GPA-ZC-HD-SPR-MCUP	Office	655 S Mesquit St	184,629 sf office and 4,325 sf retail	1,867	185	31	216	37	181	218
38.	N/A	ENV-2017-249-EIR; CPC-2017-247-GPAJ-VZCJ-HD-VCU-MCUP-CUX-ZV-MSC	670 Mesquit	670 S Mesquit St	236 hotel rooms, 308 apartment units, 79,240 sf retail, 89,576 sf restaurant, 93,617 sf event space, 62,148 sf gym, 56,912 sf grocery, and 944,055 sf office	26,489	1,513	451	1,964	698	1,316	2,014
39.	48908	CPC-2017-4734-GPA-ZC-HD-CUB-CUX-ZV-ZAA-SPR-RDP	Rendon Hotel	2053-2057 E 7th St	103 hotel rooms	732	24	17	41	27	26	53

Notes

[a] Source: Related project information based on available information provided by LADOT (March 16, 2021) , Department of City Planning, and recent studies in the area, and include development projects within 0.5 miles of the Project Site and 0.25 miles of the furthest outlying study inte in accordance with the Transportation Assessment Guidelines (August 2022).

[b] Although construction of the related project may be partially complete/entirely complete, the project was not fully occupied at the time of the NOP or when traffic counts were conducted. Therefore, the related project was considered and listed to provide a more conservative analysis.

[c] Project description and trip generation estimates from *Go For Broke Apartments Project*, Linscott, Law & Greenspan, Engineers, 2021.

[d] Trip generation estimated using rates from Trip Generation, 10th Edition, Institute of Transportation Engineers, 2017, and/or the LADOT Transportation Assessment Guidelines.

[e] Additional development projects located beyond 0.50 miles of the Project Site and 0.25 miles of the furthest outlying study intersections were also considered based on the proposed land use, density, and/or location.

Chapter 3
Project Traffic

This chapter describes the assumptions and methodology used in developing the traffic volumes associated with the proposed Project within the Study Area.

PROJECT TRIP GENERATION

The number of trips generated by the residential component of the Project was calculated using the LADOT empirical rates from TAG Table 3.3-1. The number of trips generated by the commercial components, including the hotel, office, retail, and restaurant uses of the Project, were estimated using rates published in *Trip Generation Manual, 10th Edition,* which are based on surveys of similar land uses at sites around the country and are generated for daily rates and morning and afternoon peak hour rates. The rates calculate the number of vehicle trips traveling to and from the Project Site based on the density of each land use component.

The residential trip rates are based on local data collected in dense urban areas with convenient and frequent transit service and, thus, transit usage is inherent in the rates and no trip reductions related to transit were applied. In consultation with LADOT, the following trip generation reductions to account for public transit usage/walking arrivals (for the commercial uses only), internal capture, and pass-by trips were considered.

- Internal Capture: A 10% internal capture adjustment was applied to the commercial retail and restaurant trip generation estimates to account for person trips made between the different uses of the Project without using an off-site road system.

- Transit/Walk-In: The Project Site is located within walking distance of numerous bus stops and within 0.50-miles of the Metro L Line Little Tokyo/Arts District Station and 0.40 miles from the future Metro Regional Connector Little Tokyo/Arts District Station; therefore, a 10% transit/walk-in adjustment was applied to the non-residential uses to account for

transit usage and walk-in arrivals from surrounding neighborhoods and adjacent commercial developments.

- Pass-By Trips: Consistent with Attachment H of the TAG, a pass-by adjustment ranging from 20% to 50% was applied to the commercial retail and restaurant trip generation estimates to account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

The number of trips currently generated by the existing uses of the Project Site was also estimated using the rates published in *Trip Generation Manual, 10th Edition* for cold storage warehouse uses. No additional trip reductions were applied to the existing uses.

After accounting for the reductions above and the removal of the existing uses, the Project is anticipated to generate 1,053 net new morning peak hour trips (592 inbound, 461 outbound) and 1,357 net new afternoon peak hour trips (642 inbound, 715 outbound), as summarized in Table 5.

PROJECT TRIP DISTRIBUTION

The geographic distribution of trips generated by the Project is dependent on the location of employment, residential, and commercial centers to and from which patrons of the Project would be drawn, characteristics of the street system serving the Project Site, the location of the Project driveways, and existing traffic conditions.

Based on these considerations, traffic entering and exiting the Project was assigned to the surrounding street system by land use type and access provisions. The intersection-level trip distribution pattern for Project traffic at the study intersections is shown in Figures 15A to 15F for each land use component.

Generally, the regional pattern for the Project's office use portion is as follows:

- 20% to/from the north
- 25% to/from the east
- 25% to/from the south
- 30% to/from the west

The regional pattern for the Project's residential use portion is as follows:

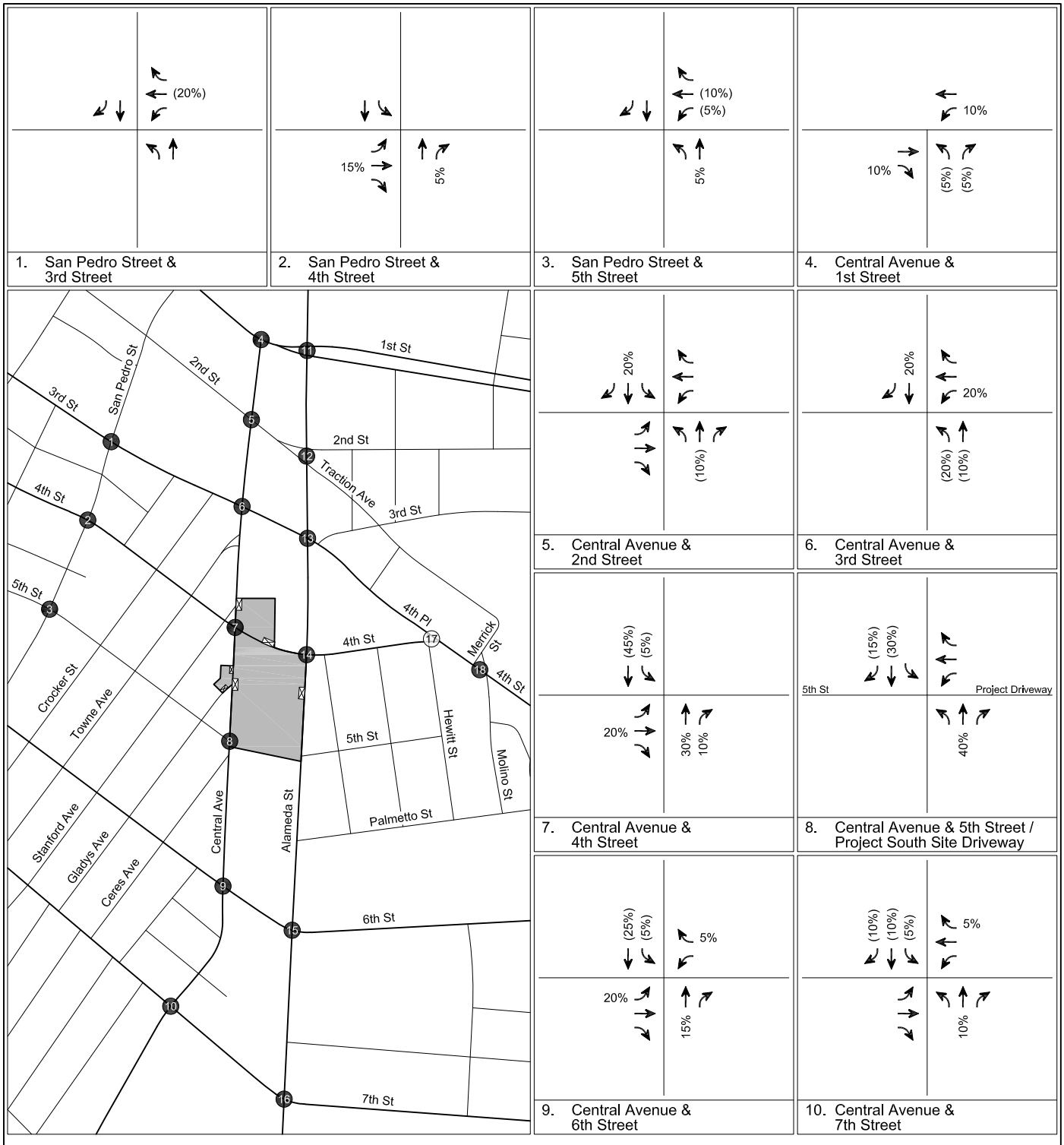
- 20% to/from the north
- 14% to/from the east
- 23% to/from the south
- 43% to/from the west

The regional pattern for the Project's hotel/commercial (retail/restaurant) use portion is as follows:

- 18% to/from the north
- 27% to/from the east
- 20% to/from the south
- 35% to/from the west

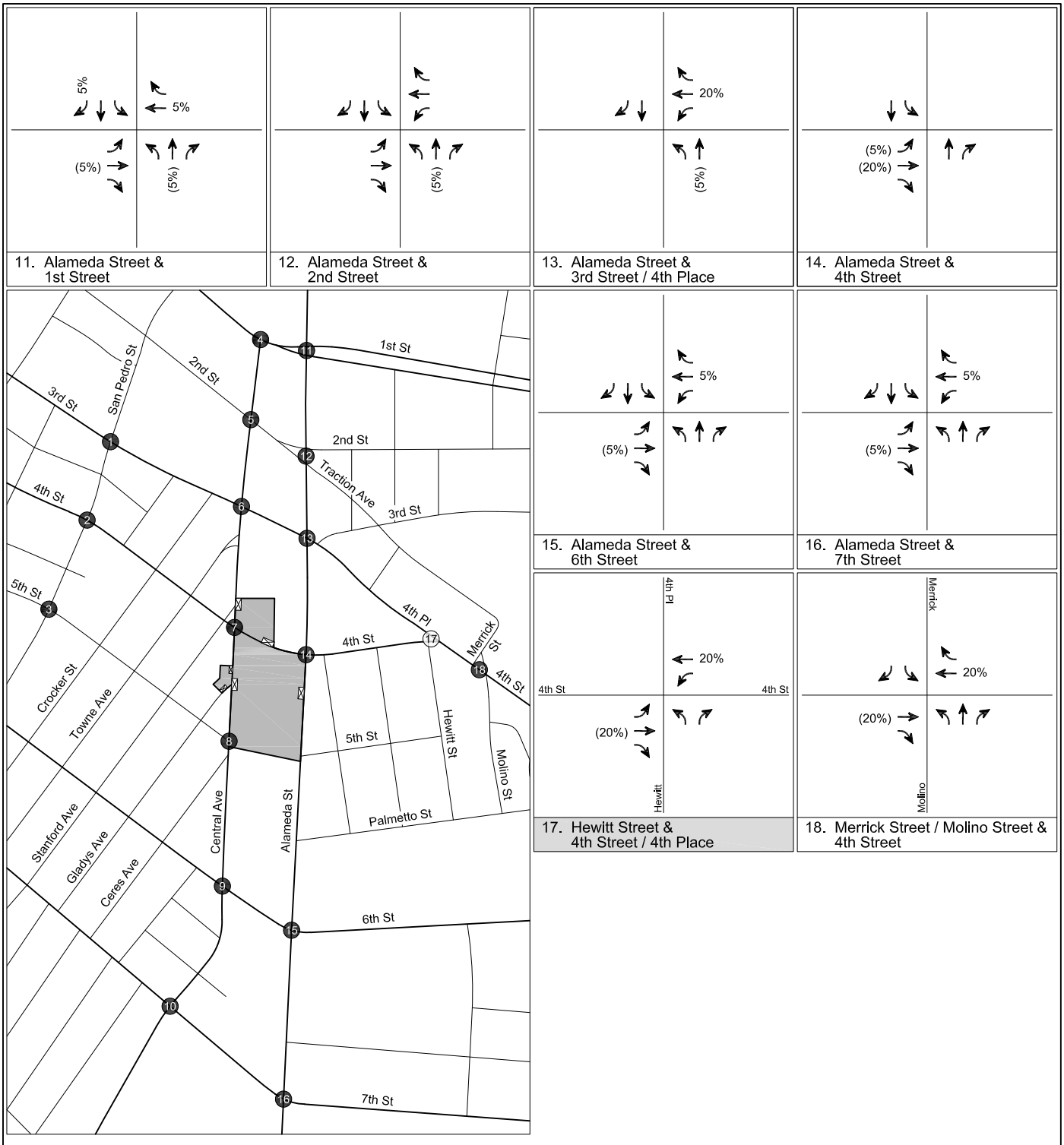
PROJECT TRIP ASSIGNMENT

The Project trip generation estimates summarized in Table 5 and the trip distribution patterns shown in Figures 15A to 15F were used to assign the Project-generated traffic through the study intersections. Figure 16A and 16B illustrate the existing trips uses to be removed from the Project Site and the total Project-only traffic volumes, respectively, at the Study Area intersections during typical weekday morning and afternoon peak hours. Figures 16C and 16D illustrate the net Project-only traffic volumes for the Project at the study intersections and Project driveways, respectively, during typical weekday morning and afternoon peak hours.



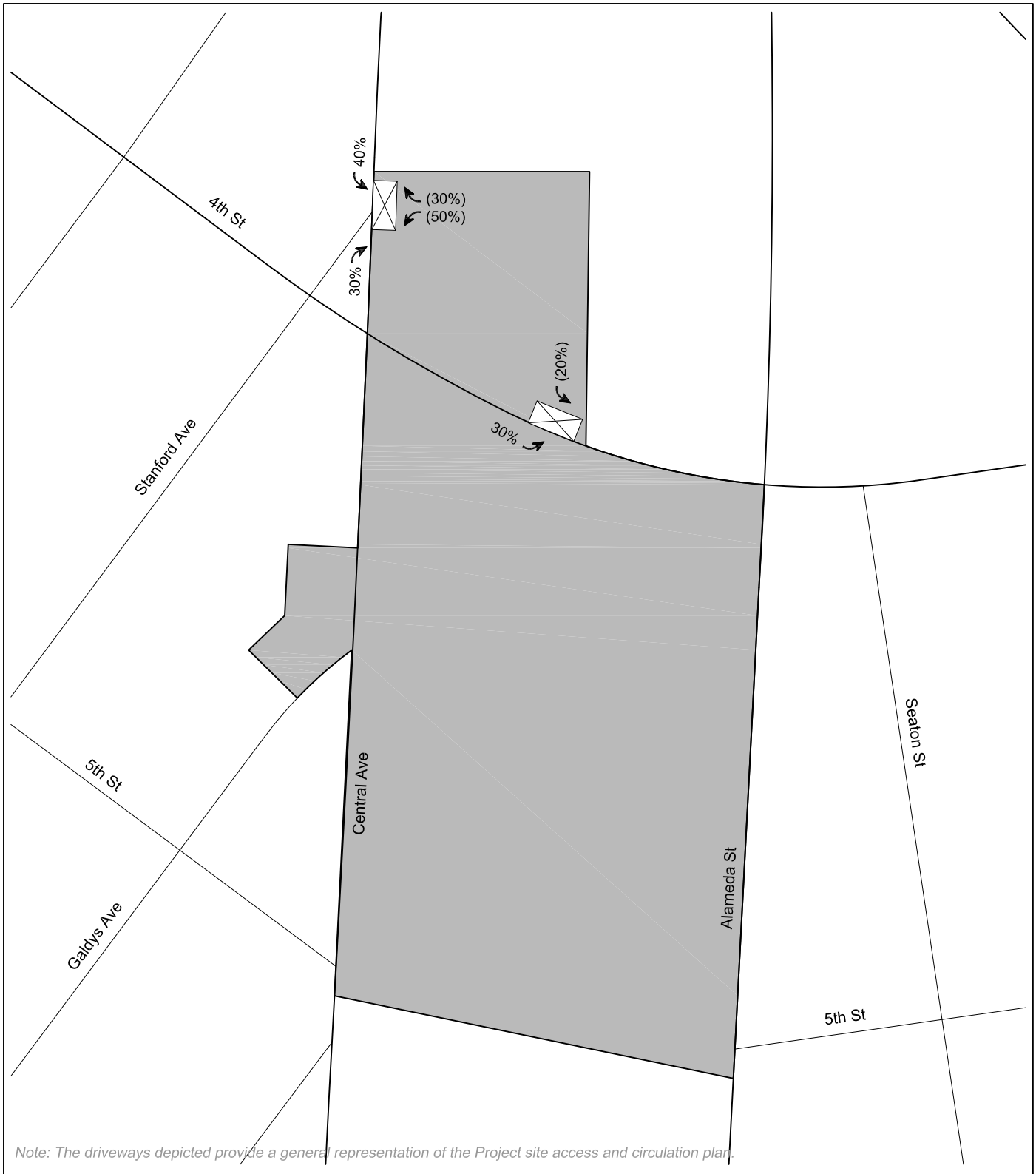
PROJECT TRIP DISTRIBUTION
NORTH SITE - COMMERCIAL

FIGURE 15A



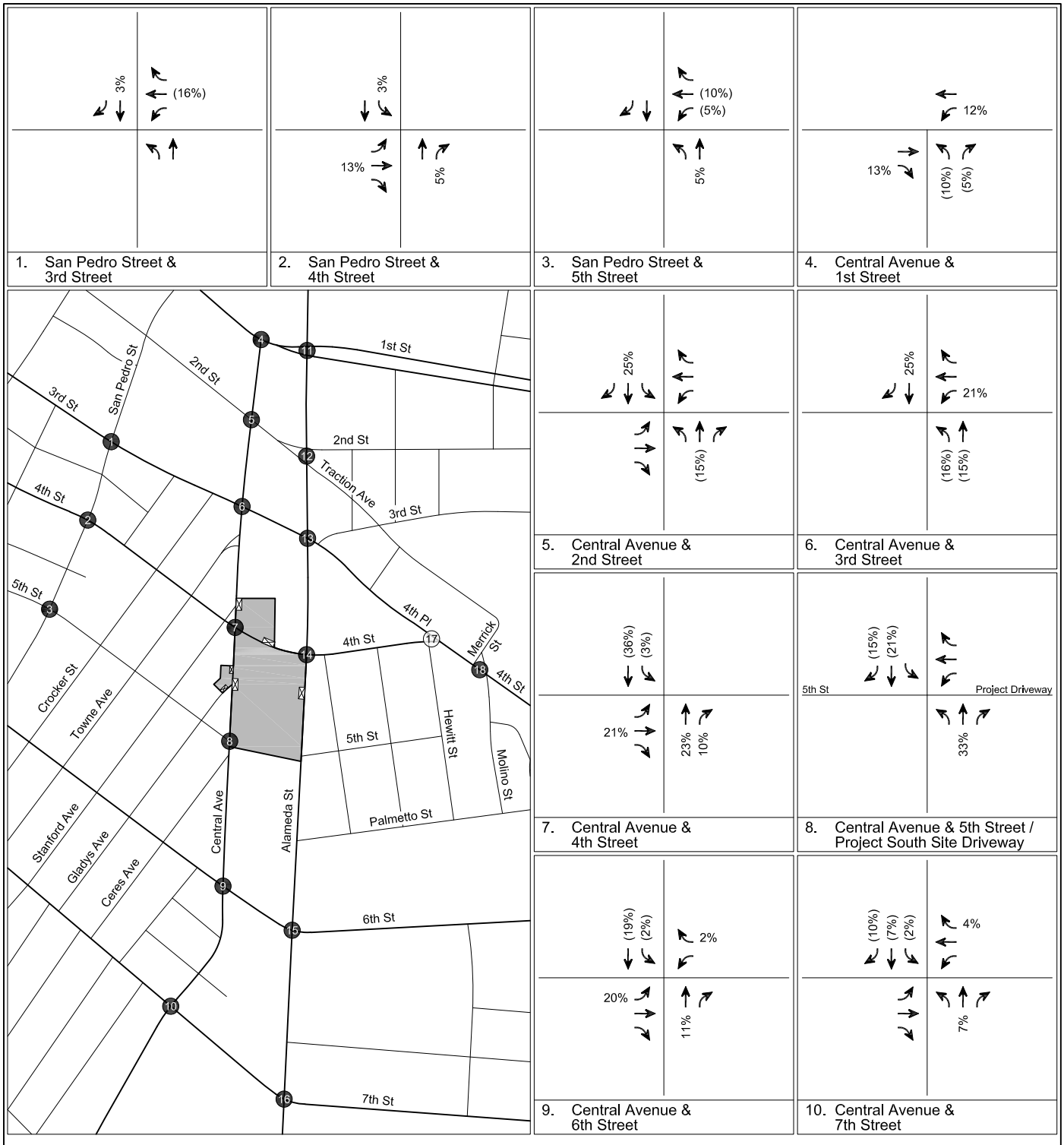
PROJECT TRIP DISTRIBUTION
NORTH SITE - COMMERCIAL

FIGURE
15A (CONT.)



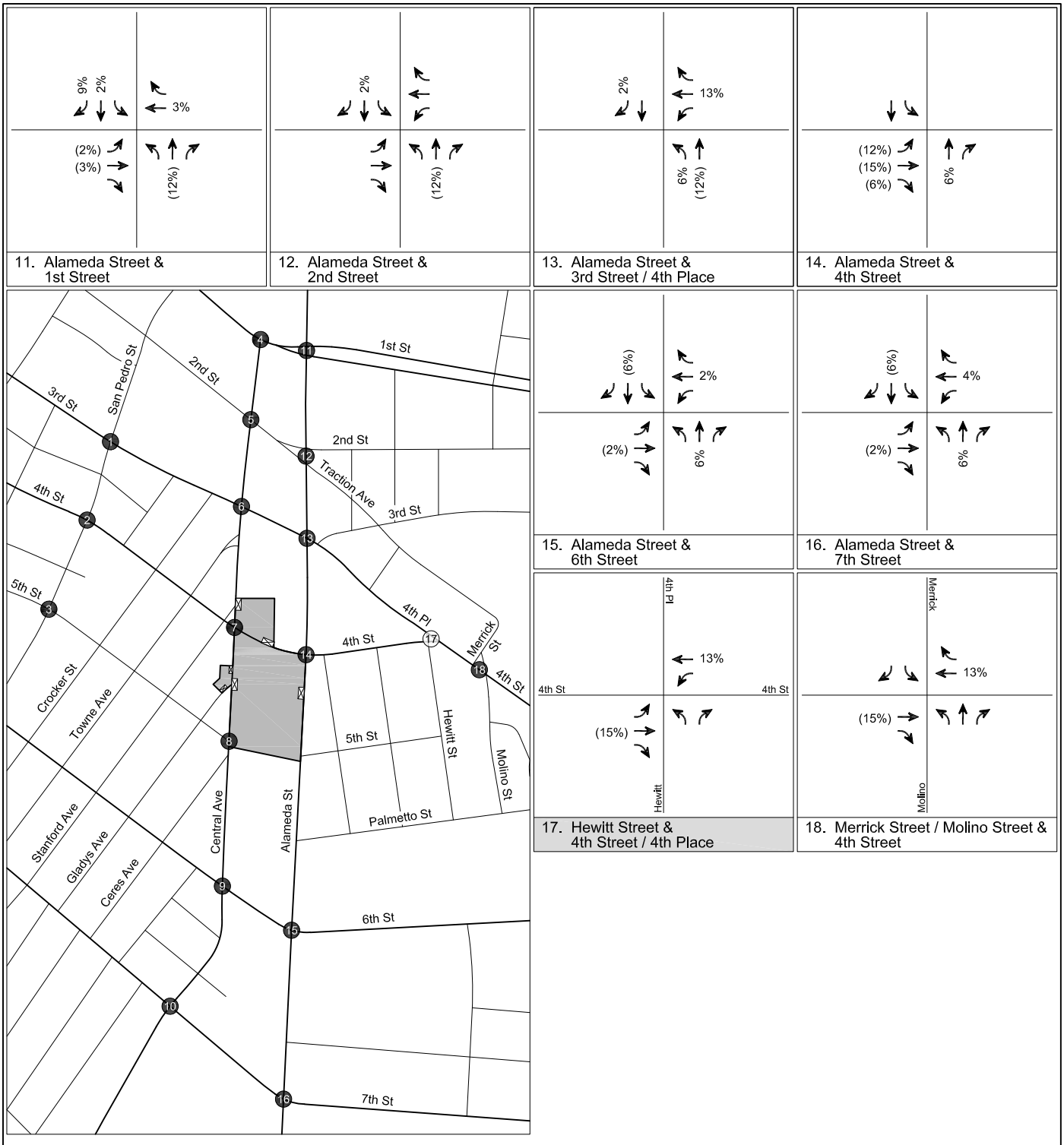
PROJECT DRIVEWAY TRIP DISTRIBUTION
NORTH SITE - COMMERCIAL

FIGURE
15A (CONT.)



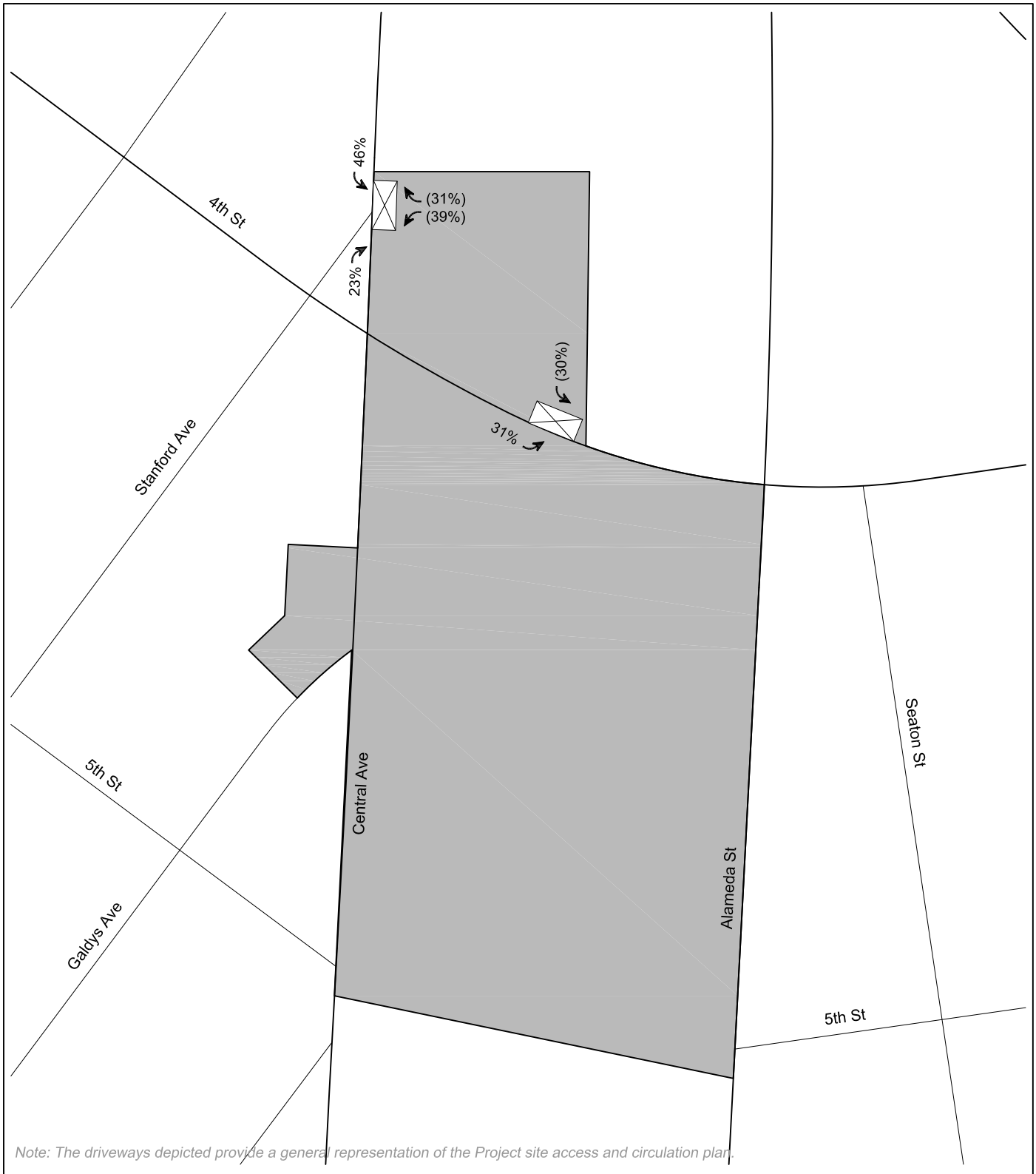
PROJECT TRIP DISTRIBUTION
NORTH SITE - RESIDENTIAL

FIGURE 15B



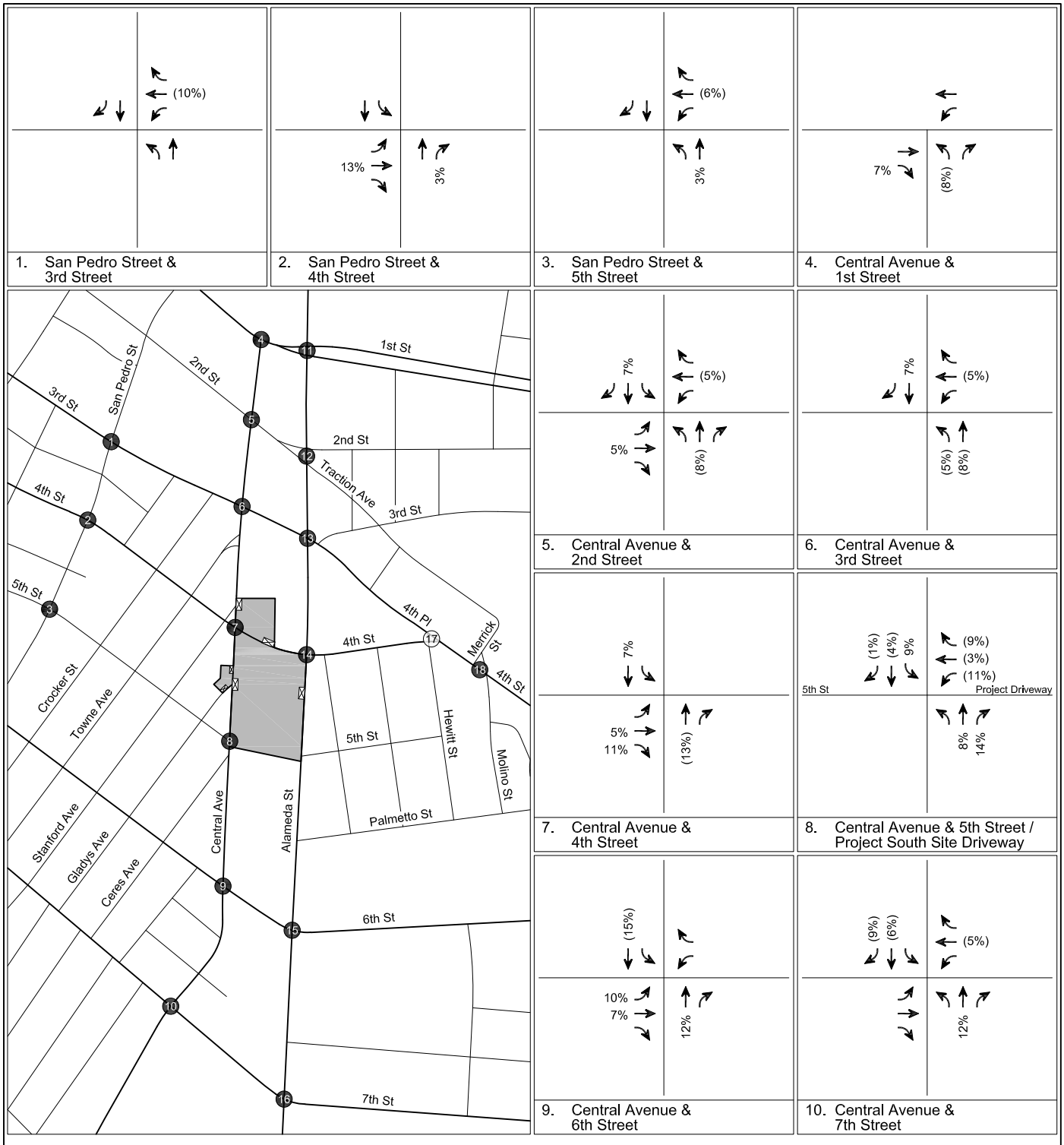
PROJECT TRIP DISTRIBUTION
NORTH SITE - RESIDENTIAL

FIGURE
15B (CONT.)



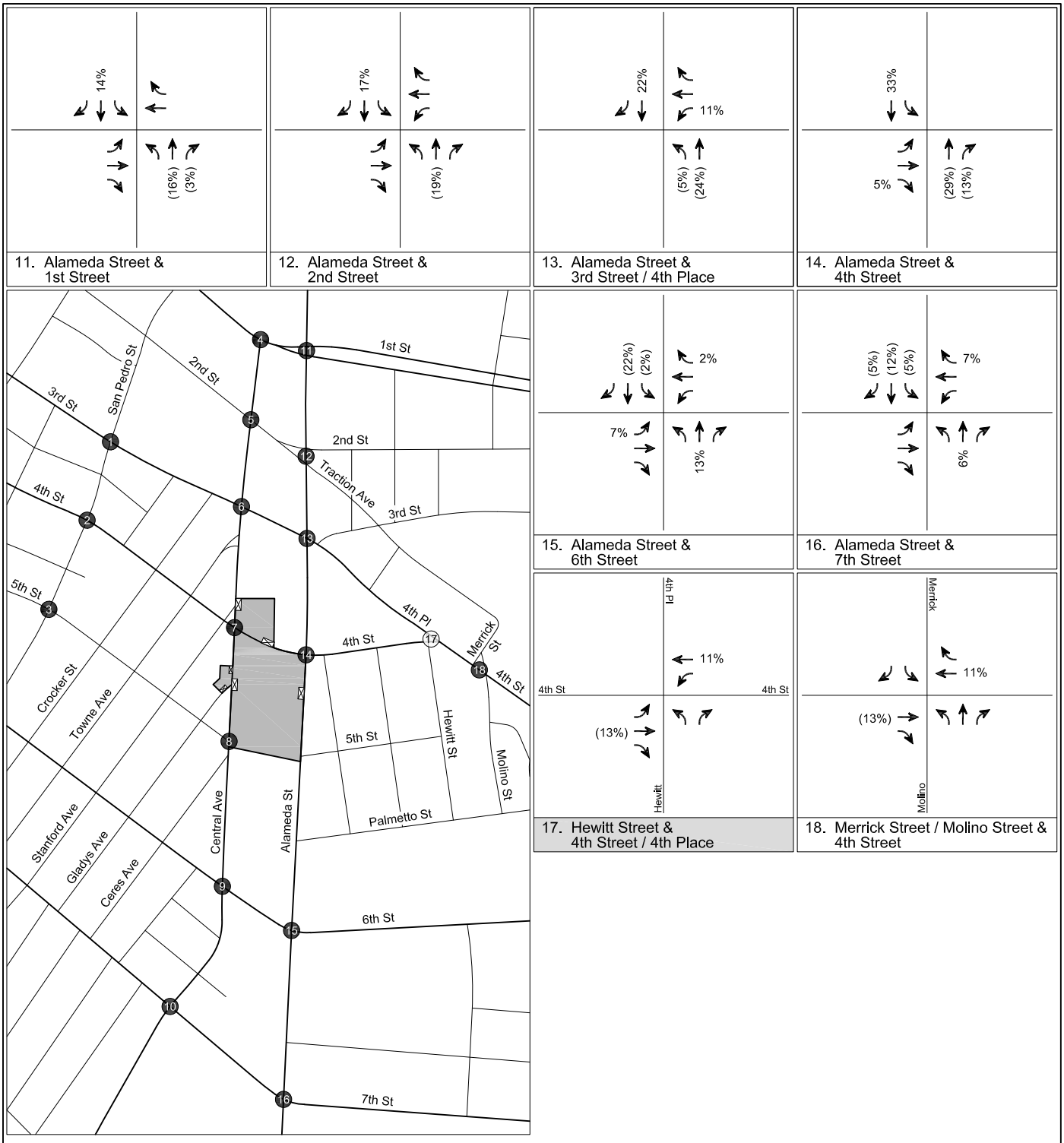
PROJECT DRIVEWAY TRIP DISTRIBUTION
NORTH SITE - RESIDENTIAL

FIGURE
15B (CONT.)



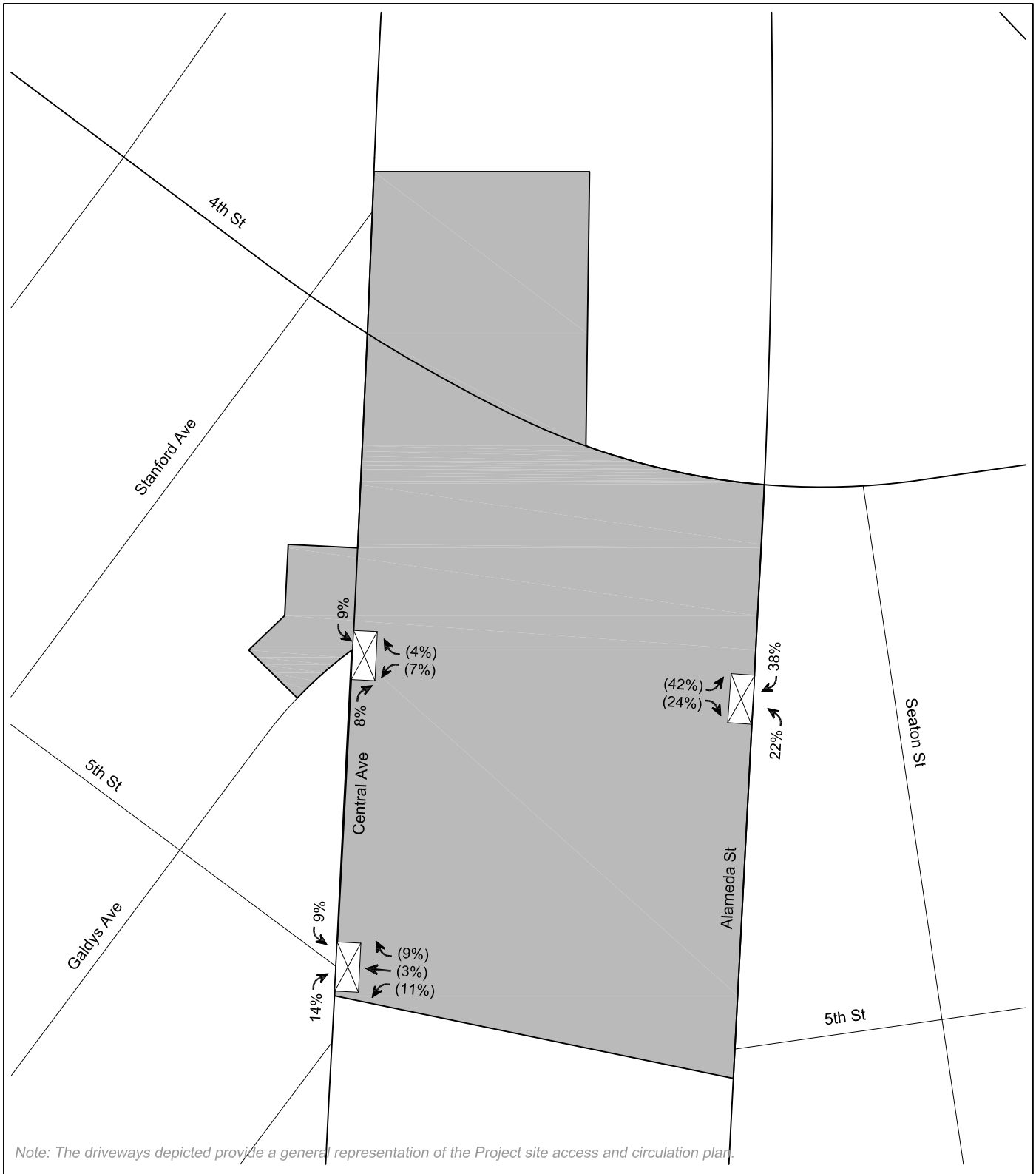
PROJECT TRIP DISTRIBUTION
SOUTH SITE - RESIDENTIAL

FIGURE 15C



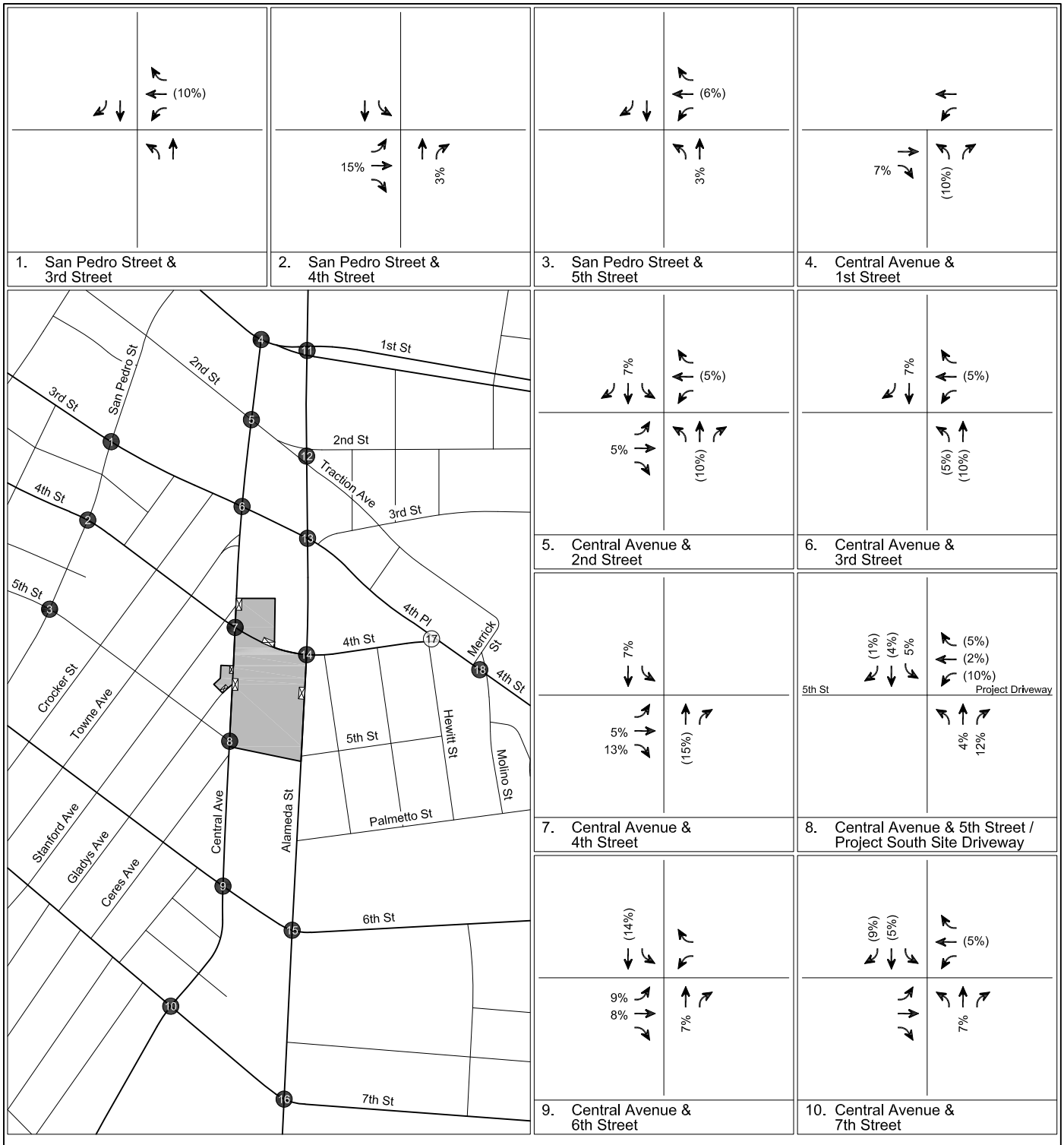
PROJECT TRIP DISTRIBUTION
SOUTH SITE - RESIDENTIAL

FIGURE
15C (CONT.)



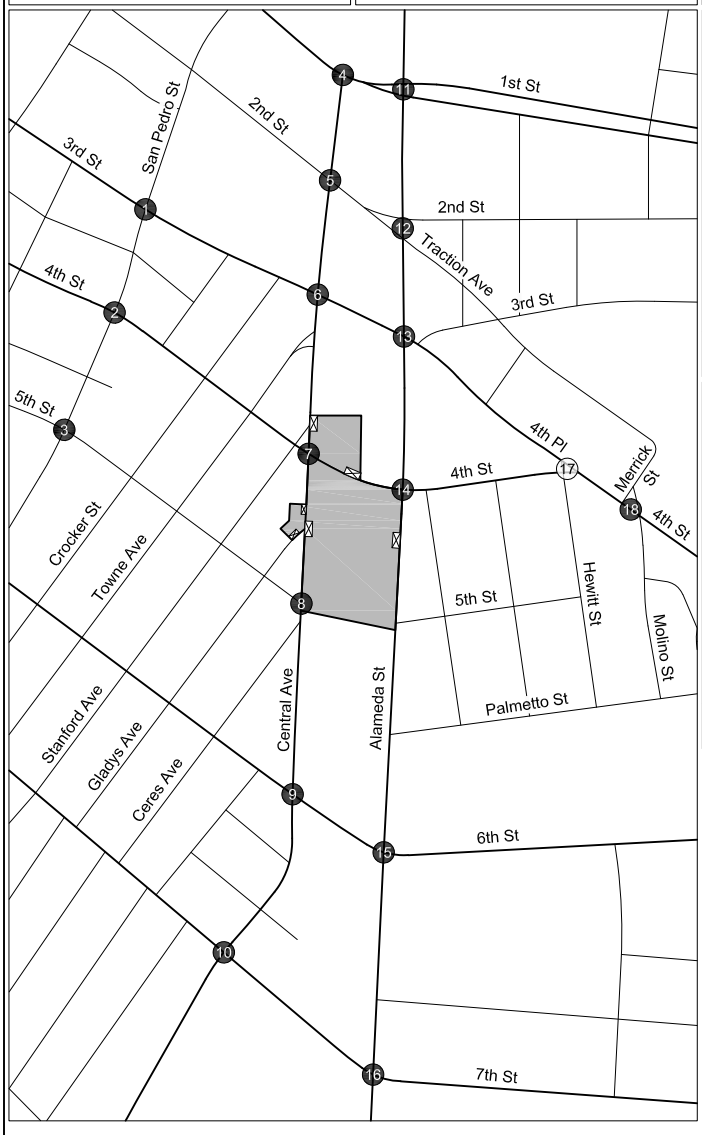
PROJECT DRIVEWAY TRIP DISTRIBUTION
SOUTH SITE - RESIDENTIAL

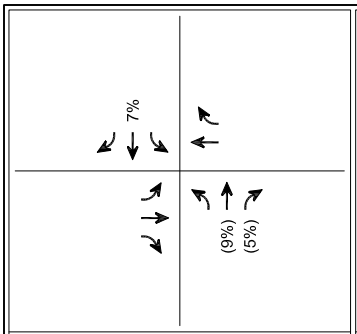
FIGURE
15C (CONT.)



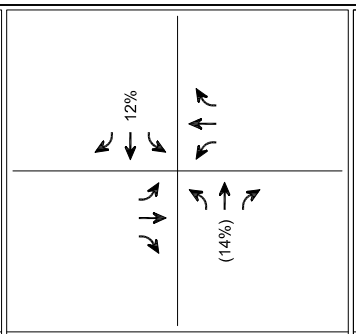
PROJECT TRIP DISTRIBUTION
SOUTH SITE - HOTEL / COMMERCIAL

FIGURE 15D

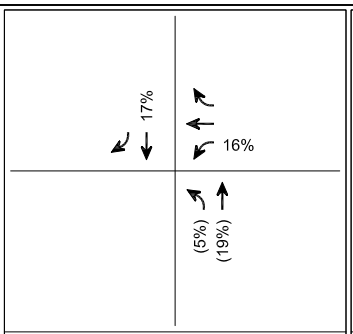




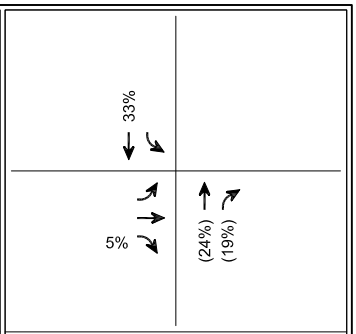
11. Alameda Street & 1st Street



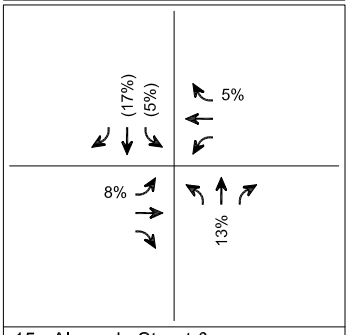
12. Alameda Street & 2nd Street



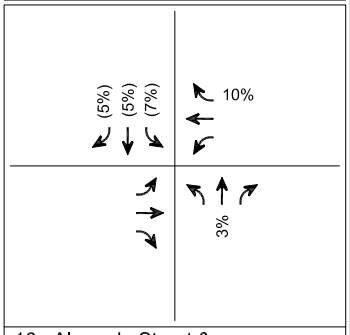
13. Alameda Street & 3rd Street / 4th Place



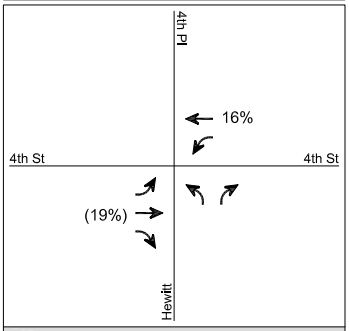
14. Alameda Street & 4th Street



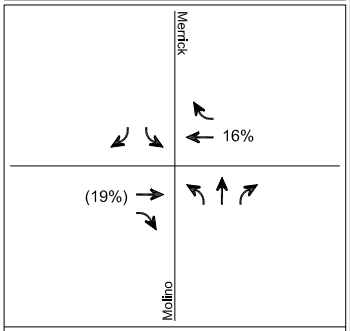
15. Alameda Street & 6th Street



16. Alameda Street & 7th Street



17. Hewitt Street & 4th Street / 4th Place



18. Merrick Street / Molino Street & 4th Street

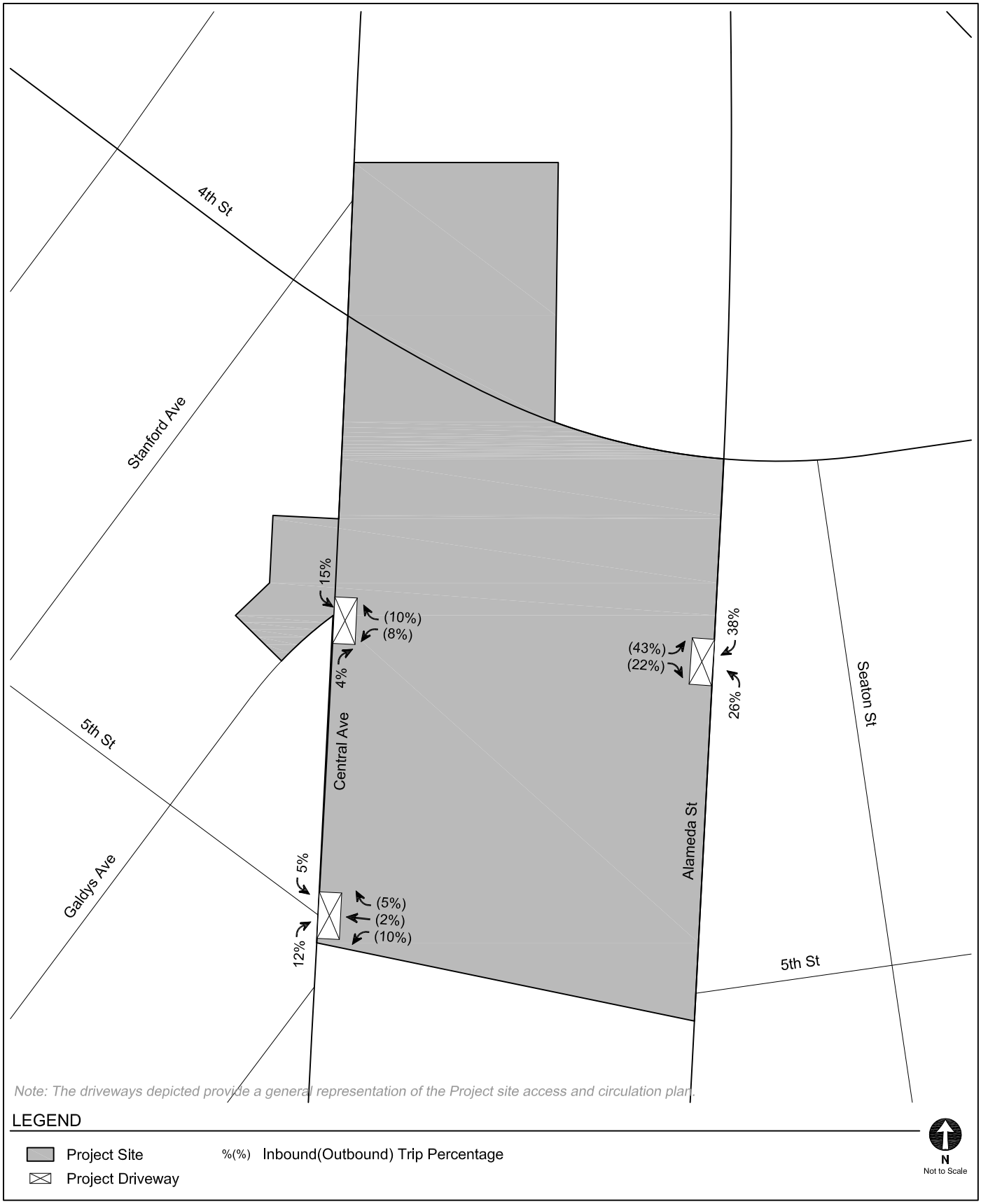
LEGEND

- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection
- %(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

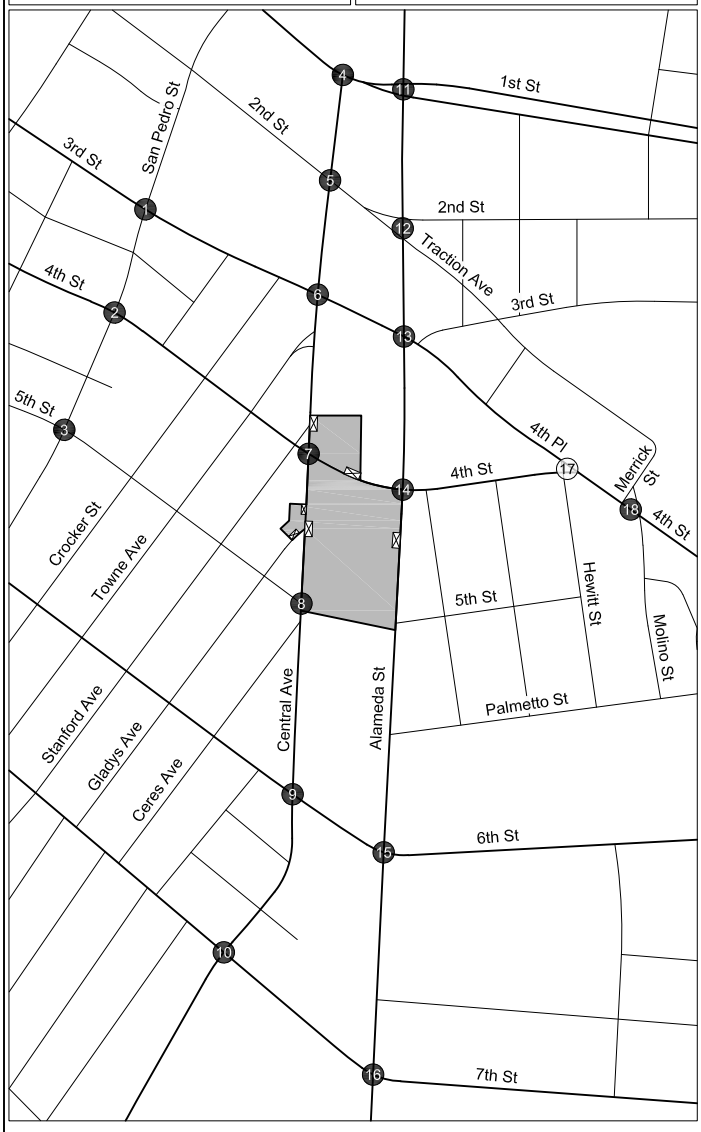
PROJECT TRIP DISTRIBUTION
SOUTH SITE - HOTEL / COMMERCIAL

FIGURE
15D (CONT.)

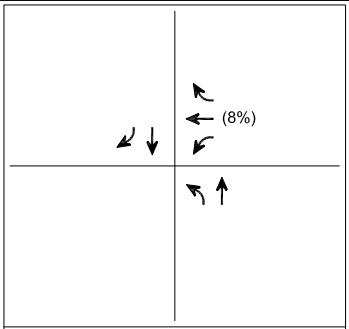


PROJECT DRIVEWAY TRIP DISTRIBUTION
SOUTH SITE - HOTEL / COMMERCIAL

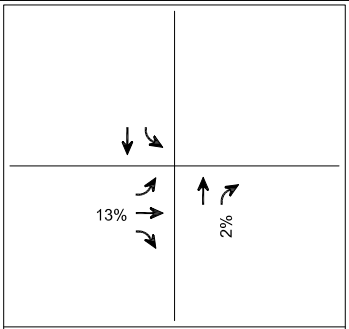
FIGURE
15D (CONT.)



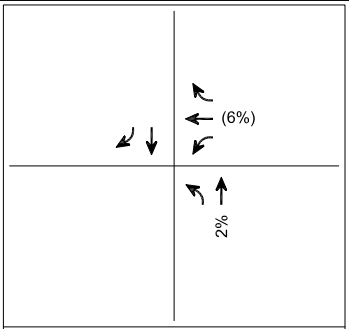
1. San Pedro Street & 3rd Street



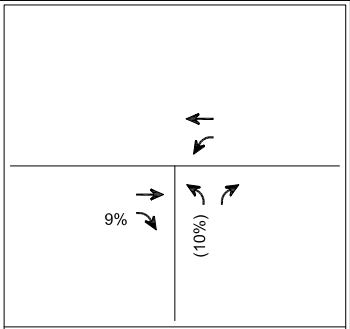
2. San Pedro Street & 4th Street



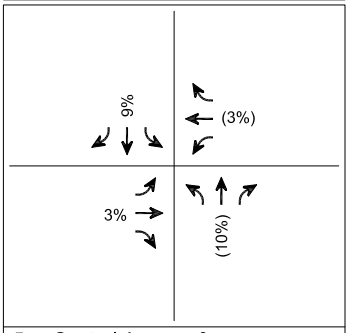
3. San Pedro Street & 5th Street



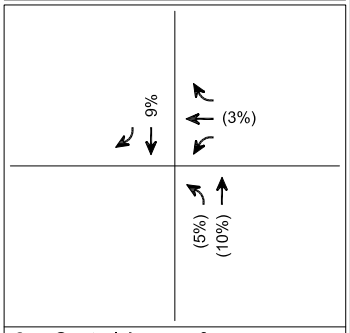
4. Central Avenue & 1st Street



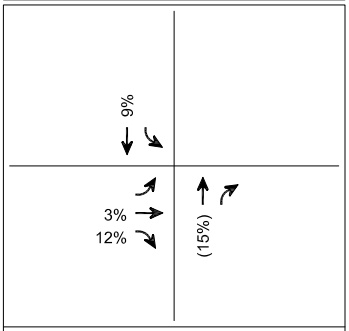
5. Central Avenue & 2nd Street



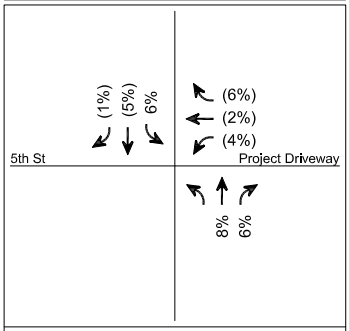
6. Central Avenue & 3rd Street



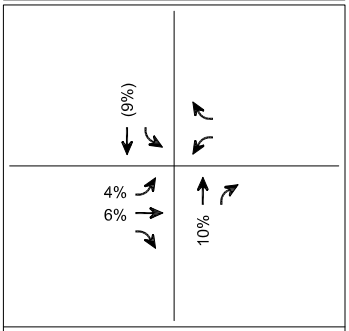
7. Central Avenue & 4th Street



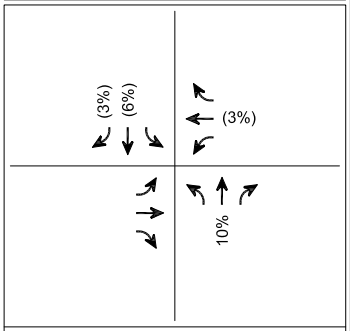
8. Central Avenue & 5th Street / Project South Site Driveway



9. Central Avenue & 6th Street



10. Central Avenue & 7th Street



LEGEND

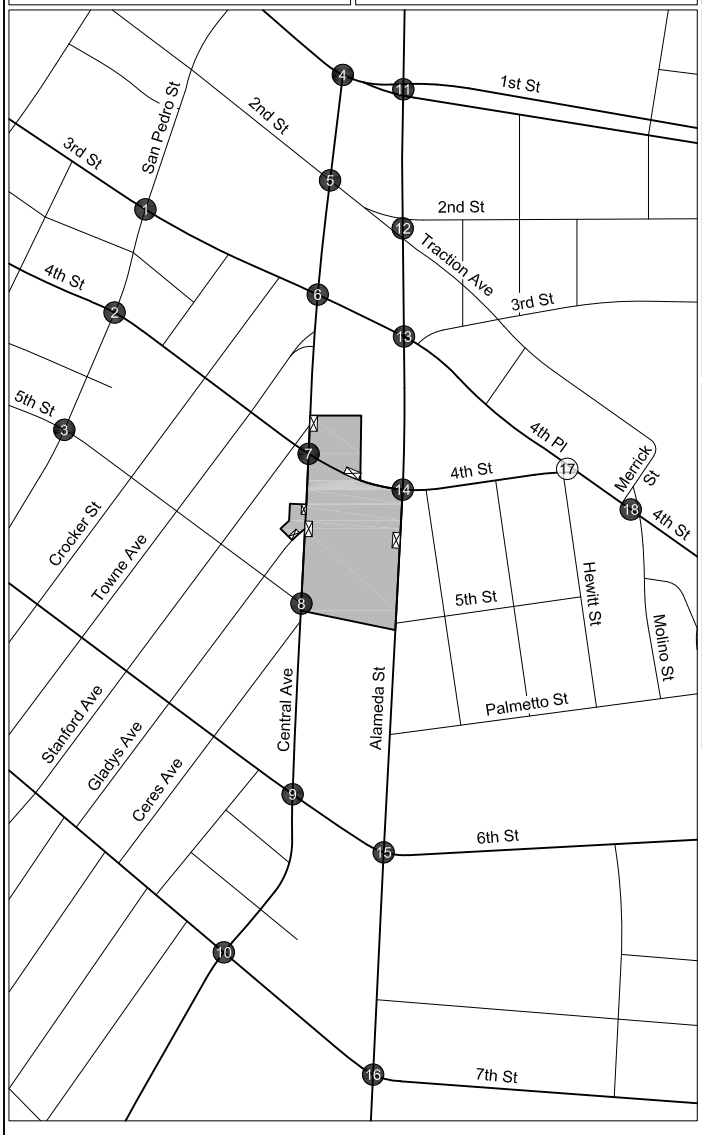
- Project Site
- Project Driveway
- Signalized Intersection
- Unsignalized Intersection

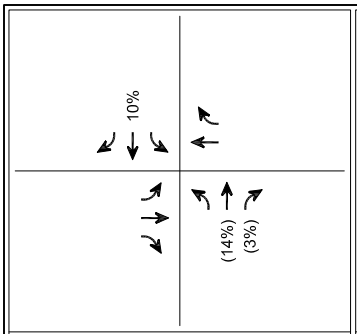
%(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

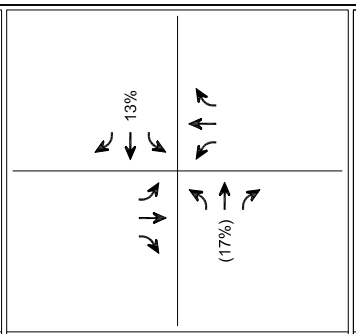
PROJECT TRIP DISTRIBUTION
SOUTH SITE - OFFICE

FIGURE 15E

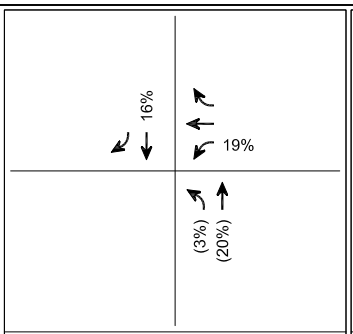




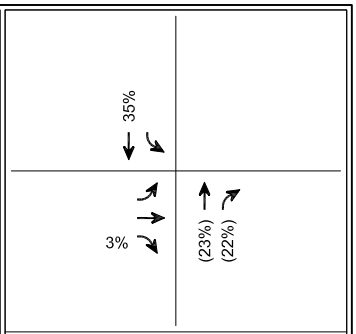
11. Alameda Street & 1st Street



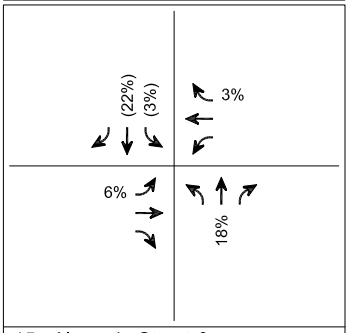
12. Alameda Street & 2nd Street



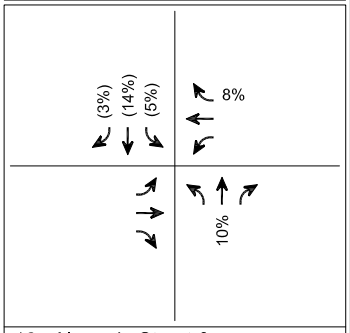
13. Alameda Street & 3rd Street / 4th Place



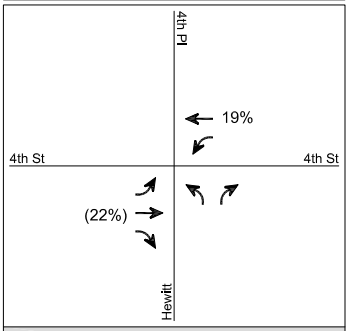
14. Alameda Street & 4th Street



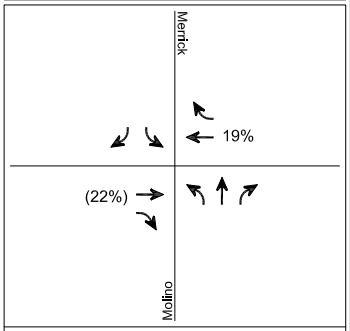
15. Alameda Street & 6th Street



16. Alameda Street & 7th Street



17. Hewitt Street & 4th Street / 4th Place



18. Merrick Street / Molino Street & 4th Street

LEGEND

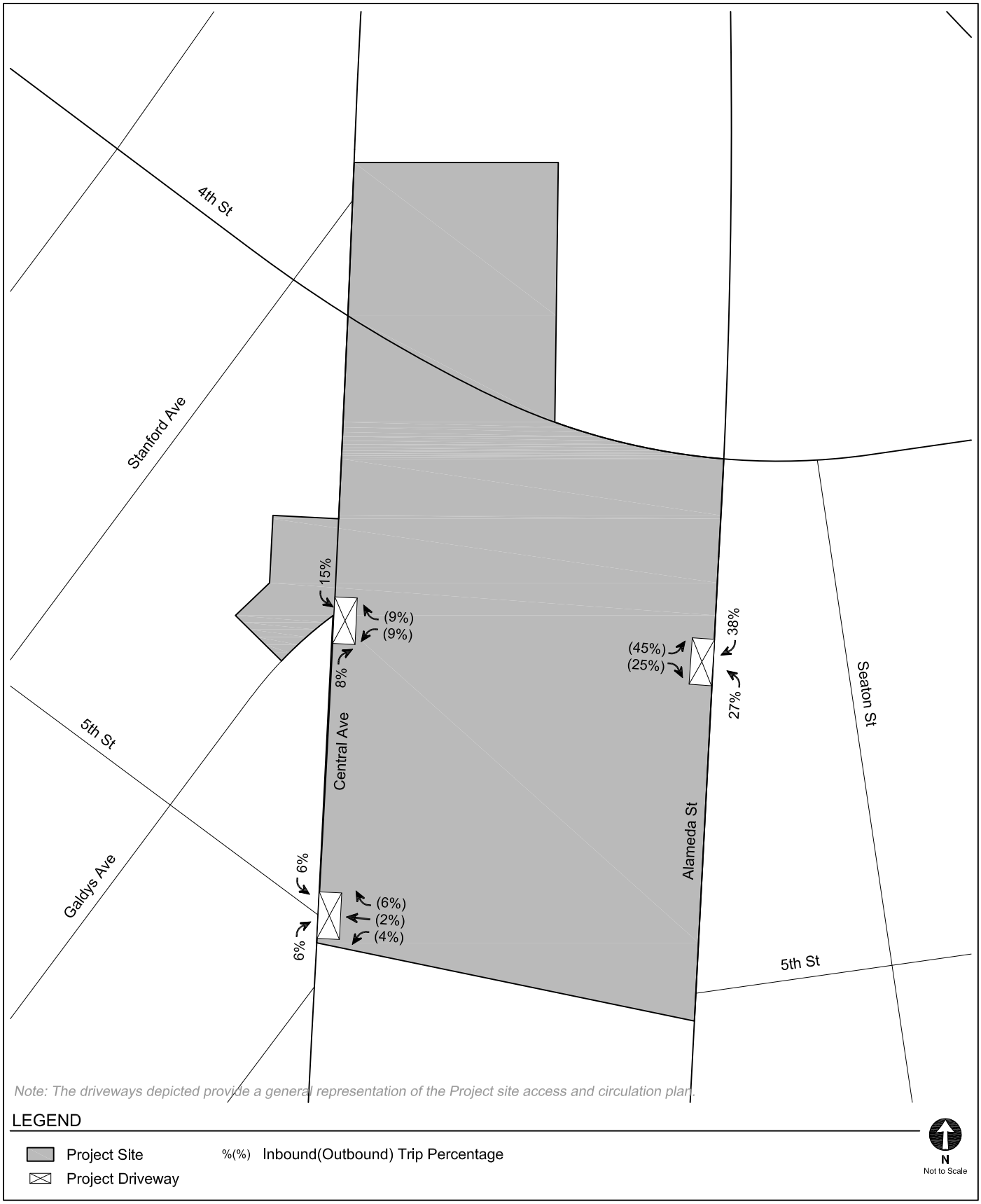
- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection

%(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

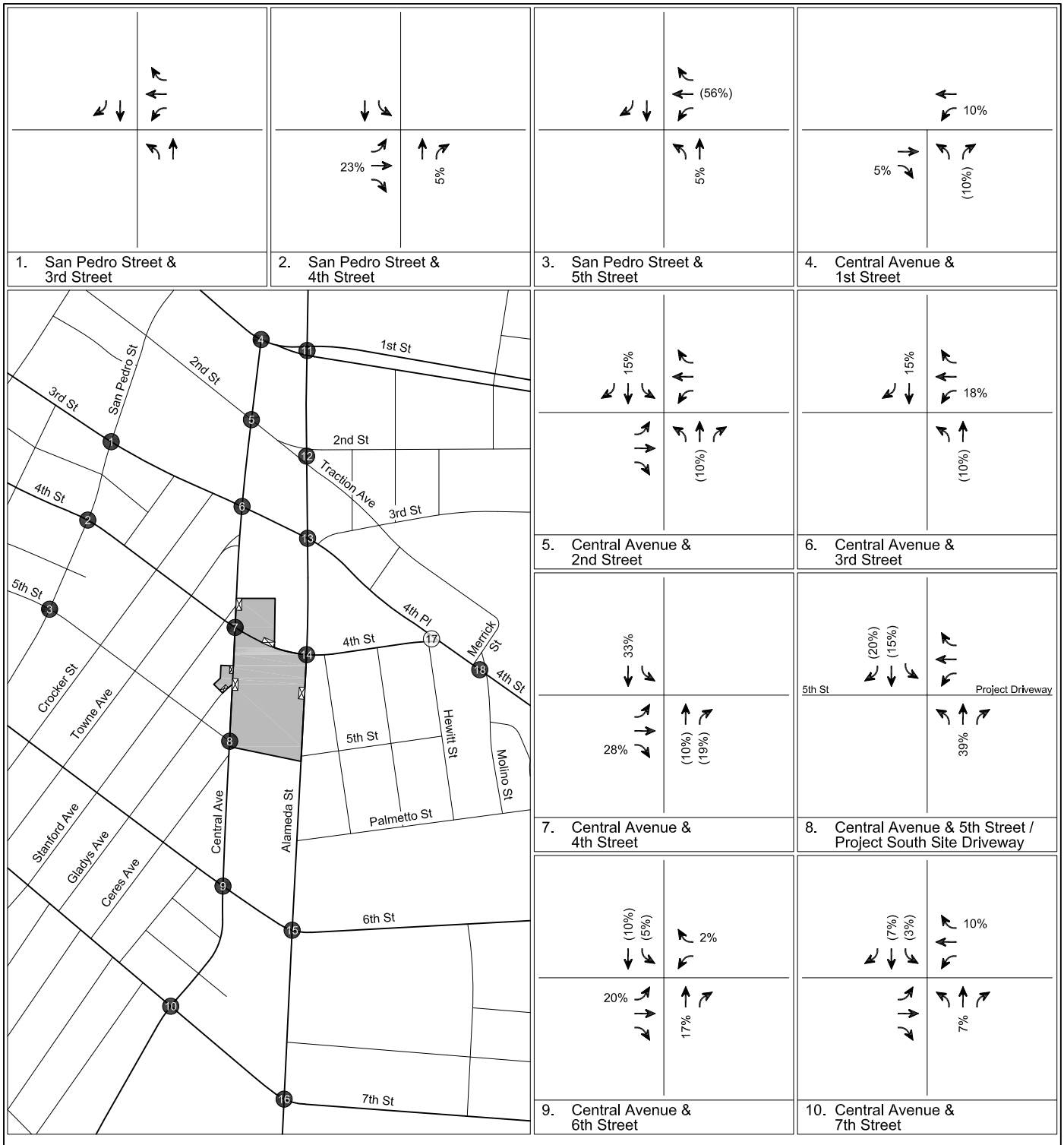
PROJECT TRIP DISTRIBUTION
SOUTH SITE - OFFICE

FIGURE
15E (CONT.)



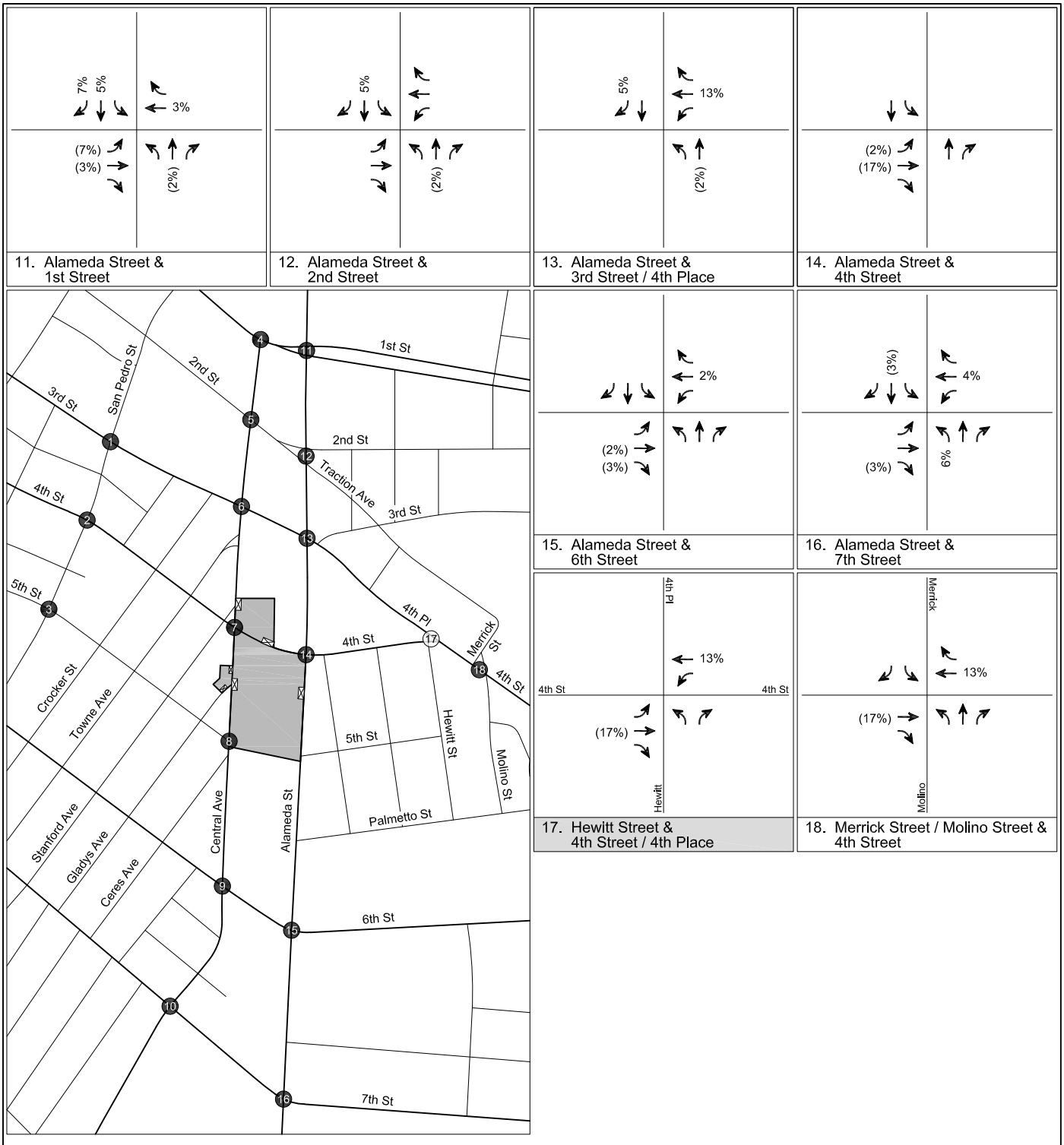
PROJECT DRIVEWAY TRIP DISTRIBUTION
SOUTH SITE - OFFICE

FIGURE
15E (CONT.)



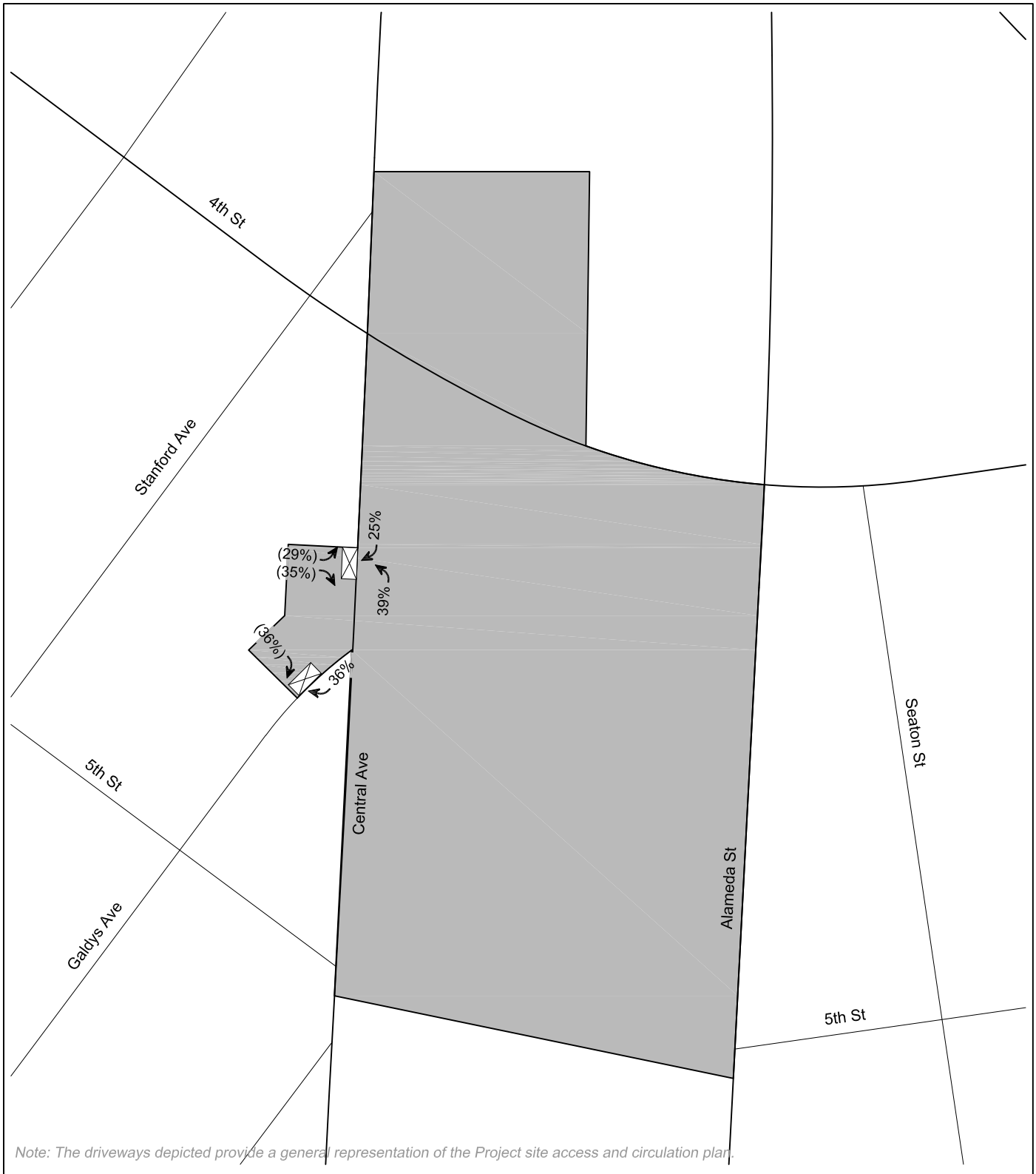
PROJECT TRIP DISTRIBUTION
WEST SITE - RESIDENTIAL

FIGURE 15F



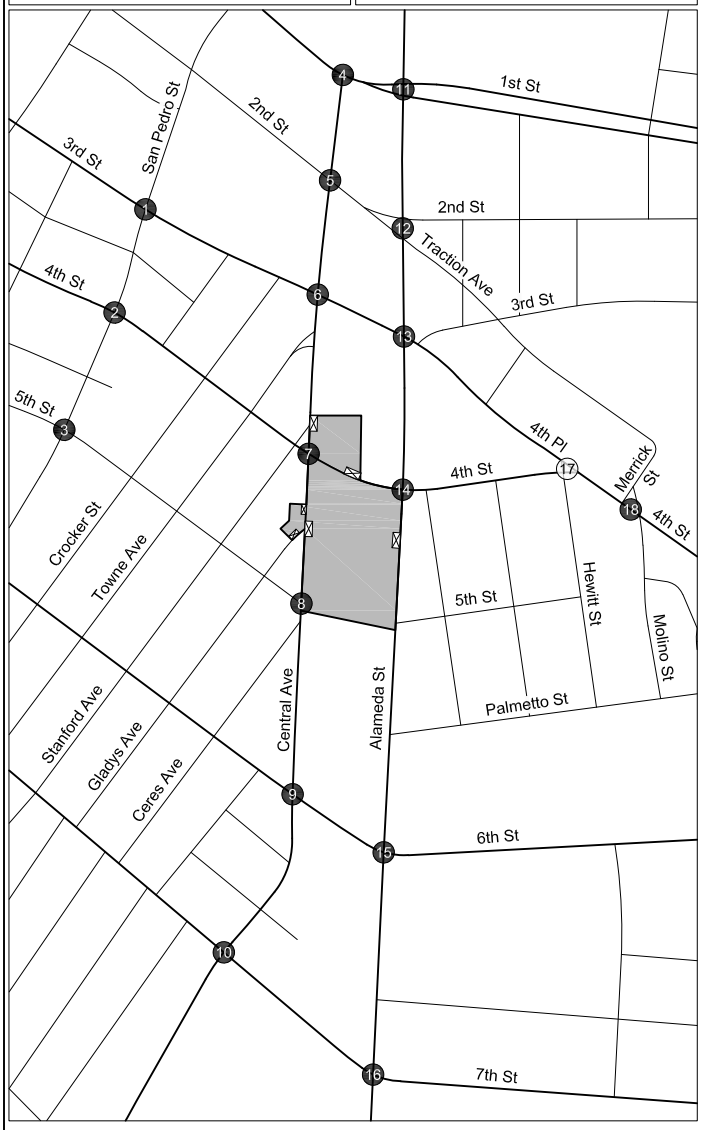
PROJECT TRIP DISTRIBUTION
WEST SITE - RESIDENTIAL

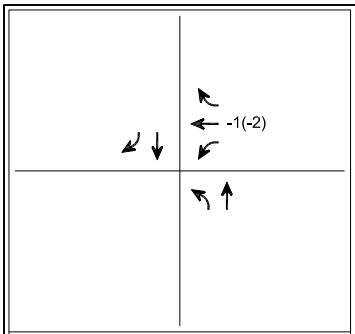
FIGURE
15F (CONT.)



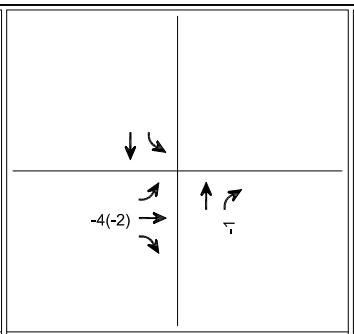
PROJECT DRIVEWAY TRIP DISTRIBUTION
WEST SITE - RESIDENTIAL

FIGURE
15F (CONT.)

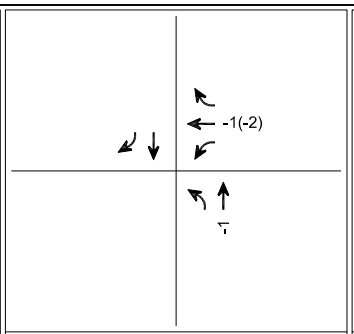




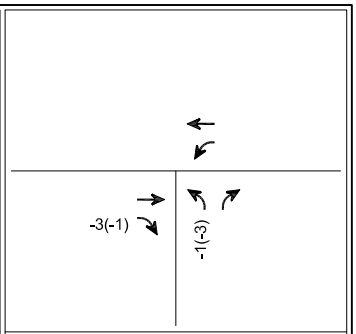
1. San Pedro Street & 3rd Street



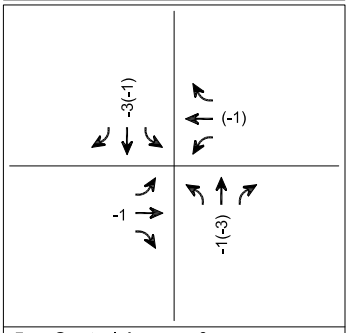
2. San Pedro Street & 4th Street



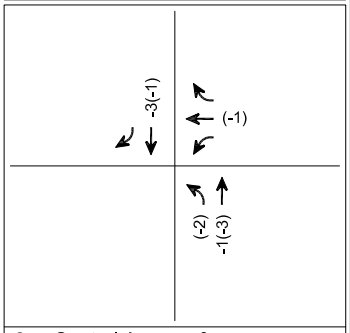
3. San Pedro Street & 5th Street



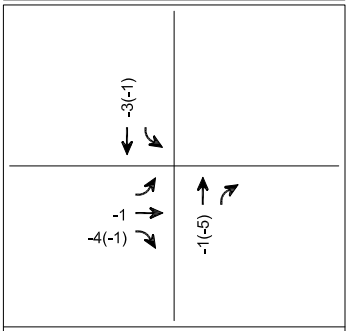
4. Central Avenue & 1st Street



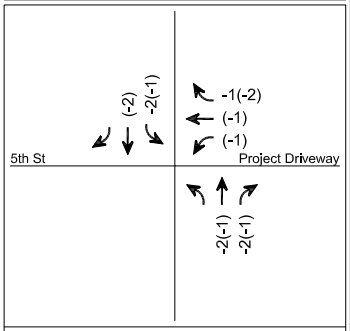
5. Central Avenue & 2nd Street



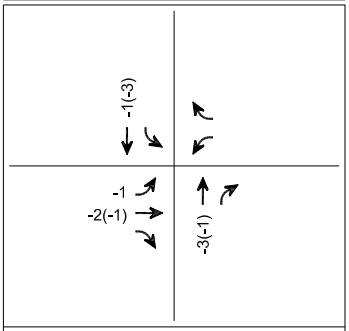
6. Central Avenue & 3rd Street



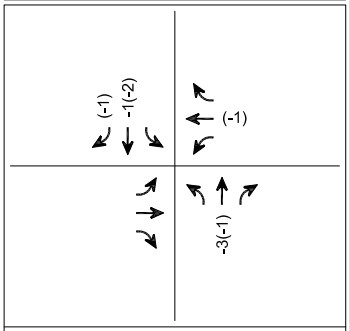
7. Central Avenue & 4th Street



8. Central Avenue & 5th Street / Project South Site Driveway



9. Central Avenue & 6th Street



10. Central Avenue & 7th Street

LEGEND

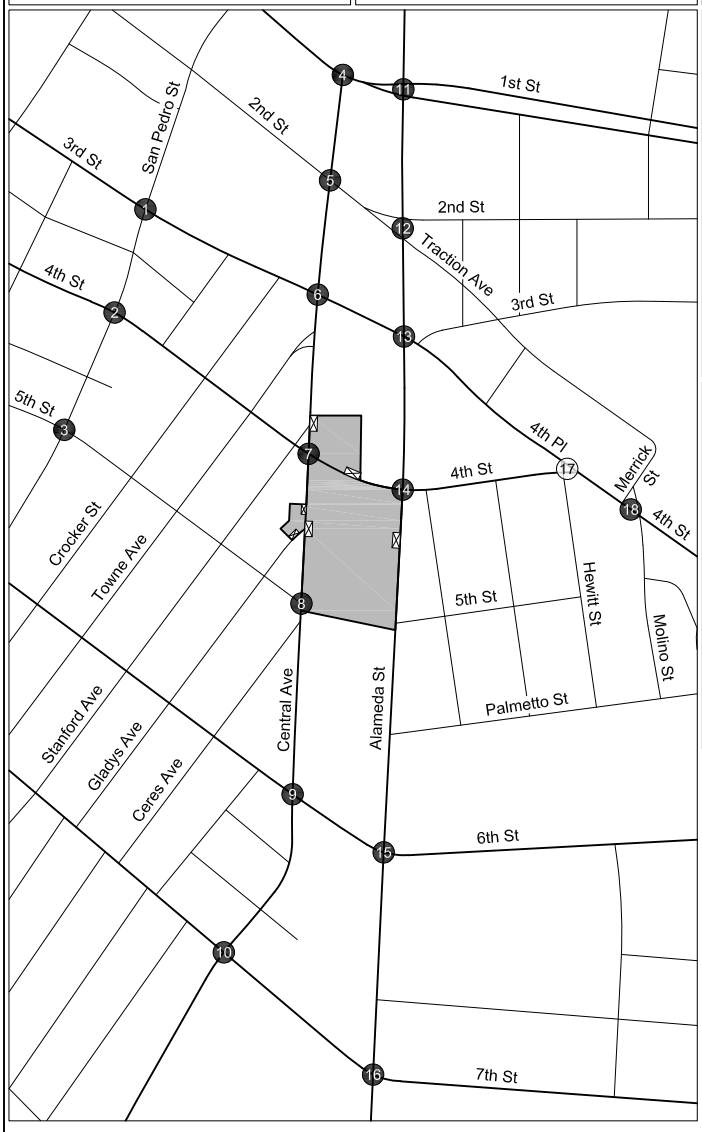
- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection

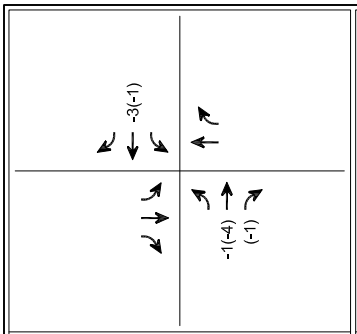
#(#) AM(PM) Peak Hour Traffic Volumes

N
Not to Scale

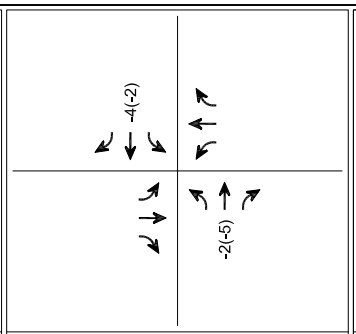
EXISTING USES TO BE REMOVED
PEAK HOUR TRAFFIC VOLUMES

FIGURE 16A

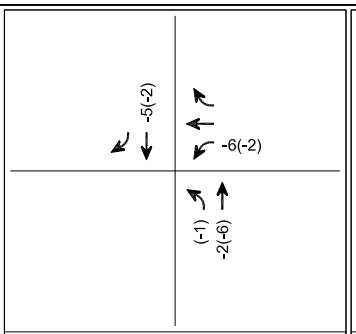




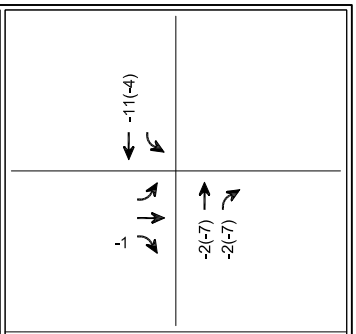
11. Alameda Street & 1st Street



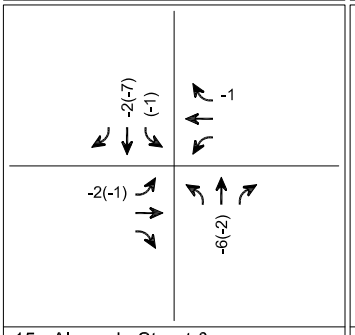
12. Alameda Street & 2nd Street



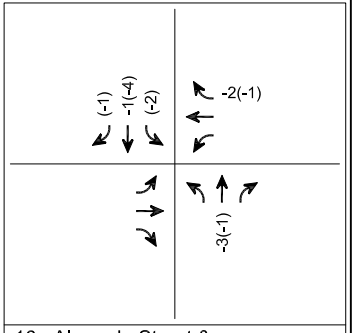
13. Alameda Street & 3rd Street / 4th Place



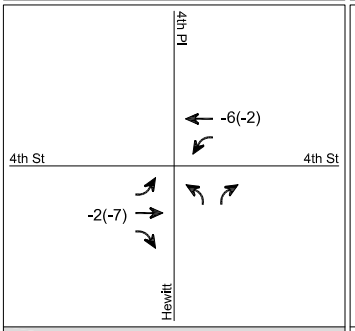
14. Alameda Street & 4th Street



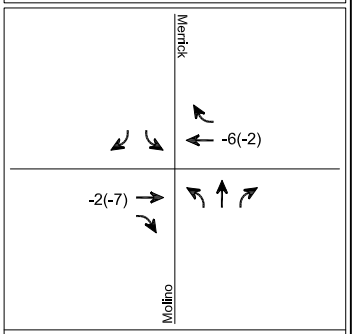
15. Alameda Street & 6th Street



16. Alameda Street & 7th Street



17. Hewitt Street & 4th Street / 4th Place



18. Merrick Street / Molino Street & 4th Street

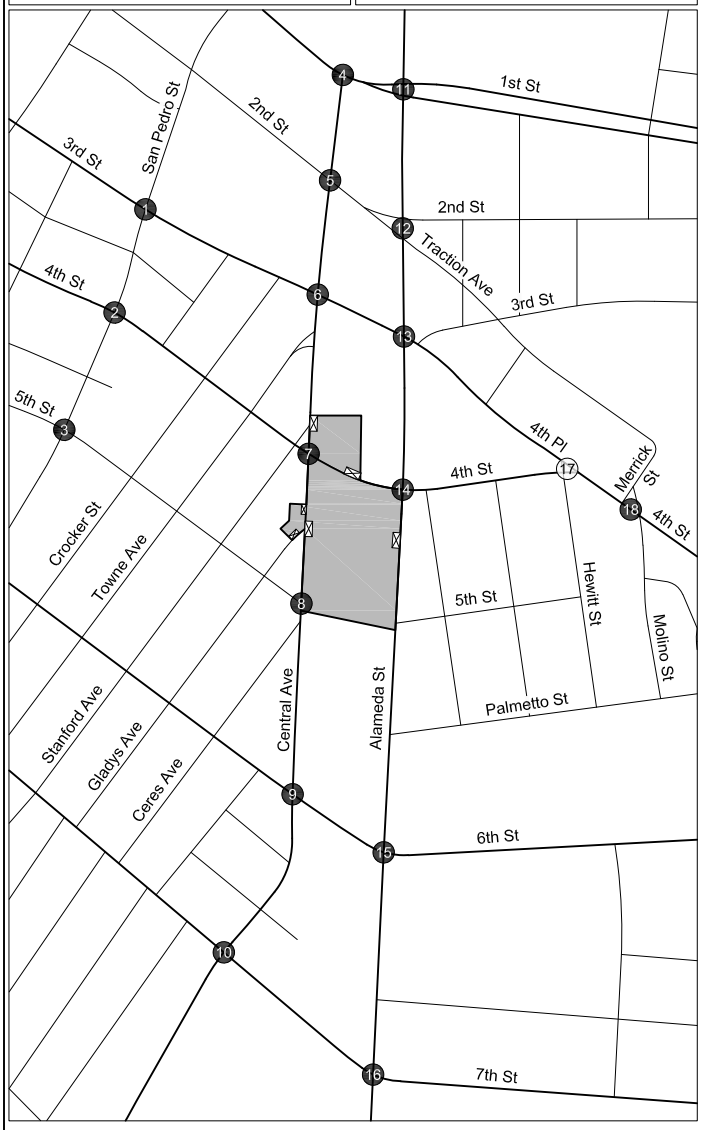
LEGEND

- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection
- #(#) AM(PM) Peak Hour Traffic Volumes

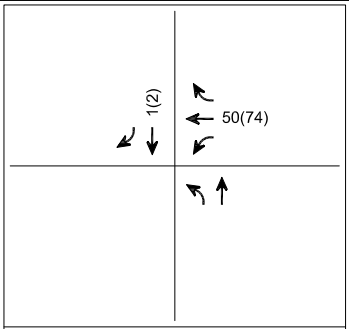
N
Not to Scale

EXISTING USES TO BE REMOVED
PEAK HOUR TRAFFIC VOLUMES

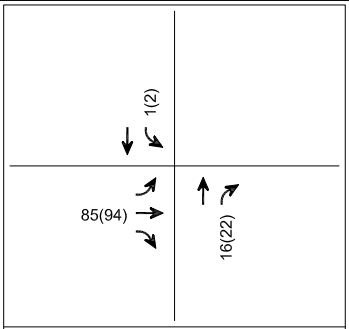
FIGURE
16A (CONT.)



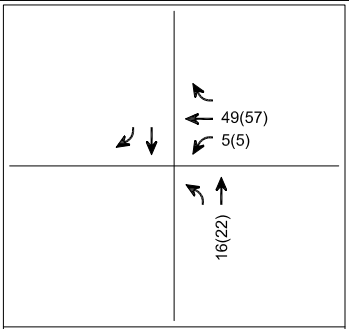
1. San Pedro Street & 3rd Street



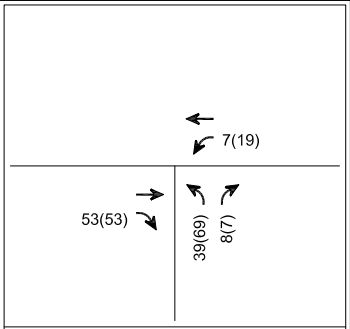
2. San Pedro Street & 4th Street



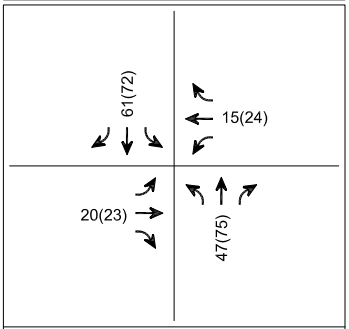
3. San Pedro Street & 5th Street



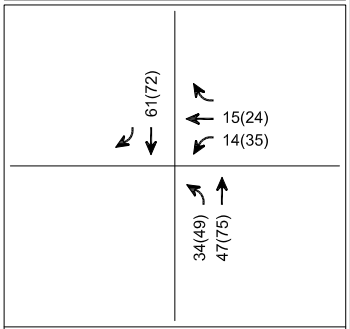
4. Central Avenue & 1st Street



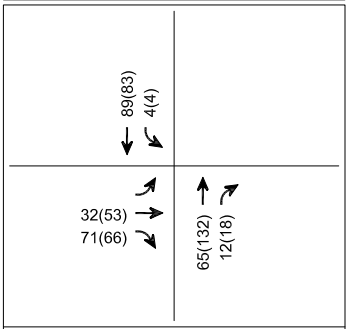
5. Central Avenue & 2nd Street



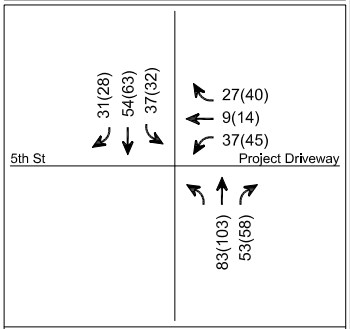
6. Central Avenue & 3rd Street



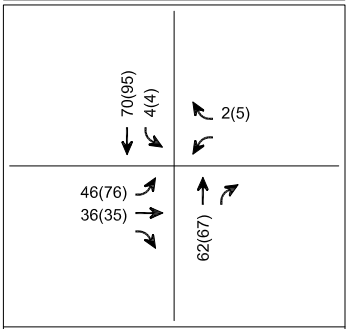
7. Central Avenue & 4th Street



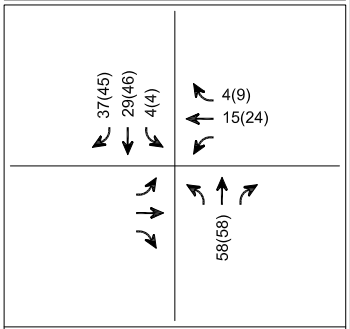
8. Central Avenue & 5th Street / Project South Site Driveway



9. Central Avenue & 6th Street



10. Central Avenue & 7th Street



LEGEND

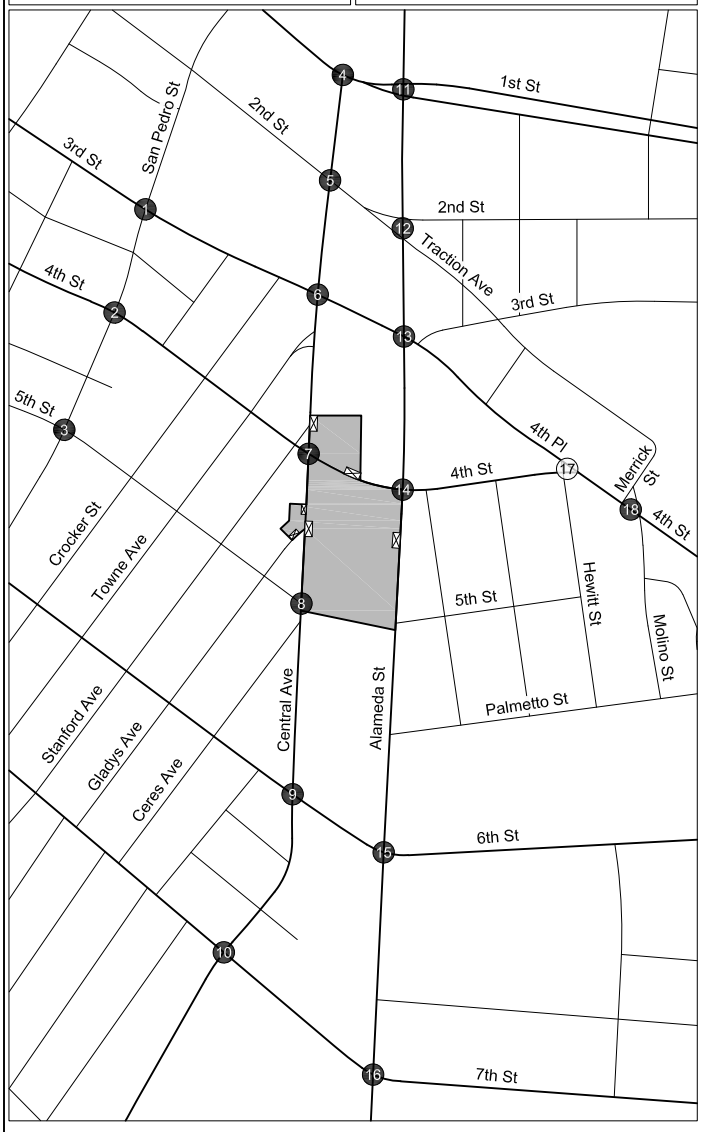
- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection

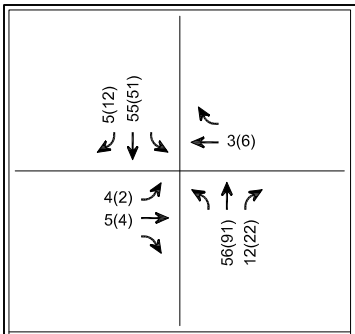
#(#) AM(PM) Peak Hour Traffic Volumes

N
Not to Scale

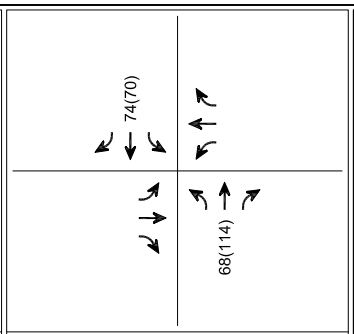
TOTAL PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES

FIGURE 16B

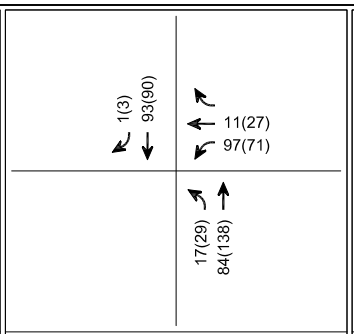




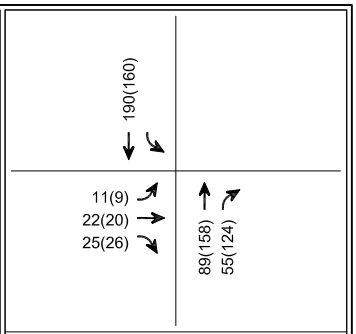
11. Alameda Street & 1st Street



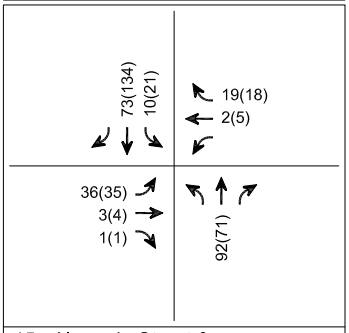
12. Alameda Street & 2nd Street



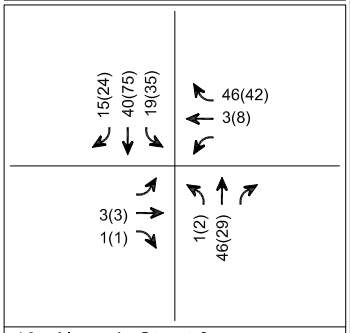
13. Alameda Street & 3rd Street / 4th Place



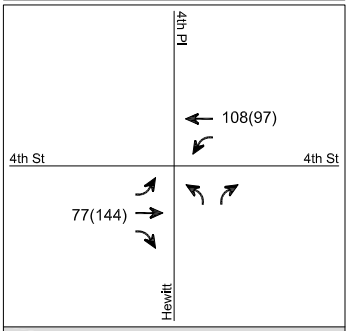
14. Alameda Street & 4th Street



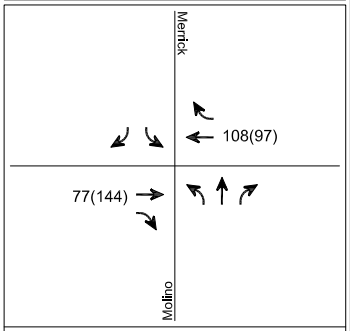
15. Alameda Street & 6th Street



16. Alameda Street & 7th Street



17. Hewitt Street & 4th Street / 4th Place



18. Merrick Street / Molino Street & 4th Street

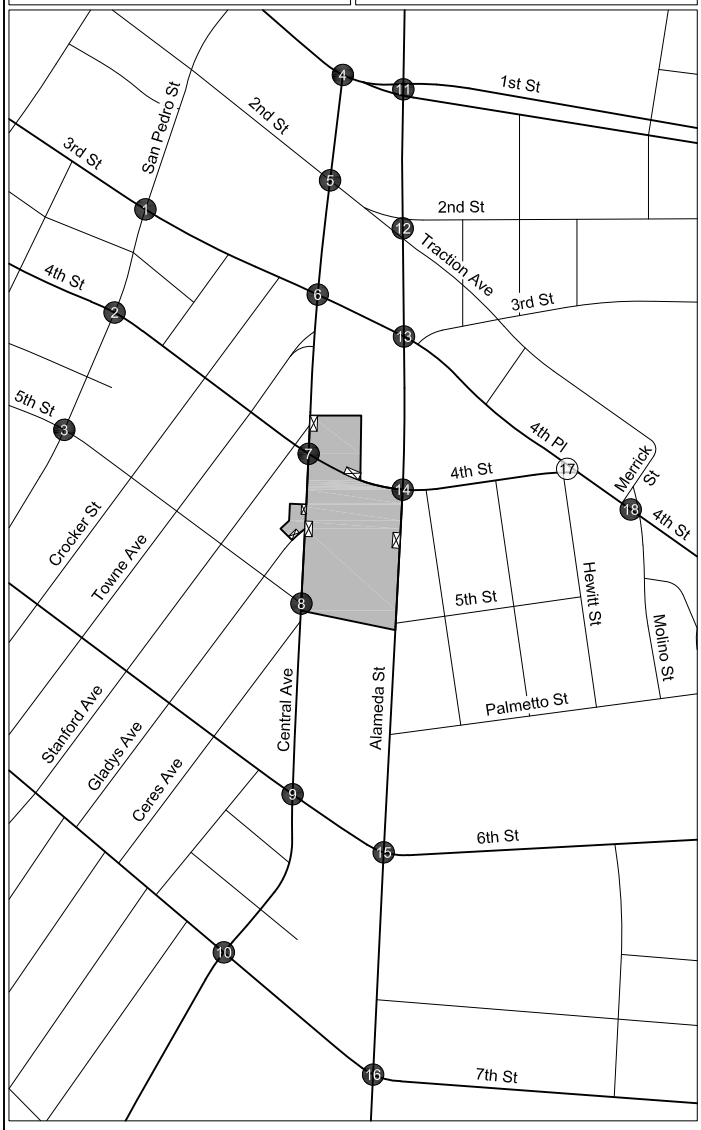
LEGEND

- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection
- #(#) AM(PM) Peak Hour Traffic Volumes

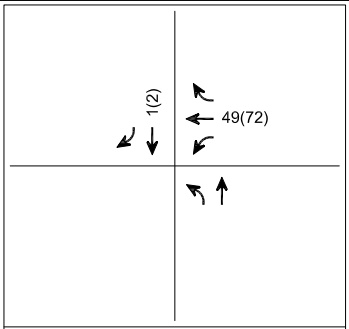
N
Not to Scale

TOTAL PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES

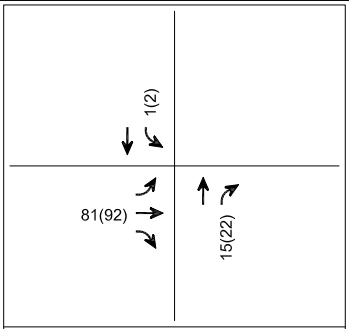
FIGURE 16B (CONT.)



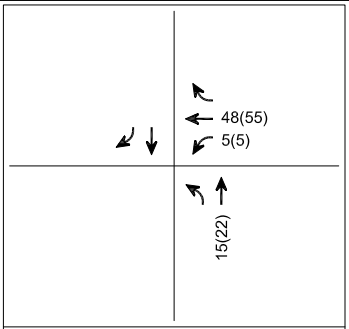
1. San Pedro Street & 3rd Street



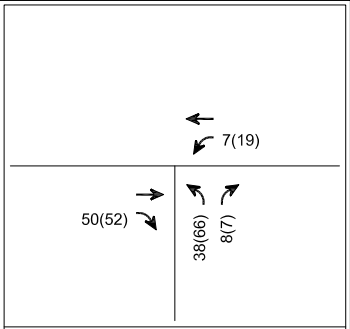
2. San Pedro Street & 4th Street



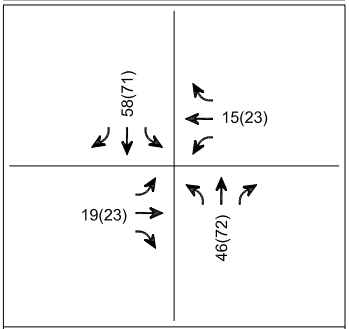
3. San Pedro Street & 5th Street



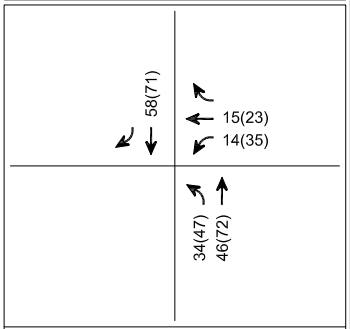
4. Central Avenue & 1st Street



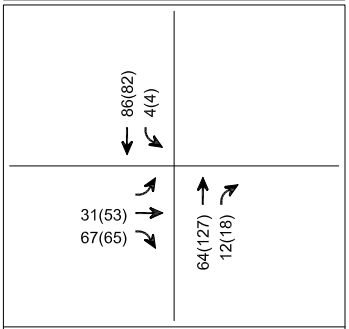
5. Central Avenue & 2nd Street



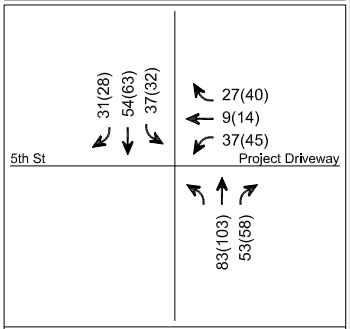
6. Central Avenue & 3rd Street



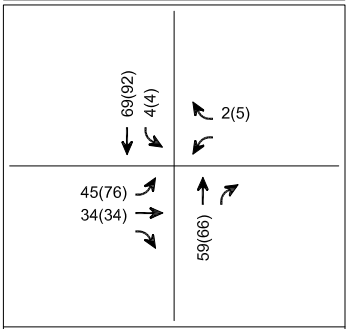
7. Central Avenue & 4th Street



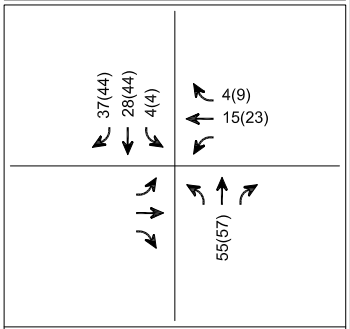
8. Central Avenue & 5th Street / Project South Site Driveway



9. Central Avenue & 6th Street



10. Central Avenue & 7th Street



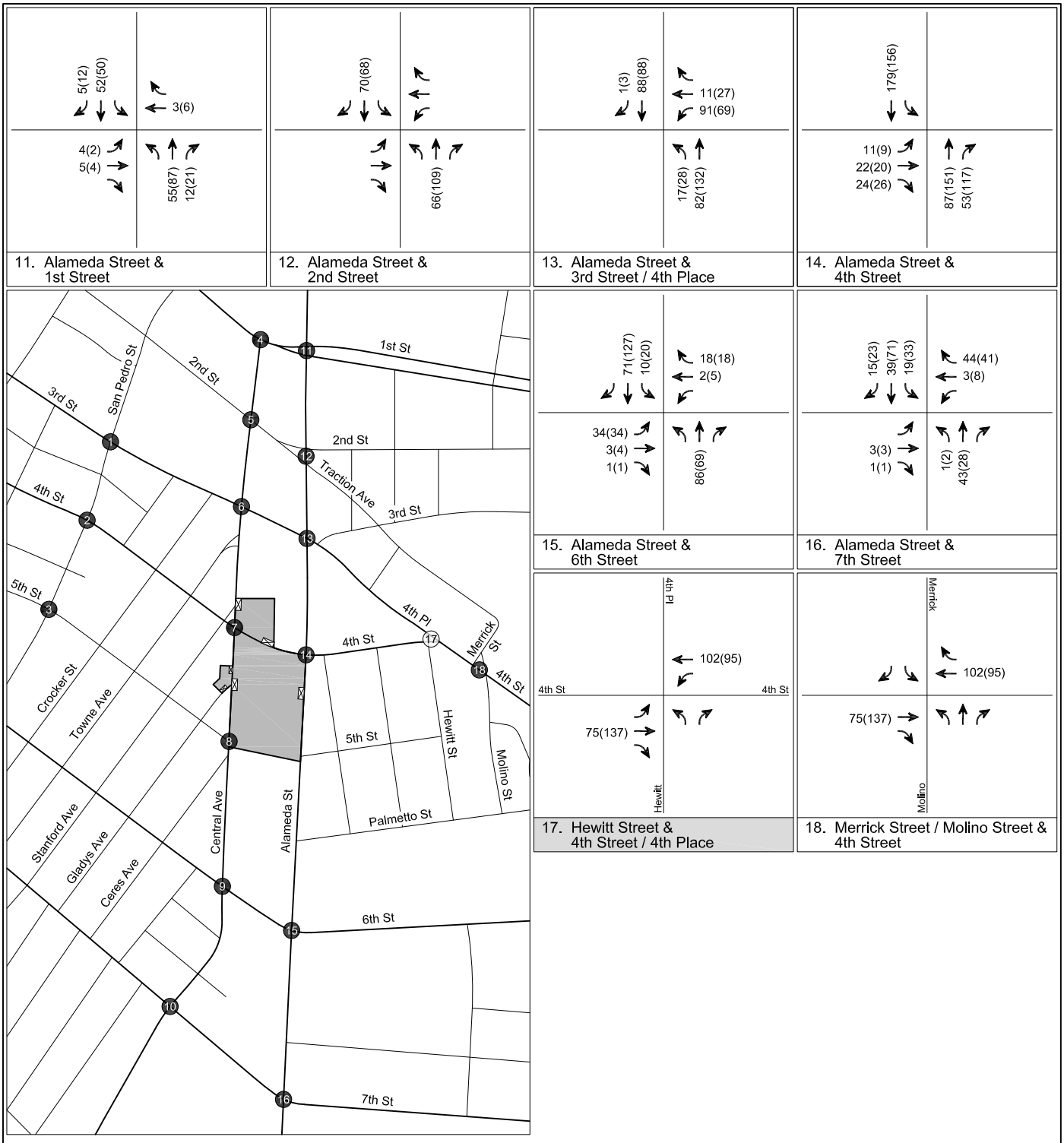
LEGEND

- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection
- #(#) AM(PM) Peak Hour Traffic Volumes

N
Not to Scale

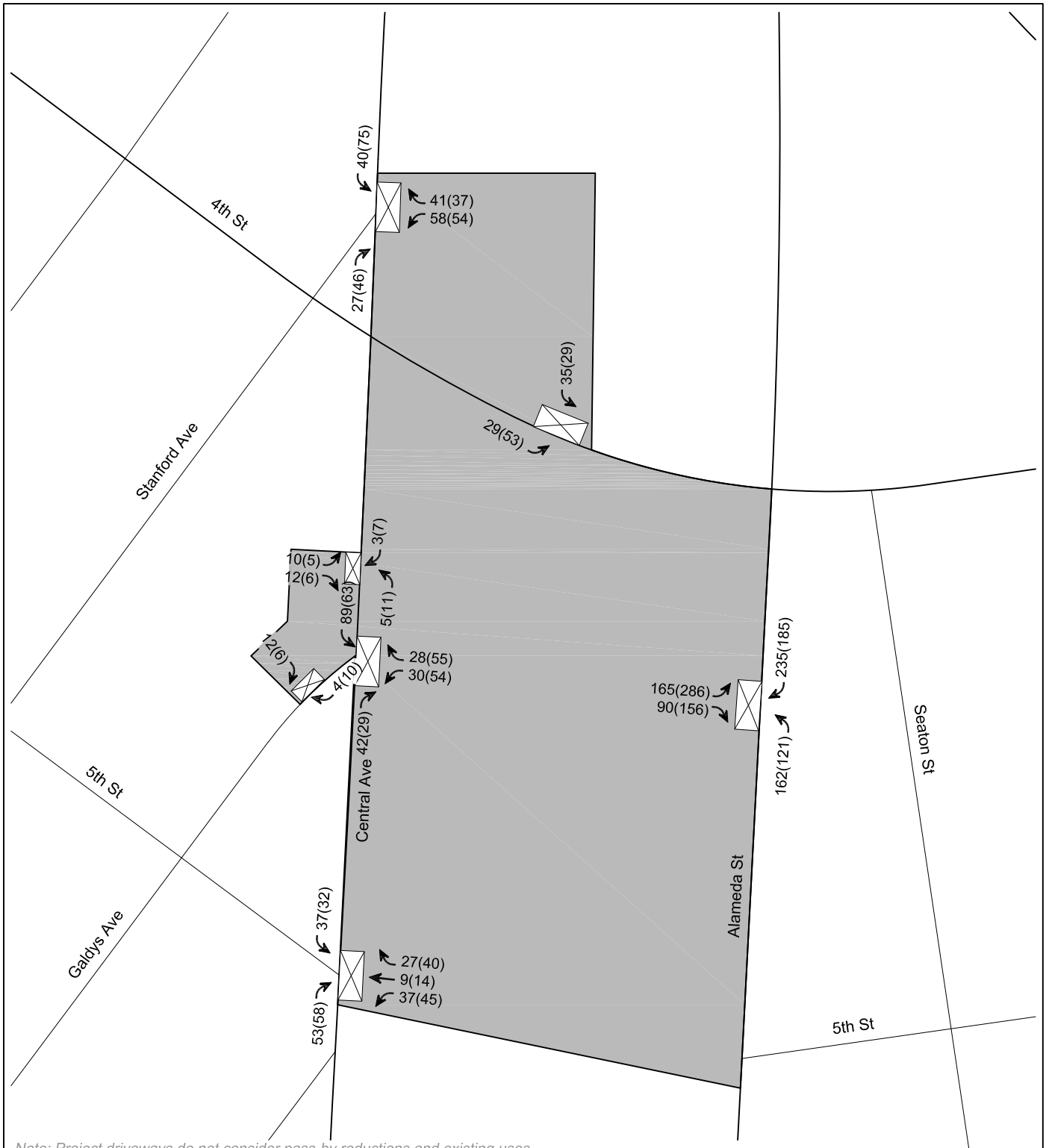
NET PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
16C



NET PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
16C (CONT.)



Note: Project driveways do not consider pass-by reductions and existing uses.
Note: The driveways depicted provide a general representation of the Project site access and circulation plan.

LEGEND

Project Site
Project Driveway
#(#) AM(PM) Peak Hour Traffic Volumes

N
Not to Scale

TOTAL PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES AT DRIVEWAYS	FIGURE 16D

TABLE 5
PROJECT TRIP GENERATION ESTIMATES

Land Use	ITE Land Use Code	Size	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
TRIP GENERATION RATES [a]								
Warehousing	150	per ksf	77%	23%	0.17	27%	73%	0.19
High-Cube Cold Storage Warehouse	157	per ksf	[b]	[b]	0.11	[b]	[b]	0.12
Multifamily Housing (Mid-Rise)	[c]	per du	26%	74%	0.31	61%	39%	0.30
Multifamily Housing (High-Rise)	[c]	per du	24%	76%	0.23	61%	39%	0.30
Hotel	310	per room	59%	41%	0.47	51%	59%	0.60
General Office Building	710	per ksf	86%	14%	1.16	16%	84%	1.15
Shopping Center [d]	820	per ksf	62%	38%	0.94	48%	52%	3.81
Quality Restaurant [e]	931	per ksf	55%	45%	0.73	67%	33%	7.80
High-Turnover Restaurant	932	per ksf	55%	45%	9.94	62%	38%	9.77
TRIP GENERATION ESTIMATES								
Proposed Project								
Residential (Mid-Rise)	221	335 du	27	77	104	62	39	101
Residential (High-Rise)	222	1,186 du	66	207	273	217	139	356
Hotel	310	68 rooms	19	13	32	21	20	41
Less 10% Transit/Walk-In	[f]		*(2)*	*(1)*	*(3)*	*(2)*	*(2)*	*(4)*
Office	710	411,113 sf	410	67	477	76	397	473
Less 10% Transit/Walk-In	[f]		*(41)*	*(7)*	*(48)*	*(8)*	*(40)*	*(48)*
Commercial - Retail	820	45,266 sf	27	16	43	83	89	172
Less 10% Internal Capture	[g]		*(3)*	*(2)*	*(5)*	*(8)*	*(9)*	*(17)*
Less 10% Transit/Walk-In	[f]		*(2)*	*(1)*	*(3)*	*(8)*	*(8)*	*(16)*
Less 50% Pass-by	[h]		*(11)*	*(7)*	*(18)*	*(34)*	*(36)*	*(70)*
Commercial - Quality Restaurant	931	34,423 sf	14	11	25	166	102	268
Less 10% Internal Capture	[g]		*(1)*	*(1)*	*(2)*	*(17)*	*(10)*	*(27)*
Less 10% Transit/Walk-In	[f]		*(1)*	*(1)*	*(2)*	*(15)*	*(9)*	*(24)*
Less 10% Pass-by	[h]		*(1)*	*(1)*	*(2)*	*(13)*	*(8)*	*(21)*
Commercial - High-Turnover Restaurant	932	34,423 sf	188	154	342	208	128	336
Less 10% Internal Capture	[g]		*(19)*	*(15)*	*(34)*	*(21)*	*(13)*	*(34)*
Less 10% Transit/Walk-In	[f]		*(17)*	*(14)*	*(31)*	*(19)*	*(12)*	*(31)*
Less 20% Pass-by	[h]		*(30)*	*(25)*	*(55)*	*(34)*	*(21)*	*(55)*
TOTAL PROPOSED PROJECT TRIPS			**623**	**470**	**1,093**	**654**	**746**	**1,400**
Existing Uses to be Removed								
Cold Storage Warehouse	157	360,734 sf	31	9	40	12	31	43
TOTAL NET NEW PROJECT TRIPS			**592**	**461**	**1,053**	**642**	**715**	**1,357**

Notes

[a] Source: *Trip Generation Manual, 10th Edition* , Institute of Transportation Engineers, 2017.

[b] No inbound/outbound splits are provided in *Trip Generation Manual, 10th Edition* for High-Cube Cold Storage Warehouse (ITE 157) uses. Therefore, the splits for Warehouse (150) uses were utilized.

[c] Per LADOT's *Transportation Assessment Guidelines,* the morning and afternoon trip rates are based on Multi-Family High-Rise and Mid-Rise rates for Dense Multi-Use Urban Areas. These rates are not subjected to any transit/walk-in adjustment.

[d] The Project's retail component utilized the Shopping Center (Land Use 820) rates from *Trip Generation Manual, 10th Edition* .

[e] AM peak hour inbound/outbound information in unavailble for Quality Restaurant use in *Trip Generation, 10th Edition.* Therefore, the AM peak hour inbound/outbound split for High-Turnover Restaurant use was utilized.

[f] The Project Slte is located within 0.5 miles of the Metro Gold Line Little Tokyo/Arts District Station, therefore, a 10% transit reduction is applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments.

[g] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development (i.e. between residents and commercial uses) without using an off-site road system.

[h] Pass-by adjustments account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

Chapter 4
CEQA Analysis of Transportation Impacts

This chapter presents the results of an analysis of CEQA-related transportation impacts. The analysis identifies any potential conflicts the Project may have with adopted City plans and policies and the improvements associated with the potential conflicts, as well as the results of a Project VMT analysis that addresses State requirements under *State of California Senate Bill 743* (Steinberg, 2013) (SB 743).

METHODOLOGY

SB 743, made effective in January 2014, required the Governor's Office of Planning and Research (OPR) to change the CEQA guidelines regarding the analysis of transportation impacts. Under SB 743, the focus of transportation analysis shifted from vehicular delay (level of service [LOS]) to vehicle miles traveled (VMT), in order to reduce greenhouse gas emissions (GHG), create multimodal networks, and promote mixed-use developments.

The TAG defines the methodology of analyzing a project's transportation impacts in accordance with SB 743. Per the TAG, the CEQA transportation analysis contains the following thresholds for identifying significant impacts:

- *Threshold T-1: Conflicting with Plans, Programs, Ordinances, or Policies*
- *Threshold T-2.1: Causing Substantial Vehicle Miles Traveled (VMT)*
- *Threshold T-2.2: Substantially Inducing Additional Automobile Travel*
- *Threshold T-3: Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use*

The thresholds were reviewed and analyzed, as detailed in the following Sections 4A-4D. In addition, a safety analysis of California Department of Transportation (Caltrans) freeway off-ramp facilities for the Project is provided in Section 4E.

Section 4A: Threshold T-1
Plans, Programs, Ordinances, or Policies Analysis

Threshold T-1 considers whether a project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities.

The purpose of Threshold T-1 is to assess whether a project would conflict with an adopted program, policy, plan, or ordinance that protects the environment. In general, transportation policies or standards adopted to protect the environment are those that support multimodal transportation options and a reduction in VMT. A project would not result in an impact merely based on whether or not it would implement a particular program, plan, policy, or ordinance. Many of these programs must be implemented by the City over time, and over a broad area, and it is the intention of Threshold T-1 is to ensure that proposed development projects and plans do not preclude the City from implementing adopted programs, plans and policies. As stated in Section 2.1.4 of the TAG, a project that generally conforms with, and does not obstruct, the City's development policies and standards will generally be considered consistent for purposes of the Threshold T-1 analysis.

PLANS, PROGRAMS, ORDINANCES, AND POLICIES

Table 2.1-1 of the TAG identifies the City plans, policies, programs, ordinances, and standards relevant in determining project consistency. Attachment D of the TAG, *Plans, Policies, and Programs Consistency Worksheet,* provides a structured approach to evaluate whether a project conflicts with the City plans, programs, ordinances, or policies and to streamline the review by highlighting the most relevant plans, policies, and programs when assessing potential impacts to the City transportation system. The Plans, Policies, and Programs Consistency Worksheet completed for the Project is provided in Appendix E.

As summarized below and in Appendix E, the Project is consistent with the City documents listed in Table 2.1-1 and the Plans, Policies, and Programs Consistency Worksheet of the TAG;

therefore, the Project would not result in a significant impact under Threshold T-1. Detailed discussion on the Project's consistency with the applicable plans, programs, ordinances, or policies is provided below.

Mobility Plan

The Mobility Plan combines "complete street" principles with the following primary goals that define the City's mobility priorities:

- Safety First: Design and operate streets in a way that enables safe access for all users, regardless of age, ability, or transportation mode of choice.
- World Class Infrastructure: A well-maintained and connected network of streets, paths, bikeways, trails, and more provides Angelenos with the optimum variety of mode choices.
- Access for All Angelenos: A fair and equitable system must be accessible to all and must pay particularly close attention to the most vulnerable users.
- Collaboration, Communication, and Informed Choices: The impact of new technologies on our day-to-day mobility demands will continue to become increasingly important to the future. The amount of information made available by new technologies must be managed responsibly in the future.
- Clean Environments and Healthy Communities: Active transportation modes such as bicycling and walking can significantly improve personal fitness and create new opportunities for social interaction, while lessening impacts on the environment.

A detailed analysis of the Project's consistency with the Mobility Plan is provided in Table 6. As detailed in Chapter 2, the Mobility Plan identifies corridors within the Study Area as components of various "mobility-enhanced networks." Though no specific improvements have been identified and there is no schedule for implementation, the mobility-enhanced networks represent a focus on improving a particular aspect of urban mobility, including transit, neighborhood connectivity, bicycles, pedestrians, and vehicles. The Project would not preclude the City from implementing any Mobility Plan improvements.

Vehicular access to the Project Site would be provided via driveways on Central Avenue, 4th Street, Alameda Street, and Gladys Street. Adjacent to the Project, Central Avenue and Alameda Street are designated as Avenue I, 4th Street is designated as an Avenue II, and Gladys Street is designated as a Local Street in the Mobility Plan. Central Avenue and Gladys Street currently

meet Mobility Plan ROW standards for an Avenue I and Local Street, respectively; however, dedications along Alameda Street and 4th Street would be provided adjacent to the Project Site to meet the standards for Avenue I and II, respectively. As further detailed in Section 5E, the Project would provide sufficient off-street parking to satisfy LAMC requirements.

The Project would provide pedestrian and bike improvements to serve the Project, as well as the surrounding Arts District, Fashion District, and Little Tokyo communities. The Project would limit vehicle, pedestrian, and bicycle interruptions along Central Avenue, Alameda Street, and 4th Street by reducing and improving existing curb cuts to meet current City standards for two-way traffic operations. The Project would also enhance pedestrian access within and around the Project Site by providing publicly accessible plazas, pocket parks, pedestrian throughways, and open-air pedestrian pathways between buildings on each Site. The South Site would also provide an internal east-west drive aisle with pedestrian throughways along both sides that would connect Central Avenue and Alameda Street. The pedestrian throughways would provide safety features that would physically separate vehicle traffic from pedestrian traffic. Secured bicycle parking facilities would also be provided throughout the Project Site. Further, the Project does not propose modifying, removing, or otherwise affecting existing bicycle infrastructure, and the Project driveways are not proposed along a street with an existing bicycle facility. Thus, the Project would promote active transportation modes through these measures, thereby reducing the Project VMT, as further detailed in Section 4B.

Thus, the Project would be consistent with the goals of the Mobility Plan.

Plan for a Healthy Los Angeles

Plan for a Healthy Los Angeles: A Health and Wellness Element of the General Plan (LADCP, March 2015) (Plan for a Healthy Los Angeles) introduces guidelines for the City to follow to enhance the City's position as a regional leader in health and equity, encourage healthy design and equitable access, and increase awareness of equity and environmental issues.

A detailed analysis of the Project's consistency with the policies in the Plan for a Healthy Los Angeles is provided in Table 7. The Project prioritizes safety and access for all individuals utilizing the Project Site by complying with all ADA requirements and providing direct connections to

pedestrian amenities with separate pedestrian and vehicle access points and active street frontages. The Project promotes increased access to basic amenities by providing publicly accessible open spaces including paseos and plazas and would replace underutilized existing uses with housing and employment opportunities. Further, the Project supports healthy lifestyles by locating jobs adjacent and near transit (Metro Local Bus Lines, as well as Metro Rail Service), providing bicycle amenities, and enhancing the pedestrian environment by providing comfortable open space, shade trees, and landscaping. The Project is also estimated to generate lower VMT per capita for residents and employees than the areawide average, as demonstrated in Section 4B, which reduces GHG emissions.

Thus, the Project would be consistent with the goals of *Plan for a Healthy Los Angeles*.

Land Use Element of the General Plan

The City's General Plan's Land Use Element contains 35 Community Plans that establish specific goals and strategies for the various neighborhoods across Los Angeles. The Project Site is located within the *Central City Community Plan* area of the City. The City is in the process of updating the Central City and the Central City North Community Plans as part of the *Draft Downtown Los Angeles Community Plan* (LADCP, 2021). The Project's consistency with both *Central City Community Plan* and *Draft Downtown Los Angeles Community Plan* are described below.

***Central City Community Plan*.** A detailed analysis of the Project's consistency with *Central City Community Plan* is provided in Table 8. The Project would replace underutilized warehouse buildings and associated surface parking lots with much needed housing and job opportunities in an area characterized by retail and warehouse uses that are in proximity to various transit options, including Metro and LADOT bus lines, as well as the Metro L Line. The Project's proximity to transit provides alternative modes of transportation for residents, employees, and visitors to take to and from the Project Site and maximizes the development opportunities of the transit system while minimizing adverse impacts. The Project would provide pedestrian connections between the various buildings of the Project and publicly accessible open space in the form of paseos, plazas, and pocket parks to serve the Project residents, guests, and employees, as well as local

community. Thus, the Project promotes and encourages development standards in line with the goals and objectives of *Central City Community Plan*.

***Draft Downtown Los Angeles Community Plan*.** *Draft Downtown Los Angeles Community Plan* is currently a draft document undergoing refinement and has not yet been adopted. Thus, the information provided herein is for informational purposes only. A detailed analysis of the Project's consistency with *Draft Downtown Los Angeles Community Plan* is provided in Table 9. The purpose of *Draft Downtown Los Angeles Community Plan* is to create and implement a vision of the future for downtown Los Angeles. According to regional projections, by Year 2040, downtown Los Angeles will be adding approximately 125,000 people, 70,000 housing units, and 55,000 jobs. Per *Draft Downtown Los Angeles Community Plan*, the following "core principles" represent the long-term priorities of the plan:

- Accommodate anticipated growth through Year 2040 in an inclusive, equitable, sustainable, and healthy manner, while supporting and sustaining Downtown's ongoing revitalization
- Reinforce Downtown's jobs creation
- Grow and support the residential base
- Strengthen neighborhood character
- Promote a transit-, bicycle-, and pedestrian-friendly environment
- Create linkages between districts
- Create world-class streets and public realm

The Project would provide high-density mixed-use buildings to accommodate future growth in the nearby Arts District, an emerging neighborhood in downtown Los Angeles, in an inclusive, equitable, sustainable, and healthy manner as it would aim to enhance and improve the existing Project Site. The Project proposes high-density mixed-use development and supports infill developments located in proximity to transit. The Project would reinforce downtown Los Angeles job orientation and support the residential base by developing high-density residential uses near proposed office and commercial uses. The Project would provide bicycle and pedestrian amenities that promote a transit-, bicycle-, and pedestrian-friendly environment, such as wider sidewalks, street trees, publicly accessible open space, open air markets, plazas, block-to-block pedestrian walkways, and landscaping that improve walkability and connectivity for pedestrian access between transit stops and nearby destinations. The Project would also provide bicycle

parking and a bicycle share station to encourage bicycling for residents, employees, and visitors to the Project Site. Pedestrian and bicycle access would be separate from vehicular access, further prioritizing pedestrian and bicycle safety and comfort. The Project would also be located in proximity to existing and forthcoming transit service, which would create linkages between districts. The Project would provide adequate dedication and improvements to meet the Mobility Plan standards along all Project frontages, including 4th Street, Central Avenue, and Alameda Street and would not preclude the City from implementing future improvements. Further, the Project would implement TDM strategies to encourage reduction of single-occupancy vehicle trips and support ways to reduce the VMT per capita.

The Project, through its characteristics highlighted above, both supports policies and does not hinder other goals and policies identified in *Draft Downtown Los Angeles Community Plan*. Therefore, the Project is consistent with and would not obstruct the implementation of the policies recommended by *Draft Downtown Los Angeles Community Plan*, should they be adopted.

LAMC Section 12.21.A.16 (Bicycle Parking)

LAMC Section 12.21.A.16 details the bicycle parking requirements for new developments. As further detailed in Section 5E, the Project would meet the LAMC requirements for on-site short-term and long-term bicycle parking supply and, thus, the Project is consistent with LAMC Section 12.21.A.16.

LAMC Section 12.26J (TDM Ordinance)

LAMC Section 12.26J, the TDM Ordinance (1993) establishes TDM requirements for non-residential projects, in addition to non-residential components of mixed-use projects in excess of 25,000 sf. The total non-residential component of the Project exceeds 25,000 sf. Therefore, the Project would be subject to the requirements of LAMC Section 12.26J.

Key requirements of the TDM Ordinance as applied to the Project include providing carpool/vanpool loading areas, walkways between buildings, and public sidewalks. The Project provides pedestrian connectivity both within and surrounding the Project Site with walkways

between buildings on all Sites. As described in Section 4B, the Project would also incorporate the following TDM measures for residents, visitors, and employees:

- Reduced Parking Supply
- Parking cash-out
- Bicycle share station
- Bicycle parking per LAMC, including short-term and long-term parking facilities

Vision Zero Corridor Plans

Vision Zero implements projects that are designed to increase safety on the most vulnerable City streets. The City has identified a number of streets as part of the HIN where City projects will be targeted. Adjacent to the Project Site, the following streets are identified in the City's HIN within the Study Area:

- 4th Street between San Pedro Street and Alameda Street
- Alameda Street north of 6th Street
- Central Avenue

Currently, no Vision Zero safety improvements are planned along the streets identified above. Nonetheless, the Project improvements to the pedestrian environment would not preclude any Vision Zero safety improvements by the City. Thus, the Project does not conflict with Vision Zero.

Streetscape Plans

None of the City's established Streetscape Plans would affect the Project Site. Nevertheless, the Project would not preclude the City from future streetscape improvements. Furthermore, the Project Site would not preclude improvements proposed as part of Metro's *Connect US Action Plan* project, which includes streetscape enhancements along Alameda Street and 3rd Street in the Project area, as detailed in Chapter 2.

Citywide Design Guidelines

The Pedestrian-First Design approach of *Citywide Design Guidelines* (Los Angeles City Planning Urban Design Studio, October 2019) identifies design strategies that "create human scale spaces in response to how people actually engage with their surroundings, by prioritizing active street frontages, clear paths of pedestrian travel, legible wayfinding, and enhanced connectivity. Pedestrian-First Design promotes healthy living, increases economic activity at the street level, enables social interaction, creates equitable and accessible public spaces, and improves public safety by putting eyes and feet on the street."

The Pedestrian-First Design guidelines are as follows:

- Guideline 1: Promote a safe, comfortable, and accessible pedestrian experience for all.
- Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.
- Guideline 3: Design projects to actively engage with streets and public space and maintain human scale.

As detailed in Table 10, the Project design includes accessible sidewalks, pedestrian amenities such as public open spaces consisting of plazas and paseos, and vehicular access driveways in accordance with the City's design considerations. Additionally, street trees would be included as part of the Project's streetscape plan to provide adequate shade and a more comfortable environment for pedestrians. The orientation of the Project provides direct connection to the public ROW. All vehicular access to the Project Site would be separate from the pedestrian and bicycle access points. Thus, the Project would align with the Pedestrian-First Design approach of *Citywide Design Guidelines* to provide a safe, comfortable, and accessible experience for all transportation modes.

CUMULATIVE ANALYSIS

In addition to potential Project-specific impacts, the TAG requires that the Project be reviewed in combination with nearby Related Projects to determine if there may be a cumulatively significant impact resulting from inconsistency with a particular program, plan, policy, or ordinance. In accordance with the TAG, the cumulative analysis for Threshold T-1 must consider Related

Projects within 0.25 miles of the Project Site and any transportation system improvements in the vicinity. Related Projects located within 0.25 miles of the Project Site are identified in Table 4. Each of the Related Projects considered in this cumulative analysis of consistency with programs, plans, policies, and ordinances would be separately reviewed and approved by the City, including a check for their consistency with applicable policies. Collectively, the Project and the Related Projects add high-density development in a major commercial area with high-quality transit options and high levels of pedestrian activity. Thus, the Project and the Related Projects would not preclude the City's ability to serve transportation needs as defined by the City's transportation policy framework. Therefore, the Project, together with the Related Projects identified in Table 4, would not create inconsistencies nor result in cumulative impacts with respect to the identified programs, plans, policies, and ordinances.

TABLE 6
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 1 - Safety First	
Policy 1.1, Roadway User Vulnerability Design, plan, and operate streets to prioritize the safety of the most vulnerable roadway user.	**Consistent.** With the development of the Project, Central Avenue, Alameda Street, 4th Street, and Gladys Avenue along the Project frontage would be improved to provide adequate pedestrian safety and to satisfy the right-of-way and roadway standards to meet the goals and long-term needs of the Mobility Plan. The Project would improve existing curb cuts along the Project frontages by providing driveways designed and placed in accordance with current City standards for typical two-way operations to reduce interruptions to vehicle, bicycle and pedestrian safety. Further, the Project does not propose modifying, removing, or otherwise affecting existing bicycle infrastructure, and the Project driveways are not proposed along a street with an existing bicycle facility.
Policy 1.6 Multi-Modal Detour Facilities Design detour facilities to provide safe passage for all modes of travel.	**Consistent.** Construction activities would be maintained on-site. Any impedements to the public right-of-way would be addressed with implementation of a Construction Management Plan.
Chapter 2 - World Class Infrastructure	
Policy 2.2 Complete Streets Design Guide Establish the Complete Streets Design Guide as the City's document to guide the operations and design of streets and other public rights-of-way.	**Consistent.** The adajcent streets would be improved with consideration of the safety of all users, including pedestrians, bicyclists, and vehicles.
Policy 2.3 Pedestrian Infrastructure Recognize walking as a component of every trip, and ensure high-quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.	**Consistent.** The Project would enhance pedestrian access within and around the Project Site by providing pedestrian connections and open-air pedestrian pathways between the various buildings on the Project Site. To enhance the pedestrian environment, the Project would maintain or improve sidewalks along the Project frontages to meet Mobility Plan standards, as well as removal and improve existing curb cuts to reduce interruptions to pedestrian traffic and safety. Landscaping along the Project frontages would also be provided to further enhance the pedestrian environment.
Policy 2.4 Neighborhood Enhanced Network Provide a slow speed network of locally serving streets.	**Consistent.** No access to the Project Site is provided along street segments identified in the Neighborhood Enhanced Network, thereby ensuring that minimum Project traffic would interfere with the neighborhood character of the surrounding area.
Policy 2.5 Transit Network Improve the performance and reliability of existing and future bus service.	**Consistent.** Central Avenue adjacent to the Project Site is identified in the Transit Enhanced Network. The Project would not interfere with existing service and would not preclude future transit service improvements to the surrounding area.
Policy 2.6 Bicycle Networks Provide safe, convenient, and comfortable local and regional bicycling facilities for people of all types and abilities. (includes scooters, skateboards, rollerblades, etc.)	**Consistent.** The Mobility Plan designated Central Avenue as part of the Bicycle Network. **T**he Project would provide infrastructure and services to encourage bicycling for residents, employees, and visitors to the Project Site. Approximately 145 short-term and 595 long-term bicycle parking spaces would be provided by the Project, as well as a bicycle share station.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in *Mobility Plan 2035: An Element of the General Plan* (Los Angeles Department of City Planning, January 2016).

TABLE 6 (CONTINUED)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Policy 2.7 Vehicle Network Provide vehicular access to the regional freeway system.	**Consistent.** Vehicular access to the Project Site would be provided via Central Avenue, Alameda Street, Gladys Avenue, and 4th Street, which all provide regional access to and from the freeway system.
Policy 2.9 Multiple Networks Consider the role of each mode enhanced network when designing a street that included multiple modes.	**Consistent.** Central Avenue and Alameda Street adjacent to the Project Site are part of multiple networks designated by the Mobility Plan. The Project would provide and accommodate for the various modes of travel on the streets and minimize conflicts to prioritize safety. The Project would not preclude any future improvements to the adjacent roadway network.
Policy 2.10 Loading Areas Facilitate the provision of adequate on and off-street loading areas.	**Consistent.** The Project will provide passenger loading zones within the Project Site and is exploring opportunities along Alameda Street. Truck loading areas would also be provided on-site. The loading zones would be managed to facilitate safe loading operations and to limit vehicle queue spillovers into the travel lanes.
Chapter 3 - Access for All Angelenos	
Policy 3.1 Access for All Recognize all modes of travel, including pedestrian, bicycle, transit, and vehicular modes – including goods movement – as integral components of the City's transportation system.	**Consistent.** The Project is committed to encouraging multi-modal transportation alternatives and access for all travel modes to and from the Project Site. The Project would provide loading zones along Central Avenue and Alameda Street. The Project also would provide infrastructure (short- and long-term bicycle parking, easy bicycle accessibility to the Project Site) to encourage walking and bicycling. Additionally, the Project is located adjacent to numerous Metro bus stops and within 0.5 miles of the Metro L Line as well as the future Metro Regional Connector, which provides access for a variety of travel modes for residents, employees, and visitors to the Project Site. The Project would also incorporate a new bicycle share station to support the utilization of alternative transportation modes to and from the Project Site and to support first mile/last mile connections.
Policy 3.2 People with Disabilities Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.	**Consistent.** The Project's vehicular and pedestrian entrances would be designed in accordance with LADOT standards and would comply with Americans with Disabilities Act (ADA) requirements. The Project design would also be in compliance with all ADA requirements and would provide direct connections to pedestrian amenities at adjacent intersections.
Policy 3.3 Land Use Access and Mix Promote equitable land use decisions that result in fewer vehicle trips by providing greater proximity and access to jobs, destinations, and other neighborhood services.	**Consistent.** The Project would provide a mix of land uses including office, residential, commercial retail and restaurant, and hotel uses, offering users an opportunity to accomplish a number of daily errands in fewer trips. These land uses are also in close proximity to bus and transit line services.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in *Mobility Plan 2035: An Element of the General Plan* (Los Angeles Department of City Planning, January 2016).

TABLE 6 (CONTINUED)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Policy 3.5 Multi-Modal Features Support "first-mile, last-mile solutions" such as multi-modal transportation services, organizations, and activities in the areas around transit stations and major bus stops (transit stops) to maximize multi-modal connectivity and access for transit riders.	**Consistent.** As part of the Project design features, the Project would provide a reduced parking supply, parking cash-out, a bicycle share station, and bicycle parking facilities. These features would support multi-modal connectivity and access for transit riders.
Policy 3.8 Bicycle Parking Provide bicyclists with convenient, secure, and well-maintained bicycle parking facilities.	**Consistent.** The Project would provide short-term and long-term bicycle parking throughout the Project Site that would satisfy the LAMC requirement.
Chapter 4 - Collaboration, Communication, & Informed Choices	
Policy 4.4 Community Collaboration Continue to support the role of community engagement in the design outcomes and implementation of mobility projects.	**Consistent.** The Project was developed in consultation with the community members, and the Project design reflects input from community members received at the Public Scoping Meeting. The community will continue to provide input during the environmental review process.
Policy 4.5 Improved Communication Facilitate communications between citizens and the City in reporting on and receiving responses to non-emergency street improvements.	**Consistent.** As part of the Project's Construction Management Plan, advance notification to the adjacent property owners and occupants of upcoming construction activities, including durations and daily hours of construction, would be provided.
Policy 4.8 Transportation Demand Management Strategies Encourage greater utilization of Transportation Demand Management (TDM) strategies to reduce dependence on single-occupancy vehicles.	**Consistent.** The Project would implement Project design features to promote and provide employees, residents, and patrons with opportunities to utilize alternative transportation modes, including a reduced parking supply, parking cash-out, a bicycle share station, and bicycle parking facilities.
Policy 4.13 Parking and Land Use Management Balance on-street and off-street parking supply with other transportation and land use objectives.	**Consistent.** The Project would provide sufficient off-street parking to accommodate Project parking demand.
Policy 4.14 Wayfinding Provide widespread, user-friendly information about mobility options and local destinations, delivered through a variety of channels including traditional signage and digital platforms.	**Consistent.** The Project would incorporate illumination for parking, signage, and security purposes.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in *Mobility Plan 2035: An Element of the General Plan* (Los Angeles Department of City Planning, January 2016).

TABLE 6 (CONTINUED)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 5 - Clean Environments & Healthy Communities	
Policy 5.1 Sustainable Transportation Encourage the development of a sustainable transportation system that promotes environmental and public health.	**Consistent.** The Project would provide bicycle and pedestrian facilities and connections throughout the Project Site to promote healthy transportation options.
Policy 5.2 Vehicle Miles Traveled (VMT) Support ways to reduce vehicle miles traveled (VMT) per capita.	**Consistent.** The Project would incorporate TDM measures to promote and provide employees, residents, and patrons the opportunity to utilize alternative transportation modes to reduce VMT by reducing the number of single occupancy vehicle trips to the Project Site.
Policy 5.4 Clean Fuels and Vehicles Continue to encourage the adoption of alternative fuels, new mobility technologies, and supporting infrastructure.	**Consistent.** The Project would incorporate TDM measures to promote and provide employees, residents, and patrons the opportunity to utilize alternative transportation modes to reduce VMT by reducing the number of single occupancy vehicle trips to the Project Site, as well as support electric vehicles by providing charging stations and infrastructure.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in *Mobility Plan 2035: An Element of the General Plan* (Los Angeles Department of City Planning, January 2016).

TABLE 7
PROJECT CONSISTENCY WITH PLAN FOR A HEALTHY LOS ANGELES

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 1 - Los Angeles, a Leader in Health and Equity	
Policy 1.5 Plan for Health Improve Angelenos' health and well-being by incorporating a health perspective into land use, design, policy, and zoning decisions through existing tools, practices, and programs.	**Consistent.** The Project would enhance pedestrian access within and around the Project Site by providing improvements to the sidewalks, landscaping, and pedestrian safety measures within the Project and along the Project frontages. Further, the Project would provide infrastructure such as bicycle parking and a bicycle share station to encourage bicycling for residents, employees, and visitors to the Project Site. As such, the Project would encourage the use of active travel modes and thereby promote healthy living. The Project would also replace existing cold storage warehouse facilities and as a result, would improve existing curb cuts to meet current City standards for typical two-way operations, which would improve pedestrian facilities along the Project frontages.
Chapter 2 - A City Built for Health	
Policy 2.8 Basic Amenities Promote increased access to basic amenities, which include public restrooms and free drinking water in public spaces, to support active living and access to health-promoting resources.	**Consistent.** The Project would provide publicly accessible open space (90,113 sf), including paseos, plazas, and pocket parks, to support active living.
Chapter 5 - An Environment Where Life Thrives	
Policy 5.7 Land Use Planning for Public Health and GHG Emission Reduction Promote land use policies that reduce per capita greenhouse gas emissions, result in improved air quality and decreased air pollution, especially for children, seniors and others susceptible to respiratory diseases.	**Consistent.** The Project is estimated to generate lower VMT per capita for residents and employees than the average for the area, as demonstrated in Section 4B. Additionally, the Project incorporates several design features, which include TDM measures to reduce the number of single occupancy vehicle trips to the Project Site, including a implementation of a reduced parking supply, parking cash-out, a bicycle share station, and bicycle parking facilities. VMT directly contributes to GHG emissions, so a reduced VMT per capita also reduces GHG per capita.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in *Plan for a Healthy Los Angeles: A Health and Wellness Element of the General Plan* (Los Angeles Department of City Planning, March 2015).

TABLE 8
PROJECT CONSISTENCY WITH CENTRAL CITY COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Objective 4-4: To encourage traditional and non-traditional sources of open space by recognizing and capitalizing on linkages with transit, parking, historic resources, cultural facilities, and social services programs.	**Consistent.** The Project would improve the pedestrian environment within and around the Project Site by improving the adjacent sidewalks with enhanced landscaping, street trees and open air dining with active street frontages. The Project would also incorporate pocket parks throughout the Project Site to connect the various buildings of the Project. These open spaces in the form of plazas and parks would be open to Project residents, employees and guests, as well as the local community.
Objective 11-6: To accommodate pedestrian open space and usage in Central City.	**Consistent.** The Project would provide a pedestrian-friendly environment with improved sidewalks along the Project frontage that would be landscaped with street trees and open air dining with active street frontages would be provided. The plazas and parks would be open to Project residents, employees and guests, as well as the local community.
Objective 11-7: To provide sufficient parking to satisfy short-term retail/business users and visitors but still find ways to encourage long-term office commuters to use alternate modes of access.	**Consistent.** Vehicular parking would be provided on-site to serve the various uses of the Project. The Project would also include both short-term and long-term bicycle parking facilities, a reduced parking supply, parking cash-out, and a bicycle share station that would encourage alternate modes of access.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in the *Central City Community Plan,* Los Angeles Department of City Planning, 2003.

TABLE 9
PROJECT CONSISTENCY WITH DRAFT DOWNTOWN COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Policy LU 1.1: Ensure the development of complete neighborhoods with diverse uses and resilient infrastructure, parks, streetscapes, transit, and community amenities.	**Consistent.** The Project proposes high-density mixed-use buildings located adjacent to numerous Metro bus stops and within 0.5 miles of the Metro L Line, which provides access for a variety of travel modes for residents, employees, and visitors to the Project Site**.** The Project aims to enhance the existing site by actively engaging with streets and public space, and provides diverse uses including residential, office, and community amenities, such as commercial retail and restaurant uses, to ensure development of a complete neighborhood.
Policy LU 9.7: Expand access to employment opportunities with improved physical connections to and within Downtown and expanded transit service to employment districts.	**Consistent.** The Project would expand access to employment opportunities by locating high-density residential, office, and commercial retail and restaurant uses within 0.50 miles of the Metro L Line, the future Metro Regional Connector, and numerous Metro bus stops.
Policy LU 11.1: Require active ground floors and street frontages that improve walkability and connectivity, especially between transit stations and nearby destinations.	**Consistent.** The Project incorporates neighborhood serving ground floor commercial retail and restaurant uses oriented toward Central Avenue, 4th Street, and Alameda Street to help encourage pedestrian engagement. In addition, pedestrian enhancements including wider sidewalks, street trees, publicly accessible open space, plazas, block-to-block pedestrian walkways, and lush landscaping to further activate the streetscape and improving the pedestrian experience. Further, the Project Site is located within 0.50 miles of the Metro L Line and adjacent to several Metro bus stops.
Policy LU 11.2: Encourage development that is well integrated with the public realm to create an inviting urban environment.	**Consistent.** The Project would provide high-density mixed-use buildings uses near transit with accessible entries and passages as part of the surrounding ideal urban environment.
Policy LU 11.4: Encourage building design that connects and orients people toward destinations and activity centers.	**Consistent.** The Project includes open space, outdoor dining seating, and comfortable pedestrian walkways to active the streetscape and connect people towards destinations and activity centers.

Notes:
[a] Objectives, Policies, Programs, or Plans based on information provided in the draft text of the *Downtown Community Plan* (Los Angeles Department of City Planning, June 2021).

TABLE 9 (CONTINUED)
PROJECT CONSISTENCY WITH DRAFT DOWNTOWN COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Policy LU 11.8: Promote compact development and encourage walking, biking, and transit use by encouraging no or minimal parking, when possible.	**Consistent.** The Project would promote compact development by proposing a high-density mixed-use evelopment located adjacent to several existing commercial, residential, and retail establishments. The Project does not propose excess parking as compared to the LAMC requirements. Additionally, it encourages alternative transportation by providing parking cash-out, a bicycle share station, and secured bicycle parking facilities. This would promote active transportation modes such as biking and walking. Additionally, the Project is located within 0.50 miles of the Metro L Line and the future Metro Regional Connector as well as adjacent to several Metro bus stops, providing residents, hotel guests, employees, and visitors to the Project with public transportation alternatives.
Policy LU 11.9: Encourage underground parking, when provided, to increase the amount of above grade building square footage dedicated to active uses and to improve the pedestrian environment.	**Consistent.** The Project would provide subterranean and/or ground level parking on the North, South, and West Sites. Above grade parking would also be provided on the North Site. None of the proposed parking would be exposed to those traveling on adjacent streets.
Policy LU 22.2: Foster and reinforce cohesive, pedestrian-friendly, and inviting screeetscapes that promote walking, bicycling, and transit use. Encourage the creative infill of landscaped setbacks and inoperative spaces, such as those resulting from inconsistent streetwalls.	**Consistent.** The Project includes the provision of pedestrian amenities including wider sidewalks, street trees, publicly accessible open space, seating, open air markets, outdoor art installations, plazas, block-to-block pedestrian walkways, and lush landscaping. Overall, the Project would be designed to actively engage with streets and public space.
Policy LU 22.6: Encourage new developments to contribute to the pedestrian and open space network with publicly accessible plazas and paseos. Design these spaces with appropriate shade and landscaping.	**Consistent.** The Project incorporates neighborhood serving ground floor commercial retail and restaurant uses oriented toward Central Avenue, Alameda Street, and 4th Street to help encourage pedestrian engagement. In addition, the Project would provide publicly accessible open space, seating, open air markets, outdoor art installations, plazas, and block-to-block pedestrian walkways.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in the draft text of the *Downtown Community Plan* (Los Angeles Department of City Planning, June 2021).

TABLE 9 (CONTINUED)
PROJECT CONSISTENCY WITH DRAFT DOWNTOWN COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Policy LU 22.9: Encourage an active, walkable environment through building design that incorporates active ground floor uses and streetscape elements that provide an enhanced pedestrian experience.	**Consistent.** The Project incorporates neighborhood serving ground floor commercial retail and restaurant uses oriented toward Central Avenue, Alameda Street, and 4th Street to help encourage pedestrian engagement. In addition, the Project would install landscaping, including new street trees and raised planters as well as providing outdoor dining seating, further activating the streetscape and improving the pedestrian experience.
Policy MC 2.1: Establish a mode share goal of 75% for transit, walking, and biking for the year 2040 to improve the sustainability of Downtown's mobility network and increase access for residents, workers, and visitors.	**Consistent.** Although Policy MC 2.1 sets a City goal for mode share and not a project-specific goal, the Project would be consistent with this policy. Specifically, the Project would support multi-modal mobility options such as biking and transit usage. Additionally, the Project design incorporates TDM measures to reduce the number of single occupancy vehicle trips to the Project Site.
Policy MC 2.2: Implement strategies to reduce vehicle miles traveled per capita.	**Consistent.** The Project is estimated to generate lower VMT per capita for residents and lower work VMT per employee than the average for the area. Further, it would implement a TDM program to further reduce VMT per capita.
Policy MC 2.5: Facilitate integration between different modes of travel to create a seamless experiences as users switch between modes and to promote transit use and active transportation.	**Consistent.** The Project would support multi-modal mobility options such as biking with a bicycle share station and bicycle parking facilities. Additionally, the Project is located within 0.50 miles of the Metro L Line and adjacent to several Metro bus stops.
Policy MC 3.4: Enhance the pedestrian experience between major destinations and transit stations through improved streetscapes and wayfinding programs.	**Consistent.** The Project incorporates neighborhood serving ground floor commercial retail and restaurant uses oriented toward Central Avenue, Alameda Street, and 4th Street to help encourage pedestrian engagement. In addition, the Project would provide publicly accessible open space, seating, open air markets, outdoor art installations, plazas, and block-to-block pedestrian walkways.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in the draft text of the *Downtown Community Plan* (Los Angeles Department of City Planning, June 2021).

TABLE 9 (CONTINUED)
PROJECT CONSISTENCY WITH DRAFT DOWNTOWN COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Policy MC 4.2: Encourage residential and office buildings to provide bicycle related amenities such as repair stations and showers to facilitate cycling for residents, workers, and visitors.	**Consistent.** The Project proposes high-density residential uses and office uses and would provide bicycle infrastructure, services, and amenities to encourage bicycling for residents, employees, and visitors to the Project Site.
Policy MC 4.3: Support the expansion of Bike Share throughout Downtown and adjacent areas, especially as a means to connect areas that are less served by transit.	**Consistent.** The Project will provide a bicycle share station, thus supporting the expansion of Bike Share.
Policy MC 7.3: Encourage projects to include designated spaces for rideshare vehicles and pick-up / drop-off zones.	**Consistent.** The Project will provide passenger loading zones within the Project Site and is exploring opportunities along Alameda Street.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in the draft text of the *Downtown Community Plan* (Los Angeles Department of City Planning, June 2021).

TABLE 10
PROJECT CONSISTENCY WITH CITYWIDE DESIGN GUIDELINES

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Pedestrian-First Design	
Guideline 1: Promote a safe, comfortable, and accessible pedestrian experience for all Design projects to be safe and accessible and contribute to a better public right-of-way for people of all ages, genders, and abilities, especially the most vulnerable - children, seniors, and people with disabilities. **Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience** Design to avoid pedestrian and vehiular conflicts and to create an inviting and comfortable public right-of-way. A pleasant and welcoming public realm reinforces walkability and improves the quality of life for users. **Guideline 3: Design projects to actively engage with streets and public space and maintain human scale** New projects should be designed to contribute to a vibrant and attractive public realm that promotes a sense of civic pride. Better connections within the built environment contribute to a livable and accessible city and a healthier public realm.	**Consistent.** The Project design includes accessible sidewalks, pedestrian amenities, and well-designed vehicular access driveways in accordance with the City's design standards. In addition, the Project would improve pedestian facilities along the Central Avenue and Alameda Street frontages by replacing existing curb cuts that serve large trucks with standard two-way driveways. The Project would provide street trees uniformly within the sidewalk to provide adequate shade and a more comfortable environment for pedestrians. Further, the orientation of the Project design and active ground floor facilities ensures that the Project actively engages with the street and its surrounding uses. The Project driveways would be designed and placed in accordance with City standards so as to not disrupt pedestrian flow on the adjacent sidewalks.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in the Citywide Design Guidelines (Los Angeles Department of City Planning, 2019).

Section 4B: Threshold T-2.1
Causing Substantial VMT Analysis

Threshold T-2.1 in the TAG analyzes whether a project causes substantial VMT and is applied generally to land use projects. Specifically, Threshold T-2.1 inquires whether the project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)(1). This subdivision states that (for land use projects) "vehicle miles travelled exceeding an applicable threshold of significance may indicate a significant impact." This subdivision also states that a lead agency has discretion to choose the most appropriate method to evaluate the project's VMT.

As the Lead Agency for this Project, the City uses the analytical methods established by LADOT to determine impacts. Section 2.2.3 of the TAG states that a residential project would result in a potential VMT impact if it would generate household VMT per capita exceeding 15% below the existing average household VMT per capita for the Area Planning Commission (APC) area in which a project is located. Similarly, a commercial project would result in a potential VMT impact if it would generate work VMT per employee exceeding 15% below the existing average work VMT per employee for the APC area in which the project is located.

The VMT analysis presented below was conducted in accordance with the TAG, which satisfies State requirements under SB 743.

VMT METHODOLOGY

The following details the methodology that vehicle trips and VMT are calculated in *City of Los Angeles VMT Calculator Version 1.3* (LADOT and LADCP, July 2020) (VMT Calculator), as detailed in *City of Los Angeles VMT Calculator Documentation* (LADOT and LADCP, May 2020). LADOT developed the VMT Calculator to estimate project-specific daily household VMT per capita and daily work VMT per employee for developments within City limits, which are based on the following types of one-way trips:

- Home-Based Work Production: trips to a workplace destination originating from a residential use
- Home-Based Other Production: trips to a non-workplace destination (e.g., retail, restaurant, etc.) originating from a residential use
- Home-Based Work Attraction: trips to a residential destination originating from a workplace use

As detailed in *City of Los Angeles VMT Calculator Documentation*, the household VMT per capita threshold applies to Home-Based Work Production and Home-Based Other Production trips, and the work VMT per employee threshold applies to Home-Based Work Attraction trips, as the location and characteristics of residences and workplaces are often the main drivers of VMT, as detailed in Appendix 1 of *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, December 2018). As noted in Section 2.2.2 of the TAG, small-scale retail/restaurant components less than 50,000 sf of larger mixed-use development projects are not considered for the purposes of identifying significant work VMT per employee impacts, as those trips are assumed to be local serving and would have a negligible effect on VMT.

Table 2.2-1 of the TAG details the following daily household VMT per capita and daily work VMT per employee impact criteria for the City's APC areas (15% below the APC average):

APC	Daily Household VMT per Capita	Daily Work VMT per Employee
Central	6.0	7.6
East LA	7.2	12.7
Harbor	9.2	12.3
North Valley	9.2	15.0
South LA	6.0	11.6
South Valley	9.4	11.6
West LA	7.4	11.1

Source: TAG

The Project is located in the Central APC area.

Other types of one-way trips included in the VMT Calculator include Non-Home-Based Other Production (trips to a non-residential destination originating from a non-residential use at the Project Site), Home-Based Other Attraction (trips to a non-workplace destination at the Project Site originating from a residential use), and Non-Home-Based Other Attraction (trips to a non-residential destination at the Project Site originating from a non-residential use). These trip types are not factored into the household VMT per capita and work VMT per employee thresholds as those trips are typically localized and are assumed to have a negligible effect on the VMT impact assessment. However, those trips were factored into the calculation of total Project VMT for screening purposes when determining that VMT analysis for the Project would be required.

Retail VMT

According to the TAG, regional-serving retail can lengthen trips and increase VMT because it is likely to shift business away from local-serving retail options. Conversely, local-serving retail (which includes restaurant space) tends to shorten trips and reduce VMT because it attracts trips from nearby residences and businesses that would otherwise travel further to find suitable options. As detailed in OPR's Technical Advisory and the TAG, retail stores less than 50,000 sf within mixed-use development projects are considered local-serving and are assumed to have less than significant VMT impacts.

Travel Behavior Zone (TBZ)

The City developed TBZ categories to determine the magnitude of VMT and vehicle trip reductions that could be achieved through TDM strategies. As detailed in *City of Los Angeles VMT Calculator Documentation*, the development of the TBZs considered the population density, land use density, intersection density, and proximity to transit of each Census tract in the City and are categorized as follows:

1. *Suburban (Zone 1): Very low-density primarily centered around single-family homes and minimally connected street network.*
2. *Suburban Center (Zone 2): Low-density developments with a mix of residential and commercial uses with larger blocks and lower intersection density.*

3. *Compact Infill (Zone 3): Higher density neighborhoods that include multi-story buildings and well-connected streets.*

4. *Urban (Zone 4): High-density neighborhoods characterized by multi-story buildings with a dense road network.*

The VMT Calculator determines a project's TBZ based on the latitude and longitude of the project address. The Project Site is located in an Urban (Zone 4) TBZ.

Mixed-Use Development Methodology

As detailed in *City of Los Angeles VMT Calculator Documentation*, the VMT Calculator accounts for the interaction of land uses within a mixed-use development and considers the following sociodemographic, land use, and built environment factors for a project area:

- The project's jobs/housing balance
- Land use density of the project
- Transportation network connectivity
- Availability of and proximity to transit
- Proximity to retail and other destinations
- Vehicle ownership rates
- Household size

Trip Lengths

The VMT Calculator determines a project's VMT based on trip length information from the City's Travel Demand Forecasting (TDF) Model. The TDF Model considers the traffic analysis zones within 0.125 miles of a project to determine the trip lengths and trip types, which factor into the calculation of the project's VMT.

Population and Employment Assumptions

The VMT thresholds identified in the TAG are based on household VMT per capita and work VMT per employee. Thus, the VMT Calculator contains population assumptions developed based on Census data for the City and employment assumptions derived from multiple data sources, including *2012 Developer Fee Justification Study* (Los Angeles Unified School District, 2012), the San Diego Association of Governments' Activity Based Model, *Trip Generation Manual, 9th Edition* (ITE, 2012), the United States Department of Energy, and other modeling resources. A summary of population and employment assumptions for various land uses is provided in Table 1 of *City of Los Angeles VMT Calculator Documentation.*

TDM Measures

Additionally, the VMT Calculator measures the reduction in VMT resulting from a project's incorporation of TDM strategies. The following seven categories of TDM strategies are included in the VMT Calculator:

1. Parking
2. Transit
3. Education and Encouragement
4. Commute Trip Reductions
5. Shared Mobility
6. Bicycle Infrastructure
7. Neighborhood Enhancement

TDM strategies within each of these categories have been empirically demonstrated to reduce trip-making or mode choice in such a way as to reduce VMT, as documented in *Quantifying Greenhouse Gas Mitigation Measures* (California Air Pollution Control Officers Association, 2010).

PROJECT VMT ANALYSIS

The VMT Calculator was used to evaluate Project VMT for comparison to the VMT impact criteria. The VMT Calculator utilized as the primary input the Project's land uses and their respective sizes, including 1,521 multi-family housing units, 68 hotel rooms, 411,113 sf of general office uses, 45,266 sf of general retail uses, 34,423 sf of high-turnover sit-down restaurant uses, and 34,423 sf quality restaurant uses.

Retail and Restaurant Uses

The Project includes approximately 114,112 sf of retail and restaurant, which exceeds the 50,000 sf threshold between local-serving and regional-serving retail identified in the TAG. Notwithstanding, the Project does not fit the TAG's definition of a regional-serving retail project and, therefore, additional VMT analysis of retail and restaurant uses beyond what is provided by the VMT Calculator is not needed. As detailed in the following discussion, the Project is not a retail project, is not considered regional-serving, and would serve the local community. Thus, the Project was not modeled as a regional-serving retail project.

Not a Retail Project. The TAG's definition of a regional-serving retail project explicitly includes the term "retail project." The Project is a mixed-use development that is primarily made up of residential, hotel, and office uses. The retail and restaurant uses comprise less than 10%[4] of the total Project floor area and are not the primary Project uses. The retail and restaurant uses are intended to serve Project residents, hotel guests, employees, transit riders, and the surrounding community.

Not Regional-Serving. While the total retail and restaurant components of the Project total 101,088 sf, it is not anticipated that any single tenant would occupy a space larger than 50,000 sf. To evaluate a conservative scenario, however, the commercial components were identified as stand-alone trip generators, even though the variety of uses are expected to have significant interaction without triggering an off-site vehicle trip. According to the OPR Technical Advisory, because lead agencies will best understand their own communities and the likely travel behaviors

[4] The retail and restaurant space comprises 101,088 sf (or 114,112 sf with outdoor area) of the total 2,318,534 sf of the Project.

of future project users, they are likely in the best position to decide when a project will likely be local serving. For these reasons, through the MOU process, LADOT agreed that the retail and restaurant uses would generally serve the local needs of the area. As stated in the OPR Technical Advisory (page 16), adding retail opportunities into the urban fabric improves retail destination proximity and, therefore, shortens trips and reduces VMT.

Project VMT

The Project includes several design features to reduce the number of single occupancy vehicle trips to the Project Site. For the purposes of this analysis, the following TDM measures that are incorporated into the Project design and required by the City's current TDM Ordinance were accounted for in the VMT evaluation:

- Reduced Parking Supply: The Project would provide less on-site vehicle parking than the amount required by the direct application of LAMC parking rates, without consideration of allowable parking reduction mechanisms. A reduced parking supply makes parking less available and, therefore, encourages the use of non-automobile modes to and from the Project Site and reduces VMT.

- Parking Cash-Out: The Project would comply with the state parking cash-out law, which requires employers who provide subsidized parking to offer employees a cash allowance in lieu of a parking space.

- Bicycle Share Station: The Project would also provide a bicycle share station in order to support first-mile/last-mile service for transit users and reduce reliance on personal automobiles.

- Bicycle Parking per LAMC: As further discussed in Section 5E, the Project would provide bicycle parking spaces in compliance with the requirements of the LAMC.

Should implementation of the selected TDM measures become infeasible for the Project, substitute TDM measures would be implemented that would be equivalent or superior in reducing vehicle trips and VMT. The VMT analysis results based on the VMT Calculator are summarized in Table 11. The VMT Calculator estimates that the Project would generate 13,522 total daily household VMT and 13,360 total daily work VMT. Thus, the Project would generate an average household VMT per capita of 3.9 and work VMT per employee of 6.5, which falls below the significance thresholds for the Central APC (6.0 household VMT per capita and 7.6 work VMT per employee). Therefore, no mitigation measures would be required.

The detailed output from the VMT Calculator is provided in Appendix F.

CUMULATIVE ANALYSIS

Pursuant to the TAG, cumulative effects of development projects are determined based on the consistency with the air quality and GHG reduction goals of *Connect SoCal – The 2020–2045 Regional Transportation Plan / Sustainable Communities Strategy* (Southern California Association of Governments [SCAG], Adopted September 3, 2020) (RTP/SCS) in terms of development location, density, and intensity. The RTP/SCS presents a long-term vision for the region's transportation system through Year 2045 and balances the region's future mobility and housing needs with economic, environmental, and public health goals.

As detailed in the TAG, for projects that do not demonstrate an impact by applying an efficiency-based impact threshold (i.e., household VMT per capita or work VMT per employee) in the project impact analysis, a less than significant impact conclusion is sufficient in demonstrating there is no cumulative VMT impact, as those projects are already shown to align with the long-term VMT and GHG goals of the RTP/SCS. The Project would not result in a significant VMT impact, as described above.

Moreover, the Project includes an integrated mix of uses, including multi-family housing units, hotel, office, and community serving ground floor commercial retail and restaurant uses. Furthermore, the Project is served by various local transit lines, including the Metro L Line. In addition, the Project would be designed to further reduce single occupancy trips to the Project Site through various TDM strategies, including a reduced parking supply, parking cash-out, bicycle share station, and bicycle parking facilities.

Thus, the Project encourages a variety of transportation options and is consistent with the RTP/SCS goal of maximizing mobility and accessibility in the region. The Project would also contribute to the productivity and use of the regional transportation system by providing housing and employment near transit and encourage active transportation by providing new bicycle parking and active street frontages, consistent with RTP/SCS goals. Therefore, the Project would not result in a cumulative VMT impact under Threshold T-2.1 and no further evaluation or mitigation measures would be required.

TABLE 11
VMT ANALYSIS SUMMARY

Project Information	
Land Use	**Size**
Housing | Multi-Family Housing Units	1,521 units
Housing | Hotel	68 rooms
Office | General Office	411,113 sf
Retail | General Retail	45,266 sf
Retail | High-Turnover Sit-Down Restaurant	34,423 sf
Retail | Quality Restaurant	34,423 sf
Project Analysis *[a]*	
Project Area Planning Commission	Central
Travel Behavior Zone [b]	Urban
Maximum Allowable VMT Reduction	75%
VMT Analysis *[c]*	
Daily Vehicle Trips	13,724
Daily VMT	89,694
Daily Household VMT	13,522
Household VMT per Capita [d]	3.9
Impact Threshold	6.0
Significant Impact	NO
Daily Work VMT	13,360
Work VMT per Employee [e]	6.5
Impact Threshold	7.6
Significant Impact	NO

Notes:
[a] Project Analysis based on the *City of Los Angeles VMT Calculator Version 1.3* (July 2020).
[b] An "Urban" TBZ is characterized in *City of Los Angeles VMT Calculator Documentation* (LADOT and DCP, May 2020) as high-density neighborhoods characterized by multi-story buildings with a dense road network.
[c] The following Project design features were accounted for in the VMT evaluation:
- Include bike parking per LAMC, including short-term and long-term parking facilities
- Reduced parking supply
- Parking cash-out
- Bicycle share station

[d] Based on home-based production trips only (see Appendix D, Report 4).
[e] Based on home-based work attraction trips only (see Appendix D, Report 4).

Section 4C: Threshold T-2.2
Substantially Inducing Additional Automobile Travel Analysis

Threshold T-2.2 applies to transportation projects. The TAG explains that transportation projects that increase vehicular capacity can lead to additional travel on the roadway network, which can include induced vehicle travel due to factors such as increased speeds and induced growth. The TAG also provides screening criteria and states that:

> "[i]f 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:
>
> > "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)?"

The Project does not include additional through traffic lanes on existing or new highways, general purpose lanes, high-occupancy vehicle lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges. Accordingly, neither the Project nor any improvements associated with it are considered a transportation project. Therefore, Threshold T-2.2 does not apply to the Project and no further evaluation is required.

Section 4D: Threshold T-3

Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use Analysis

Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from a 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.

Further evaluation is required for projects that that require a discretionary action and (1) propose new driveways or introduce new vehicle access to the property from public ROW or (2) propose any voluntary or required modifications to the public ROW (i.e., street dedications, reconfigurations of curb line, etc.). The Project proposes new driveways and modifications to the public ROW and, therefore, requires further evaluation based on these screening criteria. The threshold for determining impacts is whether the Project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

PROJECT SITE ACCESS AND CIRCULATION OVERVIEW

As described in Chapter 1, primary vehicular access to the Project Site would be provided via driveways along 4th Street, Central Avenue, Gladys Avenue, and Alameda Street as follows:

- South Site: Two driveways would be provided along the east side of Central Avenue and one driveway would be provided along Alameda Street. A passenger loading area may be provided along Alameda Street, south of 4th Street, subject to City review and approval. The driveway on Alameda Street and the northernmost driveway on Central Avenue would be connected by an internal east-west drive aisle and accommodate right-turn and

left-turn ingress and egress movements. The southernmost driveway on Central Avenue would align with the existing traffic signal at 5th Street and would accommodate both right-turn and left-turn ingress and egress movements. Passenger loading and unloading areas would also be provided within the interior drive aisle on-site.

- North Site: One driveway would be provided along Central Avenue and one along 4th Street with an internal drive aisle connecting the two driveways to provide access to the parking podium and subterranean levels. The Central Avenue driveway would accommodate both left-turn and right turn ingress and egress movements. The 4th Street driveway would accommodate left-turn ingress and egress movements only. Additional delivery and truck loading access would be provided from the internal drive aisle with ingress from the Central Avenue driveway and egress from the 4th Street driveway.

- West Site: One driveway would be provided along Central Avenue and one driveway would be provided along Gladys Avenue to access to residential uses. The Central Avenue driveway would accommodate both right-turn and left-turn ingress and egress movements, while the Gladys Avenue driveway would accommodate right-turn ingress and egress movements only.

All driveways would be designed according to LADOT standards and would be subject to review by the City Bureau of Engineering.

The Project would improve existing curb cuts to current City standards to provide vehicular access to the North Site. Vehicular access to the South Site would be provided via existing and/or relocated curb cuts along Central Avenue and Alameda Street that would be improved to meet current City standards. The southern driveway to the South Site along Central Avenue would continue to align with the existing traffic signal at 5th Street. Vehicular access to the West Site would be provided via an existing curb cut along Central Avenue and a new curb cut along Gladys Avenue. All Project driveways and internal drive aisles would be improved and/or configured to limit vehicle queues and interruptions to the public ROW and bicycle/pedestrian-vehicle conflicts. In addition, the driveways for each site would be designed and placed in accordance with the LADOT standards for driveways along an arterial frontage in *Manual of Policies and Procedures*, (LADOT, December 2008, Updated 2020). Furthermore, the Project would provide the required

dedications along 4th Street and Alameda Street In compliance with the ROW standards identified in the Mobility Plan.

PROJECT ACCESS REVIEW

A review of Project access points, internal circulation, and parking access was performed to determine if the Project would substantially increase hazards due to geometric design features, including safety, operational, or capacity impacts. In accordance with the TAG, this analysis considered the following factors: (a) the relative amount of pedestrian activity at project access points; (b) 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; (c) the type of bicycle facilities the project driveway(s) crosses and the relative level of utilization; (d) 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; (e) the project location, or project-related changes to the public ROW, relative to proximity to the HIN or a Safe Routes to School (SRTS) program area; (f) any other conditions, including the approximate location of incompatible uses that would substantially increase a transportation hazard. These factors are addressed below.

Pedestrian Activity

Existing pedestrian activity during the peak hours adjacent to the Project Site and in the Project area is detailed in Appendix B. Adjacent to the Project Site, Central Avenue is identified as part of the PED.

Vehicle activity at the Project Site would increase with the addition of Project traffic. As such, the Project would improve the existing driveways to current City standards and incorporate pedestrian safety measures to improve visibility and reduce potential pedestrian-vehicular conflicts. Pedestrian signals, continental crosswalk striping, and ADA-compliant curb ramps are provided at the north and west legs of the signalized intersection of Central Avenue & 5th Street, which provides access to the Project Site's southern Central Avenue driveway. The pedestrian signals,

striping, and ramps provide controlled pedestrian crossings at this Project access point and, thus, reduce potential pedestrian-vehicular conflicts.

The Project would include pedestrian enhancements such as landscaped setbacks on Central Avenue, Alameda Street, and 4th Street to create a more walkable and attractive pedestrian environment. In addition, paved walkways would be provided internal to the Project Site with access to and from the Project frontages along Central Avenue, Alameda Street, and 4th Street. Project driveways would remain clear of hardscapes, vegetation, or signage that would impede sight lines.

Driveway Design Features

North Site. The North Site is currently occupied by cold storage warehouse uses with driveways that provide direct access to the truck loading bays from Central Avenue and 4th Street. Thus, to accommodate the larger truck turning maneuvers, the existing driveway curb cuts are wider than typical driveway standards. With development of the Project, the existing driveways along Central Avenue and 4th Street would be improved to meet current City standards for typical two-way operations. As such, the curb cut along Central Avenue would be narrowed and the two curb cuts along 4th Street would be consolidated into a singular driveway. As a result, the Project frontages of the North Site along Central Avenue and 4th Street would be improved to reduce interruptions to vehicle, bicycle, and pedestrian flow and safety. Adjacent to the Project Site, 4th Street provides four eastbound travel lanes. The North Site driveway on 4th Street is located approximately 220 feet east of Central Avenue and approximately 200 feet west of Alameda Street and would continue to accommodate left-turn ingress and egress maneuvers only. Adjacent to the North Site, Central Avenue provides two northbound and two southbound travel lanes with a two-way left-turn median and left-turn pockets at intersections. The North Site driveway on Central Avenue is located approximately 215 feet north of 4th Street and would continue to accommodate both right-turn and left-turn ingress and egress maneuvers. Neither driveway proposes any hardscape features, walls, or landscaping that would obstruct sight distance or visibility of approaching vehicles, pedestrians, or bicycles.

South Site. The South Site is also currently occupied by a cold storage warehouse facility with driveways that provide direct access to the truck loading bays from Central Avenue and Alameda

Street. Thus, to accommodate the larger truck turning maneuvers, the existing driveway curb cuts are wider than typical driveway standards. With development of the Project, the existing driveways along Central Avenue and Alameda Street would be improved to meet current City standards for typical two-way operations. As such, the curb cuts along Central Avenue would be consolidated and/or narrowed to provide two driveways, and the curb cuts along Alameda Street would be consolidated to provide a singular driveway. As a result, the Project frontages of the South Site along Central Avenue and Alameda Street would be improved to reduce interruptions to vehicle, bicycle, and pedestrian flow and safety. Adjacent to the South Site, Central Avenue provides two northbound and two southbound travel lanes with a two-way left-turn median and left-turn pockets at intersections. The northern Central Avenue driveway is located approximately 315 feet south of 4th Street and approximately 325 feet north of 5th Street. The southern Central Avenue driveway aligns with the existing traffic signal at Central Avenue & 5th Street and forms the east leg of the intersection. Both driveways on Central Avenue would accommodate both right-turn and left-turn ingress and egress maneuvers. Alameda Street provides four travel lanes adjacent to the proposed driveway, with two northbound lanes and two southbound lanes. Alameda Street is divided by a two-way left-turn median, which would provide harbor for left-turn ingress and egress maneuvers. The Alameda Street driveway is located approximately 180 feet south of 4th Street and approximately 435 feet north of 5th Street. The Alameda Street driveway would accommodate both right-turn and left-turn ingress and egress maneuvers. None of the three South Site driveways feature any hardscape features, walls, or landscaping that would obstruct sight distance or visibility of approaching vehicles, pedestrians, or bicycles.

West Site. The West Site is currently occupied by a surface parking lot with two driveways along Central Avenue. With development of the Project, access to the West Site would be provided via one driveway along Central Avenue and one driveway along Gladys Avenue. The driveway along Central Avenue would utilize an existing curb cut , which would be improved to meet current City standards for two-way operations. The other existing curb cut along Central Avenue would be removed and improved to provide standard curb and gutter. The driveway along Gladys Avenue would require the installation of a new curb cut . The Project would not increase the number of driveways and interruptions to vehicle, pedestrian, or bicycle flow or safety along the West Site frontages. Adjacent to the West Site, Central Avenue provides two northbound and two southbound travel lanes with a two-way left-turn median and left-turn pockets at intersections. This driveway would continue to accommodate both right-turn and left-turn ingress and egress maneuvers. The West Site Central Avenue driveway is located approximately 280 feet south of

4th Street and approximately 88 feet north of Gladys Avenue. Gladys Avenue provides two travel lanes adjacent to the proposed driveway, with one northbound and one southbound lane. The Gladys Avenue driveway would accommodate right-turn-only ingress and egress maneuvers. Neither driveway features any hardscape features, walls, or landscaping that would obstruct sight distance or visibility of approaching vehicles, pedestrians, or bicycles.

Bicycle Facilities

Currently, there are no bicycle facilities adjacent to the Project Site. None of the Project driveways would cross any existing bicycle lanes or routes. Existing bicycle activity in the Project area is further detailed in Appendix B. Central Avenue and Alameda Street adjacent to the Project Site is designated as part of the BEN in the Mobility Plan; however, there is currently no schedule for implementation of bicycle improvements and the Project would not preclude the City from future implementation of bicycle infrastructure. The Project driveways provide adequate sight distance to limit potential vehicular-bicycle conflicts. Therefore, the Project driveways are not projected to pose a safety hazard to bicyclists.

Physical Conditions

The topography of the Project Site is level and all driveways are designed to intersect the sidewalk and street at right angles to the extent possible, with adequate building setback to allow pedestrians and bicyclists to observe vehicles within the driveways. In addition, all pedestrian/bicycle access points would be located separate from vehicle driveways to limit potential pedestrian/bicycle-vehicle conflicts.

The Project would also provide internal pedestrian facilities such as plazas and pedestrian paseos, along with landscaped elements and street trees for shade along the Project perimeter and within the Project Site to create a walkable and attractive pedestrian environment. Pedestrian sidewalks along 4th Street, Central Avenue, and Alameda Street adjacent to the Project Site would be maintained and improved.

Project Location

Adjacent to the Project Site, 4th Street, Central Avenue, and Alameda Street are identified as part of the HIN. The Project Site is not considered part of any identified SRTS. Additionally, the SRTS map does not identify any infrastructure improvement projects within the Study Area. The Project would provide the required dedications along 4th Street, which would include the proposed realignment of the centerline to provide equal half-ROW widths on the north and south sides of the street, and Alameda Street to meet the standards identified in the Mobility Plan. Furthermore, the Project would provide publicly accessible pedestrian facilities throughout the Project Site to provide an enhanced pedestrian environment. In addition, the Project would utilize and improve existing driveways along 4th Street, Alameda Street, and Central Avenue, and would reduce existing driveway widths. Thus, the Project would not introduce new interruptions to pedestrian flow and would enhance pedestrian facilities along those streets. The West Site driveway along Gladys Avenue would require the installation of a new curb cut; however, the driveway would be designed in accordance with City standards.

The Project would not preclude future roadway improvements proposed in the Mobility Plan.

Incompatible Uses

The Project would replace existing cold storage and warehouse uses on the Project Site. The Project design incorporates and expands on the surrounding areas to provide a more attractive, well-defined, and accessible interaction between the Project and these surrounding uses. None of the Project design elements that are tangential to the adjacent uses are considered incompatible. There are no unusual or new obstacles that would be considered hazardous to motorized vehicles, non-motorized vehicles, or pedestrians.

Summary

As detailed above, the Project would not substantially increase hazards due to geometric design feature or incompatible uses. Therefore, impacts are considered less than significant.

CUMULATIVE ANALYSIS

In addition to potential Project-specific impacts, the TAG requires that the Project be reviewed in combination with Related Projects with access points along the same block as the proposed project to determine if there may be a cumulatively significant impact. There are currently no identified Related Projects proposed with access points along the same block of the Project. Therefore, the Project would not result in cumulative impacts that would substantially increase hazards due to geometric design features, including safety, operational, or capacity impacts.

Section 4E
Freeway Safety Analysis

In May 2020, LADOT issued *Interim Guidance for Freeway Safety Analysis* (City Freeway Guidance) identifying City requirements for a CEQA safety analysis of Caltrans facilities as part of a transportation assessment.

ANALYSIS METHODOLOGY

The City Freeway Guidance relates to the identification of potential safety constraints at freeway off-ramps as a result of increased traffic from development projects. It provides a methodology and criteria for assessing whether additional vehicle queueing at off-ramps could result in a safety constraint due to speed differentials between the mainline freeway lanes and the queued vehicles at the off-ramp.

Based on the City Freeway Guidance, a transportation assessment for a development project must include analysis of any freeway off-ramp where the project adds 25 or more peak hour trips. A project may result in a significant safety constraint at such a ramp if each of the following three criteria were met:

1. Under a scenario analyzing future conditions upon project buildout, with project traffic included, the off-ramp queue would extend to the mainline freeway lanes[5].
2. A project would contribute at least two vehicle lengths (50 feet, assuming 25 feet per vehicle) to the queue.
3. The average speed of mainline freeway traffic adjacent to the off-ramp during the analyzed peak hour(s) is greater than 30 mph.

[5] If an auxiliary lane is provided on the freeway, then half the length of the auxiliary lane is added to the ramp storage length.

Should a significant safety constraint be identified, corrective measures to be considered include TDM measures to reduce a project's trip generation, investments in active transportation or transit system infrastructure to reduce a project's trip generation, changes to the traffic signal timing or lane assignments at the ramp intersection, or physical changes to the off-ramp. Any physical change to the ramp would have to improve safety, not induce greater VMT, and not result in secondary environmental impacts.

ANALYSIS RESULTS

Based on the Project's trip generation estimates and traffic distribution pattern detailed in Chapter 3, the Project would add 25 or more peak hour trips to the following off-ramps during the morning and afternoon peak hours:

- US 101 Northbound Off-Ramp to 4th Street
- US 101 Southbound Off-ramp to Los Angeles Street
- I-5 Northbound Off-Ramp to 7th Street
- I-5 Southbound Off-Ramp to 4th Street
- I-10 Eastbound Off-ramp to Central Avenue
- I-10 Eastbound Off-ramp to Alameda Street

In accordance with the applicable methodology, the 95th percentile ramp queue was calculated using the *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016) (HCM) methodology. Conditions were analyzed for the anticipated Project buildout year of 2030, which includes growth and traffic from Related Projects, both with and without Project traffic. The summary of queue lengths and off-ramp storage length, along with the analysis worksheets, are provided in Appendix G.

As shown in Appendix G, under Future with Project Conditions, the queues at off-ramps would not exceed the ramp storage length during any of the analyzed peak hours and would, therefore, not be subject to a speed differential analyses.

The queues at the off-ramps would not extend onto the freeway mainline and the Project would not cause a significant safety constraint. Thus, no corrective measures are required.

Chapter 5
Non-CEQA Transportation Analysis

Section 3 of the TAG provides guidance for preparing additional transportation analyses that are not required to determine the CEQA impacts of the Project because VMT is the legally applicable methodology for analyzing traffic, circulation, and transportation impacts. This chapter summarizes the non-CEQA transportation analysis of the Project. It includes sections related to the Project traffic, proposed access provisions, safety, and circulation operations of the Project, and the adjacent pedestrian, bicycle, and transit facilities. This chapter also evaluates the Project's operational conditions, parking supply and requirements, and effects due to Project construction.

Per Section 3.1 of the TAG, any deficiencies identified based on the non-CEQA transportation analysis is "not intended to be interpreted as thresholds of significance, or significance criteria for purposes of CEQA review unless otherwise specifically identified in Section 2." Section 3 of the TAG identifies the following four non-CEQA transportation analyses for reviewing potential transportation deficiencies that may result from a development project:

- Pedestrian, Bicycle, and Transit Access Assessment
- Project Access, Safety, and Circulation Evaluation
- Residential Street Cut-Through Analysis
- Construction Analysis

The four non-CEQA transportation analyses were reviewed in detail in Sections 5A-5D. In addition, a review of the proposed parking and the City's parking requirement for the Project is provided in Section 5E.

Section 5A

Pedestrian, Bicycle, and Transit Assessment

This section assesses the Project's potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the Project Site.

Factors to consider when assessing a project's potential effect on pedestrian, bicycle, and transit facilities, include the following:

- Would the project directly or indirectly result in a permanent removal or modification that would lead to the degradation of pedestrian, bicycle, or transit facilities?
- Would a project intensify use of existing pedestrian, bicycle, or transit facilities?

EXISTING FACILITIES

Pedestrians and Bicycles

Adjacent to the Project Site, 14-foot wide sidewalks are provided along Central Avenue, eight-foot wide sidewalks are provided along Alameda Street, 10 to 26-foot wide sidewalks are provided along 4th Street and 10-foot wide sidewalks are provided along Gladys Avenue. Continental crosswalks, pedestrian signals, and curb ramps for ADA accessibility at all corners are provided at Central Avenue & 4th Street and Alameda Street & 4th Street, and at the northwest and northeast corners at Central Avenue & 5th Street. Figure 7 identifies commercial and office/industrial facilities within walking distance (0.25 miles) of the Project Site that could attract pedestrian activity.

No bicycle lanes or routes are provided within the vicinity of the Project Site.

Transit

Metro Route 18, 53, and 62 bus stops are located immediately adjacent to the Project Site on Central Avenue at 5th Street, approximately 120 feet west of the Project Site. The LADOT DASH A and Montebello Bus Line 40 bus stops are located immediately adjacent to the Project Site on 4th Street at Alameda Street. The LADOT DASH A bus stop is located along Alameda Street at 4th Street, approximately 130 feet northeast of the Project Site. The Montebello Bus Line 40 bus stop is located along 4th Street at Alameda, approximately 120 feet east of the Project Site. The Project Site is also located within 0.50 miles of the Metro L Line Little Tokyo Station/Arts District and 0.40 miles of the future Metro Regional Connector Little Tokyo/Arts District Station.

INTENSIFICATION OF USE

The Project would result in additional pedestrian, bicycle, and transit activity in the vicinity of the Project Site. However, the Project would enhance the pedestrian environment by providing a more comfortable pedestrian experience by improving sidewalks along the Project frontage, providing open spaces, and would encourage alternative transportation modes by providing bicycle parking and a bicycle share station for residents, employees, and visitors.

Although the Project (and the Related Projects) will cumulatively add transit ridership, the Study Area is served by multiple bus lines operated by Metro, Montebello Bus, and LADOT. As shown in Tables 3A and 3B, the total residual capacity of the transit lines within the Study Area during the morning and afternoon peak hours is approximately 9,091 additional riders during the morning peak hour and 8,673 additional riders during the afternoon peak hour.

As shown in Table 5, transit usage for the Project accounts for the reduction of approximately 87 vehicle trips during the morning peak hour and approximately 123 vehicle trips during the afternoon peak hour. Based on the average vehicle occupancy factor of 1.55 for all trip purposes in Los Angeles County as identified in *SCAG Regional Travel Demand Model and 2012 Model Validation* (SCAG, March 2016), the total Project vehicle-transit trips correspond to 135 and 191 person-transit trips during the morning and afternoon peak hours, respectively. This equates to approximately less than 3% of the total residual capacity of the transit lines within the Study Area during the morning and afternoon peak hours, confirming that the adjacent transit capacity can

accommodate the intensification of transit usage attributable to the Project. Furthermore, as detailed in Chapter 2, additional transit capacity would be provided in the Project area with future operations of the Metro Regional Connector and the Metro WSAB Transit Corridor.

CONCLUSION

The Project would result in some intensification of pedestrian, bicycle, and transit activity in the vicinity of the Project Site. However, the amount of additional pedestrian, bicycle, and transit activity generated by the Project would not strain the capacity of facilities and operations dedicated to those modes. Furthermore, it is recognized that LADOT and Metro will continue to maintain and expand regional transit service in order to accommodate pedestrian, bicycle, and transit demand in the region.

Section 5B

Project Access, Safety, and Circulation Assessment

This section summarizes the site access, safety, and circulation of the Project Site. It includes a quantitative evaluation of the Project's access and circulation operations, as well as the anticipated LOS at the operational analysis Study Area intersections and anticipated traffic queues.

PROJECT ACCESS

Vehicle Access and Internal Circulation

As described in Chapter 1, vehicular access to the South Site would be provided via two full access driveways along Central Avenue and one full access driveway on Alameda Street, which are both designated as Avenue I. Vehicular access to the North Site would be provided via one full access driveway along Central Avenue and one driveway accommodating left-turn ingress and egress movements on 4th Street, which is designated as an Avenue II. Vehicular access to the West Site would be provided via one full access driveway along Central Avenue and one driveway accommodating right-turn ingress and egress movements on Gladys Avenue, which is designated as a Local Street. Additional delivery and truck loading access would be provided from the internal drive aisle with access via the Central Avenue driveway for ingress movements and the 4th Street driveway on 4th Street for egress movements. The Project would provide internal drive aisles that would accommodate passenger vehicle and truck circulation.

The existing driveways would be maintained, and the new driveways would be designed according to LADOT standards and reviewed by the City Bureau of Engineering during site plan review. The circulation aisle widths of the parking areas allow for adequate and safe circulation of vehicles and trucks without significant conflicts. The vehicular access points would be adequate to serve the demand of the Project and no significant internal congestion that would affect traffic flow on adjacent public streets is anticipated.

Pedestrians and Bicycles

Pedestrian access to the Project Site would be provided via separate pedestrian entrances along 4th Street, Central Avenue, and Alameda Street, which would connect to internal walkways within the Project Site. Residents, employees, and visitors arriving by bicycle would have the same access opportunities as pedestrian visitors.

In order to facilitate bicycle use, short-term and long-term bicycle parking spaces would be provided, as detailed in Section 5E. None of the Project driveways would cross any existing bicycle lanes or routes. Central Avenue and Alameda Street adjacent to the Project Site are designated as part of the BEN in the Mobility Plan; however, there is currently no schedule for implementation of bicycle improvements and the Project would not preclude the City from future implementation of bicycle infrastructure.

The Project driveways provide adequate sight distance and pedestrian warning systems to limit potential vehicular-bicycle or vehicular-pedestrian conflicts.

OPERATIONAL EVALUATION

Intersection operation conditions were evaluated for typical weekday morning (7:00 AM to 10:00 AM) and afternoon (3:00 PM to 6:00 PM) peak periods. A total of 18 study intersections, 17 signalized and one unsignalized, in the vicinity of the Project Site were selected for detailed transportation analysis and are shown in Figure 3.

The following traffic conditions were developed and analyzed as part of this study:

- Existing with Project Conditions (Year 2021) – This analysis condition analyzes the potential intersection operating conditions that could be expected if the Project were built under existing conditions. In this analysis, the Project-generated traffic is added to the Existing Conditions.

- Future with Project Conditions (Year 2030) – This analysis condition analyzes the potential intersection operating conditions that could be expected if the Project was fully occupied in the projected buildout year. In this analysis, the Project-generated traffic is added to Future without Project Conditions (Year 2030).

Methodology

In accordance with the TAG, the intersection delay and queue analyses for the operational evaluation were conducted using HCM methodology, which was implemented using Synchro software and signal timing worksheets from the City to analyze intersection operating conditions. The HCM signalized methodology calculates the average delay, in seconds, for each vehicle passing through the intersections, while the HCM unsignalized two-way stop-control methodology calculates the control delay, in seconds, for individual approaches of an intersection. Table 12 presents a description of the LOS categories, which range from excellent, nearly free-flow traffic at LOS A, to stop-and-go conditions at LOS F, for signalized and unsignalized intersections. The queue lengths were estimated using Synchro, which reports the 95th percentile queue length for signalized and unsignalized intersections. The reported queues are calculated using the HCM signalized and unsignalized intersection methodology.

LOS and queuing worksheets for each scenario are provided in Appendix C.

Existing with Project Conditions

Traffic Volumes. The morning and afternoon peak hour traffic volumes generated by the Project, as described in Chapter 3 and shown in Figure 16C, were added to the Existing Conditions morning and afternoon peak hour traffic volumes shown in Figure 10. The resulting volumes are illustrated in Figure 17 and represent Existing with Project Conditions, assuming Project operation under Existing Conditions.

Intersection LOS. Table 13 summarizes the weekday morning and afternoon peak hour LOS results for the Study Area intersections under Existing and Existing with Project Conditions. As shown in Table 13, 16 of the 18 study intersections operate at LOS D or better during both the morning and afternoon peak hours. The remaining two intersections are anticipated to operate at LOS E during at least one of the analyzed peak hours.

Future with Project Conditions

All future cumulative traffic growth (i.e., ambient and Related Project traffic growth) and transportation infrastructure improvements described in Chapter 2 are incorporated into this analysis.

Traffic Volumes. The morning and afternoon peak hour traffic volumes generated by the Project described in Chapter 3 and shown in Figure 16C were added to the Future without Project Conditions (Year 2030) morning and afternoon peak hour traffic volumes shown in Figure 13. The resulting volumes are illustrated in Figure 18 and represent Future with Project Conditions after development of the Project in Year 2030.

Intersection LOS. Table 14 summarizes the results of the Future without Project (Year 2030) and Future with Project Conditions during the weekday morning and afternoon peak hours for the Study Area intersections. As shown in Table 14, eight of the 18 study intersections continue to operate at LOS D or better during both the morning and afternoon peak hours under Future with Project Conditions. The remaining 10 intersections are anticipated to operate at LOS E or LOS F during at least one of the analyzed peak hours.

INTERSECTION QUEUING ANALYSIS

The study intersections were also analyzed to determine whether the lengths of intersection turning lanes could accommodate vehicle queue lengths. The queue lengths were estimated using Synchro software, which reports the 95th percentile queue length. The reported queues are calculated using the HCM signalized and unsignalized intersection methodology. Detailed queuing analysis worksheets are provided in Appendix C.

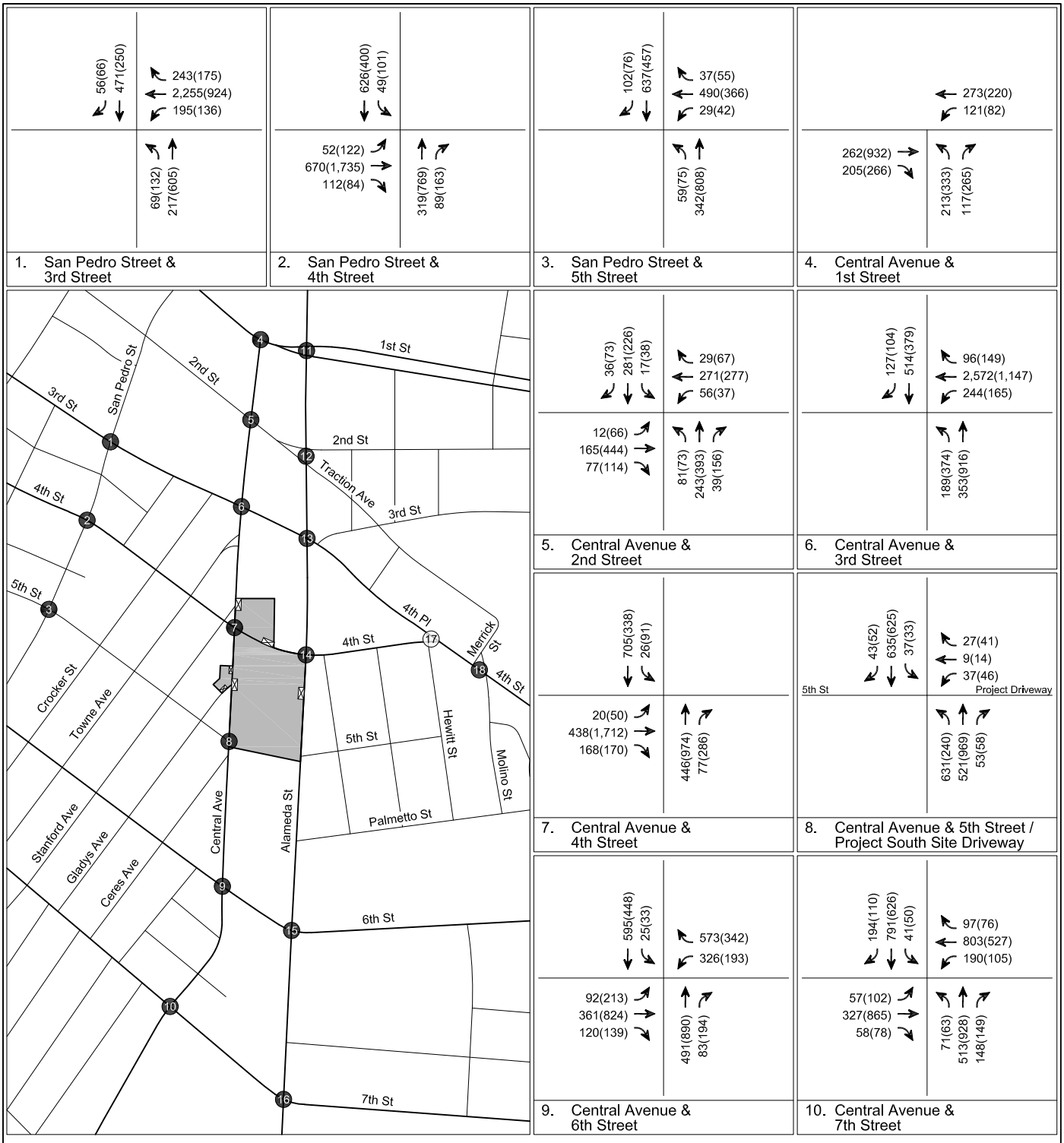
RECOMMENDED IMPROVEMENTS

It is anticipated that the Project would add to the cumulative traffic within the Study Area as detailed above. As discussed in Section 4B, the Project would implement various TDM strategies as part of its TDM program to promote non-automobile travel and reduce single occupancy trips

to the Project Site and Project traffic throughout the Study Area. The TDM program would include reduced vehicle parking supply, bicycle parking in accordance with LAMC requirements, a parking cash-out program, and a bicycle share station. The VMT Calculator estimates that the Project could achieve an overall trip reduction of 4% with implementation of the selected TDM strategies as Project design features.

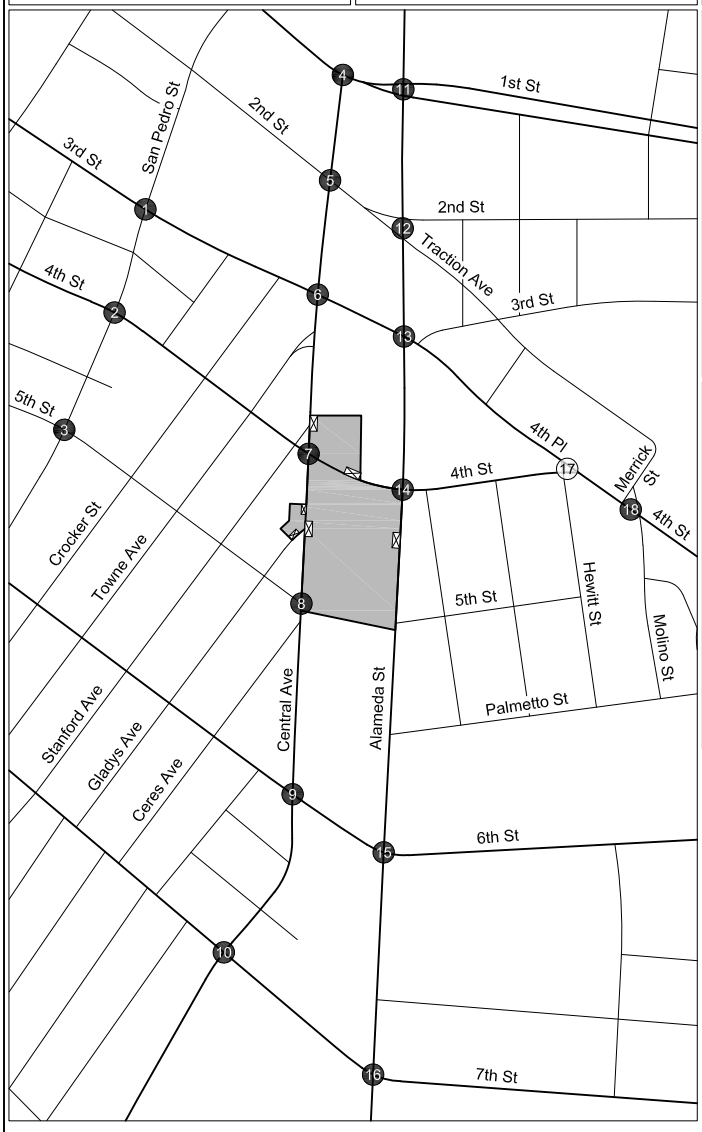
The Project would also comply with the current requirements of the TDM Ordinance. The TDM Ordinance is currently being updated and is expected to be completed prior to the anticipated occupancy of the Project. If adopted, the Project would be subject to the terms of the proposed TDM Ordinance and would likely be required to comply with additional trip-reduction strategies. As such, the Project's TDM Program would further reduce vehicle trips to/from the Project Site and throughout the Study Area.

Beyond the identified TDM strategies, the Project would also manage site access and circulation operations to minimize potential queue onto the adjacent public ROW. Additionally, the Project will work in conjunction with LADOT to develop a local improvement program to manage site access and circulation operations as well as provide road safety enhancements for pedestrian, bicycle, and transit users in the Project vicinity.

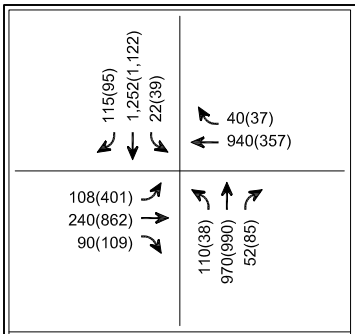


EXISTING WITH PROJECT CONDITIONS (YEAR 2021)
PEAK HOUR TRAFFIC VOLUMES

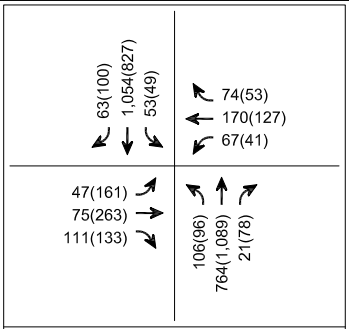
FIGURE 17



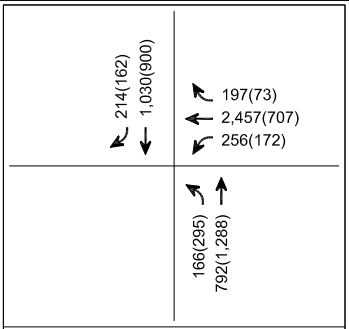
11. Alameda Street & 1st Street



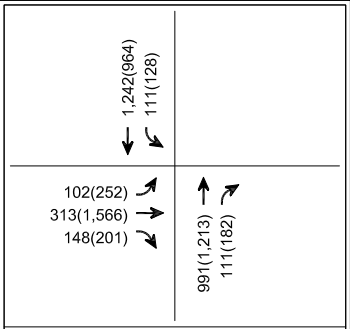
12. Alameda Street & 2nd Street



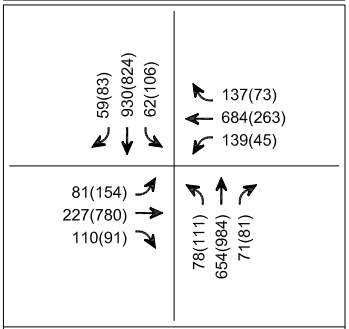
13. Alameda Street & 3rd Street / 4th Place



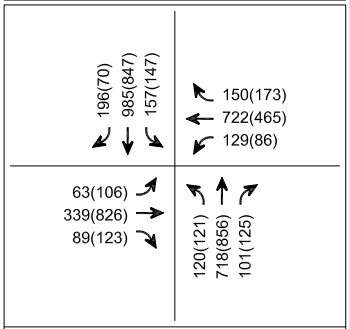
14. Alameda Street & 4th Street



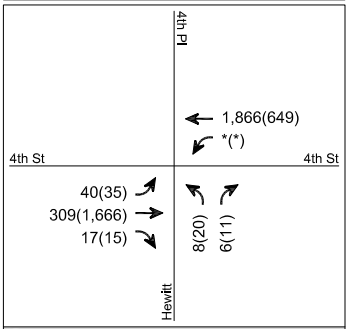
15. Alameda Street & 6th Street



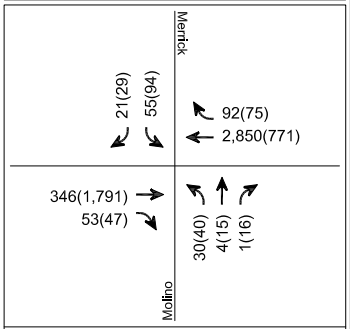
16. Alameda Street & 7th Street



17. Hewitt Street & 4th Street / 4th Place



18. Merrick Street / Molino Street & 4th Street



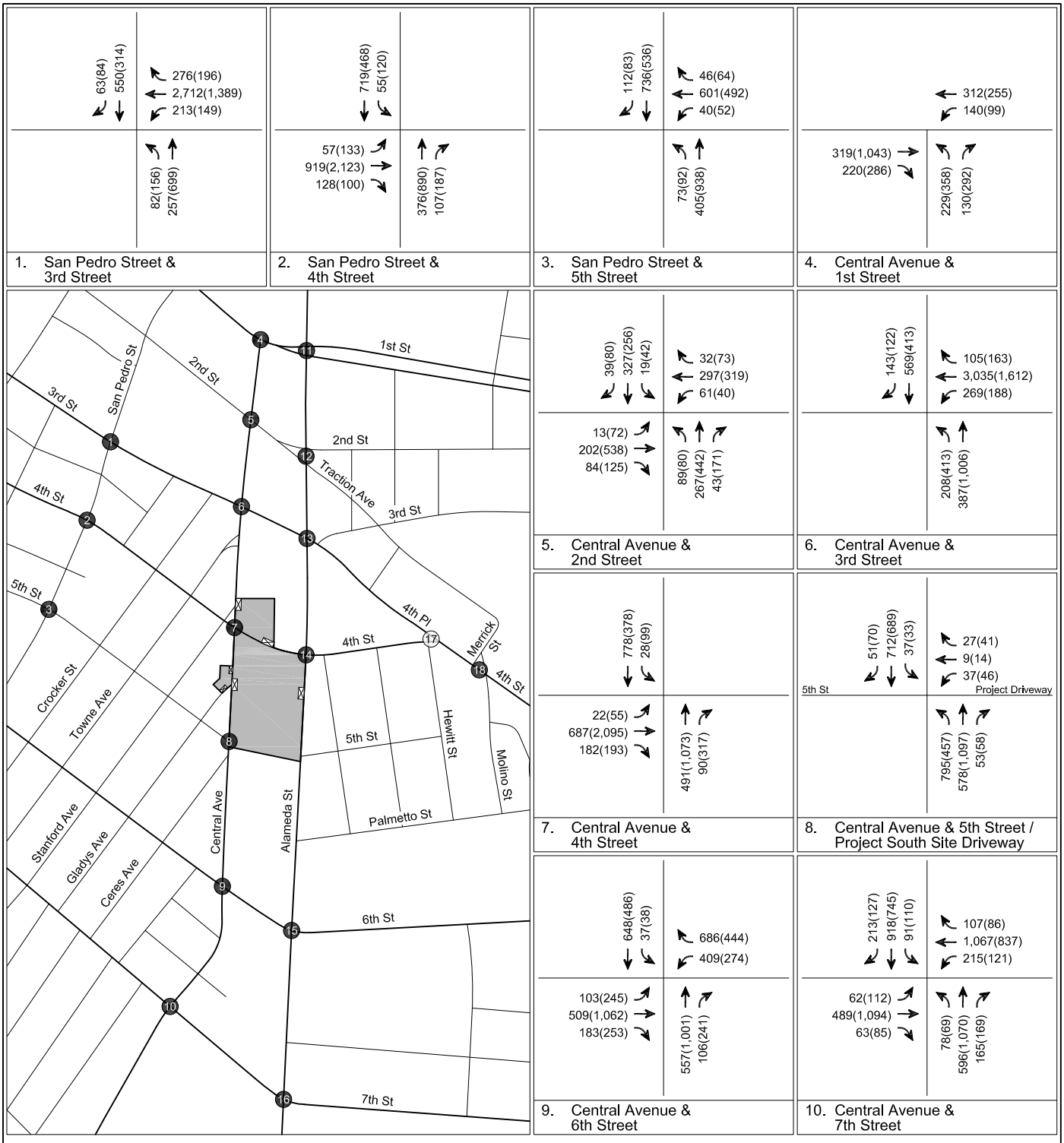
LEGEND

- Project Site
- Project Driveway
- Signalized Intersection
- Unsignalized Intersection
- #(#) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

N
Not to Scale

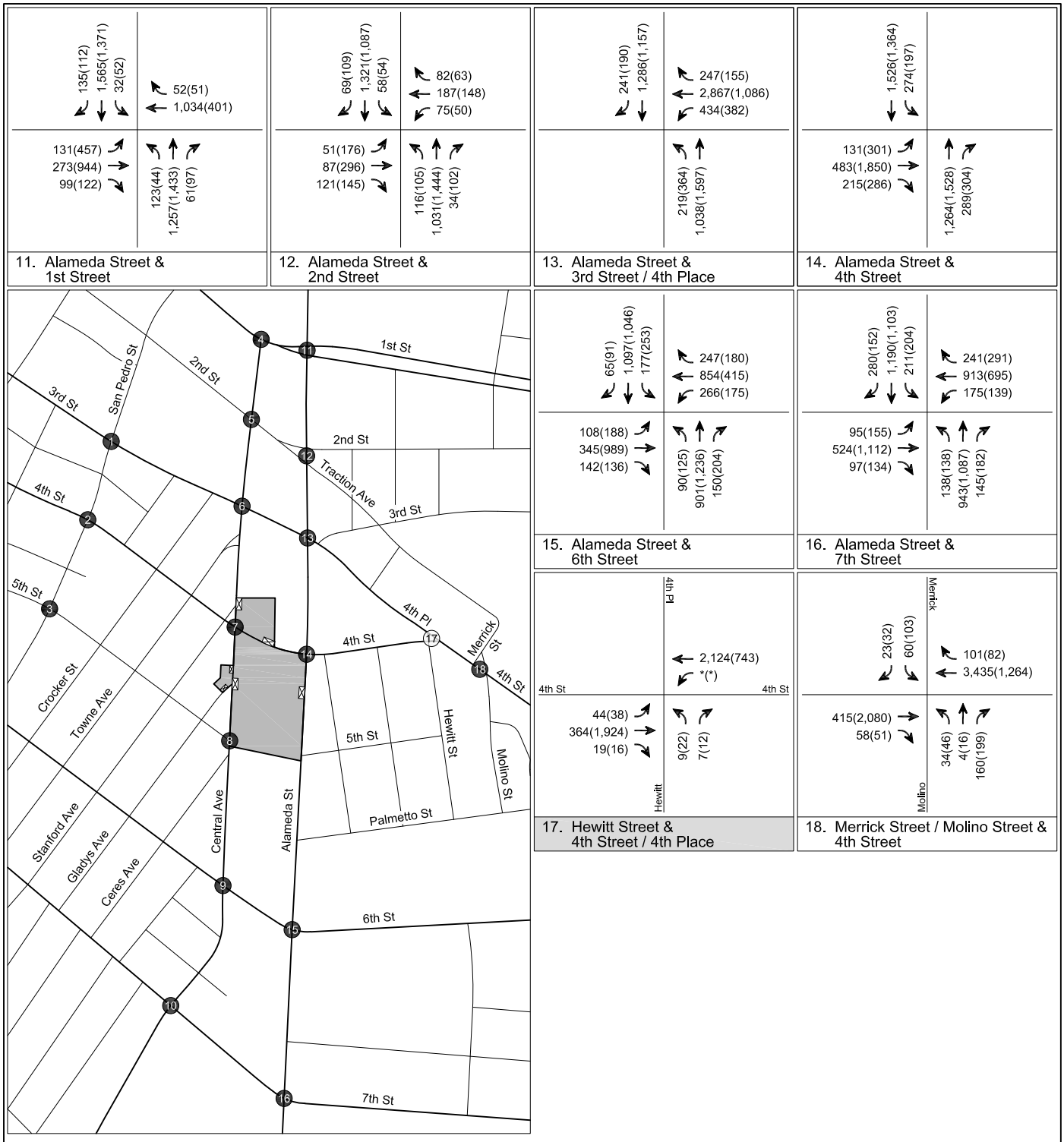
EXISTING WITH PROJECT CONDITIONS (YEAR 2021)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
17 (CONT.)



FUTURE WITH PROJECT CONDITIONS (YEAR 2030)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 18



FUTURE WITH PROJECT CONDITIONS (YEAR 2030)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
18 (CONT.)

TABLE 12
INTERSECTION LEVEL OF SERVICE

Level of Service	Description	Delay [a]	
		Signalized Intersections	Unsignalized Intersections
A	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.	≤ 10	≤ 10
B	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.	> 10 and ≤ 20	> 10 and ≤ 15
C	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	> 20 and ≤ 35	> 15 and ≤ 25
D	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.	> 35 and ≤ 55	> 25 and ≤ 35
E	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	> 55 and ≤ 80	> 35 and ≤ 50
F	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.	> 80	> 50

Notes

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

[a] Measured in seconds.

TABLE 13
EXISTING WITH PROJECT CONDITIONS (YEAR 2021)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions	
			Delay	LOS	Delay	LOS
1.	San Pedro Street &	AM	13.9	B	14.0	B
[a]	3rd Street	PM	13.2	B	13.2	B
2.	San Pedro Street &	AM	21.1	C	21.5	C
[a]	4th Street	PM	22.0	C	23.9	C
3.	San Pedro Street &	AM	22.0	C	22.2	C
[a]	5th Street	PM	11.3	B	12.0	B
4.	Central Avenue &	AM	13.7	B	15.4	B
[a]	1st Street	PM	21.3	C	36.1	D
5.	Central Avenue &	AM	11.6	B	12.6	B
[a]	2nd Street	PM	17.2	B	18.8	B
6.	Central Avenue &	AM	48.3	D	51.1	D
[a]	3rd Street	PM	29.5	C	31.3	C
7.	Central Avenue &	AM	19.3	B	20.1	C
[a]	4th Street	PM	38.8	D	45.7	D
8.	Central Avenue &	AM	18.9	B	22.0	C
[a]	5th Street	PM	15.5	B	21.3	C
9.	Central Avenue &	AM	17.2	B	19.5	B
[a]	6th Street	PM	38.9	D	57.0	E
10.	Central Avenue &	AM	18.2	B	18.7	B
[a]	7th Street	PM	22.2	C	29.0	C
11.	Alameda Street &	AM	40.4	D	49.3	D
[a]	1st Street	PM	27.6	C	30.4	C
12.	Alameda Street &	AM	11.5	B	11.6	B
[a]	2nd Street	PM	16.6	B	21.6	C
13.	Alameda Street &	AM	58.0	E	68.4	E
[a]	3rd Street/4th Place	PM	22.4	C	24.5	C
14.	Alameda Street &	AM	7.5	A	7.7	A
[a]	4th Street	PM	35.4	D	37.5	D
15.	Alameda Street &	AM	13.2	B	13.5	B
[a]	6th Street	PM	11.9	B	11.9	B
16.	Alameda Street &	AM	27.2	C	28.8	C
[a]	7th Street	PM	30.4	C	31.6	C
17.	Hewitt Street &	AM	15.3	C	15.4	C
[b]	4th Street/4th Place	PM	23.3	C	16.1	C
18.	Merrick Street &	AM	16.9	B	18.8	B
[a]	4th Street	PM	10.5	B	10.8	B

Notes

Delay is measured in seconds per vehicle

LOS = Level of service

[a] Signalized intersection analyzed based on the HCM Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection.

[b] Unsignalized intersection analysis based on the HCM Unsignalized methodology, which calculates the control delay, in seconds, for each individual approach of an intersection. The reported control delay represents the worst-case approach, and does not account for traffic gaps created by adjacent traffic signals.

TABLE 14
FUTURE WITH PROJECT CONDITIONS (YEAR 2030)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Future Without Project		Future with Project Conditions	
			V/C	LOS	V/C	LOS
1. [a]	San Pedro Street & 3rd Street	AM PM	70.8 15.1	E B	76.9 15.3	E B
2. [a]	San Pedro Street & 4th Street	AM PM	23.3 36.1	C D	24.2 42.4	C D
3. [a]	San Pedro Street & 5th Street	AM PM	23.6 12.6	C B	23.8 13.3	C B
4. [a]	Central Avenue & 1st Street	AM PM	14.5 24.9	B C	15.9 41.8	B D
5. [a]	Central Avenue & 2nd Street	AM PM	12.3 19.5	B B	13.4 21.5	B C
6. [a]	Central Avenue & 3rd Street	AM PM	226.2 142.4	F F	210.9 148.8	F F
7. [a]	Central Avenue & 4th Street	AM PM	20.6 56.9	C E	21.4 73.7	C E
8. [a]	Central Avenue & 5th Street	AM PM	22.6 19.3	C B	25.3 25.7	C C
9. [a]	Central Avenue & 6th Street	AM PM	27.3 91.9	C F	38.6 114.1	D F
10. [a]	Central Avenue & 7th Street	AM PM	23.3 70.0	C E	27.8 102.1	C F
11. [a]	Alameda Street & 1st Street	AM PM	56.9 62.1	E E	68.0 76.0	E E
12. [a]	Alameda Street & 2nd Street	AM PM	12.6 20.0	B B	12.9 26.8	B C
13. [a]	Alameda Street & 3rd Street/4th Place	AM PM	224.9 37.8	F D	242.7 49.9	F D
14. [a]	Alameda Street & 4th Street	AM PM	17.3 77.8	B E	25.1 95.4	C F
15. [a]	Alameda Street & 6th Street	AM PM	21.8 33.0	C C	23.2 35.6	C D
16. [a]	Alameda Street & 7th Street	AM PM	51.4 72.6	D E	57.8 78.2	E E
17. [b]	Hewitt Street & 4th Street/4th Place	AM PM	17.1 16.8	C C	19.0 18.0	C C
18. [a]	Merrick Street & 4th Street	AM PM	61.1 13.4	E B	72.2 13.9	E B

Notes

Delay is measured in seconds per vehicle

LOS = Level of service

[a] Signalized intersection analyzed based on the HCM Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection.

[b] Unsignalized intersection analysis based on the HCM Unsignalized methodology, which calculates the control delay, in seconds, for each individual approach of an intersection. The reported control delay represents the worst-case approach, and does not account for traffic gaps created by adjacent traffic signals.

Section 5C

Residential Street Cut-Through Analysis

This section summarizes the residential street cut-through analysis for the Project. The residential street cut-through analysis determines potential increases in average daily traffic volumes on designated Local Streets, as classified in the Mobility Plan, that can be identified as cut-through trips generated by the Project and that can adversely affect the character and function of those streets.

Section 3.5.2 of the TAG provides a list of questions to assess whether the Project would negatively affect residential streets. The Project is not projected to lead to trip diversion along residential Local Streets, nor is the Project projected to add a substantial amount of automobile traffic to congested Arterial Streets that could potentially cause a shift to residential Local Streets, as the surrounding area uses mainly consist of industrial and commercial uses. Thus, the Project is not required to conduct a Local Residential Street Cut-Through Analysis.

Section 5D
Project Construction Assessment

This section summarizes the construction schedule and construction analysis for the Project. The construction analysis relates to the temporary effects that may result from the construction activities associated with the Project and was performed in accordance with Section 3.4 of the TAG.

CONSTRUCTION EVALUATION CRITERIA

Section 3.4.3 of the TAG identifies the following three types of in-street construction constraints that require further analysis to assess the effects of Project construction on the existing pedestrian, bicycle, transit, or vehicle circulation.

1. Temporary transportation constraints – potential effects on the transportation system
2. Temporary loss of access – potential effects on visitors entering and leaving sites
3. Temporary loss of bus stops or rerouting of bus lines – potential effects on bus travelers

The factors to be considered include the magnitude and duration of the temporary loss of access and transportation facilities, the potential inconvenience caused to users of the transportation system, and consideration for public safety. Construction activities could potentially interfere with pedestrian, bicycle, transit, or vehicle circulation and accessibility to adjoining areas. As detailed in Section 3.4.4 of the TAG, the proposed construction plans should be reviewed to determine whether construction activities would require any of the following actions within the public ROW:

- Street, sidewalk, or lane closures
- Blockage of existing vehicle, bicycle, or pedestrian access along a street or to parcels fronting the street
- Modification of access to transit stations, stops, or facilities during revenue hours

- Closure or movement of an existing bus stop or rerouting of an existing bus line
- Creation of transportation hazards

PROPOSED CONSTRUCTION SCHEDULE

The Project is anticipated to be constructed over a period of approximately 54 months, with anticipated completion in Year 2030. The construction period would include four Phases (A, B, C, and D), each with sub-phases of site demolition, excavation and grading, foundations, and building construction. Peak haul truck activity occurs during the excavation and grading phase of the South Site, and peak worker activity occurs during the overlapping building construction and paving phases for the North and South Sites. These sub-phases of construction were studied in greater detail.

EXCAVATION AND GRADING PHASE

The peak period of truck activity during construction of the Project would occur during the excavation and grading of the South Site.

Haul trucks would travel on approved truck routes designated within the City to the designated landfill. Haul truck traffic would take the most direct route from the Project Site to the appropriate freeway ramps to access the Pomona Freeway (SR 60). The haul route will be reviewed and approved by the City.

Based on projections compiled for the Project, the excavation and grading sub-phases for the South Site would occur over a 12-month period and would require up to 350 haul trucks per day. Thus, up to 700 daily truck trips (350 inbound, 350 outbound) are forecast to occur during the excavation and grading period of the South Site, with approximately 118 trips per hour (59 inbound, 59 outbound) uniformly over a typical six-hour haul period (i.e., not operating during commuter peak hours).

Transportation Research Circular No. 212, Interim Materials on Highway Capacity (Transportation Research Board, 1980) defines passenger car equivalency (PCE) for a heavy vehicle as the

number of through moving passenger cars to which it is equivalent based on the heavy vehicle's headway and delay-creating effects. Table 8 of *Transportation Research Circular No. 212* and Exhibit 12-25 of the HCM suggest a PCE of 2.0 for trucks. Assuming a PCE factor of 2.0, the 700 truck trips would be equivalent to 1,400 daily PCE trips. The 118 hourly truck trips would be equivalent to 236 PCE trips (118 inbound, 118 outbound) per hour.

In addition, a maximum of 65 construction workers would work at the Project Site during this phase. Assuming minimal carpooling amongst those workers, an average vehicle occupancy (AVO) of 1.135 persons per vehicle was applied, as provided in *CEQA Air Quality Handbook* (South Coast Air Quality Management District, 1993). Therefore, 65 workers would result in 58 vehicles inbound and 58 vehicles outbound on a daily basis during this phase.

With implementation of the Construction Management Plan (further described below), it is anticipated that almost all haul truck activity to and from the Project Site would occur outside of the morning and afternoon peak hours. In addition, as discussed in more detail in the following section, worker trips to and from the Project Site would also occur outside of the peak hours. Therefore, no significant peak hour construction traffic constraints are expected during the excavation and grading phase of construction.

BUILDING CONSTRUCTION AND PAVING PHASE

The traffic effects associated with construction workers depends on the number of construction workers employed during various phases of construction, as well as the travel mode and travel time of the workers. In general, the hours of construction typically require workers to be on-site before the weekday morning commuter peak period and allow them to leave before or after the afternoon commuter peak period (i.e., arrive at the site prior to 7:00 AM and depart before 4:00 PM or after 6:00 PM). Therefore, most, if not all, construction worker trips would occur outside of the typical weekday commuter peak periods.

According to construction projections prepared for the Project, the overlap of the building construction and paving subphases of construction for the North and South Site would employ the most construction workers, with a maximum of approximately 1,550 workers per day.

Assuming an AVO of 1.135 persons per vehicle, 1,550 workers would result in a total of 1,366 vehicles that would arrive and depart from the Project Site each day during Project construction. The estimated number of daily trips associated with the construction workers is approximately 2,732 (1,366 inbound and 1,366 outbound trips), but nearly all of those trips would occur outside of the peak hours, as described above. As such, the overlap of the building and paving sub-phases for the North and South Site would not cause a significant traffic effect at any of the study intersections.

During the entirety of construction activities, parking for construction workers would be secured either on-site or within off-site parking facilities. Restrictions against workers parking in the public ROW in the vicinity of (or adjacent to) the Project Site would be identified as part of the Construction Management Plan. Once the Project's parking structure is completed, parking for construction workers will be accommodated within the new parking structure.

POTENTIAL CONSTRAINTS ON ACCESS, TRANSIT, AND PARKING

Project construction is not expected to create hazards for roadway travelers, bus riders, or parkers, so long as commonly practiced safety procedures for construction are followed. Such procedures and other measures (e.g., to address temporary traffic control, lane closures, sidewalk closures, etc.) would be incorporated into the Construction Management Plan. The construction-related effects associated with access to other businesses and transit are anticipated to be less than significant, and the implementation of the Construction Management Plan described below would further reduce those effects.

Access

Construction activities would be primarily contained within the Project Site boundaries; however, it is expected that construction fences may encroach into the public ROW (e.g., sidewalks) and the parking lane on Central Avenue adjacent to the South Site would temporarily be utilized for construction. Temporary traffic controls would be provided to direct traffic and/or pedestrians safely around any closures, as required in the Construction Management Plan. Travel lanes would

be maintained along the Alameda Street, Gladys Avenue, and 4th Street Project frontages throughout the construction period and emergency access would not be impeded.

The use of the public ROW along Central Avenue adjacent to the South Site would require temporary re-routing of pedestrian and bicycle traffic, as the sidewalks fronting the Project Site would be closed. The Construction Management Plan would include measures to ensure pedestrian and bicycle safety along the affected sidewalks, bicycle facilities, and temporary walkways (e.g., use of directional signage, maintaining continuous and unobstructed pedestrian paths, and/or providing overhead covering).

Transit

All construction is expected to occur on-site apart from the parking lane adjacent to the South Site, which does not provide any transit stops; therefore, transit operations would not be affected. The existing bus stops at Alameda Street & 4th Street that serve LADOT DASH Route A and Montebello Bus Line 40 would be maintained during construction.

Parking

Parking is currently allowed on Central Avenue adjacent to the South Site. Construction would result in the temporary loss of approximately 12 four-hour metered parking spaces along the east side of Central Avenue. Coordination with LADOT will be included in the Construction Management Plan regarding any temporary loss of on-street parking spaces during construction.

CONSTRUCTION MANAGEMENT PLAN

A detailed Construction Management Plan, including haul routes and a staging plan, would be prepared and submitted to the City for review and approval prior to commencing construction. The Construction Management Plan would formalize how construction would be carried out and identify specific actions that would be required to reduce effects on the surrounding community. The Construction Management Plan shall be based on the nature and timing of the specific construction

activities and other projects in the vicinity of the Project Site, and shall include, but not be limited to, the following elements, as appropriate:

- Advance, bilingual notification of adjacent property owners and occupants of upcoming construction activities, including durations and daily hours of operation
- Prohibition of construction worker or equipment parking on adjacent streets
- Prohibition of haul truck staging on any streets adjacent to the Project, unless specifically approved as a condition of an approved haul route
- Scheduling of construction activities to reduce the effect on traffic flow on surrounding Arterial Streets
- Containment of construction activity within the Project Site boundaries
- Implementation of safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers
- Scheduling of construction-related deliveries, haul trips, etc., to occur outside the commuter peak hours
- Spacing of trucks so as to discourage a convoy effect
- Sufficient dampening of the construction area to control dust caused by grading and hauling and reasonable control at all times of dust caused by wind
- Maintenance of a log, available on the job site at all times, documenting the dates of hauling and the number of trips (i.e., trucks) per day
- Identification of a construction manager and provision of a telephone number for any inquiries or complaints from residents regarding construction activities posted at the site readily visible to any interested party during site preparation, grading, and construction

It is likely that Construction Management Plans of the Related Projects would also be submitted for approval to the City prior to the start of construction activities of each Related Project. As part of the LADOT and/or Los Angeles Department of Building and Safety established review process of Construction Management Plans, potential overlapping construction activities and proposed haul routes would be reviewed to minimize the effects of cumulative construction activities on any particular roadway.

Section 5E
Parking

This section provides an analysis of the proposed parking and the potential parking impacts of the Project.

PARKING SUPPLY

The Project would provide a total of 2,475 parking spaces on-site and at least 740 bicycle parking spaces. Parking for the Project would be provided via on-site parking facilities within each site.

VEHICLE PARKING CODE REQUIREMENTS

The parking requirements of the Project were calculated by applying the appropriate parking ratios from Section 12.21A.4 of the LAMC, as detailed in Table 15. The Project Site falls within the Central City Area as defined by the LAMC; therefore, parking ratios identified in Section 12.21A.4.(a) and (b) and Section 12.21A.4.(p) were applied to the residential and hotel uses, respectively. The commercial parking requirements for the Project are based on rates provided in LAMC Section 12.21A.4.(x)(3) for Projects within an Enterprise Zone.

As summarized in Table 15, the Project would require a total of 2,658 parking spaces. Per LAMC Section 12.21.A4, projects may replace up to 10% of residential and 30% of non-residential parking spaces with bicycle parking spaces at a rate of one automobile space per four bicycle parking spaces. The Project would replace up to 183 vehicular parking spaces with bicycle parking spaces; therefore, the required vehicle parking after bicycle parking reductions is 2,475 vehicle parking spaces. The Project's proposed 2,475 spaces meet the LAMC requirement for on-site parking supply.

BICYCLE PARKING CODE REQUIREMENTS

LAMC Section 12.21.A.16 details the bicycle parking requirements for new developments.

As shown in Table 16, the Project would require a total of 145 short-term and 595 long-term bicycle parking spaces. The Project's proposed 740 bicycle parking spaces meet the LAMC requirements for on-site bicycle parking supply.

TABLE 15
VEHICULAR CODE PARKING SUMMARY

Land Use	Size	Parking Rate	Parking Requirement
Retail and Restaurant [a]	101,088 sf	2 sp / 1,000 sf	203 sp
Office [a]	411,113 sf	2 sp / 1,000 sf	823 sp
Hotel [b]	68 rooms		
First 20 Guestrooms	*20 rooms*	1 sp / 2 rooms	10 sp
Next 20 Guestrooms	*20 rooms*	1 sp / 4 rooms	5 sp
Remaining Guestrooms	*28 rooms*	1 sp / 6 rooms	5 sp
Residential [b]	1,521 du		
≤ 3 Habitable Rooms	*1,156 du*	1 sp / 1 du	1,156 sp
> 3 Habitable Rooms	*365 du*	1.25 sp / 1 du	456 sp
Total Project Code Parking Requirement [c]			**2,658 sp**
Allowable Reductions for Bicycle Parking [d]		Bicycle Spaces	Vehicle Space Reduction
Residential	*8%*	501 sp	*(125) sp*
Hotel	*10%*	8 sp	*(2) sp*
Non-Residential	*5%*	225 sp	*(56) sp*
Total Project Code Parking Requirement with Bicycle Parking Reduction			**2,475 sp**

Notes
[a] Parking rates per LAMC Section 12.21.A4(x)(3) for commercial uses within a State Enterprise Zone. The 101,088sf restaurant/ retail does not include the additional 13,024 sf of outdoor dining/patio space, which does not count towards the LAMC calculation.
[b] Parking rates per LAMC Section 12.21A.4.(a)(b)(2a) and LAMC Section 12.21.A4(p) for residential and hotel uses within the Central City Parking District.
[c] The City's EV Parking Ordinance requires 30% of the total parking spaces to be designated as EV spaces capable of supporting future Electric Vehicle Supply Equipment (EVSE) and 10% of the total number of spaces to be Electric Vehicle Charging Stations (EVCS).
[d] Per LAMC Section 12.21.A4, bicycle parking spaces can replace up to 10% of required vehicle parking spaces within residential/ hotel buildings and up to 20% of required vehicle parking spaces within non-residential buildings at a rate of 1 vehicle space for every 4 bicycle spaces provided.

TABLE 16
BICYCLE CODE PARKING SUMMARY

Land Use	Size	Short-Term		Long-Term		Total
		Parking Rate [a]	Parking Requirement	Parking Rate [a]	Parking Requirement	
Retail and Restaurant [b]	101,088 sf	1 sp / 2,000 sf	51 sp	1 sp / 2,000 sf	51 sp	102 sp
Office	411,113 sf	1 sp / 10,000 sf	41 sp	1 sp / 5,000 sf	82 sp	123 sp
Hotel	68 rooms	1 sp / 10 rooms	7 sp	1 sp / 10 rooms	7 sp	14 sp
Residential	1,521 du					
1-25 units	25 du	1 sp / 10 units	3 sp	1 sp / 1 unit	25 sp	28 sp
26-100 units	75 du	1 sp / 15 units	5 sp	1 sp / 1.5 unit	50 sp	55 sp
101-200 units	100 du	1 sp / 20 units	5 sp	1 sp / 2 unit	50 sp	55 sp
200+ units	1,321 du	1 sp / 40 units	33 sp	1 sp / 4 unit	330 sp	363 sp
	Total		**145 sp**		**595 sp**	**740 sp**

Notes
[a] Bicycle parking rates per LAMC Section 12.21.A16.
[a] The 101,088sf restaurant/retail does not include the additional 13,024 sf of outdoor dining/patio space, which does not count towards the LAMC calculation.

Chapter 6

Summary and Conclusions

This study was undertaken to analyze the potential transportation impacts of the Project on the transportation system. The following summarizes the results of this analysis:

- The Project proposes 1,521 residential units, 68 hotel rooms, 411,113 sf of office, 45,266 sf of retail uses, 34,423 sf of high-turnover restaurant uses, and 34,423 sf of quality restaurant uses distributed among three sites (South, North and West Sites). The Project is anticipated to be completed in Year 2030.

- The Project would provide a total of 2,475 vehicle parking spaces and a total of 740 bicycle parking spaces, including both short-term and long-term spaces.

- Vehicular access to the Project Site would be provided via driveways along 4th Street, Central Avenue, Gladys Avenue, and Alameda Street.

- The Project would be consistent with the City's plans, programs, ordinances, and polices and would not generate any geometric design hazard impacts.

- The Project's primary TDM strategies included as part of the Project design features include:
    - Reduced parking supply
    - Parking cash-out
    - Bicycle share station
    - Provision of bicycle parking spaces

- The Project would not result in VMT impacts upon implementation of the TDM strategies as part of the Project design features and would not require mitigation.

- After accounting for vehicle trips generated by the existing cold storage warehouse use on the Project Site, the Project is estimated to generate 1,053 net new morning peak hour trips and 1,357 net new afternoon peak hour trips.

- The Project provides adequate internal circulation to accommodate vehicular, pedestrian, and bicycle traffic without impeding through traffic movements on City streets.

- The Project would meet LAMC-required vehicle and bicycle parking requirements and incorporate pedestrian and bicycle-friendly designs including wider sidewalks and open spaces.

- The addition of Project trips would not adversely affect any residential Local Streets.

- Construction travel to and from the Project Site would occur outside of the commuter morning and afternoon peak hours to the extent feasible and would not result in substantial interference. A Construction Management Plan would be prepared to ensure that construction impacts are less than significant.

References

2010 Bicycle Plan, A Component of the City of Los Angeles Transportation Element, Los Angeles Department of City Planning, adopted March 1, 2011.

2012 Developer Fee Justification Study, Los Angeles Unified School District, 2012.

Central City Community Plan, Los Angeles Department of City Planning, Updated September 2016.

CEQA Air Quality Handbook, South Coast Air Quality Management District, 1993.

CEQA Guidelines, California Code of Regulations, Title 14, Section 15000 and following.

City of Los Angeles VMT Calculator Documentation, Los Angeles Department of Transportation and Los Angeles Department of City Planning, May 2020.

City of Los Angeles VMT Calculator Version 1.3, Los Angeles Department of Transportation and Los Angeles Department of City Planning, July 2020.

Citywide Design Guidelines, Los Angeles City Planning Urban Design Studio, October 2019.

Connect SoCal – The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy, Southern California Association of Governments, Adopted September 2020.

Connect US Action Plan, Los Angeles County Metropolitan Transportation Authority, 2015.

Draft Downtown Los Angeles Community Plan, Los Angeles Department of City Planning, 2021.

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

Interim Guidance for Freeway Safety Analysis, Los Angeles Department of Transportation, May 1, 2020.

Los Angeles Municipal Code, City of Los Angeles.

Mobility Plan 2035, An Element of the General Plan, Los Angeles Department of City Planning, September 2016.

Plan for a Healthy Los Angeles: A Health and Wellness Element of the General Plan, Los Angeles Department of City Planning, March 2015.

Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association, 2010.

References, cont.

SCAG Regional Travel Demand Model and 2012 Model Validation, Southern California Association of Governments, March 2016.

State of California Senate Bill 743, Steinberg, 2013.

Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor's Office of Planning and Research, December 2018.

Transportation Assessment Guidelines, Los Angeles Department of Transportation, July 2020.

Transportation Research Circular No. 212, Interim Materials on Highway Capacity, Transportation Research Board, 1980.

Trip Generation Manual, 9th Edition, Institute of Transportation Engineers, 2012.

Trip Generation Manual, 10th Edition, Institute of Transportation Engineers, 2017.

Vision Zero: Eliminating Traffic Deaths in Los Angeles by 2025, City of Los Angeles, August 2015.

Appendix A

Memorandum of Understanding

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: Fourth & Central

Project Address: 400 S. Central Avenue, Los Angeles CA 90013

Project Description: The Project would include a mix of residential, office, restaurant/retail, and hotel uses within 10 distinct buildings over the three Sites. The Project would include 1,521 residential units, including affordable housing units, approximately 411,113 sf of office uses, approximately 101,008 sf of restaurant/retail uses, and 68 hotel rooms. The Project would demolish the existing surface parking and cold storage facility uses on the West and South Sites, respectively, and adaptively reuse a portion of six-story warehouse cold storage building on the North Site.

LADOT Project Case Number: _____ Project Site Plan attached? *(Required)* ■ Yes ☐ No

II. TRANSPORTATION DEMAND MANAGEMENT (TDM) MEASURES

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 Unbundled Parking
2 New Bike Share Station
3 _____
4 _____
5 _____
6 _____

III. TRIP GENERATION

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

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	640	501	1,141
PM Trips	598	693	1,291

NET Daily Vehicle Trips (DVT)
_____ DVT (ITE 10th ed.)
12,680 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: 2030 Ambient Growth Rate: 1 % Per Yr.

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

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

1 (See Table 1) 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	☑	☐	☐
*Project Vehicle Peak Hour trips at each study intersection	☑	☐	☐
*Project Vehicle Peak Hour trips at each project access point	☑	☐	☐
*Project trip distribution percentages at each study intersection	☑	☐	☐
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	☑	☐	☐
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 *(See Table 4)*

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.

IX. CONTACT INFORMATION

	CONSULTANT	DEVELOPER
Name:	Gibson Transportation Consulting, Inc.	CP LA Cold Storage Land, LLC
Address:	555 W. 5th St., Suite 3375, Los Angeles, CA 90013	1881 16th Street, Suite 500, Denver, CO 80202
Phone Number:	(213) 683-0088	(720) 946-4649
E-Mail:	ewong@gibsontrans.com	roger.pecsok@continuumpartners.com

Approved by:	X _____ Consultant's Representative	11-23-2021 Date	X _____ LADOT Representative	12/15/21 **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.

LADOT

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: Fourth & Central

Project Address: 400 S. Central Avenue, Los Angeles CA 90013

Project Description: The Project would include a mix of residential, office, restaurant/retail, and hotel uses within 10 distinct buildings over the three Sites. The Project would include 1,521 residential units, including affordable housing units, approximately 411,113 sf of office uses, approximately 101,008 sf of restaurant/retail uses, and 66 hotel rooms. The Project would demolish the existing surface parking and cold storage facility uses on the West and South Sites, respectively, and adaptively reuse a portion of six-story warehouse cold storage building on the North Site.

LADOT Project Case Number: _____

II. PEDESTRIAN/ PERSON TRIP GENERATION

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

	Land Use	Size/Unit	Daily Person Trips
Proposed	To Be Provided		
	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)
- Existing or proposed passenger loading zones
- pedestrian generation/distribution values
  - Geographic Distribution: N 35 % S 20 % E 20 % W 25 %
- 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:

4th St, Central Avenue, Alameda St at 0 (feet)

5th Street at 450 (feet)

6th Street at 966 (feet)

San Pedro Street at 1,190 (feet)

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

- 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.

_____(feet) at (See Table 3)

_____(feet) at _____

_____(feet) at _____

_____(feet) at _____

_____(feet) at _____

_____(feet) at _____

_____(feet) at _____

_____(feet) at _____

_____(feet) at _____

_____(feet) at _____

_____(feet) at _____

_____(feet) at _____

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?

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

TABLE 1
STUDY INTERSECTIONS

No.	N/S Steet	E/W Street
1.	San Pedro Street	3rd Street
2.	San Pedro Street	4th Street
3.	San Pedro Street	5th Street
4.	Central Avenue	1st Street
5.	Central Avenue	2nd Street
6.	Central Avenue	3rd Street
7.	Central Avenue	4th Street
8.	Central Avenue	5th Street/Project South Site Driveway
9.	Central Avenue	6th Street
10.	Central Avenue	7th Street
11.	Alameda Street	1st Street
12.	Alameda Street	2nd Street
13.	Alameda Street	3rd Street/4th Place
14.	Alameda Street	4th Street
15.	Alameda Street	6th Street
16.	Alameda Street	7th Street
17. [a]	Hewitt Street	4th Street/4th Place
18.	Merrick Street/Molino Street	4th Street

Notes:
[a] Intersection is unsignalized.

TABLE 2
PROJECT TRIP GENERATION ESTIMATES

Land Use	ITE Land Use Code	Size	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
TRIP GENERATION RATES [a]								
Warehousing	150	per ksf	77%	23%	0.17	27%	73%	0.19
High-Cube Cold Storage Warehouse	157	per ksf	[b]	[b]	0.11	[b]	[b]	0.12
Multifamily Housing (Mid-Rise)	[c]	per du	26%	74%	0.31	61%	39%	0.30
Multifamily Housing (High-Rise)	[c]	per du	24%	76%	0.23	61%	39%	0.30
Hotel	310	per room	59%	41%	0.47	51%	59%	0.60
General Office Building	710	per ksf	86%	14%	1.16	16%	84%	1.15
Shopping Center	820	per ksf	62%	38%	0.94	48%	52%	3.81
High-Turnover Restaurant	932	per ksf	55%	45%	9.94	62%	38%	9.77
TRIP GENERATION ESTIMATES								
Proposed Project								
Residential (Mid-Rise)	221	335 du	27	77	104	62	39	101
Residential (High-Rise)	222	1,186 du	66	207	273	217	139	356
Hotel	310	68 rooms	19	13	32	21	20	41
Less 10% Transit/Walk-In	[d]		*(2)*	*(1)*	*(3)*	*(2)*	*(2)*	*(4)*
Office	710	411,113 sf	410	67	477	76	397	473
Less 10% Transit/Walk-In	[d]		*(41)*	*(7)*	*(48)*	*(8)*	*(40)*	*(48)*
Commercial - Retail	820	50,544 sf	30	18	48	93	100	193
Less 10% Internal Capture	[e]		*(3)*	*(2)*	*(5)*	*(9)*	*(10)*	*(19)*
Less 10% Transit/Walk-In	[d]		*(3)*	*(2)*	*(5)*	*(8)*	*(9)*	*(17)*
Less 40% Pass-by	[f]		*(10)*	*(6)*	*(16)*	*(30)*	*(32)*	*(62)*
Commercial - Restaurant	932	50,544 sf	276	226	502	306	188	494
Less 10% Internal Capture	[e]		*(28)*	*(23)*	*(51)*	*(31)*	*(19)*	*(50)*
Less 10% Transit/Walk-In	[d]		*(25)*	*(20)*	*(45)*	*(28)*	*(17)*	*(45)*
Less 20% Pass-by	[f]		*(45)*	*(37)*	*(82)*	*(49)*	*(30)*	*(79)*
TOTAL PROPOSED PROJECT TRIPS			**671**	**510**	**1,181**	**610**	**724**	**1,334**
Existing Uses to be Removed								
Cold Storage Warehouse	157	360,734 sf	31	9	40	12	31	43
TOTAL NET NEW PROJECT TRIPS			**640**	**501**	**1,141**	**598**	**693**	**1,291**

Notes

[a] Source: *Trip Generation Manual, 10th Edition* , Institute of Transportation Engineers, 2017.

[b] No inbound/outbound splits are provided in *Trip Generation Manual, 10th Edition* for High-Cube Cold Storage Warehouse (ITE 157) uses. Therefore, the splits for Warehouse (150) uses were utilized.

[c] Per LADOT's *Transportation Assessment Guidelines,* the morning and afternoon trip rates are based on Multi-Family High-Rise and Mid-Rise rates for Dense Multi-Use Urban Areas. These rates are not subjected to any transit/walk-in adjustment.

[d] The Project SIte is located within 0.5 miles of the Metro Gold Line Little Tokyo/Arts District Station, therefore, a 10% transit reduction is applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments.

[e] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development (i.e. between residents and commercial uses) without using an off-site road system.

[f] Pass-by adjustments account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

TABLE 3
RELATED PROJECTS

No.	Project	Address	Description	Trip Generation [a]						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
1.	Retail/Restaurant	201 S Broadway	27,765 sf retail/restaurant	0	(40)	(41)	(81)	53	17	70
2.	LA Civic Center Office	150 N Los Angeles St	712,500 sf office, 35,000 sf retail, 2,500 sf child care	13,534	930	118	1,048	435	942	1,374
3. [b]	Office	540 S Santa Fe Ave	65,812 sf office	726	90	12	102	17	81	98
4. [b]	Mixed-Use	400 S Broadway	450 apartment units, 10,000 sf retail, 5,000 sf bar	2,266	36	147	183	139	73	212
5. [b]	Santa Fe Freight Yard Redevelopment	950 E 3rd St	532-student school, 30,062 sf retail, 635 apartment units	6,372	162	177	339	245	213	458
6.	SB Omega Mixed-Use	601 S Main St	452 apartment units 25,000 sf retail	2,686	36	144	179	152	87	238
7.	Mixed-Use	1147 E Palmetto St	120 apartment units, 141 hotel rooms, 20,000 sf restaurant	2,908	73	141	215	147	83	230
8. [b]	Mixed-Use (Coca Cola)	963 E. 4th St	75,000 sf office, 25,000 sf retail, 20,000 sf restaurant	2,512	106	22	128	113	138	251
9.	Metro Emergency Security Operations Center	410 N Center St	110,000 sf office	1,165	87	0	87	0	79	79
10.	Spring St Hotel	633 Spring St	176 hotel rooms, 5,290 sf bar, 8,430 sf restaurant	2,045	83	33	116	97	99	196
11.	Retail (Palmetto & Mateo)	555 S Mateo St	153,000 sf retail OR 130,000 sf retail, 50,000 sf office	4,300	5	30	35	220	205	425
12.	Lotus 77 Apartments	118 S. Astronaut e.s. Onizuka St	77 apartment units	97	(1)	20	19	19	6	25
13.	Mixed-Use	360 S Alameda St	55 apartment units, 2,500 sf restaurant, 6,300 sf office	670	25	33	58	35	26	61
14.	Medallion Phase 2	300 S Main St	471 apartment units, 27,780 sf restaurant, 5,190 sf retail	4,691	143	243	386	257	153	410
15.	Arts District Center (Mixed-Use)	1129 E 5th St	27,000 sf retail, 32,000 sf restaurant, 113-room hotel, 129 apartment units, and 2,400 sf art gallery	4,713	133	140	273	157	72	229
16. [b]	Restaurant	500 S Mateo St	12,882 sf restaurant	1,052	48	41	89	50	31	81
17.	Camden Arts Mixed-Use	1525 E Industrial St	240 apartment units, 7,165 sf retail, 4,110 sf restaurant	1,729	37	59	96	69	44	113
18. [b]	Clinic at 7th & Wall	649 S Wall St	66 emp medical office, 55 assisted living beds	104	24	5	29	3	24	27
19. [b]	1745 E 7th Street	1745 E 7th St	57 apartment units, 6,000 sf commercial	635	10	25	35	34	23	57
20.	Mixed Use	719 E 5th St	160 apartment units 10,057 sf retail	1,033	15	58	73	59	37	96

Notes

[a] Source: Related project (within a 0.75-mile radius) information based on available information provided by LADOT (September 22, 2021) , Department of City Planning, and recent studies in the area.

[b] Although construction of the related project may be partially complete/entirely complete, the project was not fully occupied at the time of the NOP or when traffic counts were conducted. Therefore, the related project was considered and listed to provide a more conservative analysis.

TABLE 3 (cont.)
RELATED PROJECTS

No.	Project	Address	Description	Trip Generation [a]						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
21.	Mixed-Use (Private Club)	929 E 2nd St	42,019 sf retail, 18,261 sf event space, 40,249 sf office, 5,383 sf health club	2,014	61	9	70	101	88	189
22.	7th & Maple Mixed-Use	701 S Maple Ave	452 apartment units, 6,801 sf retail, 6,803 sf restaurant	3,199	67	179	246	185	105	290
23.	520 Mateo	520 Mateo St	600 live-work units, 10,000 sf museum, 20,000 sf office, 15,000 sf retail, 15,000 sf restaurant	4,995	157	220	377	274	223	497
24.	Mixed Use (Revised)	1800 E 7th St	122 apartment units 13,600 sf office	816	26	45	71	45	37	82
25.	Mixed-Use	755 S Los Angeles St	60,243 sf office, 26,959 sf restaurant, 16,694 sf retail	2,842	110	57	167	105	100	205
26.	330 S Alameda St Mixed-Use	330 S Alameda St	186 live-work apartment units, 10,415 sf office, 11,925 sf retail	1,662	36	76	112	91	65	156
27.	688 S Alameda St Mixed-Use	688 S Alameda St	475 live-work apartment units, 34,000 sf live-work office, 9,000 sf office, 41,000 sf commercial	4,004	120	184	304	215	153	368
28.	Southern California Flower Market Project	755 S Wall St	323 apartment units, 4,400 sf retail, 4,420 sf restaurant, 53,200 sf office	2,499	112	79	191	164	141	305
29.	MU (Little Tokyo Galleria)	333 S Alameda St	994 apartment units and 99,300 sf commercial	8,445	134	260	394	390	329	719
30.	940 E 4th Street	940 E 4th St	93 live/work units and 20,248 sf commercial	788	14	37	51	44	31	75
31. [b]	ROW DTLA Mixed-Use	777 S Alameda St	850,400 sf office, 117,400 sf restaurant, 66,200 sf retail, and 125 hotel rooms	916	(134)	(172)	(306)	(157)	35	(122)
32.	Mixed-Use	930 E 6th St	236 apartment units and 12,000 sf commercial	1,074	17	79	96	70	32	102
33. [b]	Restaurant/Bar	806 E 3rd St	18,327 sf restaurant	253	1	(1)	0	13	7	20
34.	6AM	1206-1338 E 6th St/1205-1321 Wholesale St	514-room hotel, 1,736 dwelling units, 316,632 sf warehouse, 253,514 sf office, 45,278 sf restaurant, 82,332 sf retail, 300 student enrollment and 22,429 sf art museum	14,258	437	585	1,022	710	642	1,352
35.	333 W 5th St	333 W 5th St	190 hotel rooms, 31 apartment units, and 29,232 sf commercial uses	2,809	73	49	122	126	100	226
36.	Mixed-Use (Times Mirror Square)	100 S Broadway	1,127 apartment units, 285,088 sf office, 50,000 sf supermarket, and 75,589 sf restaurant	8,535	94	341	435	294	38	332
37.	656 S Stanford Ave	656 S Stanford Ave	82 apartment units	545	8	33	41	33	18	51
38.	Weingart Tower - Affordable Housing	554 S San Pedro St	378 affordable / 4-market-rate apartment units, 1,758 sf retail, 4,410 sf office, and 5,932 sf flex	629	30	29	59	31	32	63
39.	600 S San Pedro St	600 S San Pedro St	303 apartment units and 19,909 sf commercial	636	38	25	63	30	37	67
40.	4th & Spring Hotel	361 S Spring St	315 hotel rooms and 2,000 sf meeting space	1,164	81	53	134	84	85	169

Notes

[a] Source: Related project (within a 0.75-mile radius) information based on available information provided by LADOT (September 22, 2021) , Department of City Planning, and recent studies in the area.

[b] Although construction of the related project may be partially complete/entirely complete, the project was not fully occupied at the time of the NOP or when traffic counts were conducted. Therefore, the related project was considered and listed to provide a more conservative analysis.

TABLE 3 (cont.)
RELATED PROJECTS

No.	Project	Address	Description	Trip Generation [a]						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
41.	Palmetto	527 S Colyton St	310 apartment units, 11,375 sf commercial, and 11,736 sf production space	2,095	36	116	152	121	74	195
42.	Mixed-Use	609 E 5th St	151 apartment units	1,004	15	62	77	61	33	94
43.	Residential	713 E 5th St	51 apartment units	208	15	10	25	9	8	17
44. [b]	Mixed-Use	810 E 3rd Street	4 live/work units, 6,171 sf retail, 3,047 sf bar, and 494 sf restaurant	1,487	37	32	69	87	48	135
45.	Mixed-Use	640 S Santa Fe Ave	91,185 sf office, 9,430 sf retail, and 6.550 sf restaurant	1,330	90	8	98	43	114	157
46.	508 E 4th St	508 E 4th St	41 apartment units	167	8	12	20	8	6	14
47. [b]	Hellman / Banco Building	354 S Spring St	212 apartment units	1,410	22	86	108	85	46	131
48.	220 N Center Street	220 N Center St	430 apartment units and 8,742 sf retail	2,166	33	119	152	121	79	200
49. [b]	Budokan of Los Angeles	237 S Los Angeles St	43,453 sf sports complex	1,869	79	50	129	161	98	259
50.	641 Imperial Street	641 Imperial St	140 live/work units and 14,700 sf office	1,093	34	60	94	61	48	109
51.	Office, Restaurant	431 S Colyton St	97,577 sf office, 10,739 sf restaurant, 1,977 sf fast-food restaurant	1,524	80	18	98	60	95	155
52.	Continental Building Hotel	408 S Spring St	140-room hotel	354	15	17	32	11	14	25
53.	Mixed-Use	433 S Main St	196 apartment units, 6,000 sf retail, 9,000 sf coffee shop	1,473	33	72	105	61	38	100
54.	Tribune (LA Times) South Tower Project	222 W 2nd St	680 apartment unts, 10,000 sf retail	3,478	53	200	253	205	116	321
55.	4th & Hewitt	405 S Hewitt St	255,514 sf office, 4,970 sf retail, 9,940 sf restaurant, and 7,800 sf museum	3,493	365	76	441	100	324	424
56.	Mixed-Use	1340 E 6th St	170 apartment units and 16,518 sf retail	530	(91)	16	(75)	10	(67)	(57)
57.	3rd & Spring MU	121 W 3rd St	294 apartment units, 38 affordable housing units, and 6,350 sf retail/restaurant	1,198	37	90	127	93	46	149
58.	1100 5th Mixed-Use	1100 E 5th St	220 live/work units, 4,350 sf live/work office, 17,810 sf office, 19,609 sf restaurant, and 9,129 sf retail	2,556	78	107	185	130	80	210
59.	676 Mateo Mixed-Use	676 S Mateo St	185 apartment units, 3,900 sf office, 15,005 sf restaurant, and 8,375 sf retail	1,991	64	81	145	100	68	168
60.	414 Crocker St Mixed-Use Project	414 S Crocker St	180 apartment units, 5,516 sf retail, and 4,081 sf office	N/A	30	36	66	32	32	66

Notes

[a] Source: Related project (within a 0.75-mile radius) information based on available information provided by LADOT (September 22, 2021) , Department of City Planning, and recent studies in the area.

[b] Although construction of the related project may be partially complete/entirely complete, the project was not fully occupied at the time of the NOP or when traffic counts were conducted. Therefore, the related project was considered and listed to provide a more conservative analysis.

TABLE 3 (cont.)
RELATED PROJECTS

No.	Project	Address	Description	Trip Generation [a]						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
61. [c]	Low Income Housing Development	130 N Judge John Aiso St	Four apartment units and 224 low-income housing units	943	45	69	114	43	35	78
62. [c]	Residential	216 S Spring St	120 apartment units and gorund-floor retail	878	13	42	55	37	22	59
63. [c]	Office	655 S Mesquit St	184,629 sf office and 4,325 sf retail	1,867	185	31	216	37	181	218
64.	670 Mesquit	670 S Mesquit St	236 hotel rooms, 308 apartment units, 79,240 sf retail, 89,576 sf restaurant, 93,617 sf event space, 62,148 sf gym, 56,912 sf grocery, and 944,055 sf office	26,489	1,513	451	1,964	698	1,316	2,014
65.	Mixed-Use	826 S Mateo St	90 live/work units, 11,000 sf retail, and 5,600 sf restaurant	1,267	11	34	45	62	39	101
66.	Rendon Hotel	2053-2057 E 7th St	103 hotel rooms	732	24	17	41	27	26	53
67. [b]	Mixed-Use	2051 E 7th St	320 apartment units, 15,000 sf retail, and 5,000 sf restaurant	2,310	17	127	144	145	64	209
68. [b]	225 S Los Angeles St	225 S Los Angeles St	300 condominium units and 3,400 sf retail	1,910	88	136	224	75	52	126
69. [b]	534 S Main St	534 S Main St	160 apartment units, 18,000 sf retail, 3,500 sf restaurant, and 3,500 sf fast-food restaurant	2,213	52	75	127	87	58	145
70. [b]	732 S Spring St	732 S Spring St	308 apartment units and 7,202 sf pharmacy/drugstore	3,359	59	152	211	164	104	268
71. [b]	737 S Spring St	737 S Spring St	320 apartment units and 25,000 sf pharmacy/drugstore	3,942	72	141	213	167	116	283
72.	340 S Hill St	340 S Hill St	406 apartment units, 22 affordable units, 2,980 sf office, and 2,630 sf retail	2,253	36	129	165	133	75	208

Notes

[a] Source: Related project (within a 0.75-mile radius) information based on available information provided by LADOT (September 22, 2021) , Department of City Planning, and recent studies in the area.

[b] Although construction of the related project may be partially complete/entirely complete, the project was not fully occupied at the time of the NOP or when traffic counts were conducted. Therefore, the related project was considered and listed to provide a more conservative analysis.

[c] Trip generation estimated using rates from Trip Generation, 10th Edition, Institute of Transportation Engineers, 2017.

TABLE 4
DISTANCE BETWEEN CROSSING CONTROL DEVICES

Distance (feet)	Street Name	Limits
450	2nd Street	between Central Avenue & Alameda Street
510	3rd Street	between Omar Street & Central Avenue
490	3rd Street	between Central Avenue & Alameda Street
860	4th Street	between San Pedro Street & Towne Avenue
390	4th Street	between Towne Avenue & Central Avenue
515	4th Street	between Central Avenue & Alameda Street
1,180	4th Street	between Alameda Street & Merrick Street
710	5th Street	between San Pedro Street & Towne Avenue
310	6th Street	between Towne Avenue & Mid-Block Crossing
255	6th Street	between Mid-Block Crossing & Gladys Avenue
795	6th Street	between Gladys Avenue & Central Avenue
560	6th Street	between Central Avenue & Alameda Street
325	San Pedro Street	between 4th Street & Mid-Block Crossing
330	San Pedro Street	between Mid-Block Crossing & 5th Street
635	Towne Avenue	between 4th Street & 5th Street
815	Towne Avenue	between 5th Street & 6th Street
610	Central Avenue	between 2nd Street & 3rd Street/4th Place
845	Central Avenue	between 3rd Street/4th Place & 4th Street
730	Central Avenue	between 4th Street & 5th Street
1,017	Central Avenue	between 5th Street & 6th Street
590	Alameda Street	between 2nd Street & 3rd Street
822	Alameda Street	between 3rd Street & 4th Street
1,860	Alameda Street	between 4th Street & 6th Street

TABLE 5
FREEWAY OFF-RAMP SCREENING PROCESS

Freeway Off-Ramp	Peak Hour	Project Traffic	Meets Screening Criteria? [a]
US-101 Northbound			
Off-ramp to Alameda Street	AM PM	8 7	NO NO
US-101 Southbound			
Off-ramp to Los Angeles Street	AM PM	48 29	YES YES
Off-ramp to Commercial Street	AM PM	5 7	NO NO
Off-ramp to 4th Street	AM PM	12 9	NO NO
I-5 Northbound			
Off-ramp to 4th Street	AM PM	33 23	NO NO
Off-ramp to 7th Street	AM PM	9 17	NO NO
I-5 Southbound			
Off-ramp to 4th Street	AM PM	41 33	YES YES
I-10 Eastbound			
Off-ramp to Alameda Street	AM PM	26 17	NO NO
Off-ramp to Central Avenue	AM PM	28 21	NO NO

Notes

[a] Based on *Interim Guidance for Freeway Safety Analysis* (LADOT, 2020), a transportation assessment for a development project must include analysis of any freeway off-ramp where a project adds 25 or more peak hour trips.



Source: Studio One Eleven. April, 2021.

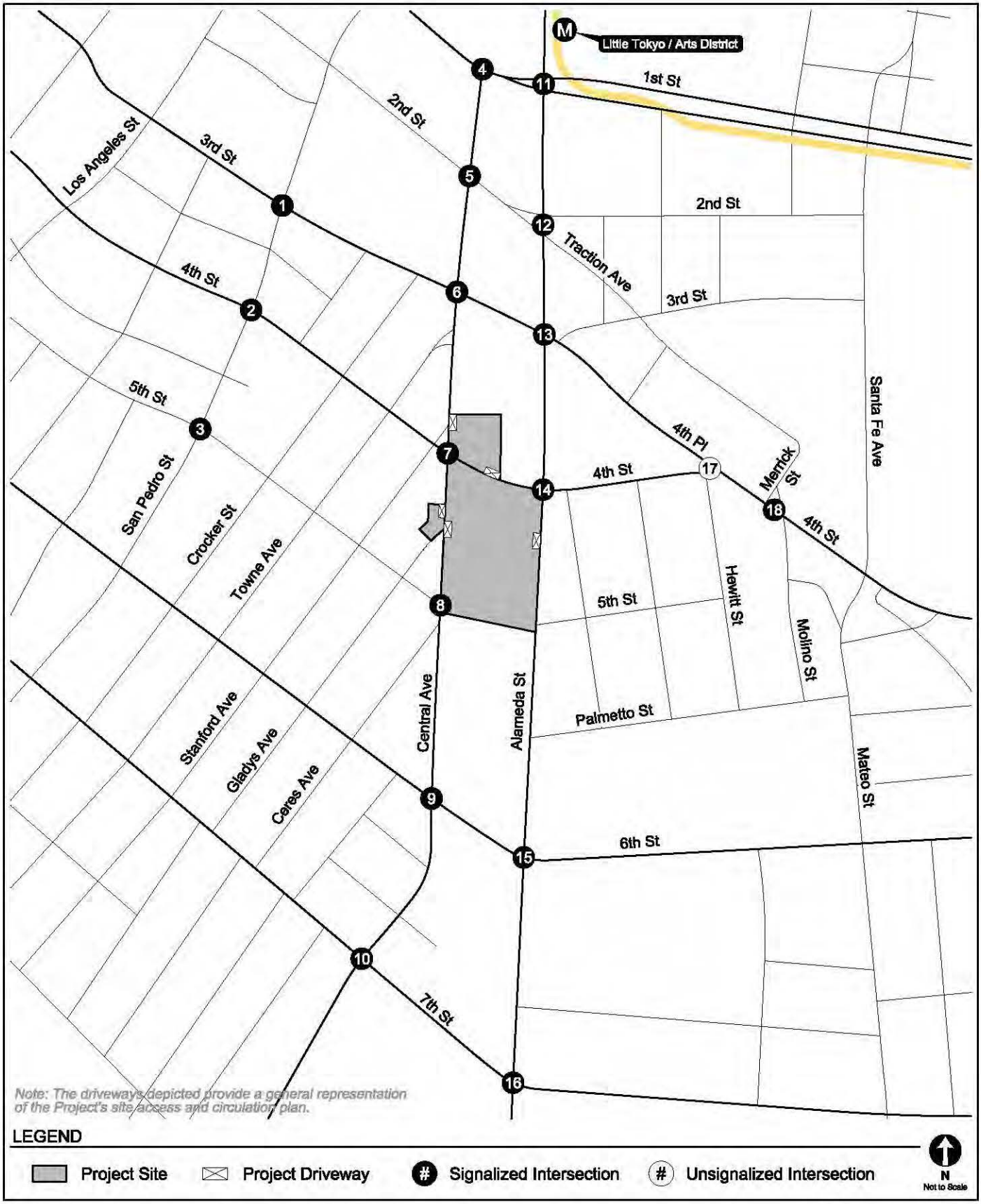
PROJECT SITE PLAN

FIGURE 1



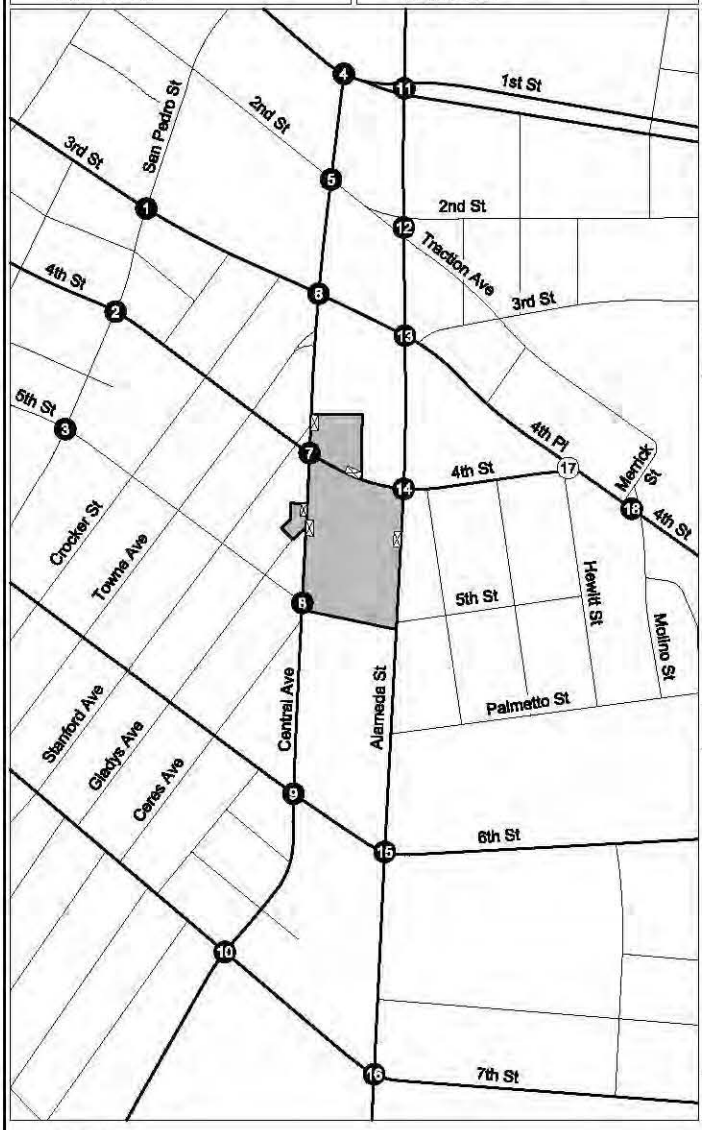
PROJECT SITE LOCATION

FIGURE 2

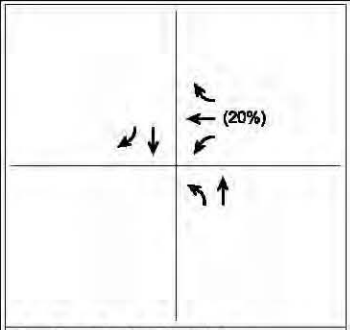


STUDY AREA & ANALYZED INTERSECTIONS

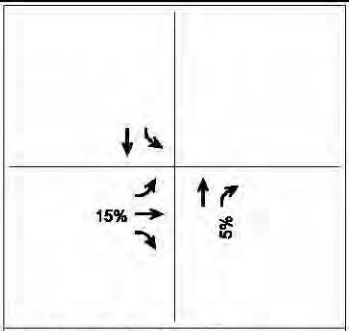
FIGURE 3



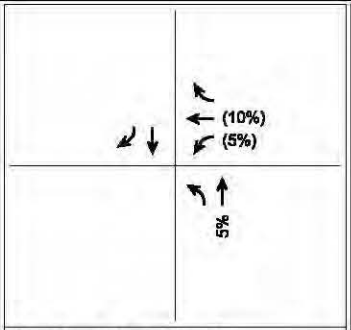
1. San Pedro Street & 3rd Street



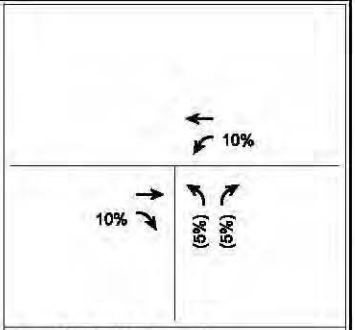
2. San Pedro Street & 4th Street



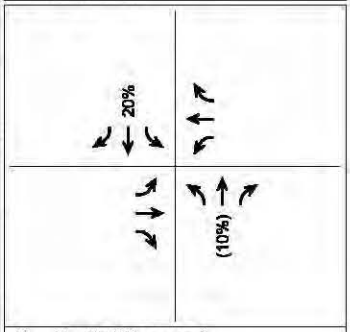
3. San Pedro Street & 5th Street



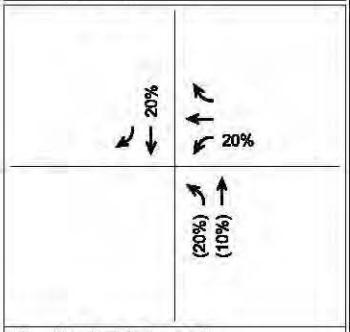
4. Central Avenue & 1st Street



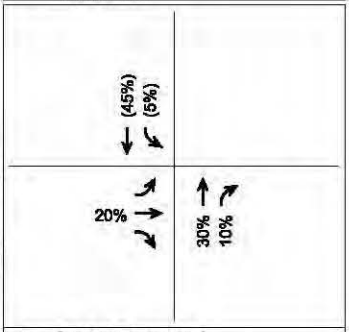
5. Central Avenue & 2nd Street



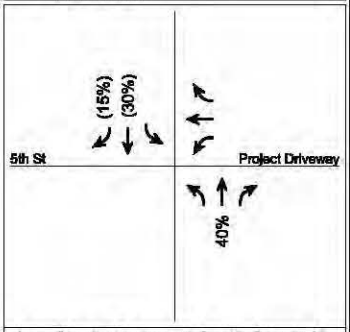
6. Central Avenue & 3rd Street



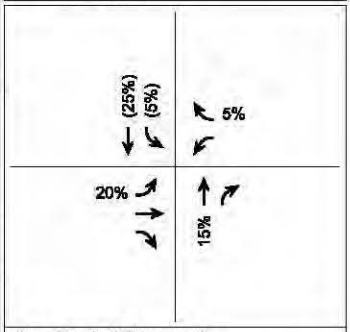
7. Central Avenue & 4th Street



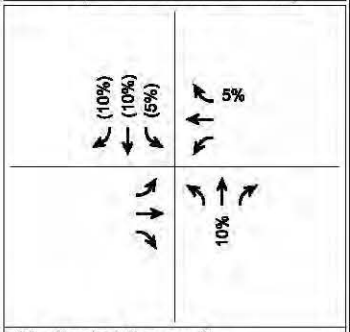
8. Central Avenue & 5th Street / Project South Site Driveway



9. Central Avenue & 6th Street



10. Central Avenue & 7th Street



LEGEND

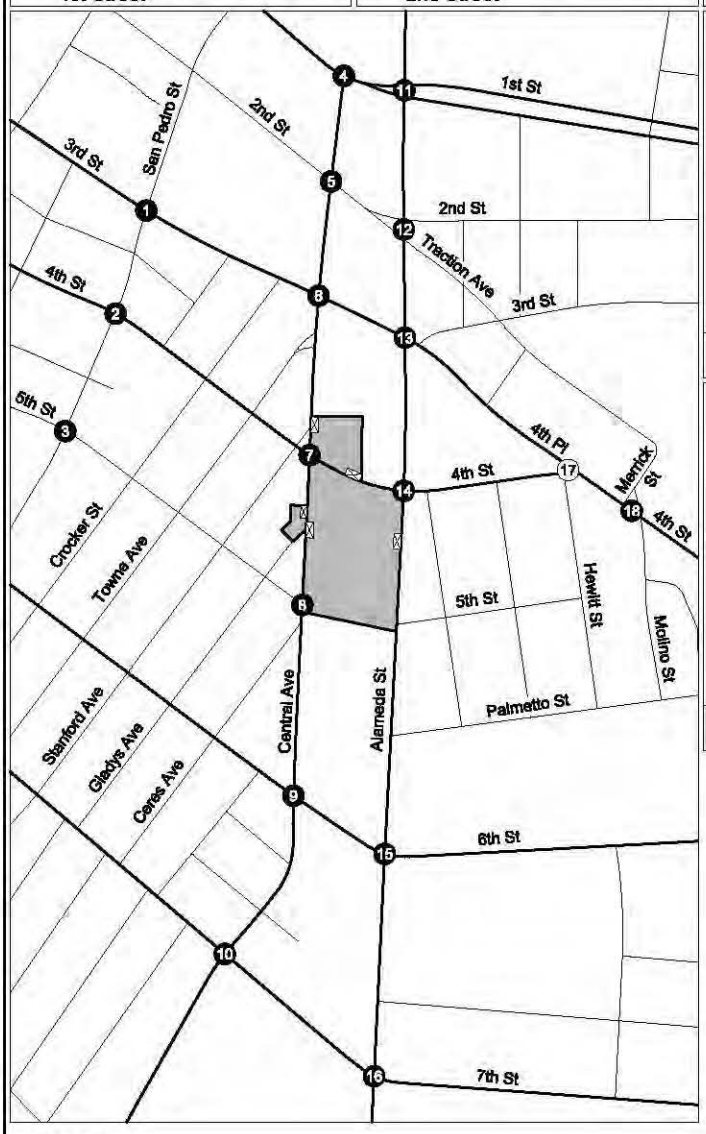
- Project Site
- Project Driveway
- Signalized Intersection
- Unsignalized Intersection

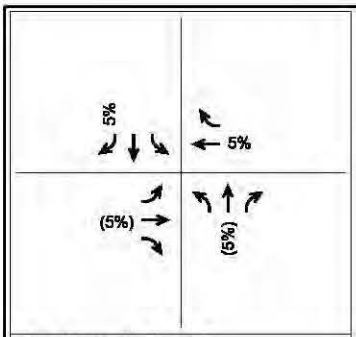
%(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

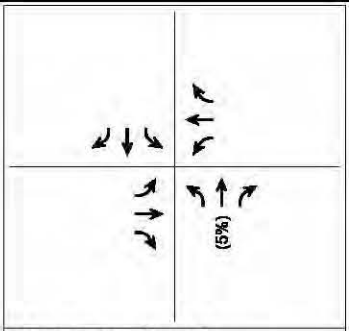
PROJECT TRIP DISTRIBUTION
NORTH SITE - COMMERCIAL

FIGURE 4A

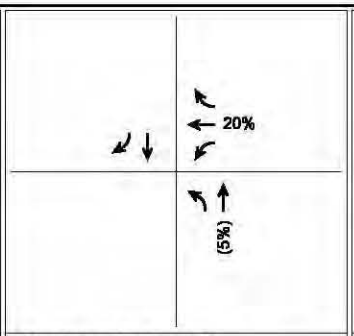




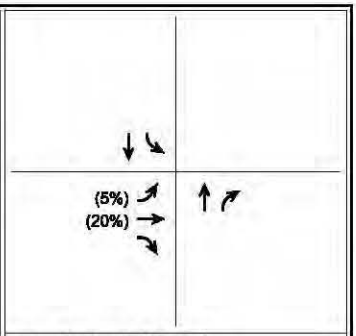
11. Alameda Street & 1st Street



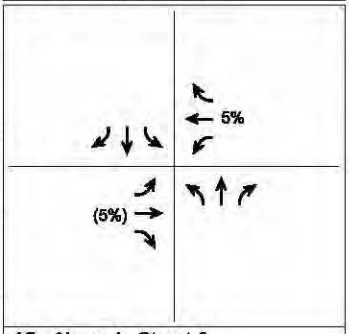
12. Alameda Street & 2nd Street



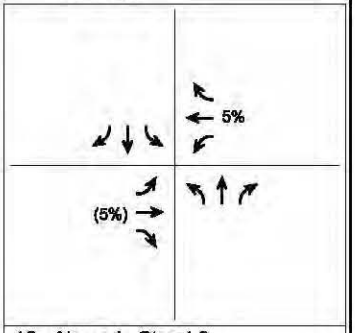
13. Alameda Street & 3rd Street / 4th Place



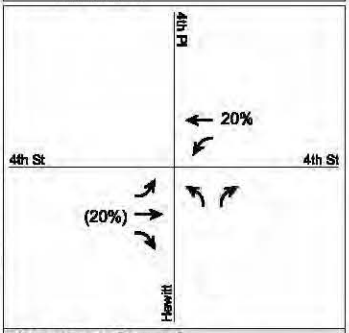
14. Alameda Street & 4th Street



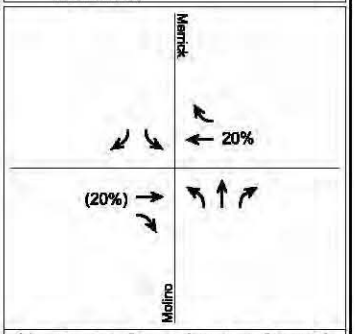
15. Alameda Street & 6th Street



16. Alameda Street & 7th Street



17. Hewitt Street & 4th Street / 4th Place



18. Merrick Street / Molino Street & 4th Street

LEGEND

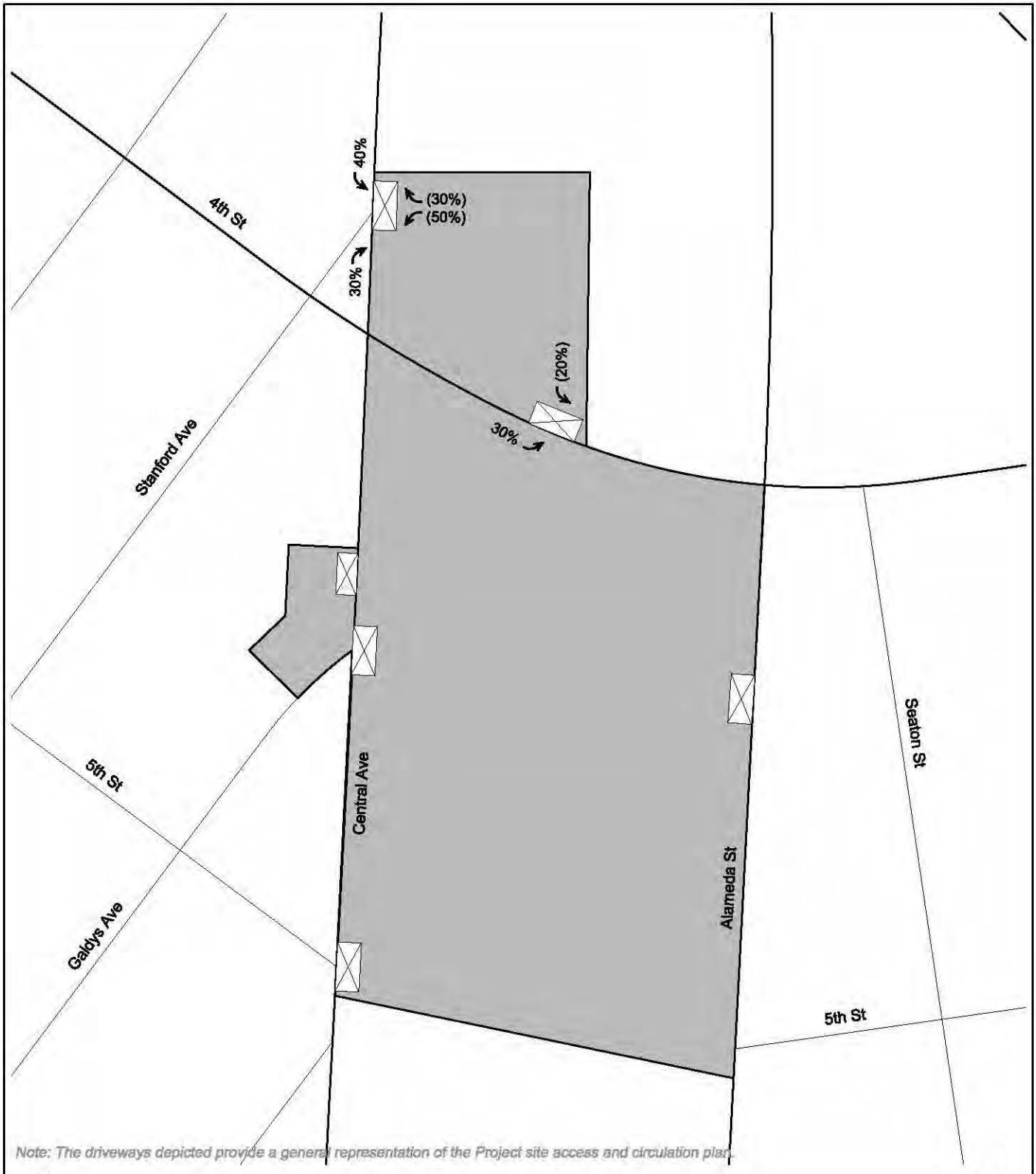
- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection

%(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

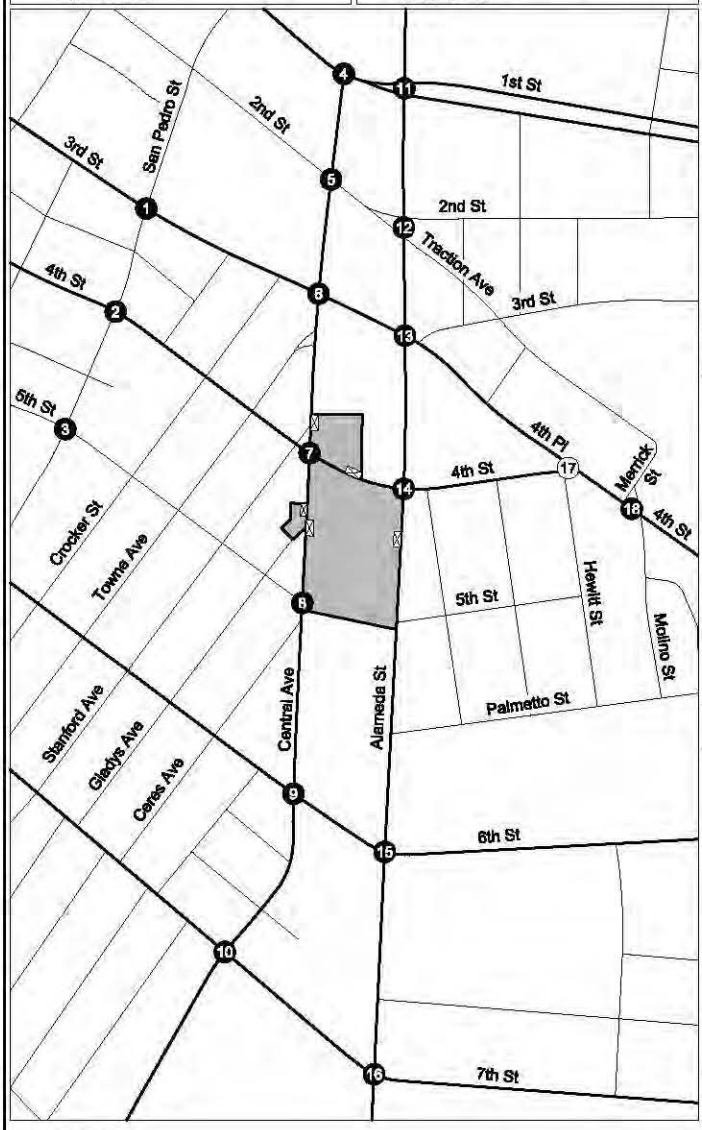
PROJECT TRIP DISTRIBUTION
NORTH SITE - COMMERCIAL

FIGURE
4A (CONT.)

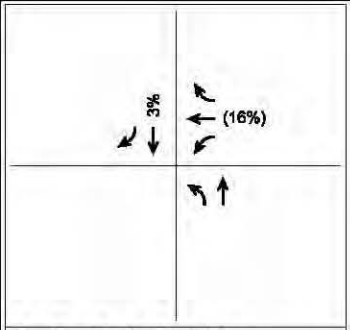


PROJECT DRIVEWAY TRIP DISTRIBUTION
NORTH SITE - COMMERCIAL

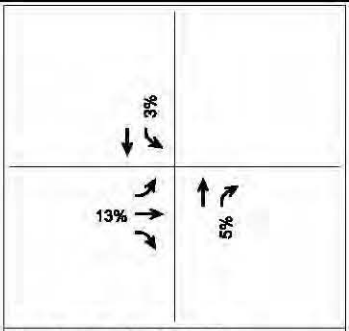
FIGURE
4A (CONT.)



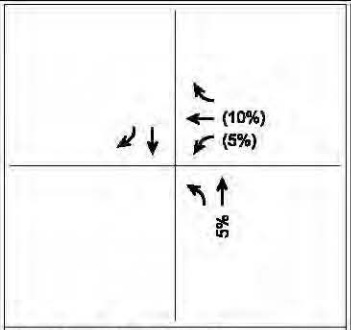
1. San Pedro Street & 3rd Street



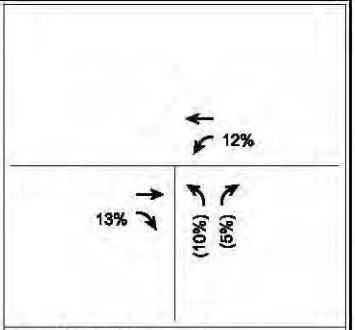
2. San Pedro Street & 4th Street



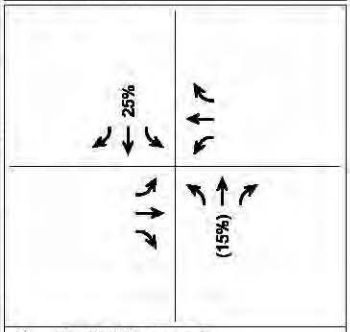
3. San Pedro Street & 5th Street



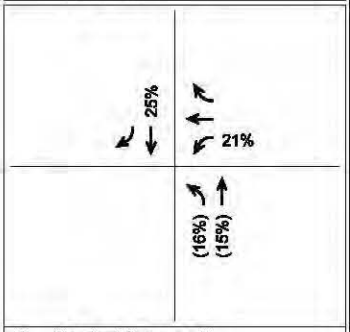
4. Central Avenue & 1st Street



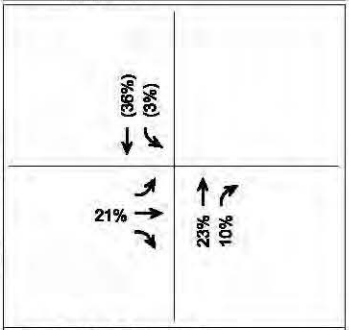
5. Central Avenue & 2nd Street



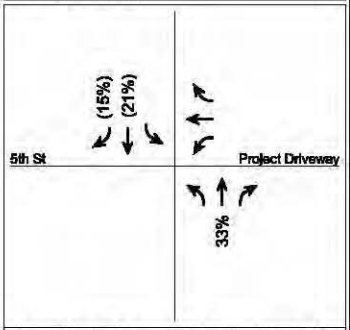
6. Central Avenue & 3rd Street



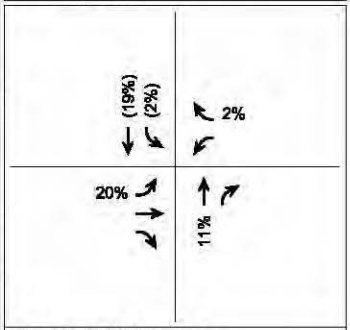
7. Central Avenue & 4th Street



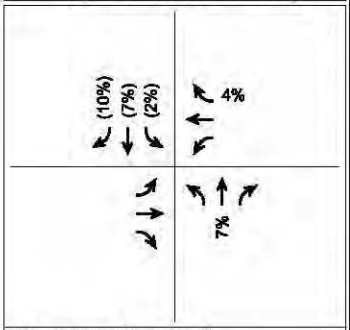
8. Central Avenue & 5th Street / Project South Site Driveway



9. Central Avenue & 6th Street



10. Central Avenue & 7th Street



LEGEND

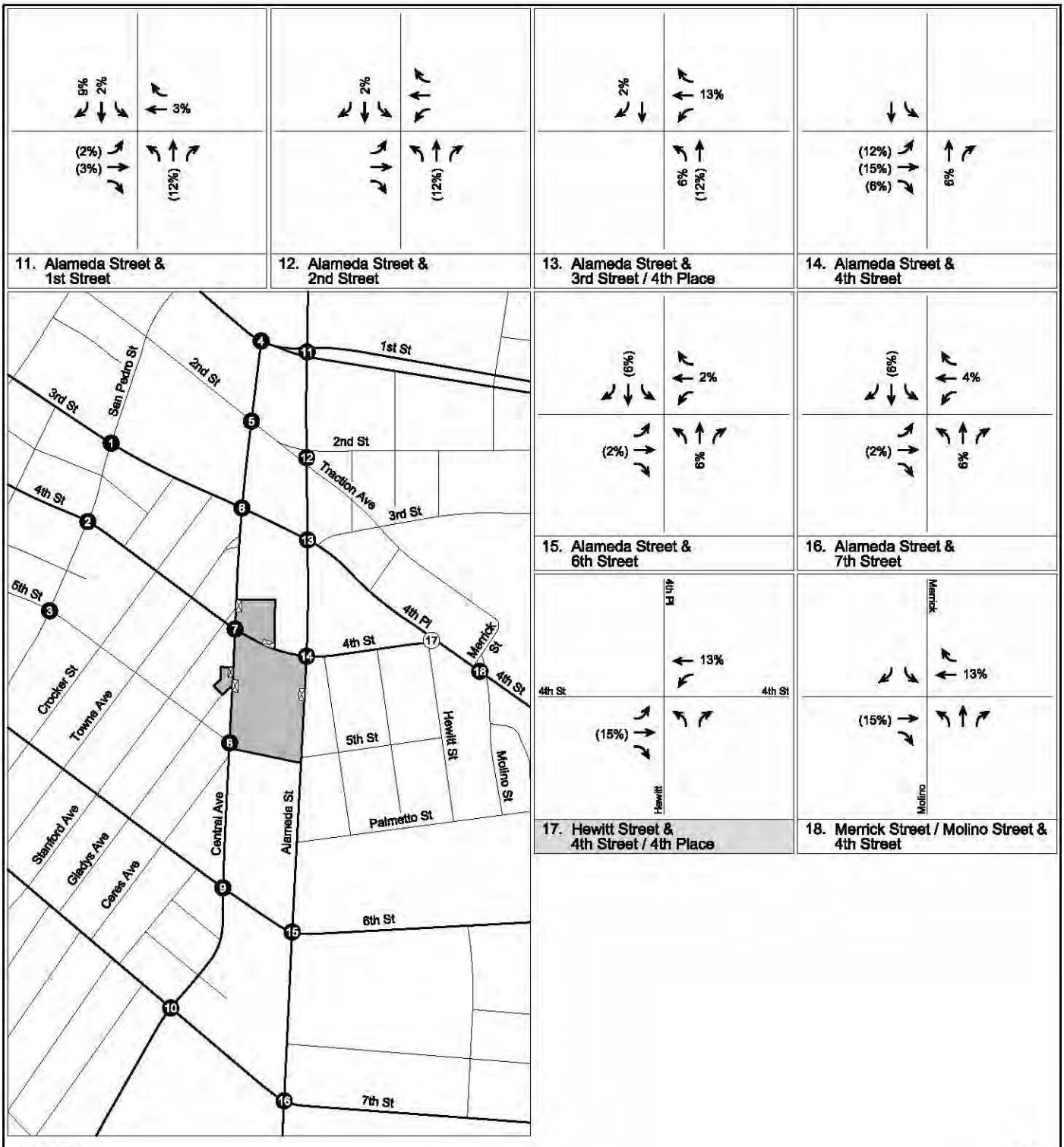
- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection

%(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

PROJECT TRIP DISTRIBUTION
NORTH SITE - RESIDENTIAL

FIGURE
4B



LEGEND

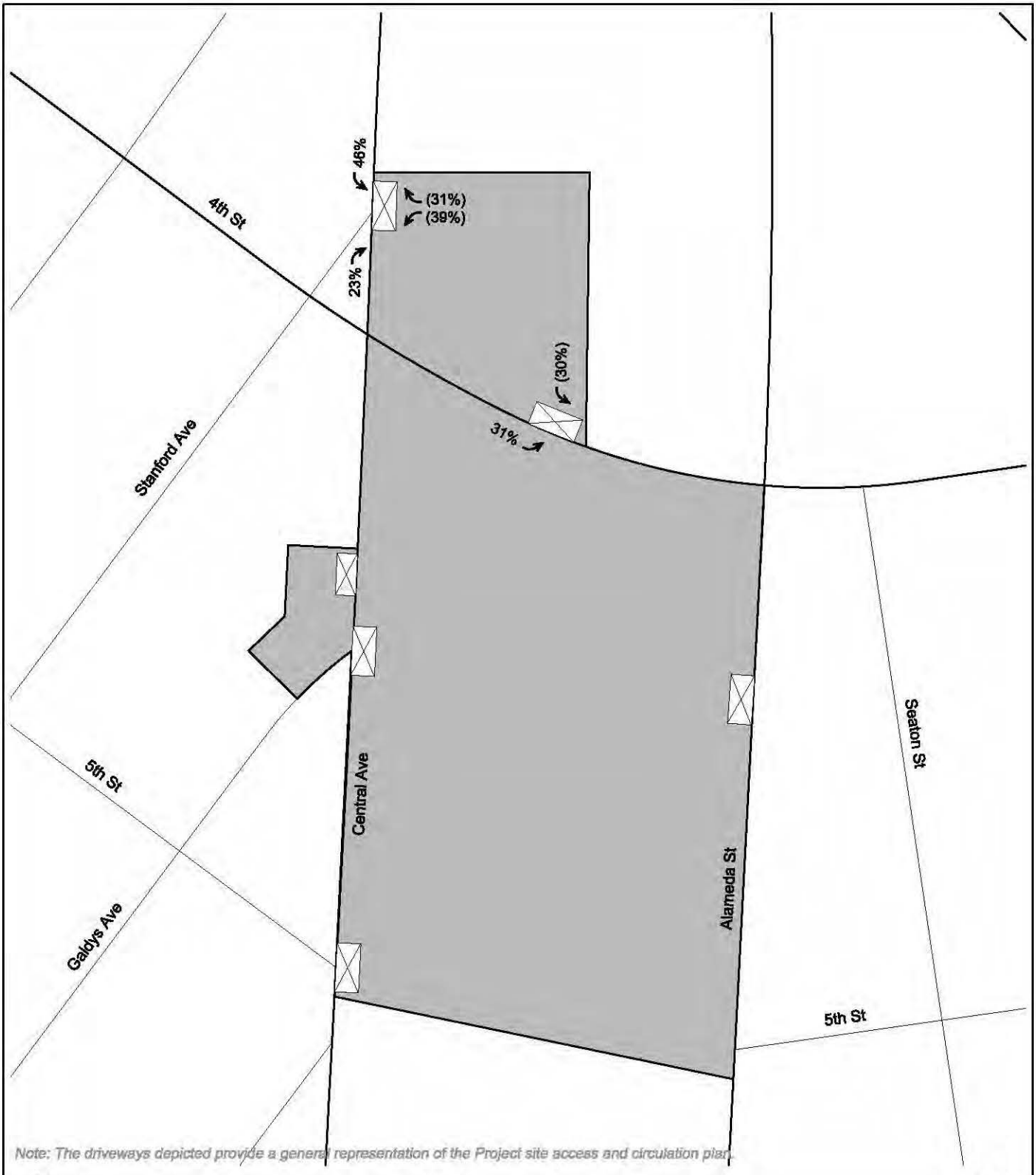
- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection

%(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

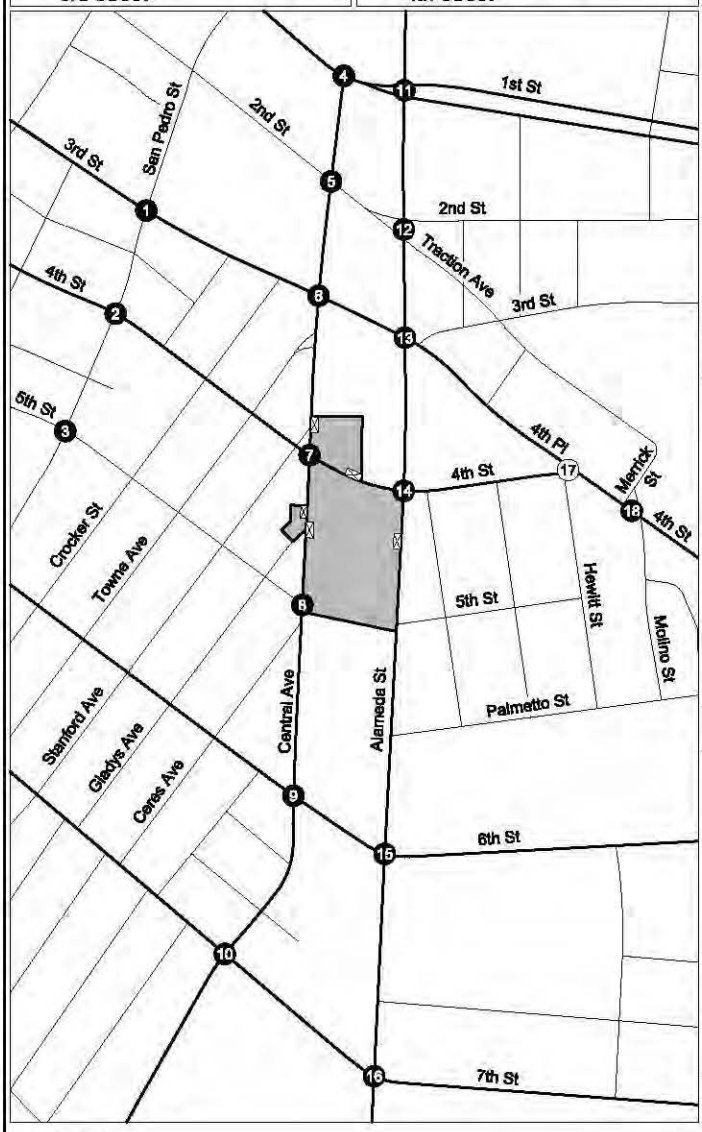
PROJECT TRIP DISTRIBUTION
NORTH SITE - RESIDENTIAL

FIGURE
4B (CONT.)

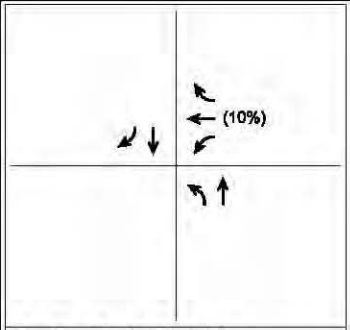


PROJECT DRIVEWAY TRIP DISTRIBUTION
NORTH SITE - RESIDENTIAL

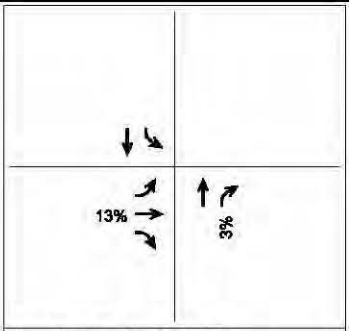
FIGURE
4B (CONT.)



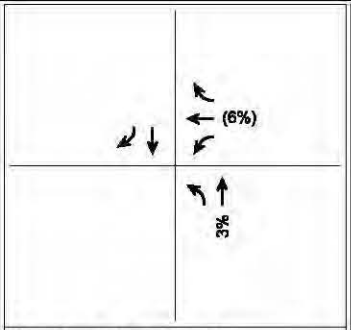
1. San Pedro Street & 3rd Street



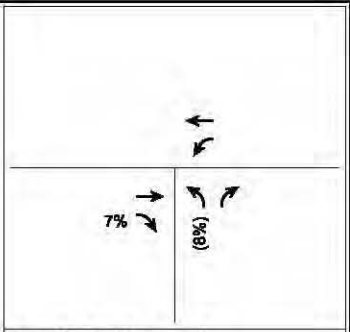
2. San Pedro Street & 4th Street



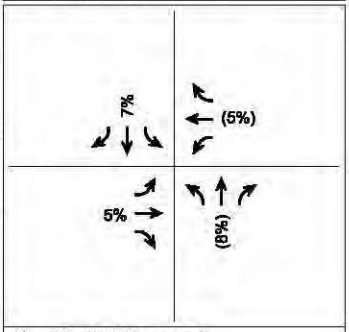
3. San Pedro Street & 5th Street



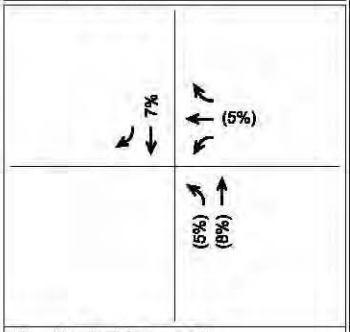
4. Central Avenue & 1st Street



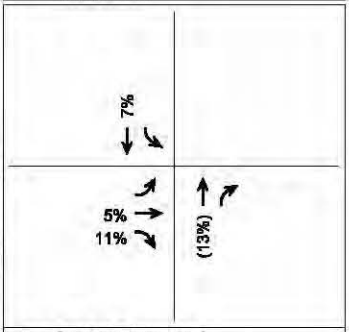
5. Central Avenue & 2nd Street



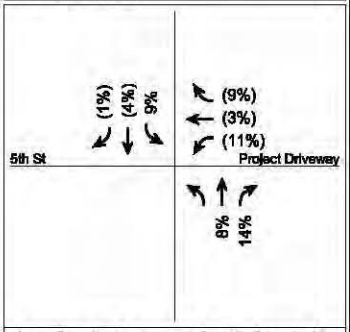
6. Central Avenue & 3rd Street



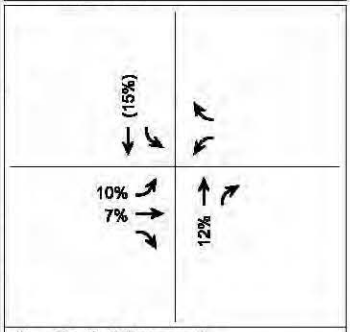
7. Central Avenue & 4th Street



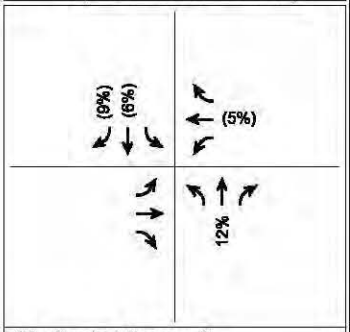
8. Central Avenue & 5th Street / Project South Site Driveway



9. Central Avenue & 6th Street



10. Central Avenue & 7th Street



LEGEND

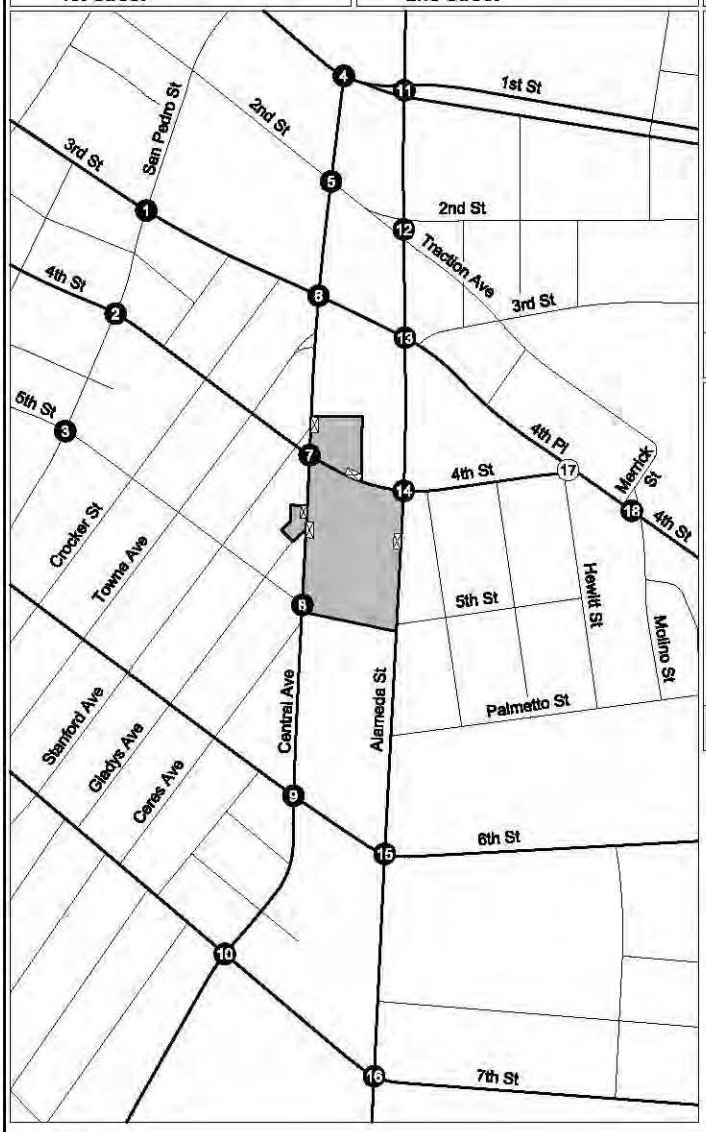
- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection

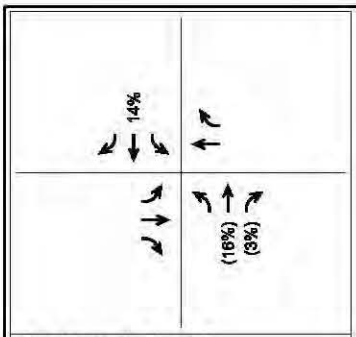
%(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

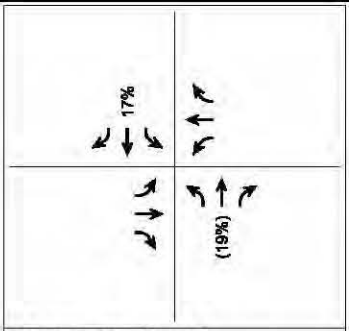
PROJECT TRIP DISTRIBUTION
SOUTH SITE - RESIDENTIAL

FIGURE
4C

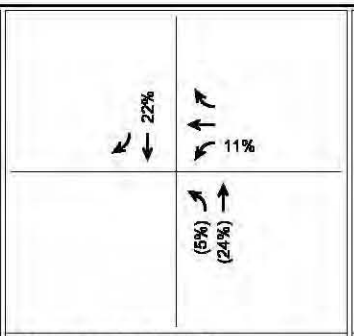




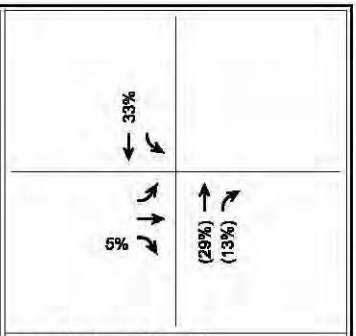
11. Alameda Street & 1st Street



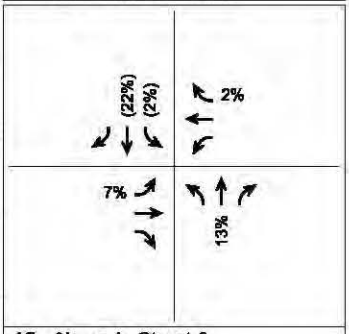
12. Alameda Street & 2nd Street



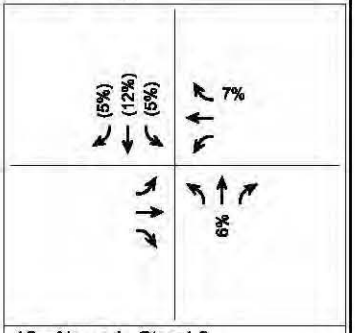
13. Alameda Street & 3rd Street / 4th Place



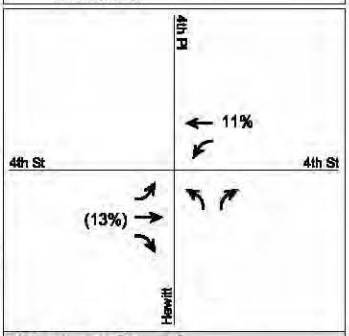
14. Alameda Street & 4th Street



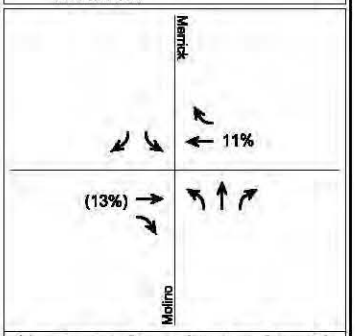
15. Alameda Street & 6th Street



16. Alameda Street & 7th Street



17. Hewitt Street & 4th Street / 4th Place



18. Merrick Street / Molino Street & 4th Street

LEGEND

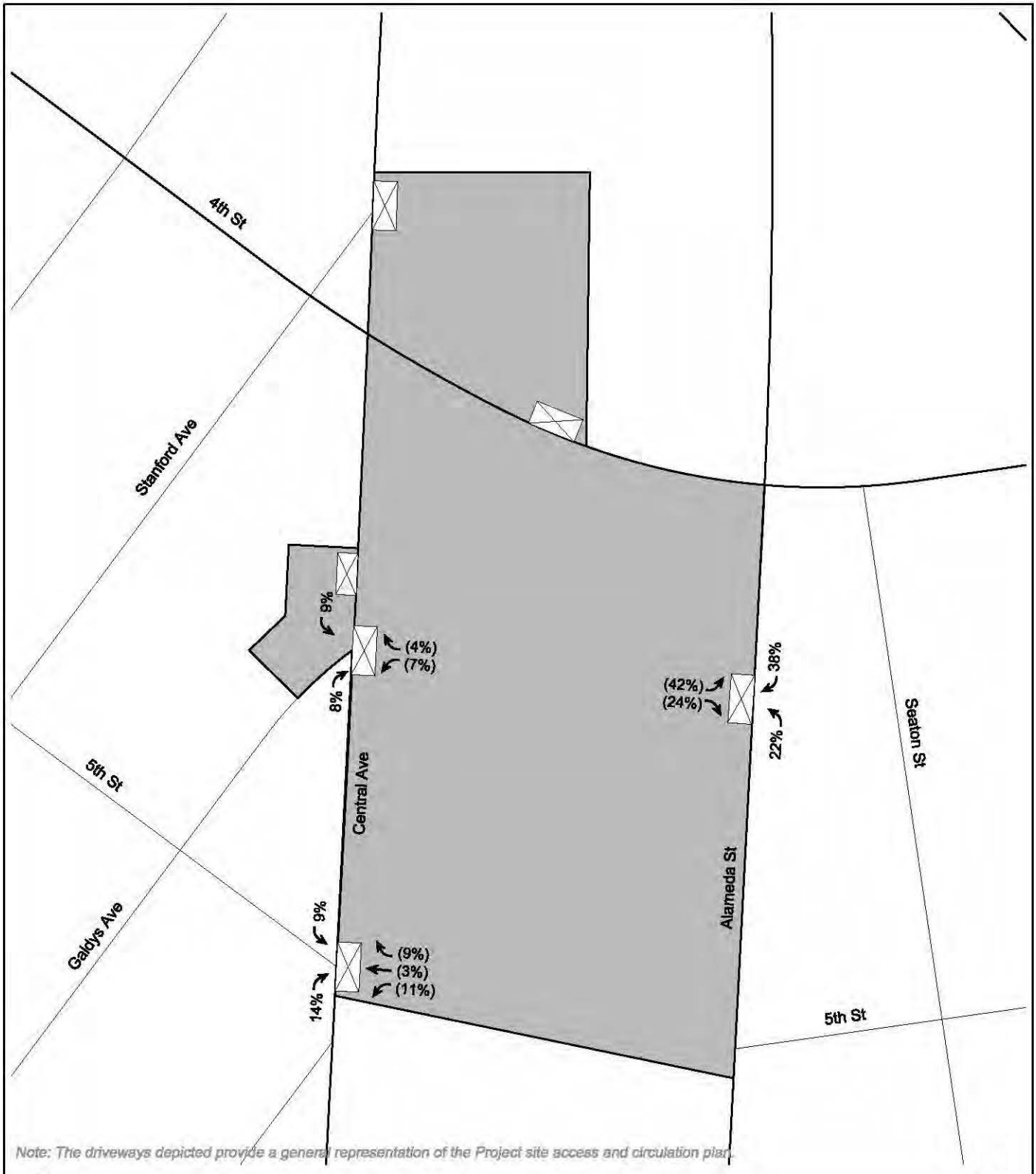
- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection

%(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

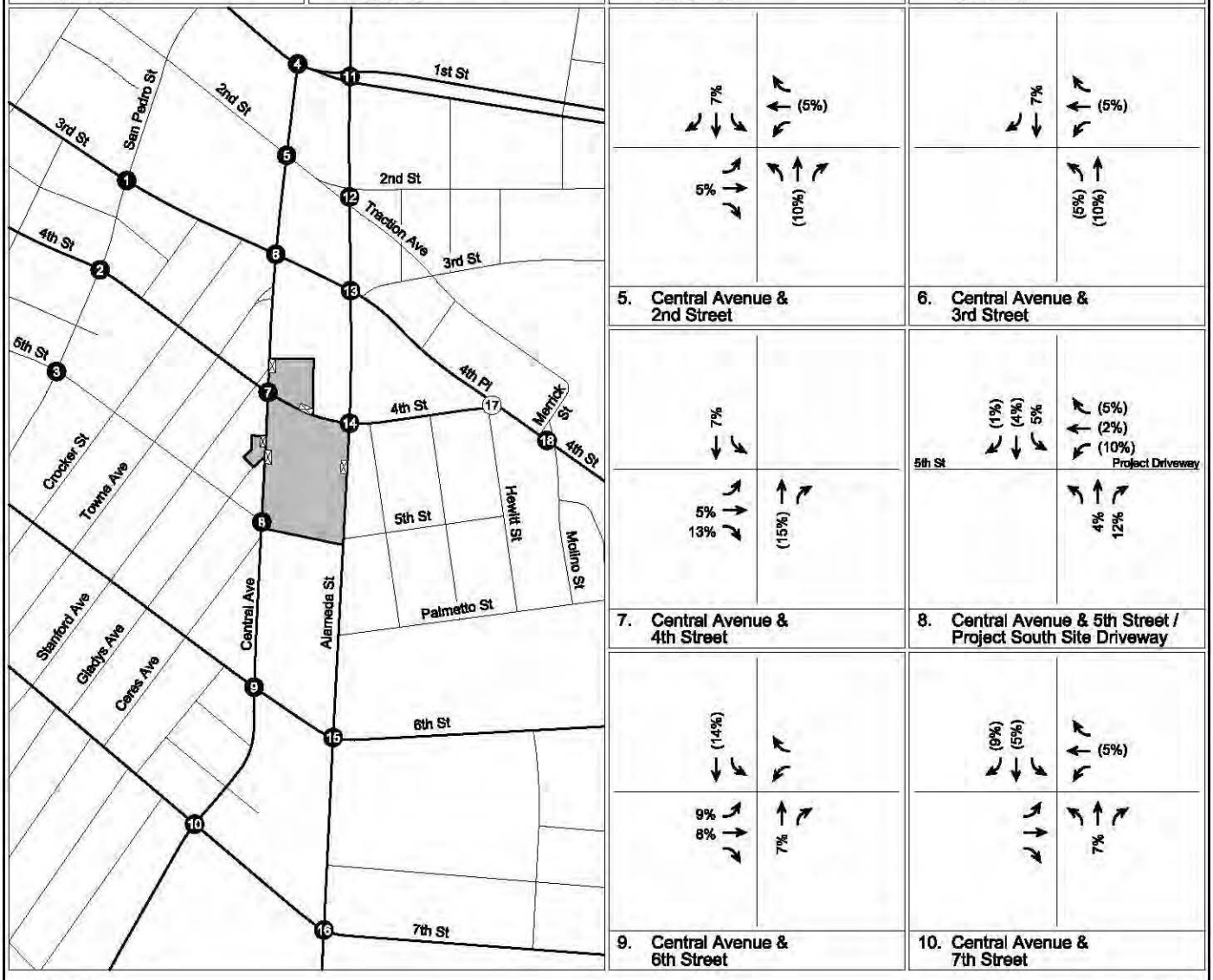
PROJECT TRIP DISTRIBUTION
SOUTH SITE - RESIDENTIAL

FIGURE
4C (CONT.)



PROJECT DRIVEWAY TRIP DISTRIBUTION
SOUTH SITE - RESIDENTIAL

FIGURE
4C (CONT.)



LEGEND

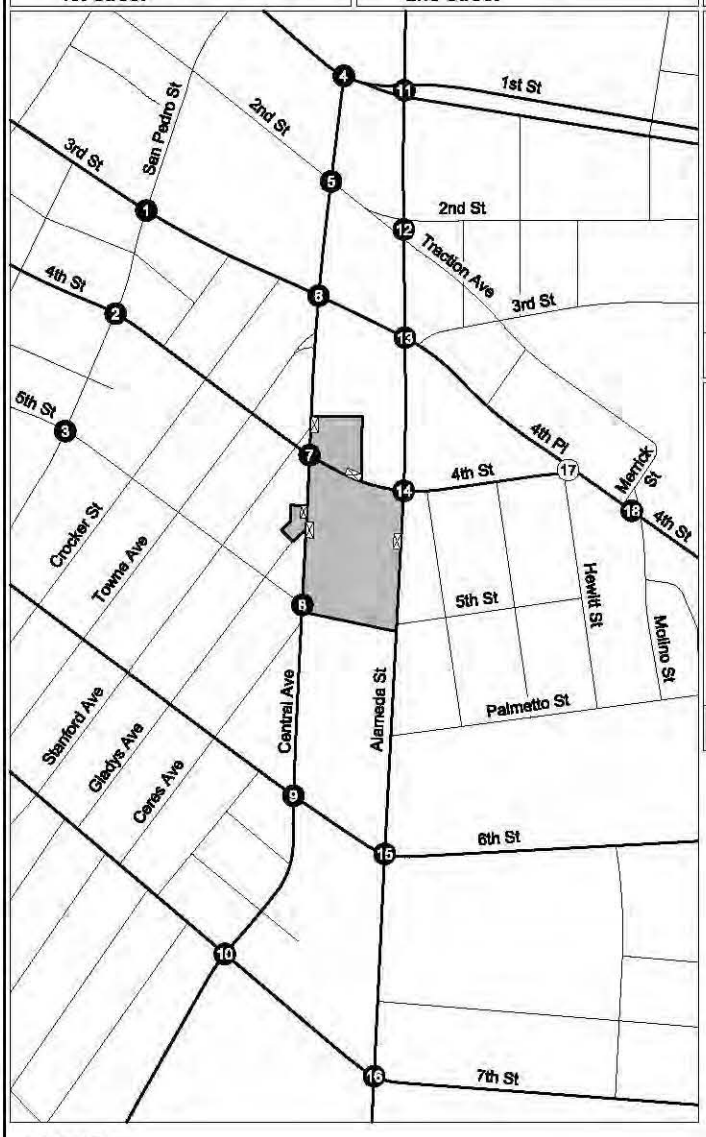
- Project Site
- Project Driveway
- Signalized Intersection
- Unsignalized Intersection

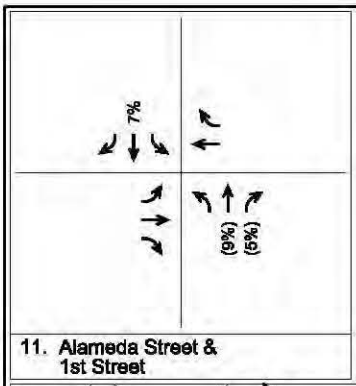
%(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

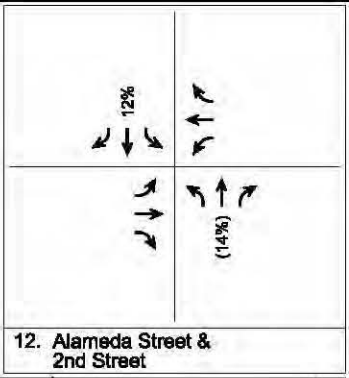
PROJECT TRIP DISTRIBUTION
SOUTH SITE - HOTEL / COMMERCIAL

FIGURE
4D

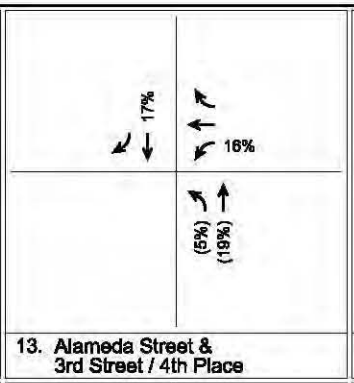




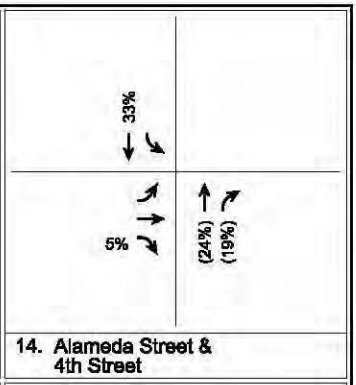
11. Alameda Street & 1st Street



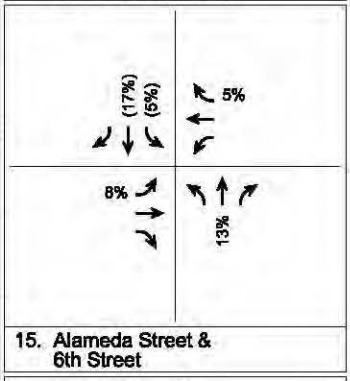
12. Alameda Street & 2nd Street



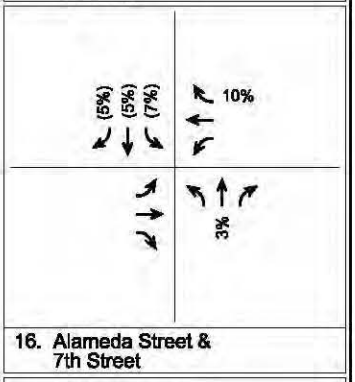
13. Alameda Street & 3rd Street / 4th Place



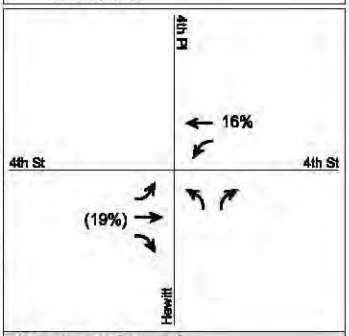
14. Alameda Street & 4th Street



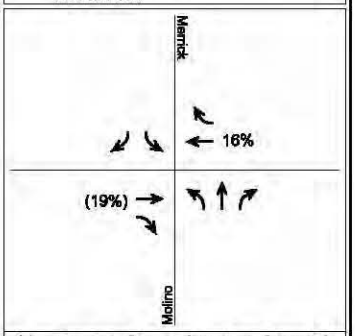
15. Alameda Street & 6th Street



16. Alameda Street & 7th Street



17. Hewitt Street & 4th Street / 4th Place



18. Merrick Street / Molino Street & 4th Street

LEGEND

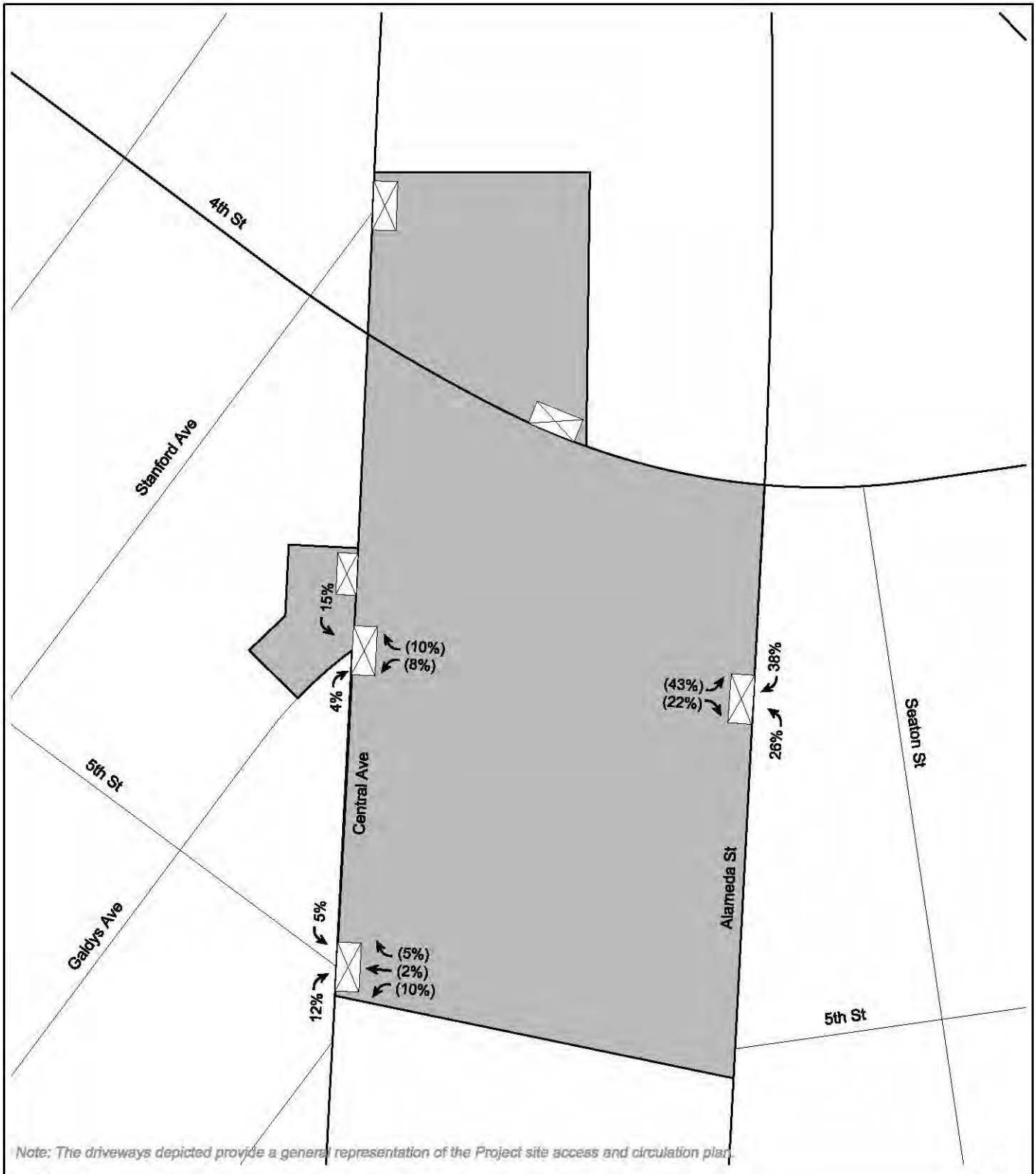
- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection

%(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

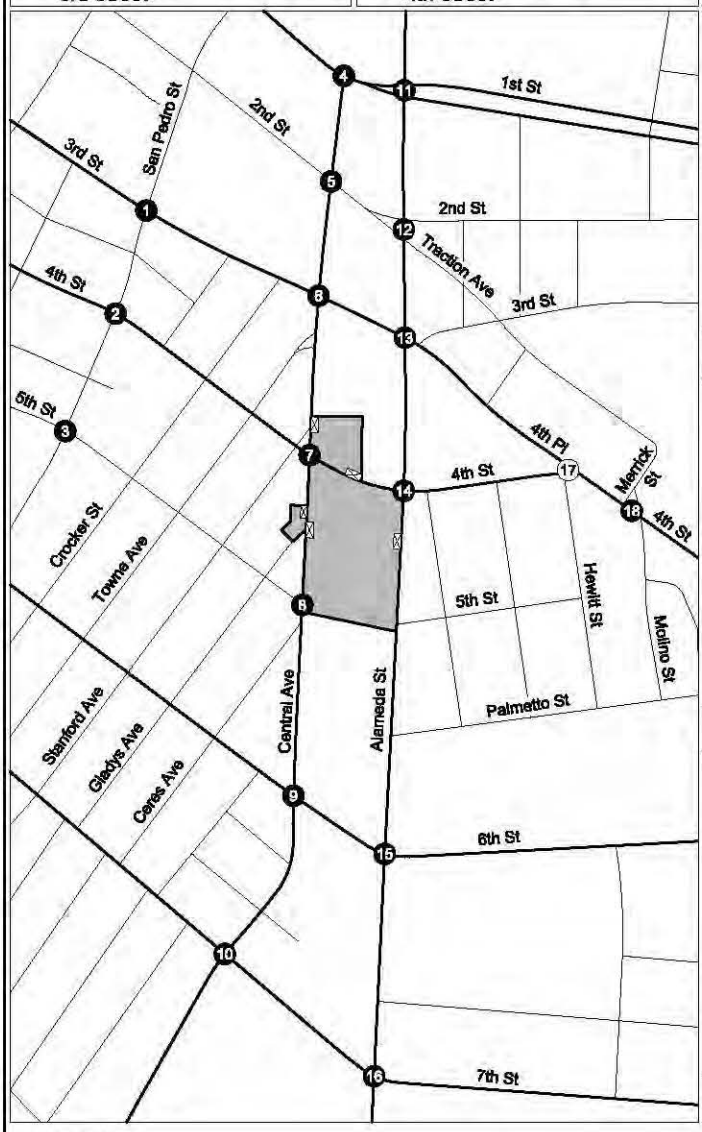
PROJECT TRIP DISTRIBUTION
SOUTH SITE - HOTEL / COMMERCIAL

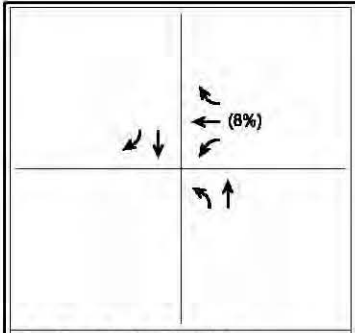
FIGURE
4D (CONT.)



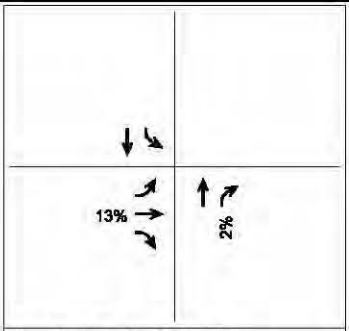
PROJECT DRIVEWAY TRIP DISTRIBUTION
SOUTH SITE - HOTEL / COMMERCIAL

FIGURE
4D (CONT.)

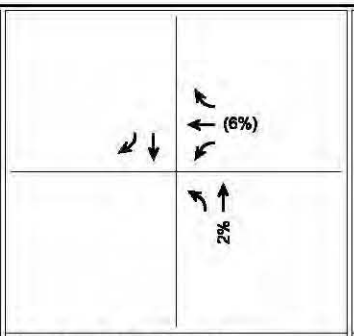




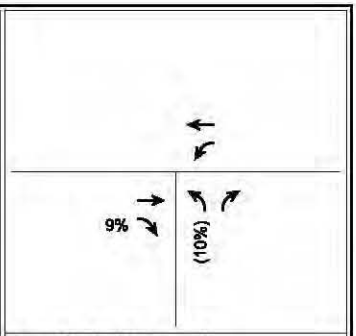
1. San Pedro Street & 3rd Street



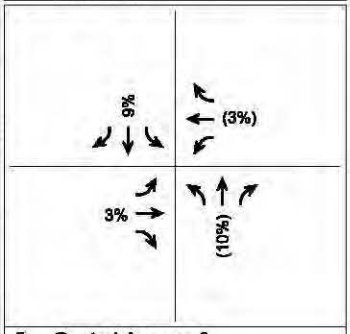
2. San Pedro Street & 4th Street



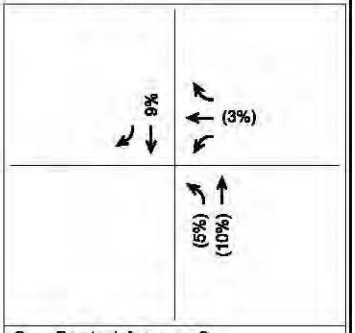
3. San Pedro Street & 5th Street



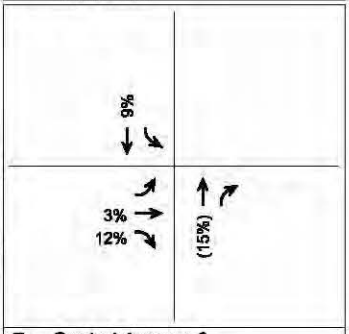
4. Central Avenue & 1st Street



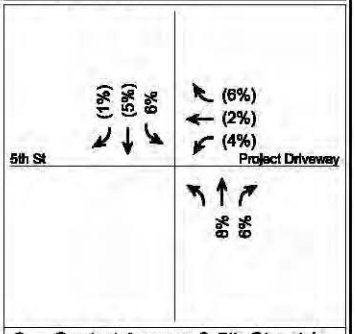
5. Central Avenue & 2nd Street



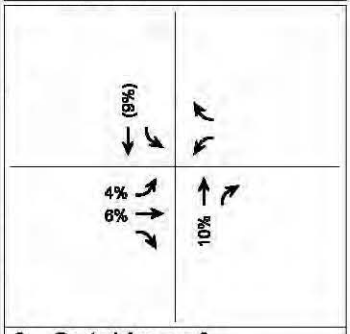
6. Central Avenue & 3rd Street



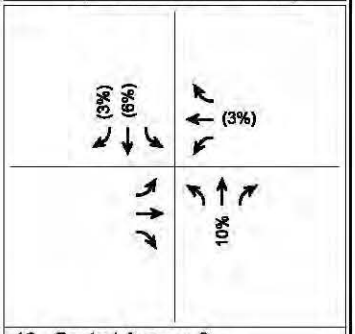
7. Central Avenue & 4th Street



8. Central Avenue & 5th Street / Project South Site Driveway



9. Central Avenue & 6th Street



10. Central Avenue & 7th Street

LEGEND

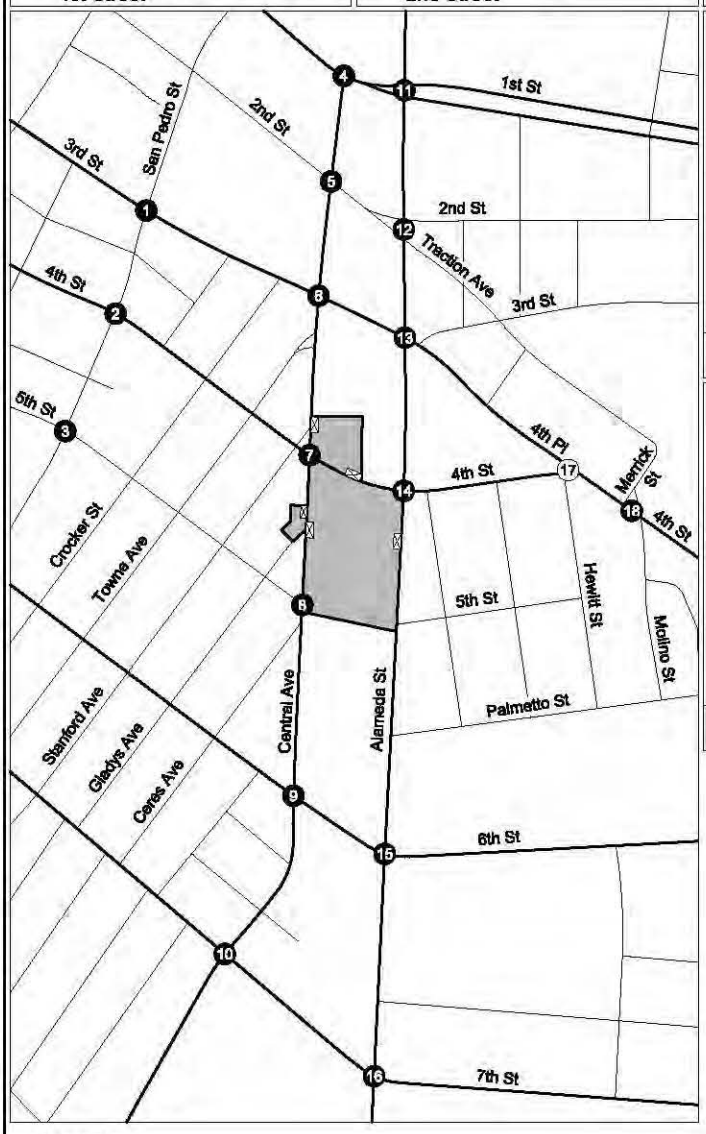
- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection

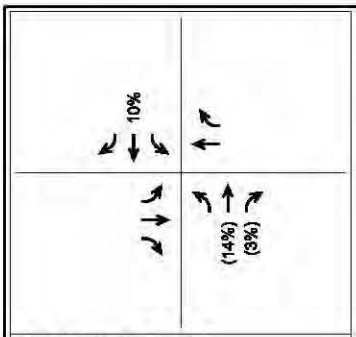
%(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

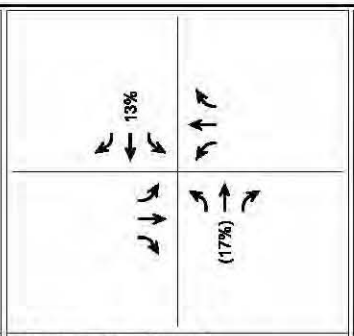
PROJECT TRIP DISTRIBUTION
SOUTH SITE - OFFICE

FIGURE
4E

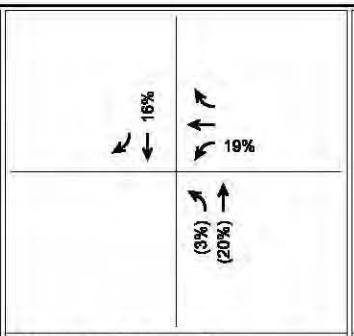




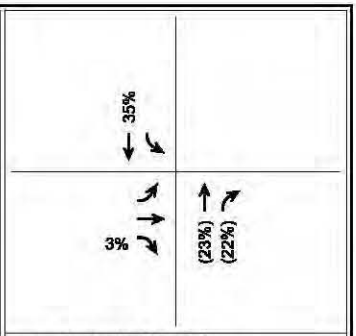
11. Alameda Street & 1st Street



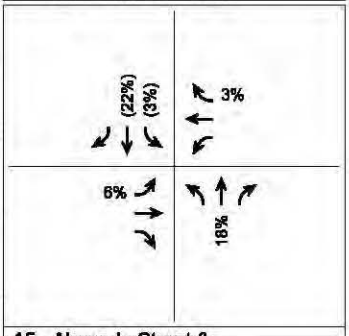
12. Alameda Street & 2nd Street



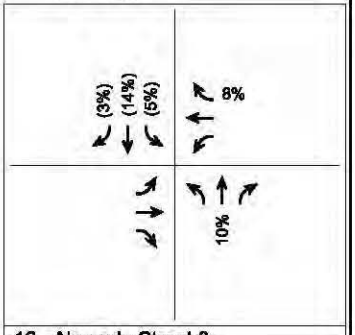
13. Alameda Street & 3rd Street / 4th Place



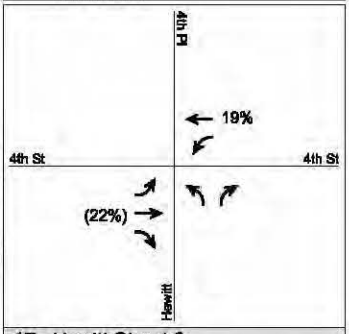
14. Alameda Street & 4th Street



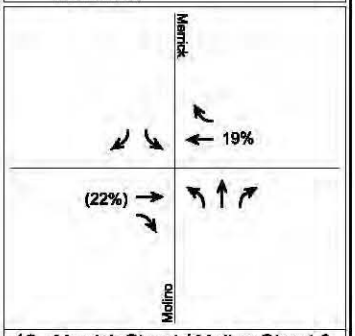
15. Alameda Street & 6th Street



16. Alameda Street & 7th Street



17. Hewitt Street & 4th Street / 4th Place



18. Merrick Street / Molino Street & 4th Street

LEGEND

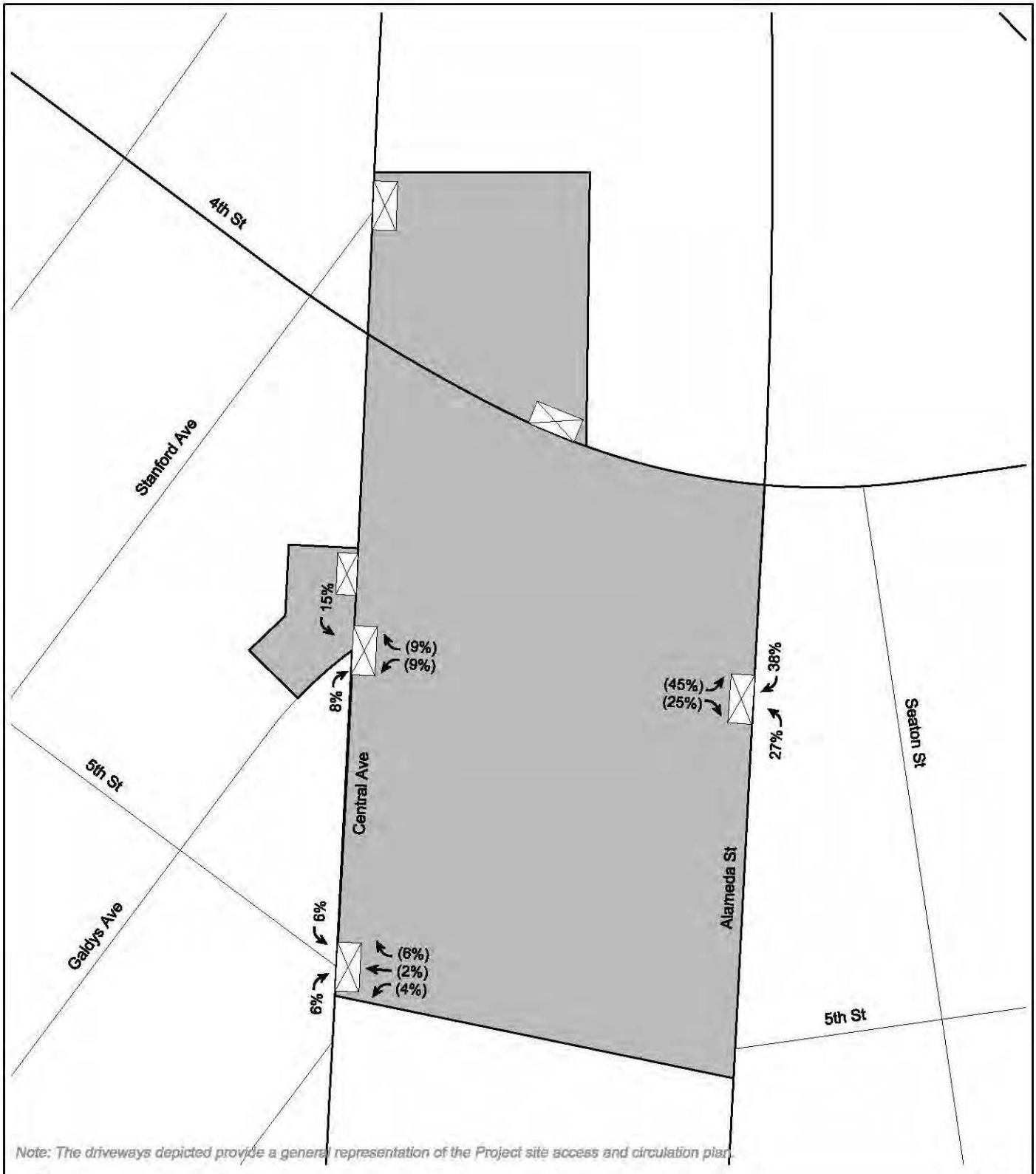
- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection

%(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

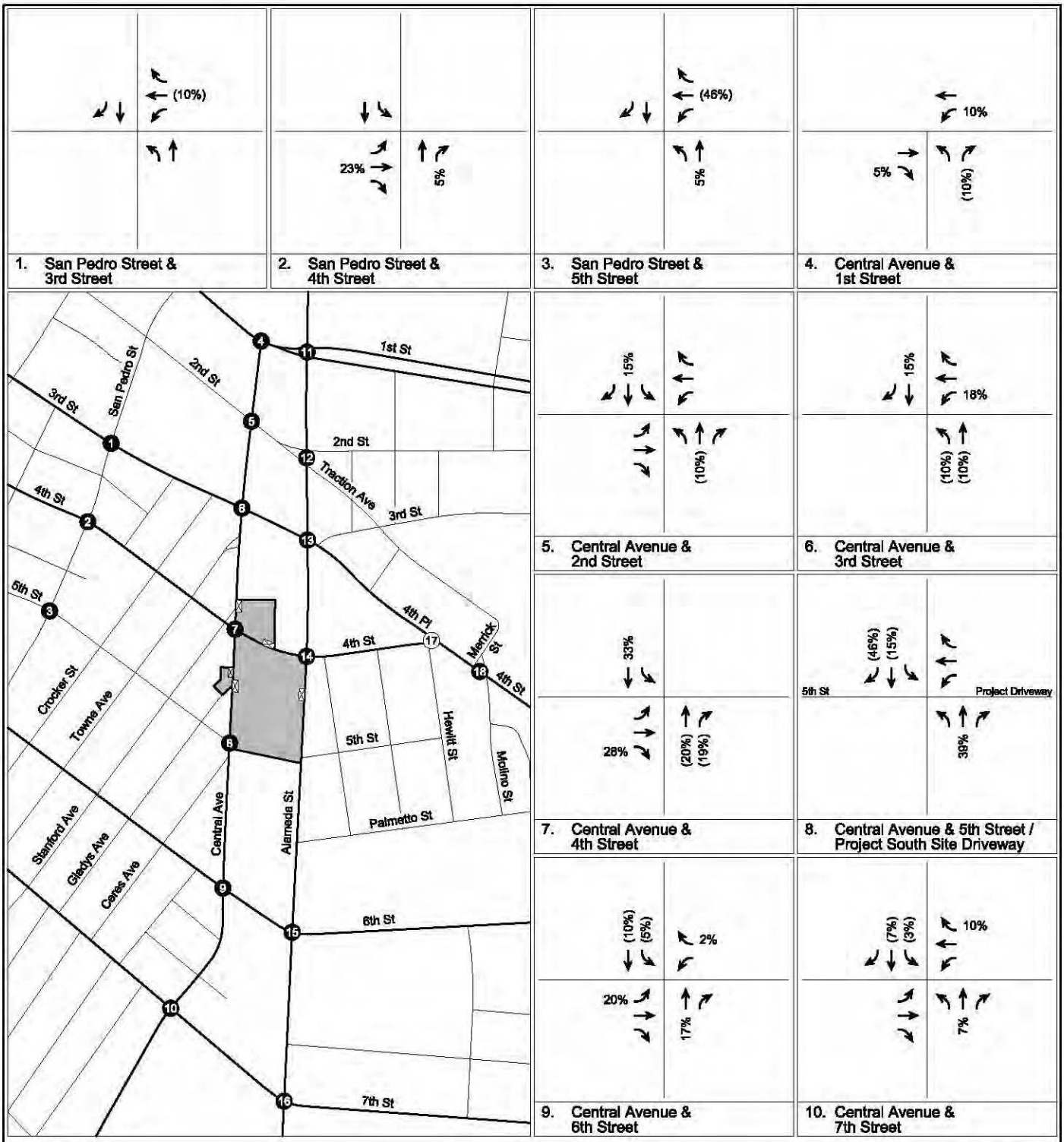
PROJECT TRIP DISTRIBUTION
SOUTH SITE - OFFICE

FIGURE
4E (CONT.)



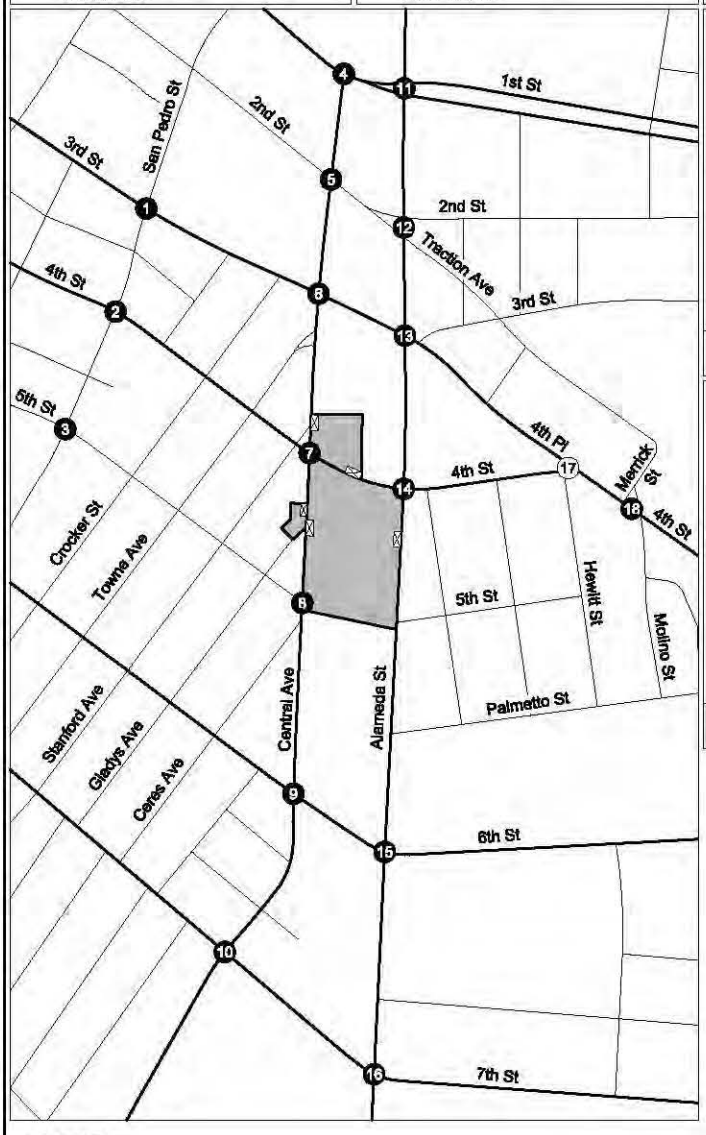
PROJECT DRIVEWAY TRIP DISTRIBUTION
SOUTH SITE - OFFICE

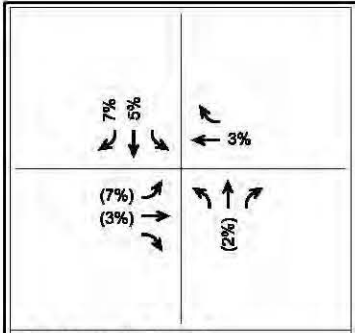
FIGURE
4E (CONT.)



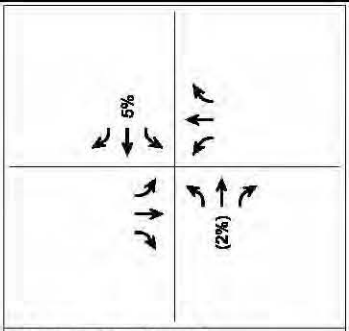
PROJECT TRIP DISTRIBUTION
WEST SITE - RESIDENTIAL

FIGURE
4F

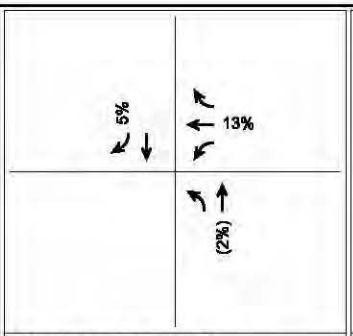




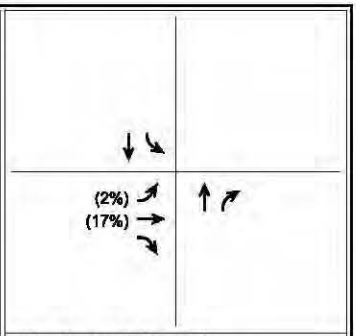
11. Alameda Street & 1st Street



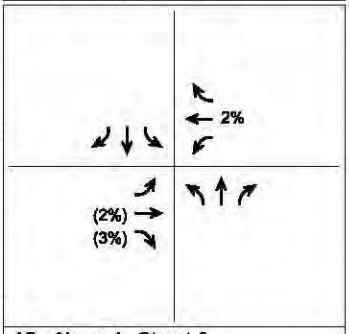
12. Alameda Street & 2nd Street



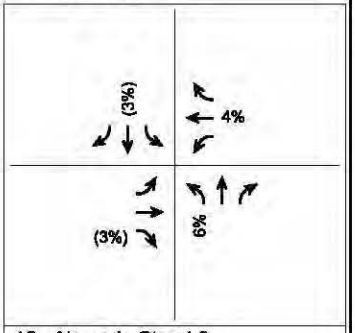
13. Alameda Street & 3rd Street / 4th Place



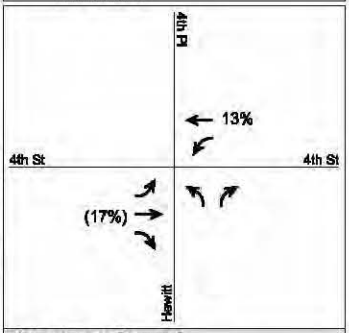
14. Alameda Street & 4th Street



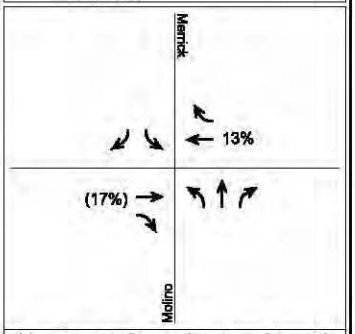
15. Alameda Street & 6th Street



16. Alameda Street & 7th Street



17. Hewitt Street & 4th Street / 4th Place



18. Merrick Street / Molino Street & 4th Street

LEGEND

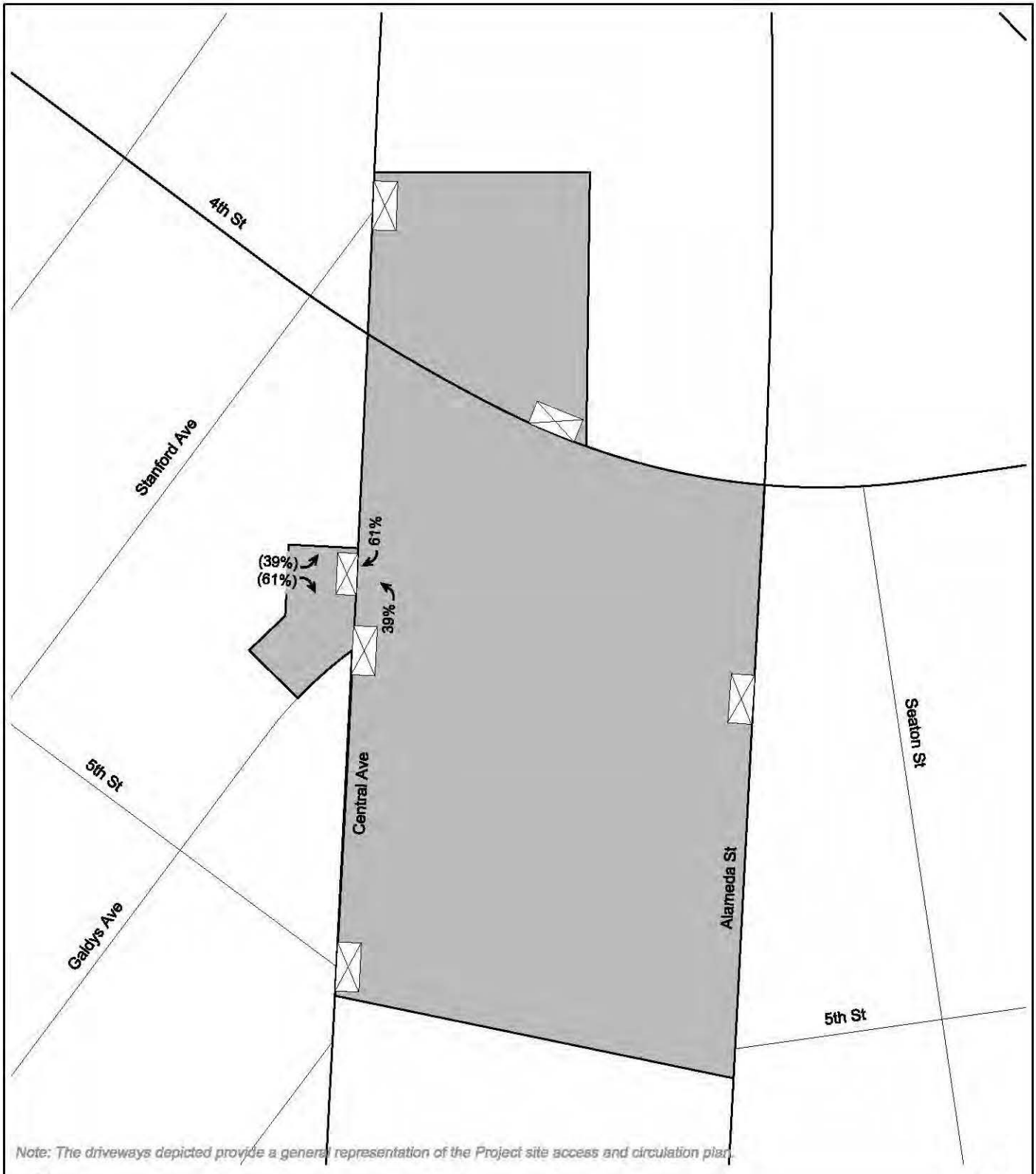
- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection

%(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

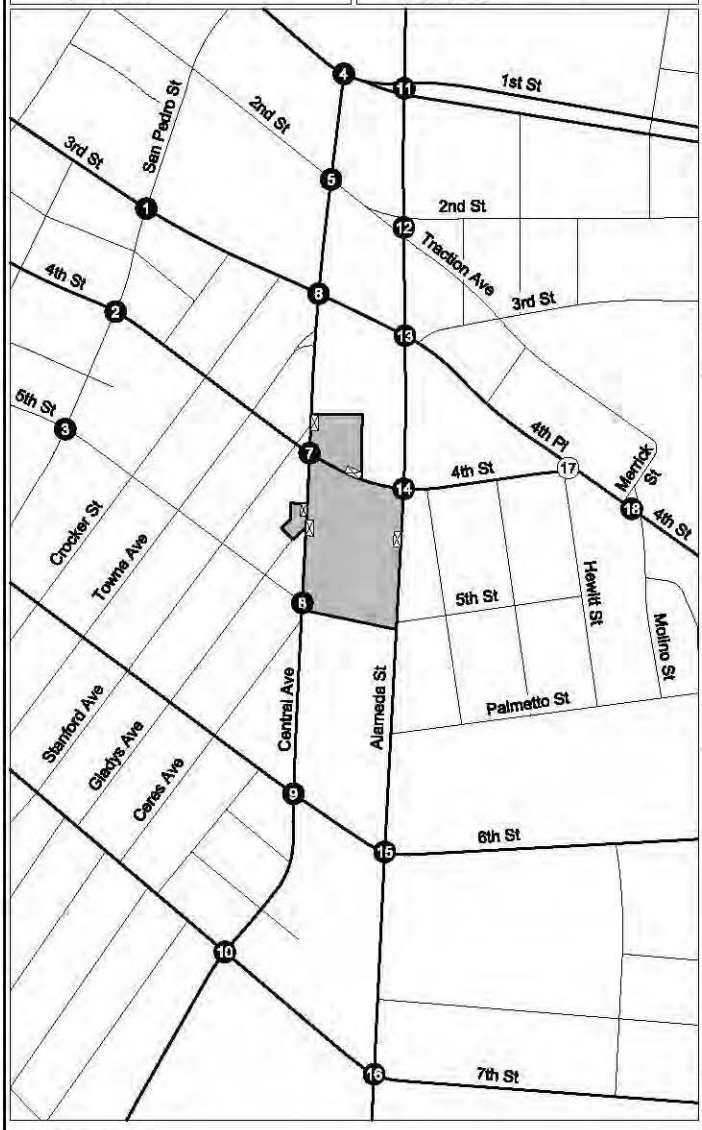
PROJECT TRIP DISTRIBUTION
WEST SITE - RESIDENTIAL

FIGURE
4F (CONT.)

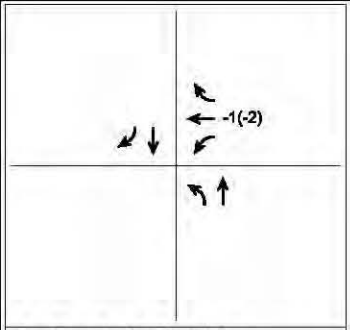


PROJECT DRIVEWAY TRIP DISTRIBUTION
WEST SITE - RESIDENTIAL

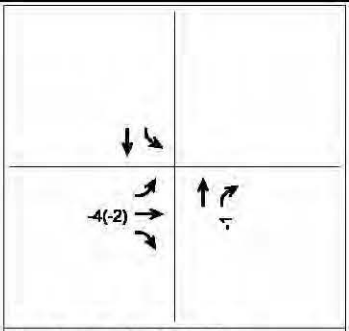
FIGURE
4F (CONT.)



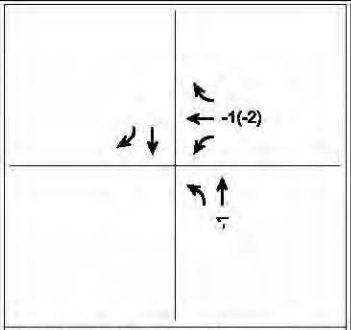
1. San Pedro Street & 3rd Street



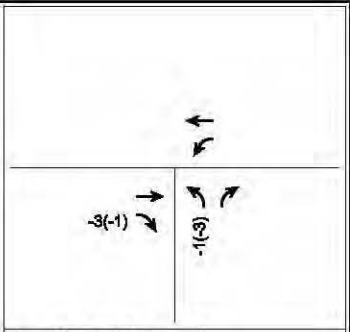
2. San Pedro Street & 4th Street



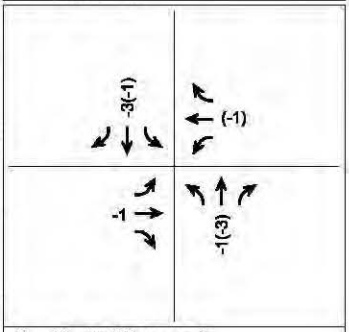
3. San Pedro Street & 5th Street



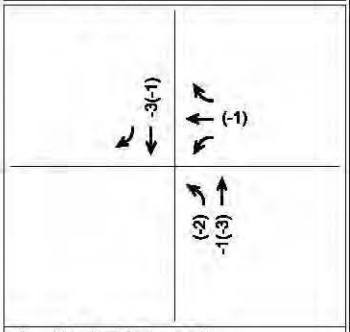
4. Central Avenue & 1st Street



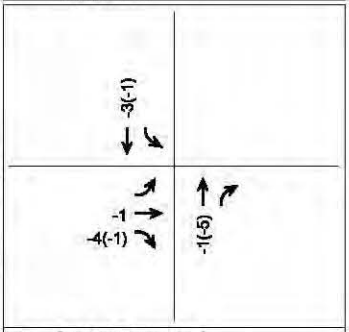
5. Central Avenue & 2nd Street



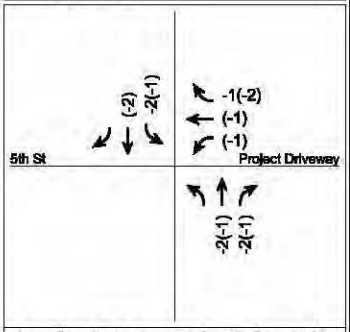
6. Central Avenue & 3rd Street



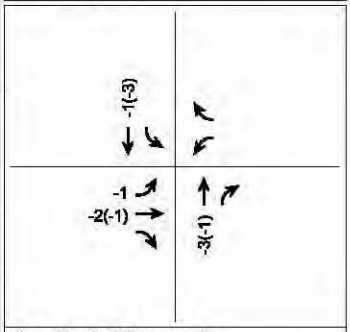
7. Central Avenue & 4th Street



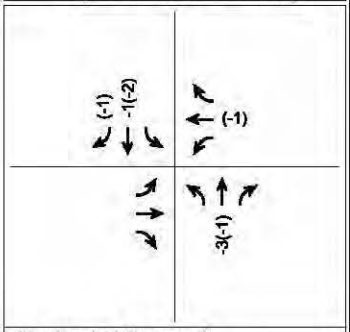
8. Central Avenue & 5th Street / Project South Site Driveway



9. Central Avenue & 6th Street



10. Central Avenue & 7th Street



LEGEND

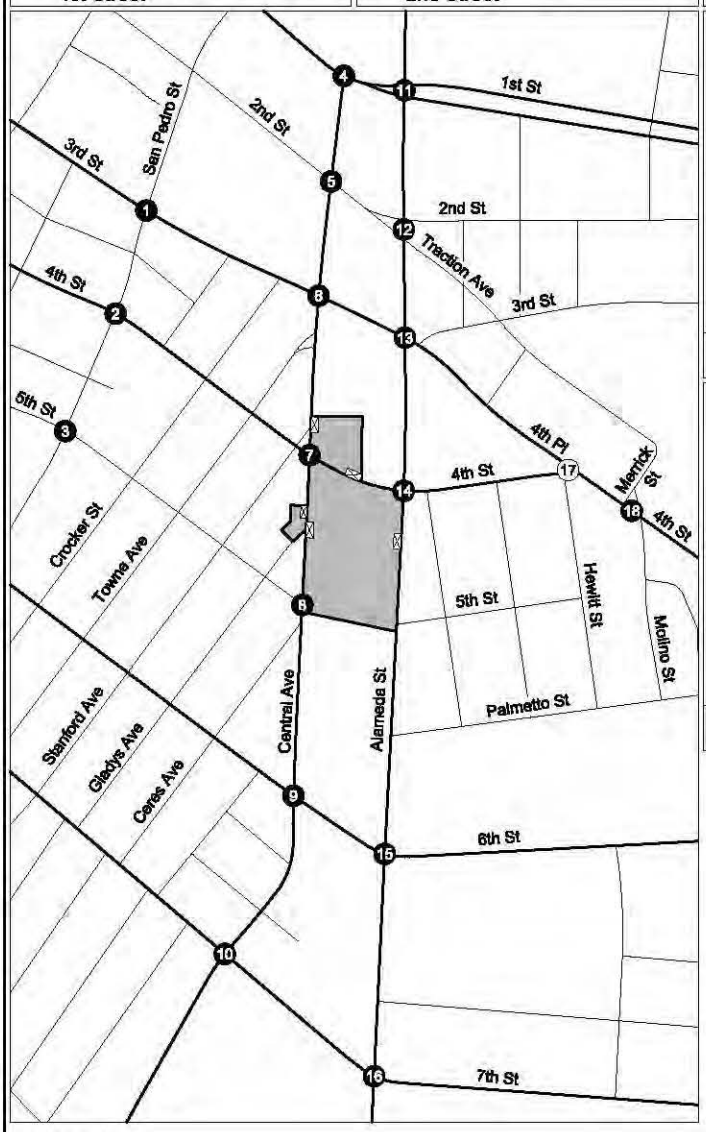
- Project Site
- Project Driveway
- Signalized Intersection
- Unsignalized Intersection

#(#) AM(PM) Peak Hour Traffic Volumes

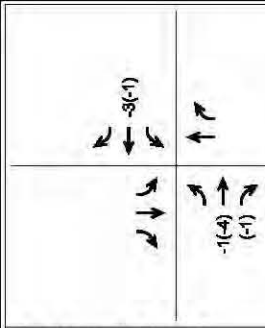
N
Not to Scale

EXISTING USES TO BE REMOVED
PEAK HOUR TRAFFIC VOLUMES

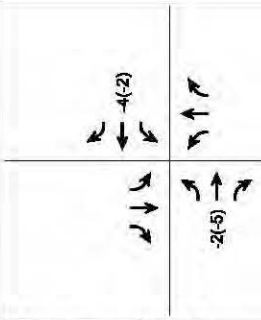
FIGURE 5



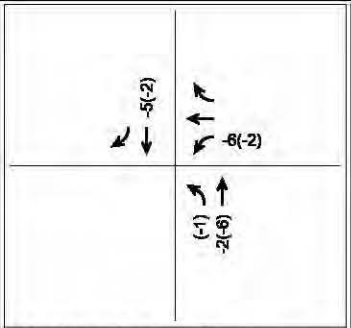
11. Alameda Street & 1st Street



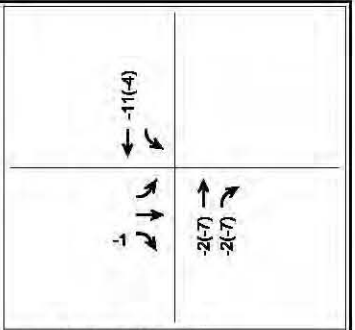
12. Alameda Street & 2nd Street



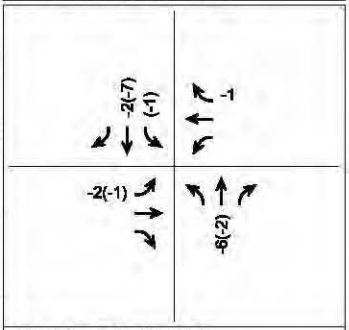
13. Alameda Street & 3rd Street / 4th Place



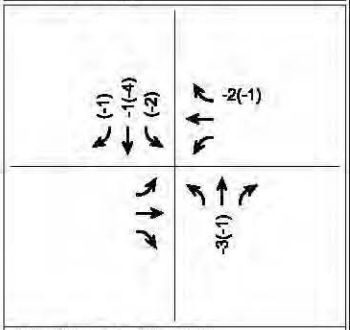
14. Alameda Street & 4th Street



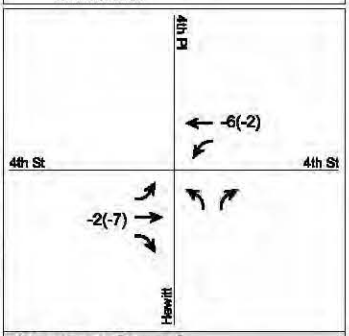
15. Alameda Street & 6th Street



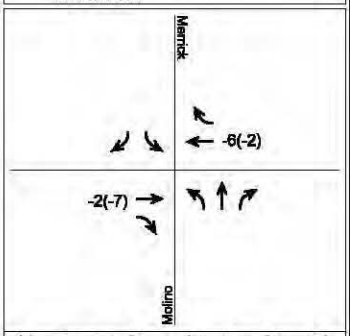
16. Alameda Street & 7th Street



17. Hewitt Street & 4th Street / 4th Place



18. Merrick Street / Molino Street & 4th Street



LEGEND

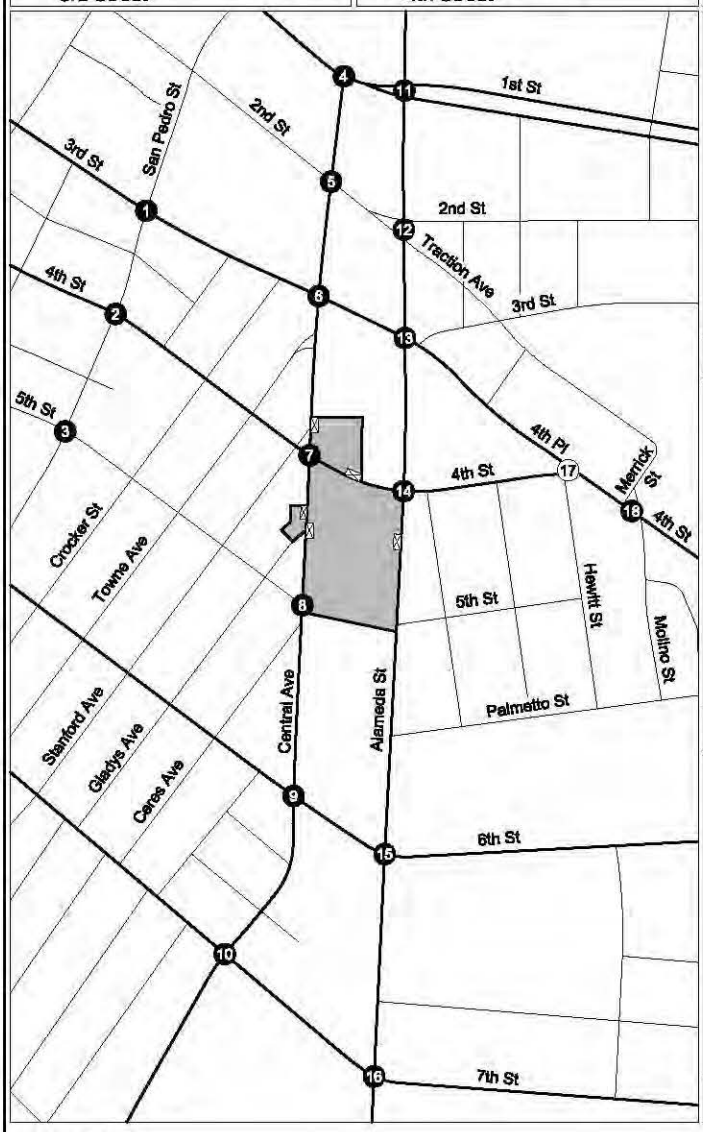
- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection

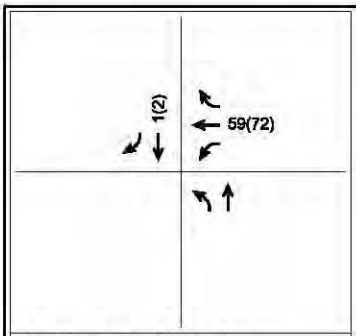
#(#) AM(PM) Peak Hour Traffic Volumes

N
Not to Scale

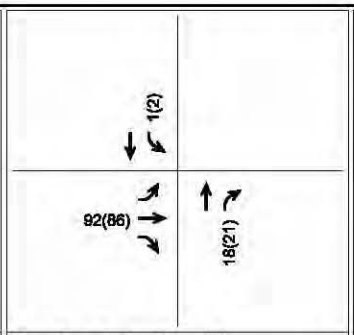
EXISTING USES TO BE REMOVED
PEAK HOUR TRAFFIC VOLUMES

FIGURE
5 (CONT.)

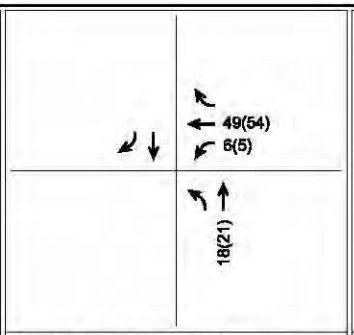




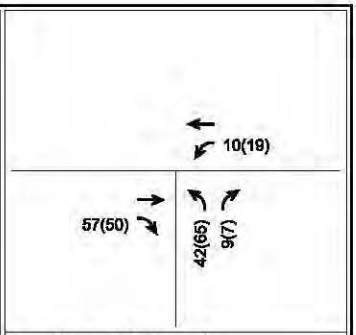
1. San Pedro Street & 3rd Street



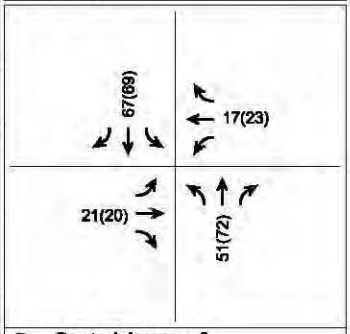
2. San Pedro Street & 4th Street



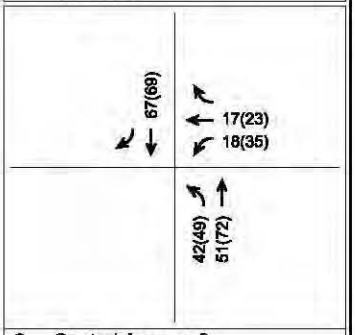
3. San Pedro Street & 5th Street



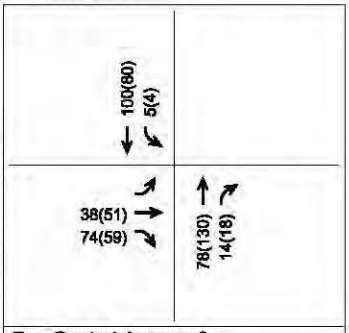
4. Central Avenue & 1st Street



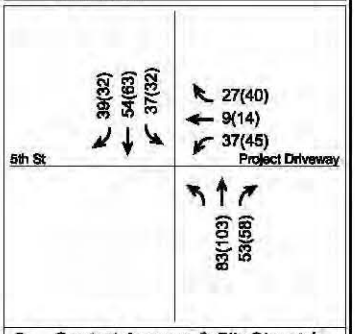
5. Central Avenue & 2nd Street



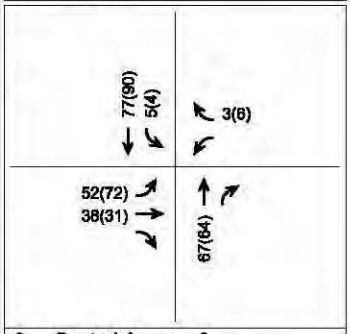
6. Central Avenue & 3rd Street



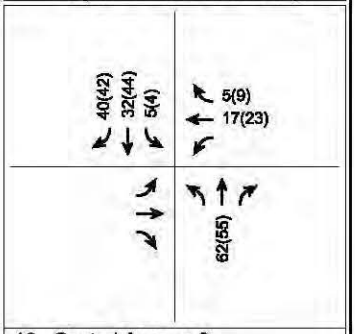
7. Central Avenue & 4th Street



8. Central Avenue & 5th Street / Project South Site Driveway



9. Central Avenue & 6th Street



10. Central Avenue & 7th Street

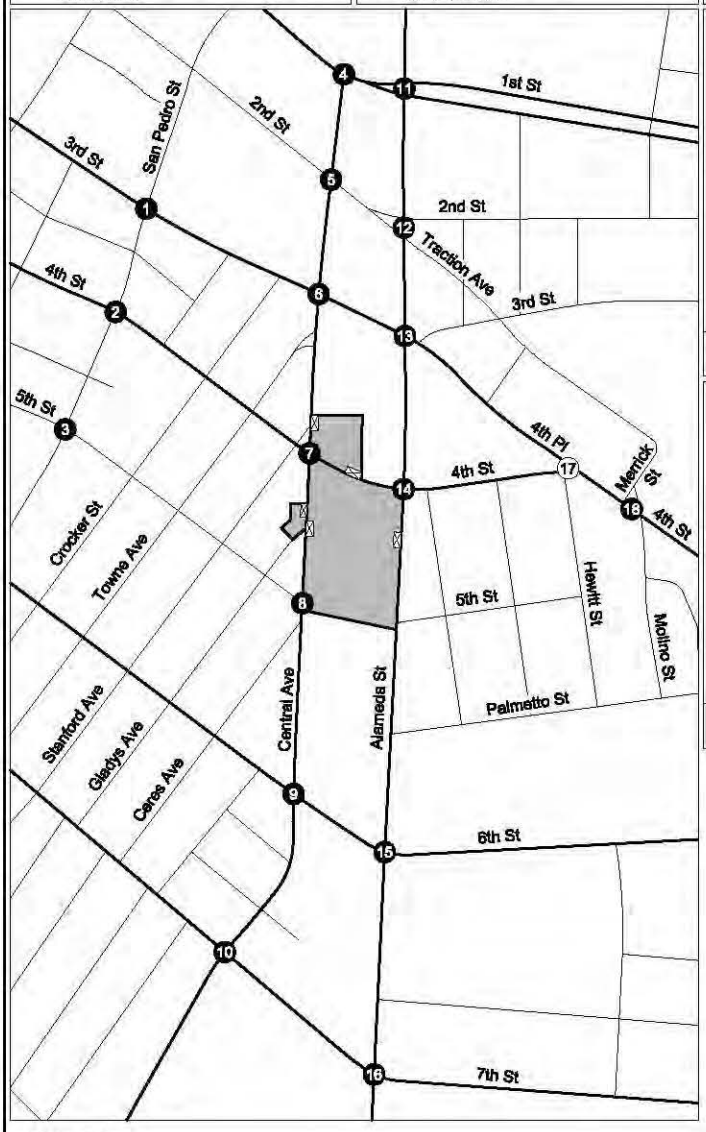
LEGEND

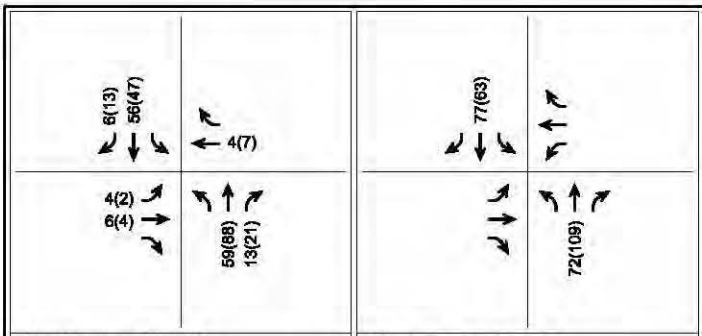
- Project Site
- Project Driveway
- Signalized Intersection
- Unsignalized Intersection
- #(#) AM(PM) Peak Hour Traffic Volumes

N
Not to Scale

TOTAL PROJECT-ONLY PEAK HOUR TRAFFIC VOLUMES

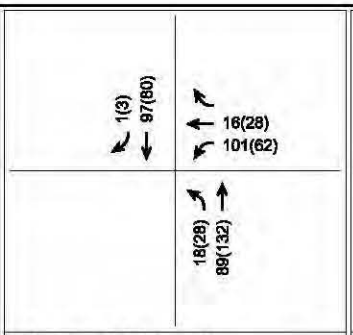
FIGURE 6



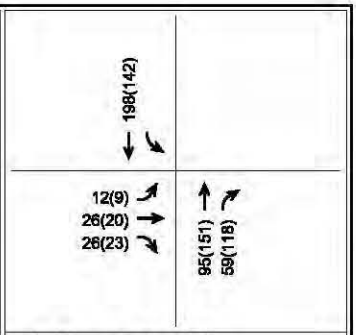


11. Alameda Street & 1st Street

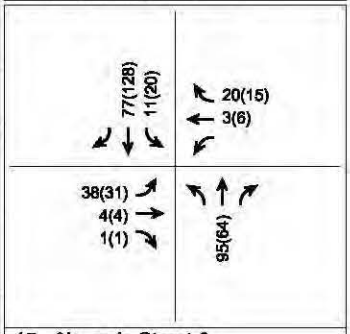
12. Alameda Street & 2nd Street



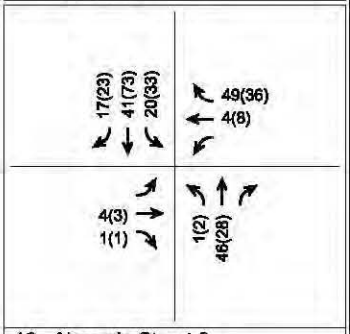
13. Alameda Street & 3rd Street / 4th Place



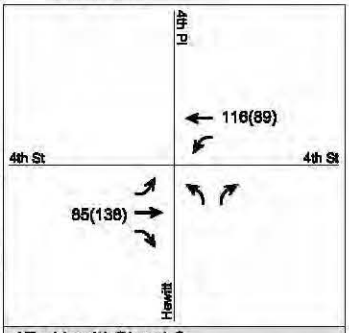
14. Alameda Street & 4th Street



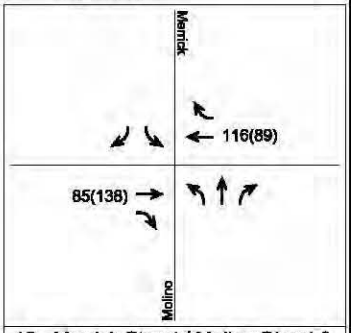
15. Alameda Street & 6th Street



16. Alameda Street & 7th Street



17. Hewitt Street & 4th Street / 4th Place



18. Merrick Street / Molino Street & 4th Street

LEGEND

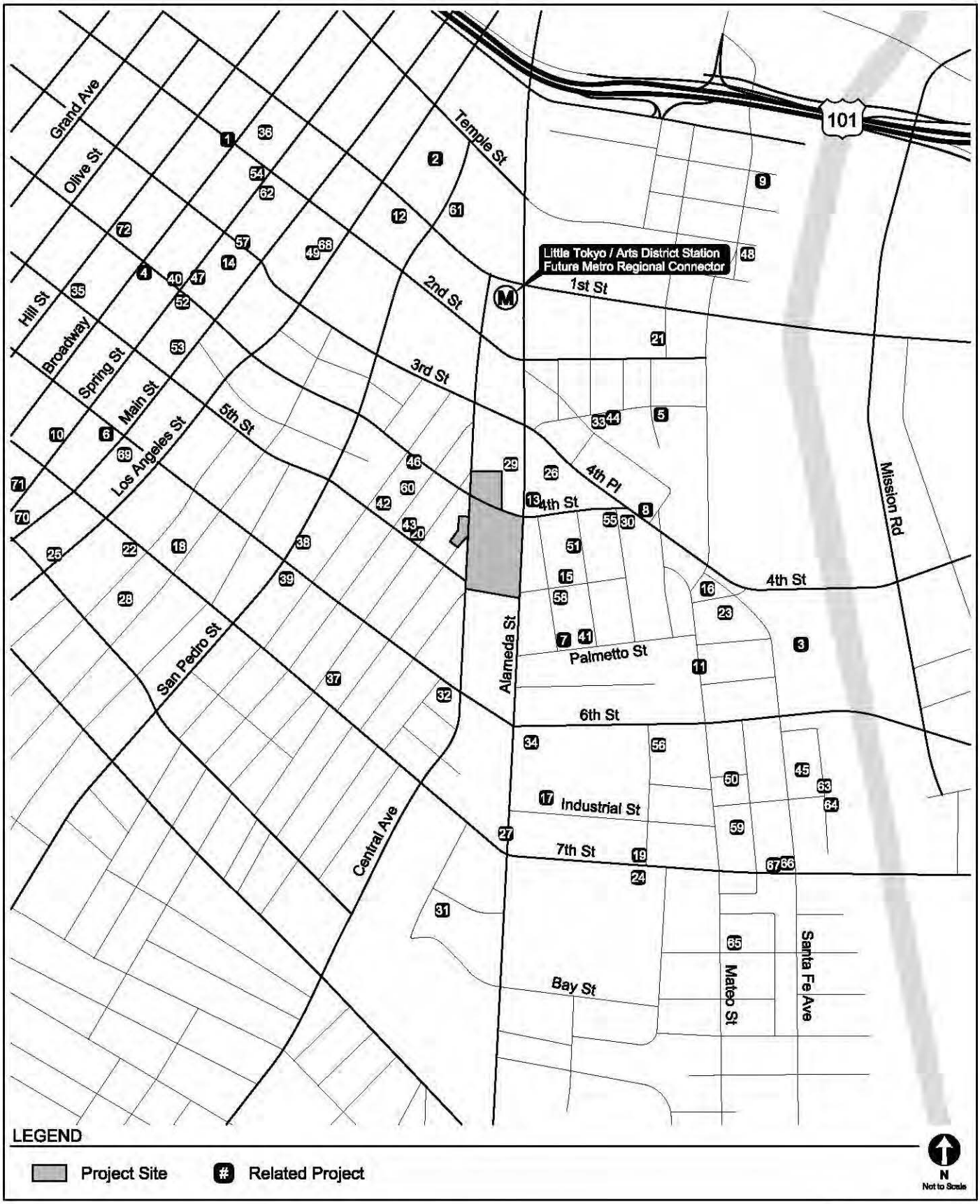
- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection

#(#) AM(PM) Peak Hour Traffic Volumes

N
Not to Scale

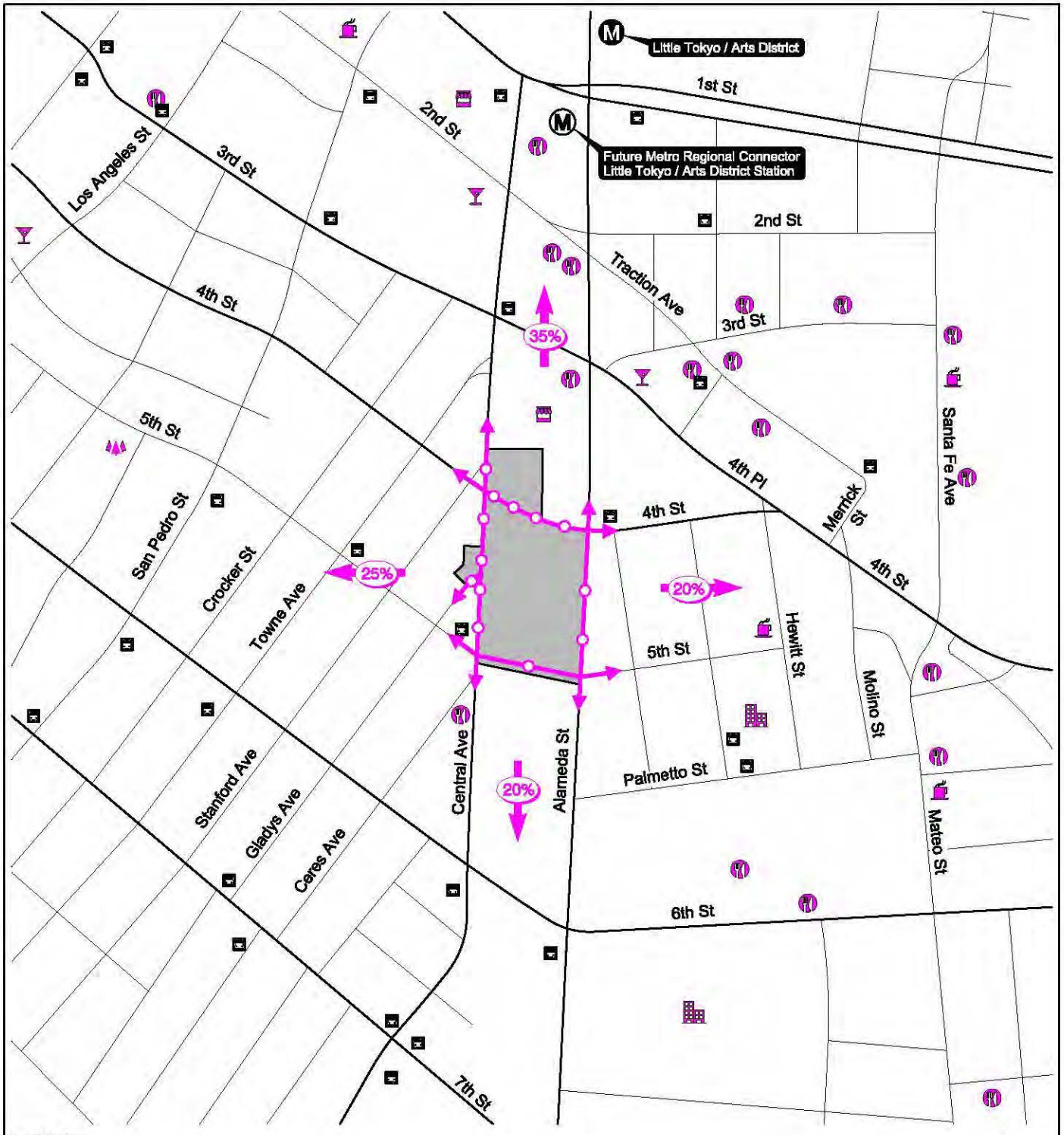
TOTAL PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
6 (CONT.)



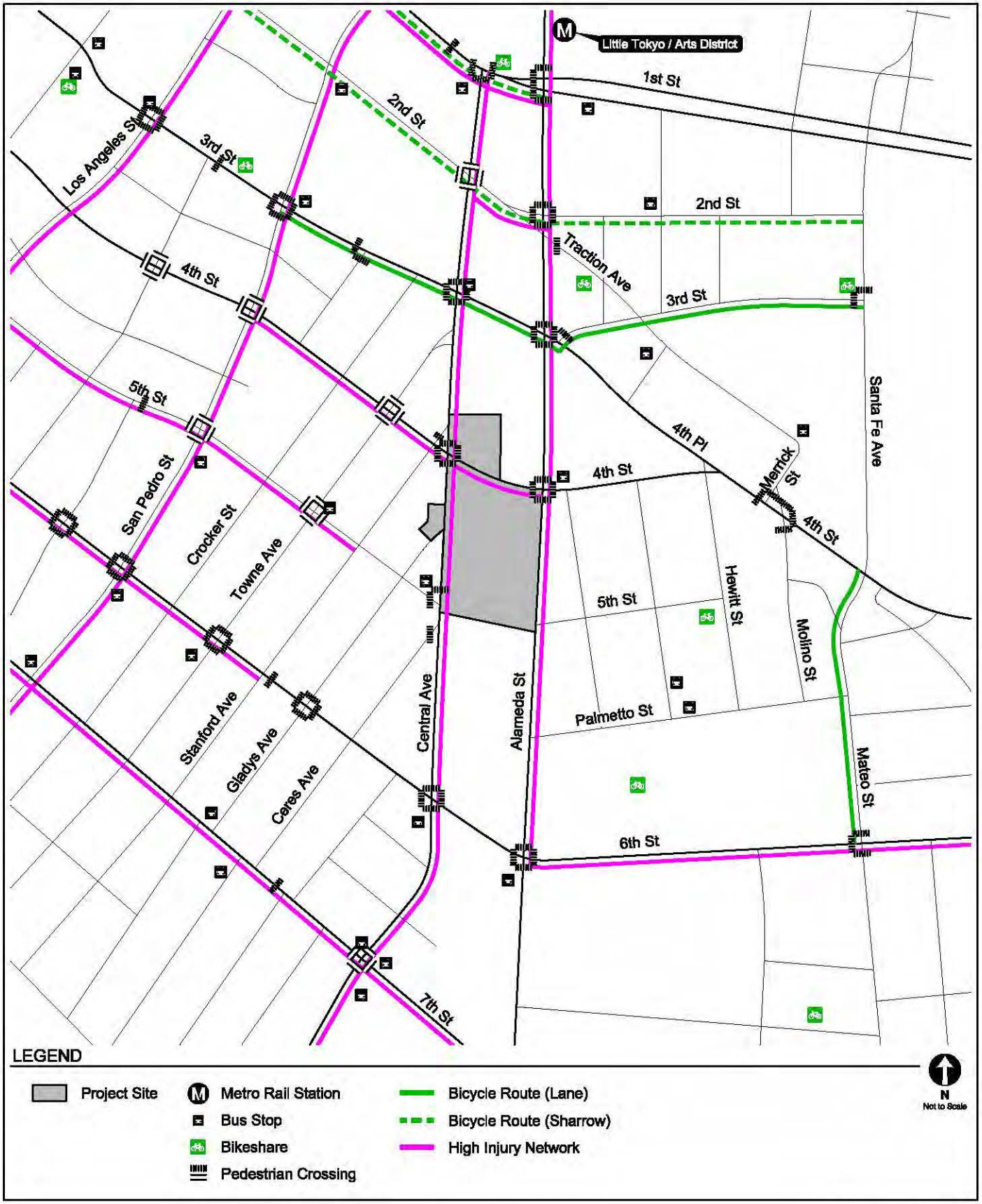
LOCATIONS OF RELATED PROJECTS

FIGURE 7



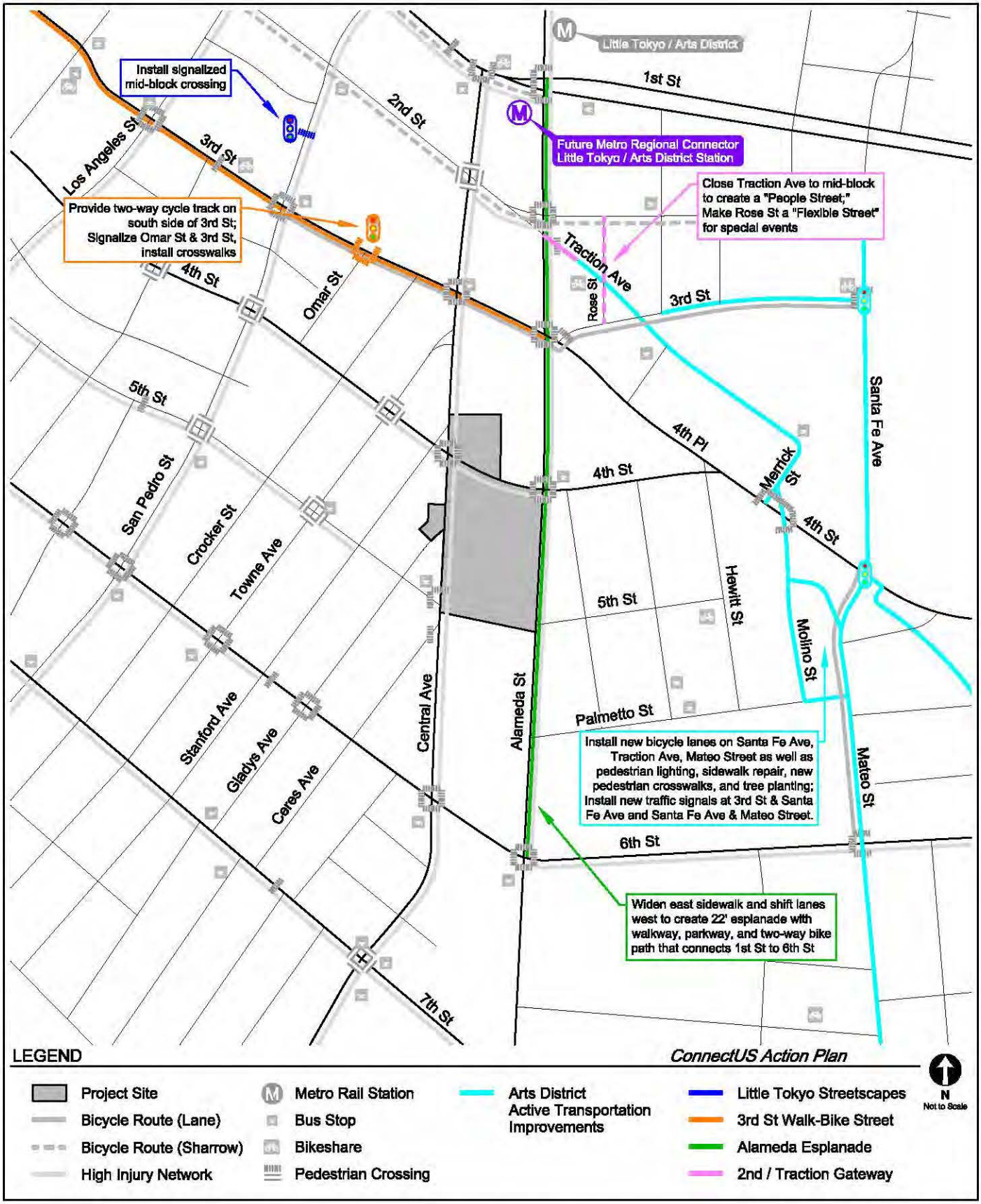
PEDESTRIAN DESTINATIONS INVENTORY

FIGURE 8



EXISTING TRANSPORTATION FACILITIES

FIGURE 9



FUTURE TRANSPORTATION FACILITIES

FIGURE 10

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: 4th & Central

Scenario: Project

Address: 400 S CENTRAL AVE, 90013



If the project is replacing an existing number of residential units with a smaller number of residential units, is the proposed project located within one-half mile of a fixed-rail or fixed-guideway transit station?

○ Yes ◉ No

Existing Land Use

Land Use Type	Value	Unit
Industrial | Warehousing/Self-Storage	360.734	ksf

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
Retail | High-Turnover Sit-Down Restaurant	46.55	ksf
Housing | Multi-Family	1521	DU
Housing | Hotel	68	Rooms
Office | General Office	411.113	ksf
Retail | General Retail	50.544	ksf
Retail | High-Turnover Sit-Down Restaurant	50.544	ksf

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
659 Daily Vehicle Trips	13,339 Daily Vehicle Trips
4,518 Daily VMT	87,227 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	12,680 Net Daily Trips
The net increase in daily VMT ≤ 0	82,709 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	101.088 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

11/3/2021

VMT Calculator User Agreement

The Los Angeles Department of Transportation (LADOT), in partnership with the Department of City Planning and Fehr & Peers, has developed the City of Los Angeles Vehicle Miles Traveled (VMT) Calculator to estimate project-specific daily household VMT per capita and daily work VMT per employee for land use development projects. This application, the VMT Calculator, has been provided to You, the User, to assess vehicle miles traveled (VMT) outcomes of land use projects within the City of Los Angeles. The term "City" as used below shall refer to the City of Los Angeles. The terms "City" and "Fehr & Peers" as used below shall include their respective affiliates, subconsultants, employees, and representatives.

The City is pleased to be able to provide this information to the public. The City believes that the public is most effectively served when they are provided access to the technical tools that inform the public review process of private and public land use investments. However, in using the VMT Calculator, You agree to be bound by this VMT Calculator User Agreement (this Agreement).

VMT Calculator Application for the City of Los Angeles. The City's consultant calibrated the VMT Calculator's parameters in 2018 to estimate travel patterns of locations in the City, and validated those outcomes against empirical data. However, this calibration process is limited to locations within the City, and practitioners applying the VMT Calculator outside of the City boundaries should not apply these estimates without further calibration and validation of travel patterns to verify the VMT Calculator's accuracy in estimating VMT in such other locations.

Limited License to Use. This Agreement gives You a limited, non-transferrable, non-assignable, and non-exclusive license to use and execute a copy of the VMT Calculator on a computer system owned, leased or otherwise controlled by You in Your own facilities, as set out below, provided You do not use the VMT Calculator in an unauthorized manner, and that You do not republish, copy, distribute, reverse-engineer, modify, decompile, disassemble, transfer, or sell any part of the VMT Calculator, and provided that You know and follow the terms of this Agreement. Your failure to follow the terms of this Agreement shall automatically terminate this license and Your right to use the VMT Calculator.

Ownership. You understand and acknowledge that the City owns the VMT Calculator, and shall continue to own it through Your use of it, and that no transfer of ownership of any kind is intended in allowing You to use the VMT Calculator.

Warranty Disclaimer. In spite of the efforts of the City and Fehr & Peers, some information on the VMT Calculator may not be accurate. The VMT Calculator, OUTPUTS AND ASSOCIATED DATA ARE PROVIDED "as is" WITHOUT WARRANTY OF ANY KIND, whether expressed, implied, statutory, or otherwise including but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Limitation of Liability. It is understood that the VMT Calculator is provided without charge. Neither the City nor Fehr & Peers can be responsible or liable for any information derived from its use, or for any delays, inaccuracies, incompleteness, errors or omissions arising out of your use of the VMT Calculator or with respect to the material contained in the VMT Calculator. You understand and agree that Your sole remedy against the City or Fehr & Peers for loss or damage caused by any defect or failure of the

VMT Calculator, regardless of the form of action, whether in contract, tort, including negligence, strict liability or otherwise, shall be the repair or replacement of the VMT Calculator to the extent feasible as determined solely by the City. In no event shall the City or Fehr & Peers be responsible to You or anyone else for, or have liability for any special, indirect, incidental or consequential damages (including, without limitation, damages for loss of business profits or changes to businesses costs) or lost data or downtime, however caused, and on any theory of liability from the use of, or the inability to use, the VMT Calculator, whether the data, and/or formulas contained in the VMT Calculator are provided by the City or Fehr & Peers, or another third party, even if the City or Fehr & Peers have been advised of the possibility of such damages.

This Agreement and License shall be governed by the laws of the State of California without regard to their conflicts of law provisions, and shall be effective as of the date set forth below and, unless terminated in accordance with the above or extended by written amendment to this Agreement, shall terminate on the earlier of the date that You are not making use of the VMT Calculator or one year after the beginning of Your use of the VMT Calculator.

By using the VMT Calculator, You hereby waive and release all claims, responsibilities, liabilities, actions, damages, costs, and losses, known and unknown, against the City and Fehr & Peers for Your use of the VMT Calculator.

Before making decisions using the information provided in this application, contact City LADOT staff to confirm the validity of the data provided.

Print and sign below, and submit to LADOT along with the transportation assessment Memorandum of Understanding (MOU).

You, the User	
By:	Janet Ye
Print Name:	Janet Ye
Title:	Associate
Company:	Gibson Transportation Consulting, Inc.
Address:	555 W. 5th St., Suite 3375 Los Angeles, CA 90013
Phone:	(213) 683-0088
Email Address:	jye@gibsontrans.com
Date:	October 20, 2021

Appendix B

Traffic Counts

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

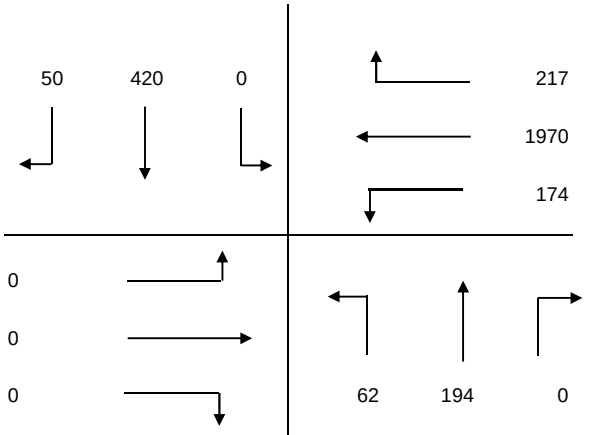
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR
PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS
DATE: WEDNESDAY APRIL 28, 2009
PERIOD: 7:00 AM TO 9:00 AM
INTERSECTION: N/S SAN PEDRO STREET
E/W THIRD STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-715	6	36	0	41	404	15	0	39	7	0	0	0	548
715-730	5	59	0	40	457	10	0	32	5	0	0	0	608
730-745	7	92	0	35	499	20	0	52	16	0	0	0	721
745-800	13	126	0	52	504	43	0	51	12	0	0	0	801
800-815	12	104	0	62	505	45	0	50	18	0	0	0	796
815-830	10	102	0	64	485	39	0	43	19	0	0	0	762
830-845	15	88	0	39	476	47	0	50	13	0	0	0	728
845-900	12	99	0	54	485	50	0	57	20	0	0	0	777
HOUR TOTALS													
700-800	31	313	0	168	1864	88	0	174	40	0	0	0	2678
715-815	37	381	0	189	1965	118	0	185	51	0	0	0	2926
730-830	42	424	0	213	1993	147	0	196	65	0	0	0	3080
745-845	50	420	0	217	1970	174	0	194	62	0	0	0	3087
800-900	49	393	0	219	1951	181	0	200	70	0	0	0	3063

AM PEAK HOUR
745-845





PEDESTRIAN COUNTS				
PERIOD 15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
700-715	0	5	5	8
715-730	4	4	6	11
730-745	1	7	7	3
745-800	5	12	2	7
800-815	5	5	7	6
815-830	5	12	4	2
830-845	6	9	7	4
845-900	7	14	21	14
HOUR TOTALS				
700-800	10	28	20	29
715-815	15	28	22	27
730-830	16	36	20	18
745-845	21	38	20	19
800-900	23	40	39	26

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

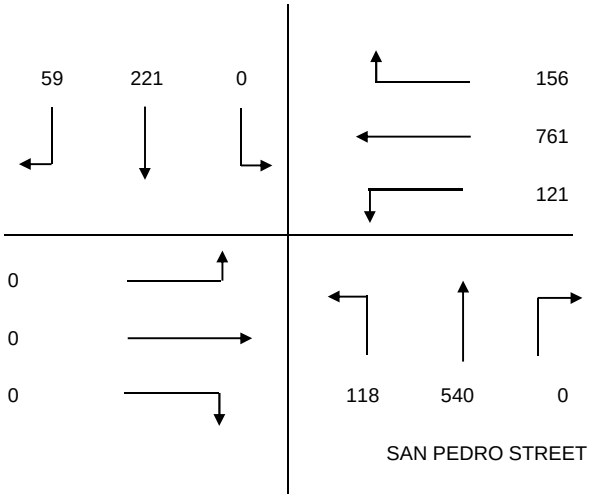
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR
PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS
DATE: WEDNESDAY APRIL 28, 2009
PERIOD: 4:00 PM TO 6:00 PM
INTERSECTION: N/S SAN PEDRO STREET
E/W THIRD STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-415	11	78	0	20	177	32	0	81	21	0	0	0	420
415-430	18	63	0	31	166	37	0	69	18	0	0	0	402
430-445	25	64	0	29	191	33	0	99	23	0	0	0	464
445-500	15	73	0	20	183	27	0	84	18	0	0	0	420
500-515	12	59	0	32	203	35	0	105	24	0	0	0	470
515-530	14	65	0	35	169	35	0	111	20	0	0	0	449
530-545	12	44	0	32	184	28	0	163	33	0	0	0	496
545-600	21	53	0	57	205	23	0	161	41	0	0	0	561
HOUR TOTALS													
400-500	69	278	0	100	717	129	0	333	80	0	0	0	1706
415-515	70	259	0	112	743	132	0	357	83	0	0	0	1756
430-530	66	261	0	116	746	130	0	399	85	0	0	0	1803
445-545	53	241	0	119	739	125	0	463	95	0	0	0	1835
500-600	59	221	0	156	761	121	0	540	118	0	0	0	1976

PM PEAK HOUR
500-600





PEDESTRIAN COUNTS				
PERIOD 15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
400-415	10	29	27	11
415-430	8	13	17	14
430-445	5	17	23	15
445-500	20	11	31	13
500-515	7	4	30	16
515-530	6	6	11	9
530-545	9	16	16	16
545-600	2	17	14	6
HOUR TOTALS				
400-500	43	70	98	53
415-515	40	45	101	58
430-530	38	38	95	53
445-545	42	37	88	54
500-600	24	43	71	47

City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South San Pedro Street

East/West 4th Street

Day: Thursday **Date:** October 12, 2017 **Weather:** CLEAR

Hours: 7-10AM 3-6PM **Staff:** CUI

School Day: YES **District:** Central I/S CODE 8914

	N/B	S/B	E/B	W/B
DUAL-WHEELED	93	94	168	0
BIKES	41	29	56	18
BUSES	28	38	73	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	119	9.15	184	9.00	197	7.45	0	7.00
PM PK 15 MIN	232	5.45	166	4.30	491	5.30	0	3.00
AM PK HOUR	400	9.00	629	8.15	688	7.45	0	7.00
PM PK HOUR	813	5.00	554	4.00	1707	4.45	0	3.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	241	51	292
8-9	0	285	66	351
9-10	0	280	120	400
3-4	0	377	98	475
4-5	0	411	113	524
5-6	0	687	126	813
TOTAL	0	2281	574	2855

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	31	399	0	430
8-9	43	559	0	602
9-10	73	520	0	593
3-4	77	356	0	433
4-5	98	456	0	554
5-6	88	357	0	445
TOTAL	410	2647	0	3057

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
722	24	0	28	0
953	35	0	22	0
993	60	1	48	0
908	82	0	67	0
1078	50	0	48	0
1258	53	0	41	0
5912	304	1	254	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	32	479	98	609
8-9	46	526	100	672
9-10	62	436	97	595
3-4	63	963	97	1123
4-5	77	1286	108	1471
5-6	109	1467	75	1651
TOTAL	389	5157	575	6121

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
609	44	0	44	0
672	53	0	78	0
595	63	0	92	0
1123	98	0	78	0
1471	121	0	89	1
1651	77	0	104	0
6121	456	0	485	1

(Rev Oct 06)

City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South San Pedro Street

East/West 5th Street

Day: Thursday **Date:** October 12, 2017 **Weather:** CLEAR

Hours: 7-10AM 3-6PM **Staff:** CUI

School Day: YES **District:** Central I/S CODE 8700

	N/B	S/B	E/B	W/B
DUAL-WHEELED	65	94	0	79
BIKES	94	87	69	106
BUSES	76	53	0	170

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	117	9.45	179	9.00	0	7.00	117	8.30
PM PK 15 MIN	207	5.45	177	4.30	0	3.00	102	5.45
AM PK HOUR	388	9.00	670	8.30	0	7.00	449	8.00
PM PK HOUR	769	5.00	598	4.00	0	3.00	360	5.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	54	239	0	293
8-9	53	292	0	345
9-10	77	311	0	388
3-4	66	412	0	478
4-5	55	413	0	468
5-6	67	702	0	769
TOTAL	372	2369	0	2741

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	433	54	487
8-9	0	569	91	660
9-10	0	536	100	636
3-4	0	394	98	492
4-5	0	479	119	598
5-6	0	408	68	476
TOTAL	0	2819	530	3349

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
780	128	2	184	2
1005	183	0	230	0
1024	219	0	232	0
970	180	5	177	1
1066	149	1	139	1
1245	140	0	161	4
6090	999	8	1123	8

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	23	349	15	387
8-9	21	395	33	449
9-10	37	270	34	341
3-4	27	197	32	256
4-5	40	219	35	294
5-6	33	278	49	360
TOTAL	181	1708	198	2087

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
387	216	3	162	1
449	203	0	163	0
341	181	0	188	0
256	169	3	124	2
294	152	1	104	0
360	177	11	108	0
2087	1098	18	849	3

(Rev Oct 06)

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

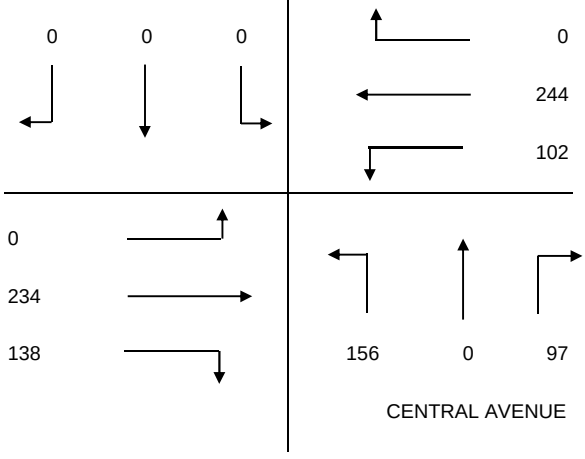
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR
PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS
DATE: WEDNESDAY APRIL 22, 2009
PERIOD: 7:00 AM TO 9:00 AM
INTERSECTION: N/S CENTRAL AVENUE
E/W FIRST STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-715	0	0	0	0	51	26	18	0	30	25	60	0	210
715-730	0	0	0	0	71	18	25	0	33	25	50	0	222
730-745	0	0	0	0	49	29	26	0	46	21	49	0	220
745-800	0	0	0	0	66	30	24	0	49	33	68	0	270
800-815	0	0	0	0	63	23	26	0	26	40	56	0	234
815-830	0	0	0	0	55	29	26	0	25	45	58	0	238
830-845	0	0	0	0	60	20	21	0	56	20	52	0	229
845-900	0	0	0	0	48	27	22	0	35	29	63	0	224
HOUR TOTALS													
700-800	0	0	0	0	237	103	93	0	158	104	227	0	922
715-815	0	0	0	0	249	100	101	0	154	119	223	0	946
730-830	0	0	0	0	233	111	102	0	146	139	231	0	962
745-845	0	0	0	0	244	102	97	0	156	138	234	0	971
800-900	0	0	0	0	226	99	95	0	142	134	229	0	925

AM PEAK HOUR
745-845





PEDESTRIAN COUNTS				
PERIOD 15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
700-715	0	2	0	10
715-730	0	2	2	10
730-745	0	2	8	10
745-800	0	6	9	9
800-815	0	4	3	6
815-830	0	7	1	14
830-845	0	3	3	11
845-900	0	8	7	13
HOUR TOTALS				
700-800	0	12	19	39
715-815	0	14	22	35
730-830	0	19	21	39
745-845	0	20	16	40
800-900	0	22	14	44

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

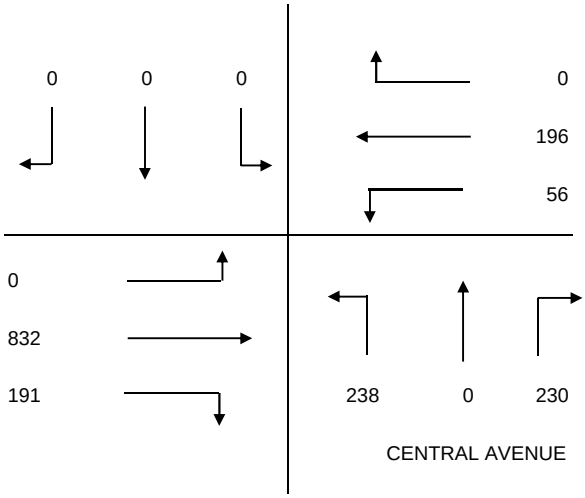
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR
PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS
DATE: WEDNESDAY APRIL 22, 2009
PERIOD: 4:00 PM TO 6:00 PM
INTERSECTION: N/S CENTRAL AVENUE
E/W FIRST STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
430-445	0	0	0	0	45	22	49	0	29	41	150	0	336
445-500	0	0	0	0	50	14	34	0	45	51	193	0	387
500-515	0	0	0	0	54	26	44	0	42	46	170	0	382
515-530	0	0	0	0	57	12	41	0	59	36	189	0	394
530-545	0	0	0	0	56	14	66	0	54	46	221	0	457
545-600	0	0	0	0	40	11	56	0	61	46	221	0	435
600-615	0	0	0	0	32	12	53	0	60	40	216	0	413
615-630	0	0	0	0	68	19	55	0	63	59	174	0	438
HOUR TOTALS													
430-530	0	0	0	0	206	74	168	0	175	174	702	0	1499
445-545	0	0	0	0	217	66	185	0	200	179	773	0	1620
500-600	0	0	0	0	207	63	207	0	216	174	801	0	1668
515-615	0	0	0	0	185	49	216	0	234	168	847	0	1699
530-630	0	0	0	0	196	56	230	0	238	191	832	0	1743

PM PEAK HOUR
530-630





PEDESTRIAN COUNTS				
PERIOD 15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
400-415	0	14	17	10
415-430	0	6	8	30
430-445	0	10	23	31
445-500	0	6	35	39
500-515	0	25	27	20
515-530	0	13	19	28
530-545	0	6	13	8
545-600	0	9	16	9
HOUR TOTALS				
400-500	0	36	83	110
415-515	0	47	93	120
430-530	0	54	104	118
445-545	0	50	94	95
500-600	0	53	75	65

WILTEC

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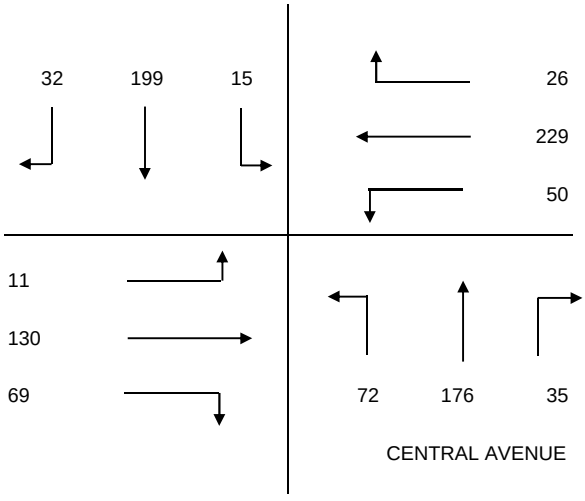
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR
PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS
DATE: WEDNESDAY APRIL 28, 2009
PERIOD: 7:00 AM TO 9:00 AM
INTERSECTION: N/S CENTRAL AVENUE
E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-715	3	37	3	8	35	8	10	29	19	9	27	2	190
715-730	7	24	1	7	47	7	8	40	14	12	28	5	200
730-745	4	44	7	5	45	15	9	52	20	15	26	3	245
745-800	6	49	4	5	66	12	5	55	16	23	32	5	278
800-815	8	52	2	7	60	14	13	35	18	16	38	1	264
815-830	14	54	2	9	58	9	8	34	18	15	34	2	257
830-845	12	33	4	6	59	18	11	37	20	10	24	8	242
845-900	18	41	8	3	59	10	10	22	16	14	47	2	250
HOUR TOTALS													
700-800	20	154	15	25	193	42	32	176	69	59	113	15	913
715-815	25	169	14	24	218	48	35	182	68	66	124	14	987
730-830	32	199	15	26	229	50	35	176	72	69	130	11	1044
745-845	40	188	12	27	243	53	37	161	72	64	128	16	1041
800-900	52	180	16	25	236	51	42	128	72	55	143	13	1013

AM PEAK HOUR
730-830





PEDESTRIAN COUNTS				
PERIOD 15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
700-715	6	8	1	14
715-730	6	8	5	15
730-745	13	7	3	8
745-800	20	9	5	5
800-815	19	14	10	7
815-830	12	11	9	12
830-845	23	10	6	6
845-900	21	13	17	8
HOUR TOTALS				
700-800	45	32	14	42
715-815	58	38	23	35
730-830	64	41	27	32
745-845	74	44	30	30
800-900	75	48	42	33

WILTEC

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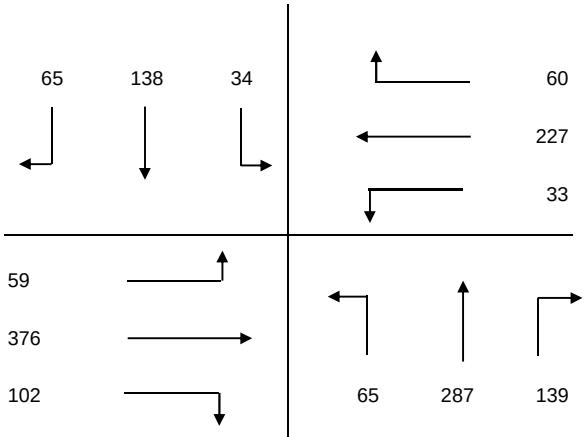
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR
PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS
DATE: WEDNESDAY APRIL 28, 2009
PERIOD: 4:00 PM TO 6:00 PM
INTERSECTION: N/S CENTRAL AVENUE
E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-415	17	46	9	9	46	6	21	55	20	33	93	14	369
415-430	11	39	10	16	49	11	14	66	16	26	88	14	360
430-445	18	41	11	8	46	8	16	61	24	20	103	6	362
445-500	11	35	6	14	59	0	30	54	15	25	108	12	369
500-515	16	37	8	14	63	8	34	72	12	32	93	20	409
515-530	20	32	7	22	52	7	30	56	18	26	102	20	392
530-545	10	34	8	10	52	11	31	61	14	20	94	13	358
545-600	19	35	11	14	60	7	44	98	21	24	87	6	426
HOUR TOTALS													
400-500	57	161	36	47	200	25	81	236	75	104	392	46	1460
415-515	56	152	35	52	217	27	94	253	67	103	392	52	1500
430-530	65	145	32	58	220	23	110	243	69	103	406	58	1532
445-545	57	138	29	60	226	26	125	243	59	103	397	65	1528
500-600	65	138	34	60	227	33	139	287	65	102	376	59	1585

PM PEAK HOUR
500-600





PEDESTRIAN COUNTS				
PERIOD 15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
400-415	57	20	11	7
415-430	40	26	21	7
430-445	31	11	28	6
445-500	56	22	10	11
500-515	46	37	17	7
515-530	55	23	15	12
530-545	51	26	14	3
545-600	49	24	11	7
HOUR TOTALS				
400-500	184	79	70	31
415-515	173	96	76	31
430-530	188	93	70	36
445-545	208	108	56	33
500-600	201	110	57	29

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Central Ave

East/West 3rd St

Day: Thursday Date: November 21, 2013 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	92	48	0	212
BIKES	34	24	32	33
BUSES	15	18	0	101

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	121	8.45	162	8.30	0	0.00	708	8.00
PM PK 15 MIN	279	17.30	103	17.00	0	0.00	347	17.00
AM PK HOUR	469	8.45	515	8.00	0	0.00	2548	8.00
PM PK HOUR	1036	17.00	375	16.30	0	0.00	1241	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	112	244	0	356
8-9	137	271	0	408
9-10	158	309	0	467
15-16	114	308	0	422
16-17	171	501	0	672
17-18	289	747	0	1036
TOTAL	981	2380	0	3361

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	310	55	365
8-9	0	403	112	515
9-10	0	301	99	400
15-16	0	218	60	278
16-17	0	258	81	339
17-18	0	272	92	364
TOTAL	0	1762	499	2261

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
721	18	0	16	0
923	13	0	28	0
867	39	0	41	0
700	56	0	66	0
1011	51	0	47	0
1400	30	0	32	0
5622	207	0	230	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	174	1510	36	1720
8-9	203	2260	85	2548
9-10	164	1690	99	1953
15-16	102	723	38	863
16-17	84	866	104	1054
17-18	115	994	132	1241
TOTAL	842	8043	494	9379

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1720	26	0	24	2
2548	35	0	27	0
1953	54	0	27	0
863	77	0	55	0
1054	41	0	70	0
1241	28	0	52	0
9379	261	0	255	2

National Data & Surveying Services

Intersection Turning Movement Count

Location: Central Ave & 4th St
City: Los Angeles
Control: Signalized

Project ID: 18-05768-002
Date: 11/28/2018

Total

NS/EW Streets:	Central Ave				Central Ave				4th St				4th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	0	4	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	56	16	0	8	75	0	0	2	84	15	0	0	0	0	0	256
7:15 AM	0	80	11	0	6	78	0	0	5	72	15	0	0	0	0	0	267
7:30 AM	0	63	19	0	3	127	0	0	4	90	21	0	0	0	0	0	327
7:45 AM	0	67	14	0	4	113	0	0	8	98	19	0	0	0	0	0	323
8:00 AM	0	64	14	0	3	117	0	0	5	97	30	0	0	0	0	0	330
8:15 AM	0	65	20	0	6	120	0	0	5	99	18	0	0	0	0	0	333
8:30 AM	0	63	16	0	6	112	0	0	12	115	31	0	0	0	0	0	355
8:45 AM	0	60	18	0	9	117	0	0	11	119	34	0	0	0	0	0	368
9:00 AM	0	59	20	0	7	104	0	0	7	97	23	0	0	0	0	0	317
9:15 AM	0	54	20	0	6	108	0	0	4	96	30	0	0	0	0	0	318
9:30 AM	0	61	21	0	8	82	0	0	8	84	26	0	0	0	0	0	290
9:45 AM	0	58	25	0	6	82	0	0	11	112	39	0	0	0	0	0	333
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	750	214	0	72	1235	0	0	82	1163	301	0	0	0	0	0	3817
APPROACH %'s :	0.00%	77.80%	22.20%	0.00%	5.51%	94.49%	0.00%	0.00%	5.30%	75.23%	19.47%	0.00%					
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	252	68	0	24	466	0	0	33	430	113	0	0	0	0	0	1386
PEAK HR FACTOR :	0.000	0.969	0.850	0.000	0.667	0.971	0.000	0.000	0.688	0.903	0.831	0.000	0.000	0.000	0.000	0.000	0.942
		0.941				0.972				0.878							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	0	4	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	119	58	0	17	111	0	0	21	282	65	0	0	0	0	0	673
4:15 PM	0	133	52	0	16	95	0	0	25	385	45	0	0	0	0	0	751
4:30 PM	0	141	56	0	28	81	0	0	25	385	32	0	0	0	0	0	748
4:45 PM	0	147	45	0	22	95	0	0	36	428	48	0	0	0	0	0	821
5:00 PM	0	172	87	0	26	97	0	1	29	426	56	0	0	0	0	0	894
5:15 PM	0	194	88	0	25	70	0	0	55	442	39	0	0	0	0	0	913
5:30 PM	0	239	99	0	25	96	0	0	35	425	47	0	0	0	0	0	966
5:45 PM	0	228	97	0	18	82	0	2	20	397	34	0	0	0	0	0	878
6:00 PM	0	163	83	0	28	66	0	0	20	290	39	0	0	0	0	0	689
6:15 PM	0	166	86	0	14	67	0	0	18	348	30	0	0	0	0	0	729
6:30 PM	0	117	68	0	27	65	0	0	27	336	25	0	0	0	0	0	665
6:45 PM	0	122	43	0	18	49	0	0	11	246	20	0	0	0	0	0	509
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1941	862	0	264	974	0	3	322	4390	480	0	0	0	0	0	9236
APPROACH %'s :	0.00%	69.25%	30.75%	0.00%	21.27%	78.49%	0.00%	0.24%	6.20%	84.55%	9.24%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	833	371	0	94	345	0	3	139	1690	176	0	0	0	0	0	3651
PEAK HR FACTOR :	0.000	0.871	0.937	0.000	0.904	0.889	0.000	0.375	0.632	0.956	0.786	0.000	0.000	0.000	0.000	0.000	0.945
		0.891				0.891				0.935							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Central Ave & 4th St
City: Los Angeles
Control: Signalized

Project ID: 18-05768-002
Date: 11/28/2018

Bikes

NS/EW Streets:	Central Ave				Central Ave				4th St				4th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	0	4	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	3	0	0	0	2	0	0	0	1	0	0	7
7:15 AM	0	0	1	0	0	1	0	0	0	2	0	0	0	0	0	0	4
7:30 AM	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	1	0	0	0	4	0	0	0	0	0	0	5
8:00 AM	1	1	2	0	0	3	0	0	1	1	0	0	0	0	0	0	9
8:15 AM	0	1	0	0	0	2	0	0	0	1	0	0	0	0	0	0	4
8:30 AM	0	0	0	0	0	4	0	0	0	4	3	0	0	0	0	0	11
8:45 AM	0	2	0	0	0	0	0	0	0	0	1	0	0	2	0	0	5
9:00 AM	0	1	0	0	0	0	0	0	0	3	2	1	0	0	0	0	7
9:15 AM	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	3
9:30 AM	0	2	1	0	0	1	0	0	0	2	0	0	0	0	0	0	6
9:45 AM	1	0	0	0	1	2	0	0	0	1	1	0	0	0	0	0	6
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	8	4	0	1	18	0	0	1	23	7	1	0	3	0	0	70
APPROACH %'s :	25.00%	50.00%	25.00%	0.00%	5.26%	94.74%	0.00%	0.00%	3.13%	71.88%	21.88%	3.13%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	1	4	2	0	0	9	0	0	1	6	4	0	0	2	0	0	29
PEAK HR FACTOR :	0.250	0.500	0.250	0.000	0.000	0.563	0.000	0.000	0.250	0.375	0.333	0.000	0.000	0.250	0.000	0.000	0.659
		0.438				0.563				0.393				0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	0	4	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	1	0	0	1	0	0	1	1	1	0	1	1	0	0	7
4:15 PM	0	1	0	0	0	1	1	0	0	1	1	0	0	0	0	0	5
4:30 PM	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	4
4:45 PM	0	0	1	0	0	3	2	0	0	2	3	0	1	0	1	0	13
5:00 PM	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3
5:15 PM	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3
5:30 PM	1	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	4
5:45 PM	0	0	0	0	0	1	0	0	0	0	2	0	0	1	0	0	4
6:00 PM	0	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	4
6:15 PM	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	3
6:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:45 PM	1	3	0	0	0	0	0	0	0	1	0	0	1	1	0	0	7
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	9	5	0	1	9	3	0	1	12	7	0	3	3	3	0	58
APPROACH %'s :	12.50%	56.25%	31.25%	0.00%	7.69%	69.23%	23.08%	0.00%	5.00%	60.00%	35.00%	0.00%	33.33%	33.33%	33.33%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	3	0	0	0	3	0	0	0	3	2	0	0	1	1	0	14
PEAK HR FACTOR :	0.25	0.750	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.375	0.250	0.000	0.000	0.250	0.250	0.000	0.875
		0.500				0.750				0.625				0.500			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Central Ave & 4th St
City: Los Angeles
Project ID: 18-05768-002
Date: 11/28/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Central Ave		Central Ave		4th St		4th St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	1	0	1	3	3	1	1	2	12
7:15 AM	2	1	3	1	2	0	3	3	15
7:30 AM	1	3	3	4	2	6	2	2	23
7:45 AM	5	0	5	4	1	3	3	1	22
8:00 AM	1	1	3	3	1	1	4	1	15
8:15 AM	0	2	3	2	1	2	2	0	12
8:30 AM	1	1	3	2	2	6	0	0	15
8:45 AM	5	1	5	3	3	4	4	2	27
9:00 AM	1	2	4	4	0	2	5	3	21
9:15 AM	0	3	5	2	6	7	2	0	25
9:30 AM	1	2	2	3	5	1	3	1	18
9:45 AM	3	0	1	5	3	5	3	0	20
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	21	16	38	36	29	38	32	15	225
APPROACH %'s :	56.76%	43.24%	51.35%	48.65%	43.28%	56.72%	68.09%	31.91%	
PEAK HR :	**08:00 AM - 09:00 AM**								TOTAL
PEAK HR VOL :	7	5	14	10	7	13	10	3	69
PEAK HR FACTOR :	0.350	0.625	0.700	0.833	0.583	0.542	0.625	0.375	0.639
	0.500		0.750		0.625		0.542		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	5	2	5	11	0	6	1	1	31
4:15 PM	2	1	2	9	1	3	0	1	19
4:30 PM	1	2	5	5	2	5	1	2	23
4:45 PM	0	2	3	7	5	3	2	0	22
5:00 PM	6	1	1	3	3	7	5	3	29
5:15 PM	2	1	3	0	1	0	2	2	11
5:30 PM	1	4	3	1	3	0	0	3	15
5:45 PM	1	0	1	5	2	5	3	1	18
6:00 PM	1	0	4	1	4	2	1	1	14
6:15 PM	1	0	2	0	2	0	1	1	7
6:30 PM	2	2	1	0	1	1	1	0	8
6:45 PM	0	2	2	0	0	1	3	1	9
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	22	17	32	42	24	33	20	16	206
APPROACH %'s :	56.41%	43.59%	43.24%	56.76%	42.11%	57.89%	55.56%	44.44%	
PEAK HR :	**05:00 PM - 06:00 PM**								TOTAL
PEAK HR VOL :	10	6	8	9	9	12	10	9	73
PEAK HR FACTOR :	0.417	0.375	0.667	0.450	0.750	0.429	0.500	0.750	0.629
	0.571		0.708		0.525		0.594		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Central Ave & 4th St
City: Los Angeles
Control: Signalized

Project ID: 18-05768-002
Date: 11/28/2018

Bikes

NS/EW Streets:	Central Ave				Central Ave				4th St				4th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	0	4	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	3	0	0	0	2	0	0	0	1	0	0	7
7:15 AM	0	0	1	0	0	1	0	0	0	2	0	0	0	0	0	0	4
7:30 AM	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	1	0	0	0	4	0	0	0	0	0	0	5
8:00 AM	1	1	2	0	0	3	0	0	1	1	0	0	0	0	0	0	9
8:15 AM	0	1	0	0	0	2	0	0	0	1	0	0	0	0	0	0	4
8:30 AM	0	0	0	0	0	4	0	0	0	4	3	0	0	0	0	0	11
8:45 AM	0	2	0	0	0	0	0	0	0	0	1	0	0	2	0	0	5
9:00 AM	0	1	0	0	0	0	0	0	0	3	2	1	0	0	0	0	7
9:15 AM	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	3
9:30 AM	0	2	1	0	0	1	0	0	0	2	0	0	0	0	0	0	6
9:45 AM	1	0	0	0	1	2	0	0	0	1	1	0	0	0	0	0	6
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	8	4	0	1	18	0	0	1	23	7	1	0	3	0	0	70
APPROACH %'s :	25.00%	50.00%	25.00%	0.00%	5.26%	94.74%	0.00%	0.00%	3.13%	71.88%	21.88%	3.13%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	1	4	2	0	0	9	0	0	1	6	4	0	0	2	0	0	29
PEAK HR FACTOR :	0.250	0.500	0.250	0.000	0.000	0.563	0.000	0.000	0.250	0.375	0.333	0.000	0.000	0.250	0.000	0.000	0.659
		0.438				0.563				0.393				0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	0	4	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	1	0	0	1	0	0	1	1	1	0	1	1	0	0	7
4:15 PM	0	1	0	0	0	1	1	0	0	1	1	0	0	0	0	0	5
4:30 PM	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	4
4:45 PM	0	0	1	0	0	3	2	0	0	2	3	0	1	0	1	0	13
5:00 PM	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3
5:15 PM	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3
5:30 PM	1	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	4
5:45 PM	0	0	0	0	0	1	0	0	0	0	2	0	0	1	0	0	4
6:00 PM	0	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	4
6:15 PM	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	3
6:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:45 PM	1	3	0	0	0	0	0	0	0	1	0	0	1	1	0	0	7
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	9	5	0	1	9	3	0	1	12	7	0	3	3	3	0	58
APPROACH %'s :	12.50%	56.25%	31.25%	0.00%	7.69%	69.23%	23.08%	0.00%	5.00%	60.00%	35.00%	0.00%	33.33%	33.33%	33.33%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	1	3	0	0	0	3	0	0	0	3	2	0	0	1	1	0	14
PEAK HR FACTOR :	0.25	0.750	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.375	0.250	0.000	0.000	0.250	0.250	0.000	0.875
		0.500				0.750				0.625				0.500			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Central Ave & 4th St
City: Los Angeles
Project ID: 18-05768-002
Date: 11/28/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Central Ave		Central Ave		4th St		4th St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	1	0	1	3	3	1	1	2	12
7:15 AM	2	1	3	1	2	0	3	3	15
7:30 AM	1	3	3	4	2	6	2	2	23
7:45 AM	5	0	5	4	1	3	3	1	22
8:00 AM	1	1	3	3	1	1	4	1	15
8:15 AM	0	2	3	2	1	2	2	0	12
8:30 AM	1	1	3	2	2	6	0	0	15
8:45 AM	5	1	5	3	3	4	4	2	27
9:00 AM	1	2	4	4	0	2	5	3	21
9:15 AM	0	3	5	2	6	7	2	0	25
9:30 AM	1	2	2	3	5	1	3	1	18
9:45 AM	3	0	1	5	3	5	3	0	20
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	21	16	38	36	29	38	32	15	225
APPROACH %'s :	56.76%	43.24%	51.35%	48.65%	43.28%	56.72%	68.09%	31.91%	
PEAK HR :	**08:00 AM - 09:00 AM**								TOTAL
PEAK HR VOL :	7	5	14	10	7	13	10	3	69
PEAK HR FACTOR :	0.350	0.625	0.700	0.833	0.583	0.542	0.625	0.375	0.639
	0.500		0.750		0.625		0.542		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	5	2	5	11	0	6	1	1	31
4:15 PM	2	1	2	9	1	3	0	1	19
4:30 PM	1	2	5	5	2	5	1	2	23
4:45 PM	0	2	3	7	5	3	2	0	22
5:00 PM	6	1	1	3	3	7	5	3	29
5:15 PM	2	1	3	0	1	0	2	2	11
5:30 PM	1	4	3	1	3	0	0	3	15
5:45 PM	1	0	1	5	2	5	3	1	18
6:00 PM	1	0	4	1	4	2	1	1	14
6:15 PM	1	0	2	0	2	0	1	1	7
6:30 PM	2	2	1	0	1	1	1	0	8
6:45 PM	0	2	2	0	0	1	3	1	9
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	22	17	32	42	24	33	20	16	206
APPROACH %'s :	56.41%	43.59%	43.24%	56.76%	42.11%	57.89%	55.56%	44.44%	
PEAK HR :	**05:00 PM - 06:00 PM**								TOTAL
PEAK HR VOL :	10	6	8	9	9	12	10	9	73
PEAK HR FACTOR :	0.417	0.375	0.667	0.450	0.750	0.429	0.500	0.750	0.629
	0.571		0.708		0.525		0.594		

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South CENTRAL AV

East/West 5 TH ST

Day: WEDNESDAY Date: January 10, 2007 Weather: CLEAR

Hours: 7-10AM 3-6PM

School Day: YES District: CENTRAL I/S CODE 1406082370

	N/B	S/B	E/B	W/B
DUAL-WHEELED	258	213	0	5
BIKES	8	11	4	0
BUSES	256	65	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	286	7.45	147	8.30	0	7.00	0	7.00
PM PK 15 MIN	258	4.45	150	3.45	0	3.00	3	3.00
AM PK HOUR	1013	7.45	532	8.15	0	7.00	0	7.00
PM PK HOUR	994	4.45	581	3.45	0	3.00	6	3.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	466	347	0	813
8-9	563	391	0	954
9-10	353	391	10	754
3-4	216	502	2	720
4-5	241	638	0	879
5-6	214	773	0	987
TOTAL	2053	3042	12	5107

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	438	12	450
8-9	0	519	11	530
9-10	2	459	20	481
3-4	0	434	24	458
4-5	1	533	15	549
5-6	1	502	21	524
TOTAL	4	2885	103	2992

TOTAL

N-S
1263
1484
1235
1178
1428
1511
8099

XING S/L

Ped	Sch
0	0
0	0
0	0
2	0
0	0
0	0
2	0

XING N/L

Ped	Sch
32	0
31	0
37	0
18	1
11	0
5	0
134	1

EASTBOUND Approach

DRIVEWAY

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	3	1	2	6
4-5	0	1	2	3
5-6	1	0	1	2
TOTAL	4	2	5	11

TOTAL

E-W
0
0
0
6
3
2
11

XING W/L

Ped	Sch
28	0
39	4
39	0
18	1
15	3
25	6
164	14

XING E/L

Ped	Sch
0	0
0	0
0	0
8	0
10	0
6	0
24	0

(Rev Oct 06)

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Central Ave
East/West 6th St

Day: TUESDAY Date: April 23, 2013 Weather: SUNNY
Hours: 7-10AM & 3-6PM Chekrs: NDS
School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	123	74	111	125
BIKES	45	29	29	28
BUSES	129	15	179	100

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	121	8.30	140	7.45	124	8.00	224	8.00
PM PK 15 MIN	263	17.45	103	16.30	266	17.15	132	17.45
AM PK HOUR	460	8.00	510	7.45	452	7.30	822	7.45
PM PK HOUR	909	17.00	379	16.30	951	17.00	473	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	345	50	395
8-9	0	386	74	460
9-10	0	396	45	441
15-16	0	417	81	498
16-17	0	484	101	585
17-18	0	736	173	909
TOTAL	0	2764	524	3288

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	18	377	0	395
8-9	19	470	0	489
9-10	23	325	0	348
15-16	30	304	0	334
16-17	30	323	0	353
17-18	26	318	0	344
TOTAL	146	2117	0	2263

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
790	23	1	74	5
949	33	1	74	3
789	39	0	50	0
832	35	0	38	0
938	29	0	57	3
1253	33	2	66	1
5551	192	4	359	12

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	32	267	86	385
8-9	42	292	107	441
9-10	49	262	105	416
15-16	77	457	118	652
16-17	79	547	113	739
17-18	122	705	124	951
TOTAL	401	2530	653	3584

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	269	0	434	703
8-9	291	0	510	801
9-10	214	0	299	513
15-16	162	0	208	370
16-17	161	0	215	376
17-18	172	0	301	473
TOTAL	1269	0	1967	3236

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1088	44	4	40	1
1242	33	0	39	1
929	28	0	30	0
1022	34	0	58	0
1115	20	0	34	1
1424	40	1	32	0
6820	199	5	233	3

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Central Ave
East/West 7th St

Day: TUESDAY Date: April 23, 2013 Weather: SUNNY

Hours: 7-10AM & 3-6PM Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	191	126	213	220
BIKES	61	53	56	52
BUSES	68	76	156	226

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	176	8.30	237	8.00	121	9.30	250	8.15
PM PK 15 MIN	281	17.30	168	17.15	245	17.00	165	17.30
AM PK HOUR	610	7.45	898	7.45	455	8.45	958	7.30
PM PK HOUR	967	17.00	634	16.30	933	17.00	604	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	60	347	133	540
8-9	63	409	132	604
9-10	79	370	140	589
15-16	74	408	126	608
16-17	55	486	130	671
17-18	56	778	133	967
TOTAL	387	2798	794	3979

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	31	562	107	700
8-9	33	681	140	854
9-10	35	474	99	608
15-16	50	465	74	589
16-17	41	512	62	615
17-18	41	520	59	620
TOTAL	231	3214	541	3986

TOTAL	XING S/L		XING N/L	
N-S	Ped	Sch	Ped	Sch
1240	24	1	43	1
1458	29	0	52	1
1197	26	0	49	0
1197	54	0	79	0
1286	37	0	60	0
1587	31	0	76	4
7965	201	1	359	6

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	29	263	44	336
8-9	51	292	52	395
9-10	44	353	50	447
15-16	69	531	66	666
16-17	62	572	79	713
17-18	91	772	70	933
TOTAL	346	2783	361	3490

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	129	676	59	864
8-9	170	704	83	957
9-10	105	601	76	782
15-16	73	399	66	538
16-17	94	340	66	500
17-18	94	450	60	604
TOTAL	665	3170	410	4245

TOTAL	XING W/L		XING E/L	
E-W	Ped	Sch	Ped	Sch
1200	23	0	30	3
1352	24	0	28	0
1229	19	0	37	0
1204	25	0	43	0
1213	35	0	24	0
1537	22	0	29	0
7735	148	0	191	3

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South ALAMEDA ST.

East/West 1st ST. (Late Shift)

Day: WEDNESDAY Date: March 9, 2014 Weather: SUNNY

Hours: 9:30-12:30AM 3:00-6:00PM

School Day: YES District: CENTRAL I/S CODE 8955

	N/B	S/B	E/B	W/B
DUAL-WHEELED	218	166	75	57
BIKES	17	15	27	13
BUSES	12	0	50	2

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	265	9.30	353	10.45	132	12.00	142	9.30
PM PK 15 MIN	279	4.30	369	4.00	331	5.45	91	5.30
AM PK HOUR	812	9.30	1126	10.45	503	11.30	471	9.30
PM PK HOUR	1058	4.15	1233	4.00	1219	5.00	347	5.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
9:30-10:30	48	742	22	812
10:30-11:30	33	608	24	665
11:30-12:30	57	717	35	809
3:00-4:00	24	820	40	884
4:00-5:00	52	886	66	1004
5:00-6:00	34	806	57	897
TOTAL	248	4579	244	5071

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
9:30-10:30	33	896	56	985
10:30-11:30	14	1005	51	1070
11:30-12:30	15	1041	49	1105
3:00-4:00	35	948	64	1047
4:00-5:00	61	1098	74	1233
5:00-6:00	35	957	74	1066
TOTAL	193	5945	368	6506

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1797	30	0	65	26
1735	21	2	34	1
1914	20	0	76	17
1931	29	0	185	0
2237	57	4	208	13
1963	33	2	173	12
11577	190	8	741	69

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
9:30-10:30	121	200	68	389
10:30-11:30	137	184	59	380
11:30-12:30	161	244	98	503
3:00-4:00	207	445	89	741
4:00-5:00	285	593	98	976
5:00-6:00	356	766	97	1219
TOTAL	1267	2432	509	4208

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
9:30-10:30	4	423	44	471
10:30-11:30	0	310	36	346
11:30-12:30	0	312	45	357
3:00-4:00	1	231	35	267
4:00-5:00	1	269	32	302
5:00-6:00	1	313	33	347
TOTAL	7	1858	225	2090

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
860	12	0	77	1
726	36	0	53	0
860	26	0	75	0
1008	59	1	55	1
1278	65	0	130	8
1566	52	0	110	0
6298	250	1	500	10

(Rev Oct 06)

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South ALAMEDA ST.

East/West 1ST ST. (Early Shift)

Day: THURSDAY Date: March 27, 2014 Weather: SUNNY

Hours: 7-9:30AM 12:30-3PM Chekrs: YT & JC

School Day: YES District: CENTRAL I/S CODE 8955

	N/B	S/B	E/B	W/B
DUAL-WHEELED	323	203	69	66
BIKES	26	26	25	26
BUSES	5	17	46	5

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	274	7.45	325	7.15	108	7.45	238	8.00
PM PK 15 MIN	318	14.15	252	12.45	204	14.45	100	14.30
AM PK HOUR	998	7.30	1225	8.15	403	7.45	884	7.15
PM PK HOUR	1170	14.00	995	12.45	683	14.00	311	12.30

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	90	790	30	910
8-9	98	817	36	951
9-930	48	395	29	472
1230-130	64	829	51	944
130-230	71	959	47	1077
230-3	35	522	26	583
TOTAL	406	4312	219	4937

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	14	1061	116	1191
8-9	20	1071	98	1189
9-930	10	535	48	593
1230-130	30	889	74	993
130-230	36	815	64	915
230-3	22	382	45	449
TOTAL	132	4753	445	5330

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
2101	63	0	47	0
2140	57	0	30	0
1065	24	0	21	0
1937	26	0	244	15
1992	47	0	234	18
1032	20	0	135	14
10267	237	0	711	47

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	79	157	54	290
8-9	93	210	80	383
9-930	46	107	40	193
1230-130	166	280	88	534
130-230	216	308	93	617
230-3	120	203	51	374
TOTAL	720	1265	406	2391

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	8	783	55	846
8-9	4	837	36	877
9-930	0	383	25	408
1230-130	4	284	23	311
130-230	1	248	26	275
230-3	1	161	14	176
TOTAL	18	2696	179	2893

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1136	26	0	83	0
1260	29	0	88	0
601	13	0	35	0
845	24	0	51	0
892	27	0	94	0
550	29	0	47	0
5284	148	0	398	0

(Rev Oct 06)

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Alameda St

East/West 2nd St_Traction Ave

Day: TUESDAY Date: May 14, 2013 Weather: SUNNY

Hours: 7-10AM & 3-6PM Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	251	214	29	20
BIKES	30	36	62	34
BUSES	42	30	4	1

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	204	7.15	274	7.30	59	8.45	84	8.00
PM PK 15 MIN	263	17.45	243	16.30	133	17.30	53	17.30
AM PK HOUR	778	7.15	994	8.45	213	7.30	286	7.30
PM PK HOUR	1031	17.00	921	16.00	498	17.00	197	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	74	673	18	765
8-9	95	623	19	737
9-10	63	602	16	681
15-16	76	769	34	879
16-17	68	830	35	933
17-18	86	875	70	1031
TOTAL	462	4372	192	5026

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	46	806	56	908
8-9	47	879	56	982
9-10	52	852	83	987
15-16	39	759	74	872
16-17	43	801	77	921
17-18	44	678	89	811
TOTAL	271	4775	435	5481

TOTAL	XING S/L		XING N/L	
N-S	Ped	Sch	Ped	Sch
1673	9	0	21	0
1719	15	0	18	0
1668	19	0	41	0
1751	48	1	38	1
1854	51	0	59	0
1842	59	0	54	0
10507	201	1	231	1

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	36	59	75	170
8-9	42	67	99	208
9-10	36	74	85	195
15-16	106	103	153	362
16-17	123	162	145	430
17-18	144	235	119	498
TOTAL	487	700	676	1863

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	55	110	56	221
8-9	60	152	66	278
9-10	45	101	50	196
15-16	40	59	55	154
16-17	29	73	53	155
17-18	37	113	47	197
TOTAL	266	608	327	1201

TOTAL	XING W/L		XING E/L	
E-W	Ped	Sch	Ped	Sch
391	16	0	23	0
486	7	0	29	0
391	22	0	26	0
516	30	0	30	1
585	36	0	31	0
695	40	0	44	0
3064	151	0	183	1

National Data & Surveying Services

Intersection Turning Movement Count

Location: Alameda St & 3rd St
City: Los Angeles
Control: Signalized

Project ID: 18-05768-001
Date: 11/28/2018

Total

NS/EW Streets:	Alameda St				Alameda St				3rd St				3rd St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	1	0	0	0	0	0	0	5	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	42	169	0	0	0	162	32	0	0	0	0	0	27	603	95	0	1130
7:15 AM	40	187	0	0	0	192	33	0	0	0	0	0	40	591	104	0	1187
7:30 AM	40	188	0	0	0	206	47	0	0	0	0	0	34	588	112	0	1215
7:45 AM	28	135	0	1	0	218	36	0	0	0	0	0	47	541	94	0	1100
8:00 AM	27	171	0	0	0	217	46	0	0	0	0	0	43	533	78	0	1115
8:15 AM	29	143	0	0	0	217	36	0	0	0	0	0	50	542	54	0	1071
8:30 AM	36	139	0	0	0	216	51	0	0	0	0	0	51	482	47	0	1022
8:45 AM	37	141	0	0	0	231	52	0	0	0	0	0	48	529	67	0	1105
9:00 AM	36	161	0	0	0	227	66	0	0	0	0	0	52	508	64	0	1114
9:15 AM	26	138	0	0	0	220	56	0	0	0	0	0	51	444	69	0	1004
9:30 AM	46	147	0	0	0	212	43	0	0	0	0	0	59	384	57	0	948
9:45 AM	32	144	0	0	0	218	49	0	0	0	0	0	57	412	67	0	979
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	419	1863	0	1	0	2536	547	0	0	0	0	0	559	6157	908	0	12990
APPROACH %'s :	18.35%	81.60%	0.00%	0.04%	0.00%	82.26%	17.74%	0.00%					7.33%	80.76%	11.91%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	150	679	0	1	0	778	148	0	0	0	0	0	148	2323	405	0	4632
PEAK HR FACTOR :	0.893	0.903	0.000	0.250	0.000	0.892	0.787	0.000	0.000	0.000	0.000	0.000	0.787	0.963	0.904	0.000	0.953
		0.910				0.911								0.978			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	1	0	0	0	0	0	0	5	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	57	179	0	0	0	205	54	0	0	0	0	0	29	215	20	0	759
4:15 PM	60	170	0	0	0	229	43	0	0	0	0	0	28	190	15	0	735
4:30 PM	69	186	0	0	0	174	34	0	0	0	0	0	38	233	24	0	758
4:45 PM	82	160	0	0	0	172	43	0	0	0	0	0	39	291	16	0	803
5:00 PM	100	105	0	0	0	183	50	0	0	0	0	0	46	282	23	0	789
5:15 PM	91	142	0	0	0	206	24	0	0	0	0	0	47	226	16	0	752
5:30 PM	91	137	0	0	0	187	36	0	0	0	0	0	49	271	22	0	793
5:45 PM	86	186	0	0	0	159	31	0	0	0	0	0	37	236	18	0	753
6:00 PM	87	161	0	0	0	165	29	0	0	0	0	0	49	241	22	0	754
6:15 PM	106	202	0	0	0	161	41	0	0	0	0	0	51	212	23	0	796
6:30 PM	64	208	0	0	0	175	29	0	0	0	0	0	47	245	30	0	798
6:45 PM	67	164	0	1	0	193	21	0	0	0	0	0	55	269	37	0	807
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	960	2000	0	1	0	2209	435	0	0	0	0	0	515	2911	266	0	9297
APPROACH %'s :	32.42%	67.54%	0.00%	0.03%	0.00%	83.55%	16.45%	0.00%					13.95%	78.85%	7.20%	0.00%	
PEAK HR :	06:00 PM - 07:00 PM																TOTAL
PEAK HR VOL :	324	735	0	1	0	694	120	0	0	0	0	0	202	967	112	0	3155
PEAK HR FACTOR :	0.764	0.883	0.000	0.250	0.000	0.899	0.732	0.000	0.000	0.000	0.000	0.000	0.918	0.899	0.757	0.000	0.977
		0.860				0.951								0.887			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Alameda St & 3rd St
City: Los Angeles
Control: Signalized

Project ID: 18-05768-001
Date: 11/28/2018

Bikes

NS/EW Streets:	Alameda St				Alameda St				3rd St				3rd St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	1	0	0	0	0	0	0	5	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	1	0	0	0	2	0	0	0	1	0	0	1	1	1	0	7
7:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
8:00 AM	2	1	0	0	0	2	1	0	0	0	0	0	0	2	0	0	8
8:15 AM	0	0	0	0	0	1	1	0	0	1	0	0	0	3	0	0	6
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
9:00 AM	0	0	0	0	1	0	1	0	0	1	0	0	0	2	0	0	5
9:15 AM	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3
9:30 AM	0	1	0	0	0	2	0	0	0	1	0	0	0	2	0	0	6
9:45 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	2	0	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	5	0	0	1	10	5	0	1	7	0	0	1	15	1	0	48
APPROACH %'s :	28.57%	71.43%	0.00%	0.00%	6.25%	62.50%	31.25%	0.00%	12.50%	87.50%	0.00%	0.00%	5.88%	88.24%	5.88%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	2	0	0	0	4	1	0	0	1	0	0	1	2	1	0	12
PEAK HR FACTOR :	0.000	0.500	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.250	0.000	0.000	0.250	0.500	0.250	0.000	0.429
		0.500				0.625				0.250				0.333			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	1	0	0	0	0	0	0	5	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	1	1	0	0	1	0	0	0	0	0	0	0	1	1	0	5
4:15 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	2	0	0	0	2	1	0	1	0	1	0	0	2	0	0	9
4:45 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	2	1	0	5
5:00 PM	0	0	0	0	1	1	1	0	0	1	0	0	0	1	1	0	6
5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	4
5:30 PM	0	2	0	0	0	2	0	0	0	1	0	0	1	0	0	0	6
5:45 PM	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
6:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
6:15 PM	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	4
6:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	4
6:45 PM	1	1	0	0	0	2	0	0	0	1	0	0	0	0	0	0	5
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	13	1	0	1	13	2	0	1	5	1	0	1	10	4	0	55
APPROACH %'s :	17.65%	76.47%	5.88%	0.00%	6.25%	81.25%	12.50%	0.00%	14.29%	71.43%	14.29%	0.00%	6.67%	66.67%	26.67%	0.00%	
PEAK HR :	06:00 PM - 07:00 PM																TOTAL
PEAK HR VOL :	1	3	0	0	0	6	0	0	0	2	0	0	0	3	0	0	15
PEAK HR FACTOR :	0.25	0.750	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.375	0.000	0.000	0.750
		0.500				0.750				0.500				0.375			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Alameda St & 3rd St
City: Los Angeles
Project ID: 18-05768-001
Date: 11/28/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Alameda St		Alameda St		3rd St		3rd St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	3	2	3	0	3	2	4	0	17
7:15 AM	1	3	2	2	0	3	1	3	15
7:30 AM	2	3	1	1	0	2	2	3	14
7:45 AM	3	2	3	3	6	4	2	3	26
8:00 AM	1	1	4	2	3	5	3	1	20
8:15 AM	3	7	5	0	6	2	2	4	29
8:30 AM	8	7	6	6	6	5	5	5	48
8:45 AM	8	10	4	3	7	4	13	1	50
9:00 AM	7	4	10	3	12	5	8	2	51
9:15 AM	6	1	3	4	2	3	4	2	25
9:30 AM	6	6	2	9	2	5	5	5	40
9:45 AM	13	7	8	2	9	8	4	0	51
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	61	53	51	35	56	48	53	29	386
APPROACH %'s :	53.51%	46.49%	59.30%	40.70%	53.85%	46.15%	64.63%	35.37%	
PEAK HR :	07:00 AM - 08:00 AM								TOTAL
PEAK HR VOL :	9	10	9	6	9	11	9	9	72
PEAK HR FACTOR :	0.750	0.833	0.750	0.500	0.375	0.688	0.563	0.750	0.692
	0.950		0.625		0.500		0.900		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	7	11	8	15	12	16	13	13	95
4:15 PM	1	23	8	5	12	4	6	6	65
4:30 PM	7	16	7	11	7	9	16	11	84
4:45 PM	1	5	7	11	4	10	11	8	57
5:00 PM	14	8	4	9	7	12	8	2	64
5:15 PM	8	16	8	9	9	5	7	3	65
5:30 PM	3	5	6	12	10	11	8	8	63
5:45 PM	4	6	3	5	13	2	2	5	40
6:00 PM	1	3	3	17	7	14	8	8	61
6:15 PM	4	3	4	10	8	9	10	2	50
6:30 PM	4	11	5	9	4	12	7	10	62
6:45 PM	7	5	14	4	16	6	3	9	64
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	61	112	77	117	109	110	99	85	770
APPROACH %'s :	35.26%	64.74%	39.69%	60.31%	49.77%	50.23%	53.80%	46.20%	
PEAK HR :	06:00 PM - 07:00 PM								TOTAL
PEAK HR VOL :	16	22	26	40	35	41	28	29	237
PEAK HR FACTOR :	0.571	0.500	0.464	0.588	0.547	0.732	0.700	0.725	0.926
	0.633		0.825		0.864		0.838		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Alameda St & 4th St
City: Los Angeles
Control: Signalized

Project ID: 18-05768-003
Date: 11/28/2018

Total

NS/EW Streets:	Alameda St				Alameda St				4th St				4th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	0	3	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	205	10	0	10	174	0	0	20	67	22	0	0	0	0	0	508
7:15 AM	0	217	5	0	8	219	0	0	14	47	28	0	0	0	0	0	538
7:30 AM	0	203	13	0	13	216	0	1	15	62	34	0	0	0	0	0	557
7:45 AM	0	166	14	0	24	234	0	0	12	62	37	0	0	0	0	0	549
8:00 AM	0	180	10	0	23	235	0	0	16	63	36	0	0	0	0	0	563
8:15 AM	0	159	15	0	8	256	0	0	14	79	33	0	0	0	0	0	564
8:30 AM	0	171	8	0	26	229	0	0	9	91	34	0	0	0	0	0	568
8:45 AM	0	179	10	0	18	240	0	0	20	90	37	0	0	0	0	0	594
9:00 AM	0	174	11	0	23	243	0	0	20	69	32	0	0	0	0	0	572
9:15 AM	0	152	14	0	18	244	0	0	21	68	31	0	0	0	0	0	548
9:30 AM	0	189	12	0	23	233	0	0	14	74	31	0	0	0	0	0	576
9:45 AM	0	167	22	0	14	248	0	0	21	88	35	0	0	0	0	0	595
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2162	144	0	208	2771	0	1	196	860	390	0	0	0	0	0	6732
APPROACH %'s :	0.00%	93.76%	6.24%	0.00%	6.98%	92.99%	0.00%	0.03%	13.55%	59.47%	26.97%	0.00%					
PEAK HR :	08:15 AM - 09:15 AM																TOTAL
PEAK HR VOL :	0	683	44	0	75	968	0	0	63	329	136	0	0	0	0	0	2298
PEAK HR FACTOR :	0.000	0.954	0.733	0.000	0.721	0.945	0.000	0.000	0.788	0.904	0.919	0.000	0.000	0.000	0.000	0.000	0.967
		0.962				0.980				0.898							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	0	3	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	217	17	0	27	208	0	0	21	272	55	0	0	0	0	0	817
4:15 PM	0	190	32	0	24	219	0	0	38	341	68	0	0	0	0	0	912
4:30 PM	0	206	32	0	29	183	0	0	39	382	53	0	0	0	0	0	924
4:45 PM	0	192	22	0	34	183	0	0	42	387	60	0	0	0	0	0	920
5:00 PM	0	187	49	0	28	195	0	0	33	407	84	0	0	0	0	0	983
5:15 PM	0	195	45	0	25	234	0	1	22	455	70	0	0	0	0	0	1047
5:30 PM	0	195	51	0	21	212	0	0	39	446	66	0	0	0	0	0	1030
5:45 PM	0	231	45	0	27	165	0	0	38	400	76	0	0	0	0	0	982
6:00 PM	0	223	40	0	25	187	0	0	38	301	69	0	0	0	0	0	883
6:15 PM	0	244	32	0	26	181	0	0	52	314	75	0	0	0	0	0	924
6:30 PM	0	220	22	0	38	184	0	1	47	314	71	0	0	0	0	0	897
6:45 PM	0	193	22	0	40	198	0	0	40	234	41	0	0	0	0	0	768
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2493	409	0	344	2349	0	2	449	4253	788	0	0	0	0	0	11087
APPROACH %'s :	0.00%	85.91%	14.09%	0.00%	12.76%	87.16%	0.00%	0.07%	8.18%	77.47%	14.35%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	808	190	0	101	806	0	1	132	1708	296	0	0	0	0	0	4042
PEAK HR FACTOR :	0.000	0.874	0.931	0.000	0.902	0.861	0.000	0.250	0.846	0.938	0.881	0.000	0.000	0.000	0.000	0.000	0.965
		0.904				0.873				0.969							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Alameda St & 4th St
City: Los Angeles
Control: Signalized

Project ID: 18-05768-003
Date: 11/28/2018

Bikes

NS/EW Streets:	Alameda St				Alameda St				4th St				4th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	0	3	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	5
7:15 AM	0	1	0	0	1	2	0	0	0	1	0	0	0	0	0	0	5
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	2	0	0	0	4	0	0	0	0	0	0	6
8:00 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	4
8:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
9:00 AM	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	5
9:15 AM	0	1	0	0	0	0	0	0	0	3	0	0	0	0	1	0	5
9:30 AM	0	0	0	0	1	0	0	0	0	4	0	0	0	0	0	0	5
9:45 AM	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	3	3	0	2	7	0	0	0	25	2	0	0	2	1	0	46
APPROACH %'s :	14.29%	42.86%	42.86%	0.00%	22.22%	77.78%	0.00%	0.00%	0.00%	92.59%	7.41%	0.00%	0.00%	66.67%	33.33%	0.00%	
PEAK HR :	08:15 AM - 09:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	0	7	2	0	0	2	0	0	12
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.583	0.250	0.000	0.000	0.250	0.000	0.000	0.600
					0.250				0.450				0.250				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	0	3	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	3	1	0	0	1	1	0	0	2	0	0	0	1	1	0	10
4:15 PM	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
4:30 PM	0	2	1	0	0	3	0	0	0	0	0	0	0	1	0	0	7
4:45 PM	0	1	0	0	0	0	0	0	0	3	0	0	0	2	0	0	6
5:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
5:15 PM	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	4
5:30 PM	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5
5:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3
6:00 PM	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0	0	5
6:15 PM	0	0	0	0	0	1	0	0	0	2	0	0	0	1	0	0	4
6:30 PM	0	2	0	0	0	1	0	0	0	2	0	0	0	0	0	0	5
6:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	18	2	0	0	11	1	0	0	16	0	0	0	7	1	0	56
APPROACH %'s :	0.00%	90.00%	10.00%	0.00%	0.00%	91.67%	8.33%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	87.50%	12.50%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	6	0	0	0	4	0	0	0	3	0	0	0	1	0	0	14
PEAK HR FACTOR :	0.00	0.750	0.000	0.000	0.000	0.333	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.250	0.000	0.000	0.700
		0.750				0.333				0.375				0.250			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Alameda St & 4th St **Project ID:** 18-057600003
City: Los Angeles **Date:** 11/28/2018

Pedestrians (Crosswalks)

NS/EW Streets:	Alameda St		Alameda St		4th St		4th St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	1	1	1	0	2	1	0	0	6
7:15 AM	2	0	3	1	1	1	0	1	9
7:30 AM	4	0	2	0	1	2	1	0	10
7:45 AM	4	0	2	0	1	3	1	2	13
8:00 AM	3	0	1	3	1	4	1	0	13
8:15 AM	1	0	5	0	2	1	0	1	10
8:30 AM	1	3	3	1	3	5	0	0	16
8:45 AM	1	2	2	1	2	0	1	1	10
9:00 AM	2	1	3	1	1	0	0	0	8
9:15 AM	0	5	4	1	3	1	0	1	15
9:30 AM	1	4	6	2	1	5	1	3	23
9:45 AM	4	4	2	1	9	1	1	0	22
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	24	20	34	11	27	24	6	9	155
APPROACH %'s :	54.55%	45.45%	75.56%	24.44%	52.94%	47.06%	40.00%	60.00%	
PEAK HR :	**08:15 AM - 09:15 AM**								TOTAL
PEAK HR VOL :	5	6	13	3	8	6	1	2	44
PEAK HR FACTOR :	0.625	0.500	0.650	0.750	0.667	0.300	0.250	0.500	0.688
	0.688		0.800		0.438		0.375		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	1	4	5	1	5	2	1	1	20
4:15 PM	2	1	4	4	5	2	1	1	20
4:30 PM	2	6	4	2	1	2	1	1	19
4:45 PM	0	2	4	3	1	2	0	2	14
5:00 PM	1	0	3	3	5	1	3	3	19
5:15 PM	7	2	3	0	6	4	0	0	22
5:30 PM	2	0	2	1	4	1	1	2	13
5:45 PM	1	2	0	1	1	4	0	0	9
6:00 PM	0	0	1	2	4	0	1	0	8
6:15 PM	3	0	5	1	0	0	0	0	9
6:30 PM	1	3	1	4	1	2	3	1	16
6:45 PM	1	5	1	4	2	2	2	1	18
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	21	25	33	26	35	22	13	12	187
APPROACH %'s :	45.65%	54.35%	55.93%	44.07%	61.40%	38.60%	52.00%	48.00%	
PEAK HR :	**05:00 PM - 06:00 PM**								TOTAL
PEAK HR VOL :	11	4	8	5	16	10	4	5	63
PEAK HR FACTOR :	0.393	0.500	0.667	0.417	0.667	0.625	0.333	0.417	0.716
	0.417		0.542		0.650		0.375		

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Alameda St

East/West 6th St

Day: TUESDAY Date: April 23, 2013 Weather: SUNNY

Hours: 7-10AM & 3-6PM Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	384	286	122	131
BIKES	20	26	30	32
BUSES	37	77	129	123

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	195	7.30	261	7.30	110	7.45	231	7.45
PM PK 15 MIN	259	17.15	258	16.30	258	17.15	95	17.00
AM PK HOUR	749	8.15	915	7.30	386	7.45	882	7.30
PM PK HOUR	1003	17.00	966	15.45	915	17.00	347	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	69	549	65	683
8-9	80	591	67	738
9-10	49	563	59	671
15-16	73	769	60	902
16-17	63	755	58	876
17-18	100	827	76	1003
TOTAL	434	4054	385	4873

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	50	776	47	873
8-9	43	764	65	872
9-10	43	738	69	850
15-16	57	753	93	903
16-17	57	769	84	910
17-18	77	652	78	807
TOTAL	327	4452	436	5215

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1556	12	0	24	0
1610	21	0	23	3
1521	28	0	24	1
1805	19	0	38	0
1786	18	1	24	0
1810	11	2	29	1
10088	109	3	162	5

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	52	187	107	346
8-9	56	221	103	380
9-10	67	184	82	333
15-16	81	395	103	579
16-17	104	504	90	698
17-18	116	711	88	915
TOTAL	476	2202	573	3251

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	111	569	114	794
8-9	109	614	89	812
9-10	66	300	66	432
15-16	52	155	59	266
16-17	62	163	43	268
17-18	45	249	53	347
TOTAL	445	2050	424	2919

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1140	13	0	36	5
1192	13	2	28	1
765	12	0	51	34
845	20	1	21	0
966	23	0	24	1
1262	25	1	27	4
6170	106	4	187	45

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Alameda St

East/West 7th St

Day: Wednesday Date: January 15, 2014 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	501	408	290	296
BIKES	25	28	40	28
BUSES	28	119	110	138

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	214	8.00	293	7.45	144	8.45	242	7.30
PM PK 15 MIN	261	17.15	250	16.15	266	17.30	159	17.30
AM PK HOUR	810	7.45	1130	7.30	498	8.15	878	7.00
PM PK HOUR	957	17.00	962	15.30	939	17.00	603	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	114	536	82	732
8-9	99	601	94	794
9-10	92	531	80	703
15-16	95	573	88	756
16-17	99	643	101	843
17-18	106	739	112	957
TOTAL	605	3623	557	4785

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	113	793	125	1031
8-9	102	775	156	1033
9-10	102	667	142	911
15-16	122	659	80	861
16-17	115	776	60	951
17-18	102	693	42	837
TOTAL	656	4363	605	5624

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1763	75	3	127	0
1827	46	1	64	8
1614	26	5	45	2
1617	56	0	89	0
1794	66	0	74	1
1794	39	0	89	0
10409	308	9	488	11

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	62	281	87	430
8-9	68	312	102	482
9-10	58	272	120	450
15-16	87	471	155	713
16-17	73	542	163	778
17-18	95	735	109	939
TOTAL	443	2613	736	3792

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	117	671	90	878
8-9	121	593	93	807
9-10	122	556	83	761
15-16	92	344	91	527
16-17	79	352	85	516
17-18	77	408	118	603
TOTAL	608	2924	560	4092

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1308	87	4	111	1
1289	49	2	50	3
1211	25	0	32	3
1240	82	0	60	0
1294	74	1	79	0
1542	59	0	57	1
7884	376	7	389	8

TRAFFIC COUNT SUMMARY

City of Los Angeles
Department of Transportation
(Rev Apr 92)

STREET:
North/South HEWITT ST

East/West 4TH ST

Day: FRIDAY Date: JUNE 9, 1995 Weather: CLEAR

Hours: 7-10 AM 3-6 PM

School Day: YES District: CENTRAL

	N/B	S/B	E/B	W/B
DUAL-WHEELED	23	0	210	216
BIKES	0	0	0	1
BUSES	0	0	43	41

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	6	7.30	0	7.00	92	9.00	465	8.45
PM PK 15 MIN	15	5.00	0	3.00	376	5.15	160	4.45
AM PK HOUR	15	7.30	0	7.00	349	9.00	1575	8.00
PM PK HOUR	34	4.30	0	3.00	1425	4.45	565	4.00

NORTHBOUND Approach					SOUTHBOUND Approach					TOTAL	XING S/L		XING N/L	
Hours	Lt	Th	Rt	Total	Hours	Lt	Th	Rt	Total	N-S	Ped	Sch	Ped	Sch
7-8	6	0	7	13	7-8	0	0	0	0	13	7	0	0	0
8-9	7	0	5	12	8-9	0	0	0	0	12	9	0	0	0
9-10	8	0	7	15	9-10	0	0	0	0	15	9	0	0	0
3-4	14	0	11	25	3-4	0	0	0	0	25	11	0	0	0
4-5	8	0	16	24	4-5	0	0	0	0	24	14	0	0	0
5-6	18	0	10	28	5-6	0	0	0	0	28	12	0	0	0
TOTAL	61	0	56	117	TOTAL	0	0	0	0	117	62	0	0	0

EASTBOUND Approach					WESTBOUND Approach					TOTAL	XING W/L		XING E/L	
Hours	Lt	Th	Rt	Total	Hours	Lt	Th	Rt	Total	E-W	Ped	Sch	Ped	Sch
7-8	24	201	6	231	7-8	19	1461	0	1480	1711	7	0	0	0
8-9	36	209	15	260	8-9	24	1551	0	1575	1835	3	0	0	0
9-10	51	281	17	349	9-10	39	1170	0	1209	1558	2	0	2	0
3-4	32	900	11	943	3-4	12	482	0	494	1437	7	0	1	0
4-5	45	1247	14	1306	4-5	11	554	0	565	1871	1	0	5	0
5-6	31	1365	13	1409	5-6	22	473	0	495	1904	5	0	0	0
TOTAL	219	4203	76	4498	TOTAL	127	5691	0	5818	10316	25	0	8	0

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Merrick St_Molino St

East/West 4th St

Day: TUESDAY Date: May 14, 2013 Weather: SUNNY

Hours: 7-10AM & 3-6PM Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	15	13	159	146
BIKES	14	14	26	14
BUSES	0	44	50	54

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	18	9.15	25	9.15	101	9.00	672	7.30
PM PK 15 MIN	27	16.00	32	17.30	383	17.00	219	17.30
AM PK HOUR	58	8.30	80	8.45	369	9.00	2512	7.30
PM PK HOUR	75	15.15	111	17.00	1484	16.45	673	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	24	8	2	34
8-9	30	6	1	37
9-10	41	13	4	58
15-16	39	13	13	65
16-17	37	13	16	66
17-18	39	15	10	64
TOTAL	210	68	46	324

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	10	28	16	54
8-9	12	41	17	70
9-10	13	31	23	67
15-16	41	23	32	96
16-17	35	17	27	79
17-18	50	40	21	111
TOTAL	161	180	136	477

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
88	1	0	0	0
107	1	0	4	0
125	13	0	7	0
161	2	0	1	0
145	4	0	2	0
175	0	0	7	0
801	21	0	21	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	195	44	239
8-9	1	279	53	333
9-10	5	316	48	369
15-16	18	900	42	960
16-17	4	1250	46	1300
17-18	12	1394	47	1453
TOTAL	40	4334	280	4654

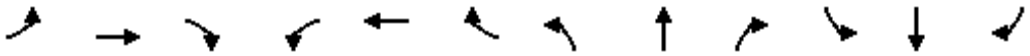
WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	4	2343	75	2422
8-9	6	2333	88	2427
9-10	8	1572	72	1652
15-16	11	476	23	510
16-17	0	563	40	603
17-18	0	613	60	673
TOTAL	29	7900	358	8287

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
2661	3	0	7	0
2760	4	0	13	0
2021	12	0	4	0
1470	5	0	2	0
1903	6	0	3	0
2126	6	0	3	0
12941	36	0	32	0

Appendix C

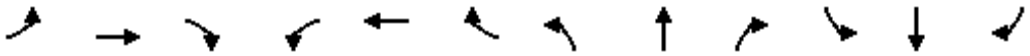
Levels of Service Worksheets



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	195	2206	243	69	217	0	0	470	56
Future Volume (veh/h)	0	0	0	195	2206	243	69	217	0	0	470	56
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				212	2398	264	75	236	0	0	511	61
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				262	3182	355	300	1269	0	0	1142	136
Arrive On Green				0.56	0.56	0.56	0.36	0.36	0.00	0.00	0.36	0.36
Sat Flow, veh/h				471	5712	637	840	3647	0	0	3292	380
Grp Volume(v), veh/h				832	1315	728	75	236	0	0	283	289
Grp Sat Flow(s),veh/h/ln				1847	1609	1756	840	1777	0	0	1777	1802
Q Serve(g_s), s				25.4	21.4	21.9	5.3	3.2	0.0	0.0	8.5	8.6
Cycle Q Clear(g_c), s				25.4	21.4	21.9	13.8	3.2	0.0	0.0	8.5	8.6
Prop In Lane				0.25		0.36	1.00		0.00	0.00		0.21
Lane Grp Cap(c), veh/h				1029	1792	978	300	1269	0	0	635	644
V/C Ratio(X)				0.81	0.73	0.74	0.25	0.19	0.00	0.00	0.45	0.45
Avail Cap(c_a), veh/h				1029	1792	978	300	1269	0	0	635	644
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.09	0.09	0.09	0.97	0.97	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				12.5	11.6	11.7	22.5	15.5	0.0	0.0	17.2	17.2
Incr Delay (d2), s/veh				0.7	0.2	0.5	1.9	0.3	0.0	0.0	2.3	2.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				10.3	7.7	8.5	2.1	2.3	0.0	0.0	6.5	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				13.1	11.9	12.2	24.5	15.8	0.0	0.0	19.5	19.5
LnGrp LOS				B	B	B	C	B	A	A	B	B
Approach Vol, veh/h					2874			311			572	
Approach Delay, s/veh					12.3			17.9			19.5	
Approach LOS					B			B			B	

Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		42.0		28.0				28.0				
Change Period (Y+Rc), s		3.0		3.0				3.0				
Max Green Setting (Gmax), s		39.0		25.0				25.0				
Max Q Clear Time (g_c+I1), s		27.4		15.8				10.6				
Green Ext Time (p_c), s		10.8		1.3				3.0				

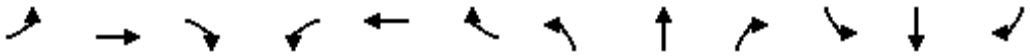
Intersection Summary												
HCM 6th Ctrl Delay			13.9									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	589	112	0	0	0	0	319	74	48	626	0
Future Volume (veh/h)	52	589	112	0	0	0	0	319	74	48	626	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	57	640	122				0	347	80	52	680	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	112	1306	263				0	1211	276	379	1496	0
Arrive On Green	0.46	0.46	0.46				0.00	0.14	0.14	0.42	0.42	0.00
Sat Flow, veh/h	241	2818	567				0	2968	655	961	3647	0
Grp Volume(v), veh/h	439	0	380				0	213	214	52	680	0
Grp Sat Flow(s),veh/h/ln	1858	0	1768				0	1777	1753	961	1777	0
Q Serve(g_s), s	14.9	0.0	13.2				0.0	9.7	9.9	3.5	12.3	0.0
Cycle Q Clear(g_c), s	14.9	0.0	13.2				0.0	9.7	9.9	13.4	12.3	0.0
Prop In Lane	0.13		0.32				0.00		0.37	1.00		0.00
Lane Grp Cap(c), veh/h	861	0	819				0	748	738	379	1496	0
V/C Ratio(X)	0.51	0.00	0.46				0.00	0.28	0.29	0.14	0.45	0.00
Avail Cap(c_a), veh/h	861	0	819				0	748	738	379	1496	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.99	0.99	0.89	0.89	0.00
Uniform Delay (d), s/veh	17.0	0.0	16.5				0.0	26.6	26.7	22.6	18.6	0.0
Incr Delay (d2), s/veh	2.2	0.0	1.9				0.0	0.9	1.0	0.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.8	0.0	9.4				0.0	8.2	8.2	1.5	8.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.1	0.0	18.4				0.0	27.5	27.7	23.2	19.5	0.0
LnGrp LOS	B	A	B				A	C	C	C	B	A
Approach Vol, veh/h		819						427			732	
Approach Delay, s/veh		18.8						27.6			19.8	
Approach LOS		B						C			B	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		43.0				43.0		47.0				
Change Period (Y+Rc), s		5.1				5.1		5.3				
Max Green Setting (Gmax), s		37.9				37.9		41.7				
Max Q Clear Time (g_c+I1), s		15.4				11.9		16.9				
Green Ext Time (p_c), s		5.1				2.7		5.7				

Intersection Summary												
HCM 6th Ctrl Delay			21.1									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	24	442	37	59	327	0	0	637	102
Future Volume (veh/h)	0	0	0	24	442	37	59	327	0	0	637	102
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				26	480	40	64	355	0	0	692	111
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				63	1226	562	306	1899	0	0	1639	263
Arrive On Green				0.35	0.35	0.35	0.53	0.53	0.00	0.00	0.18	0.18
Sat Flow, veh/h				179	3460	1585	678	3647	0	0	3161	492
Grp Volume(v), veh/h				271	235	40	64	355	0	0	401	402
Grp Sat Flow(s),veh/h/ln				1861	1777	1585	678	1777	0	0	1777	1782
Q Serve(g_s), s				9.9	8.9	1.5	6.3	4.7	0.0	0.0	18.1	18.1
Cycle Q Clear(g_c), s				9.9	8.9	1.5	24.3	4.7	0.0	0.0	18.1	18.1
Prop In Lane				0.10		1.00	1.00		0.00	0.00		0.28
Lane Grp Cap(c), veh/h				660	630	562	306	1899	0	0	950	952
V/C Ratio(X)				0.41	0.37	0.07	0.21	0.19	0.00	0.00	0.42	0.42
Avail Cap(c_a), veh/h				660	630	562	306	1899	0	0	950	952
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.89	0.89
Uniform Delay (d), s/veh				21.9	21.6	19.2	22.1	10.8	0.0	0.0	24.7	24.7
Incr Delay (d2), s/veh				1.9	1.7	0.2	1.5	0.2	0.0	0.0	1.2	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				8.0	7.0	1.0	2.0	3.2	0.0	0.0	13.4	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				23.8	23.3	19.5	23.6	11.1	0.0	0.0	25.9	25.9
LnGrp LOS				C	C	B	C	B	A	A	C	C
Approach Vol, veh/h					546			419			803	
Approach Delay, s/veh					23.3			13.0			25.9	
Approach LOS					C			B			C	

Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		37.0		53.0				53.0				
Change Period (Y+Rc), s		5.1		* 4.9				* 4.9				
Max Green Setting (Gmax), s		31.9		* 48				* 48				
Max Q Clear Time (g_c+I1), s		11.9		20.1				26.3				
Green Ext Time (p_c), s		3.1		5.7				2.9				

Intersection Summary		
HCM 6th Ctrl Delay	22.0	
HCM 6th LOS	C	

Notes

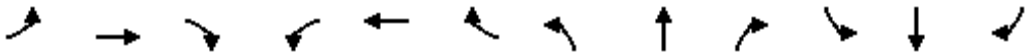
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	262	155	114	273	175	109
Future Volume (vph)	262	155	114	273	175	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.94		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3342		1770	3539	1770	1583
Flt Permitted	1.00		0.49	1.00	0.95	1.00
Satd. Flow (perm)	3342		914	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	285	168	124	297	190	118
RTOR Reduction (vph)	43	0	0	0	0	99
Lane Group Flow (vph)	410	0	124	297	190	19
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	6			2	8	
Permitted Phases			2			8
Actuated Green, G (s)	64.9		64.9	64.9	14.8	14.8
Effective Green, g (s)	64.9		64.9	64.9	14.8	14.8
Actuated g/C Ratio	0.72		0.72	0.72	0.16	0.16
Clearance Time (s)	5.3		5.3	5.3	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2409		659	2552	291	260
v/s Ratio Prot	0.12			0.08	c0.11	
v/s Ratio Perm			c0.14			0.01
v/c Ratio	0.17		0.19	0.12	0.65	0.07
Uniform Delay, d1	4.0		4.0	3.8	35.2	31.8
Progression Factor	1.00		2.00	1.63	1.00	1.00
Incremental Delay, d2	0.2		0.1	0.0	5.2	0.1
Delay (s)	4.1		8.2	6.2	40.4	31.9
Level of Service	A		A	A	D	C
Approach Delay (s)	4.1			6.8	37.1	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

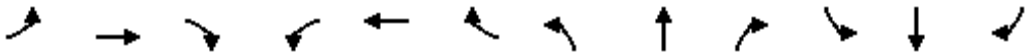
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	146	77	56	256	29	81	197	39	17	223	36
Future Volume (veh/h)	12	146	77	56	256	29	81	197	39	17	223	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	159	84	61	278	32	88	214	42	18	242	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	562	282	157	676	73	394	708	600	438	595	96
Arrive On Green	0.49	0.49	0.49	0.99	0.99	0.99	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	31	1140	572	197	1371	148	1098	1870	1585	1124	1572	253
Grp Volume(v), veh/h	256	0	0	371	0	0	88	214	42	18	0	281
Grp Sat Flow(s),veh/h/ln	1744	0	0	1717	0	0	1098	1870	1585	1124	0	1825
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	4.5	5.6	1.2	0.8	0.0	7.9
Cycle Q Clear(g_c), s	6.0	0.0	0.0	0.3	0.0	0.0	12.4	5.6	1.2	6.4	0.0	7.9
Prop In Lane	0.05		0.33	0.16		0.09	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	914	0	0	906	0	0	394	708	600	438	0	691
V/C Ratio(X)	0.28	0.00	0.00	0.41	0.00	0.00	0.22	0.30	0.07	0.04	0.00	0.41
Avail Cap(c_a), veh/h	914	0	0	906	0	0	394	708	600	438	0	691
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.81	0.00	0.00	0.99	0.99	0.99	0.99	0.00	0.99
Uniform Delay (d), s/veh	10.5	0.0	0.0	0.3	0.0	0.0	20.5	15.3	13.9	17.5	0.0	16.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	1.1	0.0	0.0	1.3	1.1	0.2	0.2	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.1	0.0	0.0	0.6	0.0	0.0	2.2	4.4	0.8	0.4	0.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.3	0.0	0.0	1.4	0.0	0.0	21.8	16.3	14.1	17.7	0.0	17.7
LnGrp LOS	B	A	A	A	A	A	C	B	B	B	A	B
Approach Vol, veh/h		256			371			344			299	
Approach Delay, s/veh		11.3			1.4			17.5			17.7	
Approach LOS		B			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		31.0		39.0		31.0		39.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		26.5		34.5		26.5		34.5				
Max Q Clear Time (g_c+I1), s		9.9		2.3		14.4		8.0				
Green Ext Time (p_c), s		1.5		2.6		1.3		1.6				

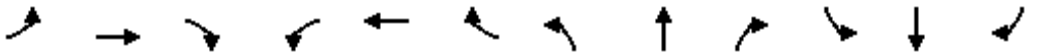
Intersection Summary												
HCM 6th Ctrl Delay			11.6									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	230	2557	96	155	307	0	0	456	127
Future Volume (veh/h)	0	0	0	230	2557	96	155	307	0	0	456	127
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				250	2779	104	168	334	0	0	496	138
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	0	2	2
Cap, veh/h				218	2611	99	340	1577	0	0	894	247
Arrive On Green				0.43	0.43	0.43	0.06	0.44	0.00	0.00	0.32	0.32
Sat Flow, veh/h				513	6144	234	1781	3647	0	0	2843	761
Grp Volume(v), veh/h				899	1420	814	168	334	0	0	320	314
Grp Sat Flow(s),veh/h/ln				1845	1609	1828	1781	1777	0	0	1777	1733
Q Serve(g_s), s				34.0	34.0	34.0	4.9	4.6	0.0	0.0	11.8	12.0
Cycle Q Clear(g_c), s				34.0	34.0	34.0	4.9	4.6	0.0	0.0	11.8	12.0
Prop In Lane				0.28		0.13	1.00		0.00	0.00		0.44
Lane Grp Cap(c), veh/h				784	1367	777	340	1577	0	0	577	563
V/C Ratio(X)				1.15	1.04	1.05	0.49	0.21	0.00	0.00	0.55	0.56
Avail Cap(c_a), veh/h				784	1367	777	340	1577	0	0	577	563
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.09	0.09	0.09	1.00	1.00	0.00	0.00	0.92	0.92
Uniform Delay (d), s/veh				23.0	23.0	23.0	16.8	13.7	0.0	0.0	22.2	22.3
Incr Delay (d2), s/veh				67.8	20.1	25.2	1.1	0.3	0.0	0.0	3.5	3.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				34.5	18.1	21.8	3.6	3.3	0.0	0.0	8.9	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				90.8	43.1	48.2	17.9	14.0	0.0	0.0	25.7	25.9
LnGrp LOS				F	F	F	B	B	A	A	C	C
Approach Vol, veh/h					3133			502			634	
Approach Delay, s/veh					58.1			15.3			25.8	
Approach LOS					E			B			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.5	31.5		39.0		41.0						
Change Period (Y+Rc), s	4.5	5.5		5.0		5.5						
Max Green Setting (Gmax), s	5.0	25.5		34.0		25.5						
Max Q Clear Time (g_c+I1), s	6.9	14.0		36.0		6.6						
Green Ext Time (p_c), s	0.0	3.1		0.0		2.0						

Intersection Summary		
HCM 6th Ctrl Delay		48.3
HCM 6th LOS		D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	407	101	0	0	0	0	382	65	22	619	0
Future Volume (veh/h)	20	407	101	0	0	0	0	382	65	22	619	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	22	442	110				0	415	71	24	673	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	91	1941	470				0	1360	231	438	1831	
Arrive On Green	0.37	0.37	0.37				0.00	0.45	0.45	0.02	0.52	0.00
Sat Flow, veh/h	244	5211	1263				0	3132	516	1781	3647	0
Grp Volume(v), veh/h	168	263	143				0	241	245	24	673	0
Grp Sat Flow(s),veh/h/ln	1858	1609	1643				0	1777	1777	1781	1777	0
Q Serve(g_s), s	6.5	5.9	6.3				0.0	9.1	9.3	0.7	11.9	0.0
Cycle Q Clear(g_c), s	6.5	5.9	6.3				0.0	9.1	9.3	0.7	11.9	0.0
Prop In Lane	0.13		0.77				0.00		0.29	1.00		0.00
Lane Grp Cap(c), veh/h	692	1198	612				0	795	795	438	1831	
V/C Ratio(X)	0.24	0.22	0.23				0.00	0.30	0.31	0.05	0.37	
Avail Cap(c_a), veh/h	692	1198	612				0	795	795	572	1831	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.7	22.5	22.7				0.0	18.5	18.6	14.4	15.2	0.0
Incr Delay (d2), s/veh	0.8	0.4	0.9				0.0	1.0	1.0	0.1	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.4	4.1	4.6				0.0	7.1	7.2	0.5	8.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	22.9	23.5				0.0	19.5	19.6	14.5	15.8	0.0
LnGrp LOS	C	C	C				A	B	B	B	B	
Approach Vol, veh/h		574						486			697	A
Approach Delay, s/veh		23.3						19.6			15.7	
Approach LOS		C						B			B	

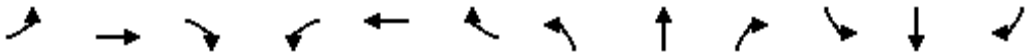
Timer - Assigned Phs				4		6	7	8				
Phs Duration (G+Y+Rc), s				60.0		45.0	7.1	52.9				
Change Period (Y+Rc), s				* 5.9		5.9	4.6	* 5.9				
Max Green Setting (Gmax), s				* 54		39.1	10.4	* 39				
Max Q Clear Time (g_c+I1), s				13.9		8.5	2.7	11.3				
Green Ext Time (p_c), s				5.4		3.9	0.0	3.1				

Intersection Summary												
HCM 6th Ctrl Delay			19.3									
HCM 6th LOS			B									

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



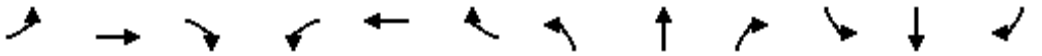
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	631	438	0	0	581	12
Future Volume (veh/h)	0	0	0	0	0	0	631	438	0	0	581	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h				0	0	0	686	476	0	0	632	13
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	2	2	2
Cap, veh/h				0	2	0	873	1108	0	511	2266	47
Arrive On Green				0.00	0.00	0.00	0.25	0.59	0.00	0.00	0.64	0.64
Sat Flow, veh/h				0	1870	0	3456	1870	0	1781	3561	73
Grp Volume(v), veh/h				0	0	0	686	476	0	0	315	330
Grp Sat Flow(s),veh/h/ln				0	1870	0	1728	1870	0	1781	1777	1857
Q Serve(g_s), s				0.0	0.0	0.0	16.8	12.7	0.0	0.0	7.1	7.1
Cycle Q Clear(g_c), s				0.0	0.0	0.0	16.8	12.7	0.0	0.0	7.1	7.1
Prop In Lane				0.00		0.00	1.00		0.00	1.00		0.04
Lane Grp Cap(c), veh/h				0	2	0	873	1108	0	511	1131	1182
V/C Ratio(X)				0.00	0.00	0.00	0.79	0.43	0.00	0.00	0.28	0.28
Avail Cap(c_a), veh/h				0	370	0	965	1108	0	511	1131	1182
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.00	0.00	0.00	0.74	0.74	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				0.0	0.0	0.0	31.7	10.1	0.0	0.0	7.3	7.3
Incr Delay (d2), s/veh				0.0	0.0	0.0	3.0	0.9	0.0	0.0	0.6	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				0.0	0.0	0.0	11.0	8.2	0.0	0.0	4.7	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	0.0	0.0	34.7	11.0	0.0	0.0	7.9	7.9
LnGrp LOS				A	A	A	C	B	A	A	A	A
Approach Vol, veh/h					0			1162			645	
Approach Delay, s/veh					0.0			25.0			7.9	
Approach LOS								C			A	

Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	27.6	63.4		31.6	59.4		0.0					
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5	* 5.5		4.5					
Max Green Setting (Gmax), s	25.4	* 24		* 5	* 54		18.0					
Max Q Clear Time (g_c+I1), s	18.8	9.1		0.0	14.7		0.0					
Green Ext Time (p_c), s	1.6	3.5		0.0	3.4		0.0					

Intersection Summary		
HCM 6th Ctrl Delay		18.9
HCM 6th LOS		B

Notes

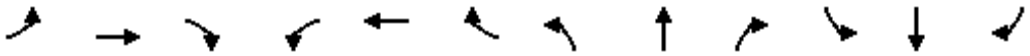
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	327	120	326	0	571	0	432	83	21	526	0
Future Volume (veh/h)	47	327	120	326	0	571	0	432	83	21	526	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	51	355	130	354	0	621	0	470	90	23	572	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	63	466	231	0	0	0	0	2041	389	655	2699	0
Arrive On Green	0.15	0.15	0.15	0.00	0.00	0.00	0.00	0.69	0.69	0.02	0.76	0.00
Sat Flow, veh/h	435	3191	1585		0		0	3072	567	1781	3647	0
Grp Volume(v), veh/h	217	189	130		0.0		0	279	281	23	572	0
Grp Sat Flow(s),veh/h/ln	1849	1777	1585				0	1777	1768	1781	1777	0
Q Serve(g_s), s	10.2	9.2	6.9				0.0	5.3	5.3	0.3	4.2	0.0
Cycle Q Clear(g_c), s	10.2	9.2	6.9				0.0	5.3	5.3	0.3	4.2	0.0
Prop In Lane	0.24		1.00				0.00		0.32	1.00		0.00
Lane Grp Cap(c), veh/h	270	259	231				0	1218	1212	655	2699	0
V/C Ratio(X)	0.80	0.73	0.56				0.00	0.23	0.23	0.04	0.21	0.00
Avail Cap(c_a), veh/h	318	306	273				0	1218	1212	711	2699	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.91	0.91	0.97	0.97	0.00
Uniform Delay (d), s/veh	37.2	36.7	35.8				0.0	5.3	5.3	3.6	3.1	0.0
Incr Delay (d2), s/veh	12.0	7.1	2.1				0.0	0.4	0.4	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.3	7.9	5.0				0.0	3.2	3.2	0.2	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	43.8	37.9				0.0	5.7	5.7	3.6	3.3	0.0
LnGrp LOS	D	D	D				A	A	A	A	A	A
Approach Vol, veh/h		536						560			595	
Approach Delay, s/veh		44.6						5.7			3.3	
Approach LOS		D						A			A	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	6.7	65.7		17.6		72.4						
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0						
Max Green Setting (Gmax), s	5.0	24.5		15.5		34.0						
Max Q Clear Time (g_c+I1), s	2.3	7.3		12.2		6.2						
Green Ext Time (p_c), s	0.0	3.2		0.9		4.2						

Intersection Summary												
HCM 6th Ctrl Delay			17.2									
HCM 6th LOS			B									



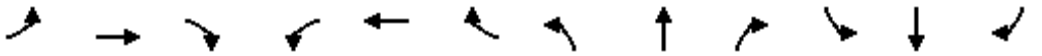
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	327	58	190	788	93	71	458	148	37	763	157
Future Volume (veh/h)	57	327	58	190	788	93	71	458	148	37	763	157
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	355	63	207	857	101	77	498	161	40	829	171
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	1208	212	412	1281	151	226	1213	390	88	1258	255
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	586	3021	531	969	3202	377	563	2644	850	72	2742	556
Grp Volume(v), veh/h	62	207	211	207	476	482	77	334	325	547	0	493
Grp Sat Flow(s),veh/h/ln	586	1777	1775	969	1777	1802	563	1777	1717	1768	0	1602
Q Serve(g_s), s	6.8	5.5	5.7	13.0	15.3	15.3	8.7	8.8	8.9	2.6	0.0	16.9
Cycle Q Clear(g_c), s	22.1	5.5	5.7	18.6	15.3	15.3	25.5	8.8	8.9	16.0	0.0	16.9
Prop In Lane	1.00		0.30	1.00		0.21	1.00		0.49	0.07		0.35
Lane Grp Cap(c), veh/h	209	711	710	412	711	721	226	815	788	866	0	735
V/C Ratio(X)	0.30	0.29	0.30	0.50	0.67	0.67	0.34	0.41	0.41	0.63	0.00	0.67
Avail Cap(c_a), veh/h	209	711	710	412	711	721	226	815	788	866	0	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.49	0.49	0.49	1.00	1.00	1.00	0.86	0.00	0.86
Uniform Delay (d), s/veh	26.3	14.3	14.3	20.6	17.2	17.2	24.8	12.6	12.7	14.5	0.0	14.8
Incr Delay (d2), s/veh	3.6	1.0	1.1	2.1	2.5	2.4	4.1	1.5	1.6	3.0	0.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	4.1	4.1	4.9	9.0	9.1	2.4	6.3	6.1	10.5	0.0	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	15.3	15.4	22.8	19.7	19.6	28.9	14.2	14.3	17.5	0.0	19.0
LnGrp LOS	C	B	B	C	B	B	C	B	B	B	A	B
Approach Vol, veh/h		480			1165			736			1040	
Approach Delay, s/veh		17.2			20.2			15.7			18.2	
Approach LOS		B			C			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.0		33.0		37.0		33.0				
Change Period (Y+Rc), s		* 4.9		5.0		* 4.9		5.0				
Max Green Setting (Gmax), s		* 32		28.0		* 32		28.0				
Max Q Clear Time (g_c+I1), s		18.9		20.6		27.5		24.1				
Green Ext Time (p_c), s		5.9		4.1		2.0		1.1				

Intersection Summary												
HCM 6th Ctrl Delay			18.2									
HCM 6th LOS			B									

Notes

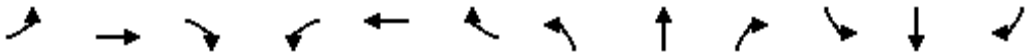
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	235	90	0	937	40	110	915	40	22	1200	110
Future Volume (vph)	104	235	90	0	937	40	110	915	40	22	1200	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8			5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3392			3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.16	1.00			1.00	1.00	0.10	1.00	1.00	0.20	1.00	1.00
Satd. Flow (perm)	296	3392			3539	1583	183	3539	1583	371	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	255	98	0	1018	43	120	995	43	24	1304	120
RTOR Reduction (vph)	0	16	0	0	0	31	0	0	22	0	0	101
Lane Group Flow (vph)	113	337	0	0	1018	12	120	995	21	24	1304	19
Turn Type	custom	NA			NA	Perm	Perm	NA	Perm	Perm	NA	custom
Protected Phases	8	6 8			2			7			7	
Permitted Phases	6					2	7		7	7		8
Actuated Green, G (s)	30.2	36.0			25.2	25.2	43.0	43.0	43.0	43.0	43.0	5.0
Effective Green, g (s)	30.2	36.0			25.2	25.2	43.0	43.0	43.0	43.0	43.0	5.0
Actuated g/C Ratio	0.34	0.40			0.28	0.28	0.48	0.48	0.48	0.48	0.48	0.06
Clearance Time (s)	5.0				5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Vehicle Extension (s)	3.0				5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.0
Lane Grp Cap (vph)	181	1356			990	443	87	1690	756	177	1690	87
v/s Ratio Prot	c0.03	0.10			c0.29			0.28			0.37	
v/s Ratio Perm	0.17					0.01	c0.65		0.01	0.06		0.01
v/c Ratio	0.62	0.25			1.03	0.03	1.38	0.59	0.03	0.14	0.77	0.22
Uniform Delay, d1	38.4	18.0			32.4	23.5	23.5	17.1	12.4	13.1	19.4	40.6
Progression Factor	1.04	1.07			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.5	0.1			36.1	0.1	227.2	1.5	0.1	1.6	3.5	1.3
Delay (s)	46.4	19.3			68.5	23.6	250.7	18.6	12.5	14.7	22.9	41.9
Level of Service	D	B			E	C	F	B	B	B	C	D
Approach Delay (s)		25.9			66.6			42.4			24.4	
Approach LOS		C			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	40.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	75	111	67	170	74	106	698	21	53	984	63
Future Volume (veh/h)	47	75	111	67	170	74	106	698	21	53	984	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	82	0	73	185	80	115	759	23	58	1070	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	225		304	269	116	332	2228	68	470	2147	136
Arrive On Green	0.12	0.12	0.00	0.05	0.22	0.22	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	1114	1870	0	1781	1238	536	494	3521	107	691	3393	216
Grp Volume(v), veh/h	51	82	0	73	0	265	115	383	399	58	560	578
Grp Sat Flow(s),veh/h/ln	1114	1870	0	1781	0	1774	494	1777	1851	691	1777	1832
Q Serve(g_s), s	3.1	2.8	0.0	2.4	0.0	9.6	11.4	7.1	7.1	3.0	11.8	11.8
Cycle Q Clear(g_c), s	5.9	2.8	0.0	2.4	0.0	9.6	23.2	7.1	7.1	10.1	11.8	11.8
Prop In Lane	1.00		0.00	1.00		0.30	1.00		0.06	1.00		0.12
Lane Grp Cap(c), veh/h	192	225		304	0	385	332	1124	1171	470	1124	1159
V/C Ratio(X)	0.27	0.36		0.24	0.00	0.69	0.35	0.34	0.34	0.12	0.50	0.50
Avail Cap(c_a), veh/h	456	668		335	0	836	332	1124	1171	470	1124	1159
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)	0.98	0.98	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.55	0.55	0.55
Uniform Delay (d), s/veh	31.1	28.3	0.0	23.4	0.0	25.2	13.1	6.0	6.0	8.4	6.9	6.9
Incr Delay (d2), s/veh	0.7	1.0	0.0	0.4	0.0	2.2	2.8	0.8	0.8	0.3	0.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	2.3	0.0	1.8	0.0	7.3	2.5	4.2	4.4	0.8	6.1	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	29.3	0.0	23.8	0.0	27.4	16.0	6.8	6.8	8.7	7.8	7.7
LnGrp LOS	C	C		C	A	C	B	A	A	A	A	A
Approach Vol, veh/h		133	A		338			897			1196	
Approach Delay, s/veh		30.3			26.6			8.0			7.8	
Approach LOS		C			C			A			A	

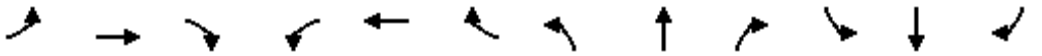
Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		50.3		19.7		50.3	6.8	12.9				
Change Period (Y+Rc), s		6.0		* 4.5		6.0	3.0	* 4.5				
Max Green Setting (Gmax), s		26.5		* 33		26.5	5.0	* 25				
Max Q Clear Time (g_c+I1), s		13.8		11.6		25.2	4.4	7.9				
Green Ext Time (p_c), s		6.4		1.5		0.8	0.0	0.5				

Intersection Summary												
HCM 6th Ctrl Delay			11.5									
HCM 6th LOS			B									

Notes

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

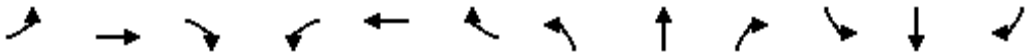
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	165	2446	197	149	710	0	0	942	213
Future Volume (veh/h)	0	0	0	165	2446	197	149	710	0	0	942	213
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				179	2659	214	162	772	0	0	1024	232
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				153	2438	199	255	1650	0	0	1168	521
Arrive On Green				0.41	0.41	0.41	0.02	0.15	0.00	0.00	0.33	0.33
Sat Flow, veh/h				376	5987	488	1781	3647	0	0	3647	1585
Grp Volume(v), veh/h				881	1389	782	162	772	0	0	1024	232
Grp Sat Flow(s),veh/h/ln				1852	1609	1783	1781	1777	0	0	1777	1585
Q Serve(g_s), s				28.5	28.5	28.5	3.9	13.9	0.0	0.0	19.0	8.1
Cycle Q Clear(g_c), s				28.5	28.5	28.5	3.9	13.9	0.0	0.0	19.0	8.1
Prop In Lane				0.20		0.27	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				754	1310	726	255	1650	0	0	1168	521
V/C Ratio(X)				1.17	1.06	1.08	0.63	0.47	0.00	0.00	0.88	0.45
Avail Cap(c_a), veh/h				754	1310	726	255	1650	0	0	1168	521
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.91	0.91	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.8	20.7	20.8	17.6	21.8	0.0	0.0	22.2	18.5
Incr Delay (d2), s/veh				90.1	42.6	56.0	4.6	0.9	0.0	0.0	9.4	2.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				43.1	25.1	31.1	3.4	10.7	0.0	0.0	13.7	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				110.8	63.4	76.8	22.2	22.6	0.0	0.0	31.6	21.2
LnGrp LOS				F	F	F	C	C	A	A	C	C
Approach Vol, veh/h					3052			934			1256	
Approach Delay, s/veh					80.5			22.6			29.7	
Approach LOS					F			C			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.5	27.5		33.0		37.0						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	5.0	23.0		28.5		32.5						
Max Q Clear Time (g_c+I1), s	5.9	21.0		30.5		15.9						
Green Ext Time (p_c), s	0.0	1.4		0.0		5.0						

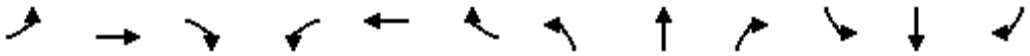
Intersection Summary		
HCM 6th Ctrl Delay		58.0
HCM 6th LOS		E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	291	124	0	0	0	0	904	58	111	1063	0
Future Volume (veh/h)	91	291	124	0	0	0	0	904	58	111	1063	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	99	316	135				0	983	63	121	1155	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	167	582	227				0	2492	160	441	2612	0
Arrive On Green	0.14	0.14	0.14				0.00	0.74	0.74	0.98	0.98	0.00
Sat Flow, veh/h	1162	4054	1585				0	3484	217	539	3647	0
Grp Volume(v), veh/h	154	261	135				0	515	531	121	1155	0
Grp Sat Flow(s),veh/h/ln	1812	1702	1585				0	1777	1831	539	1777	0
Q Serve(g_s), s	5.6	5.0	5.6				0.0	7.6	7.6	3.7	0.9	0.0
Cycle Q Clear(g_c), s	5.6	5.0	5.6				0.0	7.6	7.6	11.3	0.9	0.0
Prop In Lane	0.64		1.00				0.00		0.12	1.00		0.00
Lane Grp Cap(c), veh/h	260	489	227				0	1306	1346	441	2612	0
V/C Ratio(X)	0.59	0.53	0.59				0.00	0.39	0.39	0.27	0.44	0.00
Avail Cap(c_a), veh/h	518	973	453				0	1306	1346	441	2612	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.35	0.35	0.00
Uniform Delay (d), s/veh	28.1	27.8	28.1				0.0	3.5	3.5	1.2	0.2	0.0
Incr Delay (d2), s/veh	2.2	0.9	2.5				0.0	0.9	0.9	0.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	3.6	3.9				0.0	3.5	3.6	0.2	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	28.7	30.5				0.0	4.4	4.3	1.8	0.4	0.0
LnGrp LOS	C	C	C				A	A	A	A	A	A
Approach Vol, veh/h		550						1046			1276	
Approach Delay, s/veh		29.6						4.3			0.5	
Approach LOS		C						A			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		55.5				55.5		14.5				
Change Period (Y+Rc), s		4.0				4.0		4.5				
Max Green Setting (Gmax), s		41.5				41.5		20.0				
Max Q Clear Time (g_c+I1), s		13.3				9.6		7.6				
Green Ext Time (p_c), s		12.0				8.3		2.5				

Intersection Summary												
HCM 6th Ctrl Delay			7.5									
HCM 6th LOS			A									



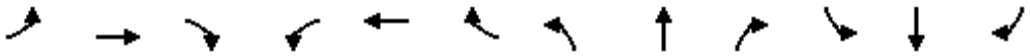
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	224	109	139	682	119	78	568	71	52	859	59
Future Volume (veh/h)	47	224	109	139	682	119	78	568	71	52	859	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	243	118	151	741	129	85	617	77	57	934	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	838	394	389	1081	188	484	2430	303	579	2167	149
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.06	0.76	0.76	0.64	0.64	0.64
Sat Flow, veh/h	637	2346	1103	1021	3026	527	1781	3180	396	750	3374	231
Grp Volume(v), veh/h	51	182	179	151	435	435	85	344	350	57	492	506
Grp Sat Flow(s),veh/h/ln	637	1777	1672	1021	1777	1776	1781	1777	1799	750	1777	1829
Q Serve(g_s), s	5.2	5.1	5.4	8.8	14.6	14.6	1.0	4.0	4.0	2.1	9.6	9.6
Cycle Q Clear(g_c), s	19.8	5.1	5.4	14.1	14.6	14.6	1.0	4.0	4.0	2.6	9.6	9.6
Prop In Lane	1.00		0.66	1.00		0.30	1.00		0.22	1.00		0.13
Lane Grp Cap(c), veh/h	197	635	597	389	635	634	484	1358	1375	579	1141	1175
V/C Ratio(X)	0.26	0.29	0.30	0.39	0.69	0.69	0.18	0.25	0.25	0.10	0.43	0.43
Avail Cap(c_a), veh/h	197	635	597	389	635	634	521	1358	1375	579	1141	1175
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)	0.66	0.66	0.66	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	16.1	16.2	21.3	19.2	19.2	4.0	2.4	2.4	5.0	6.2	6.2
Incr Delay (d2), s/veh	2.1	0.8	0.8	2.9	5.9	5.9	0.2	0.4	0.4	0.3	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	3.7	3.7	4.1	10.8	10.8	0.4	1.6	1.6	0.6	5.7	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.7	16.9	17.0	24.2	25.1	25.1	4.2	2.9	2.9	5.4	7.4	7.3
LnGrp LOS	C	B	B	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		412			1021			779			1055	
Approach Delay, s/veh		18.5			25.0			3.0			7.3	
Approach LOS		B			C			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.5	49.5		29.5		58.0		29.5				
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0		* 4.5				
Max Green Setting (Gmax), s	5.5	27.0		24.5		37.0		* 25				
Max Q Clear Time (g_c+I1), s	3.0	11.6		16.6		6.0		21.8				
Green Ext Time (p_c), s	0.0	6.3		3.8		4.8		0.8				

Intersection Summary			
HCM 6th Ctrl Delay		13.2	
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)	63	336	88	129	719	106	119	675	101	138	946	181
Future Volume (veh/h)	63	336	88	129	719	106	119	675	101	138	946	181
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	365	96	140	782	115	129	734	110	150	1028	197
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	890	231	280	991	146	220	1202	180	383	1630	312
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.39	0.39	0.39	0.10	0.55	0.55
Sat Flow, veh/h	621	2791	725	931	3108	457	455	3099	464	1781	2976	569
Grp Volume(v), veh/h	68	231	230	140	447	450	129	421	423	150	613	612
Grp Sat Flow(s),veh/h/ln	621	1777	1740	931	1777	1788	455	1777	1787	1781	1777	1768
Q Serve(g_s), s	8.1	9.1	9.4	12.5	20.6	20.6	24.6	17.1	17.1	4.1	21.4	21.6
Cycle Q Clear(g_c), s	28.7	9.1	9.4	21.9	20.6	20.6	31.8	17.1	17.1	4.1	21.4	21.6
Prop In Lane	1.00		0.42	1.00		0.26	1.00		0.26	1.00		0.32
Lane Grp Cap(c), veh/h	136	567	555	280	567	570	220	689	693	383	973	968
V/C Ratio(X)	0.50	0.41	0.42	0.50	0.79	0.79	0.59	0.61	0.61	0.39	0.63	0.63
Avail Cap(c_a), veh/h	136	567	555	280	567	570	220	689	693	387	973	968
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)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	24.0	24.1	32.6	27.9	27.9	30.0	22.1	22.1	14.5	14.0	14.1
Incr Delay (d2), s/veh	12.1	2.1	2.2	6.2	10.7	10.6	10.9	4.0	4.0	0.7	3.1	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	3.5	7.3	7.3	5.8	15.3	15.4	5.9	12.1	12.2	2.9	13.5	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	26.1	26.3	38.9	38.6	38.5	40.9	26.1	26.1	15.2	17.1	17.2
LnGrp LOS	D	C	C	D	D	D	D	C	C	B	B	B
Approach Vol, veh/h		529			1037			973			1375	
Approach Delay, s/veh		29.7			38.6			28.1			17.0	
Approach LOS		C			D			C			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		55.0		35.0	14.4	40.6		35.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 49		* 29	9.0	* 35		* 29				
Max Q Clear Time (g_c+I1), s		23.6		23.9	6.1	33.8		30.7				
Green Ext Time (p_c), s		9.8		2.7	0.1	0.6		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		27.2
HCM 6th LOS		C

Notes

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

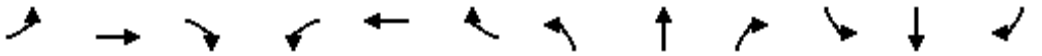
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Traffic Vol, veh/h	40	234	17	0	1764	0	8	6	0	0
Future Vol, veh/h	40	234	17	0	1764	0	8	6	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	0	-	-	-	-	-	0	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	254	18	0	1917	0	9	7	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1917	0	0	-	-	0	1116	136	
Stage 1	-	-	-	-	-	-	349	-	
Stage 2	-	-	-	-	-	-	767	-	
Critical Hdwy	5.34	-	-	-	-	-	6.29	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.04	-	
Follow-up Hdwy	3.12	-	-	-	-	-	3.67	3.32	
Pot Cap-1 Maneuver	138	-	-	0	-	0	234	888	
Stage 1	-	-	-	0	-	0	662	-	
Stage 2	-	-	-	0	-	0	390	-	
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	138	-	-	-	-	-	161	888	
Mov Cap-2 Maneuver	-	-	-	-	-	-	251	-	
Stage 1	-	-	-	-	-	-	455	-	
Stage 2	-	-	-	-	-	-	390	-	

Approach	EB	WB	NB
HCM Control Delay, s	5.9	0	15.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT
Capacity (veh/h)	251	888	138	-	-	-
HCM Lane V/C Ratio	0.035	0.007	0.315	-	-	-
HCM Control Delay (s)	19.9	9.1	42.7	-	-	-
HCM Lane LOS	C	A	E	-	-	-
HCM 95th %tile Q(veh)	0.1	0	1.2	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	271	53	0	2748	92	30	4	1	55	0	21
Future Volume (veh/h)	0	271	53	0	2748	92	30	4	1	55	0	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	295	58	0	2987	0	33	4	1	60	0	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	1931	375	0	3323		303	34	7	395	0	335
Arrive On Green	0.00	0.65	0.65	0.00	0.65	0.00	0.21	0.21	0.21	0.21	0.00	0.21
Sat Flow, veh/h	0	3061	576	0	5443	0	1082	160	34	1490	0	1585
Grp Volume(v), veh/h	0	175	178	0	2987	0	38	0	0	60	0	23
Grp Sat Flow(s),veh/h/ln	0	1777	1767	0	1702	0	1275	0	0	1490	0	1585
Q Serve(g_s), s	0.0	3.4	3.5	0.0	44.3	0.0	1.6	0.0	0.0	0.0	0.0	1.0
Cycle Q Clear(g_c), s	0.0	3.4	3.5	0.0	44.3	0.0	4.1	0.0	0.0	2.5	0.0	1.0
Prop In Lane	0.00		0.33	0.00		0.00	0.87		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	0	1156	1150	0	3323		344	0	0	395	0	335
V/C Ratio(X)	0.00	0.15	0.15	0.00	0.90		0.11	0.00	0.00	0.15	0.00	0.07
Avail Cap(c_a), veh/h	0	1156	1150	0	3323		360	0	0	410	0	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)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.1	6.1	0.0	13.2	0.0	30.1	0.0	0.0	29.0	0.0	28.4
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.0	4.4	0.0	0.1	0.0	0.0	0.2	0.0	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	0.0	2.1	2.1	0.0	21.8	0.0	1.2	0.0	0.0	1.9	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.1	6.2	0.0	17.6	0.0	30.2	0.0	0.0	29.1	0.0	28.5
LnGrp LOS	A	A	A	A	B		C	A	A	C	A	C
Approach Vol, veh/h		353			2987	A		38			83	
Approach Delay, s/veh		6.2			17.6			30.2			29.0	
Approach LOS		A			B			C			C	

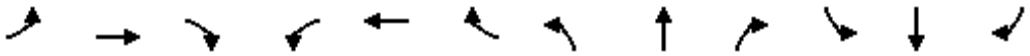
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		65.3		24.7		65.3		24.7				
Change Period (Y+Rc), s		6.7		* 5.7		6.7		5.7				
Max Green Setting (Gmax), s		32.7		* 20		32.7		20.0				
Max Q Clear Time (g_c+I1), s		46.3		4.5		5.5		6.1				
Green Ext Time (p_c), s		0.0		0.2		2.1		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			16.9									
HCM 6th LOS			B									

Notes

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

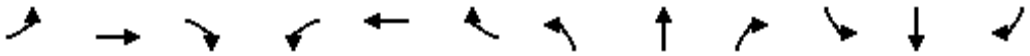
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	136	852	175	132	605	0	0	248	66
Future Volume (veh/h)	0	0	0	136	852	175	132	605	0	0	248	66
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				148	926	190	143	658	0	0	270	72
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				348	2341	486	499	1574	0	0	1234	323
Arrive On Green				0.47	0.47	0.47	0.44	0.44	0.00	0.00	0.44	0.44
Sat Flow, veh/h				738	4967	1031	1039	3647	0	0	2880	729
Grp Volume(v), veh/h				368	586	311	143	658	0	0	170	172
Grp Sat Flow(s),veh/h/ln				1833	1609	1685	1039	1777	0	0	1777	1739
Q Serve(g_s), s				9.3	8.2	8.4	6.9	8.9	0.0	0.0	4.1	4.3
Cycle Q Clear(g_c), s				9.3	8.2	8.4	11.2	8.9	0.0	0.0	4.1	4.3
Prop In Lane				0.40		0.61	1.00		0.00	0.00		0.42
Lane Grp Cap(c), veh/h				864	1517	794	499	1574	0	0	787	770
V/C Ratio(X)				0.43	0.39	0.39	0.29	0.42	0.00	0.00	0.22	0.22
Avail Cap(c_a), veh/h				864	1517	794	499	1574	0	0	787	770
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.39	0.39	0.39	0.82	0.82	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				12.2	12.0	12.0	15.5	13.3	0.0	0.0	12.0	12.1
Incr Delay (d2), s/veh				0.6	0.3	0.6	1.2	0.7	0.0	0.0	0.6	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				5.5	4.4	4.7	3.0	6.0	0.0	0.0	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				12.8	12.2	12.6	16.7	14.0	0.0	0.0	12.6	12.7
LnGrp LOS				B	B	B	B	B	A	A	B	B
Approach Vol, veh/h					1264			801			342	
Approach Delay, s/veh					12.5			14.5			12.7	
Approach LOS					B			B			B	

Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		36.0		34.0				34.0				
Change Period (Y+Rc), s		3.0		3.0				3.0				
Max Green Setting (Gmax), s		33.0		31.0				31.0				
Max Q Clear Time (g_c+I1), s		11.3		13.2				6.3				
Green Ext Time (p_c), s		8.9		5.0				2.0				

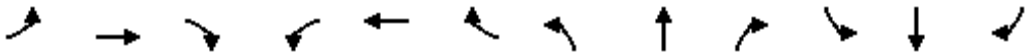
Intersection Summary		
HCM 6th Ctrl Delay		13.2
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	1643	84	0	0	0	0	769	141	99	400	0
Future Volume (veh/h)	122	1643	84	0	0	0	0	769	141	99	400	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	133	1786	91				0	836	153	108	435	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	154	2229	116				0	1563	286	377	1852	0
Arrive On Green	0.36	0.36	0.36				0.00	1.00	1.00	0.52	0.52	0.00
Sat Flow, veh/h	425	6134	320				0	3093	549	569	3647	0
Grp Volume(v), veh/h	578	916	516				0	495	494	108	435	0
Grp Sat Flow(s),veh/h/ln	1849	1609	1813				0	1777	1772	569	1777	0
Q Serve(g_s), s	26.1	22.8	22.8				0.0	0.0	0.0	10.1	6.0	0.0
Cycle Q Clear(g_c), s	26.1	22.8	22.8				0.0	0.0	0.0	10.1	6.0	0.0
Prop In Lane	0.23		0.18				0.00		0.31	1.00		0.00
Lane Grp Cap(c), veh/h	672	1169	659				0	926	923	377	1852	0
V/C Ratio(X)	0.86	0.78	0.78				0.00	0.53	0.53	0.29	0.23	0.00
Avail Cap(c_a), veh/h	672	1169	659				0	926	923	377	1852	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.92	0.92	0.98	0.98	0.00
Uniform Delay (d), s/veh	26.5	25.5	25.5				0.0	0.0	0.0	12.7	11.8	0.0
Incr Delay (d2), s/veh	13.6	5.3	9.0				0.0	2.0	2.0	1.9	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	19.5	14.2	16.5				0.0	0.9	0.9	2.5	4.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	30.8	34.5				0.0	2.0	2.0	14.6	12.1	0.0
LnGrp LOS	D	C	C				A	A	A	B	B	A
Approach Vol, veh/h		2010						989			543	
Approach Delay, s/veh		34.4						2.0			12.6	
Approach LOS		C						A			B	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		52.0				52.0		38.0				
Change Period (Y+Rc), s		5.1				5.1		5.3				
Max Green Setting (Gmax), s		46.9				46.9		32.7				
Max Q Clear Time (g_c+I1), s		12.1				2.0		28.1				
Green Ext Time (p_c), s		4.6				8.2		4.0				

Intersection Summary												
HCM 6th Ctrl Delay			22.0									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	37	311	55	75	786	0	0	457	76
Future Volume (veh/h)	0	0	0	37	311	55	75	786	0	0	457	76
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				40	338	60	82	854	0	0	497	83
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				122	1084	527	544	1978	0	0	1697	282
Arrive On Green				0.33	0.33	0.33	0.56	0.56	0.00	0.00	1.00	1.00
Sat Flow, veh/h				367	3262	1585	834	3647	0	0	3143	507
Grp Volume(v), veh/h				202	176	60	82	854	0	0	289	291
Grp Sat Flow(s),veh/h/ln				1852	1777	1585	834	1777	0	0	1777	1779
Q Serve(g_s), s				7.4	6.6	2.4	4.4	12.6	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				7.4	6.6	2.4	4.4	12.6	0.0	0.0	0.0	0.0
Prop In Lane				0.20		1.00	1.00		0.00	0.00		0.28
Lane Grp Cap(c), veh/h				615	590	527	544	1978	0	0	989	990
V/C Ratio(X)				0.33	0.30	0.11	0.15	0.43	0.00	0.00	0.29	0.29
Avail Cap(c_a), veh/h				615	590	527	544	1978	0	0	989	990
HCM Platoon Ratio				1.00	1.00	1.00	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	0.00	0.00	0.98	0.98
Uniform Delay (d), s/veh				22.5	22.3	20.9	9.8	11.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				1.4	1.3	0.4	0.6	0.7	0.0	0.0	0.7	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				6.1	5.2	1.7	1.5	8.4	0.0	0.0	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				23.9	23.6	21.3	10.4	12.3	0.0	0.0	0.7	0.7
LnGrp LOS				C	C	C	B	B	A	A	A	A
Approach Vol, veh/h					438			936			580	
Approach Delay, s/veh					23.4			12.2			0.7	
Approach LOS					C			B			A	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	35.0	55.0	55.0
Change Period (Y+Rc), s	5.1	* 4.9	* 4.9
Max Green Setting (Gmax), s	29.9	* 50	* 50
Max Q Clear Time (g_c+I1), s	9.4	2.0	14.6
Green Ext Time (p_c), s	2.3	4.1	7.9

Intersection Summary	
HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

Notes

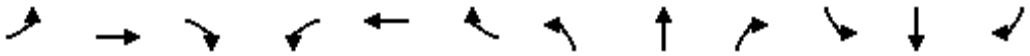
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	932	214	63	220	267	258
Future Volume (vph)	932	214	63	220	267	258
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3440		1770	3539	1770	1583
Flt Permitted	1.00		0.19	1.00	0.95	1.00
Satd. Flow (perm)	3440		358	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1013	233	68	239	290	280
RTOR Reduction (vph)	11	0	0	0	0	233
Lane Group Flow (vph)	1235	0	68	239	290	47
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	6			2	8	
Permitted Phases			2			8
Actuated Green, G (s)	64.7		64.7	64.7	15.0	15.0
Effective Green, g (s)	64.7		64.7	64.7	15.0	15.0
Actuated g/C Ratio	0.72		0.72	0.72	0.17	0.17
Clearance Time (s)	5.3		5.3	5.3	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2472		257	2544	295	263
v/s Ratio Prot	c0.36			0.07	c0.16	
v/s Ratio Perm			0.19			0.03
v/c Ratio	0.50		0.26	0.09	0.98	0.18
Uniform Delay, d1	5.5		4.4	3.8	37.4	32.2
Progression Factor	1.00		3.62	2.67	1.00	1.00
Incremental Delay, d2	0.7		2.4	0.1	47.4	0.3
Delay (s)	6.3		18.3	10.3	84.8	32.5
Level of Service	A		B	B	F	C
Approach Delay (s)	6.3			12.0	59.1	
Approach LOS	A			B	E	

Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

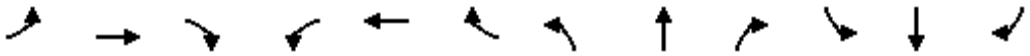
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	421	114	37	254	67	73	321	156	38	155	73
Future Volume (veh/h)	66	421	114	37	254	67	73	321	156	38	155	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	72	458	124	40	276	73	79	349	170	41	168	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	671	173	111	693	173	361	628	532	265	404	190
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	130	1253	324	101	1293	322	1133	1870	1585	882	1203	566
Grp Volume(v), veh/h	654	0	0	389	0	0	79	349	170	41	0	247
Grp Sat Flow(s),veh/h/ln	1707	0	0	1716	0	0	1133	1870	1585	882	0	1769
Q Serve(g_s), s	8.5	0.0	0.0	0.0	0.0	0.0	4.1	10.7	5.6	2.8	0.0	7.5
Cycle Q Clear(g_c), s	19.5	0.0	0.0	8.9	0.0	0.0	11.6	10.7	5.6	13.5	0.0	7.5
Prop In Lane	0.11		0.19	0.10		0.19	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	971	0	0	976	0	0	361	628	532	265	0	594
V/C Ratio(X)	0.67	0.00	0.00	0.40	0.00	0.00	0.22	0.56	0.32	0.15	0.00	0.42
Avail Cap(c_a), veh/h	971	0	0	976	0	0	361	628	532	265	0	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.94	0.00	0.00	0.92	0.92	0.92	0.97	0.00	0.97
Uniform Delay (d), s/veh	11.9	0.0	0.0	9.6	0.0	0.0	22.4	19.0	17.3	24.5	0.0	18.0
Incr Delay (d2), s/veh	3.7	0.0	0.0	1.1	0.0	0.0	1.3	3.2	1.5	1.2	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.8	0.0	0.0	6.0	0.0	0.0	2.1	8.3	3.8	1.2	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	0.0	0.0	10.8	0.0	0.0	23.7	22.2	18.8	25.7	0.0	20.0
LnGrp LOS	B	A	A	B	A	A	C	C	B	C	A	C
Approach Vol, veh/h		654			389			598			288	
Approach Delay, s/veh		15.6			10.8			21.4			20.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		42.0		28.0		42.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		37.5		23.5		37.5				
Max Q Clear Time (g_c+I1), s		15.5		10.9		13.6		21.5				
Green Ext Time (p_c), s		1.0		2.7		2.2		4.4				

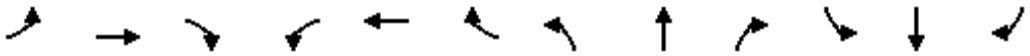
Intersection Summary												
HCM 6th Ctrl Delay			17.2									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	130	1124	149	327	844	0	0	308	104
Future Volume (veh/h)	0	0	0	130	1124	149	327	844	0	0	308	104
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				141	1222	162	355	917	0	0	335	113
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	0	2	2
Cap, veh/h				153	1422	192	605	2257	0	0	1415	470
Arrive On Green				0.26	0.26	0.26	0.05	0.63	0.00	0.00	0.54	0.54
Sat Flow, veh/h				587	5469	740	1781	3647	0	0	2715	870
Grp Volume(v), veh/h				442	702	381	355	917	0	0	225	223
Grp Sat Flow(s),veh/h/ln				1841	1609	1737	1781	1777	0	0	1777	1714
Q Serve(g_s), s				23.4	20.7	20.8	5.0	12.7	0.0	0.0	6.7	6.9
Cycle Q Clear(g_c), s				23.4	20.7	20.8	5.0	12.7	0.0	0.0	6.7	6.9
Prop In Lane				0.32		0.43	1.00		0.00	0.00		0.51
Lane Grp Cap(c), veh/h				479	836	452	605	2257	0	0	959	925
V/C Ratio(X)				0.92	0.84	0.84	0.59	0.41	0.00	0.00	0.23	0.24
Avail Cap(c_a), veh/h				479	836	452	605	2257	0	0	959	925
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.86	0.86	0.86	1.00	1.00	0.00	0.00	0.92	0.92
Uniform Delay (d), s/veh				36.0	35.0	35.1	13.5	9.0	0.0	0.0	12.1	12.2
Incr Delay (d2), s/veh				23.3	8.7	15.1	1.5	0.5	0.0	0.0	0.5	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				18.9	13.5	15.4	5.4	8.2	0.0	0.0	4.8	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				59.3	43.7	50.2	14.9	9.5	0.0	0.0	12.6	12.7
LnGrp LOS				E	D	D	B	A	A	A	B	B
Approach Vol, veh/h					1525			1272			448	
Approach Delay, s/veh					49.8			11.0			12.7	
Approach LOS					D			B			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.5	59.5		31.0		69.0						
Change Period (Y+Rc), s	4.5	5.5		5.0		5.5						
Max Green Setting (Gmax), s	5.0	53.5		26.0		53.5						
Max Q Clear Time (g_c+I1), s	7.0	8.9		25.4		14.7						
Green Ext Time (p_c), s	0.0	3.0		0.5		8.0						

Intersection Summary		
HCM 6th Ctrl Delay		29.5
HCM 6th LOS		C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1659	105	0	0	0	0	847	268	87	256	0
Future Volume (veh/h)	50	1659	105	0	0	0	0	847	268	87	256	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	54	1803	114				0	921	291	95	278	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	63	2244	146				0	1092	344	214	1820	
Arrive On Green	0.12	0.12	0.12				0.00	0.41	0.41	0.05	0.51	0.00
Sat Flow, veh/h	176	6291	408				0	2753	837	1781	3647	0
Grp Volume(v), veh/h	571	898	502				0	614	598	95	278	0
Grp Sat Flow(s),veh/h/ln	1862	1609	1797				0	1777	1720	1781	1777	0
Q Serve(g_s), s	27.1	24.4	24.4				0.0	28.0	28.2	2.6	3.7	0.0
Cycle Q Clear(g_c), s	27.1	24.4	24.4				0.0	28.0	28.2	2.6	3.7	0.0
Prop In Lane	0.09		0.23				0.00		0.49	1.00		0.00
Lane Grp Cap(c), veh/h	664	1147	641				0	730	706	214	1820	
V/C Ratio(X)	0.86	0.78	0.78				0.00	0.84	0.85	0.44	0.15	
Avail Cap(c_a), veh/h	664	1147	641				0	730	706	271	1820	
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	37.5	36.3	36.3				0.0	23.9	23.9	19.1	11.6	0.0
Incr Delay (d2), s/veh	13.7	5.4	9.2				0.0	11.3	11.9	1.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	22.5	16.8	19.3				0.0	19.4	19.2	2.0	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	41.7	45.6				0.0	35.2	35.9	20.5	11.8	0.0
LnGrp LOS	D	D	D				A	D	D	C	B	
Approach Vol, veh/h		1971						1212			373	A
Approach Delay, s/veh		45.4						35.6			14.0	
Approach LOS		D						D			B	

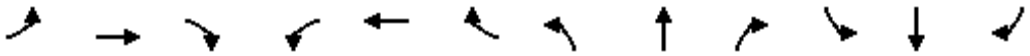
Timer - Assigned Phs				4		6	7	8				
Phs Duration (G+Y+Rc), s				52.0		38.0	9.1	42.9				
Change Period (Y+Rc), s				* 5.9		5.9	4.6	* 5.9				
Max Green Setting (Gmax), s				* 46		32.1	7.4	* 34				
Max Q Clear Time (g_c+I1), s				5.7		29.1	4.6	30.2				
Green Ext Time (p_c), s				2.0		2.6	0.0	2.6				

Intersection Summary												
HCM 6th Ctrl Delay			38.8									
HCM 6th LOS			D									

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



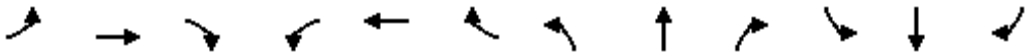
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1	0	1	240	866	0	1	562	24
Future Volume (veh/h)	0	0	0	1	0	1	240	866	0	1	562	24
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h				1	0	1	261	941	0	1	611	26
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	2	2	2
Cap, veh/h				2	0	2	657	1297	0	313	2385	101
Arrive On Green				0.00	0.00	0.00	0.19	0.69	0.00	0.18	0.69	0.69
Sat Flow, veh/h				839	0	839	3456	1870	0	1781	3473	148
Grp Volume(v), veh/h				2	0	0	261	941	0	1	312	325
Grp Sat Flow(s),veh/h/ln				1677	0	0	1728	1870	0	1781	1777	1844
Q Serve(g_s), s				0.1	0.0	0.0	8.0	37.6	0.0	0.1	8.1	8.1
Cycle Q Clear(g_c), s				0.1	0.0	0.0	8.0	37.6	0.0	0.1	8.1	8.1
Prop In Lane				0.50		0.50	1.00		0.00	1.00		0.08
Lane Grp Cap(c), veh/h				5	0	0	657	1297	0	313	1220	1266
V/C Ratio(X)				0.44	0.00	0.00	0.40	0.73	0.00	0.00	0.26	0.26
Avail Cap(c_a), veh/h				250	0	0	668	1297	0	313	1220	1266
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.38	0.38	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh				60.2	0.0	0.0	42.9	11.4	0.0	41.1	7.2	7.2
Incr Delay (d2), s/veh				56.2	0.0	0.0	0.1	1.4	0.0	0.0	0.5	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				0.2	0.0	0.0	5.3	18.4	0.0	0.0	5.5	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				116.5	0.0	0.0	43.1	12.8	0.0	41.1	7.7	7.7
LnGrp LOS				F	A	A	D	B	A	D	A	A
Approach Vol, veh/h					2			1202			638	
Approach Delay, s/veh					116.5			19.4			7.8	
Approach LOS					F			B			A	

Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	27.6	88.6		26.8	89.4		4.8					
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5	* 5.5		4.5					
Max Green Setting (Gmax), s	23.4	* 56		* 5	* 84		18.0					
Max Q Clear Time (g_c+I1), s	10.0	10.1		2.1	39.6		2.1					
Green Ext Time (p_c), s	0.7	4.5		0.0	9.9		0.0					

Intersection Summary		
HCM 6th Ctrl Delay		15.5
HCM 6th LOS		B

Notes

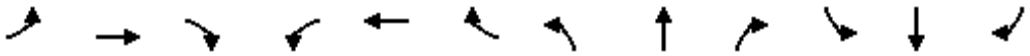
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	790	139	193	0	337	0	824	194	29	356	0
Future Volume (veh/h)	137	790	139	193	0	337	0	824	194	29	356	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	149	859	151	210	0	366	0	896	211	32	387	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	134	812	414	0	0	0	0	1610	379	422	2290	0
Arrive On Green	0.26	0.26	0.26	0.00	0.00	0.00	0.00	1.00	1.00	0.03	0.64	0.00
Sat Flow, veh/h	512	3110	1585		0		0	2948	672	1781	3647	0
Grp Volume(v), veh/h	537	471	151		0.0		0	557	550	32	387	0
Grp Sat Flow(s),veh/h/ln	1845	1777	1585				0	1777	1749	1781	1777	0
Q Serve(g_s), s	23.5	23.5	7.0				0.0	0.0	0.0	0.6	3.9	0.0
Cycle Q Clear(g_c), s	23.5	23.5	7.0				0.0	0.0	0.0	0.6	3.9	0.0
Prop In Lane	0.28		1.00				0.00		0.38	1.00		0.00
Lane Grp Cap(c), veh/h	482	464	414				0	1002	986	422	2290	0
V/C Ratio(X)	1.12	1.01	0.36				0.00	0.56	0.56	0.08	0.17	0.00
Avail Cap(c_a), veh/h	482	464	414				0	1002	986	466	2290	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.58	0.58	0.98	0.98	0.00
Uniform Delay (d), s/veh	33.3	33.3	27.2				0.0	0.0	0.0	6.8	6.4	0.0
Incr Delay (d2), s/veh	76.5	45.5	0.5				0.0	1.3	1.3	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	29.6	22.3	4.8				0.0	0.7	0.7	0.4	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	109.7	78.7	27.7				0.0	1.3	1.3	6.8	6.5	0.0
LnGrp LOS	F	F	C				A	A	A	A	A	A
Approach Vol, veh/h		1159						1107			419	
Approach Delay, s/veh		86.5						1.3			6.6	
Approach LOS		F						A			A	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	7.3	54.7		28.0		62.0						
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0						
Max Green Setting (Gmax), s	5.0	25.0		23.5		34.5						
Max Q Clear Time (g_c+I1), s	2.6	2.0		25.5		5.9						
Green Ext Time (p_c), s	0.0	8.2		0.0		2.7						

Intersection Summary												
HCM 6th Ctrl Delay			38.9									
HCM 6th LOS			D									



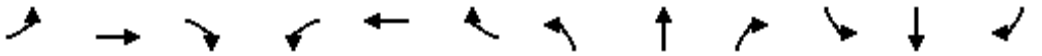
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	865	78	105	504	67	63	871	149	46	582	66
Future Volume (veh/h)	102	865	78	105	504	67	63	871	149	46	582	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	940	85	114	548	73	68	947	162	50	633	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	468	1611	146	237	1541	205	239	1217	208	70	917	121
Arrive On Green	0.49	0.49	0.49	0.98	0.98	0.98	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	803	3296	298	550	3153	419	743	3035	519	61	2286	302
Grp Volume(v), veh/h	111	507	518	114	308	313	68	554	555	362	0	393
Grp Sat Flow(s),veh/h/ln	803	1777	1817	550	1777	1795	743	1777	1777	1001	0	1648
Q Serve(g_s), s	7.5	18.4	18.4	13.7	0.5	0.5	7.1	24.4	24.5	8.1	0.0	16.9
Cycle Q Clear(g_c), s	8.0	18.4	18.4	32.1	0.5	0.5	24.0	24.4	24.5	32.6	0.0	16.9
Prop In Lane	1.00		0.16	1.00		0.23	1.00		0.29	0.14		0.18
Lane Grp Cap(c), veh/h	468	869	888	237	869	878	239	713	713	447	0	661
V/C Ratio(X)	0.24	0.58	0.58	0.48	0.35	0.36	0.29	0.78	0.78	0.81	0.00	0.59
Avail Cap(c_a), veh/h	468	869	888	237	869	878	239	713	713	447	0	661
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00	0.93	0.00	0.93
Uniform Delay (d), s/veh	14.0	16.4	16.4	7.6	0.5	0.5	30.6	23.5	23.5	23.3	0.0	21.2
Incr Delay (d2), s/veh	1.2	2.9	2.8	5.8	1.0	1.0	3.0	8.2	8.2	13.7	0.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.6	12.3	12.5	2.4	0.7	0.7	2.6	16.9	16.9	11.3	0.0	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	19.3	19.2	13.4	1.5	1.5	33.6	31.6	31.7	37.0	0.0	24.8
LnGrp LOS	B	B	B	B	A	A	C	C	C	D	A	C
Approach Vol, veh/h		1136			735			1177			755	
Approach Delay, s/veh		18.9			3.3			31.8			30.7	
Approach LOS		B			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.0		49.0		41.0		49.0				
Change Period (Y+Rc), s		* 4.9		5.0		* 4.9		5.0				
Max Green Setting (Gmax), s		* 36		44.0		* 36		44.0				
Max Q Clear Time (g_c+I1), s		34.6		34.1		26.5		20.4				
Green Ext Time (p_c), s		0.8		3.6		5.3		8.3				

Intersection Summary		
HCM 6th Ctrl Delay		22.2
HCM 6th LOS		C

Notes

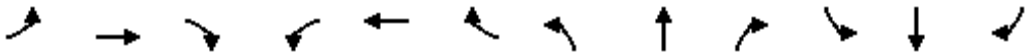
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	399	858	109	0	351	37	38	903	64	39	1072	83
Future Volume (vph)	399	858	109	0	351	37	38	903	64	39	1072	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8			5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3480			3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.48	1.00			1.00	1.00	0.12	1.00	1.00	0.15	1.00	1.00
Satd. Flow (perm)	888	3480			3539	1583	222	3539	1583	273	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	434	933	118	0	382	40	41	982	70	42	1165	90
RTOR Reduction (vph)	0	7	0	0	0	29	0	0	44	0	0	76
Lane Group Flow (vph)	434	1044	0	0	382	11	41	982	26	42	1165	14
Turn Type	custom	NA			NA	Perm	Perm	NA	Perm	Perm	NA	custom
Protected Phases	8	6 8			2			7			7	
Permitted Phases	6					2	7		7	7		8
Actuated Green, G (s)	39.6	45.4			25.2	25.2	33.6	33.6	33.6	33.6	33.6	14.4
Effective Green, g (s)	39.6	45.4			25.2	25.2	33.6	33.6	33.6	33.6	33.6	14.4
Actuated g/C Ratio	0.44	0.50			0.28	0.28	0.37	0.37	0.37	0.37	0.37	0.16
Clearance Time (s)	5.0				5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Vehicle Extension (s)	3.0				5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.0
Lane Grp Cap (vph)	531	1755			990	443	82	1321	590	101	1321	253
v/s Ratio Prot	c0.13	0.30			0.11			0.28			c0.33	
v/s Ratio Perm	c0.23					0.01	0.18		0.02	0.15		0.01
v/c Ratio	0.82	0.59			0.39	0.03	0.50	0.74	0.04	0.42	0.88	0.06
Uniform Delay, d1	23.3	15.8			26.2	23.5	21.7	24.5	18.0	20.9	26.3	32.0
Progression Factor	1.32	1.42			1.00	1.00	0.61	0.68	0.11	1.00	1.00	1.00
Incremental Delay, d2	8.7	0.5			1.1	0.1	17.1	3.2	0.1	12.1	8.7	0.1
Delay (s)	39.6	22.9			27.3	23.6	30.2	19.8	2.1	33.0	35.1	32.1
Level of Service	D	C			C	C	C	B	A	C	D	C
Approach Delay (s)		27.8			26.9			19.0			34.8	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	263	133	41	127	53	96	980	78	49	759	100
Future Volume (veh/h)	161	263	133	41	127	53	96	980	78	49	759	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	175	286	0	45	138	58	104	1065	85	53	825	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	375		208	339	143	364	2040	163	290	1931	255
Arrive On Green	0.20	0.20	0.00	0.04	0.27	0.27	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	1187	1870	0	1781	1250	525	599	3333	266	489	3155	417
Grp Volume(v), veh/h	175	286	0	45	0	196	104	567	583	53	465	469
Grp Sat Flow(s),veh/h/ln	1187	1870	0	1781	0	1776	599	1777	1822	489	1777	1795
Q Serve(g_s), s	12.7	13.0	0.0	1.7	0.0	8.1	9.9	16.4	16.4	6.2	12.4	12.4
Cycle Q Clear(g_c), s	14.5	13.0	0.0	1.7	0.0	8.1	22.3	16.4	16.4	22.7	12.4	12.4
Prop In Lane	1.00		0.00	1.00		0.30	1.00		0.15	1.00		0.23
Lane Grp Cap(c), veh/h	295	375		208	0	482	364	1087	1115	290	1087	1099
V/C Ratio(X)	0.59	0.76		0.22	0.00	0.41	0.29	0.52	0.52	0.18	0.43	0.43
Avail Cap(c_a), veh/h	386	520		240	0	651	364	1087	1115	290	1087	1099
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)	0.76	0.76	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.35	0.35	0.35
Uniform Delay (d), s/veh	35.4	34.0	0.0	26.6	0.0	26.9	15.0	10.0	10.0	16.4	9.2	9.2
Incr Delay (d2), s/veh	1.5	3.3	0.0	0.5	0.0	0.6	2.0	1.8	1.8	0.5	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.5	9.7	0.0	1.3	0.0	6.2	2.7	10.3	10.5	1.3	6.5	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	37.3	0.0	27.1	0.0	27.4	17.0	11.7	11.7	16.9	9.6	9.6
LnGrp LOS	D	D		C	A	C	B	B	B	B	A	A
Approach Vol, veh/h		461	A		241			1254			987	
Approach Delay, s/veh		37.1			27.3			12.2			10.0	
Approach LOS		D			C			B			A	

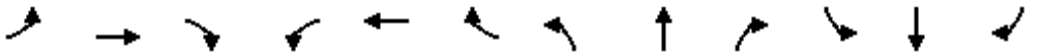
Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		61.1		28.9		61.1	6.4	22.6				
Change Period (Y+Rc), s		6.0		* 4.5		6.0	3.0	* 4.5				
Max Green Setting (Gmax), s		46.5		* 33		46.5	5.0	* 25				
Max Q Clear Time (g_c+I1), s		24.7		10.1		24.3	3.7	16.5				
Green Ext Time (p_c), s		7.2		1.1		9.5	0.0	1.5				

Intersection Summary		
HCM 6th Ctrl Delay	16.6	
HCM 6th LOS	B	

Notes

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

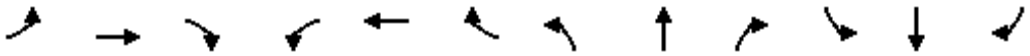
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	103	680	73	267	1156	0	0	812	159
Future Volume (veh/h)	0	0	0	103	680	73	267	1156	0	0	812	159
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				112	739	79	290	1257	0	0	883	173
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				263	1872	202	390	1878	0	0	1206	538
Arrive On Green				0.34	0.34	0.34	0.04	0.17	0.00	0.00	0.34	0.34
Sat Flow, veh/h				767	5459	588	1781	3647	0	0	3647	1585
Grp Volume(v), veh/h				268	425	237	290	1257	0	0	883	173
Grp Sat Flow(s),veh/h/ln				1832	1609	1764	1781	1777	0	0	1777	1585
Q Serve(g_s), s				7.9	7.0	7.1	6.7	23.1	0.0	0.0	15.3	5.7
Cycle Q Clear(g_c), s				7.9	7.0	7.1	6.7	23.1	0.0	0.0	15.3	5.7
Prop In Lane				0.42		0.33	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				628	1103	605	390	1878	0	0	1206	538
V/C Ratio(X)				0.43	0.39	0.39	0.74	0.67	0.00	0.00	0.73	0.32
Avail Cap(c_a), veh/h				628	1103	605	409	1878	0	0	1206	538
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.68	0.68	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				17.7	17.4	17.5	16.0	23.2	0.0	0.0	20.3	17.1
Incr Delay (d2), s/veh				2.1	1.0	1.9	4.8	1.3	0.0	0.0	3.9	1.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				6.2	4.6	5.4	5.6	15.6	0.0	0.0	10.7	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				19.8	18.4	19.4	20.7	24.5	0.0	0.0	24.3	18.7
LnGrp LOS				B	B	B	C	C	A	A	C	B
Approach Vol, veh/h					930			1547			1056	
Approach Delay, s/veh					19.1			23.8			23.4	
Approach LOS					B			C			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	13.2	28.3		28.5		41.5						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	9.5	23.0		24.0		37.0						
Max Q Clear Time (g_c+I1), s	8.7	17.3		9.9		25.1						
Green Ext Time (p_c), s	0.1	3.1		5.1		6.9						

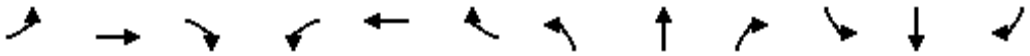
Intersection Summary		
HCM 6th Ctrl Delay		22.4
HCM 6th LOS		C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	1546	175	0	0	0	0	1062	65	128	808	0
Future Volume (veh/h)	243	1546	175	0	0	0	0	1062	65	128	808	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	264	1680	190				0	1154	71	139	878	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	244	1666	577				0	1749	108	223	1828	0
Arrive On Green	0.36	0.36	0.36				0.00	0.51	0.51	0.34	0.34	0.00
Sat Flow, veh/h	669	4572	1585				0	3494	209	455	3647	0
Grp Volume(v), veh/h	725	1219	190				0	603	622	139	878	0
Grp Sat Flow(s),veh/h/ln	1837	1702	1585				0	1777	1833	455	1777	0
Q Serve(g_s), s	25.5	24.8	6.1				0.0	17.4	17.5	18.5	13.6	0.0
Cycle Q Clear(g_c), s	25.5	24.8	6.1				0.0	17.4	17.5	36.0	13.6	0.0
Prop In Lane	0.36		1.00				0.00		0.11	1.00		0.00
Lane Grp Cap(c), veh/h	669	1240	577				0	914	943	223	1828	0
V/C Ratio(X)	1.08	0.98	0.33				0.00	0.66	0.66	0.62	0.48	0.00
Avail Cap(c_a), veh/h	669	1240	577				0	914	943	223	1828	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.56	0.56	0.00
Uniform Delay (d), s/veh	22.3	22.0	16.1				0.0	12.5	12.5	32.9	15.6	0.0
Incr Delay (d2), s/veh	59.8	21.4	0.3				0.0	3.7	3.6	7.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	30.2	18.5	3.8				0.0	11.2	11.5	5.0	8.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.0	43.4	16.4				0.0	16.2	16.1	40.1	16.1	0.0
LnGrp LOS	F	D	B				A	B	B	D	B	A
Approach Vol, veh/h		2134						1225			1017	
Approach Delay, s/veh		54.1						16.2			19.4	
Approach LOS		D						B			B	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		40.0				40.0		30.0				
Change Period (Y+Rc), s		4.0				4.0		4.5				
Max Green Setting (Gmax), s		36.0				36.0		25.5				
Max Q Clear Time (g_c+I1), s		38.0				19.5		27.5				
Green Ext Time (p_c), s		0.0				7.8		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			35.4									
HCM 6th LOS			D									



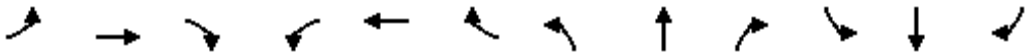
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	776	90	45	258	55	111	915	81	86	697	83
Future Volume (veh/h)	120	776	90	45	258	55	111	915	81	86	697	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	843	98	49	280	60	121	995	88	93	758	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	1212	141	173	1103	233	569	2367	209	384	1964	233
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.05	0.72	0.72	1.00	1.00	1.00
Sat Flow, veh/h	1040	3207	373	596	2920	616	1781	3303	292	521	3199	380
Grp Volume(v), veh/h	130	467	474	49	169	171	121	535	548	93	421	427
Grp Sat Flow(s),veh/h/ln	1040	1777	1803	596	1777	1759	1781	1777	1818	521	1777	1802
Q Serve(g_s), s	8.9	20.0	20.0	6.8	5.9	6.0	2.0	11.0	11.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	14.9	20.0	20.0	26.8	5.9	6.0	2.0	11.0	11.0	3.8	0.0	0.0
Prop In Lane	1.00		0.21	1.00		0.35	1.00		0.16	1.00		0.21
Lane Grp Cap(c), veh/h	403	671	681	173	671	665	569	1273	1303	384	1091	1106
V/C Ratio(X)	0.32	0.70	0.70	0.28	0.25	0.26	0.21	0.42	0.42	0.24	0.39	0.39
Avail Cap(c_a), veh/h	403	671	681	173	671	665	584	1273	1303	384	1091	1106
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.4	23.6	23.6	34.9	19.2	19.3	4.7	5.2	5.2	0.1	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.5	0.5	4.1	0.9	0.9	0.2	1.0	1.0	1.5	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	9.5	9.7	2.1	4.5	4.6	1.2	6.4	6.6	0.3	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	24.2	24.2	39.0	20.1	20.2	4.9	6.2	6.2	1.6	1.0	1.0
LnGrp LOS	C	C	C	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		1071			389			1204			941	
Approach Delay, s/veh		24.2			22.6			6.1			1.1	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.3	59.7		38.5		69.0		38.5				
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0		* 4.5				
Max Green Setting (Gmax), s	5.5	38.0		33.5		48.0		* 34				
Max Q Clear Time (g_c+I1), s	4.0	5.8		28.8		13.0		22.0				
Green Ext Time (p_c), s	0.0	7.8		1.0		8.9		5.3				

Intersection Summary			
HCM 6th Ctrl Delay		11.9	
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)	106	823	122	86	457	132	119	828	125	114	776	47
Future Volume (veh/h)	106	823	122	86	457	132	119	828	125	114	776	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	895	133	93	497	143	129	900	136	124	843	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	1127	168	138	991	283	292	1070	162	292	1713	104
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.35	0.35	0.35	0.10	0.50	0.50
Sat Flow, veh/h	789	3103	461	549	2727	780	622	3095	468	1781	3404	206
Grp Volume(v), veh/h	115	512	516	93	323	317	129	517	519	124	440	454
Grp Sat Flow(s),veh/h/ln	789	1777	1787	549	1777	1730	622	1777	1786	1781	1777	1833
Q Serve(g_s), s	12.0	23.2	23.2	9.5	12.7	12.9	15.5	24.1	24.1	3.6	14.7	14.7
Cycle Q Clear(g_c), s	24.8	23.2	23.2	32.7	12.7	12.9	16.1	24.1	24.1	3.6	14.7	14.7
Prop In Lane	1.00		0.26	1.00		0.45	1.00		0.26	1.00		0.11
Lane Grp Cap(c), veh/h	254	646	649	138	646	629	292	614	617	292	894	923
V/C Ratio(X)	0.45	0.79	0.79	0.68	0.50	0.50	0.44	0.84	0.84	0.42	0.49	0.49
Avail Cap(c_a), veh/h	254	646	649	138	646	629	292	614	617	300	894	923
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)	0.77	0.77	0.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.0	25.6	25.6	42.1	22.3	22.3	24.7	27.2	27.2	18.8	14.8	14.8
Incr Delay (d2), s/veh	4.4	7.6	7.6	23.4	2.8	2.9	4.8	13.1	13.1	1.0	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	15.5	15.5	5.3	9.5	9.4	4.7	17.7	17.8	2.7	10.1	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	33.3	33.2	65.5	25.0	25.2	29.5	40.3	40.2	19.8	16.7	16.6
LnGrp LOS	D	C	C	E	C	C	C	D	D	B	B	B
Approach Vol, veh/h		1143			733			1165			1018	
Approach Delay, s/veh		33.6			30.2			39.1			17.0	
Approach LOS		C			C			D			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		51.0		39.0	14.2	36.8		39.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 45		* 33	9.0	* 31		* 33				
Max Q Clear Time (g_c+I1), s		16.7		34.7	5.6	26.1		26.8				
Green Ext Time (p_c), s		6.5		0.0	0.1	2.9		3.5				

Intersection Summary		
HCM 6th Ctrl Delay	30.4	
HCM 6th LOS	C	

Notes

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

Intersection	
Int Delay, s/veh	1.6

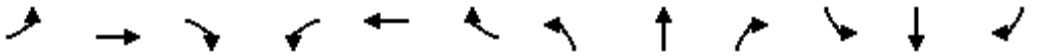
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Traffic Vol, veh/h	35	1529	15	0	554	0	20	11	0	0
Future Vol, veh/h	35	1529	15	0	554	0	20	11	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	-	-	-	0	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	1662	16	0	602	0	22	12	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	602	0	0	-	-	0	2047	839
Stage 1	-	-	-	-	-	-	1746	-
Stage 2	-	-	-	-	-	-	301	-
Critical Hdwy	4.14	-	-	-	-	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.67	3.92
Pot Cap-1 Maneuver	971	-	-	0	-	0	65	*566
Stage 1	-	-	-	0	-	0	577	-
Stage 2	-	-	-	0	-	0	699	-
Platoon blocked, %		-	-		-			1
Mov Cap-1 Maneuver	971	-	-	-	-	-	26	*566
Mov Cap-2 Maneuver	-	-	-	-	-	-	167	-
Stage 1	-	-	-	-	-	-	234	-
Stage 2	-	-	-	-	-	-	699	-

Approach	EB	WB	NB
HCM Control Delay, s	1.7	0	23.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT
Capacity (veh/h)	167	566	971	-	-	-
HCM Lane V/C Ratio	0.13	0.021	0.039	-	-	-
HCM Control Delay (s)	29.8	11.5	8.9	1.6	-	-
HCM Lane LOS	D	B	A	A	-	-
HCM 95th %tile Q(veh)	0.4	0.1	0.1	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1654	47	0	676	75	40	15	16	94	0	29
Future Volume (veh/h)	0	1654	47	0	676	75	40	15	16	94	0	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1798	51	0	735	0	43	16	17	102	0	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	3272	93	0	2279		191	72	58	371	0	350
Arrive On Green	0.00	0.64	0.64	0.00	0.64	0.00	0.22	0.22	0.22	0.22	0.00	0.22
Sat Flow, veh/h	0	5272	145	0	3741	0	580	324	261	1314	0	1585
Grp Volume(v), veh/h	0	1199	650	0	735	0	76	0	0	102	0	32
Grp Sat Flow(s),veh/h/ln	0	1702	1844	0	1777	0	1165	0	0	1314	0	1585
Q Serve(g_s), s	0.0	17.6	17.6	0.0	8.4	0.0	2.1	0.0	0.0	0.0	0.0	1.4
Cycle Q Clear(g_c), s	0.0	17.6	17.6	0.0	8.4	0.0	8.5	0.0	0.0	6.3	0.0	1.4
Prop In Lane	0.00		0.08	0.00		0.00	0.57		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	0	2183	1183	0	2279		320	0	0	371	0	350
V/C Ratio(X)	0.00	0.55	0.55	0.00	0.32		0.24	0.00	0.00	0.28	0.00	0.09
Avail Cap(c_a), veh/h	0	2183	1183	0	2279		324	0	0	374	0	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)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.9	8.9	0.0	7.3	0.0	30.7	0.0	0.0	29.8	0.0	27.9
Incr Delay (d2), s/veh	0.0	0.3	0.5	0.0	0.4	0.0	0.4	0.0	0.0	0.4	0.0	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	0.0	9.6	10.4	0.0	5.3	0.0	2.6	0.0	0.0	3.4	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.2	9.5	0.0	7.7	0.0	31.1	0.0	0.0	30.2	0.0	28.0
LnGrp LOS	A	A	A	A	A		C	A	A	C	A	C
Approach Vol, veh/h		1849			735	A		76			134	
Approach Delay, s/veh		9.3			7.7			31.1			29.6	
Approach LOS		A			A			C			C	

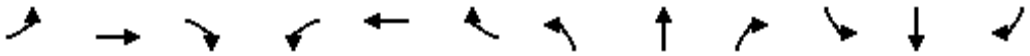
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.4		25.6		64.4		25.6				
Change Period (Y+Rc), s		6.7		* 5.7		6.7		5.7				
Max Green Setting (Gmax), s		32.5		* 20		32.5		20.1				
Max Q Clear Time (g_c+I1), s		10.4		8.3		19.6		10.5				
Green Ext Time (p_c), s		5.3		0.4		9.6		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			10.5									
HCM 6th LOS			B									

Notes

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

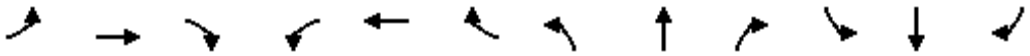
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	195	2255	243	69	217	0	0	471	56
Future Volume (veh/h)	0	0	0	195	2255	243	69	217	0	0	471	56
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				212	2451	264	75	236	0	0	512	61
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				258	3195	348	299	1269	0	0	1143	136
Arrive On Green				0.56	0.56	0.56	0.36	0.36	0.00	0.00	0.36	0.36
Sat Flow, veh/h				462	5735	625	839	3647	0	0	3293	380
Grp Volume(v), veh/h				847	1338	742	75	236	0	0	284	289
Grp Sat Flow(s),veh/h/ln				1847	1609	1758	839	1777	0	0	1777	1802
Q Serve(g_s), s				26.2	22.1	22.7	5.3	3.2	0.0	0.0	8.5	8.6
Cycle Q Clear(g_c), s				26.2	22.1	22.7	13.9	3.2	0.0	0.0	8.5	8.6
Prop In Lane				0.25		0.36	1.00		0.00	0.00		0.21
Lane Grp Cap(c), veh/h				1029	1792	979	299	1269	0	0	635	644
V/C Ratio(X)				0.82	0.75	0.76	0.25	0.19	0.00	0.00	0.45	0.45
Avail Cap(c_a), veh/h				1029	1792	979	299	1269	0	0	635	644
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.09	0.09	0.09	0.96	0.96	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				12.7	11.8	11.9	22.5	15.5	0.0	0.0	17.2	17.2
Incr Delay (d2), s/veh				0.7	0.3	0.5	1.9	0.3	0.0	0.0	2.3	2.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				10.6	7.9	8.8	2.1	2.3	0.0	0.0	6.5	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				13.4	12.0	12.4	24.5	15.8	0.0	0.0	19.5	19.5
LnGrp LOS				B	B	B	C	B	A	A	B	B
Approach Vol, veh/h					2927			311			573	
Approach Delay, s/veh					12.5			17.9			19.5	
Approach LOS					B			B			B	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	42.0	28.0	28.0
Change Period (Y+Rc), s	3.0	3.0	3.0
Max Green Setting (Gmax), s	39.0	25.0	25.0
Max Q Clear Time (g_c+I1), s	28.2	15.9	10.6
Green Ext Time (p_c), s	10.1	1.2	3.0

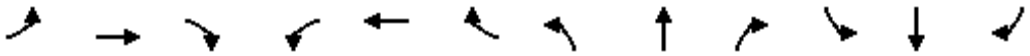
Intersection Summary	
HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	670	112	0	0	0	0	319	89	49	626	0
Future Volume (veh/h)	52	670	112	0	0	0	0	319	89	49	626	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	57	728	122				0	347	97	53	680	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	101	1346	238				0	1159	319	370	1496	0
Arrive On Green	0.46	0.46	0.46				0.00	0.14	0.14	0.42	0.42	0.00
Sat Flow, veh/h	219	2905	514				0	2846	759	946	3647	0
Grp Volume(v), veh/h	485	0	422				0	222	222	53	680	0
Grp Sat Flow(s),veh/h/ln	1859	0	1778				0	1777	1734	946	1777	0
Q Serve(g_s), s	17.0	0.0	15.0				0.0	10.1	10.3	3.7	12.3	0.0
Cycle Q Clear(g_c), s	17.0	0.0	15.0				0.0	10.1	10.3	14.1	12.3	0.0
Prop In Lane	0.12		0.29				0.00		0.44	1.00		0.00
Lane Grp Cap(c), veh/h	862	0	824				0	748	730	370	1496	0
V/C Ratio(X)	0.56	0.00	0.51				0.00	0.30	0.30	0.14	0.45	0.00
Avail Cap(c_a), veh/h	862	0	824				0	748	730	370	1496	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.99	0.99	0.89	0.89	0.00
Uniform Delay (d), s/veh	17.5	0.0	17.0				0.0	26.8	26.9	22.9	18.6	0.0
Incr Delay (d2), s/veh	2.7	0.0	2.3				0.0	1.0	1.1	0.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.0	0.0	10.5				0.0	8.5	8.5	1.6	8.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	19.3				0.0	27.8	27.9	23.7	19.5	0.0
LnGrp LOS	C	A	B				A	C	C	C	B	A
Approach Vol, veh/h		907						444			733	
Approach Delay, s/veh		19.8						27.9			19.8	
Approach LOS		B						C			B	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		43.0				43.0		47.0				
Change Period (Y+Rc), s		5.1				5.1		5.3				
Max Green Setting (Gmax), s		37.9				37.9		41.7				
Max Q Clear Time (g_c+I1), s		16.1				12.3		19.0				
Green Ext Time (p_c), s		5.1				2.8		6.3				

Intersection Summary												
HCM 6th Ctrl Delay			21.5									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	29	490	37	59	342	0	0	637	102
Future Volume (veh/h)	0	0	0	29	490	37	59	342	0	0	637	102
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				32	533	40	64	372	0	0	692	111
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				70	1219	562	306	1899	0	0	1639	263
Arrive On Green				0.35	0.35	0.35	0.53	0.53	0.00	0.00	0.18	0.18
Sat Flow, veh/h				197	3440	1585	678	3647	0	0	3161	492
Grp Volume(v), veh/h				302	263	40	64	372	0	0	401	402
Grp Sat Flow(s),veh/h/ln				1861	1777	1585	678	1777	0	0	1777	1782
Q Serve(g_s), s				11.3	10.1	1.5	6.3	4.9	0.0	0.0	18.1	18.1
Cycle Q Clear(g_c), s				11.3	10.1	1.5	24.3	4.9	0.0	0.0	18.1	18.1
Prop In Lane				0.11		1.00	1.00		0.00	0.00		0.28
Lane Grp Cap(c), veh/h				659	630	562	306	1899	0	0	950	952
V/C Ratio(X)				0.46	0.42	0.07	0.21	0.20	0.00	0.00	0.42	0.42
Avail Cap(c_a), veh/h				659	630	562	306	1899	0	0	950	952
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.89	0.89
Uniform Delay (d), s/veh				22.4	22.0	19.2	22.1	10.9	0.0	0.0	24.7	24.7
Incr Delay (d2), s/veh				2.3	2.0	0.2	1.5	0.2	0.0	0.0	1.2	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				8.9	7.9	1.0	2.0	3.4	0.0	0.0	13.4	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				24.7	24.0	19.5	23.6	11.1	0.0	0.0	25.9	25.9
LnGrp LOS				C	C	B	C	B	A	A	C	C
Approach Vol, veh/h					605			436			803	
Approach Delay, s/veh					24.1			13.0			25.9	
Approach LOS					C			B			C	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	37.0	53.0	53.0
Change Period (Y+Rc), s	5.1	* 4.9	* 4.9
Max Green Setting (Gmax), s	31.9	* 48	* 48
Max Q Clear Time (g_c+I1), s	13.3	20.1	26.3
Green Ext Time (p_c), s	3.4	5.7	3.0

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

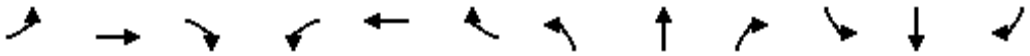
Notes

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	262	205	121	273	213	117
Future Volume (vph)	262	205	121	273	213	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.93		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3306		1770	3539	1770	1583
Flt Permitted	1.00		0.47	1.00	0.95	1.00
Satd. Flow (perm)	3306		866	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	285	223	132	297	232	127
RTOR Reduction (vph)	66	0	0	0	0	104
Lane Group Flow (vph)	442	0	132	297	232	23
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	6			2	8	
Permitted Phases			2			8
Actuated Green, G (s)	63.2		63.2	63.2	16.5	16.5
Effective Green, g (s)	63.2		63.2	63.2	16.5	16.5
Actuated g/C Ratio	0.70		0.70	0.70	0.18	0.18
Clearance Time (s)	5.3		5.3	5.3	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2321		608	2485	324	290
v/s Ratio Prot	0.13			0.08	c0.13	
v/s Ratio Perm			c0.15			0.01
v/c Ratio	0.19		0.22	0.12	0.72	0.08
Uniform Delay, d1	4.6		4.7	4.4	34.5	30.5
Progression Factor	1.00		2.31	1.92	1.00	1.00
Incremental Delay, d2	0.2		0.1	0.0	7.3	0.1
Delay (s)	4.8		10.9	8.4	41.9	30.6
Level of Service	A		B	A	D	C
Approach Delay (s)	4.8			9.2	37.9	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

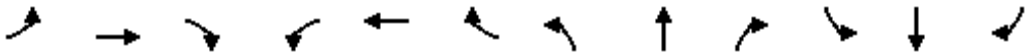
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	165	77	56	271	29	81	243	39	17	281	36
Future Volume (veh/h)	12	165	77	56	271	29	81	243	39	17	281	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	179	84	61	295	32	88	264	42	18	305	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	586	263	151	687	70	346	708	600	400	615	79
Arrive On Green	0.49	0.49	0.49	0.99	0.99	0.99	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	29	1189	533	185	1393	142	1037	1870	1585	1073	1625	208
Grp Volume(v), veh/h	276	0	0	388	0	0	88	264	42	18	0	344
Grp Sat Flow(s),veh/h/ln	1752	0	0	1720	0	0	1037	1870	1585	1073	0	1833
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	5.0	7.1	1.2	0.9	0.0	10.1
Cycle Q Clear(g_c), s	6.5	0.0	0.0	0.4	0.0	0.0	15.0	7.1	1.2	8.0	0.0	10.1
Prop In Lane	0.05		0.30	0.16		0.08	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	917	0	0	907	0	0	346	708	600	400	0	694
V/C Ratio(X)	0.30	0.00	0.00	0.43	0.00	0.00	0.25	0.37	0.07	0.05	0.00	0.50
Avail Cap(c_a), veh/h	917	0	0	907	0	0	346	708	600	400	0	694
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.79	0.00	0.00	0.98	0.98	0.98	0.98	0.00	0.98
Uniform Delay (d), s/veh	10.7	0.0	0.0	0.3	0.0	0.0	22.4	15.7	13.9	18.6	0.0	16.6
Incr Delay (d2), s/veh	0.8	0.0	0.0	1.2	0.0	0.0	1.7	1.5	0.2	0.2	0.0	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	4.5	0.0	0.0	0.7	0.0	0.0	2.4	5.6	0.8	0.4	0.0	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	0.0	0.0	1.4	0.0	0.0	24.1	17.2	14.1	18.8	0.0	19.1
LnGrp LOS	B	A	A	A	A	A	C	B	B	B	A	B
Approach Vol, veh/h		276			388			394			362	
Approach Delay, s/veh		11.5			1.4			18.4			19.1	
Approach LOS		B			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		31.0		39.0		31.0		39.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		26.5		34.5		26.5		34.5				
Max Q Clear Time (g_c+I1), s		12.1		2.4		17.0		8.5				
Green Ext Time (p_c), s		1.8		2.7		1.4		1.7				

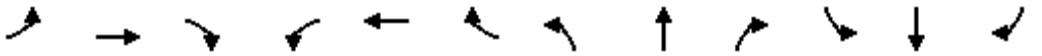
Intersection Summary												
HCM 6th Ctrl Delay			12.6									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	244	2572	96	189	353	0	0	514	127
Future Volume (veh/h)	0	0	0	244	2572	96	189	353	0	0	514	127
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				265	2796	104	205	384	0	0	559	138
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	0	2	2
Cap, veh/h				229	2601	98	319	1577	0	0	919	226
Arrive On Green				0.43	0.43	0.43	0.06	0.44	0.00	0.00	0.32	0.32
Sat Flow, veh/h				538	6120	231	1781	3647	0	0	2920	695
Grp Volume(v), veh/h				908	1434	822	205	384	0	0	351	346
Grp Sat Flow(s),veh/h/ln				1843	1609	1829	1781	1777	0	0	1777	1745
Q Serve(g_s), s				34.0	34.0	34.0	5.0	5.4	0.0	0.0	13.3	13.4
Cycle Q Clear(g_c), s				34.0	34.0	34.0	5.0	5.4	0.0	0.0	13.3	13.4
Prop In Lane				0.29		0.13	1.00		0.00	0.00		0.40
Lane Grp Cap(c), veh/h				783	1367	777	319	1577	0	0	577	567
V/C Ratio(X)				1.16	1.05	1.06	0.64	0.24	0.00	0.00	0.61	0.61
Avail Cap(c_a), veh/h				783	1367	777	319	1577	0	0	577	567
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.09	0.09	0.09	1.00	1.00	0.00	0.00	0.86	0.86
Uniform Delay (d), s/veh				23.0	23.0	23.0	20.0	13.9	0.0	0.0	22.7	22.7
Incr Delay (d2), s/veh				73.2	24.3	29.6	4.3	0.4	0.0	0.0	4.1	4.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				36.1	19.1	23.0	4.9	3.8	0.0	0.0	9.6	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				96.2	47.3	52.6	24.3	14.2	0.0	0.0	26.8	26.9
LnGrp LOS				F	F	F	C	B	A	A	C	C
Approach Vol, veh/h					3165			589			697	
Approach Delay, s/veh					62.7			17.7			26.8	
Approach LOS					E			B			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.5	31.5		39.0		41.0						
Change Period (Y+Rc), s	4.5	5.5		5.0		5.5						
Max Green Setting (Gmax), s	5.0	25.5		34.0		25.5						
Max Q Clear Time (g_c+I1), s	7.0	15.4		36.0		7.4						
Green Ext Time (p_c), s	0.0	3.2		0.0		2.3						

Intersection Summary		
HCM 6th Ctrl Delay		51.1
HCM 6th LOS		D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	438	168	0	0	0	0	446	77	26	705	0
Future Volume (veh/h)	20	438	168	0	0	0	0	446	77	26	705	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	22	476	183				0	485	84	28	766	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	79	1812	590				0	1348	232	401	1831	
Arrive On Green	0.37	0.37	0.37				0.00	0.44	0.44	0.03	0.52	0.00
Sat Flow, veh/h	211	4866	1585				0	3124	522	1781	3647	0
Grp Volume(v), veh/h	194	304	183				0	283	286	28	766	0
Grp Sat Flow(s),veh/h/ln	1860	1609	1585				0	1777	1776	1781	1777	0
Q Serve(g_s), s	7.7	6.9	8.6				0.0	11.1	11.2	0.9	14.0	0.0
Cycle Q Clear(g_c), s	7.7	6.9	8.6				0.0	11.1	11.2	0.9	14.0	0.0
Prop In Lane	0.11		1.00				0.00		0.29	1.00		0.00
Lane Grp Cap(c), veh/h	693	1198	590				0	790	790	401	1831	
V/C Ratio(X)	0.28	0.25	0.31				0.00	0.36	0.36	0.07	0.42	
Avail Cap(c_a), veh/h	693	1198	590				0	790	790	530	1831	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.1	22.8	23.4				0.0	19.2	19.3	14.7	15.7	0.0
Incr Delay (d2), s/veh	1.0	0.5	1.4				0.0	1.3	1.3	0.1	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.3	4.8	6.1				0.0	8.3	8.4	0.6	9.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.1	23.4	24.7				0.0	20.5	20.6	14.8	16.4	0.0
LnGrp LOS	C	C	C				A	C	C	B	B	
Approach Vol, veh/h		681						569			794	A
Approach Delay, s/veh		23.9						20.5			16.4	
Approach LOS		C						C			B	

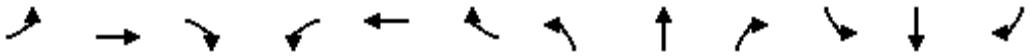
Timer - Assigned Phs				4		6	7	8				
Phs Duration (G+Y+Rc), s				60.0		45.0	7.4	52.6				
Change Period (Y+Rc), s				* 5.9		5.9	4.6	* 5.9				
Max Green Setting (Gmax), s				* 54		39.1	10.4	* 39				
Max Q Clear Time (g_c+I1), s				16.0		10.6	2.9	13.2				
Green Ext Time (p_c), s				6.3		4.8	0.0	3.7				

Intersection Summary												
HCM 6th Ctrl Delay			20.1									
HCM 6th LOS			C									

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



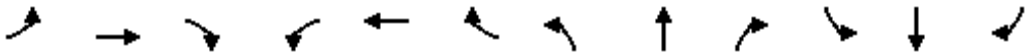
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	37	9	27	631	521	53	37	635	43
Future Volume (veh/h)	0	0	0	37	9	27	631	521	53	37	635	43
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h				40	10	29	686	566	58	40	690	47
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	2	2	2
Cap, veh/h				52	13	38	873	988	101	315	1777	121
Arrive On Green				0.06	0.06	0.06	0.25	0.59	0.59	0.18	0.53	0.53
Sat Flow, veh/h				868	217	629	3456	1669	171	1781	3376	230
Grp Volume(v), veh/h				79	0	0	686	0	624	40	363	374
Grp Sat Flow(s),veh/h/ln				1714	0	0	1728	0	1840	1781	1777	1829
Q Serve(g_s), s				4.1	0.0	0.0	16.8	0.0	19.0	1.7	11.1	11.1
Cycle Q Clear(g_c), s				4.1	0.0	0.0	16.8	0.0	19.0	1.7	11.1	11.1
Prop In Lane				0.51		0.37	1.00		0.09	1.00		0.13
Lane Grp Cap(c), veh/h				104	0	0	873	0	1090	315	935	963
V/C Ratio(X)				0.76	0.00	0.00	0.79	0.00	0.57	0.13	0.39	0.39
Avail Cap(c_a), veh/h				339	0	0	965	0	1090	315	935	963
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.71	0.00	0.71	1.00	1.00	1.00
Uniform Delay (d), s/veh				42.1	0.0	0.0	31.7	0.0	11.4	31.5	12.8	12.8
Incr Delay (d2), s/veh				10.9	0.0	0.0	2.8	0.0	1.6	0.2	1.2	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				3.7	0.0	0.0	10.9	0.0	11.3	1.3	7.9	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				53.0	0.0	0.0	34.5	0.0	13.0	31.7	14.0	14.0
LnGrp LOS				D	A	A	C	A	B	C	B	B
Approach Vol, veh/h					79			1310			777	
Approach Delay, s/veh					53.0			24.3			14.9	
Approach LOS					D			C			B	

Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	27.6	53.4		21.6	59.4		10.0					
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5	* 5.5		4.5					
Max Green Setting (Gmax), s	25.4	* 24		* 5	* 54		18.0					
Max Q Clear Time (g_c+I1), s	18.8	13.1		3.7	21.0		6.1					
Green Ext Time (p_c), s	1.6	3.5		0.0	4.9		0.2					

Intersection Summary		
HCM 6th Ctrl Delay		22.0
HCM 6th LOS		C

Notes

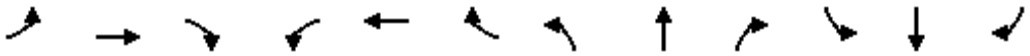
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	361	120	326	0	573	0	491	83	25	595	0
Future Volume (veh/h)	92	361	120	326	0	573	0	491	83	25	595	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	100	392	130	354	0	623	0	534	90	27	647	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	116	481	262	0	0	0	0	2018	339	602	2631	0
Arrive On Green	0.17	0.17	0.17	0.00	0.00	0.00	0.00	0.66	0.66	0.03	0.74	0.00
Sat Flow, veh/h	701	2911	1585		0		0	3138	511	1781	3647	0
Grp Volume(v), veh/h	262	230	130		0.0		0	311	313	27	647	0
Grp Sat Flow(s),veh/h/ln	1835	1777	1585				0	1777	1778	1781	1777	0
Q Serve(g_s), s	12.5	11.2	6.7				0.0	6.4	6.5	0.4	5.2	0.0
Cycle Q Clear(g_c), s	12.5	11.2	6.7				0.0	6.4	6.5	0.4	5.2	0.0
Prop In Lane	0.38		1.00				0.00		0.29	1.00		0.00
Lane Grp Cap(c), veh/h	303	294	262				0	1178	1179	602	2631	0
V/C Ratio(X)	0.86	0.78	0.50				0.00	0.26	0.27	0.04	0.25	0.00
Avail Cap(c_a), veh/h	316	306	273				0	1178	1179	652	2631	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.89	0.89	0.91	0.91	0.00
Uniform Delay (d), s/veh	36.6	36.0	34.2				0.0	6.2	6.2	4.2	3.7	0.0
Incr Delay (d2), s/veh	20.5	12.1	1.5				0.0	0.5	0.5	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.6	9.7	4.8				0.0	4.0	4.1	0.2	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.1	48.1	35.6				0.0	6.7	6.7	4.2	3.9	0.0
LnGrp LOS	E	D	D				A	A	A	A	A	A
Approach Vol, veh/h		622						624			674	
Approach Delay, s/veh		49.3						6.7			3.9	
Approach LOS		D						A			A	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	7.0	63.7		19.4		70.6						
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0						
Max Green Setting (Gmax), s	5.0	24.5		15.5		34.0						
Max Q Clear Time (g_c+I1), s	2.4	8.5		14.5		7.2						
Green Ext Time (p_c), s	0.0	3.5		0.4		4.8						

Intersection Summary			
HCM 6th Ctrl Delay		19.5	
HCM 6th LOS		B	



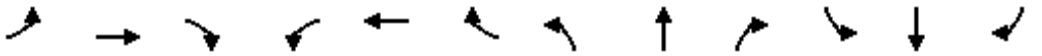
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	327	58	190	803	97	71	513	148	41	791	194
Future Volume (veh/h)	57	327	58	190	803	97	71	513	148	41	791	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	355	63	207	873	105	77	558	161	45	860	211
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	1208	212	412	1278	154	202	1249	359	91	1204	290
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	575	3021	531	969	3194	384	527	2723	783	79	2625	633
Grp Volume(v), veh/h	62	207	211	207	486	492	77	363	356	586	0	530
Grp Sat Flow(s),veh/h/ln	575	1777	1775	969	1777	1801	527	1777	1729	1748	0	1588
Q Serve(g_s), s	7.0	5.5	5.7	13.0	15.8	15.8	9.7	9.7	9.8	5.8	0.0	19.0
Cycle Q Clear(g_c), s	22.8	5.5	5.7	18.6	15.8	15.8	28.7	9.7	9.8	18.2	0.0	19.0
Prop In Lane	1.00		0.30	1.00		0.21	1.00		0.45	0.08		0.40
Lane Grp Cap(c), veh/h	203	711	710	412	711	720	202	815	793	857	0	728
V/C Ratio(X)	0.31	0.29	0.30	0.50	0.68	0.68	0.38	0.45	0.45	0.68	0.00	0.73
Avail Cap(c_a), veh/h	203	711	710	412	711	720	202	815	793	857	0	728
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.39	0.39	0.39	1.00	1.00	1.00	0.84	0.00	0.84
Uniform Delay (d), s/veh	26.7	14.3	14.3	20.6	17.3	17.3	27.1	12.9	12.9	15.0	0.0	15.4
Incr Delay (d2), s/veh	3.8	1.0	1.1	1.7	2.1	2.1	5.4	1.8	1.8	3.7	0.0	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	4.1	4.1	4.7	8.8	8.9	2.6	7.0	6.9	11.5	0.0	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	15.3	15.4	22.3	19.4	19.4	32.5	14.7	14.7	18.7	0.0	20.7
LnGrp LOS	C	B	B	C	B	B	C	B	B	B	A	C
Approach Vol, veh/h		480			1185			796			1116	
Approach Delay, s/veh		17.3			19.9			16.4			19.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.0		33.0		37.0		33.0				
Change Period (Y+Rc), s		* 4.9		5.0		* 4.9		5.0				
Max Green Setting (Gmax), s		* 32		28.0		* 32		28.0				
Max Q Clear Time (g_c+I1), s		21.0		20.6		30.7		24.8				
Green Ext Time (p_c), s		5.7		4.2		0.7		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			18.7									
HCM 6th LOS			B									

Notes

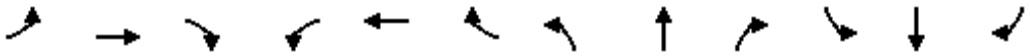
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	240	90	18	940	40	110	970	52	22	1252	115
Future Volume (vph)	108	240	90	18	940	40	110	970	52	22	1252	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8			5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3394			3536	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.16	1.00			0.94	1.00	0.09	1.00	1.00	0.18	1.00	1.00
Satd. Flow (perm)	296	3394			3332	1583	173	3539	1583	330	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	261	98	20	1022	43	120	1054	57	24	1361	125
RTOR Reduction (vph)	0	14	0	0	0	31	0	0	30	0	0	101
Lane Group Flow (vph)	117	345	0	0	1042	12	120	1054	27	24	1361	24
Turn Type	custom	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	custom
Protected Phases	8	6 8			2			7			7	
Permitted Phases	6			2		2	7		7	7		8
Actuated Green, G (s)	30.2	36.0			25.2	25.2	43.0	43.0	43.0	43.0	43.0	5.0
Effective Green, g (s)	30.2	36.0			25.2	25.2	43.0	43.0	43.0	43.0	43.0	5.0
Actuated g/C Ratio	0.34	0.40			0.28	0.28	0.48	0.48	0.48	0.48	0.48	0.06
Clearance Time (s)	5.0				5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Vehicle Extension (s)	3.0				5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.0
Lane Grp Cap (vph)	181	1357			932	443	82	1690	756	157	1690	87
v/s Ratio Prot	c0.04	0.10						0.30			0.38	
v/s Ratio Perm	0.18				c0.31	0.01	c0.69		0.02	0.07		0.02
v/c Ratio	0.65	0.25			1.12	0.03	1.46	0.62	0.04	0.15	0.81	0.28
Uniform Delay, d1	38.5	18.0			32.4	23.5	23.5	17.5	12.5	13.2	19.9	40.8
Progression Factor	1.10	1.13			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.6	0.1			67.5	0.1	263.4	1.7	0.1	2.1	4.2	1.7
Delay (s)	50.1	20.5			99.9	23.6	286.9	19.2	12.6	15.3	24.2	42.5
Level of Service	D	C			F	C	F	B	B	B	C	D
Approach Delay (s)		27.7			96.9			45.0			25.5	
Approach LOS		C			F			D			C	

Intersection Summary			
HCM 2000 Control Delay	49.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	75	111	67	170	74	106	764	21	53	1054	63
Future Volume (veh/h)	47	75	111	67	170	74	106	764	21	53	1054	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	82	0	73	185	80	115	830	23	58	1146	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	225		304	269	116	308	2235	62	439	2157	128
Arrive On Green	0.12	0.12	0.00	0.05	0.22	0.22	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	1114	1870	0	1781	1238	536	460	3532	98	647	3409	202
Grp Volume(v), veh/h	51	82	0	73	0	265	115	418	435	58	597	617
Grp Sat Flow(s),veh/h/ln	1114	1870	0	1781	0	1774	460	1777	1853	647	1777	1834
Q Serve(g_s), s	3.1	2.8	0.0	2.4	0.0	9.6	12.9	7.9	7.9	3.3	13.0	13.0
Cycle Q Clear(g_c), s	5.9	2.8	0.0	2.4	0.0	9.6	25.9	7.9	7.9	11.2	13.0	13.0
Prop In Lane	1.00		0.00	1.00		0.30	1.00		0.05	1.00		0.11
Lane Grp Cap(c), veh/h	192	225		304	0	385	308	1124	1172	439	1124	1161
V/C Ratio(X)	0.27	0.36		0.24	0.00	0.69	0.37	0.37	0.37	0.13	0.53	0.53
Avail Cap(c_a), veh/h	456	668		335	0	836	308	1124	1172	439	1124	1161
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)	0.97	0.97	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.49	0.49	0.49
Uniform Delay (d), s/veh	31.1	28.3	0.0	23.4	0.0	25.2	14.3	6.2	6.2	8.9	7.1	7.1
Incr Delay (d2), s/veh	0.7	1.0	0.0	0.4	0.0	2.2	3.4	0.9	0.9	0.3	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	2.3	0.0	1.8	0.0	7.3	2.7	4.7	4.9	0.8	6.4	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	29.3	0.0	23.8	0.0	27.4	17.7	7.1	7.1	9.2	8.0	8.0
LnGrp LOS	C	C		C	A	C	B	A	A	A	A	A
Approach Vol, veh/h		133	A		338			968			1272	
Approach Delay, s/veh		30.2			26.6			8.4			8.0	
Approach LOS		C			C			A			A	

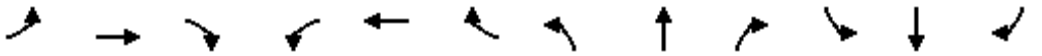
Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		50.3		19.7		50.3	6.8	12.9				
Change Period (Y+Rc), s		6.0		* 4.5		6.0	3.0	* 4.5				
Max Green Setting (Gmax), s		26.5		* 33		26.5	5.0	* 25				
Max Q Clear Time (g_c+I1), s		15.0		11.6		27.9	4.4	7.9				
Green Ext Time (p_c), s		6.4		1.5		0.0	0.0	0.5				

Intersection Summary		
HCM 6th Ctrl Delay	11.6	
HCM 6th LOS	B	

Notes

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

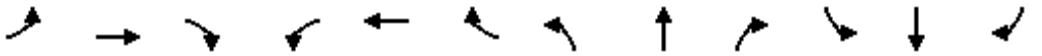
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	256	2457	197	166	792	0	0	1030	214
Future Volume (veh/h)	0	0	0	256	2457	197	166	792	0	0	1030	214
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				278	2671	214	180	861	0	0	1120	233
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				229	2367	191	238	1650	0	0	1168	521
Arrive On Green				0.41	0.41	0.41	0.02	0.15	0.00	0.00	0.33	0.33
Sat Flow, veh/h				562	5813	470	1781	3647	0	0	3647	1585
Grp Volume(v), veh/h				911	1439	813	180	861	0	0	1120	233
Grp Sat Flow(s),veh/h/ln				1842	1609	1786	1781	1777	0	0	1777	1585
Q Serve(g_s), s				28.5	28.5	28.5	4.4	15.6	0.0	0.0	21.6	8.1
Cycle Q Clear(g_c), s				28.5	28.5	28.5	4.4	15.6	0.0	0.0	21.6	8.1
Prop In Lane				0.31		0.26	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				750	1310	727	238	1650	0	0	1168	521
V/C Ratio(X)				1.21	1.10	1.12	0.76	0.52	0.00	0.00	0.96	0.45
Avail Cap(c_a), veh/h				750	1310	727	238	1650	0	0	1168	521
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.86	0.86	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.8	20.7	20.8	18.0	22.5	0.0	0.0	23.0	18.5
Incr Delay (d2), s/veh				108.6	56.4	70.9	11.3	1.0	0.0	0.0	18.2	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
%ile BackOfQ(95%),veh/ln				48.9	28.9	35.7	4.5	11.7	0.0	0.0	16.8	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				129.3	77.2	91.6	29.3	23.5	0.0	0.0	41.2	21.3
LnGrp LOS				F	F	F	C	C	A	A	D	C
Approach Vol, veh/h					3163			1041			1353	
Approach Delay, s/veh					95.9			24.5			37.8	
Approach LOS					F			C			D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.5	27.5		33.0		37.0						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	5.0	23.0		28.5		32.5						
Max Q Clear Time (g_c+I1), s	6.4	23.6		30.5		17.6						
Green Ext Time (p_c), s	0.0	0.0		0.0		5.3						

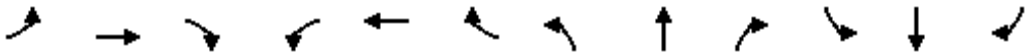
Intersection Summary		
HCM 6th Ctrl Delay		68.4
HCM 6th LOS		E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	313	148	0	0	0	0	991	111	111	1242	0
Future Volume (veh/h)	102	313	148	0	0	0	0	991	111	111	1242	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	111	340	161				0	1077	121	121	1350	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	193	646	255				0	2311	259	372	2550	0
Arrive On Green	0.16	0.16	0.16				0.00	0.72	0.72	0.95	0.95	0.00
Sat Flow, veh/h	1200	4015	1585				0	3314	361	467	3647	0
Grp Volume(v), veh/h	167	284	161				0	594	604	121	1350	0
Grp Sat Flow(s),veh/h/ln	1810	1702	1585				0	1777	1805	467	1777	0
Q Serve(g_s), s	6.0	5.3	6.6				0.0	9.9	9.9	6.5	2.4	0.0
Cycle Q Clear(g_c), s	6.0	5.3	6.6				0.0	9.9	9.9	16.4	2.4	0.0
Prop In Lane	0.66		1.00				0.00		0.20	1.00		0.00
Lane Grp Cap(c), veh/h	291	548	255				0	1275	1295	372	2550	0
V/C Ratio(X)	0.57	0.52	0.63				0.00	0.47	0.47	0.33	0.53	0.00
Avail Cap(c_a), veh/h	517	973	453				0	1275	1295	372	2550	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.18	0.18	0.00
Uniform Delay (d), s/veh	27.2	26.9	27.4				0.0	4.2	4.2	2.6	0.5	0.0
Incr Delay (d2), s/veh	1.8	0.8	2.6				0.0	1.2	1.2	0.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	3.8	4.7				0.0	5.0	5.0	0.3	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.9	27.6	30.0				0.0	5.4	5.4	3.0	0.6	0.0
LnGrp LOS	C	C	C				A	A	A	A	A	A
Approach Vol, veh/h		612						1198			1471	
Approach Delay, s/veh		28.6						5.4			0.8	
Approach LOS		C						A			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		54.2				54.2		15.8				
Change Period (Y+Rc), s		4.0				4.0		4.5				
Max Green Setting (Gmax), s		41.5				41.5		20.0				
Max Q Clear Time (g_c+I1), s		18.4				11.9		8.6				
Green Ext Time (p_c), s		13.0				9.9		2.6				

Intersection Summary												
HCM 6th Ctrl Delay			7.7									
HCM 6th LOS			A									



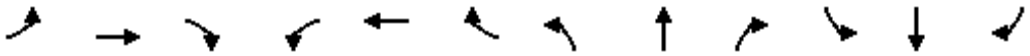
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	227	110	139	684	137	78	654	71	62	930	59
Future Volume (veh/h)	81	227	110	139	684	137	78	654	71	62	930	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	88	247	120	151	743	149	85	711	77	67	1011	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	837	394	386	1053	211	456	2472	268	539	2180	138
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.06	0.76	0.76	0.64	0.64	0.64
Sat Flow, veh/h	624	2345	1104	1015	2949	591	1781	3234	350	687	3394	215
Grp Volume(v), veh/h	88	185	182	151	448	444	85	390	398	67	529	546
Grp Sat Flow(s),veh/h/ln	624	1777	1672	1015	1777	1764	1781	1777	1807	687	1777	1832
Q Serve(g_s), s	9.8	5.2	5.5	8.8	15.2	15.2	1.0	4.6	4.7	2.8	10.6	10.6
Cycle Q Clear(g_c), s	25.0	5.2	5.5	14.3	15.2	15.2	1.0	4.6	4.7	3.3	10.6	10.6
Prop In Lane	1.00		0.66	1.00		0.34	1.00		0.19	1.00		0.12
Lane Grp Cap(c), veh/h	191	635	597	386	635	630	456	1358	1381	539	1141	1176
V/C Ratio(X)	0.46	0.29	0.30	0.39	0.71	0.71	0.19	0.29	0.29	0.12	0.46	0.46
Avail Cap(c_a), veh/h	191	635	597	386	635	630	493	1358	1381	539	1141	1176
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)	0.50	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.1	16.1	16.2	21.4	19.3	19.3	4.3	2.5	2.5	5.2	6.4	6.4
Incr Delay (d2), s/veh	4.0	0.6	0.7	3.0	6.5	6.5	0.2	0.5	0.5	0.5	1.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	3.8	3.7	4.1	11.2	11.1	0.4	1.9	1.9	0.7	6.3	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	16.7	16.9	24.4	25.8	25.9	4.5	3.0	3.0	5.6	7.7	7.7
LnGrp LOS	C	B	B	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		455			1043			873			1142	
Approach Delay, s/veh		20.2			25.6			3.2			7.6	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.5	49.5		29.5		58.0		29.5				
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0		* 4.5				
Max Green Setting (Gmax), s	5.5	27.0		24.5		37.0		* 25				
Max Q Clear Time (g_c+I1), s	3.0	12.6		17.2		6.7		27.0				
Green Ext Time (p_c), s	0.0	6.6		3.7		5.6		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		13.5	
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)	63	339	89	129	722	150	120	718	101	157	985	196
Future Volume (veh/h)	63	339	89	129	722	150	120	718	101	157	985	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	368	97	140	785	163	130	780	110	171	1071	213
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	890	232	278	934	194	205	1210	171	370	1619	321
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.39	0.39	0.39	0.10	0.55	0.55
Sat Flow, veh/h	592	2790	726	928	2929	608	430	3127	441	1781	2956	586
Grp Volume(v), veh/h	68	233	232	140	476	472	130	443	447	171	642	642
Grp Sat Flow(s),veh/h/ln	592	1777	1740	928	1777	1761	430	1777	1791	1781	1777	1765
Q Serve(g_s), s	6.3	9.2	9.4	12.6	22.4	22.4	26.0	18.3	18.3	4.7	23.0	23.3
Cycle Q Clear(g_c), s	28.7	9.2	9.4	22.0	22.4	22.4	34.8	18.3	18.3	4.7	23.0	23.3
Prop In Lane	1.00		0.42	1.00		0.35	1.00		0.25	1.00		0.33
Lane Grp Cap(c), veh/h	121	567	555	278	567	562	205	688	693	370	973	967
V/C Ratio(X)	0.56	0.41	0.42	0.50	0.84	0.84	0.64	0.64	0.64	0.46	0.66	0.66
Avail Cap(c_a), veh/h	121	567	555	278	567	562	205	688	693	373	973	967
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)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	24.0	24.1	32.7	28.5	28.5	32.5	22.5	22.5	15.2	14.4	14.5
Incr Delay (d2), s/veh	16.8	2.1	2.2	6.4	14.0	14.1	14.1	4.6	4.6	0.9	3.5	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.7	7.4	7.4	5.9	16.9	16.8	6.4	12.9	13.0	3.4	14.4	14.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	26.1	26.3	39.1	42.5	42.6	46.6	27.1	27.1	16.1	17.9	18.1
LnGrp LOS	E	C	C	D	D	D	D	C	C	B	B	B
Approach Vol, veh/h		533			1088			1020			1455	
Approach Delay, s/veh		30.5			42.1			29.6			17.8	
Approach LOS		C			D			C			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		55.0		35.0	14.5	40.5		35.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 49		* 29	9.0	* 35		* 29				
Max Q Clear Time (g_c+I1), s		25.3		24.4	6.7	36.8		30.7				
Green Ext Time (p_c), s		10.1		2.5	0.1	0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			28.8									
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

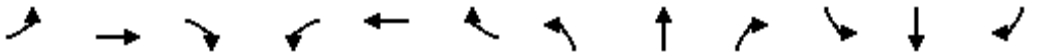
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Traffic Vol, veh/h	40	309	17	0	1866	0	8	6	0	0
Future Vol, veh/h	40	309	17	0	1866	0	8	6	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	0	-	-	-	-	-	0	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	336	18	0	2028	0	9	7	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	2028	0	0	-	-	0	1242	177
Stage 1	-	-	-	-	-	-	431	-
Stage 2	-	-	-	-	-	-	811	-
Critical Hdwy	5.34	-	-	-	-	-	6.29	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	-	-	3.67	3.32
Pot Cap-1 Maneuver	121	-	-	0	-	0	197	*981
Stage 1	-	-	-	0	-	0	881	-
Stage 2	-	-	-	0	-	0	370	-
Platoon blocked, %		-	-		-			1
Mov Cap-1 Maneuver	121	-	-	-	-	-	127	*981
Mov Cap-2 Maneuver	-	-	-	-	-	-	242	-
Stage 1	-	-	-	-	-	-	568	-
Stage 2	-	-	-	-	-	-	370	-

Approach	EB	WB	NB
HCM Control Delay, s	5.5	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT
Capacity (veh/h)	242	981	121	-	-	-
HCM Lane V/C Ratio	0.036	0.007	0.359	-	-	-
HCM Control Delay (s)	20.4	8.7	50.6	-	-	-
HCM Lane LOS	C	A	F	-	-	-
HCM 95th %tile Q(veh)	0.1	0	1.5	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	346	53	0	2850	92	30	4	1	55	0	21
Future Volume (veh/h)	0	346	53	0	2850	92	30	4	1	55	0	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	376	58	0	3098	0	33	4	1	60	0	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	2011	308	0	3323		303	34	7	395	0	335
Arrive On Green	0.00	0.65	0.65	0.00	0.65	0.00	0.21	0.21	0.21	0.21	0.00	0.21
Sat Flow, veh/h	0	3183	473	0	5443	0	1082	160	34	1490	0	1585
Grp Volume(v), veh/h	0	215	219	0	3098	0	38	0	0	60	0	23
Grp Sat Flow(s),veh/h/ln	0	1777	1785	0	1702	0	1275	0	0	1490	0	1585
Q Serve(g_s), s	0.0	4.3	4.4	0.0	48.5	0.0	1.6	0.0	0.0	0.0	0.0	1.0
Cycle Q Clear(g_c), s	0.0	4.3	4.4	0.0	48.5	0.0	4.1	0.0	0.0	2.5	0.0	1.0
Prop In Lane	0.00		0.26	0.00		0.00	0.87		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	0	1156	1162	0	3323		344	0	0	395	0	335
V/C Ratio(X)	0.00	0.19	0.19	0.00	0.93		0.11	0.00	0.00	0.15	0.00	0.07
Avail Cap(c_a), veh/h	0	1156	1162	0	3323		360	0	0	410	0	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)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.2	6.3	0.0	14.0	0.0	30.1	0.0	0.0	29.0	0.0	28.4
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.0	6.2	0.0	0.1	0.0	0.0	0.2	0.0	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	0.0	2.6	2.7	0.0	24.1	0.0	1.2	0.0	0.0	1.9	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.3	6.3	0.0	20.2	0.0	30.2	0.0	0.0	29.1	0.0	28.5
LnGrp LOS	A	A	A	A	C		C	A	A	C	A	C
Approach Vol, veh/h		434			3098	A		38			83	
Approach Delay, s/veh		6.3			20.2			30.2			29.0	
Approach LOS		A			C			C			C	

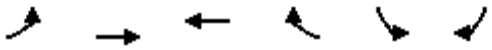
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	65.3	24.7	65.3	24.7
Change Period (Y+Rc), s	6.7	* 5.7	6.7	5.7
Max Green Setting (Gmax), s	32.7	* 20	32.7	20.0
Max Q Clear Time (g_c+I1), s	50.5	4.5	6.4	6.1
Green Ext Time (p_c), s	0.0	0.2	2.7	0.1

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.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	529	0	0	35	0
Future Volume (Veh/h)	29	529	0	0	35	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	575	0	0	38	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		262	266			
pX, platoon unblocked					0.97	
vC, conflicting volume	0				208	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				28	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				96	100
cM capacity (veh/h)	1622				935	1084

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	SB 1
Volume Total	114	164	164	164	38
Volume Left	32	0	0	0	38
Volume Right	0	0	0	0	0
cSH	1622	1700	1700	1700	935
Volume to Capacity	0.02	0.10	0.10	0.10	0.04
Queue Length 95th (ft)	2	0	0	0	3
Control Delay (s)	2.1	0.0	0.0	0.0	9.0
Lane LOS	A				A
Approach Delay (s)	0.4				9.0
Approach LOS					A

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	18.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Vol, veh/h	58	41	0	573	27	40	701	0	0	0
Future Vol, veh/h	58	41	0	573	27	40	701	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None	-	-
Storage Length	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	45	0	623	29	43	762	0	0	0

Major/Minor	Minor1		Major1			Major2		
Conflicting Flow All	1105	326	-	0	0	652	0	0
Stage 1	638	-	-	-	-	-	-	-
Stage 2	467	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	205	670	0	-	-	930	-	-
Stage 1	488	-	0	-	-	-	-	-
Stage 2	597	-	0	-	-	-	-	-
Platoon blocked, %				-	-		-	-
Mov Cap-1 Maneuver	189	670	-	-	-	930	-	-
Mov Cap-2 Maneuver	189	-	-	-	-	-	-	-
Stage 1	488	-	-	-	-	-	-	-
Stage 2	549	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27	0	0.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	269	930	-	-
HCM Lane V/C Ratio	-	-	0.4	0.047	-	-
HCM Control Delay (s)	-	-	27	9.1	-	-
HCM Lane LOS	-	-	D	A	-	-
HCM 95th %tile Q(veh)	-	-	1.8	0.1	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Vol, veh/h	30	28	0	531	42	89	743	0	0	0
Future Vol, veh/h	30	28	0	531	42	89	743	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	-	None	-	-
Storage Length	0	-	-	-	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	30	0	577	46	97	808	0	0	0

Major/Minor	Minor1			Major1			Major2			Minor2	
Conflicting Flow All	1198	312	-	0	0	623	0	0	-	404	
Stage 1	600	-	-	-	-	-	-	-	-	-	
Stage 2	598	-	-	-	-	-	-	-	-	-	
Critical Hdwy	7.54	6.94	-	-	-	4.14	-	-	-	6.94	
Critical Hdwy Stg 1	6.54	-	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.54	-	-	-	-	-	-	-	-	-	
Follow-up Hdwy	3.52	3.32	-	-	-	2.22	-	-	-	3.32	
Pot Cap-1 Maneuver	141	684	0	-	-	954	-	-	0	596	
Stage 1	455	-	0	-	-	-	-	-	0	-	
Stage 2	456	-	0	-	-	-	-	-	0	-	
Platoon blocked, %				-	-		-	-			
Mov Cap-1 Maneuver	130	684	-	-	-	954	-	-	-	596	
Mov Cap-2 Maneuver	130	-	-	-	-	-	-	-	-	-	
Stage 1	455	-	-	-	-	-	-	-	-	-	
Stage 2	410	-	-	-	-	-	-	-	-	-	

Approach	WB	NB	SB	NE
HCM Control Delay, s	28.9	0	1	0
HCM LOS	D			A

Minor Lane/Major Mvmt	NELn1	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	-	213	954	-	-
HCM Lane V/C Ratio	-	-	-	0.296	0.101	-	-
HCM Control Delay (s)	0	-	-	28.9	9.2	-	-
HCM Lane LOS	A	-	-	D	A	-	-
HCM 95th %tile Q(veh)	-	-	-	1.2	0.3	-	-

Intersection	
Int Delay, s/veh	246.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	165	90	162	778	1039	235
Future Vol, veh/h	165	90	162	778	1039	235
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	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	179	98	176	846	1129	255

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2032	692	1384	0	-	0
Stage 1	1257	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 50	386	491	-	-	-
Stage 1	231	-	-	-	-	-
Stage 2	415	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 32	386	491	-	-	-
Mov Cap-2 Maneuver	~ 32	-	-	-	-	-
Stage 1	~ 148	-	-	-	-	-
Stage 2	415	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, $	2374.1	2.8	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	491	-	47	-	-
HCM Lane V/C Ratio	0.359	-	5.897	-	-
HCM Control Delay (s)	16.4	-	$ 2374.1	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	1.6	-	32	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	12	5	563	770	3
Future Vol, veh/h	10	12	5	563	770	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	13	5	612	837	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1155	420	840	0	-	0
Stage 1	839	-	-	-	-	-
Stage 2	316	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	190	582	791	-	-	-
Stage 1	384	-	-	-	-	-
Stage 2	712	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	188	582	791	-	-	-
Mov Cap-2 Maneuver	188	-	-	-	-	-
Stage 1	380	-	-	-	-	-
Stage 2	712	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.1	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	791	-	298	-	-
HCM Lane V/C Ratio	0.007	-	0.08	-	-
HCM Control Delay (s)	9.6	-	18.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

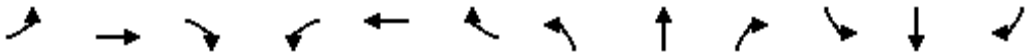
Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	0	0	22	4
Future Vol, veh/h	0	12	0	0	22	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	0	0	24	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	26	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	1050	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	1050	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

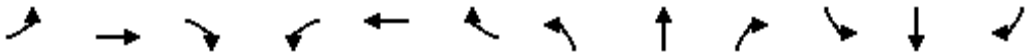
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	1050	-	-
HCM Lane V/C Ratio	-	0.012	-	-
HCM Control Delay (s)	-	8.5	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	136	924	175	132	605	0	0	250	66
Future Volume (veh/h)	0	0	0	136	924	175	132	605	0	0	250	66
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				148	1004	190	143	658	0	0	272	72
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				328	2393	460	498	1574	0	0	1236	321
Arrive On Green				0.47	0.47	0.47	0.44	0.44	0.00	0.00	0.44	0.44
Sat Flow, veh/h				696	5077	975	1037	3647	0	0	2885	725
Grp Volume(v), veh/h				390	621	330	143	658	0	0	171	173
Grp Sat Flow(s),veh/h/ln				1836	1609	1695	1037	1777	0	0	1777	1740
Q Serve(g_s), s				10.0	8.9	9.0	6.9	8.9	0.0	0.0	4.2	4.3
Cycle Q Clear(g_c), s				10.0	8.9	9.0	11.2	8.9	0.0	0.0	4.2	4.3
Prop In Lane				0.38		0.58	1.00		0.00	0.00		0.42
Lane Grp Cap(c), veh/h				865	1517	799	498	1574	0	0	787	770
V/C Ratio(X)				0.45	0.41	0.41	0.29	0.42	0.00	0.00	0.22	0.22
Avail Cap(c_a), veh/h				865	1517	799	498	1574	0	0	787	770
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.27	0.27	0.27	0.80	0.80	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				12.4	12.1	12.1	15.5	13.3	0.0	0.0	12.0	12.1
Incr Delay (d2), s/veh				0.5	0.2	0.4	1.2	0.7	0.0	0.0	0.6	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				5.4	4.3	4.6	3.0	6.0	0.0	0.0	3.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				12.9	12.3	12.6	16.7	14.0	0.0	0.0	12.7	12.7
LnGrp LOS				B	B	B	B	B	A	A	B	B
Approach Vol, veh/h					1342			801			344	
Approach Delay, s/veh					12.6			14.5			12.7	
Approach LOS					B			B			B	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	36.0	34.0	34.0
Change Period (Y+Rc), s	3.0	3.0	3.0
Max Green Setting (Gmax), s	33.0	31.0	31.0
Max Q Clear Time (g_c+I1), s	12.0	13.2	6.3
Green Ext Time (p_c), s	9.4	5.0	2.1

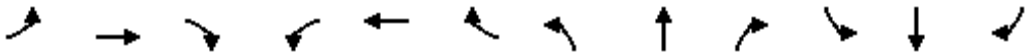
Intersection Summary	
HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	1735	84	0	0	0	0	769	163	101	400	0
Future Volume (veh/h)	122	1735	84	0	0	0	0	769	163	101	400	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	133	1886	91				0	836	177	110	435	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	147	2243	111				0	1521	322	370	1852	0
Arrive On Green	0.36	0.36	0.36				0.00	1.00	1.00	0.52	0.52	0.00
Sat Flow, veh/h	405	6173	305				0	3012	618	556	3647	0
Grp Volume(v), veh/h	607	961	542				0	509	504	110	435	0
Grp Sat Flow(s),veh/h/ln	1850	1609	1816				0	1777	1759	556	1777	0
Q Serve(g_s), s	28.0	24.4	24.4				0.0	0.0	0.0	10.6	6.0	0.0
Cycle Q Clear(g_c), s	28.0	24.4	24.4				0.0	0.0	0.0	10.6	6.0	0.0
Prop In Lane	0.22		0.17				0.00		0.35	1.00		0.00
Lane Grp Cap(c), veh/h	672	1169	660				0	926	917	370	1852	0
V/C Ratio(X)	0.90	0.82	0.82				0.00	0.55	0.55	0.30	0.23	0.00
Avail Cap(c_a), veh/h	672	1169	660				0	926	917	370	1852	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.91	0.91	0.98	0.98	0.00
Uniform Delay (d), s/veh	27.2	26.0	26.0				0.0	0.0	0.0	12.9	11.8	0.0
Incr Delay (d2), s/veh	17.8	6.6	11.1				0.0	2.1	2.2	2.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.5	15.2	17.8				0.0	1.0	1.0	2.6	4.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.9	32.6	37.1				0.0	2.1	2.2	14.9	12.1	0.0
LnGrp LOS	D	C	D				A	A	A	B	B	A
Approach Vol, veh/h		2110						1013			545	
Approach Delay, s/veh		37.3						2.1			12.6	
Approach LOS		D						A			B	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		52.0				52.0		38.0				
Change Period (Y+Rc), s		5.1				5.1		5.3				
Max Green Setting (Gmax), s		46.9				46.9		32.7				
Max Q Clear Time (g_c+I1), s		12.6				2.0		30.0				
Green Ext Time (p_c), s		4.7				8.5		2.4				

Intersection Summary												
HCM 6th Ctrl Delay			23.9									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	42	366	55	75	808	0	0	457	76
Future Volume (veh/h)	0	0	0	42	366	55	75	808	0	0	457	76
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				46	398	60	82	878	0	0	497	83
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				119	1086	527	544	1978	0	0	1697	282
Arrive On Green				0.33	0.33	0.33	0.56	0.56	0.00	0.00	1.00	1.00
Sat Flow, veh/h				359	3270	1585	834	3647	0	0	3143	507
Grp Volume(v), veh/h				237	207	60	82	878	0	0	289	291
Grp Sat Flow(s),veh/h/ln				1852	1777	1585	834	1777	0	0	1777	1779
Q Serve(g_s), s				8.8	7.9	2.4	4.4	13.1	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				8.8	7.9	2.4	4.4	13.1	0.0	0.0	0.0	0.0
Prop In Lane				0.19		1.00	1.00		0.00	0.00		0.28
Lane Grp Cap(c), veh/h				615	590	527	544	1978	0	0	989	990
V/C Ratio(X)				0.39	0.35	0.11	0.15	0.44	0.00	0.00	0.29	0.29
Avail Cap(c_a), veh/h				615	590	527	544	1978	0	0	989	990
HCM Platoon Ratio				1.00	1.00	1.00	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	0.00	0.00	0.98	0.98
Uniform Delay (d), s/veh				23.0	22.7	20.9	9.8	11.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				1.8	1.6	0.4	0.6	0.7	0.0	0.0	0.7	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				7.3	6.3	1.7	1.5	8.6	0.0	0.0	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				24.8	24.3	21.3	10.4	12.5	0.0	0.0	0.7	0.7
LnGrp LOS				C	C	C	B	B	A	A	A	A
Approach Vol, veh/h					504			960			580	
Approach Delay, s/veh					24.2			12.3			0.7	
Approach LOS					C			B			A	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	35.0	55.0	55.0
Change Period (Y+Rc), s	5.1	* 4.9	* 4.9
Max Green Setting (Gmax), s	29.9	* 50	* 50
Max Q Clear Time (g_c+I1), s	10.8	2.0	15.1
Green Ext Time (p_c), s	2.7	4.1	8.2

Intersection Summary	
HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

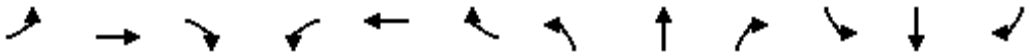
Notes

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	932	266	82	220	333	265
Future Volume (vph)	932	266	82	220	333	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3421		1770	3539	1770	1583
Flt Permitted	1.00		0.18	1.00	0.95	1.00
Satd. Flow (perm)	3421		332	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1013	289	89	239	362	288
RTOR Reduction (vph)	15	0	0	0	0	210
Lane Group Flow (vph)	1287	0	89	239	362	78
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	6			2	8	
Permitted Phases			2			8
Actuated Green, G (s)	64.7		64.7	64.7	15.0	15.0
Effective Green, g (s)	64.7		64.7	64.7	15.0	15.0
Actuated g/C Ratio	0.72		0.72	0.72	0.17	0.17
Clearance Time (s)	5.3		5.3	5.3	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2459		238	2544	295	263
v/s Ratio Prot	c0.38			0.07	c0.20	
v/s Ratio Perm			0.27			0.05
v/c Ratio	0.52		0.37	0.09	1.23	0.30
Uniform Delay, d1	5.7		4.9	3.8	37.5	32.9
Progression Factor	1.00		3.38	2.59	1.00	1.00
Incremental Delay, d2	0.8		4.0	0.1	128.4	0.6
Delay (s)	6.5		20.4	10.0	165.9	33.5
Level of Service	A		C	A	F	C
Approach Delay (s)	6.5			12.8	107.3	
Approach LOS	A			B	F	

Intersection Summary			
HCM 2000 Control Delay	36.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

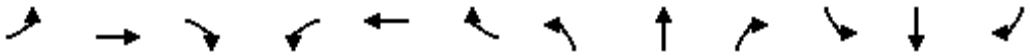
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	444	114	37	277	67	73	393	156	38	226	73
Future Volume (veh/h)	66	444	114	37	277	67	73	393	156	38	226	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	72	483	124	40	301	73	79	427	170	41	246	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	681	167	106	712	163	302	628	532	217	455	146
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	125	1271	312	92	1329	304	1055	1870	1585	821	1356	436
Grp Volume(v), veh/h	679	0	0	414	0	0	79	427	170	41	0	325
Grp Sat Flow(s),veh/h/ln	1707	0	0	1725	0	0	1055	1870	1585	821	0	1792
Q Serve(g_s), s	9.8	0.0	0.0	0.0	0.0	0.0	4.6	13.8	5.6	3.2	0.0	10.3
Cycle Q Clear(g_c), s	20.8	0.0	0.0	9.6	0.0	0.0	14.9	13.8	5.6	16.9	0.0	10.3
Prop In Lane	0.11		0.18	0.10		0.18	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	972	0	0	981	0	0	302	628	532	217	0	602
V/C Ratio(X)	0.70	0.00	0.00	0.42	0.00	0.00	0.26	0.68	0.32	0.19	0.00	0.54
Avail Cap(c_a), veh/h	972	0	0	981	0	0	302	628	532	217	0	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.93	0.00	0.00	0.90	0.90	0.90	0.93	0.00	0.93
Uniform Delay (d), s/veh	12.2	0.0	0.0	9.8	0.0	0.0	24.9	20.0	17.3	27.3	0.0	18.9
Incr Delay (d2), s/veh	4.2	0.0	0.0	1.2	0.0	0.0	1.9	5.3	1.4	1.8	0.0	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	12.4	0.0	0.0	6.5	0.0	0.0	2.3	10.4	3.8	1.3	0.0	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.4	0.0	0.0	11.0	0.0	0.0	26.8	25.3	18.7	29.1	0.0	22.1
LnGrp LOS	B	A	A	B	A	A	C	C	B	C	A	C
Approach Vol, veh/h		679			414			676			366	
Approach Delay, s/veh		16.4			11.0			23.8			22.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		42.0		28.0		42.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		37.5		23.5		37.5				
Max Q Clear Time (g_c+I1), s		18.9		11.6		16.9		22.8				
Green Ext Time (p_c), s		0.9		2.9		2.0		4.4				

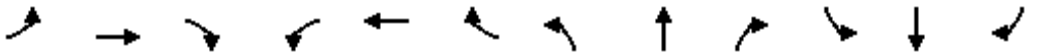
Intersection Summary												
HCM 6th Ctrl Delay			18.8									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	165	1147	149	374	916	0	0	379	104
Future Volume (veh/h)	0	0	0	165	1147	149	374	916	0	0	379	104
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				179	1247	162	407	996	0	0	412	113
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	0	2	2
Cap, veh/h				186	1396	185	563	2257	0	0	1492	405
Arrive On Green				0.26	0.26	0.26	0.05	0.63	0.00	0.00	0.54	0.54
Sat Flow, veh/h				716	5368	711	1781	3647	0	0	2856	750
Grp Volume(v), veh/h				459	732	397	407	996	0	0	264	261
Grp Sat Flow(s),veh/h/ln				1835	1609	1742	1781	1777	0	0	1777	1735
Q Serve(g_s), s				24.7	21.8	21.9	5.0	14.2	0.0	0.0	8.0	8.2
Cycle Q Clear(g_c), s				24.7	21.8	21.9	5.0	14.2	0.0	0.0	8.0	8.2
Prop In Lane				0.39		0.41	1.00		0.00	0.00		0.43
Lane Grp Cap(c), veh/h				477	836	453	563	2257	0	0	959	937
V/C Ratio(X)				0.96	0.87	0.88	0.72	0.44	0.00	0.00	0.27	0.28
Avail Cap(c_a), veh/h				477	836	453	563	2257	0	0	959	937
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.82	0.82	0.82	1.00	1.00	0.00	0.00	0.84	0.84
Uniform Delay (d), s/veh				36.5	35.4	35.5	16.4	9.3	0.0	0.0	12.4	12.5
Incr Delay (d2), s/veh				29.0	10.4	17.6	4.5	0.6	0.0	0.0	0.6	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				20.3	14.2	16.3	9.1	8.9	0.0	0.0	5.8	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				65.6	45.9	53.1	20.9	9.9	0.0	0.0	13.0	13.1
LnGrp LOS				E	D	D	C	A	A	A	B	B
Approach Vol, veh/h					1588			1403			525	
Approach Delay, s/veh					53.4			13.1			13.0	
Approach LOS					D			B			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.5	59.5		31.0		69.0						
Change Period (Y+Rc), s	4.5	5.5		5.0		5.5						
Max Green Setting (Gmax), s	5.0	53.5		26.0		53.5						
Max Q Clear Time (g_c+I1), s	7.0	10.2		26.7		16.2						
Green Ext Time (p_c), s	0.0	3.6		0.0		8.9						

Intersection Summary		
HCM 6th Ctrl Delay		31.3
HCM 6th LOS		C



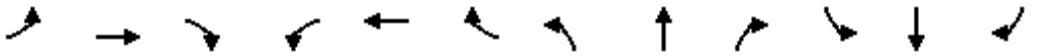
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1712	170	0	0	0	0	974	286	91	338	0
Future Volume (veh/h)	50	1712	170	0	0	0	0	974	286	91	338	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	54	1861	185				0	1059	311	99	367	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	59	2160	221				0	1114	324	182	1820	
Arrive On Green	0.12	0.12	0.12				0.00	0.41	0.41	0.05	0.51	0.00
Sat Flow, veh/h	164	6055	618				0	2808	791	1781	3647	0
Grp Volume(v), veh/h	612	962	526				0	690	680	99	367	0
Grp Sat Flow(s),veh/h/ln	1862	1609	1759				0	1777	1728	1781	1777	0
Q Serve(g_s), s	29.3	26.3	26.4				0.0	33.7	34.4	2.7	5.1	0.0
Cycle Q Clear(g_c), s	29.3	26.3	26.4				0.0	33.7	34.4	2.7	5.1	0.0
Prop In Lane	0.09		0.35				0.00		0.46	1.00		0.00
Lane Grp Cap(c), veh/h	664	1147	627				0	729	709	182	1820	
V/C Ratio(X)	0.92	0.84	0.84				0.00	0.95	0.96	0.55	0.20	
Avail Cap(c_a), veh/h	664	1147	627				0	729	709	237	1820	
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	38.5	37.2	37.2				0.0	25.6	25.8	21.0	11.9	0.0
Incr Delay (d2), s/veh	20.2	7.4	12.7				0.0	22.6	25.1	2.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	25.2	18.2	20.8				0.0	24.9	25.2	2.1	3.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.7	44.6	49.9				0.0	48.2	50.9	23.5	12.2	0.0
LnGrp LOS	E	D	D				A	D	D	C	B	
Approach Vol, veh/h		2100						1370			466	A
Approach Delay, s/veh		50.0						49.6			14.6	
Approach LOS		D						D			B	

Timer - Assigned Phs				4		6	7	8				
Phs Duration (G+Y+Rc), s				52.0		38.0	9.2	42.8				
Change Period (Y+Rc), s				* 5.9		5.9	4.6	* 5.9				
Max Green Setting (Gmax), s				* 46		32.1	7.4	* 34				
Max Q Clear Time (g_c+I1), s				7.1		31.3	4.7	36.4				
Green Ext Time (p_c), s				2.7		0.8	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			45.7									
HCM 6th LOS			D									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



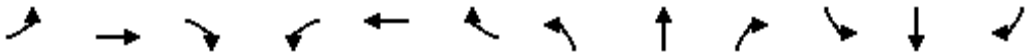
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	46	14	41	240	969	58	33	625	52
Future Volume (veh/h)	0	0	0	46	14	41	240	969	58	33	625	52
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h				50	15	45	261	1053	63	36	679	57
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	2	2	2
Cap, veh/h				62	19	56	657	1211	72	175	2021	170
Arrive On Green				0.08	0.08	0.08	0.19	0.69	0.69	0.10	0.61	0.61
Sat Flow, veh/h				775	233	698	3456	1747	105	1781	3319	278
Grp Volume(v), veh/h				110	0	0	261	0	1116	36	363	373
Grp Sat Flow(s),veh/h/ln				1706	0	0	1728	0	1852	1781	1777	1820
Q Serve(g_s), s				7.7	0.0	0.0	8.0	0.0	56.3	2.3	12.2	12.2
Cycle Q Clear(g_c), s				7.7	0.0	0.0	8.0	0.0	56.3	2.3	12.2	12.2
Prop In Lane				0.45		0.41	1.00		0.06	1.00		0.15
Lane Grp Cap(c), veh/h				137	0	0	657	0	1284	175	1082	1109
V/C Ratio(X)				0.80	0.00	0.00	0.40	0.00	0.87	0.21	0.34	0.34
Avail Cap(c_a), veh/h				254	0	0	668	0	1284	175	1082	1109
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.28	0.00	0.28	1.00	1.00	1.00
Uniform Delay (d), s/veh				54.7	0.0	0.0	42.9	0.0	14.3	50.2	11.6	11.6
Incr Delay (d2), s/veh				10.4	0.0	0.0	0.1	0.0	2.5	0.6	0.8	0.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				6.6	0.0	0.0	5.1	0.0	25.8	1.9	8.6	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				65.1	0.0	0.0	43.0	0.0	16.8	50.8	12.5	12.5
LnGrp LOS				E	A	A	D	A	B	D	B	B
Approach Vol, veh/h					110			1377			772	
Approach Delay, s/veh					65.1			21.8			14.2	
Approach LOS					E			C			B	

Timer - Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	27.6	79.2			17.4	89.4		14.2				
Change Period (Y+Rc), s	4.6	* 5.5			* 5.5	* 5.5		4.5				
Max Green Setting (Gmax), s	23.4	* 56			* 5	* 84		18.0				
Max Q Clear Time (g_c+I1), s	10.0	14.2			4.3	58.3		9.7				
Green Ext Time (p_c), s	0.7	5.4			0.0	11.5		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		21.3
HCM 6th LOS		C

Notes

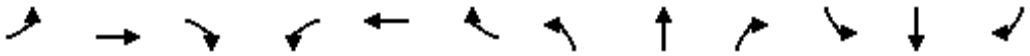
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	824	139	193	0	342	0	890	194	33	448	0
Future Volume (veh/h)	213	824	139	193	0	342	0	890	194	33	448	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	232	896	151	210	0	372	0	967	211	36	487	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	185	758	414	0	0	0	0	1629	355	406	2290	0
Arrive On Green	0.26	0.26	0.26	0.00	0.00	0.00	0.00	1.00	1.00	0.03	0.64	0.00
Sat Flow, veh/h	709	2902	1585		0		0	2995	632	1781	3647	0
Grp Volume(v), veh/h	600	528	151		0.0		0	592	586	36	487	0
Grp Sat Flow(s),veh/h/ln	1835	1777	1585				0	1777	1757	1781	1777	0
Q Serve(g_s), s	23.5	23.5	7.0				0.0	0.0	0.0	0.7	5.1	0.0
Cycle Q Clear(g_c), s	23.5	23.5	7.0				0.0	0.0	0.0	0.7	5.1	0.0
Prop In Lane	0.39		1.00				0.00		0.36	1.00		0.00
Lane Grp Cap(c), veh/h	479	464	414				0	998	986	406	2290	0
V/C Ratio(X)	1.25	1.14	0.36				0.00	0.59	0.59	0.09	0.21	0.00
Avail Cap(c_a), veh/h	479	464	414				0	998	986	446	2290	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.51	0.51	0.94	0.94	0.00
Uniform Delay (d), s/veh	33.3	33.3	27.2				0.0	0.0	0.0	6.8	6.6	0.0
Incr Delay (d2), s/veh	130.0	85.3	0.5				0.0	1.3	1.4	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	40.7	30.4	4.8				0.0	0.7	0.7	0.5	3.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	163.2	118.5	27.7				0.0	1.3	1.4	6.9	6.8	0.0
LnGrp LOS	F	F	C				A	A	A	A	A	A
Approach Vol, veh/h		1279						1178			523	
Approach Delay, s/veh		128.8						1.3			6.8	
Approach LOS		F						A			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	7.5	54.5		28.0		62.0
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0
Max Green Setting (Gmax), s	5.0	25.0		23.5		34.5
Max Q Clear Time (g_c+I1), s	2.7	2.0		25.5		7.1
Green Ext Time (p_c), s	0.0	8.9		0.0		3.5

Intersection Summary		
HCM 6th Ctrl Delay		57.0
HCM 6th LOS		E



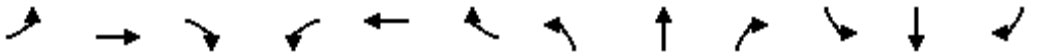
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	865	78	105	527	76	63	928	149	50	626	110
Future Volume (veh/h)	102	865	78	105	527	76	63	928	149	50	626	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	940	85	114	573	83	68	1009	162	54	680	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	455	1611	146	237	1523	220	187	1230	197	64	810	176
Arrive On Green	0.49	0.49	0.49	0.98	0.98	0.98	0.40	0.40	0.40	0.27	0.27	0.27
Sat Flow, veh/h	777	3296	298	550	3116	450	680	3067	492	47	2020	440
Grp Volume(v), veh/h	111	507	518	114	326	330	68	584	587	411	0	443
Grp Sat Flow(s),veh/h/ln	777	1777	1817	550	1777	1789	680	1777	1782	884	0	1623
Q Serve(g_s), s	7.8	18.4	18.4	13.7	0.6	0.6	8.4	26.4	26.5	9.6	0.0	22.0
Cycle Q Clear(g_c), s	8.3	18.4	18.4	32.1	0.6	0.6	30.4	26.4	26.5	36.1	0.0	22.0
Prop In Lane	1.00		0.16	1.00		0.25	1.00		0.28	0.13		0.27
Lane Grp Cap(c), veh/h	455	869	888	237	869	875	187	713	715	400	0	651
V/C Ratio(X)	0.24	0.58	0.58	0.48	0.38	0.38	0.36	0.82	0.82	1.03	0.00	0.68
Avail Cap(c_a), veh/h	455	869	888	237	869	875	187	713	715	400	0	651
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00	0.92	0.00	0.92
Uniform Delay (d), s/veh	14.1	16.4	16.4	7.6	0.5	0.5	35.5	24.0	24.1	32.9	0.0	27.7
Incr Delay (d2), s/veh	1.3	2.9	2.8	5.5	1.0	1.0	5.4	10.2	10.3	50.6	0.0	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.6	12.3	12.5	2.4	0.7	0.7	3.0	18.3	18.4	21.3	0.0	14.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.3	19.3	19.2	13.1	1.5	1.5	41.0	34.2	34.3	83.6	0.0	33.0
LnGrp LOS	B	B	B	B	A	A	D	C	C	F	A	C
Approach Vol, veh/h		1136			770			1239			854	
Approach Delay, s/veh		18.9			3.2			34.6			57.3	
Approach LOS		B			A			C			E	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.0		49.0		41.0		49.0				
Change Period (Y+Rc), s		* 4.9		5.0		* 4.9		5.0				
Max Green Setting (Gmax), s		* 36		44.0		* 36		44.0				
Max Q Clear Time (g_c+I1), s		38.1		34.1		32.4		20.4				
Green Ext Time (p_c), s		0.0		3.7		2.5		8.3				

Intersection Summary												
HCM 6th Ctrl Delay			29.0									
HCM 6th LOS			C									

Notes

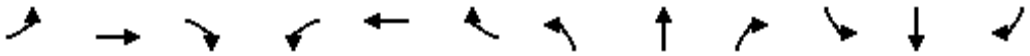
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	401	862	109	19	357	37	38	990	85	39	1122	95
Future Volume (vph)	401	862	109	19	357	37	38	990	85	39	1122	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8			5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3480			3530	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.45	1.00			0.78	1.00	0.12	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	840	3480			2769	1583	222	3539	1583	222	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	436	937	118	21	388	40	41	1076	92	42	1220	103
RTOR Reduction (vph)	0	5	0	0	0	29	0	0	58	0	0	86
Lane Group Flow (vph)	436	1050	0	0	409	11	41	1076	34	42	1220	17
Turn Type	custom	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	custom
Protected Phases	8	6 8			2			7			7	
Permitted Phases	6			2		2	7		7	7		8
Actuated Green, G (s)	39.7	45.5			25.2	25.2	33.5	33.5	33.5	33.5	33.5	14.5
Effective Green, g (s)	39.7	45.5			25.2	25.2	33.5	33.5	33.5	33.5	33.5	14.5
Actuated g/C Ratio	0.44	0.51			0.28	0.28	0.37	0.37	0.37	0.37	0.37	0.16
Clearance Time (s)	5.0				5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Vehicle Extension (s)	3.0				5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.0
Lane Grp Cap (vph)	520	1759			775	443	82	1317	589	82	1317	255
v/s Ratio Prot	c0.14	0.30						0.30			c0.34	
v/s Ratio Perm	c0.23				0.15	0.01	0.18		0.02	0.19		0.01
v/c Ratio	0.84	0.60			0.53	0.03	0.50	0.82	0.06	0.51	0.93	0.07
Uniform Delay, d1	23.8	15.8			27.4	23.5	21.8	25.5	18.1	21.9	27.1	32.0
Progression Factor	1.47	1.59			1.00	1.00	0.54	0.65	0.10	1.00	1.00	1.00
Incremental Delay, d2	10.3	0.5			2.6	0.1	16.3	4.6	0.1	21.0	12.5	0.1
Delay (s)	45.2	25.6			29.9	23.6	28.1	21.1	2.0	42.9	39.6	32.1
Level of Service	D	C			C	C	C	C	A	D	D	C
Approach Delay (s)		31.3			29.4			19.9			39.1	
Approach LOS		C			C			B			D	

Intersection Summary			
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	263	133	41	127	53	96	1089	78	49	827	100
Future Volume (veh/h)	161	263	133	41	127	53	96	1089	78	49	827	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	175	286	0	45	138	58	104	1184	85	53	899	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	375		208	339	143	284	2058	148	255	1952	237
Arrive On Green	0.20	0.20	0.00	0.04	0.27	0.27	0.61	0.61	0.61	0.20	0.20	0.20
Sat Flow, veh/h	1187	1870	0	1781	1250	525	559	3363	241	437	3191	387
Grp Volume(v), veh/h	175	286	0	45	0	196	104	625	644	53	501	507
Grp Sat Flow(s),veh/h/ln	1187	1870	0	1781	0	1776	559	1777	1827	437	1777	1801
Q Serve(g_s), s	12.7	13.0	0.0	1.7	0.0	8.1	13.1	19.0	19.0	9.9	22.3	22.3
Cycle Q Clear(g_c), s	14.5	13.0	0.0	1.7	0.0	8.1	35.4	19.0	19.0	28.9	22.3	22.3
Prop In Lane	1.00		0.00	1.00		0.30	1.00		0.13	1.00		0.21
Lane Grp Cap(c), veh/h	295	375		208	0	482	284	1087	1118	255	1087	1102
V/C Ratio(X)	0.59	0.76		0.22	0.00	0.41	0.37	0.57	0.58	0.21	0.46	0.46
Avail Cap(c_a), veh/h	386	520		240	0	651	284	1087	1118	255	1087	1102
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	0.73	0.73	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.26	0.26	0.26
Uniform Delay (d), s/veh	35.4	34.0	0.0	26.6	0.0	26.9	22.4	10.5	10.5	34.1	22.8	22.8
Incr Delay (d2), s/veh	1.4	3.2	0.0	0.5	0.0	0.6	3.6	2.2	2.2	0.5	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.4	9.6	0.0	1.3	0.0	6.2	3.5	11.7	11.9	2.1	13.3	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.8	37.2	0.0	27.1	0.0	27.4	26.0	12.7	12.6	34.5	23.2	23.2
LnGrp LOS	D	D		C	A	C	C	B	B	C	C	C
Approach Vol, veh/h		461	A		241			1373			1061	
Approach Delay, s/veh		37.0			27.3			13.7			23.8	
Approach LOS		D			C			B			C	

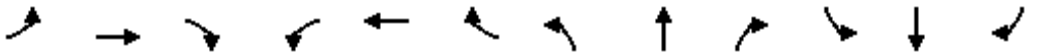
Timer - Assigned Phs	2	4	6	7	8
Phs Duration (G+Y+Rc), s	61.1	28.9	61.1	6.4	22.6
Change Period (Y+Rc), s	6.0	* 4.5	6.0	3.0	* 4.5
Max Green Setting (Gmax), s	46.5	* 33	46.5	5.0	* 25
Max Q Clear Time (g_c+I1), s	30.9	10.1	37.4	3.7	16.5
Green Ext Time (p_c), s	6.7	1.1	5.9	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

Notes

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

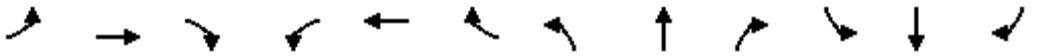
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	172	707	73	295	1288	0	0	900	162
Future Volume (veh/h)	0	0	0	172	707	73	295	1288	0	0	900	162
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				187	768	79	321	1400	0	0	978	176
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				393	1758	182	380	1878	0	0	1168	521
Arrive On Green				0.34	0.34	0.34	0.04	0.17	0.00	0.00	0.33	0.33
Sat Flow, veh/h				1147	5128	530	1781	3647	0	0	3647	1585
Grp Volume(v), veh/h				296	474	264	321	1400	0	0	978	176
Grp Sat Flow(s),veh/h/ln				1813	1609	1775	1781	1777	0	0	1777	1585
Q Serve(g_s), s				9.0	7.9	8.1	7.5	26.2	0.0	0.0	17.8	5.9
Cycle Q Clear(g_c), s				9.0	7.9	8.1	7.5	26.2	0.0	0.0	17.8	5.9
Prop In Lane				0.63		0.30	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				622	1103	609	380	1878	0	0	1168	521
V/C Ratio(X)				0.48	0.43	0.43	0.84	0.75	0.00	0.00	0.84	0.34
Avail Cap(c_a), veh/h				622	1103	609	380	1878	0	0	1168	521
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.41	0.41	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				18.1	17.7	17.8	16.7	24.4	0.0	0.0	21.8	17.7
Incr Delay (d2), s/veh				2.6	1.2	2.3	7.2	1.1	0.0	0.0	7.2	1.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				7.1	5.3	6.2	5.9	16.1	0.0	0.0	12.7	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				20.7	18.9	20.0	23.9	25.6	0.0	0.0	29.0	19.5
LnGrp LOS				C	B	C	C	C	A	A	C	B
Approach Vol, veh/h					1034			1721			1154	
Approach Delay, s/veh					19.7			25.2			27.6	
Approach LOS					B			C			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	14.0	27.5		28.5		41.5						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	9.5	23.0		24.0		37.0						
Max Q Clear Time (g_c+I1), s	9.5	19.8		11.0		28.2						
Green Ext Time (p_c), s	0.0	2.0		5.5		6.0						

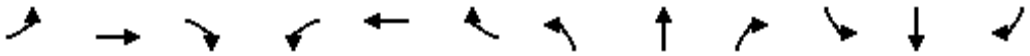
Intersection Summary		
HCM 6th Ctrl Delay		24.5
HCM 6th LOS		C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	1566	201	0	0	0	0	1213	182	128	964	0
Future Volume (veh/h)	252	1566	201	0	0	0	0	1213	182	128	964	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	274	1702	218				0	1318	198	139	1048	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	249	1660	577				0	1595	238	155	1828	0
Arrive On Green	0.36	0.36	0.36				0.00	0.51	0.51	0.51	0.51	0.00
Sat Flow, veh/h	682	4558	1585				0	3195	462	345	3647	0
Grp Volume(v), veh/h	738	1238	218				0	751	765	139	1048	0
Grp Sat Flow(s),veh/h/ln	1836	1702	1585				0	1777	1787	345	1777	0
Q Serve(g_s), s	25.5	25.4	7.1				0.0	24.9	25.5	10.5	14.2	0.0
Cycle Q Clear(g_c), s	25.5	25.4	7.1				0.0	24.9	25.5	36.0	14.2	0.0
Prop In Lane	0.37		1.00				0.00		0.26	1.00		0.00
Lane Grp Cap(c), veh/h	669	1240	577				0	914	919	155	1828	0
V/C Ratio(X)	1.10	1.00	0.38				0.00	0.82	0.83	0.90	0.57	0.00
Avail Cap(c_a), veh/h	669	1240	577				0	914	919	155	1828	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.43	0.43	0.00
Uniform Delay (d), s/veh	22.3	22.2	16.4				0.0	14.3	14.4	33.0	11.7	0.0
Incr Delay (d2), s/veh	66.3	25.2	0.4				0.0	8.2	8.7	27.6	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	32.0	19.6	4.4				0.0	15.9	16.4	5.5	7.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.6	47.5	16.8				0.0	22.5	23.2	60.7	12.3	0.0
LnGrp LOS	F	D	B				A	C	C	E	B	A
Approach Vol, veh/h		2194						1516			1187	
Approach Delay, s/veh		58.2						22.9			17.9	
Approach LOS		E						C			B	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		40.0				40.0		30.0				
Change Period (Y+Rc), s		4.0				4.0		4.5				
Max Green Setting (Gmax), s		36.0				36.0		25.5				
Max Q Clear Time (g_c+I1), s		38.0				27.5		27.5				
Green Ext Time (p_c), s		0.0				6.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			37.5									
HCM 6th LOS			D									



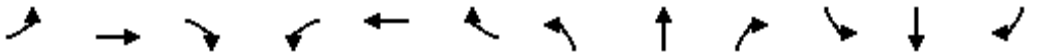
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	780	91	45	263	73	111	984	81	106	824	83
Future Volume (veh/h)	154	780	91	45	263	73	111	984	81	106	824	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	848	99	49	286	79	121	1070	88	115	896	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	390	1211	141	171	1044	283	521	2383	196	357	2001	201
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.05	0.72	0.72	1.00	1.00	1.00
Sat Flow, veh/h	1017	3206	374	592	2763	749	1781	3325	273	485	3261	328
Grp Volume(v), veh/h	167	470	477	49	182	183	121	572	586	115	488	498
Grp Sat Flow(s),veh/h/ln	1017	1777	1803	592	1777	1735	1781	1777	1821	485	1777	1811
Q Serve(g_s), s	12.3	20.1	20.1	6.9	6.4	6.6	2.0	12.1	12.1	2.4	0.0	0.0
Cycle Q Clear(g_c), s	18.9	20.1	20.1	27.0	6.4	6.6	2.0	12.1	12.1	6.2	0.0	0.0
Prop In Lane	1.00		0.21	1.00		0.43	1.00		0.15	1.00		0.18
Lane Grp Cap(c), veh/h	390	671	681	171	671	656	521	1273	1305	357	1091	1112
V/C Ratio(X)	0.43	0.70	0.70	0.29	0.27	0.28	0.23	0.45	0.45	0.32	0.45	0.45
Avail Cap(c_a), veh/h	390	671	681	171	671	656	536	1273	1305	357	1091	1112
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.0	23.7	23.7	35.1	19.4	19.5	4.7	5.3	5.3	0.2	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.6	0.6	4.2	1.0	1.1	0.2	1.1	1.1	2.4	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.8	9.6	9.7	2.1	5.0	5.0	1.2	7.1	7.2	0.4	0.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	24.3	24.2	39.3	20.4	20.5	4.9	6.5	6.4	2.6	1.3	1.3
LnGrp LOS	C	C	C	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		1114			414			1279			1101	
Approach Delay, s/veh		24.6			22.7			6.3			1.5	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.3	59.7		38.5		69.0		38.5				
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0		* 4.5				
Max Green Setting (Gmax), s	5.5	38.0		33.5		48.0		* 34				
Max Q Clear Time (g_c+I1), s	4.0	8.2		29.0		14.1		22.1				
Green Ext Time (p_c), s	0.0	9.6		1.0		9.8		5.4				

Intersection Summary			
HCM 6th Ctrl Delay		11.9	
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)	106	826	123	86	465	173	121	856	125	147	847	70
Future Volume (veh/h)	106	826	123	86	465	173	121	856	125	147	847	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	898	134	93	505	188	132	930	136	160	921	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	1127	168	137	922	342	257	1067	156	288	1673	138
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.34	0.34	0.34	0.10	0.50	0.50
Sat Flow, veh/h	751	3101	463	547	2538	940	565	3111	455	1781	3324	274
Grp Volume(v), veh/h	115	514	518	93	353	340	132	531	535	160	492	505
Grp Sat Flow(s),veh/h/ln	751	1777	1787	547	1777	1701	565	1777	1789	1781	1777	1821
Q Serve(g_s), s	13.0	23.4	23.4	9.3	14.2	14.3	18.9	25.2	25.2	4.8	17.1	17.1
Cycle Q Clear(g_c), s	27.3	23.4	23.4	32.7	14.2	14.3	21.6	25.2	25.2	4.8	17.1	17.1
Prop In Lane	1.00		0.26	1.00		0.55	1.00		0.25	1.00		0.15
Lane Grp Cap(c), veh/h	233	646	649	137	646	618	257	609	613	288	894	917
V/C Ratio(X)	0.49	0.80	0.80	0.68	0.55	0.55	0.51	0.87	0.87	0.56	0.55	0.55
Avail Cap(c_a), veh/h	233	646	649	137	646	618	257	609	613	291	894	917
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)	0.77	0.77	0.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.7	25.7	25.7	42.2	22.8	22.8	27.7	27.7	27.7	19.7	15.4	15.4
Incr Delay (d2), s/veh	5.6	7.8	7.7	24.0	3.3	3.5	7.2	15.8	15.7	2.3	2.4	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	4.8	15.6	15.6	5.3	10.4	10.2	5.4	18.8	18.9	3.6	11.5	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	33.4	33.4	66.1	26.1	26.3	34.9	43.5	43.4	21.9	17.8	17.7
LnGrp LOS	D	C	C	E	C	C	C	D	D	C	B	B
Approach Vol, veh/h		1147			786			1198			1157	
Approach Delay, s/veh		34.0			30.9			42.5			18.3	
Approach LOS		C			C			D			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		51.0		39.0	14.4	36.6		39.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 45		* 33	9.0	* 31		* 33				
Max Q Clear Time (g_c+I1), s		19.1		34.7	6.8	27.2		29.3				
Green Ext Time (p_c), s		7.4		0.0	0.1	2.4		2.2				

Intersection Summary		
HCM 6th Ctrl Delay		31.6
HCM 6th LOS		C

Notes

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

Intersection	
Int Delay, s/veh	0.4

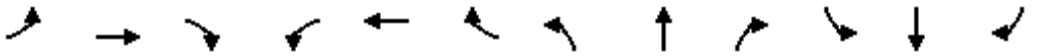
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Traffic Vol, veh/h	35	1666	15	0	649	0	20	11	0	0
Future Vol, veh/h	35	1666	15	0	649	0	20	11	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	-	-	-	0	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	1811	16	0	705	0	22	12	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	705	0	0	-	-	0	2248	914
Stage 1	-	-	-	-	-	-	1895	-
Stage 2	-	-	-	-	-	-	353	-
Critical Hdwy	4.14	-	-	-	-	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.67	3.92
Pot Cap-1 Maneuver	889	-	-	0	-	0	*49	*528
Stage 1	-	-	-	0	-	0	*564	-
Stage 2	-	-	-	0	-	0	*659	-
Platoon blocked, %		-	-		-			1
Mov Cap-1 Maneuver	889	-	-	-	-	-	*49	*528
Mov Cap-2 Maneuver	-	-	-	-	-	-	*292	-
Stage 1	-	-	-	-	-	-	*564	-
Stage 2	-	-	-	-	-	-	*659	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	16.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT
Capacity (veh/h)	292	528	889	-	-	-
HCM Lane V/C Ratio	0.074	0.023	0.043	-	-	-
HCM Control Delay (s)	18.3	12	9.2	0	-	-
HCM Lane LOS	C	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0.1	0.1	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1791	47	0	771	75	40	15	16	94	0	29
Future Volume (veh/h)	0	1791	47	0	771	75	40	15	16	94	0	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1947	51	0	838	0	43	16	17	102	0	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	3280	86	0	2279		191	72	58	371	0	350
Arrive On Green	0.00	0.64	0.64	0.00	0.64	0.00	0.22	0.22	0.22	0.22	0.00	0.22
Sat Flow, veh/h	0	5285	134	0	3741	0	580	324	261	1314	0	1585
Grp Volume(v), veh/h	0	1295	703	0	838	0	76	0	0	102	0	32
Grp Sat Flow(s),veh/h/ln	0	1702	1846	0	1777	0	1165	0	0	1314	0	1585
Q Serve(g_s), s	0.0	19.8	19.9	0.0	10.0	0.0	2.1	0.0	0.0	0.0	0.0	1.4
Cycle Q Clear(g_c), s	0.0	19.8	19.9	0.0	10.0	0.0	8.5	0.0	0.0	6.3	0.0	1.4
Prop In Lane	0.00		0.07	0.00		0.00	0.57		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	0	2183	1184	0	2279		320	0	0	371	0	350
V/C Ratio(X)	0.00	0.59	0.59	0.00	0.37		0.24	0.00	0.00	0.28	0.00	0.09
Avail Cap(c_a), veh/h	0	2183	1184	0	2279		324	0	0	374	0	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)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.4	9.4	0.0	7.6	0.0	30.7	0.0	0.0	29.8	0.0	27.9
Incr Delay (d2), s/veh	0.0	0.4	0.8	0.0	0.5	0.0	0.4	0.0	0.0	0.4	0.0	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	0.0	10.7	11.6	0.0	6.3	0.0	2.6	0.0	0.0	3.4	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.8	10.2	0.0	8.0	0.0	31.1	0.0	0.0	30.2	0.0	28.0
LnGrp LOS	A	A	B	A	A		C	A	A	C	A	C
Approach Vol, veh/h		1998			838	A		76			134	
Approach Delay, s/veh		9.9			8.0			31.1			29.6	
Approach LOS		A			A			C			C	

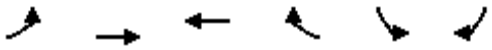
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	64.4	25.6	64.4	25.6
Change Period (Y+Rc), s	6.7	* 5.7	6.7	5.7
Max Green Setting (Gmax), s	32.5	* 20	32.5	20.1
Max Q Clear Time (g_c+I1), s	12.0	8.3	21.9	10.5
Green Ext Time (p_c), s	6.0	0.4	8.6	0.2

Intersection Summary	
HCM 6th Ctrl Delay	10.8
HCM 6th LOS	B

Notes

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

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	529	0	0	35	0
Future Volume (Veh/h)	29	529	0	0	35	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	575	0	0	38	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		262	266			
pX, platoon unblocked					0.97	
vC, conflicting volume	0				208	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				28	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				96	100
cM capacity (veh/h)	1622				935	1084

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	SB 1
Volume Total	114	164	164	164	38
Volume Left	32	0	0	0	38
Volume Right	0	0	0	0	0
cSH	1622	1700	1700	1700	935
Volume to Capacity	0.02	0.10	0.10	0.10	0.04
Queue Length 95th (ft)	2	0	0	0	3
Control Delay (s)	2.1	0.0	0.0	0.0	9.0
Lane LOS	A				A
Approach Delay (s)	0.4				9.0
Approach LOS					A

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	18.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	8.8

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Vol, veh/h	54	37	0	1115	46	75	539	0	0	0
Future Vol, veh/h	54	37	0	1115	46	75	539	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None	-	-
Storage Length	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	40	0	1212	50	82	586	0	0	0

Major/Minor	Minor1		Major1			Major2		
Conflicting Flow All	1694	631	-	0	0	1262	0	0
Stage 1	1237	-	-	-	-	-	-	-
Stage 2	457	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	84	424	0	-	-	547	-	-
Stage 1	237	-	0	-	-	-	-	-
Stage 2	604	-	0	-	-	-	-	-
Platoon blocked, %				-	-		-	-
Mov Cap-1 Maneuver	65	424	-	-	-	547	-	-
Mov Cap-2 Maneuver	65	-	-	-	-	-	-	-
Stage 1	237	-	-	-	-	-	-	-
Stage 2	470	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	169	0	1.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	99	547	-	-
HCM Lane V/C Ratio	-	-	0.999	0.149	-	-
HCM Control Delay (s)	-	-	169	12.7	-	-
HCM Lane LOS	-	-	F	B	-	-
HCM 95th %tile Q(veh)	-	-	6.1	0.5	-	-

Intersection	
Int Delay, s/veh	8.1

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Vol, veh/h	54	55	0	980	29	63	593	0	0	0
Future Vol, veh/h	54	55	0	980	29	63	593	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	-	None	-	-
Storage Length	0	-	-	-	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	60	0	1065	32	68	645	0	0	0

Major/Minor	Minor1			Major1			Major2			Minor2	
Conflicting Flow All	1540	549	-	0	0	1097	0	0	-	323	
Stage 1	1081	-	-	-	-	-	-	-	-	-	
Stage 2	459	-	-	-	-	-	-	-	-	-	
Critical Hdwy	7.54	6.94	-	-	-	4.14	-	-	-	6.94	
Critical Hdwy Stg 1	6.54	-	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.54	-	-	-	-	-	-	-	-	-	
Follow-up Hdwy	3.52	3.32	-	-	-	2.22	-	-	-	3.32	
Pot Cap-1 Maneuver	79	480	0	-	-	632	-	-	0	673	
Stage 1	232	-	0	-	-	-	-	-	0	-	
Stage 2	551	-	0	-	-	-	-	-	0	-	
Platoon blocked, %				-	-		-	-			
Mov Cap-1 Maneuver	73	480	-	-	-	632	-	-	-	673	
Mov Cap-2 Maneuver	73	-	-	-	-	-	-	-	-	-	
Stage 1	232	-	-	-	-	-	-	-	-	-	
Stage 2	492	-	-	-	-	-	-	-	-	-	

Approach	WB	NB	SB	NE
HCM Control Delay, s	125.9	0	1.1	0
HCM LOS	F			A

Minor Lane/Major Mvmt	NELn1	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	-	128	632	-	-
HCM Lane V/C Ratio	-	-	-	0.926	0.108	-	-
HCM Control Delay (s)	0	-	-	125.9	11.4	-	-
HCM Lane LOS	A	-	-	F	B	-	-
HCM 95th %tile Q(veh)	-	-	-	6.1	0.4	-	-

Intersection	
Int Delay, s/veh	445.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	286	156	121	958	901	185
Future Vol, veh/h	286	156	121	958	901	185
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	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	311	170	132	1041	979	201

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1865	590	1180	0	-	0
Stage 1	1080	-	-	-	-	-
Stage 2	785	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 64	451	588	-	-	-
Stage 1	~ 287	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 50	451	588	-	-	-
Mov Cap-2 Maneuver	~ 50	-	-	-	-	-
Stage 1	~ 223	-	-	-	-	-
Stage 2	410	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 2622.8	1.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	588	-	73	-	-
HCM Lane V/C Ratio	0.224	-	6.581	-	-
HCM Control Delay (s)	12.9	-	$ 2622.8	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.9	-	54.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	6	11	1004	640	7
Future Vol, veh/h	5	6	11	1004	640	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	7	12	1091	696	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1270	352	704	0	-	0
Stage 1	700	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	160	644	890	-	-	-
Stage 1	454	-	-	-	-	-
Stage 2	529	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	155	644	890	-	-	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	439	-	-	-	-	-
Stage 2	529	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.2	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	890	-	265	-	-
HCM Lane V/C Ratio	0.013	-	0.045	-	-
HCM Control Delay (s)	9.1	-	19.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

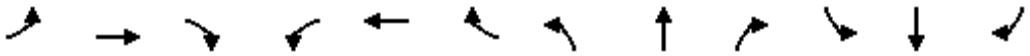
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	6	0	0	42	10
Future Vol, veh/h	0	6	0	0	42	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	0	0	46	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	52	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	1016	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	1016	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

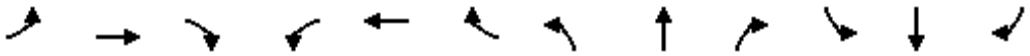
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	1016	-	-
HCM Lane V/C Ratio	-	0.006	-	-
HCM Control Delay (s)	-	8.6	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	213	2663	276	82	257	0	0	549	63
Future Volume (veh/h)	0	0	0	213	2663	276	82	257	0	0	549	63
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				232	2895	300	89	279	0	0	597	68
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				191	2522	262	265	1269	0	0	1149	131
Arrive On Green				0.56	0.56	0.56	0.36	0.36	0.00	0.00	0.36	0.36
Sat Flow, veh/h				344	4527	470	771	3647	0	0	3309	366
Grp Volume(v), veh/h				1252	1036	1139	89	279	0	0	329	336
Grp Sat Flow(s),veh/h/ln				1853	1702	1786	771	1777	0	0	1777	1805
Q Serve(g_s), s				39.0	39.0	39.0	7.2	3.8	0.0	0.0	10.2	10.3
Cycle Q Clear(g_c), s				39.0	39.0	39.0	17.5	3.8	0.0	0.0	10.2	10.3
Prop In Lane				0.19		0.26	1.00		0.00	0.00		0.20
Lane Grp Cap(c), veh/h				1032	948	995	265	1269	0	0	635	644
V/C Ratio(X)				1.21	1.09	1.14	0.34	0.22	0.00	0.00	0.52	0.52
Avail Cap(c_a), veh/h				1032	948	995	265	1269	0	0	635	644
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.09	0.09	0.09	0.95	0.95	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				15.5	15.5	15.5	24.7	15.7	0.0	0.0	17.8	17.8
Incr Delay (d2), s/veh				96.4	43.8	66.4	3.2	0.4	0.0	0.0	3.0	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
%ile BackOfQ(95%),veh/ln				52.0	28.4	38.3	2.7	2.7	0.0	0.0	7.9	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				111.9	59.3	81.9	27.9	16.1	0.0	0.0	20.8	20.8
LnGrp LOS				F	F	F	C	B	A	A	C	C
Approach Vol, veh/h					3427			368			665	
Approach Delay, s/veh					86.0			18.9			20.8	
Approach LOS					F			B			C	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	42.0	28.0	28.0
Change Period (Y+Rc), s	3.0	3.0	3.0
Max Green Setting (Gmax), s	39.0	25.0	25.0
Max Q Clear Time (g_c+I1), s	41.0	19.5	12.3
Green Ext Time (p_c), s	0.0	1.1	3.4

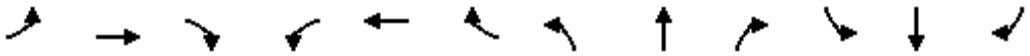
Intersection Summary	
HCM 6th Ctrl Delay	70.8
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	838	128	0	0	0	0	376	92	54	719	0
Future Volume (veh/h)	57	838	128	0	0	0	0	376	92	54	719	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	62	911	139				0	409	100	59	782	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	90	1377	222				0	1194	289	338	1496	0
Arrive On Green	0.46	0.46	0.46				0.00	0.14	0.14	0.42	0.42	0.00
Sat Flow, veh/h	194	2972	478				0	2930	687	891	3647	0
Grp Volume(v), veh/h	594	0	518				0	255	254	59	782	0
Grp Sat Flow(s),veh/h/ln	1861	0	1784				0	1777	1747	891	1777	0
Q Serve(g_s), s	22.6	0.0	19.8				0.0	11.7	11.8	4.5	14.7	0.0
Cycle Q Clear(g_c), s	22.6	0.0	19.8				0.0	11.7	11.8	16.4	14.7	0.0
Prop In Lane	0.10		0.27				0.00		0.39	1.00		0.00
Lane Grp Cap(c), veh/h	862	0	827				0	748	736	338	1496	0
V/C Ratio(X)	0.69	0.00	0.63				0.00	0.34	0.35	0.17	0.52	0.00
Avail Cap(c_a), veh/h	862	0	827				0	748	736	338	1496	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.99	0.99	0.83	0.83	0.00
Uniform Delay (d), s/veh	19.0	0.0	18.3				0.0	27.5	27.5	24.3	19.3	0.0
Incr Delay (d2), s/veh	4.5	0.0	3.6				0.0	1.2	1.3	0.9	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.5	0.0	13.3				0.0	9.7	9.7	1.9	9.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.5	0.0	21.9				0.0	28.7	28.8	25.3	20.4	0.0
LnGrp LOS	C	A	C				A	C	C	C	C	A
Approach Vol, veh/h		1112						509			841	
Approach Delay, s/veh		22.7						28.7			20.8	
Approach LOS		C						C			C	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		43.0				43.0		47.0				
Change Period (Y+Rc), s		5.1				5.1		5.3				
Max Green Setting (Gmax), s		37.9				37.9		41.7				
Max Q Clear Time (g_c+I1), s		18.4				13.8		24.6				
Green Ext Time (p_c), s		5.8				3.2		7.1				

Intersection Summary												
HCM 6th Ctrl Delay			23.3									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	35	553	46	73	390	0	1	736	112
Future Volume (veh/h)	0	0	0	35	553	46	73	390	0	1	736	112
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h				38	601	50	79	424	0	1	800	122
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	2	2	2
Cap, veh/h				73	1216	562	259	1899	0	40	1618	246
Arrive On Green				0.35	0.35	0.35	0.53	0.53	0.00	0.18	0.18	0.18
Sat Flow, veh/h				207	3430	1585	606	3647	0	0	3027	461
Grp Volume(v), veh/h				342	297	50	79	424	0	495	0	428
Grp Sat Flow(s),veh/h/ln				1860	1777	1585	606	1777	0	1870	0	1619
Q Serve(g_s), s				13.1	11.7	1.9	9.5	5.7	0.0	0.0	0.0	21.5
Cycle Q Clear(g_c), s				13.1	11.7	1.9	31.0	5.7	0.0	21.5	0.0	21.5
Prop In Lane				0.11		1.00	1.00		0.00	0.00		0.28
Lane Grp Cap(c), veh/h				659	630	562	259	1899	0	1039	0	865
V/C Ratio(X)				0.52	0.47	0.09	0.30	0.22	0.00	0.48	0.00	0.50
Avail Cap(c_a), veh/h				659	630	562	259	1899	0	1039	0	865
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.84	0.00	0.84
Uniform Delay (d), s/veh				23.0	22.5	19.4	25.7	11.1	0.0	26.1	0.0	26.1
Incr Delay (d2), s/veh				2.9	2.5	0.3	3.0	0.3	0.0	1.3	0.0	1.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				10.1	8.9	1.3	2.8	3.9	0.0	16.0	0.0	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				25.9	25.0	19.7	28.7	11.3	0.0	27.4	0.0	27.8
LnGrp LOS				C	C	B	C	B	A	C	A	C
Approach Vol, veh/h					689			503			923	
Approach Delay, s/veh					25.1			14.1			27.6	
Approach LOS					C			B			C	

Timer - Assigned Phs	2		4				8					
Phs Duration (G+Y+Rc), s	37.0		53.0				53.0					
Change Period (Y+Rc), s	5.1		* 4.9				* 4.9					
Max Green Setting (Gmax), s	31.9		* 48				* 48					
Max Q Clear Time (g_c+I1), s	15.1		23.5				33.0					
Green Ext Time (p_c), s	3.8		6.6				3.1					

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

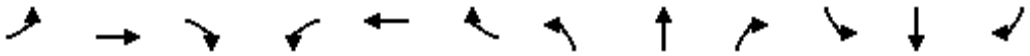
Notes

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	319	170	133	312	191	122
Future Volume (vph)	319	170	133	312	191	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.95		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3355		1770	3539	1770	1583
Flt Permitted	1.00		0.45	1.00	0.95	1.00
Satd. Flow (perm)	3355		846	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	347	185	145	339	208	133
RTOR Reduction (vph)	36	0	0	0	0	110
Lane Group Flow (vph)	496	0	145	339	208	23
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	6			2	8	
Permitted Phases			2			8
Actuated Green, G (s)	64.0		64.0	64.0	15.7	15.7
Effective Green, g (s)	64.0		64.0	64.0	15.7	15.7
Actuated g/C Ratio	0.71		0.71	0.71	0.17	0.17
Clearance Time (s)	5.3		5.3	5.3	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2385		601	2516	308	276
v/s Ratio Prot	0.15			0.10	c0.12	
v/s Ratio Perm			c0.17			0.01
v/c Ratio	0.21		0.24	0.13	0.68	0.08
Uniform Delay, d1	4.4		4.5	4.2	34.8	31.1
Progression Factor	1.00		2.53	2.13	1.00	1.00
Incremental Delay, d2	0.2		0.1	0.0	5.8	0.1
Delay (s)	4.6		11.6	8.8	40.5	31.3
Level of Service	A		B	A	D	C
Approach Delay (s)	4.6			9.7	36.9	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

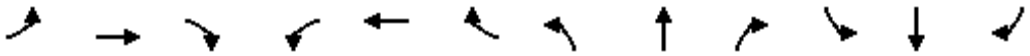
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	183	84	61	282	32	89	221	43	19	269	39
Future Volume (veh/h)	13	183	84	61	282	32	89	221	43	19	269	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	199	91	66	307	35	97	240	47	21	292	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	591	259	154	675	72	354	708	600	416	605	87
Arrive On Green	0.49	0.49	0.49	0.99	0.99	0.99	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	30	1198	525	191	1370	146	1046	1870	1585	1092	1599	230
Grp Volume(v), veh/h	304	0	0	408	0	0	97	240	47	21	0	334
Grp Sat Flow(s),veh/h/ln	1752	0	0	1707	0	0	1046	1870	1585	1092	0	1829
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	5.4	6.4	1.3	1.0	0.0	9.7
Cycle Q Clear(g_c), s	7.3	0.0	0.0	0.4	0.0	0.0	15.2	6.4	1.3	7.4	0.0	9.7
Prop In Lane	0.05		0.30	0.16		0.09	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	917	0	0	901	0	0	354	708	600	416	0	692
V/C Ratio(X)	0.33	0.00	0.00	0.45	0.00	0.00	0.27	0.34	0.08	0.05	0.00	0.48
Avail Cap(c_a), veh/h	917	0	0	901	0	0	354	708	600	416	0	692
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.62	0.00	0.00	0.98	0.98	0.98	0.98	0.00	0.98
Uniform Delay (d), s/veh	10.9	0.0	0.0	0.3	0.0	0.0	22.3	15.5	13.9	18.1	0.0	16.5
Incr Delay (d2), s/veh	1.0	0.0	0.0	1.0	0.0	0.0	1.9	1.3	0.2	0.2	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.0	0.0	0.0	0.6	0.0	0.0	2.6	5.0	0.9	0.5	0.0	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.8	0.0	0.0	1.3	0.0	0.0	24.2	16.8	14.2	18.4	0.0	18.9
LnGrp LOS	B	A	A	A	A	A	C	B	B	B	A	B
Approach Vol, veh/h		304			408			384			355	
Approach Delay, s/veh		11.8			1.3			18.3			18.9	
Approach LOS		B			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		31.0		39.0		31.0		39.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		26.5		34.5		26.5		34.5				
Max Q Clear Time (g_c+I1), s		11.7		2.4		17.2		9.3				
Green Ext Time (p_c), s		1.8		2.9		1.3		1.9				

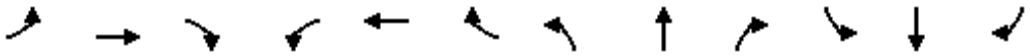
Intersection Summary												
HCM 6th Ctrl Delay			12.3									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	255	3020	105	174	341	0	0	511	143
Future Volume (veh/h)	0	0	0	255	3020	105	174	341	0	0	511	143
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				277	3283	114	189	371	0	0	555	155
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	0	2	2
Cap, veh/h				162	2056	73	315	1577	0	0	892	248
Arrive On Green				0.43	0.43	0.43	0.06	0.44	0.00	0.00	0.32	0.32
Sat Flow, veh/h				382	4839	172	1781	3647	0	0	2839	764
Grp Volume(v), veh/h				1342	1111	1221	189	371	0	0	358	352
Grp Sat Flow(s),veh/h/ln				1851	1702	1839	1781	1777	0	0	1777	1733
Q Serve(g_s), s				34.0	34.0	34.0	5.0	5.2	0.0	0.0	13.6	13.7
Cycle Q Clear(g_c), s				34.0	34.0	34.0	5.0	5.2	0.0	0.0	13.6	13.7
Prop In Lane				0.21		0.09	1.00		0.00	0.00		0.44
Lane Grp Cap(c), veh/h				787	723	782	315	1577	0	0	577	563
V/C Ratio(X)				1.71	1.54	1.56	0.60	0.24	0.00	0.00	0.62	0.62
Avail Cap(c_a), veh/h				787	723	782	315	1577	0	0	577	563
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.09	0.09	0.09	1.00	1.00	0.00	0.00	0.87	0.87
Uniform Delay (d), s/veh				23.0	23.0	23.0	18.8	13.8	0.0	0.0	22.8	22.9
Incr Delay (d2), s/veh				317.9	241.9	253.4	3.2	0.4	0.0	0.0	4.3	4.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				119.5	85.3	96.1	4.4	3.7	0.0	0.0	9.9	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				340.9	264.9	276.4	22.0	14.2	0.0	0.0	27.2	27.4
LnGrp LOS				F	F	F	C	B	A	A	C	C
Approach Vol, veh/h					3674			560			710	
Approach Delay, s/veh					296.5			16.8			27.3	
Approach LOS					F			B			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.5	31.5		39.0		41.0						
Change Period (Y+Rc), s	4.5	5.5		5.0		5.5						
Max Green Setting (Gmax), s	5.0	25.5		34.0		25.5						
Max Q Clear Time (g_c+I1), s	7.0	15.7		36.0		7.2						
Green Ext Time (p_c), s	0.0	3.2		0.0		2.3						

Intersection Summary		
HCM 6th Ctrl Delay		226.2
HCM 6th LOS		F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	656	115	0	0	0	0	427	78	24	692	0
Future Volume (veh/h)	22	656	115	0	0	0	0	427	78	24	692	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	24	713	125				0	464	85	26	752	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	66	2088	367				0	1339	244	409	1831	
Arrive On Green	0.37	0.37	0.37				0.00	0.45	0.45	0.03	0.52	0.00
Sat Flow, veh/h	177	5607	987				0	3096	547	1781	3647	0
Grp Volume(v), veh/h	252	396	214				0	274	275	26	752	0
Grp Sat Flow(s),veh/h/ln	1861	1609	1693				0	1777	1772	1781	1777	0
Q Serve(g_s), s	10.3	9.2	9.6				0.0	10.6	10.7	0.8	13.7	0.0
Cycle Q Clear(g_c), s	10.3	9.2	9.6				0.0	10.6	10.7	0.8	13.7	0.0
Prop In Lane	0.10		0.58				0.00		0.31	1.00		0.00
Lane Grp Cap(c), veh/h	693	1198	630				0	793	790	409	1831	
V/C Ratio(X)	0.36	0.33	0.34				0.00	0.35	0.35	0.06	0.41	
Avail Cap(c_a), veh/h	693	1198	630				0	793	790	540	1831	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.9	23.6	23.7				0.0	19.0	19.1	14.6	15.6	0.0
Incr Delay (d2), s/veh	1.5	0.7	1.5				0.0	1.2	1.2	0.1	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.4	6.5	7.3				0.0	8.0	8.1	0.6	9.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	24.3	25.1				0.0	20.2	20.3	14.7	16.3	0.0
LnGrp LOS	C	C	C				A	C	C	B	B	
Approach Vol, veh/h		862						549			778	A
Approach Delay, s/veh		24.8						20.3			16.3	
Approach LOS		C						C			B	

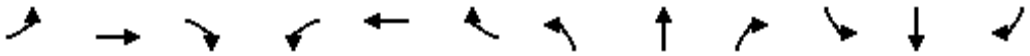
Timer - Assigned Phs				4		6	7	8				
Phs Duration (G+Y+Rc), s				60.0		45.0	7.3	52.7				
Change Period (Y+Rc), s				* 5.9		5.9	4.6	* 5.9				
Max Green Setting (Gmax), s				* 54		39.1	10.4	* 39				
Max Q Clear Time (g_c+I1), s				15.7		12.3	2.8	12.7				
Green Ext Time (p_c), s				6.2		6.1	0.0	3.5				

Intersection Summary												
HCM 6th Ctrl Delay			20.6									
HCM 6th LOS			C									

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



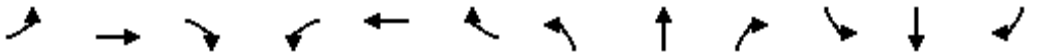
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	795	495	0	0	658	20
Future Volume (veh/h)	0	0	0	0	0	0	795	495	0	0	658	20
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h				0	0	0	864	538	0	0	715	22
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	2	2	2
Cap, veh/h				0	2	0	936	1108	0	511	2175	67
Arrive On Green				0.00	0.00	0.00	0.27	0.59	0.00	0.00	0.62	0.62
Sat Flow, veh/h				0	1870	0	3456	1870	0	1781	3519	108
Grp Volume(v), veh/h				0	0	0	864	538	0	0	361	376
Grp Sat Flow(s),veh/h/ln				0	1870	0	1728	1870	0	1781	1777	1851
Q Serve(g_s), s				0.0	0.0	0.0	22.1	15.0	0.0	0.0	8.9	8.9
Cycle Q Clear(g_c), s				0.0	0.0	0.0	22.1	15.0	0.0	0.0	8.9	8.9
Prop In Lane				0.00		0.00	1.00		0.00	1.00		0.06
Lane Grp Cap(c), veh/h				0	2	0	936	1108	0	511	1098	1144
V/C Ratio(X)				0.00	0.00	0.00	0.92	0.49	0.00	0.00	0.33	0.33
Avail Cap(c_a), veh/h				0	370	0	965	1108	0	511	1098	1144
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.00	0.00	0.00	0.58	0.58	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				0.0	0.0	0.0	32.2	10.6	0.0	0.0	8.3	8.3
Incr Delay (d2), s/veh				0.0	0.0	0.0	8.9	0.9	0.0	0.0	0.8	0.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				0.0	0.0	0.0	14.1	8.9	0.0	0.0	6.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	0.0	0.0	41.1	11.5	0.0	0.0	9.1	9.1
LnGrp LOS				A	A	A	D	B	A	A	A	A
Approach Vol, veh/h					0			1402			737	
Approach Delay, s/veh					0.0			29.8			9.1	
Approach LOS								C			A	

Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	29.3	61.7		31.6	59.4		0.0					
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5	* 5.5		4.5					
Max Green Setting (Gmax), s	25.4	* 24		* 5	* 54		18.0					
Max Q Clear Time (g_c+I1), s	24.1	10.9		0.0	17.0		0.0					
Green Ext Time (p_c), s	0.5	3.8		0.0	4.0		0.0					

Intersection Summary		
HCM 6th Ctrl Delay		22.6
HCM 6th LOS		C

Notes

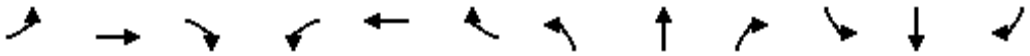
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	475	183	409	0	684	0	498	106	33	579	0
Future Volume (veh/h)	58	475	183	409	0	684	0	498	106	33	579	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	63	516	199	445	0	743	0	541	115	36	629	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	65	560	273	0	0	0	0	1898	402	582	2606	0
Arrive On Green	0.17	0.17	0.17	0.00	0.00	0.00	0.00	0.65	0.65	0.03	0.73	0.00
Sat Flow, veh/h	377	3251	1585		0		0	3012	618	1781	3647	0
Grp Volume(v), veh/h	309	270	199		0.0		0	329	327	36	629	0
Grp Sat Flow(s),veh/h/ln	1851	1777	1585				0	1777	1759	1781	1777	0
Q Serve(g_s), s	14.9	13.3	10.7				0.0	7.1	7.2	0.5	5.2	0.0
Cycle Q Clear(g_c), s	14.9	13.3	10.7				0.0	7.1	7.2	0.5	5.2	0.0
Prop In Lane	0.20		1.00				0.00		0.35	1.00		0.00
Lane Grp Cap(c), veh/h	319	306	273				0	1156	1144	582	2606	0
V/C Ratio(X)	0.97	0.88	0.73				0.00	0.28	0.29	0.06	0.24	0.00
Avail Cap(c_a), veh/h	319	306	273				0	1156	1144	622	2606	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.87	0.87	0.94	0.94	0.00
Uniform Delay (d), s/veh	37.0	36.4	35.3				0.0	6.7	6.8	4.5	3.9	0.0
Incr Delay (d2), s/veh	42.0	24.5	9.5				0.0	0.5	0.5	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.6	12.3	8.4				0.0	4.5	4.6	0.3	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.1	60.9	44.7				0.0	7.3	7.3	4.5	4.1	0.0
LnGrp LOS	E	E	D				A	A	A	A	A	A
Approach Vol, veh/h		778						656			665	
Approach Delay, s/veh		64.0						7.3			4.1	
Approach LOS		E						A			A	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	7.5	62.5		20.0		70.0						
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0						
Max Green Setting (Gmax), s	5.0	24.5		15.5		34.0						
Max Q Clear Time (g_c+I1), s	2.5	9.2		16.9		7.2						
Green Ext Time (p_c), s	0.0	3.7		0.0		4.6						

Intersection Summary												
HCM 6th Ctrl Delay			27.3									
HCM 6th LOS			C									



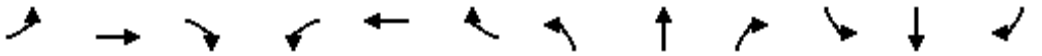
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	489	63	215	1052	103	78	541	165	87	890	176
Future Volume (veh/h)	62	489	63	215	1052	103	78	541	165	87	890	176
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	532	68	234	1143	112	85	588	179	95	967	191
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	1268	162	331	1308	128	156	1231	374	129	1068	223
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	442	3171	404	819	3270	320	485	2685	815	153	2329	487
Grp Volume(v), veh/h	67	297	303	234	620	635	85	389	378	619	0	634
Grp Sat Flow(s),veh/h/ln	442	1777	1798	819	1777	1813	485	1777	1724	1354	0	1614
Q Serve(g_s), s	5.4	8.4	8.5	19.5	22.5	22.6	7.6	10.6	10.7	21.3	0.0	24.5
Cycle Q Clear(g_c), s	28.0	8.4	8.5	28.0	22.5	22.6	32.1	10.6	10.7	32.0	0.0	24.5
Prop In Lane	1.00		0.22	1.00		0.18	1.00		0.47	0.15		0.30
Lane Grp Cap(c), veh/h	137	711	719	331	711	725	156	815	790	680	0	740
V/C Ratio(X)	0.49	0.42	0.42	0.71	0.87	0.88	0.55	0.48	0.48	0.91	0.00	0.86
Avail Cap(c_a), veh/h	137	711	719	331	711	725	156	815	790	680	0	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	0.76	0.00	0.76
Uniform Delay (d), s/veh	33.6	15.1	15.2	25.5	19.4	19.4	32.6	13.1	13.1	19.4	0.0	16.9
Incr Delay (d2), s/veh	12.0	1.8	1.8	1.2	1.5	1.5	13.1	2.0	2.1	15.0	0.0	9.6
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	2.8	6.3	6.4	4.7	10.1	10.3	3.5	7.6	7.5	16.7	0.0	14.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.6	16.9	17.0	26.7	20.9	20.9	45.7	15.1	15.2	34.4	0.0	26.4
LnGrp LOS	D	B	B	C	C	C	D	B	B	C	A	C
Approach Vol, veh/h		667			1489			852			1253	
Approach Delay, s/veh		19.8			21.8			18.2			30.4	
Approach LOS		B			C			B			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.0		33.0		37.0		33.0				
Change Period (Y+Rc), s		* 4.9		5.0		* 4.9		5.0				
Max Green Setting (Gmax), s		* 32		28.0		* 32		28.0				
Max Q Clear Time (g_c+I1), s		34.0		30.0		34.1		30.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			23.3									
HCM 6th LOS			C									

Notes

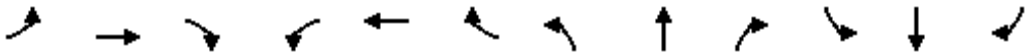
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	268	99	0	1031	52	123	1202	49	32	1513	130
Future Volume (vph)	127	268	99	0	1031	52	123	1202	49	32	1513	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8			5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3396			3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.16	1.00			1.00	1.00	0.09	1.00	1.00	0.10	1.00	1.00
Satd. Flow (perm)	296	3396			3539	1583	173	3539	1583	182	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	138	291	108	0	1121	57	134	1307	53	35	1645	141
RTOR Reduction (vph)	0	6	0	0	0	41	0	0	28	0	0	101
Lane Group Flow (vph)	138	393	0	0	1121	16	134	1307	25	35	1645	40
Turn Type	custom	NA			NA	Perm	Perm	NA	Perm	Perm	NA	custom
Protected Phases	8	6 8			2			7			7	
Permitted Phases	6					2	7		7	7		8
Actuated Green, G (s)	30.2	36.0			25.2	25.2	43.0	43.0	43.0	43.0	43.0	5.0
Effective Green, g (s)	30.2	36.0			25.2	25.2	43.0	43.0	43.0	43.0	43.0	5.0
Actuated g/C Ratio	0.34	0.40			0.28	0.28	0.48	0.48	0.48	0.48	0.48	0.06
Clearance Time (s)	5.0				5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Vehicle Extension (s)	3.0				5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.0
Lane Grp Cap (vph)	181	1358			990	443	82	1690	756	86	1690	87
v/s Ratio Prot	c0.04	0.12			c0.32			0.37			0.46	
v/s Ratio Perm	0.21					0.01	c0.77		0.02	0.19		0.03
v/c Ratio	0.76	0.29			1.13	0.04	1.63	0.77	0.03	0.41	0.97	0.46
Uniform Delay, d1	38.7	18.3			32.4	23.6	23.5	19.5	12.5	15.2	22.9	41.2
Progression Factor	1.12	1.16			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.0	0.1			72.4	0.2	333.7	3.5	0.1	13.7	16.4	3.8
Delay (s)	60.3	21.4			104.8	23.7	357.2	23.0	12.6	28.9	39.4	45.0
Level of Service	E	C			F	C	F	C	B	C	D	D
Approach Delay (s)		31.4			100.8			52.6			39.6	
Approach LOS		C			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	56.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	104.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	87	121	75	187	82	116	965	34	58	1251	69
Future Volume (veh/h)	51	87	121	75	187	82	116	965	34	58	1251	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	95	0	82	203	89	126	1049	37	63	1360	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	253		324	290	127	237	2153	76	337	2106	116
Arrive On Green	0.23	0.23	0.00	0.06	0.24	0.24	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	1087	1870	0	1781	1233	540	372	3501	123	519	3425	188
Grp Volume(v), veh/h	55	95	0	82	0	292	126	532	554	63	704	731
Grp Sat Flow(s),veh/h/ln	1087	1870	0	1781	0	1773	372	1777	1848	519	1777	1836
Q Serve(g_s), s	3.3	3.0	0.0	2.6	0.0	10.6	22.9	11.5	11.5	5.3	17.7	17.8
Cycle Q Clear(g_c), s	6.9	3.0	0.0	2.6	0.0	10.6	40.7	11.5	11.5	16.8	17.7	17.8
Prop In Lane	1.00		0.00	1.00		0.30	1.00		0.07	1.00		0.10
Lane Grp Cap(c), veh/h	194	253		324	0	417	237	1093	1137	337	1093	1129
V/C Ratio(X)	0.28	0.38		0.25	0.00	0.70	0.53	0.49	0.49	0.19	0.64	0.65
Avail Cap(c_a), veh/h	436	668		350	0	836	237	1093	1137	337	1093	1129
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.15	0.15	0.15
Uniform Delay (d), s/veh	27.8	24.6	0.0	22.5	0.0	24.5	21.6	7.4	7.4	12.0	8.6	8.6
Incr Delay (d2), s/veh	0.8	0.9	0.0	0.4	0.0	2.2	8.3	1.6	1.5	0.2	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	2.3	0.0	2.0	0.0	7.9	4.3	7.1	7.4	1.0	7.0	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	25.5	0.0	22.9	0.0	26.7	29.9	9.0	8.9	12.2	9.0	9.1
LnGrp LOS	C	C		C	A	C	C	A	A	B	A	A
Approach Vol, veh/h		150	A		374			1212			1498	
Approach Delay, s/veh		26.6			25.8			11.1			9.2	
Approach LOS		C			C			B			A	

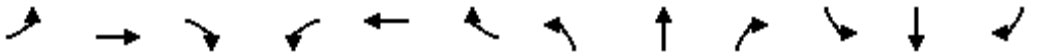
Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		49.0		21.0		49.0	7.0	14.0				
Change Period (Y+Rc), s		6.0		* 4.5		6.0	3.0	* 4.5				
Max Green Setting (Gmax), s		26.5		* 33		26.5	5.0	* 25				
Max Q Clear Time (g_c+I1), s		19.8		12.6		42.7	4.6	8.9				
Green Ext Time (p_c), s		4.9		1.7		0.0	0.0	0.6				

Intersection Summary												
HCM 6th Ctrl Delay			12.6									
HCM 6th LOS			B									

Notes

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

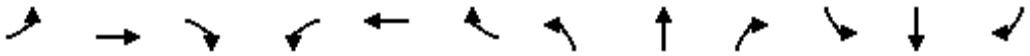
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	343	2856	247	202	956	0	0	1198	240
Future Volume (veh/h)	0	0	0	343	2856	247	202	956	0	0	1198	240
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				373	3104	268	220	1039	0	0	1302	261
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				205	1815	158	230	1650	0	0	1168	521
Arrive On Green				0.41	0.41	0.41	0.02	0.15	0.00	0.00	0.33	0.33
Sat Flow, veh/h				503	4457	388	1781	3647	0	0	3647	1585
Grp Volume(v), veh/h				1368	1133	1245	220	1039	0	0	1302	261
Grp Sat Flow(s),veh/h/ln				1845	1702	1801	1781	1777	0	0	1777	1585
Q Serve(g_s), s				28.5	28.5	28.5	5.0	19.2	0.0	0.0	23.0	9.3
Cycle Q Clear(g_c), s				28.5	28.5	28.5	5.0	19.2	0.0	0.0	23.0	9.3
Prop In Lane				0.27		0.22	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				751	693	733	230	1650	0	0	1168	521
V/C Ratio(X)				1.82	1.63	1.70	0.96	0.63	0.00	0.00	1.12	0.50
Avail Cap(c_a), veh/h				751	693	733	230	1650	0	0	1168	521
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.67	0.67	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.8	20.8	20.8	19.5	24.0	0.0	0.0	23.5	18.9
Incr Delay (d2), s/veh				374.5	292.0	319.9	37.0	1.2	0.0	0.0	63.9	3.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				140.6	103.6	118.7	7.4	13.3	0.0	0.0	28.2	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				395.3	312.8	340.6	56.5	25.2	0.0	0.0	87.4	22.3
LnGrp LOS				F	F	F	E	C	A	A	F	C
Approach Vol, veh/h					3745			1259			1563	
Approach Delay, s/veh					352.2			30.7			76.5	
Approach LOS					F			C			E	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.5	27.5		33.0		37.0						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	5.0	23.0		28.5		32.5						
Max Q Clear Time (g_c+I1), s	7.0	25.0		30.5		21.2						
Green Ext Time (p_c), s	0.0	0.0		0.0		5.5						

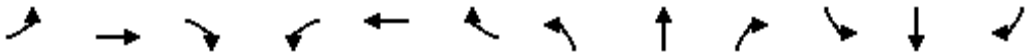
Intersection Summary		
HCM 6th Ctrl Delay		224.9
HCM 6th LOS		F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	461	191	0	0	0	0	1177	236	274	1347	0
Future Volume (veh/h)	120	461	191	0	0	0	0	1177	236	274	1347	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	130	501	208				0	1279	257	298	1464	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	200	833	313				0	2012	400	249	2420	0
Arrive On Green	0.20	0.20	0.20				0.00	0.68	0.68	0.91	0.91	0.00
Sat Flow, veh/h	1010	4214	1585				0	3048	587	338	3647	0
Grp Volume(v), veh/h	234	397	208				0	763	773	298	1464	0
Grp Sat Flow(s),veh/h/ln	1820	1702	1585				0	1777	1765	338	1777	0
Q Serve(g_s), s	8.3	7.4	8.5				0.0	16.8	17.4	30.3	6.0	0.0
Cycle Q Clear(g_c), s	8.3	7.4	8.5				0.0	16.8	17.4	47.7	6.0	0.0
Prop In Lane	0.55		1.00				0.00		0.33	1.00		0.00
Lane Grp Cap(c), veh/h	360	673	313				0	1210	1202	249	2420	0
V/C Ratio(X)	0.65	0.59	0.66				0.00	0.63	0.64	1.20	0.60	0.00
Avail Cap(c_a), veh/h	520	973	453				0	1210	1202	249	2420	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.09	0.09	0.00
Uniform Delay (d), s/veh	25.9	25.5	25.9				0.0	6.2	6.3	18.2	1.3	0.0
Incr Delay (d2), s/veh	2.0	0.8	2.4				0.0	2.5	2.7	92.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.5	5.3	5.9				0.0	9.1	9.3	13.8	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	26.3	28.4				0.0	8.7	9.0	110.5	1.4	0.0
LnGrp LOS	C	C	C				A	A	A	F	A	A
Approach Vol, veh/h		839						1536			1762	
Approach Delay, s/veh		27.3						8.9			19.9	
Approach LOS		C						A			B	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		51.7				51.7		18.3				
Change Period (Y+Rc), s		4.0				4.0		4.5				
Max Green Setting (Gmax), s		41.5				41.5		20.0				
Max Q Clear Time (g_c+I1), s		49.7				19.4		10.5				
Green Ext Time (p_c), s		0.0				12.3		3.3				

Intersection Summary												
HCM 6th Ctrl Delay			17.3									
HCM 6th LOS			B									



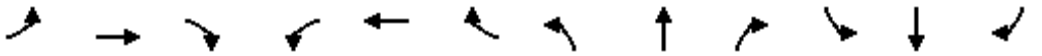
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	342	141	266	852	229	90	815	150	167	1026	65
Future Volume (veh/h)	74	342	141	266	852	229	90	815	150	167	1026	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	372	153	289	926	249	98	886	163	182	1115	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	881	357	314	989	265	423	2290	421	443	2168	138
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.06	0.76	0.76	0.64	0.64	0.64
Sat Flow, veh/h	477	2467	1000	878	2770	743	1781	2997	551	538	3392	216
Grp Volume(v), veh/h	80	266	259	289	593	582	98	525	524	182	584	602
Grp Sat Flow(s),veh/h/ln	477	1777	1690	878	1777	1737	1781	1777	1771	538	1777	1831
Q Serve(g_s), s	2.3	7.9	8.1	16.9	22.6	22.7	1.1	6.9	6.9	13.2	12.4	12.4
Cycle Q Clear(g_c), s	25.0	7.9	8.1	25.0	22.6	22.7	1.1	6.9	6.9	13.7	12.4	12.4
Prop In Lane	1.00		0.59	1.00		0.43	1.00		0.31	1.00		0.12
Lane Grp Cap(c), veh/h	119	635	604	314	635	620	423	1358	1354	443	1136	1171
V/C Ratio(X)	0.67	0.42	0.43	0.92	0.93	0.94	0.23	0.39	0.39	0.41	0.51	0.51
Avail Cap(c_a), veh/h	119	635	604	314	635	620	455	1358	1354	443	1136	1171
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.30	0.30	0.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	17.0	17.1	28.8	21.7	21.7	4.9	2.8	2.8	7.2	6.8	6.8
Incr Delay (d2), s/veh	8.8	0.6	0.7	33.8	22.9	23.7	0.3	0.8	0.8	2.8	1.7	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	4.7	4.6	12.3	18.4	18.3	0.5	2.8	2.8	2.7	7.4	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.6	17.6	17.7	62.6	44.6	45.5	5.1	3.6	3.6	10.0	8.4	8.4
LnGrp LOS	D	B	B	E	D	D	A	A	A	A	A	A
Approach Vol, veh/h		605			1464			1147			1368	
Approach Delay, s/veh		21.1			48.5			3.7			8.6	
Approach LOS		C			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.8	49.2		29.5		58.0		29.5				
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0		* 4.5				
Max Green Setting (Gmax), s	5.5	27.0		24.5		37.0		* 25				
Max Q Clear Time (g_c+I1), s	3.1	15.7		27.0		8.9		27.0				
Green Ext Time (p_c), s	0.0	7.1		0.0		8.1		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		21.8	
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)	95	521	96	175	910	197	137	900	145	192	1151	265
Future Volume (veh/h)	95	521	96	175	910	197	137	900	145	192	1151	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	566	104	190	989	214	149	978	158	209	1251	288
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	956	175	203	927	200	144	1183	191	306	1575	358
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.39	0.39	0.39	0.10	0.55	0.55
Sat Flow, veh/h	465	2999	549	767	2907	628	337	3064	495	1781	2876	653
Grp Volume(v), veh/h	103	335	335	190	604	599	149	567	569	209	766	773
Grp Sat Flow(s),veh/h/ln	465	1777	1771	767	1777	1757	337	1777	1781	1781	1777	1753
Q Serve(g_s), s	0.0	14.2	14.3	14.4	28.7	28.7	17.2	25.9	25.9	5.9	30.9	32.1
Cycle Q Clear(g_c), s	28.7	14.2	14.3	28.7	28.7	28.7	34.7	25.9	25.9	5.9	30.9	32.1
Prop In Lane	1.00		0.31	1.00		0.36	1.00		0.28	1.00		0.37
Lane Grp Cap(c), veh/h	80	567	565	203	567	560	144	686	688	306	973	960
V/C Ratio(X)	1.29	0.59	0.59	0.94	1.07	1.07	1.03	0.83	0.83	0.68	0.79	0.80
Avail Cap(c_a), veh/h	80	567	565	203	567	560	144	686	688	307	973	960
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)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	25.7	25.8	40.4	30.7	30.7	41.2	24.9	24.9	18.8	16.2	16.5
Incr Delay (d2), s/veh	191.4	4.1	4.1	48.8	56.5	57.9	83.4	11.0	11.0	6.1	6.4	7.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.8	10.5	10.5	11.3	29.3	29.3	10.9	18.3	18.3	4.9	19.0	19.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	236.4	29.8	29.9	89.1	87.1	88.5	124.5	35.9	35.9	24.9	22.6	23.6
LnGrp LOS	F	C	C	F	F	F	F	D	D	C	C	C
Approach Vol, veh/h		773			1393			1285			1748	
Approach Delay, s/veh		57.4			88.0			46.2			23.3	
Approach LOS		E			F			D			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		55.0		35.0	14.6	40.4		35.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 49		* 29	9.0	* 35		* 29				
Max Q Clear Time (g_c+I1), s		34.1		30.7	7.9	36.7		30.7				
Green Ext Time (p_c), s		9.7		0.0	0.1	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		51.4
HCM 6th LOS		D

Notes

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

Intersection	
Int Delay, s/veh	1.4

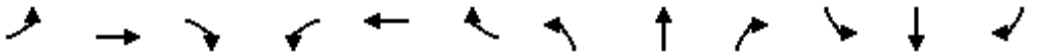
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Traffic Vol, veh/h	44	289	19	0	2022	0	9	7	0	0
Future Vol, veh/h	44	289	19	0	2022	0	9	7	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	0	-	-	-	-	-	0	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	314	21	0	2198	0	10	8	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	2198	0	0	-	-	0	1300	168
Stage 1	-	-	-	-	-	-	421	-
Stage 2	-	-	-	-	-	-	879	-
Critical Hdwy	5.34	-	-	-	-	-	6.29	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	-	-	3.67	3.32
Pot Cap-1 Maneuver	99	-	-	0	-	0	*183	*981
Stage 1	-	-	-	0	-	0	*888	-
Stage 2	-	-	-	0	-	0	*340	-
Platoon blocked, %		-	-		-			1
Mov Cap-1 Maneuver	99	-	-	-	-	-	*94	*981
Mov Cap-2 Maneuver	-	-	-	-	-	-	*203	-
Stage 1	-	-	-	-	-	-	*457	-
Stage 2	-	-	-	-	-	-	*340	-

Approach	EB	WB	NB
HCM Control Delay, s	8.9	0	17.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT
Capacity (veh/h)	203	981	99	-	-	-
HCM Lane V/C Ratio	0.048	0.008	0.483	-	-	-
HCM Control Delay (s)	23.6	8.7	71.5	-	-	-
HCM Lane LOS	C	A	F	-	-	-
HCM 95th %tile Q(veh)	0.2	0	2.1	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	340	58	0	3333	101	34	4	160	60	0	23
Future Volume (veh/h)	0	340	58	0	3333	101	34	4	160	60	0	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	370	63	0	3623	0	37	4	174	65	0	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	1947	329	0	3268		86	28	284	239	11	70
Arrive On Green	0.00	0.64	0.64	0.00	0.64	0.00	0.22	0.22	0.22	0.22	0.00	0.22
Sat Flow, veh/h	0	3135	513	0	5443	0	176	125	1278	767	50	314
Grp Volume(v), veh/h	0	215	218	0	3623	0	215	0	0	90	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1778	0	1702	0	1579	0	0	1131	0	0
Q Serve(g_s), s	0.0	4.5	4.5	0.0	57.6	0.0	4.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	4.5	4.5	0.0	57.6	0.0	10.9	0.0	0.0	6.7	0.0	0.0
Prop In Lane	0.00		0.29	0.00		0.00	0.17		0.81	0.72		0.28
Lane Grp Cap(c), veh/h	0	1137	1138	0	3268		398	0	0	320	0	0
V/C Ratio(X)	0.00	0.19	0.19	0.00	1.11		0.54	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	0	1137	1138	0	3268		398	0	0	320	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	6.6	6.6	0.0	16.2	0.0	31.4	0.0	0.0	29.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.0	53.9	0.0	1.5	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	2.7	2.8	0.0	48.4	0.0	7.7	0.0	0.0	3.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.7	6.7	0.0	70.1	0.0	32.9	0.0	0.0	30.1	0.0	0.0
LnGrp LOS	A	A	A	A	F		C	A	A	C	A	A
Approach Vol, veh/h		433			3623	A		215			90	
Approach Delay, s/veh		6.7			70.1			32.9			30.1	
Approach LOS		A			E			C			C	

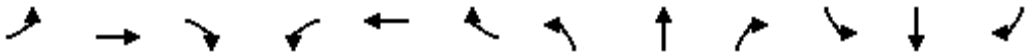
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	64.3	25.7	64.3	25.7
Change Period (Y+Rc), s	6.7	* 5.7	6.7	5.7
Max Green Setting (Gmax), s	32.7	* 20	32.7	20.0
Max Q Clear Time (g_c+I1), s	59.6	8.7	6.5	12.9
Green Ext Time (p_c), s	0.0	0.3	2.7	0.7

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.

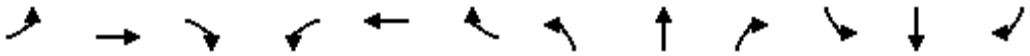
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	149	1317	196	156	699	0	0	312	84
Future Volume (veh/h)	0	0	0	149	1317	196	156	699	0	0	312	84
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				162	1432	213	170	760	0	0	339	91
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				211	1985	304	452	1574	0	0	1231	326
Arrive On Green				0.47	0.47	0.47	0.44	0.44	0.00	0.00	0.44	0.44
Sat Flow, veh/h				448	4211	645	958	3647	0	0	2873	736
Grp Volume(v), veh/h				668	560	579	170	760	0	0	215	215
Grp Sat Flow(s),veh/h/ln				1848	1702	1754	958	1777	0	0	1777	1738
Q Serve(g_s), s				21.0	18.1	18.2	9.6	10.6	0.0	0.0	5.4	5.5
Cycle Q Clear(g_c), s				21.0	18.1	18.2	15.1	10.6	0.0	0.0	5.4	5.5
Prop In Lane				0.24		0.37	1.00		0.00	0.00		0.42
Lane Grp Cap(c), veh/h				871	802	827	452	1574	0	0	787	770
V/C Ratio(X)				0.77	0.70	0.70	0.38	0.48	0.00	0.00	0.27	0.28
Avail Cap(c_a), veh/h				871	802	827	452	1574	0	0	787	770
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.09	0.09	0.09	0.73	0.73	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				15.3	14.6	14.6	17.2	13.8	0.0	0.0	12.4	12.4
Incr Delay (d2), s/veh				0.6	0.5	0.5	1.7	0.8	0.0	0.0	0.9	0.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				9.3	7.5	7.7	3.9	6.8	0.0	0.0	3.8	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				15.9	15.0	15.1	18.9	14.6	0.0	0.0	13.2	13.3
LnGrp LOS				B	B	B	B	B	A	A	B	B
Approach Vol, veh/h					1807			930			430	
Approach Delay, s/veh					15.4			15.4			13.3	
Approach LOS					B			B			B	

Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		36.0		34.0				34.0				
Change Period (Y+Rc), s		3.0		3.0				3.0				
Max Green Setting (Gmax), s		33.0		31.0				31.0				
Max Q Clear Time (g_c+I1), s		23.0		17.1				7.5				
Green Ext Time (p_c), s		7.5		5.3				2.6				

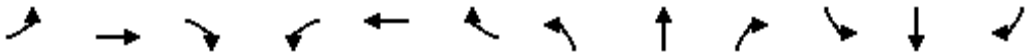
Intersection Summary		
HCM 6th Ctrl Delay		15.1
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	2031	100	0	0	0	0	890	165	118	468	0
Future Volume (veh/h)	133	2031	100	0	0	0	0	890	165	118	468	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	145	2208	109				0	967	179	128	509	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	138	2250	114				0	1560	289	336	1852	0
Arrive On Green	0.36	0.36	0.36				0.00	1.00	1.00	0.52	0.52	0.00
Sat Flow, veh/h	379	6191	312				0	3087	554	491	3647	0
Grp Volume(v), veh/h	709	1120	633				0	574	572	128	509	0
Grp Sat Flow(s),veh/h/ln	1851	1609	1814				0	1777	1771	491	1777	0
Q Serve(g_s), s	32.7	30.6	30.7				0.0	0.0	0.0	15.2	7.2	0.0
Cycle Q Clear(g_c), s	32.7	30.6	30.7				0.0	0.0	0.0	15.2	7.2	0.0
Prop In Lane	0.20		0.17				0.00		0.31	1.00		0.00
Lane Grp Cap(c), veh/h	673	1169	659				0	926	923	336	1852	0
V/C Ratio(X)	1.05	0.96	0.96				0.00	0.62	0.62	0.38	0.27	0.00
Avail Cap(c_a), veh/h	673	1169	659				0	926	923	336	1852	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.87	0.87	0.97	0.97	0.00
Uniform Delay (d), s/veh	28.7	28.0	28.0				0.0	0.0	0.0	14.0	12.0	0.0
Incr Delay (d2), s/veh	49.7	18.0	26.6				0.0	2.7	2.7	3.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	32.1	20.3	24.4				0.0	1.3	1.3	3.4	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.4	46.0	54.6				0.0	2.7	2.7	17.1	12.4	0.0
LnGrp LOS	F	D	D				A	A	A	B	B	A
Approach Vol, veh/h		2462						1146			637	
Approach Delay, s/veh		57.5						2.7			13.4	
Approach LOS		E						A			B	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		52.0				52.0		38.0				
Change Period (Y+Rc), s		5.1				5.1		5.3				
Max Green Setting (Gmax), s		46.9				46.9		32.7				
Max Q Clear Time (g_c+I1), s		17.2				2.0		34.7				
Green Ext Time (p_c), s		5.8				10.3		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			36.1									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	47	437	64	92	916	0	3	536	83
Future Volume (veh/h)	0	0	0	47	437	64	92	916	0	3	536	83
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h				51	475	70	100	996	0	3	583	90
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	2	2	2
Cap, veh/h				112	1094	527	506	1978	0	42	1680	258
Arrive On Green				0.33	0.33	0.33	0.56	0.56	0.00	1.00	1.00	1.00
Sat Flow, veh/h				336	3294	1585	765	3647	0	3	3018	463
Grp Volume(v), veh/h				281	245	70	100	996	0	361	0	315
Grp Sat Flow(s),veh/h/ln				1854	1777	1585	765	1777	0	1864	0	1619
Q Serve(g_s), s				10.7	9.6	2.8	6.0	15.5	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				10.7	9.6	2.8	6.0	15.5	0.0	0.0	0.0	0.0
Prop In Lane				0.18		1.00	1.00		0.00	0.01		0.29
Lane Grp Cap(c), veh/h				616	590	527	506	1978	0	1078	0	901
V/C Ratio(X)				0.46	0.41	0.13	0.20	0.50	0.00	0.33	0.00	0.35
Avail Cap(c_a), veh/h				616	590	527	506	1978	0	1078	0	901
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.97	0.00	0.97
Uniform Delay (d), s/veh				23.7	23.3	21.0	10.2	12.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				2.4	2.1	0.5	0.9	0.9	0.0	0.8	0.0	1.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				8.6	7.7	2.0	1.9	9.9	0.0	0.4	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				26.1	25.4	21.5	11.0	13.2	0.0	0.8	0.0	1.0
LnGrp LOS				C	C	C	B	B	A	A	A	A
Approach Vol, veh/h					596			1096			676	
Approach Delay, s/veh					25.3			13.0			0.9	
Approach LOS					C			B			A	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	35.0	55.0	55.0
Change Period (Y+Rc), s	5.1	* 4.9	* 4.9
Max Green Setting (Gmax), s	29.9	* 50	* 50
Max Q Clear Time (g_c+I1), s	12.7	2.0	17.5
Green Ext Time (p_c), s	3.2	4.9	9.7

Intersection Summary	
HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B

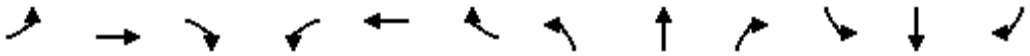
Notes

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1043	234	80	255	292	285
Future Volume (vph)	1043	234	80	255	292	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3442		1770	3539	1770	1583
Flt Permitted	1.00		0.16	1.00	0.95	1.00
Satd. Flow (perm)	3442		295	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1134	254	87	277	317	310
RTOR Reduction (vph)	11	0	0	0	0	258
Lane Group Flow (vph)	1377	0	87	277	317	52
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	6			2	8	
Permitted Phases			2			8
Actuated Green, G (s)	64.7		64.7	64.7	15.0	15.0
Effective Green, g (s)	64.7		64.7	64.7	15.0	15.0
Actuated g/C Ratio	0.72		0.72	0.72	0.17	0.17
Clearance Time (s)	5.3		5.3	5.3	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2474		212	2544	295	263
v/s Ratio Prot	c0.40			0.08	c0.18	
v/s Ratio Perm			0.30			0.03
v/c Ratio	0.56		0.41	0.11	1.07	0.20
Uniform Delay, d1	5.9		5.0	3.9	37.5	32.3
Progression Factor	1.00		3.54	2.27	1.00	1.00
Incremental Delay, d2	0.9		5.3	0.1	73.6	0.4
Delay (s)	6.8		23.2	8.8	111.1	32.7
Level of Service	A		C	A	F	C
Approach Delay (s)	6.8			12.3	72.3	
Approach LOS	A			B	E	

Intersection Summary			
HCM 2000 Control Delay	24.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

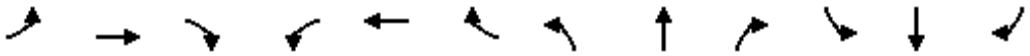
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	515	125	40	296	73	80	370	171	42	185	80
Future Volume (veh/h)	72	515	125	40	296	73	80	370	171	42	185	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	560	136	43	322	79	87	402	186	46	201	87
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	689	161	105	693	160	329	628	532	230	416	180
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	122	1286	300	91	1293	299	1091	1870	1585	828	1238	536
Grp Volume(v), veh/h	774	0	0	444	0	0	87	402	186	46	0	288
Grp Sat Flow(s),veh/h/ln	1708	0	0	1683	0	0	1091	1870	1585	828	0	1774
Q Serve(g_s), s	15.9	0.0	0.0	0.0	0.0	0.0	4.8	12.7	6.2	3.5	0.0	9.0
Cycle Q Clear(g_c), s	26.4	0.0	0.0	10.5	0.0	0.0	13.8	12.7	6.2	16.2	0.0	9.0
Prop In Lane	0.10		0.18	0.10		0.18	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	972	0	0	958	0	0	329	628	532	230	0	596
V/C Ratio(X)	0.80	0.00	0.00	0.46	0.00	0.00	0.26	0.64	0.35	0.20	0.00	0.48
Avail Cap(c_a), veh/h	972	0	0	958	0	0	329	628	532	230	0	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.85	0.00	0.00	0.89	0.89	0.89	0.92	0.00	0.92
Uniform Delay (d), s/veh	13.5	0.0	0.0	10.0	0.0	0.0	23.9	19.7	17.5	26.5	0.0	18.4
Incr Delay (d2), s/veh	6.8	0.0	0.0	1.4	0.0	0.0	1.7	4.4	1.6	1.8	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.6	0.0	0.0	7.0	0.0	0.0	2.4	9.7	4.2	1.4	0.0	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	0.0	11.4	0.0	0.0	25.7	24.1	19.1	28.3	0.0	21.0
LnGrp LOS	C	A	A	B	A	A	C	C	B	C	A	C
Approach Vol, veh/h		774			444			675			334	
Approach Delay, s/veh		20.2			11.4			22.9			22.0	
Approach LOS		C			B			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		42.0		28.0		42.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		37.5		23.5		37.5				
Max Q Clear Time (g_c+I1), s		18.2		12.5		15.8		28.4				
Green Ext Time (p_c), s		0.9		3.2		2.2		3.9				

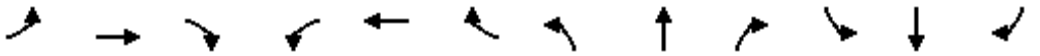
Intersection Summary												
HCM 6th Ctrl Delay			19.5									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	153	1589	163	366	934	0	0	342	122
Future Volume (veh/h)	0	0	0	153	1589	163	366	934	0	0	342	122
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				166	1727	177	398	1015	0	0	372	133
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	0	2	2
Cap, veh/h				105	1161	122	573	2257	0	0	1391	490
Arrive On Green				0.26	0.26	0.26	0.05	0.63	0.00	0.00	0.54	0.54
Sat Flow, veh/h				403	4465	470	1781	3647	0	0	2669	908
Grp Volume(v), veh/h				761	636	673	398	1015	0	0	255	250
Grp Sat Flow(s),veh/h/ln				1850	1702	1786	1781	1777	0	0	1777	1707
Q Serve(g_s), s				26.0	26.0	26.0	5.0	14.6	0.0	0.0	7.7	7.9
Cycle Q Clear(g_c), s				26.0	26.0	26.0	5.0	14.6	0.0	0.0	7.7	7.9
Prop In Lane				0.22		0.26	1.00		0.00	0.00		0.53
Lane Grp Cap(c), veh/h				481	443	464	573	2257	0	0	959	922
V/C Ratio(X)				1.58	1.44	1.45	0.69	0.45	0.00	0.00	0.27	0.27
Avail Cap(c_a), veh/h				481	443	464	573	2257	0	0	959	922
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.26	0.26	0.26	1.00	1.00	0.00	0.00	0.88	0.88
Uniform Delay (d), s/veh				37.0	37.0	37.0	15.7	9.3	0.0	0.0	12.4	12.4
Incr Delay (d2), s/veh				264.7	200.2	205.2	3.6	0.7	0.0	0.0	0.6	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				66.5	49.0	52.3	8.4	9.1	0.0	0.0	5.6	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				301.7	237.2	242.2	19.4	10.0	0.0	0.0	12.9	13.0
LnGrp LOS				F	F	F	B	A	A	A	B	B
Approach Vol, veh/h					2070			1413			505	
Approach Delay, s/veh					262.6			12.6			13.0	
Approach LOS					F			B			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.5	59.5		31.0		69.0						
Change Period (Y+Rc), s	4.5	5.5		5.0		5.5						
Max Green Setting (Gmax), s	5.0	53.5		26.0		53.5						
Max Q Clear Time (g_c+I1), s	7.0	9.9		28.0		16.6						
Green Ext Time (p_c), s	0.0	3.5		0.0		9.1						

Intersection Summary		
HCM 6th Ctrl Delay		142.4
HCM 6th LOS		F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	2042	128	0	0	0	0	946	299	95	296	0
Future Volume (veh/h)	55	2042	128	0	0	0	0	946	299	95	296	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	60	2220	139				0	1028	325	103	322	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	57	2251	144				0	1091	342	185	1820	
Arrive On Green	0.12	0.12	0.12				0.00	0.41	0.41	0.05	0.51	0.00
Sat Flow, veh/h	159	6312	405				0	2756	835	1781	3647	0
Grp Volume(v), veh/h	701	1101	617				0	683	670	103	322	0
Grp Sat Flow(s),veh/h/ln	1862	1609	1797				0	1777	1720	1781	1777	0
Q Serve(g_s), s	32.1	30.6	30.7				0.0	33.2	33.9	2.9	4.4	0.0
Cycle Q Clear(g_c), s	32.1	30.6	30.7				0.0	33.2	33.9	2.9	4.4	0.0
Prop In Lane	0.09		0.23				0.00		0.49	1.00		0.00
Lane Grp Cap(c), veh/h	664	1147	641				0	728	705	185	1820	
V/C Ratio(X)	1.06	0.96	0.96				0.00	0.94	0.95	0.56	0.18	
Avail Cap(c_a), veh/h	664	1147	641				0	728	705	240	1820	
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.7	39.1	39.1				0.0	25.5	25.7	21.0	11.8	0.0
Incr Delay (d2), s/veh	50.3	18.5	27.4				0.0	21.3	23.7	2.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	34.7	22.6	26.8				0.0	24.4	24.5	2.2	3.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.0	57.6	66.5				0.0	46.8	49.3	23.6	12.0	0.0
LnGrp LOS	F	E	E				A	D	D	C	B	
Approach Vol, veh/h		2419						1353			425	A
Approach Delay, s/veh		69.3						48.0			14.8	
Approach LOS		E						D			B	

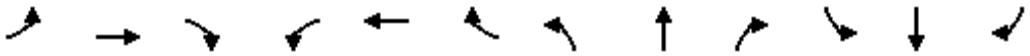
Timer - Assigned Phs				4		6	7	8				
Phs Duration (G+Y+Rc), s				52.0		38.0	9.2	42.8				
Change Period (Y+Rc), s				* 5.9		5.9	4.6	* 5.9				
Max Green Setting (Gmax), s				* 46		32.1	7.4	* 34				
Max Q Clear Time (g_c+I1), s				6.4		34.1	4.9	35.9				
Green Ext Time (p_c), s				2.3		0.0	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			56.9									
HCM 6th LOS			E									

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



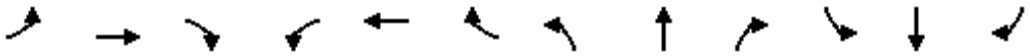
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1	0	1	457	994	0	1	626	42
Future Volume (veh/h)	0	0	0	1	0	1	457	994	0	1	626	42
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h				1	0	1	497	1080	0	1	680	46
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	2	2	2
Cap, veh/h				2	0	2	657	1297	0	313	2319	157
Arrive On Green				0.00	0.00	0.00	0.19	0.69	0.00	0.18	0.69	0.69
Sat Flow, veh/h				839	0	839	3456	1870	0	1781	3378	228
Grp Volume(v), veh/h				2	0	0	497	1080	0	1	357	369
Grp Sat Flow(s),veh/h/ln				1677	0	0	1728	1870	0	1781	1777	1829
Q Serve(g_s), s				0.1	0.0	0.0	16.5	50.7	0.0	0.1	9.6	9.6
Cycle Q Clear(g_c), s				0.1	0.0	0.0	16.5	50.7	0.0	0.1	9.6	9.6
Prop In Lane				0.50		0.50	1.00		0.00	1.00		0.12
Lane Grp Cap(c), veh/h				5	0	0	657	1297	0	313	1220	1256
V/C Ratio(X)				0.44	0.00	0.00	0.76	0.83	0.00	0.00	0.29	0.29
Avail Cap(c_a), veh/h				250	0	0	668	1297	0	313	1220	1256
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.09	0.09	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh				60.2	0.0	0.0	46.4	13.5	0.0	41.1	7.4	7.4
Incr Delay (d2), s/veh				56.2	0.0	0.0	0.5	0.6	0.0	0.0	0.6	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				0.2	0.0	0.0	8.4	21.3	0.0	0.0	6.5	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				116.5	0.0	0.0	46.8	14.1	0.0	41.1	8.1	8.0
LnGrp LOS				F	A	A	D	B	A	D	A	A
Approach Vol, veh/h					2			1577			727	
Approach Delay, s/veh					116.5			24.4			8.1	
Approach LOS					F			C			A	

Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	27.6	88.6		26.8	89.4		4.8					
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5	* 5.5		4.5					
Max Green Setting (Gmax), s	23.4	* 56		* 5	* 84		18.0					
Max Q Clear Time (g_c+I1), s	18.5	11.6		2.1	52.7		2.1					
Green Ext Time (p_c), s	0.9	5.3		0.0	11.8		0.0					

Intersection Summary		
HCM 6th Ctrl Delay	19.3	
HCM 6th LOS	B	

Notes

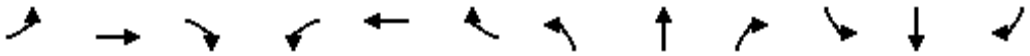
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	1028	253	274	0	439	0	935	241	34	394	0
Future Volume (veh/h)	169	1028	253	274	0	439	0	935	241	34	394	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	184	1117	275	298	0	477	0	1016	262	37	428	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	128	818	414	0	0	0	0	1570	403	305	2290	0
Arrive On Green	0.26	0.26	0.26	0.00	0.00	0.00	0.00	0.75	0.75	0.03	0.64	0.00
Sat Flow, veh/h	489	3134	1585		0		0	2893	719	1781	3647	0
Grp Volume(v), veh/h	695	606	275		0.0		0	643	635	37	428	0
Grp Sat Flow(s),veh/h/ln	1846	1777	1585				0	1777	1741	1781	1777	0
Q Serve(g_s), s	23.5	23.5	14.0				0.0	16.0	16.2	0.7	4.4	0.0
Cycle Q Clear(g_c), s	23.5	23.5	14.0				0.0	16.0	16.2	0.7	4.4	0.0
Prop In Lane	0.26		1.00				0.00		0.41	1.00		0.00
Lane Grp Cap(c), veh/h	482	464	414				0	997	977	305	2290	0
V/C Ratio(X)	1.44	1.31	0.66				0.00	0.65	0.65	0.12	0.19	0.00
Avail Cap(c_a), veh/h	482	464	414				0	997	977	344	2290	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.33	0.33	0.97	0.97	0.00
Uniform Delay (d), s/veh	33.3	33.3	29.7				0.0	7.0	7.1	8.8	6.5	0.0
Incr Delay (d2), s/veh	210.5	152.6	4.0				0.0	1.1	1.1	0.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	58.3	44.2	9.5				0.0	6.0	6.0	0.5	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	243.8	185.8	33.7				0.0	8.1	8.2	8.9	6.6	0.0
LnGrp LOS	F	F	C				A	A	A	A	A	A
Approach Vol, veh/h		1576						1278			465	
Approach Delay, s/veh		184.8						8.2			6.8	
Approach LOS		F						A			A	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	7.5	54.5		28.0		62.0						
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0						
Max Green Setting (Gmax), s	5.0	25.0		23.5		34.5						
Max Q Clear Time (g_c+I1), s	2.7	18.2		25.5		6.4						
Green Ext Time (p_c), s	0.0	4.4		0.0		3.0						

Intersection Summary			
HCM 6th Ctrl Delay		91.9	
HCM 6th LOS		F	



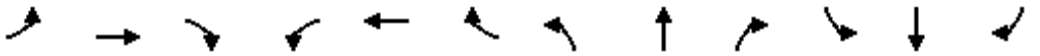
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	1094	85	121	814	77	69	1013	169	106	701	83
Future Volume (veh/h)	112	1094	85	121	814	77	69	1013	169	106	701	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	122	1189	92	132	885	84	75	1101	184	115	762	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	278	1634	126	169	1603	152	118	1223	204	69	675	101
Arrive On Green	0.49	0.49	0.49	0.65	0.65	0.65	0.40	0.40	0.40	0.27	0.27	0.27
Sat Flow, veh/h	580	3342	258	432	3280	311	647	3048	508	43	1683	252
Grp Volume(v), veh/h	122	631	650	132	479	490	75	641	644	376	0	591
Grp Sat Flow(s),veh/h/ln	580	1777	1824	432	1777	1814	647	1777	1779	322	0	1657
Q Serve(g_s), s	15.8	25.4	25.5	18.5	13.2	13.2	5.3	30.4	30.6	5.5	0.0	30.8
Cycle Q Clear(g_c), s	29.0	25.4	25.5	44.0	13.2	13.2	36.1	30.4	30.6	36.1	0.0	30.8
Prop In Lane	1.00		0.14	1.00		0.17	1.00		0.29	0.31		0.15
Lane Grp Cap(c), veh/h	278	869	892	169	869	887	118	713	714	181	0	664
V/C Ratio(X)	0.44	0.73	0.73	0.78	0.55	0.55	0.64	0.90	0.90	2.08	0.00	0.89
Avail Cap(c_a), veh/h	278	869	892	169	869	887	118	713	714	181	0	664
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	0.39	0.39	0.39	1.00	1.00	1.00	0.85	0.00	0.85
Uniform Delay (d), s/veh	24.7	18.2	18.3	31.5	10.4	10.4	43.7	25.2	25.3	36.3	0.0	31.0
Incr Delay (d2), s/veh	5.0	5.3	5.2	13.1	1.0	1.0	23.3	16.5	16.9	500.0	0.0	14.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	16.4	16.7	5.3	6.3	6.4	4.4	21.8	22.0	50.5	0.0	21.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.7	23.5	23.5	44.6	11.4	11.3	67.0	41.7	42.3	536.3	0.0	45.3
LnGrp LOS	C	C	C	D	B	B	E	D	D	F	A	D
Approach Vol, veh/h		1403			1101			1360			967	
Approach Delay, s/veh		24.0			15.3			43.4			236.4	
Approach LOS		C			B			D			F	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.0		49.0		41.0		49.0				
Change Period (Y+Rc), s		* 4.9		5.0		* 4.9		5.0				
Max Green Setting (Gmax), s		* 36		44.0		* 36		44.0				
Max Q Clear Time (g_c+I1), s		38.1		46.0		38.1		31.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		7.9				

Intersection Summary												
HCM 6th Ctrl Delay			70.0									
HCM 6th LOS			E									

Notes

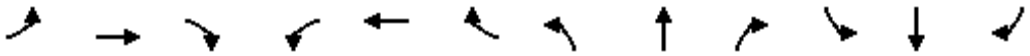
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	455	940	122	0	395	51	44	1346	76	52	1321	100
Future Volume (vph)	455	940	122	0	395	51	44	1346	76	52	1321	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8			5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3478			3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.43	1.00			1.00	1.00	0.12	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	806	3478			3539	1583	226	3539	1583	226	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	495	1022	133	0	429	55	48	1463	83	57	1436	109
RTOR Reduction (vph)	0	2	0	0	0	40	0	0	53	0	0	89
Lane Group Flow (vph)	495	1153	0	0	429	15	48	1463	30	57	1436	20
Turn Type	custom	NA			NA	Perm	Perm	NA	Perm	Perm	NA	custom
Protected Phases	8	6 8			2			7			7	
Permitted Phases	6					2	7		7	7		8
Actuated Green, G (s)	40.2	46.0			25.2	25.2	33.0	33.0	33.0	33.0	33.0	15.0
Effective Green, g (s)	40.2	46.0			25.2	25.2	33.0	33.0	33.0	33.0	33.0	15.0
Actuated g/C Ratio	0.45	0.51			0.28	0.28	0.37	0.37	0.37	0.37	0.37	0.17
Clearance Time (s)	5.0				5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Vehicle Extension (s)	3.0				5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.0
Lane Grp Cap (vph)	520	1777			990	443	82	1297	580	82	1297	263
v/s Ratio Prot	c0.16	0.33			0.12			c0.41			0.41	
v/s Ratio Perm	c0.27					0.01	0.21		0.02	0.25		0.01
v/c Ratio	0.95	0.65			0.43	0.03	0.59	1.13	0.05	0.70	1.11	0.08
Uniform Delay, d1	24.8	16.1			26.5	23.6	23.0	28.5	18.4	24.2	28.5	31.6
Progression Factor	1.48	1.64			1.00	1.00	0.57	0.62	0.21	1.00	1.00	1.00
Incremental Delay, d2	25.5	0.7			1.4	0.1	17.0	64.2	0.1	39.0	59.8	0.1
Delay (s)	62.2	27.1			27.9	23.7	30.2	81.9	4.0	63.2	88.3	31.8
Level of Service	E	C			C	C	C	F	A	E	F	C
Approach Delay (s)		37.6			27.5			76.3			83.6	
Approach LOS		D			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	62.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	296	145	50	148	63	105	1335	102	54	1019	109
Future Volume (veh/h)	176	296	145	50	148	63	105	1335	102	54	1019	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	191	322	0	54	161	68	114	1451	111	59	1108	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	307	424		223	376	159	246	1949	148	166	1887	201
Arrive On Green	0.23	0.23	0.00	0.04	0.30	0.30	0.58	0.58	0.58	0.58	0.58	0.58
Sat Flow, veh/h	1152	1870	0	1781	1248	527	455	3347	255	330	3240	345
Grp Volume(v), veh/h	191	322	0	54	0	229	114	767	795	59	607	619
Grp Sat Flow(s),veh/h/ln	1152	1870	0	1781	0	1775	455	1777	1824	330	1777	1808
Q Serve(g_s), s	14.4	14.5	0.0	2.0	0.0	9.3	19.1	28.6	29.0	14.5	19.5	19.6
Cycle Q Clear(g_c), s	17.0	14.5	0.0	2.0	0.0	9.3	38.7	28.6	29.0	43.5	19.5	19.6
Prop In Lane	1.00		0.00	1.00		0.30	1.00		0.14	1.00		0.19
Lane Grp Cap(c), veh/h	307	424		223	0	534	246	1035	1062	166	1035	1053
V/C Ratio(X)	0.62	0.76		0.24	0.00	0.43	0.46	0.74	0.75	0.36	0.59	0.59
Avail Cap(c_a), veh/h	366	520		248	0	651	246	1035	1062	166	1035	1053
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)	0.62	0.62	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	34.7	32.5	0.0	25.0	0.0	25.2	24.2	13.8	13.9	30.0	11.9	11.9
Incr Delay (d2), s/veh	1.5	3.3	0.0	0.6	0.0	0.5	6.2	4.8	4.8	0.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.7	10.2	0.0	1.5	0.0	7.0	4.3	17.1	17.7	1.7	8.3	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	35.8	0.0	25.5	0.0	25.8	30.4	18.6	18.7	30.6	12.1	12.2
LnGrp LOS	D	D		C	A	C	C	B	B	C	B	B
Approach Vol, veh/h		513	A		283			1676			1285	
Approach Delay, s/veh		35.9			25.7			19.5			13.0	
Approach LOS		D			C			B			B	

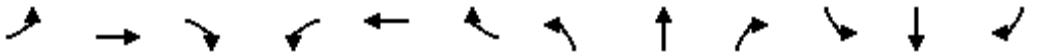
Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		58.4		31.6		58.4	6.7	24.9				
Change Period (Y+Rc), s		6.0		* 4.5		6.0	3.0	* 4.5				
Max Green Setting (Gmax), s		46.5		* 33		46.5	5.0	* 25				
Max Q Clear Time (g_c+I1), s		45.5		11.3		40.7	4.0	19.0				
Green Ext Time (p_c), s		0.7		1.3		4.7	0.0	1.4				

Intersection Summary		
HCM 6th Ctrl Delay	20.0	
HCM 6th LOS	B	

Notes

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

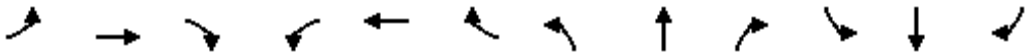
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	313	1059	155	336	1465	0	0	1069	187
Future Volume (veh/h)	0	0	0	313	1059	155	336	1465	0	0	1069	187
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				340	1151	168	365	1592	0	0	1162	203
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				350	1275	190	346	1878	0	0	1168	521
Arrive On Green				0.34	0.34	0.34	0.09	0.35	0.00	0.00	0.33	0.33
Sat Flow, veh/h				1021	3718	554	1781	3647	0	0	3647	1585
Grp Volume(v), veh/h				606	516	537	365	1592	0	0	1162	203
Grp Sat Flow(s),veh/h/ln				1819	1702	1771	1781	1777	0	0	1777	1585
Q Serve(g_s), s				23.0	20.0	20.0	9.5	28.9	0.0	0.0	22.8	6.9
Cycle Q Clear(g_c), s				23.0	20.0	20.0	9.5	28.9	0.0	0.0	22.8	6.9
Prop In Lane				0.56		0.31	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				624	584	607	346	1878	0	0	1168	521
V/C Ratio(X)				0.97	0.88	0.88	1.06	0.85	0.00	0.00	1.00	0.39
Avail Cap(c_a), veh/h				624	584	607	346	1878	0	0	1168	521
HCM Platoon Ratio				1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.20	0.20	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				22.7	21.7	21.7	19.7	20.0	0.0	0.0	23.4	18.1
Incr Delay (d2), s/veh				29.7	17.6	17.1	38.3	1.0	0.0	0.0	25.2	2.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				20.3	15.4	15.8	9.8	14.9	0.0	0.0	18.7	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				52.4	39.3	38.8	58.0	21.1	0.0	0.0	48.7	20.3
LnGrp LOS				D	D	D	F	C	A	A	D	C
Approach Vol, veh/h					1659			1957			1365	
Approach Delay, s/veh					43.9			27.9			44.4	
Approach LOS					D			C			D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	14.0	27.5		28.5		41.5						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	9.5	23.0		24.0		37.0						
Max Q Clear Time (g_c+I1), s	11.5	24.8		25.0		30.9						
Green Ext Time (p_c), s	0.0	0.0		0.0		4.8						

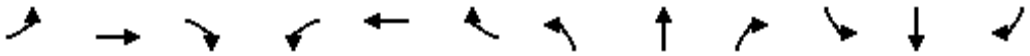
Intersection Summary		
HCM 6th Ctrl Delay		37.8
HCM 6th LOS		D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	292	1830	260	0	0	0	0	1377	187	197	1208	0
Future Volume (veh/h)	292	1830	260	0	0	0	0	1377	187	197	1208	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	317	1989	283				0	1497	203	214	1313	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	245	1664	577				0	1620	217	121	1828	0
Arrive On Green	0.36	0.36	0.36				0.00	0.51	0.51	0.51	0.51	0.00
Sat Flow, veh/h	674	4567	1585				0	3243	422	288	3647	0
Grp Volume(v), veh/h	864	1442	283				0	836	864	214	1313	0
Grp Sat Flow(s),veh/h/ln	1837	1702	1585				0	1777	1794	288	1777	0
Q Serve(g_s), s	25.5	25.5	9.7				0.0	30.2	31.6	4.4	19.9	0.0
Cycle Q Clear(g_c), s	25.5	25.5	9.7				0.0	30.2	31.6	36.0	19.9	0.0
Prop In Lane	0.37		1.00				0.00		0.23	1.00		0.00
Lane Grp Cap(c), veh/h	669	1240	577				0	914	923	121	1828	0
V/C Ratio(X)	1.29	1.16	0.49				0.00	0.91	0.94	1.77	0.72	0.00
Avail Cap(c_a), veh/h	669	1240	577				0	914	923	121	1828	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.09	0.09	0.00
Uniform Delay (d), s/veh	22.3	22.3	17.2				0.0	15.6	15.9	34.7	13.1	0.0
Incr Delay (d2), s/veh	142.2	82.4	0.6				0.0	15.2	17.7	348.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	54.1	34.5	6.1				0.0	20.4	21.9	21.4	8.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	164.5	104.7	17.9				0.0	30.8	33.6	382.8	13.3	0.0
LnGrp LOS	F	F	B				A	C	C	F	B	A
Approach Vol, veh/h		2589						1700			1527	
Approach Delay, s/veh		115.1						32.2			65.1	
Approach LOS		F						C			E	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		40.0				40.0		30.0				
Change Period (Y+Rc), s		4.0				4.0		4.5				
Max Green Setting (Gmax), s		36.0				36.0		25.5				
Max Q Clear Time (g_c+I1), s		38.0				33.6		27.5				
Green Ext Time (p_c), s		0.0				2.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			77.8									
HCM 6th LOS			E									



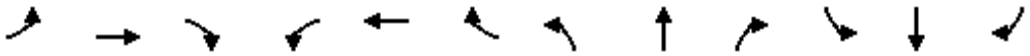
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	985	135	175	410	162	125	1167	204	233	919	91
Future Volume (veh/h)	154	985	135	175	410	162	125	1167	204	233	919	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	1071	147	190	446	176	136	1268	222	253	999	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	1186	163	105	943	369	488	2169	377	255	2002	198
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.05	0.72	0.72	1.00	1.00	1.00
Sat Flow, veh/h	802	3139	430	458	2495	976	1781	3027	526	353	3265	324
Grp Volume(v), veh/h	167	605	613	190	316	306	136	740	750	253	543	555
Grp Sat Flow(s),veh/h/ln	802	1777	1793	458	1777	1695	1781	1777	1776	353	1777	1812
Q Serve(g_s), s	18.0	28.9	29.1	4.9	12.1	12.3	2.3	18.2	18.7	44.6	0.0	0.0
Cycle Q Clear(g_c), s	30.3	28.9	29.1	34.0	12.1	12.3	2.3	18.2	18.7	55.2	0.0	0.0
Prop In Lane	1.00		0.24	1.00		0.58	1.00		0.30	1.00		0.18
Lane Grp Cap(c), veh/h	273	671	677	105	671	640	488	1273	1273	255	1089	1111
V/C Ratio(X)	0.61	0.90	0.90	1.81	0.47	0.48	0.28	0.58	0.59	0.99	0.50	0.50
Avail Cap(c_a), veh/h	273	671	677	105	671	640	501	1273	1273	255	1089	1111
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	26.4	26.5	44.4	21.2	21.3	4.8	6.2	6.3	12.1	0.0	0.0
Incr Delay (d2), s/veh	0.9	2.1	2.2	398.1	2.4	2.5	0.3	1.9	2.0	54.2	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.4	13.7	13.9	25.1	9.1	8.9	1.4	10.0	10.2	13.9	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.7	28.5	28.6	442.5	23.6	23.8	5.1	8.1	8.3	66.4	1.6	1.6
LnGrp LOS	C	C	C	F	C	C	A	A	A	E	A	A
Approach Vol, veh/h		1385			812			1626			1351	
Approach Delay, s/veh		29.2			121.7			7.9			13.7	
Approach LOS		C			F			A			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.3	59.7		38.5		69.0		38.5				
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0		* 4.5				
Max Green Setting (Gmax), s	5.5	38.0		33.5		48.0		* 34				
Max Q Clear Time (g_c+I1), s	4.3	57.2		36.0		20.7		32.3				
Green Ext Time (p_c), s	0.0	0.0		0.0		13.3		1.3				

Intersection Summary			
HCM 6th Ctrl Delay		33.0	
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)	155	1109	133	139	687	250	136	1059	182	171	1032	129
Future Volume (veh/h)	155	1109	133	139	687	250	136	1059	182	171	1032	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	1205	145	151	747	272	148	1151	198	186	1122	140
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	1161	139	80	927	337	182	1038	178	256	1601	199
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.34	0.34	0.34	0.10	0.50	0.50
Sat Flow, veh/h	553	3195	383	404	2551	929	439	3034	520	1781	3180	396
Grp Volume(v), veh/h	168	668	682	151	520	499	148	672	677	186	626	636
Grp Sat Flow(s),veh/h/ln	553	1777	1801	404	1777	1703	439	1777	1777	1781	1777	1799
Q Serve(g_s), s	9.0	32.7	32.7	0.0	23.7	23.7	20.9	30.8	30.8	5.6	24.3	24.4
Cycle Q Clear(g_c), s	32.7	32.7	32.7	32.7	23.7	23.7	30.8	30.8	30.8	5.6	24.3	24.4
Prop In Lane	1.00		0.21	1.00		0.55	1.00		0.29	1.00		0.22
Lane Grp Cap(c), veh/h	135	646	654	80	646	619	182	608	608	256	894	906
V/C Ratio(X)	1.24	1.04	1.04	1.89	0.81	0.81	0.81	1.11	1.11	0.73	0.70	0.70
Avail Cap(c_a), veh/h	135	646	654	80	646	619	182	608	608	258	894	906
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)	0.58	0.58	0.58	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	28.6	28.7	45.0	25.8	25.8	37.8	29.6	29.6	20.4	17.1	17.2
Incr Delay (d2), s/veh	140.2	36.6	38.2	442.6	10.3	10.8	31.5	68.9	71.9	9.7	4.5	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.4	26.0	26.7	20.9	17.0	16.5	8.5	34.4	35.2	5.2	15.6	15.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	183.3	65.2	66.8	487.6	36.1	36.6	69.3	98.5	101.5	30.1	21.7	21.7
LnGrp LOS	F	F	F	F	D	D	E	F	F	C	C	C
Approach Vol, veh/h		1518			1170			1497			1448	
Approach Delay, s/veh		79.0			94.6			97.0			22.8	
Approach LOS		E			F			F			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		51.0		39.0	14.5	36.5		39.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 45		* 33	9.0	* 31		* 33				
Max Q Clear Time (g_c+I1), s		26.4		34.7	7.6	32.8		34.7				
Green Ext Time (p_c), s		8.7		0.0	0.1	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	72.6	
HCM 6th LOS	E	

Notes

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

Intersection	
Int Delay, s/veh	0.4

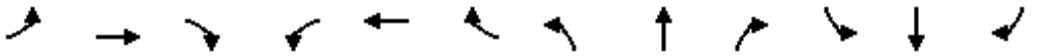
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Traffic Vol, veh/h	38	1787	16	0	648	0	22	12	0	0
Future Vol, veh/h	38	1787	16	0	648	0	22	12	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	-	-	-	0	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	1942	17	0	704	0	24	13	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	704	0	0	-	-	0	2385	980
Stage 1	-	-	-	-	-	-	2033	-
Stage 2	-	-	-	-	-	-	352	-
Critical Hdwy	4.14	-	-	-	-	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.67	3.92
Pot Cap-1 Maneuver	890	-	-	0	-	0	*41	*490
Stage 1	-	-	-	0	-	0	*524	-
Stage 2	-	-	-	0	-	0	*660	-
Platoon blocked, %		-	-		-			1
Mov Cap-1 Maneuver	890	-	-	-	-	-	*41	*490
Mov Cap-2 Maneuver	-	-	-	-	-	-	*278	-
Stage 1	-	-	-	-	-	-	*524	-
Stage 2	-	-	-	-	-	-	*660	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	16.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT
Capacity (veh/h)	278	490	890	-	-	-
HCM Lane V/C Ratio	0.086	0.027	0.046	-	-	-
HCM Control Delay (s)	19.2	12.5	9.2	0	-	-
HCM Lane LOS	C	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0.1	0.1	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1943	51	0	1169	82	46	16	199	103	0	32
Future Volume (veh/h)	0	1943	51	0	1169	82	46	16	199	103	0	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	2112	55	0	1271	0	50	17	216	112	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	3275	85	0	2274		96	40	286	221	9	50
Arrive On Green	0.00	0.64	0.64	0.00	0.64	0.00	0.22	0.22	0.22	0.22	0.00	0.22
Sat Flow, veh/h	0	5286	133	0	3741	0	219	180	1286	679	43	226
Grp Volume(v), veh/h	0	1403	764	0	1271	0	283	0	0	147	0	0
Grp Sat Flow(s),veh/h/ln	0	1702	1846	0	1777	0	1685	0	0	947	0	0
Q Serve(g_s), s	0.0	22.7	22.8	0.0	18.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	22.7	22.8	0.0	18.0	0.0	13.7	0.0	0.0	14.7	0.0	0.0
Prop In Lane	0.00		0.07	0.00		0.00	0.18		0.76	0.76		0.24
Lane Grp Cap(c), veh/h	0	2179	1182	0	2274		422	0	0	281	0	0
V/C Ratio(X)	0.00	0.64	0.65	0.00	0.56		0.67	0.00	0.00	0.52	0.00	0.00
Avail Cap(c_a), veh/h	0	2179	1182	0	2274		423	0	0	282	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.9	9.9	0.0	9.1	0.0	32.7	0.0	0.0	32.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	1.2	0.0	1.0	0.0	4.1	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	12.0	13.1	0.0	10.5	0.0	10.1	0.0	0.0	5.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.6	11.2	0.0	10.1	0.0	36.8	0.0	0.0	34.6	0.0	0.0
LnGrp LOS	A	B	B	A	B		D	A	A	C	A	A
Approach Vol, veh/h		2167			1271	A		283			147	
Approach Delay, s/veh		10.8			10.1			36.8			34.6	
Approach LOS		B			B			D			C	

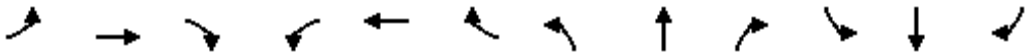
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	64.3	25.7	64.3	25.7
Change Period (Y+Rc), s	6.7	* 5.7	6.7	5.7
Max Green Setting (Gmax), s	32.5	* 20	32.5	20.1
Max Q Clear Time (g_c+I1), s	20.0	16.7	24.8	15.7
Green Ext Time (p_c), s	7.2	0.2	6.7	0.7

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

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

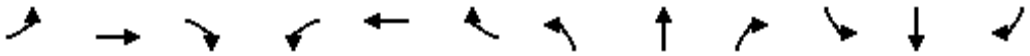
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	213	2712	276	82	257	0	0	550	63
Future Volume (veh/h)	0	0	0	213	2712	276	82	257	0	0	550	63
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				232	2948	300	89	279	0	0	598	68
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				188	2530	258	265	1269	0	0	1149	130
Arrive On Green				0.56	0.56	0.56	0.36	0.36	0.00	0.00	0.36	0.36
Sat Flow, veh/h				338	4541	464	770	3647	0	0	3310	365
Grp Volume(v), veh/h				1271	1052	1157	89	279	0	0	330	336
Grp Sat Flow(s),veh/h/ln				1853	1702	1787	770	1777	0	0	1777	1805
Q Serve(g_s), s				39.0	39.0	39.0	7.2	3.8	0.0	0.0	10.3	10.3
Cycle Q Clear(g_c), s				39.0	39.0	39.0	17.5	3.8	0.0	0.0	10.3	10.3
Prop In Lane				0.18		0.26	1.00		0.00	0.00		0.20
Lane Grp Cap(c), veh/h				1033	948	996	265	1269	0	0	635	645
V/C Ratio(X)				1.23	1.11	1.16	0.34	0.22	0.00	0.00	0.52	0.52
Avail Cap(c_a), veh/h				1033	948	996	265	1269	0	0	635	645
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.09	0.09	0.09	0.94	0.94	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				15.5	15.5	15.5	24.7	15.7	0.0	0.0	17.8	17.8
Incr Delay (d2), s/veh				104.7	51.1	73.9	3.2	0.4	0.0	0.0	3.0	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
%ile BackOfQ(95%),veh/ln				55.5	31.0	41.3	2.7	2.7	0.0	0.0	7.9	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				120.2	66.6	89.4	27.9	16.1	0.0	0.0	20.8	20.8
LnGrp LOS				F	F	F	C	B	A	A	C	C
Approach Vol, veh/h					3480			368			666	
Approach Delay, s/veh					93.8			18.9			20.8	
Approach LOS					F			B			C	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	42.0	28.0	28.0
Change Period (Y+Rc), s	3.0	3.0	3.0
Max Green Setting (Gmax), s	39.0	25.0	25.0
Max Q Clear Time (g_c+I1), s	41.0	19.5	12.3
Green Ext Time (p_c), s	0.0	1.1	3.4

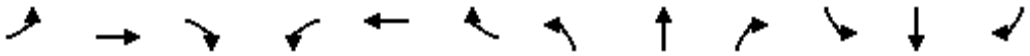
Intersection Summary	
HCM 6th Ctrl Delay	76.9
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	919	128	0	0	0	0	376	107	55	719	0
Future Volume (veh/h)	57	919	128	0	0	0	0	376	107	55	719	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	62	999	139				0	409	116	60	782	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	84	1403	206				0	1154	324	330	1496	0
Arrive On Green	0.46	0.46	0.46				0.00	0.14	0.14	0.42	0.42	0.00
Sat Flow, veh/h	181	3027	444				0	2833	769	878	3647	0
Grp Volume(v), veh/h	639	0	561				0	264	261	60	782	0
Grp Sat Flow(s),veh/h/ln	1861	0	1790				0	1777	1732	878	1777	0
Q Serve(g_s), s	25.3	0.0	22.0				0.0	12.1	12.3	4.7	14.7	0.0
Cycle Q Clear(g_c), s	25.3	0.0	22.0				0.0	12.1	12.3	17.0	14.7	0.0
Prop In Lane	0.10		0.25				0.00		0.44	1.00		0.00
Lane Grp Cap(c), veh/h	862	0	830				0	748	729	330	1496	0
V/C Ratio(X)	0.74	0.00	0.68				0.00	0.35	0.36	0.18	0.52	0.00
Avail Cap(c_a), veh/h	862	0	830				0	748	729	330	1496	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.98	0.98	0.83	0.83	0.00
Uniform Delay (d), s/veh	19.7	0.0	18.9				0.0	27.6	27.7	24.7	19.3	0.0
Incr Delay (d2), s/veh	5.7	0.0	4.4				0.0	1.3	1.3	1.0	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.2	0.0	14.7				0.0	9.9	9.9	1.9	9.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	0.0	23.3				0.0	28.9	29.1	25.7	20.4	0.0
LnGrp LOS	C	A	C				A	C	C	C	C	A
Approach Vol, veh/h		1200						525			842	
Approach Delay, s/veh		24.4						29.0			20.8	
Approach LOS		C						C			C	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		43.0				43.0		47.0				
Change Period (Y+Rc), s		5.1				5.1		5.3				
Max Green Setting (Gmax), s		37.9				37.9		41.7				
Max Q Clear Time (g_c+I1), s		19.0				14.3		27.3				
Green Ext Time (p_c), s		5.7				3.3		7.1				

Intersection Summary												
HCM 6th Ctrl Delay			24.2									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	40	601	46	73	405	0	1	736	112
Future Volume (veh/h)	0	0	0	40	601	46	73	405	0	1	736	112
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h				43	653	50	79	440	0	1	800	122
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	2	2	2
Cap, veh/h				76	1213	562	259	1899	0	40	1618	246
Arrive On Green				0.35	0.35	0.35	0.53	0.53	0.00	0.18	0.18	0.18
Sat Flow, veh/h				215	3422	1585	606	3647	0	0	3027	461
Grp Volume(v), veh/h				372	324	50	79	440	0	495	0	428
Grp Sat Flow(s),veh/h/ln				1860	1777	1585	606	1777	0	1870	0	1619
Q Serve(g_s), s				14.5	12.9	1.9	9.5	5.9	0.0	0.0	0.0	21.5
Cycle Q Clear(g_c), s				14.5	12.9	1.9	31.0	5.9	0.0	21.5	0.0	21.5
Prop In Lane				0.12		1.00	1.00		0.00	0.00		0.28
Lane Grp Cap(c), veh/h				659	630	562	259	1899	0	1039	0	865
V/C Ratio(X)				0.56	0.51	0.09	0.30	0.23	0.00	0.48	0.00	0.50
Avail Cap(c_a), veh/h				659	630	562	259	1899	0	1039	0	865
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.84	0.00	0.84
Uniform Delay (d), s/veh				23.4	22.9	19.4	25.7	11.1	0.0	26.1	0.0	26.1
Incr Delay (d2), s/veh				3.5	3.0	0.3	3.0	0.3	0.0	1.3	0.0	1.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				11.1	9.7	1.3	2.8	4.1	0.0	16.0	0.0	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				26.9	25.9	19.7	28.7	11.4	0.0	27.4	0.0	27.8
LnGrp LOS				C	C	B	C	B	A	C	A	C
Approach Vol, veh/h					746			519			923	
Approach Delay, s/veh					26.0			14.0			27.6	
Approach LOS					C			B			C	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	37.0	53.0	53.0
Change Period (Y+Rc), s	5.1	* 4.9	* 4.9
Max Green Setting (Gmax), s	31.9	* 48	* 48
Max Q Clear Time (g_c+I1), s	16.5	23.5	33.0
Green Ext Time (p_c), s	4.0	6.6	3.2

Intersection Summary	
HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Notes

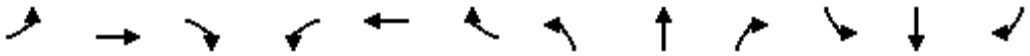
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	319	220	140	312	229	130
Future Volume (vph)	319	220	140	312	229	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.94		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3323		1770	3539	1770	1583
Flt Permitted	1.00		0.43	1.00	0.95	1.00
Satd. Flow (perm)	3323		798	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	347	239	152	339	249	141
RTOR Reduction (vph)	68	0	0	0	0	114
Lane Group Flow (vph)	518	0	152	339	249	27
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	6			2	8	
Permitted Phases			2			8
Actuated Green, G (s)	62.5		62.5	62.5	17.2	17.2
Effective Green, g (s)	62.5		62.5	62.5	17.2	17.2
Actuated g/C Ratio	0.69		0.69	0.69	0.19	0.19
Clearance Time (s)	5.3		5.3	5.3	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2307		554	2457	338	302
v/s Ratio Prot	0.16			0.10	c0.14	
v/s Ratio Perm			c0.19			0.02
v/c Ratio	0.22		0.27	0.14	0.74	0.09
Uniform Delay, d1	5.0		5.2	4.6	34.3	30.0
Progression Factor	1.00		2.52	2.23	1.00	1.00
Incremental Delay, d2	0.2		0.1	0.0	8.1	0.1
Delay (s)	5.2		13.2	10.4	42.4	30.1
Level of Service	A		B	B	D	C
Approach Delay (s)	5.2			11.2	37.9	
Approach LOS	A			B	D	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		

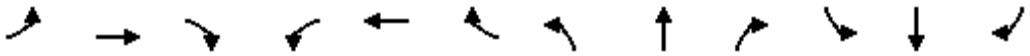
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	202	84	61	297	32	89	267	43	19	327	39
Future Volume (veh/h)	13	202	84	61	297	32	89	267	43	19	327	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	220	91	66	323	35	97	290	47	21	355	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	610	243	149	684	70	307	708	600	379	621	74
Arrive On Green	0.49	0.49	0.49	0.99	0.99	0.99	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	28	1239	492	181	1387	141	987	1870	1585	1043	1641	194
Grp Volume(v), veh/h	325	0	0	424	0	0	97	290	47	21	0	397
Grp Sat Flow(s),veh/h/ln	1759	0	0	1709	0	0	987	1870	1585	1043	0	1835
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	6.0	8.0	1.3	1.1	0.0	12.0
Cycle Q Clear(g_c), s	7.9	0.0	0.0	0.4	0.0	0.0	18.1	8.0	1.3	9.0	0.0	12.0
Prop In Lane	0.04		0.28	0.16		0.08	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	920	0	0	902	0	0	307	708	600	379	0	695
V/C Ratio(X)	0.35	0.00	0.00	0.47	0.00	0.00	0.32	0.41	0.08	0.06	0.00	0.57
Avail Cap(c_a), veh/h	920	0	0	902	0	0	307	708	600	379	0	695
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.53	0.00	0.00	0.97	0.97	0.97	0.97	0.00	0.97
Uniform Delay (d), s/veh	11.0	0.0	0.0	0.3	0.0	0.0	24.4	16.0	13.9	19.3	0.0	17.2
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.9	0.0	0.0	2.6	1.7	0.2	0.3	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.5	0.0	0.0	0.6	0.0	0.0	2.8	6.3	0.9	0.5	0.0	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.1	0.0	0.0	1.2	0.0	0.0	27.0	17.7	14.2	19.6	0.0	20.5
LnGrp LOS	B	A	A	A	A	A	C	B	B	B	A	C
Approach Vol, veh/h		325			424			434			418	
Approach Delay, s/veh		12.1			1.2			19.4			20.5	
Approach LOS		B			A			B			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		31.0		39.0		31.0		39.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		26.5		34.5		26.5		34.5				
Max Q Clear Time (g_c+I1), s		14.0		2.4		20.1		9.9				
Green Ext Time (p_c), s		2.0		3.1		1.3		2.1				

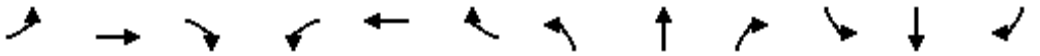
Intersection Summary												
HCM 6th Ctrl Delay			13.4									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	269	3035	105	208	387	0	0	569	143
Future Volume (veh/h)	0	0	0	269	3035	105	208	387	0	0	569	143
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				292	3299	114	226	421	0	0	618	155
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	0	2	2
Cap, veh/h				175	2110	75	290	1533	0	0	862	216
Arrive On Green				0.44	0.44	0.44	0.07	0.43	0.00	0.00	0.31	0.31
Sat Flow, veh/h				399	4822	170	1781	3647	0	0	2909	705
Grp Volume(v), veh/h				1353	1121	1231	226	421	0	0	390	383
Grp Sat Flow(s),veh/h/ln				1850	1702	1840	1781	1777	0	0	1777	1743
Q Serve(g_s), s				35.0	35.0	35.0	5.5	6.1	0.0	0.0	15.6	15.6
Cycle Q Clear(g_c), s				35.0	35.0	35.0	5.5	6.1	0.0	0.0	15.6	15.6
Prop In Lane				0.22		0.09	1.00		0.00	0.00		0.40
Lane Grp Cap(c), veh/h				810	745	805	290	1533	0	0	544	534
V/C Ratio(X)				1.67	1.50	1.53	0.78	0.27	0.00	0.00	0.72	0.72
Avail Cap(c_a), veh/h				810	745	805	290	1533	0	0	544	534
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.09	0.09	0.09	1.00	1.00	0.00	0.00	0.80	0.80
Uniform Delay (d), s/veh				22.5	22.5	22.5	22.6	14.7	0.0	0.0	24.7	24.7
Incr Delay (d2), s/veh				302.7	227.8	239.0	12.8	0.4	0.0	0.0	6.4	6.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				117.5	83.2	93.8	6.7	4.4	0.0	0.0	11.1	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				325.2	250.3	261.5	35.5	15.1	0.0	0.0	31.0	31.2
LnGrp LOS				F	F	F	D	B	A	A	C	C
Approach Vol, veh/h					3705			647			773	
Approach Delay, s/veh					281.4			22.2			31.1	
Approach LOS					F			C			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	10.0	30.0		40.0		40.0						
Change Period (Y+Rc), s	4.5	5.5		5.0		5.5						
Max Green Setting (Gmax), s	5.5	24.5		35.0		34.5						
Max Q Clear Time (g_c+I1), s	7.5	17.6		37.0		8.1						
Green Ext Time (p_c), s	0.0	2.7		0.0		2.9						

Intersection Summary		
HCM 6th Ctrl Delay		210.9
HCM 6th LOS		F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	687	182	0	0	0	0	491	90	28	778	0
Future Volume (veh/h)	22	687	182	0	0	0	0	491	90	28	778	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	24	747	198				0	534	98	30	846	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	58	1927	511				0	1331	243	374	1831	
Arrive On Green	0.37	0.37	0.37				0.00	0.44	0.44	0.03	0.52	0.00
Sat Flow, veh/h	156	5175	1372				0	3094	548	1781	3647	0
Grp Volume(v), veh/h	286	449	234				0	315	317	30	846	0
Grp Sat Flow(s),veh/h/ln	1863	1609	1623				0	1777	1772	1781	1777	0
Q Serve(g_s), s	11.9	10.7	11.1				0.0	12.6	12.7	0.9	15.9	0.0
Cycle Q Clear(g_c), s	11.9	10.7	11.1				0.0	12.6	12.7	0.9	15.9	0.0
Prop In Lane	0.08		0.85				0.00		0.31	1.00		0.00
Lane Grp Cap(c), veh/h	694	1198	605				0	788	786	374	1831	
V/C Ratio(X)	0.41	0.37	0.39				0.00	0.40	0.40	0.08	0.46	
Avail Cap(c_a), veh/h	694	1198	605				0	788	786	501	1831	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.4	24.0	24.2				0.0	19.8	19.8	14.9	16.2	0.0
Incr Delay (d2), s/veh	1.8	0.9	1.9				0.0	1.5	1.5	0.1	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.4	7.5	8.0				0.0	9.3	9.3	0.7	10.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	24.9	26.0				0.0	21.3	21.3	15.0	17.0	0.0
LnGrp LOS	C	C	C				A	C	C	B	B	
Approach Vol, veh/h		969						632			876	A
Approach Delay, s/veh		25.6						21.3			17.0	
Approach LOS		C						C			B	

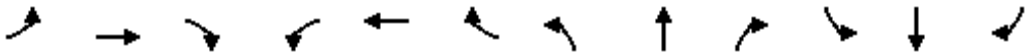
Timer - Assigned Phs				4		6	7	8				
Phs Duration (G+Y+Rc), s				60.0		45.0	7.5	52.5				
Change Period (Y+Rc), s				* 5.9		5.9	4.6	* 5.9				
Max Green Setting (Gmax), s				* 54		39.1	10.4	* 39				
Max Q Clear Time (g_c+I1), s				17.9		13.9	2.9	14.7				
Green Ext Time (p_c), s				7.1		6.9	0.0	4.1				

Intersection Summary												
HCM 6th Ctrl Delay			21.4									
HCM 6th LOS			C									

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



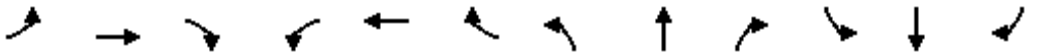
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	37	9	27	795	578	53	37	712	51
Future Volume (veh/h)	0	0	0	37	9	27	795	578	53	37	712	51
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h				40	10	29	864	628	58	40	774	55
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	2	2	2
Cap, veh/h				52	13	38	936	999	92	315	1710	121
Arrive On Green				0.06	0.06	0.06	0.27	0.59	0.59	0.18	0.51	0.51
Sat Flow, veh/h				868	217	629	3456	1687	156	1781	3365	239
Grp Volume(v), veh/h				79	0	0	864	0	686	40	409	420
Grp Sat Flow(s),veh/h/ln				1714	0	0	1728	0	1842	1781	1777	1827
Q Serve(g_s), s				4.1	0.0	0.0	22.1	0.0	22.0	1.7	13.4	13.4
Cycle Q Clear(g_c), s				4.1	0.0	0.0	22.1	0.0	22.0	1.7	13.4	13.4
Prop In Lane				0.51		0.37	1.00		0.08	1.00		0.13
Lane Grp Cap(c), veh/h				104	0	0	936	0	1091	315	903	929
V/C Ratio(X)				0.76	0.00	0.00	0.92	0.00	0.63	0.13	0.45	0.45
Avail Cap(c_a), veh/h				339	0	0	965	0	1091	315	903	929
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.55	0.00	0.55	1.00	1.00	1.00
Uniform Delay (d), s/veh				42.1	0.0	0.0	32.2	0.0	12.0	31.5	14.3	14.3
Incr Delay (d2), s/veh				10.9	0.0	0.0	8.5	0.0	1.5	0.2	1.6	1.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				3.7	0.0	0.0	13.9	0.0	12.1	1.3	9.3	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				53.0	0.0	0.0	40.7	0.0	13.6	31.7	15.9	15.9
LnGrp LOS				D	A	A	D	A	B	C	B	B
Approach Vol, veh/h					79			1550			869	
Approach Delay, s/veh					53.0			28.7			16.6	
Approach LOS					D			C			B	

Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	29.3	51.7		21.6	59.4		10.0					
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5	* 5.5		4.5					
Max Green Setting (Gmax), s	25.4	* 24		* 5	* 54		18.0					
Max Q Clear Time (g_c+I1), s	24.1	15.4		3.7	24.0		6.1					
Green Ext Time (p_c), s	0.5	3.4		0.0	5.5		0.2					

Intersection Summary		
HCM 6th Ctrl Delay		25.3
HCM 6th LOS		C

Notes

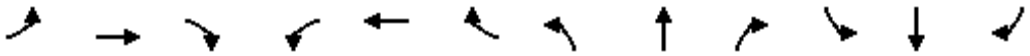
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	509	183	409	0	686	0	557	106	37	648	0
Future Volume (veh/h)	103	509	183	409	0	686	0	557	106	37	648	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	112	553	199	445	0	746	0	605	115	40	704	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	100	523	273	0	0	0	0	1932	366	551	2606	0
Arrive On Green	0.17	0.17	0.17	0.00	0.00	0.00	0.00	0.65	0.65	0.04	0.73	0.00
Sat Flow, veh/h	582	3036	1585		0		0	3074	565	1781	3647	0
Grp Volume(v), veh/h	354	311	199		0.0		0	360	360	40	704	0
Grp Sat Flow(s),veh/h/ln	1841	1777	1585				0	1777	1769	1781	1777	0
Q Serve(g_s), s	15.5	15.5	10.7				0.0	8.0	8.1	0.6	5.9	0.0
Cycle Q Clear(g_c), s	15.5	15.5	10.7				0.0	8.0	8.1	0.6	5.9	0.0
Prop In Lane	0.32		1.00				0.00		0.32	1.00		0.00
Lane Grp Cap(c), veh/h	317	306	273				0	1152	1146	551	2606	0
V/C Ratio(X)	1.12	1.02	0.73				0.00	0.31	0.31	0.07	0.27	0.00
Avail Cap(c_a), veh/h	317	306	273				0	1152	1146	588	2606	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.84	0.84	0.85	0.85	0.00
Uniform Delay (d), s/veh	37.3	37.2	35.3				0.0	7.0	7.0	4.6	4.0	0.0
Incr Delay (d2), s/veh	85.8	55.6	9.5				0.0	0.6	0.6	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.7	17.0	8.4				0.0	5.2	5.1	0.3	3.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	123.0	92.8	44.7				0.0	7.6	7.6	4.6	4.2	0.0
LnGrp LOS	F	F	D				A	A	A	A	A	A
Approach Vol, veh/h		864						720			744	
Approach Delay, s/veh		94.1						7.6			4.2	
Approach LOS		F						A			A	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	7.7	62.3		20.0		70.0						
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0						
Max Green Setting (Gmax), s	5.0	24.5		15.5		34.0						
Max Q Clear Time (g_c+I1), s	2.6	10.1		17.5		7.9						
Green Ext Time (p_c), s	0.0	4.0		0.0		5.3						

Intersection Summary			
HCM 6th Ctrl Delay		38.6	
HCM 6th LOS		D	



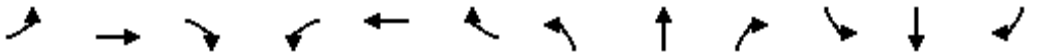
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	489	63	215	1067	107	78	596	165	91	918	213
Future Volume (veh/h)	62	489	63	215	1067	107	78	596	165	91	918	213
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	532	68	234	1160	116	85	648	179	99	998	232
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	1268	162	331	1305	130	131	1262	348	124	1001	252
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	434	3171	404	819	3263	326	453	2751	759	141	2183	550
Grp Volume(v), veh/h	67	297	303	234	631	645	85	418	409	652	0	677
Grp Sat Flow(s),veh/h/ln	434	1777	1798	819	1777	1812	453	1777	1734	1271	0	1603
Q Serve(g_s), s	4.8	8.4	8.5	19.5	23.1	23.2	4.4	11.7	11.7	20.4	0.0	27.7
Cycle Q Clear(g_c), s	28.0	8.4	8.5	28.0	23.1	23.2	32.1	11.7	11.7	32.1	0.0	27.7
Prop In Lane	1.00		0.22	1.00		0.18	1.00		0.44	0.15		0.34
Lane Grp Cap(c), veh/h	132	711	719	331	711	725	131	815	795	642	0	735
V/C Ratio(X)	0.51	0.42	0.42	0.71	0.89	0.89	0.65	0.51	0.51	1.02	0.00	0.92
Avail Cap(c_a), veh/h	132	711	719	331	711	725	131	815	795	642	0	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	0.74	0.00	0.74
Uniform Delay (d), s/veh	33.9	15.1	15.2	25.5	19.5	19.6	34.3	13.4	13.4	21.1	0.0	17.8
Incr Delay (d2), s/veh	13.1	1.8	1.8	1.2	1.7	1.8	22.0	2.3	2.4	34.5	0.0	14.8
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	2.9	6.3	6.4	4.7	10.4	10.6	4.0	8.2	8.1	22.1	0.0	16.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	16.9	17.0	26.7	21.3	21.3	56.3	15.7	15.8	55.6	0.0	32.6
LnGrp LOS	D	B	B	C	C	C	E	B	B	F	A	C
Approach Vol, veh/h		667			1510			912			1329	
Approach Delay, s/veh		20.0			22.1			19.5			43.9	
Approach LOS		B			C			B			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.0		33.0		37.0		33.0				
Change Period (Y+Rc), s		* 4.9		5.0		* 4.9		5.0				
Max Green Setting (Gmax), s		* 32		28.0		* 32		28.0				
Max Q Clear Time (g_c+I1), s		34.1		30.0		34.1		30.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			27.8									
HCM 6th LOS			C									

Notes

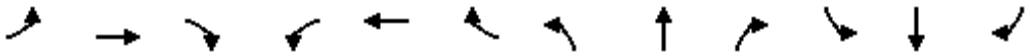
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	273	99	18	1034	52	123	1257	61	32	1565	135
Future Volume (vph)	131	273	99	18	1034	52	123	1257	61	32	1565	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8			5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3398			3536	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.16	1.00			0.94	1.00	0.09	1.00	1.00	0.09	1.00	1.00
Satd. Flow (perm)	296	3398			3332	1583	173	3539	1583	173	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	142	297	108	20	1124	57	134	1366	66	35	1701	147
RTOR Reduction (vph)	0	5	0	0	0	41	0	0	34	0	0	101
Lane Group Flow (vph)	142	400	0	0	1144	16	134	1366	32	35	1701	46
Turn Type	custom	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	custom
Protected Phases	8	6 8			2			7			7	
Permitted Phases	6			2		2	7		7	7		8
Actuated Green, G (s)	30.2	36.0			25.2	25.2	43.0	43.0	43.0	43.0	43.0	5.0
Effective Green, g (s)	30.2	36.0			25.2	25.2	43.0	43.0	43.0	43.0	43.0	5.0
Actuated g/C Ratio	0.34	0.40			0.28	0.28	0.48	0.48	0.48	0.48	0.48	0.06
Clearance Time (s)	5.0				5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Vehicle Extension (s)	3.0				5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.0
Lane Grp Cap (vph)	181	1359			932	443	82	1690	756	82	1690	87
v/s Ratio Prot	c0.04	0.12						0.39			0.48	
v/s Ratio Perm	0.22				c0.34	0.01	c0.77		0.02	0.20		0.03
v/c Ratio	0.78	0.29			1.23	0.04	1.63	0.81	0.04	0.43	1.01	0.53
Uniform Delay, d1	38.8	18.4			32.4	23.6	23.5	20.0	12.5	15.4	23.5	41.4
Progression Factor	1.11	1.14			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	19.4	0.1			111.9	0.2	333.7	4.3	0.1	15.4	23.5	5.7
Delay (s)	62.3	21.1			144.3	23.7	357.2	24.3	12.6	30.8	47.0	47.0
Level of Service	E	C			F	C	F	C	B	C	D	D
Approach Delay (s)		31.8			138.6			52.3			46.7	
Approach LOS		C			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	68.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	111.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	87	121	75	187	82	116	1031	34	58	1321	69
Future Volume (veh/h)	51	87	121	75	187	82	116	1031	34	58	1321	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	95	0	82	203	89	126	1121	37	63	1436	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	253		324	290	127	220	2159	71	314	2113	110
Arrive On Green	0.23	0.23	0.00	0.06	0.24	0.24	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	1087	1870	0	1781	1233	540	346	3511	116	485	3436	179
Grp Volume(v), veh/h	55	95	0	82	0	292	126	567	591	63	741	770
Grp Sat Flow(s),veh/h/ln	1087	1870	0	1781	0	1773	346	1777	1850	485	1777	1838
Q Serve(g_s), s	3.3	3.0	0.0	2.6	0.0	10.6	23.6	12.6	12.6	5.9	19.3	19.4
Cycle Q Clear(g_c), s	6.9	3.0	0.0	2.6	0.0	10.6	43.0	12.6	12.6	18.6	19.3	19.4
Prop In Lane	1.00		0.00	1.00		0.30	1.00		0.06	1.00		0.10
Lane Grp Cap(c), veh/h	194	253		324	0	417	220	1093	1137	314	1093	1130
V/C Ratio(X)	0.28	0.38		0.25	0.00	0.70	0.57	0.52	0.52	0.20	0.68	0.68
Avail Cap(c_a), veh/h	436	668		350	0	836	220	1093	1137	314	1093	1130
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	27.8	24.6	0.0	22.5	0.0	24.5	24.1	7.6	7.6	12.9	8.9	8.9
Incr Delay (d2), s/veh	0.8	0.9	0.0	0.4	0.0	2.2	10.5	1.8	1.7	0.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	2.3	0.0	2.0	0.0	7.9	4.7	7.8	8.0	1.0	7.1	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	25.5	0.0	22.9	0.0	26.7	34.5	9.4	9.3	13.0	9.2	9.2
LnGrp LOS	C	C		C	A	C	C	A	A	B	A	A
Approach Vol, veh/h		150	A		374			1284			1574	
Approach Delay, s/veh		26.6			25.8			11.8			9.4	
Approach LOS		C			C			B			A	

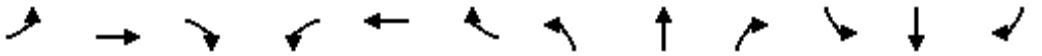
Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		49.0		21.0		49.0	7.0	14.0				
Change Period (Y+Rc), s		6.0		* 4.5		6.0	3.0	* 4.5				
Max Green Setting (Gmax), s		26.5		* 33		26.5	5.0	* 25				
Max Q Clear Time (g_c+I1), s		21.4		12.6		45.0	4.6	8.9				
Green Ext Time (p_c), s		4.0		1.7		0.0	0.0	0.6				

Intersection Summary												
HCM 6th Ctrl Delay			12.9									
HCM 6th LOS			B									

Notes

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

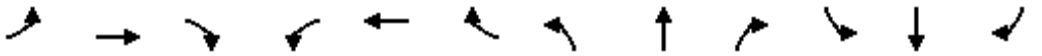
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	434	2867	247	219	1038	0	0	1286	241
Future Volume (veh/h)	0	0	0	434	2867	247	219	1038	0	0	1286	241
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				472	3116	268	238	1128	0	0	1398	262
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				251	1771	153	230	1650	0	0	1168	521
Arrive On Green				0.41	0.41	0.41	0.02	0.15	0.00	0.00	0.33	0.33
Sat Flow, veh/h				617	4351	377	1781	3647	0	0	3647	1585
Grp Volume(v), veh/h				1408	1166	1282	238	1128	0	0	1398	262
Grp Sat Flow(s),veh/h/ln				1840	1702	1803	1781	1777	0	0	1777	1585
Q Serve(g_s), s				28.5	28.5	28.5	5.0	21.0	0.0	0.0	23.0	9.3
Cycle Q Clear(g_c), s				28.5	28.5	28.5	5.0	21.0	0.0	0.0	23.0	9.3
Prop In Lane				0.34		0.21	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				749	693	734	230	1650	0	0	1168	521
V/C Ratio(X)				1.88	1.68	1.75	1.03	0.68	0.00	0.00	1.20	0.50
Avail Cap(c_a), veh/h				749	693	734	230	1650	0	0	1168	521
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.56	0.56	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.8	20.8	20.8	20.2	24.8	0.0	0.0	23.5	18.9
Incr Delay (d2), s/veh				401.2	313.6	341.5	53.5	1.3	0.0	0.0	97.3	3.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				149.6	110.6	126.2	8.8	14.0	0.0	0.0	36.5	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				422.0	334.3	362.2	73.7	26.1	0.0	0.0	120.8	22.3
LnGrp LOS				F	F	F	F	C	A	A	F	C
Approach Vol, veh/h					3856			1366			1660	
Approach Delay, s/veh					375.6			34.4			105.3	
Approach LOS					F			C			F	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.5	27.5		33.0		37.0						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	5.0	23.0		28.5		32.5						
Max Q Clear Time (g_c+I1), s	7.0	25.0		30.5		23.0						
Green Ext Time (p_c), s	0.0	0.0		0.0		5.3						

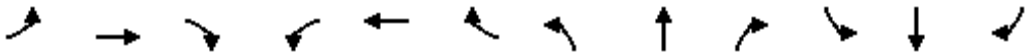
Intersection Summary		
HCM 6th Ctrl Delay		242.7
HCM 6th LOS		F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	483	215	0	0	0	0	1264	289	274	1526	0
Future Volume (veh/h)	131	483	215	0	0	0	0	1264	289	274	1526	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	142	525	234				0	1374	314	298	1659	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	222	887	337				0	1922	430	205	2367	0
Arrive On Green	0.21	0.21	0.21				0.00	0.67	0.67	0.89	0.89	0.00
Sat Flow, veh/h	1044	4178	1585				0	2979	646	292	3647	0
Grp Volume(v), veh/h	247	420	234				0	835	853	298	1659	0
Grp Sat Flow(s),veh/h/ln	1818	1702	1585				0	1777	1754	292	1777	0
Q Serve(g_s), s	8.7	7.8	9.5				0.0	20.7	22.1	24.5	9.8	0.0
Cycle Q Clear(g_c), s	8.7	7.8	9.5				0.0	20.7	22.1	46.6	9.8	0.0
Prop In Lane	0.57		1.00				0.00		0.37	1.00		0.00
Lane Grp Cap(c), veh/h	386	723	337				0	1184	1169	205	2367	0
V/C Ratio(X)	0.64	0.58	0.70				0.00	0.71	0.73	1.45	0.70	0.00
Avail Cap(c_a), veh/h	519	973	453				0	1184	1169	205	2367	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.09	0.09	0.00
Uniform Delay (d), s/veh	25.1	24.8	25.5				0.0	7.4	7.6	21.2	1.9	0.0
Incr Delay (d2), s/veh	1.8	0.7	2.9				0.0	3.5	4.0	206.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.7	5.5	6.6				0.0	11.1	11.7	22.1	1.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	25.5	28.4				0.0	10.9	11.6	227.7	2.1	0.0
LnGrp LOS	C	C	C				A	B	B	F	A	A
Approach Vol, veh/h		901						1688			1957	
Approach Delay, s/veh		26.6						11.3			36.4	
Approach LOS		C						B			D	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		50.6				50.6		19.4				
Change Period (Y+Rc), s		4.0				4.0		4.5				
Max Green Setting (Gmax), s		41.5				41.5		20.0				
Max Q Clear Time (g_c+I1), s		48.6				24.1		11.5				
Green Ext Time (p_c), s		0.0				11.7		3.3				

Intersection Summary												
HCM 6th Ctrl Delay			25.1									
HCM 6th LOS			C									



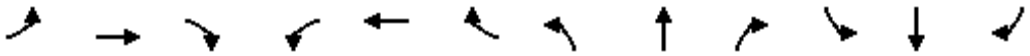
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	345	142	266	854	247	90	901	150	177	1097	65
Future Volume (veh/h)	108	345	142	266	854	247	90	901	150	177	1097	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	117	375	154	289	928	268	98	979	163	192	1192	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	114	882	357	313	972	280	400	2330	388	414	2178	130
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.06	0.76	0.76	0.64	0.64	0.64
Sat Flow, veh/h	468	2468	999	874	2722	784	1781	3049	507	493	3408	203
Grp Volume(v), veh/h	117	268	261	289	605	591	98	570	572	192	621	642
Grp Sat Flow(s),veh/h/ln	468	1777	1691	874	1777	1729	1781	1777	1779	493	1777	1834
Q Serve(g_s), s	1.6	8.0	8.2	16.8	23.2	23.4	1.1	7.8	7.8	16.5	13.6	13.6
Cycle Q Clear(g_c), s	25.0	8.0	8.2	25.0	23.2	23.4	1.1	7.8	7.8	17.0	13.6	13.6
Prop In Lane	1.00		0.59	1.00		0.45	1.00		0.29	1.00		0.11
Lane Grp Cap(c), veh/h	114	635	604	313	635	618	400	1358	1360	414	1136	1172
V/C Ratio(X)	1.03	0.42	0.43	0.92	0.95	0.96	0.25	0.42	0.42	0.46	0.55	0.55
Avail Cap(c_a), veh/h	114	635	604	313	635	618	432	1358	1360	414	1136	1172
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	17.0	17.1	28.9	21.9	22.0	5.3	2.9	2.9	7.8	7.0	7.0
Incr Delay (d2), s/veh	32.9	0.2	0.2	34.8	25.9	27.1	0.3	1.0	1.0	3.7	1.9	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.8	3.9	3.8	12.4	19.4	19.2	0.5	3.2	3.2	3.2	8.0	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.8	17.2	17.3	63.7	47.8	49.0	5.6	3.8	3.8	11.5	8.9	8.9
LnGrp LOS	F	B	B	E	D	D	A	A	A	B	A	A
Approach Vol, veh/h		646			1485			1240			1455	
Approach Delay, s/veh		26.4			51.4			4.0			9.2	
Approach LOS		C			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.8	49.2		29.5		58.0		29.5				
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0		* 4.5				
Max Green Setting (Gmax), s	5.5	27.0		24.5		37.0		* 25				
Max Q Clear Time (g_c+I1), s	3.1	19.0		27.0		9.8		27.0				
Green Ext Time (p_c), s	0.0	5.7		0.0		9.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		23.2	
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)	95	524	97	175	913	241	138	943	145	211	1190	280
Future Volume (veh/h)	95	524	97	175	913	241	138	943	145	211	1190	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	570	105	190	992	262	150	1025	158	229	1293	304
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	956	176	201	887	234	132	1191	183	295	1570	363
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.39	0.39	0.39	0.10	0.55	0.55
Sat Flow, veh/h	443	2998	551	764	2783	732	319	3086	475	1781	2865	663
Grp Volume(v), veh/h	103	337	338	190	632	622	150	590	593	229	794	803
Grp Sat Flow(s),veh/h/ln	443	1777	1771	764	1777	1739	319	1777	1785	1781	1777	1751
Q Serve(g_s), s	0.0	14.4	14.4	14.3	28.7	28.7	14.8	27.4	27.5	6.5	32.9	34.5
Cycle Q Clear(g_c), s	28.7	14.4	14.4	28.7	28.7	28.7	34.7	27.4	27.5	6.5	32.9	34.5
Prop In Lane	1.00		0.31	1.00		0.42	1.00		0.27	1.00		0.38
Lane Grp Cap(c), veh/h	80	567	565	201	567	554	132	686	689	295	973	959
V/C Ratio(X)	1.29	0.60	0.60	0.95	1.12	1.12	1.13	0.86	0.86	0.78	0.82	0.84
Avail Cap(c_a), veh/h	80	567	565	201	567	554	132	686	689	296	973	959
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)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	25.8	25.8	40.5	30.7	30.7	42.1	25.4	25.4	19.4	16.6	17.0
Incr Delay (d2), s/veh	191.4	4.2	4.2	50.7	73.6	76.4	118.3	13.3	13.4	12.1	7.5	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	10.8	10.5	10.6	11.4	33.5	33.5	12.5	19.6	19.7	6.2	20.2	21.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	236.4	29.9	30.0	91.1	104.2	107.0	160.4	38.7	38.8	31.5	24.1	25.6
LnGrp LOS	F	C	C	F	F	F	F	D	D	C	C	C
Approach Vol, veh/h		778			1444			1333			1826	
Approach Delay, s/veh		57.3			103.7			52.4			25.7	
Approach LOS		E			F			D			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		55.0		35.0	14.6	40.4		35.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 49		* 29	9.0	* 35		* 29				
Max Q Clear Time (g_c+I1), s		36.5		30.7	8.5	36.7		30.7				
Green Ext Time (p_c), s		8.8		0.0	0.0	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	57.8	
HCM 6th LOS	E	

Notes

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

Intersection	
Int Delay, s/veh	1.6

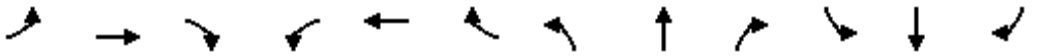
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Traffic Vol, veh/h	44	364	19	0	2124	0	9	7	0	0
Future Vol, veh/h	44	364	19	0	2124	0	9	7	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	0	-	-	-	-	-	0	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	396	21	0	2309	0	10	8	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	2309	0	0	-	-	0	1427	209
Stage 1	-	-	-	-	-	-	503	-
Stage 2	-	-	-	-	-	-	924	-
Critical Hdwy	5.34	-	-	-	-	-	6.29	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	-	-	3.67	3.32
Pot Cap-1 Maneuver	87	-	-	0	-	0	*154	*936
Stage 1	-	-	-	0	-	0	*847	-
Stage 2	-	-	-	0	-	0	*321	-
Platoon blocked, %		-	-		-			1
Mov Cap-1 Maneuver	87	-	-	-	-	-	*69	*936
Mov Cap-2 Maneuver	-	-	-	-	-	-	*175	-
Stage 1	-	-	-	-	-	-	*379	-
Stage 2	-	-	-	-	-	-	*321	-

Approach	EB	WB	NB
HCM Control Delay, s	9.1	0	19
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT
Capacity (veh/h)	175	936	87	-	-	-
HCM Lane V/C Ratio	0.056	0.008	0.55	-	-	-
HCM Control Delay (s)	26.8	8.9	88.2	-	-	-
HCM Lane LOS	D	A	F	-	-	-
HCM 95th %tile Q(veh)	0.2	0	2.4	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	415	58	0	3435	101	34	4	160	60	0	23
Future Volume (veh/h)	0	415	58	0	3435	101	34	4	160	60	0	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	451	63	0	3734	0	37	4	174	65	0	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	2006	279	0	3268		86	28	284	239	11	70
Arrive On Green	0.00	0.64	0.64	0.00	0.64	0.00	0.22	0.22	0.22	0.22	0.00	0.22
Sat Flow, veh/h	0	3227	435	0	5443	0	176	125	1278	767	50	314
Grp Volume(v), veh/h	0	255	259	0	3734	0	215	0	0	90	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1792	0	1702	0	1579	0	0	1131	0	0
Q Serve(g_s), s	0.0	5.4	5.5	0.0	57.6	0.0	4.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	5.4	5.5	0.0	57.6	0.0	10.9	0.0	0.0	6.7	0.0	0.0
Prop In Lane	0.00		0.24	0.00		0.00	0.17		0.81	0.72		0.28
Lane Grp Cap(c), veh/h	0	1137	1147	0	3268		398	0	0	320	0	0
V/C Ratio(X)	0.00	0.22	0.23	0.00	1.14		0.54	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	0	1137	1147	0	3268		398	0	0	320	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	6.8	6.8	0.0	16.2	0.0	31.4	0.0	0.0	29.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.0	68.2	0.0	1.5	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	3.3	3.4	0.0	55.1	0.0	7.7	0.0	0.0	3.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.9	6.9	0.0	84.4	0.0	32.9	0.0	0.0	30.1	0.0	0.0
LnGrp LOS	A	A	A	A	F		C	A	A	C	A	A
Approach Vol, veh/h		514			3734	A		215			90	
Approach Delay, s/veh		6.9			84.4			32.9			30.1	
Approach LOS		A			F			C			C	

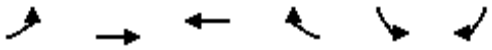
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.3		25.7		64.3		25.7				
Change Period (Y+Rc), s		6.7		* 5.7		6.7		5.7				
Max Green Setting (Gmax), s		32.7		* 20		32.7		20.0				
Max Q Clear Time (g_c+I1), s		59.6		8.7		7.5		12.9				
Green Ext Time (p_c), s		0.0		0.3		3.2		0.7				

Intersection Summary		
HCM 6th Ctrl Delay		72.2
HCM 6th LOS		E

Notes

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

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	793	0	0	35	0
Future Volume (Veh/h)	29	793	0	0	35	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	862	0	0	38	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		262	266			
pX, platoon unblocked					0.91	
vC, conflicting volume	0				280	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				96	100
cM capacity (veh/h)	1622				914	1084

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	SB 1
Volume Total	155	246	246	246	38
Volume Left	32	0	0	0	38
Volume Right	0	0	0	0	0
cSH	1622	1700	1700	1700	914
Volume to Capacity	0.02	0.14	0.14	0.14	0.04
Queue Length 95th (ft)	2	0	0	0	3
Control Delay (s)	1.6	0.0	0.0	0.0	9.1
Lane LOS	A				A
Approach Delay (s)	0.3				9.1
Approach LOS					A

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	21.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Vol, veh/h	58	41	0	665	27	40	813	0	0	0
Future Vol, veh/h	58	41	0	665	27	40	813	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None	-	-
Storage Length	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	45	0	723	29	43	884	0	0	0

Major/Minor	Minor1		Major1			Major2		
Conflicting Flow All	1266	376	-	0	0	752	0	0
Stage 1	738	-	-	-	-	-	-	-
Stage 2	528	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	161	622	0	-	-	853	-	-
Stage 1	434	-	0	-	-	-	-	-
Stage 2	556	-	0	-	-	-	-	-
Platoon blocked, %				-	-		-	-
Mov Cap-1 Maneuver	145	622	-	-	-	853	-	-
Mov Cap-2 Maneuver	145	-	-	-	-	-	-	-
Stage 1	434	-	-	-	-	-	-	-
Stage 2	501	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	38.3	0	0.4
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	212	853	-	-
HCM Lane V/C Ratio	-	-	0.508	0.051	-	-
HCM Control Delay (s)	-	-	38.3	9.4	-	-
HCM Lane LOS	-	-	E	A	-	-
HCM 95th %tile Q(veh)	-	-	2.6	0.2	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Vol, veh/h	30	28	0	617	42	89	858	0	0	0
Future Vol, veh/h	30	28	0	617	42	89	858	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	-	None	-	-
Storage Length	0	-	-	-	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	30	0	671	46	97	933	0	0	0

Major/Minor	Minor1		Major1			Major2			Minor2	
Conflicting Flow All	1355	359	-	0	0	717	0	0	-	467
Stage 1	694	-	-	-	-	-	-	-	-	-
Stage 2	661	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.94	-	-	-	4.14	-	-	-	6.94
Critical Hdwy Stg 1	6.54	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	2.22	-	-	-	3.32
Pot Cap-1 Maneuver	108	638	0	-	-	880	-	-	0	542
Stage 1	399	-	0	-	-	-	-	-	0	-
Stage 2	418	-	0	-	-	-	-	-	0	-
Platoon blocked, %				-	-		-	-		
Mov Cap-1 Maneuver	99	638	-	-	-	880	-	-	-	542
Mov Cap-2 Maneuver	99	-	-	-	-	-	-	-	-	-
Stage 1	399	-	-	-	-	-	-	-	-	-
Stage 2	372	-	-	-	-	-	-	-	-	-

Approach	WB	NB	SB	NE
HCM Control Delay, s	39.1	0	0.9	0
HCM LOS	E			A

Minor Lane/Major Mvmt	NELn1	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	-	167	880	-	-
HCM Lane V/C Ratio	-	-	-	0.378	0.11	-	-
HCM Control Delay (s)	0	-	-	39.1	9.6	-	-
HCM Lane LOS	A	-	-	E	A	-	-
HCM 95th %tile Q(veh)	-	-	-	1.6	0.4	-	-

Intersection	
Int Delay, s/veh	452.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	165	90	162	1086	1257	235
Future Vol, veh/h	165	90	162	1086	1257	235
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	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	179	98	176	1180	1366	255

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2436	811	1621	0	-	0
Stage 1	1494	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 26	322	398	-	-	-
Stage 1	~ 172	-	-	-	-	-
Stage 2	340	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 15	322	398	-	-	-
Mov Cap-2 Maneuver	~ 15	-	-	-	-	-
Stage 1	~ 96	-	-	-	-	-
Stage 2	340	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 5299.7	2.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	398	-	23	-	-
HCM Lane V/C Ratio	0.442	-	12.051	-	-
HCM Control Delay (s)	21	-	$ 5299.7	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	2.2	-	34.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	12	5	649	885	3
Future Vol, veh/h	10	12	5	649	885	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	13	5	705	962	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1327	483	965	0	-	0
Stage 1	964	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	147	530	709	-	-	-
Stage 1	331	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	145	530	709	-	-	-
Mov Cap-2 Maneuver	145	-	-	-	-	-
Stage 1	327	-	-	-	-	-
Stage 2	674	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.7	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	709	-	240	-	-
HCM Lane V/C Ratio	0.008	-	0.1	-	-
HCM Control Delay (s)	10.1	-	21.7	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

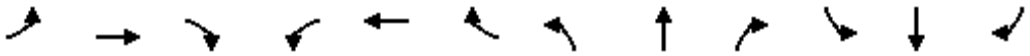
Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	0	0	23	4
Future Vol, veh/h	0	12	0	0	23	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	0	0	25	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	27	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	1048	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	1048	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

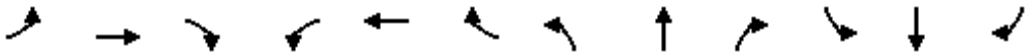
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	1048	-	-
HCM Lane V/C Ratio	-	0.012	-	-
HCM Control Delay (s)	-	8.5	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	149	1389	196	156	699	0	0	314	84
Future Volume (veh/h)	0	0	0	149	1389	196	156	699	0	0	314	84
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				162	1510	213	170	760	0	0	341	91
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				203	2009	292	451	1574	0	0	1232	324
Arrive On Green				0.47	0.47	0.47	0.44	0.44	0.00	0.00	0.44	0.44
Sat Flow, veh/h				430	4261	619	956	3647	0	0	2877	732
Grp Volume(v), veh/h				697	583	606	170	760	0	0	216	216
Grp Sat Flow(s),veh/h/ln				1849	1702	1759	956	1777	0	0	1777	1739
Q Serve(g_s), s				22.4	19.3	19.4	9.6	10.6	0.0	0.0	5.4	5.5
Cycle Q Clear(g_c), s				22.4	19.3	19.4	15.2	10.6	0.0	0.0	5.4	5.5
Prop In Lane				0.23		0.35	1.00		0.00	0.00		0.42
Lane Grp Cap(c), veh/h				872	802	829	451	1574	0	0	787	770
V/C Ratio(X)				0.80	0.73	0.73	0.38	0.48	0.00	0.00	0.27	0.28
Avail Cap(c_a), veh/h				872	802	829	451	1574	0	0	787	770
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.09	0.09	0.09	0.71	0.71	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				15.7	14.9	14.9	17.2	13.8	0.0	0.0	12.4	12.4
Incr Delay (d2), s/veh				0.7	0.5	0.5	1.7	0.8	0.0	0.0	0.9	0.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				9.8	7.9	8.2	3.9	6.8	0.0	0.0	3.8	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				16.4	15.4	15.4	18.9	14.6	0.0	0.0	13.2	13.3
LnGrp LOS				B	B	B	B	B	A	A	B	B
Approach Vol, veh/h					1885			930			432	
Approach Delay, s/veh					15.8			15.4			13.3	
Approach LOS					B			B			B	

Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		36.0		34.0				34.0				
Change Period (Y+Rc), s		3.0		3.0				3.0				
Max Green Setting (Gmax), s		33.0		31.0				31.0				
Max Q Clear Time (g_c+I1), s		24.4		17.2				7.5				
Green Ext Time (p_c), s		6.8		5.3				2.6				

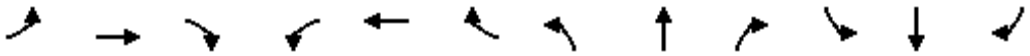
Intersection Summary												
HCM 6th Ctrl Delay			15.3									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	2123	100	0	0	0	0	890	187	120	468	0
Future Volume (veh/h)	133	2123	100	0	0	0	0	890	187	120	468	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	145	2308	109				0	967	203	130	509	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	132	2260	109				0	1524	319	330	1852	0
Arrive On Green	0.36	0.36	0.36				0.00	1.00	1.00	0.52	0.52	0.00
Sat Flow, veh/h	364	6221	300				0	3017	613	480	3647	0
Grp Volume(v), veh/h	738	1165	660				0	587	583	130	509	0
Grp Sat Flow(s),veh/h/ln	1852	1609	1816				0	1777	1760	480	1777	0
Q Serve(g_s), s	32.7	32.5	32.7				0.0	0.0	0.0	16.0	7.2	0.0
Cycle Q Clear(g_c), s	32.7	32.5	32.7				0.0	0.0	0.0	16.0	7.2	0.0
Prop In Lane	0.20		0.17				0.00		0.35	1.00		0.00
Lane Grp Cap(c), veh/h	673	1169	660				0	926	917	330	1852	0
V/C Ratio(X)	1.10	1.00	1.00				0.00	0.63	0.64	0.39	0.27	0.00
Avail Cap(c_a), veh/h	673	1169	660				0	926	917	330	1852	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.86	0.86	0.97	0.97	0.00
Uniform Delay (d), s/veh	28.7	28.6	28.6				0.0	0.0	0.0	14.2	12.0	0.0
Incr Delay (d2), s/veh	63.9	25.5	34.9				0.0	2.8	2.9	3.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	36.2	22.6	27.2				0.0	1.3	1.3	3.5	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.6	54.1	63.5				0.0	2.8	2.9	17.6	12.4	0.0
LnGrp LOS	F	D	E				A	A	A	B	B	A
Approach Vol, veh/h		2562						1170			639	
Approach Delay, s/veh		67.6						2.9			13.5	
Approach LOS		E						A			B	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		52.0				52.0		38.0				
Change Period (Y+Rc), s		5.1				5.1		5.3				
Max Green Setting (Gmax), s		46.9				46.9		32.7				
Max Q Clear Time (g_c+I1), s		18.0				2.0		34.7				
Green Ext Time (p_c), s		5.9				10.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		42.4	
HCM 6th LOS		D	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	52	492	64	92	938	0	3	536	83
Future Volume (veh/h)	0	0	0	52	492	64	92	938	0	3	536	83
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h				57	535	70	100	1020	0	3	583	90
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	2	2	2
Cap, veh/h				111	1095	527	506	1978	0	42	1680	258
Arrive On Green				0.33	0.33	0.33	0.56	0.56	0.00	1.00	1.00	1.00
Sat Flow, veh/h				334	3296	1585	765	3647	0	3	3018	463
Grp Volume(v), veh/h				316	276	70	100	1020	0	361	0	315
Grp Sat Flow(s),veh/h/ln				1854	1777	1585	765	1777	0	1864	0	1619
Q Serve(g_s), s				12.4	11.0	2.8	6.0	16.1	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				12.4	11.0	2.8	6.0	16.1	0.0	0.0	0.0	0.0
Prop In Lane				0.18		1.00	1.00		0.00	0.01		0.29
Lane Grp Cap(c), veh/h				616	590	527	506	1978	0	1078	0	901
V/C Ratio(X)				0.51	0.47	0.13	0.20	0.52	0.00	0.33	0.00	0.35
Avail Cap(c_a), veh/h				616	590	527	506	1978	0	1078	0	901
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.97	0.00	0.97
Uniform Delay (d), s/veh				24.2	23.8	21.0	10.2	12.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				3.0	2.6	0.5	0.9	1.0	0.0	0.8	0.0	1.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				9.7	8.6	2.0	1.9	10.2	0.0	0.4	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				27.2	26.4	21.5	11.0	13.4	0.0	0.8	0.0	1.0
LnGrp LOS				C	C	C	B	B	A	A	A	A
Approach Vol, veh/h					662			1120			676	
Approach Delay, s/veh					26.3			13.2			0.9	
Approach LOS					C			B			A	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	35.0	55.0	55.0
Change Period (Y+Rc), s	5.1	* 4.9	* 4.9
Max Green Setting (Gmax), s	29.9	* 50	* 50
Max Q Clear Time (g_c+I1), s	14.4	2.0	18.1
Green Ext Time (p_c), s	3.4	4.9	9.9

Intersection Summary	
HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

Notes

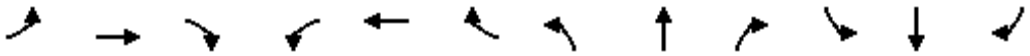
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1043	286	99	255	358	292
Future Volume (vph)	1043	286	99	255	358	292
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3425		1770	3539	1770	1583
Flt Permitted	1.00		0.15	1.00	0.95	1.00
Satd. Flow (perm)	3425		272	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1134	311	108	277	389	317
RTOR Reduction (vph)	14	0	0	0	0	215
Lane Group Flow (vph)	1431	0	108	277	389	102
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	6			2	8	
Permitted Phases			2			8
Actuated Green, G (s)	64.7		64.7	64.7	15.0	15.0
Effective Green, g (s)	64.7		64.7	64.7	15.0	15.0
Actuated g/C Ratio	0.72		0.72	0.72	0.17	0.17
Clearance Time (s)	5.3		5.3	5.3	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2462		195	2544	295	263
v/s Ratio Prot	c0.42			0.08	c0.22	
v/s Ratio Perm			0.40			0.06
v/c Ratio	0.58		0.55	0.11	1.32	0.39
Uniform Delay, d1	6.1		5.9	3.9	37.5	33.4
Progression Factor	1.00		3.10	2.73	1.00	1.00
Incremental Delay, d2	1.0		9.1	0.1	165.3	1.0
Delay (s)	7.1		27.5	10.6	202.8	34.4
Level of Service	A		C	B	F	C
Approach Delay (s)	7.1			15.3	127.2	
Approach LOS	A			B	F	

Intersection Summary			
HCM 2000 Control Delay	41.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		

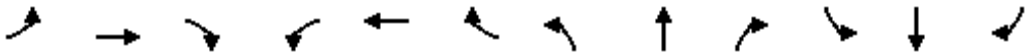
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	538	125	40	319	73	80	442	171	42	256	80
Future Volume (veh/h)	72	538	125	40	319	73	80	442	171	42	256	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	585	136	43	347	79	87	480	186	46	278	87
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	697	156	102	701	151	272	628	532	185	459	144
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	119	1302	291	85	1309	282	1017	1870	1585	770	1366	427
Grp Volume(v), veh/h	799	0	0	469	0	0	87	480	186	46	0	365
Grp Sat Flow(s),veh/h/ln	1712	0	0	1677	0	0	1017	1870	1585	770	0	1793
Q Serve(g_s), s	16.6	0.0	0.0	0.0	0.0	0.0	5.5	16.1	6.2	4.0	0.0	11.9
Cycle Q Clear(g_c), s	28.0	0.0	0.0	11.3	0.0	0.0	17.3	16.1	6.2	20.0	0.0	11.9
Prop In Lane	0.10		0.17	0.09		0.17	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	974	0	0	954	0	0	272	628	532	185	0	602
V/C Ratio(X)	0.82	0.00	0.00	0.49	0.00	0.00	0.32	0.76	0.35	0.25	0.00	0.61
Avail Cap(c_a), veh/h	974	0	0	954	0	0	272	628	532	185	0	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.82	0.00	0.00	0.87	0.87	0.87	0.81	0.00	0.81
Uniform Delay (d), s/veh	13.8	0.0	0.0	10.2	0.0	0.0	26.6	20.8	17.5	29.7	0.0	19.4
Incr Delay (d2), s/veh	7.7	0.0	0.0	1.5	0.0	0.0	2.7	7.6	1.6	2.6	0.0	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	16.6	0.0	0.0	7.3	0.0	0.0	2.6	12.1	4.2	1.5	0.0	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	0.0	0.0	11.7	0.0	0.0	29.3	28.3	19.1	32.3	0.0	23.0
LnGrp LOS	C	A	A	B	A	A	C	C	B	C	A	C
Approach Vol, veh/h		799			469			753			411	
Approach Delay, s/veh		21.5			11.7			26.2			24.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		42.0		28.0		42.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		37.5		23.5		37.5				
Max Q Clear Time (g_c+I1), s		22.0		13.3		19.3		30.0				
Green Ext Time (p_c), s		0.4		3.4		1.6		3.5				

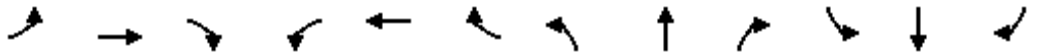
Intersection Summary												
HCM 6th Ctrl Delay			21.5									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	188	1612	163	413	1006	0	0	413	122
Future Volume (veh/h)	0	0	0	188	1612	163	413	1006	0	0	413	122
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				204	1752	177	449	1093	0	0	449	133
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	0	2	2
Cap, veh/h				125	1144	118	534	2257	0	0	1462	430
Arrive On Green				0.26	0.26	0.26	0.05	0.63	0.00	0.00	0.54	0.54
Sat Flow, veh/h				481	4400	456	1781	3647	0	0	2802	796
Grp Volume(v), veh/h				783	655	695	449	1093	0	0	293	289
Grp Sat Flow(s),veh/h/ln				1846	1702	1788	1781	1777	0	0	1777	1727
Q Serve(g_s), s				26.0	26.0	26.0	5.0	16.2	0.0	0.0	9.1	9.2
Cycle Q Clear(g_c), s				26.0	26.0	26.0	5.0	16.2	0.0	0.0	9.1	9.2
Prop In Lane				0.26		0.25	1.00		0.00	0.00		0.46
Lane Grp Cap(c), veh/h				480	443	465	534	2257	0	0	959	933
V/C Ratio(X)				1.63	1.48	1.49	0.84	0.48	0.00	0.00	0.31	0.31
Avail Cap(c_a), veh/h				480	443	465	534	2257	0	0	959	933
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.11	0.11	0.11	1.00	1.00	0.00	0.00	0.78	0.78
Uniform Delay (d), s/veh				37.0	37.0	37.0	19.9	9.6	0.0	0.0	12.7	12.7
Incr Delay (d2), s/veh				285.1	217.5	223.7	11.5	0.7	0.0	0.0	0.6	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				68.7	50.6	54.3	13.3	9.9	0.0	0.0	6.4	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				322.1	254.5	260.7	31.4	10.4	0.0	0.0	13.3	13.4
LnGrp LOS				F	F	F	C	B	A	A	B	B
Approach Vol, veh/h					2133			1542			582	
Approach Delay, s/veh					281.4			16.5			13.3	
Approach LOS					F			B			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.5	59.5		31.0		69.0						
Change Period (Y+Rc), s	4.5	5.5		5.0		5.5						
Max Green Setting (Gmax), s	5.0	53.5		26.0		53.5						
Max Q Clear Time (g_c+I1), s	7.0	11.2		28.0		18.2						
Green Ext Time (p_c), s	0.0	4.1		0.0		10.0						

Intersection Summary		
HCM 6th Ctrl Delay		148.8
HCM 6th LOS		F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	2095	193	0	0	0	0	1073	317	99	378	0
Future Volume (veh/h)	55	2095	193	0	0	0	0	1073	317	99	378	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	60	2277	210				0	1166	345	108	411	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	54	2182	206				0	1109	323	173	1820	
Arrive On Green	0.12	0.12	0.12				0.00	0.41	0.41	0.05	0.51	0.00
Sat Flow, veh/h	151	6118	577				0	2808	791	1781	3647	0
Grp Volume(v), veh/h	741	1164	642				0	757	754	108	411	0
Grp Sat Flow(s),veh/h/ln	1863	1609	1766				0	1777	1728	1781	1777	0
Q Serve(g_s), s	32.1	32.1	32.1				0.0	36.8	36.8	3.0	5.7	0.0
Cycle Q Clear(g_c), s	32.1	32.1	32.1				0.0	36.8	36.8	3.0	5.7	0.0
Prop In Lane	0.08		0.33				0.00		0.46	1.00		0.00
Lane Grp Cap(c), veh/h	664	1147	630				0	726	706	173	1820	
V/C Ratio(X)	1.12	1.01	1.02				0.00	1.04	1.07	0.62	0.23	
Avail Cap(c_a), veh/h	664	1147	630				0	726	706	226	1820	
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.7	39.7	39.7				0.0	26.6	26.6	21.1	12.1	0.0
Incr Delay (d2), s/veh	70.9	30.2	40.9				0.0	45.0	53.3	3.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	40.7	25.8	30.4				0.0	32.7	34.4	2.4	4.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.6	69.9	80.6				0.0	71.6	79.9	24.8	12.4	0.0
LnGrp LOS	F	F	F				A	F	F	C	B	
Approach Vol, veh/h		2547						1511			519	A
Approach Delay, s/veh		84.4						75.7			15.0	
Approach LOS		F						E			B	

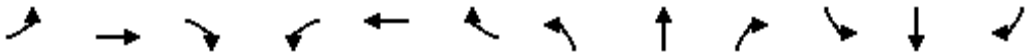
Timer - Assigned Phs				4		6	7	8				
Phs Duration (G+Y+Rc), s				52.0		38.0	9.3	42.7				
Change Period (Y+Rc), s				* 5.9		5.9	4.6	* 5.9				
Max Green Setting (Gmax), s				* 46		32.1	7.4	* 34				
Max Q Clear Time (g_c+I1), s				7.7		34.1	5.0	38.8				
Green Ext Time (p_c), s				3.0		0.0	0.0	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	73.7
HCM 6th LOS	E

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



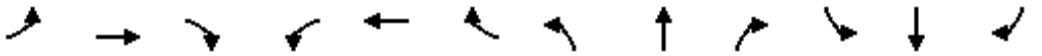
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	46	14	41	457	1097	58	33	689	70
Future Volume (veh/h)	0	0	0	46	14	41	457	1097	58	33	689	70
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h				50	15	45	497	1192	63	36	749	76
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	2	2	2	2
Cap, veh/h				62	19	56	657	1221	65	175	1984	201
Arrive On Green				0.08	0.08	0.08	0.19	0.69	0.69	0.10	0.61	0.61
Sat Flow, veh/h				775	233	698	3456	1761	93	1781	3257	330
Grp Volume(v), veh/h				110	0	0	497	0	1255	36	408	417
Grp Sat Flow(s),veh/h/ln				1706	0	0	1728	0	1854	1781	1777	1811
Q Serve(g_s), s				7.7	0.0	0.0	16.5	0.0	77.8	2.3	14.1	14.1
Cycle Q Clear(g_c), s				7.7	0.0	0.0	16.5	0.0	77.8	2.3	14.1	14.1
Prop In Lane				0.45		0.41	1.00		0.05	1.00		0.18
Lane Grp Cap(c), veh/h				137	0	0	657	0	1285	175	1082	1103
V/C Ratio(X)				0.80	0.00	0.00	0.76	0.00	0.98	0.21	0.38	0.38
Avail Cap(c_a), veh/h				254	0	0	668	0	1285	175	1082	1103
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.09	0.00	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh				54.7	0.0	0.0	46.4	0.0	17.6	50.2	12.0	12.0
Incr Delay (d2), s/veh				10.4	0.0	0.0	0.5	0.0	3.8	0.6	1.0	1.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				6.6	0.0	0.0	8.4	0.0	32.9	1.9	9.7	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				65.1	0.0	0.0	46.8	0.0	21.4	50.8	13.0	13.0
LnGrp LOS				E	A	A	D	A	C	D	B	B
Approach Vol, veh/h					110			1752			861	
Approach Delay, s/veh					65.1			28.6			14.6	
Approach LOS					E			C			B	

Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	27.6	79.2		17.4	89.4		14.2					
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5	* 5.5		4.5					
Max Green Setting (Gmax), s	23.4	* 56		* 5	* 84		18.0					
Max Q Clear Time (g_c+I1), s	18.5	16.1		4.3	79.8		9.7					
Green Ext Time (p_c), s	0.9	6.2		0.0	3.3		0.3					

Intersection Summary		
HCM 6th Ctrl Delay		25.7
HCM 6th LOS		C

Notes

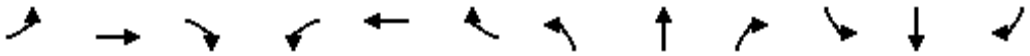
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	245	1062	253	274	0	444	0	1001	241	38	486	0
Future Volume (veh/h)	245	1062	253	274	0	444	0	1001	241	38	486	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	266	1154	275	298	0	483	0	1088	262	41	528	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	168	776	414	0	0	0	0	1589	380	287	2290	0
Arrive On Green	0.26	0.26	0.26	0.00	0.00	0.00	0.00	0.74	0.74	0.04	0.64	0.00
Sat Flow, veh/h	644	2971	1585		0		0	2938	681	1781	3647	0
Grp Volume(v), veh/h	759	661	275		0.0		0	677	673	41	528	0
Grp Sat Flow(s),veh/h/ln	1838	1777	1585				0	1777	1748	1781	1777	0
Q Serve(g_s), s	23.5	23.5	14.0				0.0	17.9	18.2	0.8	5.6	0.0
Cycle Q Clear(g_c), s	23.5	23.5	14.0				0.0	17.9	18.2	0.8	5.6	0.0
Prop In Lane	0.35		1.00				0.00		0.39	1.00		0.00
Lane Grp Cap(c), veh/h	480	464	414				0	993	977	287	2290	0
V/C Ratio(X)	1.58	1.43	0.66				0.00	0.68	0.69	0.14	0.23	0.00
Avail Cap(c_a), veh/h	480	464	414				0	993	977	323	2290	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.23	0.23	0.92	0.92	0.00
Uniform Delay (d), s/veh	33.3	33.3	29.7				0.0	7.4	7.4	9.3	6.7	0.0
Incr Delay (d2), s/veh	271.3	203.5	4.0				0.0	0.9	0.9	0.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	71.2	54.8	9.5				0.0	6.0	6.0	0.5	3.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	304.5	236.8	33.7				0.0	8.3	8.4	9.5	6.9	0.0
LnGrp LOS	F	F	C				A	A	A	A	A	A
Approach Vol, veh/h		1695						1350			569	
Approach Delay, s/veh		234.2						8.3			7.1	
Approach LOS		F						A			A	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	7.7	54.3		28.0		62.0						
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0						
Max Green Setting (Gmax), s	5.0	25.0		23.5		34.5						
Max Q Clear Time (g_c+I1), s	2.8	20.2		25.5		7.6						
Green Ext Time (p_c), s	0.0	3.4		0.0		3.8						

Intersection Summary			
HCM 6th Ctrl Delay		114.1	
HCM 6th LOS		F	



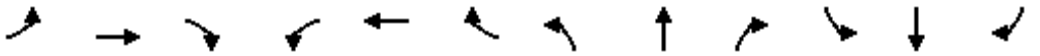
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	1094	85	121	837	86	69	1070	169	110	745	127
Future Volume (veh/h)	112	1094	85	121	837	86	69	1070	169	110	745	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	122	1189	92	132	910	93	75	1163	184	120	810	138
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	1634	126	169	1591	163	81	1234	194	61	608	138
Arrive On Green	0.49	0.49	0.49	0.65	0.65	0.65	0.40	0.40	0.40	0.27	0.27	0.27
Sat Flow, veh/h	562	3342	258	432	3255	333	592	3075	485	23	1516	345
Grp Volume(v), veh/h	122	631	650	132	497	506	75	670	677	412	0	656
Grp Sat Flow(s),veh/h/ln	562	1777	1824	432	1777	1810	592	1777	1783	244	0	1640
Q Serve(g_s), s	16.6	25.4	25.5	18.5	14.0	14.0	0.1	32.6	33.0	3.1	0.0	36.0
Cycle Q Clear(g_c), s	30.7	25.4	25.5	44.0	14.0	14.0	36.1	32.6	33.0	36.1	0.0	36.0
Prop In Lane	1.00		0.14	1.00		0.18	1.00		0.27	0.29		0.21
Lane Grp Cap(c), veh/h	267	869	892	169	869	885	81	713	715	149	0	658
V/C Ratio(X)	0.46	0.73	0.73	0.78	0.57	0.57	0.93	0.94	0.95	2.76	0.00	1.00
Avail Cap(c_a), veh/h	267	869	892	169	869	885	81	713	715	149	0	658
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	0.22	0.22	0.22	1.00	1.00	1.00	0.83	0.00	0.83
Uniform Delay (d), s/veh	25.6	18.2	18.3	31.5	10.5	10.5	45.0	25.9	26.0	35.3	0.0	32.9
Incr Delay (d2), s/veh	5.5	5.3	5.2	7.8	0.6	0.6	81.4	21.9	22.9	805.6	0.0	31.3
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	4.6	16.4	16.7	4.5	5.9	6.0	6.3	24.1	24.6	63.9	0.0	27.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	23.5	23.5	39.3	11.1	11.1	126.4	47.8	48.9	840.9	0.0	64.2
LnGrp LOS	C	C	C	D	B	B	F	D	D	F	A	E
Approach Vol, veh/h		1403			1135			1422			1068	
Approach Delay, s/veh		24.1			14.4			52.4			363.8	
Approach LOS		C			B			D			F	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.0		49.0		41.0		49.0				
Change Period (Y+Rc), s		* 4.9		5.0		* 4.9		5.0				
Max Green Setting (Gmax), s		* 36		44.0		* 36		44.0				
Max Q Clear Time (g_c+I1), s		38.1		46.0		38.1		32.7				
Green Ext Time (p_c), s		0.0		0.0		0.0		7.1				

Intersection Summary												
HCM 6th Ctrl Delay			102.1									
HCM 6th LOS			F									

Notes

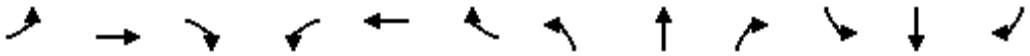
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	457	944	122	19	401	51	44	1433	97	52	1371	112
Future Volume (vph)	457	944	122	19	401	51	44	1433	97	52	1371	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8			5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.98			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3478			3531	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.41	1.00			0.74	1.00	0.12	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	759	3478			2628	1583	226	3539	1583	226	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	497	1026	133	21	436	55	48	1558	105	57	1490	122
RTOR Reduction (vph)	0	2	0	0	0	40	0	0	60	0	0	89
Lane Group Flow (vph)	497	1157	0	0	457	15	48	1558	45	57	1490	33
Turn Type	custom	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	custom
Protected Phases	8	6 8			2			7			7	
Permitted Phases	6			2		2	7		7	7		8
Actuated Green, G (s)	40.2	46.0			25.2	25.2	33.0	33.0	33.0	33.0	33.0	15.0
Effective Green, g (s)	40.2	46.0			25.2	25.2	33.0	33.0	33.0	33.0	33.0	15.0
Actuated g/C Ratio	0.45	0.51			0.28	0.28	0.37	0.37	0.37	0.37	0.37	0.17
Clearance Time (s)	5.0				5.8	5.8	6.0	6.0	6.0	6.0	6.0	5.0
Vehicle Extension (s)	3.0				5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.0
Lane Grp Cap (vph)	507	1777			735	443	82	1297	580	82	1297	263
v/s Ratio Prot	c0.16	0.33						c0.44			0.42	
v/s Ratio Perm	c0.27				0.17	0.01	0.21		0.03	0.25		0.02
v/c Ratio	0.98	0.65			0.62	0.03	0.59	1.20	0.08	0.70	1.15	0.12
Uniform Delay, d1	25.5	16.1			28.2	23.6	23.0	28.5	18.6	24.2	28.5	31.9
Progression Factor	1.43	1.58			1.00	1.00	0.61	0.63	0.27	1.00	1.00	1.00
Incremental Delay, d2	32.0	0.7			3.9	0.1	14.8	94.6	0.1	39.0	76.4	0.2
Delay (s)	68.6	26.3			32.2	23.7	28.9	112.7	5.2	63.2	104.9	32.1
Level of Service	E	C			C	C	C	F	A	E	F	C
Approach Delay (s)		39.0			31.3			103.8			98.1	
Approach LOS		D			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	76.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	99.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	296	145	50	148	63	105	1444	102	54	1087	109
Future Volume (veh/h)	176	296	145	50	148	63	105	1444	102	54	1087	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	191	322	0	54	161	68	114	1570	111	59	1182	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	307	424		223	376	159	186	1961	138	143	1900	189
Arrive On Green	0.23	0.23	0.00	0.04	0.30	0.30	0.58	0.58	0.58	0.19	0.19	0.19
Sat Flow, veh/h	1152	1870	0	1781	1248	527	424	3368	237	294	3264	325
Grp Volume(v), veh/h	191	322	0	54	0	229	114	824	857	59	643	657
Grp Sat Flow(s),veh/h/ln	1152	1870	0	1781	0	1775	424	1777	1828	294	1777	1812
Q Serve(g_s), s	14.4	14.5	0.0	2.0	0.0	9.3	22.4	32.5	33.2	18.0	29.9	30.0
Cycle Q Clear(g_c), s	17.0	14.5	0.0	2.0	0.0	9.3	52.4	32.5	33.2	51.2	29.9	30.0
Prop In Lane	1.00		0.00	1.00		0.30	1.00		0.13	1.00		0.18
Lane Grp Cap(c), veh/h	307	424		223	0	534	186	1035	1064	143	1035	1055
V/C Ratio(X)	0.62	0.76		0.24	0.00	0.43	0.61	0.80	0.81	0.41	0.62	0.62
Avail Cap(c_a), veh/h	366	520		248	0	651	186	1035	1064	143	1035	1055
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	0.58	0.58	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	34.7	32.5	0.0	25.0	0.0	25.2	34.6	14.6	14.8	52.4	27.2	27.3
Incr Delay (d2), s/veh	1.4	3.1	0.0	0.6	0.0	0.5	14.3	6.3	6.5	0.8	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.6	10.0	0.0	1.5	0.0	7.0	5.8	19.4	20.3	2.0	16.0	16.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	35.6	0.0	25.5	0.0	25.8	48.9	21.0	21.3	53.2	27.5	27.5
LnGrp LOS	D	D		C	A	C	D	C	C	D	C	C
Approach Vol, veh/h		513	A		283			1795			1359	
Approach Delay, s/veh		35.8			25.7			22.9			28.6	
Approach LOS		D			C			C			C	

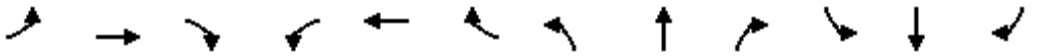
Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		58.4		31.6		58.4	6.7	24.9				
Change Period (Y+Rc), s		6.0		* 4.5		6.0	3.0	* 4.5				
Max Green Setting (Gmax), s		46.5		* 33		46.5	5.0	* 25				
Max Q Clear Time (g_c+I1), s		53.2		11.3		54.4	4.0	19.0				
Green Ext Time (p_c), s		0.0		1.3		0.0	0.0	1.4				

Intersection Summary		
HCM 6th Ctrl Delay	26.8	
HCM 6th LOS	C	

Notes

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

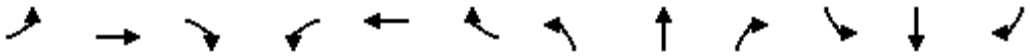
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	382	1086	155	364	1597	0	0	1157	190
Future Volume (veh/h)	0	0	0	382	1086	155	364	1597	0	0	1157	190
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				415	1180	168	396	1736	0	0	1258	207
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				402	1234	179	345	1878	0	0	1168	521
Arrive On Green				0.34	0.34	0.34	0.09	0.35	0.00	0.00	0.33	0.33
Sat Flow, veh/h				1171	3598	521	1781	3647	0	0	3647	1585
Grp Volume(v), veh/h				642	548	573	396	1736	0	0	1258	207
Grp Sat Flow(s),veh/h/ln				1812	1702	1777	1781	1777	0	0	1777	1585
Q Serve(g_s), s				24.0	21.8	21.9	9.5	32.8	0.0	0.0	23.0	7.1
Cycle Q Clear(g_c), s				24.0	21.8	21.9	9.5	32.8	0.0	0.0	23.0	7.1
Prop In Lane				0.65		0.29	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				621	584	609	345	1878	0	0	1168	521
V/C Ratio(X)				1.03	0.94	0.94	1.15	0.92	0.00	0.00	1.08	0.40
Avail Cap(c_a), veh/h				621	584	609	345	1878	0	0	1168	521
HCM Platoon Ratio				1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				23.0	22.3	22.3	19.8	21.3	0.0	0.0	23.5	18.1
Incr Delay (d2), s/veh				44.9	24.9	24.5	70.6	1.0	0.0	0.0	49.8	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
%ile BackOfQ(95%),veh/ln				24.4	17.7	18.3	13.1	15.8	0.0	0.0	24.8	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				67.9	47.2	46.8	90.4	22.3	0.0	0.0	73.3	20.4
LnGrp LOS				F	D	D	F	C	A	A	F	C
Approach Vol, veh/h					1763			2132			1465	
Approach Delay, s/veh					54.6			34.9			65.8	
Approach LOS					D			C			E	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	14.0	27.5		28.5		41.5						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	9.5	23.0		24.0		37.0						
Max Q Clear Time (g_c+I1), s	11.5	25.0		26.0		34.8						
Green Ext Time (p_c), s	0.0	0.0		0.0		1.9						

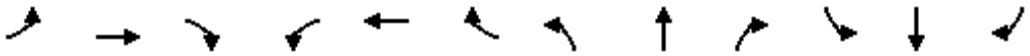
Intersection Summary		
HCM 6th Ctrl Delay		49.9
HCM 6th LOS		D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	301	1850	286	0	0	0	0	1528	304	197	1364	0
Future Volume (veh/h)	301	1850	286	0	0	0	0	1528	304	197	1364	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	327	2011	311				0	1661	330	214	1483	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	249	1659	577				0	1529	294	103	1828	0
Arrive On Green	0.36	0.36	0.36				0.00	0.51	0.51	0.51	0.51	0.00
Sat Flow, veh/h	685	4555	1585				0	3067	571	217	3647	0
Grp Volume(v), veh/h	877	1461	311				0	970	1021	214	1483	0
Grp Sat Flow(s),veh/h/ln	1836	1702	1585				0	1777	1768	217	1777	0
Q Serve(g_s), s	25.5	25.5	10.9				0.0	36.0	36.0	0.0	24.4	0.0
Cycle Q Clear(g_c), s	25.5	25.5	10.9				0.0	36.0	36.0	36.0	24.4	0.0
Prop In Lane	0.37		1.00				0.00		0.32	1.00		0.00
Lane Grp Cap(c), veh/h	669	1240	577				0	914	909	103	1828	0
V/C Ratio(X)	1.31	1.18	0.54				0.00	1.06	1.12	2.08	0.81	0.00
Avail Cap(c_a), veh/h	669	1240	577				0	914	909	103	1828	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.09	0.09	0.00
Uniform Delay (d), s/veh	22.3	22.3	17.6				0.0	17.0	17.0	35.0	14.2	0.0
Incr Delay (d2), s/veh	150.4	88.9	1.0				0.0	47.5	69.8	489.3	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	56.5	36.2	6.9				0.0	34.0	42.4	25.2	9.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	172.7	111.2	18.6				0.0	64.5	86.8	524.3	14.6	0.0
LnGrp LOS	F	F	B				A	F	F	F	B	A
Approach Vol, veh/h		2649						1991			1697	
Approach Delay, s/veh		120.7						75.9			78.8	
Approach LOS		F						E			E	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		40.0				40.0		30.0				
Change Period (Y+Rc), s		4.0				4.0		4.5				
Max Green Setting (Gmax), s		36.0				36.0		25.5				
Max Q Clear Time (g_c+I1), s		38.0				38.0		27.5				
Green Ext Time (p_c), s		0.0				0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			95.4									
HCM 6th LOS			F									



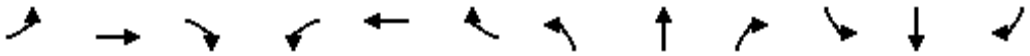
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	989	136	175	415	180	125	1236	204	253	1046	91
Future Volume (veh/h)	188	989	136	175	415	180	125	1236	204	253	1046	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	1075	148	190	451	196	136	1343	222	275	1137	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	1186	163	104	913	394	449	2191	358	236	2028	176
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.05	0.72	0.72	1.00	1.00	1.00
Sat Flow, veh/h	784	3138	431	456	2418	1042	1781	3057	500	329	3308	288
Grp Volume(v), veh/h	204	608	615	190	330	317	136	775	790	275	610	626
Grp Sat Flow(s),veh/h/ln	784	1777	1793	456	1777	1683	1781	1777	1780	329	1777	1819
Q Serve(g_s), s	21.0	29.1	29.2	4.8	12.8	13.0	2.3	19.7	20.4	42.8	0.0	0.0
Cycle Q Clear(g_c), s	34.0	29.1	29.2	34.0	12.8	13.0	2.3	19.7	20.4	55.2	0.0	0.0
Prop In Lane	1.00		0.24	1.00		0.62	1.00		0.28	1.00		0.16
Lane Grp Cap(c), veh/h	263	671	677	104	671	636	449	1273	1276	236	1089	1115
V/C Ratio(X)	0.78	0.91	0.91	1.83	0.49	0.50	0.30	0.61	0.62	1.16	0.56	0.56
Avail Cap(c_a), veh/h	263	671	677	104	671	636	462	1273	1276	236	1089	1115
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	26.5	26.5	44.5	21.4	21.5	4.8	6.4	6.5	13.4	0.0	0.0
Incr Delay (d2), s/veh	2.1	2.2	2.2	406.4	2.6	2.8	0.4	2.2	2.3	109.6	2.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.7	13.8	14.0	25.3	9.5	9.2	1.4	10.7	11.0	19.6	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	28.7	28.8	450.8	24.0	24.2	5.1	8.6	8.8	123.0	2.1	2.0
LnGrp LOS	D	C	C	F	C	C	A	A	A	F	A	A
Approach Vol, veh/h		1427			837			1701			1511	
Approach Delay, s/veh		30.0			121.0			8.4			24.1	
Approach LOS		C			F			A			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.3	59.7		38.5		69.0		38.5				
Change Period (Y+Rc), s	4.5	4.0		4.5		4.0		* 4.5				
Max Green Setting (Gmax), s	5.5	38.0		33.5		48.0		* 34				
Max Q Clear Time (g_c+I1), s	4.3	57.2		36.0		22.4		36.0				
Green Ext Time (p_c), s	0.0	0.0		0.0		13.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		35.6	
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)	155	1112	134	139	695	291	138	1087	182	204	1103	152
Future Volume (veh/h)	155	1112	134	139	695	291	138	1087	182	204	1103	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	1209	146	151	755	316	150	1182	198	222	1199	165
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	1160	140	80	887	371	158	1041	173	257	1580	217
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.34	0.34	0.34	0.10	0.50	0.50
Sat Flow, veh/h	527	3194	384	402	2442	1021	399	3048	508	1781	3139	430
Grp Volume(v), veh/h	168	671	684	151	549	522	150	687	693	222	677	687
Grp Sat Flow(s),veh/h/ln	527	1777	1801	402	1777	1687	399	1777	1779	1781	1777	1793
Q Serve(g_s), s	7.0	32.7	32.7	0.0	25.6	25.7	17.5	30.7	30.7	6.9	27.5	27.8
Cycle Q Clear(g_c), s	32.7	32.7	32.7	32.7	25.6	25.7	30.7	30.7	30.7	6.9	27.5	27.8
Prop In Lane	1.00		0.21	1.00		0.61	1.00		0.29	1.00		0.24
Lane Grp Cap(c), veh/h	121	646	654	80	646	613	158	607	608	257	894	902
V/C Ratio(X)	1.39	1.04	1.05	1.89	0.85	0.85	0.95	1.13	1.14	0.86	0.76	0.76
Avail Cap(c_a), veh/h	121	646	654	80	646	613	158	607	608	258	894	902
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)	0.58	0.58	0.58	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.8	28.6	28.7	45.0	26.4	26.4	40.5	29.6	29.6	20.9	17.9	18.0
Incr Delay (d2), s/veh	200.8	37.7	39.4	442.6	13.3	13.9	60.0	78.5	82.1	24.5	5.9	6.0
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	15.7	26.3	27.1	20.9	18.6	17.9	9.9	36.9	37.9	7.9	17.5	17.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	244.6	66.4	68.1	487.6	39.7	40.4	100.5	108.1	111.8	45.4	23.9	24.0
LnGrp LOS	F	F	F	F	D	D	F	F	F	D	C	C
Approach Vol, veh/h		1523			1222			1530			1586	
Approach Delay, s/veh		86.8			95.3			109.0			27.0	
Approach LOS		F			F			F			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		51.0		39.0	14.6	36.4		39.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 45		* 33	9.0	* 31		* 33				
Max Q Clear Time (g_c+I1), s		29.8		34.7	8.9	32.7		34.7				
Green Ext Time (p_c), s		8.5		0.0	0.0	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		78.2
HCM 6th LOS		E

Notes

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

Intersection	
Int Delay, s/veh	0.4

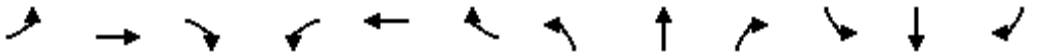
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Traffic Vol, veh/h	38	1924	16	0	743	0	22	12	0	0
Future Vol, veh/h	38	1924	16	0	743	0	22	12	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	-	-	-	0	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	2091	17	0	808	0	24	13	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	808	0	0	-	-	0	2586	1054
Stage 1	-	-	-	-	-	-	2182	-
Stage 2	-	-	-	-	-	-	404	-
Critical Hdwy	4.14	-	-	-	-	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.67	3.92
Pot Cap-1 Maneuver	813	-	-	0	-	0	*30	*452
Stage 1	-	-	-	0	-	0	*483	-
Stage 2	-	-	-	0	-	0	*621	-
Platoon blocked, %		-	-		-			1
Mov Cap-1 Maneuver	813	-	-	-	-	-	*30	*452
Mov Cap-2 Maneuver	-	-	-	-	-	-	*254	-
Stage 1	-	-	-	-	-	-	*483	-
Stage 2	-	-	-	-	-	-	*621	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	18
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT
Capacity (veh/h)	254	452	813	-	-	-
HCM Lane V/C Ratio	0.094	0.029	0.051	-	-	-
HCM Control Delay (s)	20.6	13.2	9.7	0	-	-
HCM Lane LOS	C	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0.1	0.2	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2080	51	0	1264	82	46	16	199	103	0	32
Future Volume (veh/h)	0	2080	51	0	1264	82	46	16	199	103	0	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	2261	55	0	1374	0	50	17	216	112	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	3282	80	0	2274		96	40	286	221	9	50
Arrive On Green	0.00	0.64	0.64	0.00	0.64	0.00	0.22	0.22	0.22	0.22	0.00	0.22
Sat Flow, veh/h	0	5296	124	0	3741	0	219	180	1286	679	43	226
Grp Volume(v), veh/h	0	1499	817	0	1374	0	283	0	0	147	0	0
Grp Sat Flow(s),veh/h/ln	0	1702	1848	0	1777	0	1685	0	0	947	0	0
Q Serve(g_s), s	0.0	25.5	25.7	0.0	20.4	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	25.5	25.7	0.0	20.4	0.0	13.7	0.0	0.0	14.7	0.0	0.0
Prop In Lane	0.00		0.07	0.00		0.00	0.18		0.76	0.76		0.24
Lane Grp Cap(c), veh/h	0	2179	1183	0	2274		422	0	0	281	0	0
V/C Ratio(X)	0.00	0.69	0.69	0.00	0.60		0.67	0.00	0.00	0.52	0.00	0.00
Avail Cap(c_a), veh/h	0	2179	1183	0	2274		423	0	0	282	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	10.4	10.5	0.0	9.5	0.0	32.7	0.0	0.0	32.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	1.7	0.0	1.2	0.0	4.1	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	13.2	14.6	0.0	11.6	0.0	10.1	0.0	0.0	5.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.3	12.2	0.0	10.7	0.0	36.8	0.0	0.0	34.6	0.0	0.0
LnGrp LOS	A	B	B	A	B		D	A	A	C	A	A
Approach Vol, veh/h		2316			1374	A		283			147	
Approach Delay, s/veh		11.6			10.7			36.8			34.6	
Approach LOS		B			B			D			C	

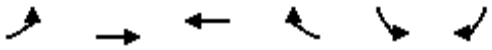
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	64.3	25.7	64.3	25.7
Change Period (Y+Rc), s	6.7	* 5.7	6.7	5.7
Max Green Setting (Gmax), s	32.5	* 20	32.5	20.1
Max Q Clear Time (g_c+I1), s	22.4	16.7	27.7	15.7
Green Ext Time (p_c), s	6.6	0.2	4.4	0.7

Intersection Summary	
HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Notes

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

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	53	2468	0	0	29	0
Future Volume (Veh/h)	53	2468	0	0	29	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	58	2683	0	0	32	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		270	258			
pX, platoon unblocked					0.67	
vC, conflicting volume	0				787	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				95	100
cM capacity (veh/h)	1622				656	1084

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	SB 1
Volume Total	441	767	767	767	32
Volume Left	58	0	0	0	32
Volume Right	0	0	0	0	0
cSH	1622	1700	1700	1700	656
Volume to Capacity	0.04	0.45	0.45	0.45	0.05
Queue Length 95th (ft)	3	0	0	0	4
Control Delay (s)	1.3	0.0	0.0	0.0	10.8
Lane LOS	A				B
Approach Delay (s)	0.2				10.8
Approach LOS					B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	18.5

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Vol, veh/h	54	37	0	1277	46	75	682	0	0	0
Future Vol, veh/h	54	37	0	1277	46	75	682	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None	-	-
Storage Length	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	40	0	1388	50	82	741	0	0	0

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1948	719	-	0	0	1438	0	0	
Stage 1	1413	-	-	-	-	-	-	-	
Stage 2	535	-	-	-	-	-	-	-	
Critical Hdwy	6.84	6.94	-	-	-	4.14	-	-	
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-	
Follow-up Hdwy	3.52	3.32	-	-	-	2.22	-	-	
Pot Cap-1 Maneuver	~ 57	371	0	-	-	468	-	-	
Stage 1	191	-	0	-	-	-	-	-	
Stage 2	551	-	0	-	-	-	-	-	
Platoon blocked, %				-	-		-	-	
Mov Cap-1 Maneuver	~ 40	371	-	-	-	468	-	-	
Mov Cap-2 Maneuver	~ 40	-	-	-	-	-	-	-	
Stage 1	191	-	-	-	-	-	-	-	
Stage 2	387	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	$ 428.8	0	1.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	63	468	-	-
HCM Lane V/C Ratio	-	-	1.57	0.174	-	-
HCM Control Delay (s)	-	-	$ 428.8	14.3	-	-
HCM Lane LOS	-	-	F	B	-	-
HCM 95th %tile Q(veh)	-	-	8.7	0.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	17.3

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Vol, veh/h	54	55	0	1126	29	63	741	0	0	0
Future Vol, veh/h	54	55	0	1126	29	63	741	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	-	None	-	-
Storage Length	0	-	-	-	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	60	0	1224	32	68	805	0	0	0

Major/Minor	Minor1			Major1			Major2			Minor2	
Conflicting Flow All	1779	628	-	0	0	1256	0	0	-	403	
Stage 1	1240	-	-	-	-	-	-	-	-	-	
Stage 2	539	-	-	-	-	-	-	-	-	-	
Critical Hdwy	7.54	6.94	-	-	-	4.14	-	-	-	6.94	
Critical Hdwy Stg 1	6.54	-	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.54	-	-	-	-	-	-	-	-	-	
Follow-up Hdwy	3.52	3.32	-	-	-	2.22	-	-	-	3.32	
Pot Cap-1 Maneuver	~ 52	426	0	-	-	550	-	-	0	597	
Stage 1	186	-	0	-	-	-	-	-	0	-	
Stage 2	494	-	0	-	-	-	-	-	0	-	
Platoon blocked, %				-	-		-	-			
Mov Cap-1 Maneuver	~ 47	426	-	-	-	550	-	-	-	597	
Mov Cap-2 Maneuver	~ 47	-	-	-	-	-	-	-	-	-	
Stage 1	186	-	-	-	-	-	-	-	-	-	
Stage 2	433	-	-	-	-	-	-	-	-	-	

Approach	WB	NB	SB	NE
HCM Control Delay, s	$ 321.5	0	1	0
HCM LOS	F			A

Minor Lane/Major Mvmt	NELn1	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	-	85	550	-	-
HCM Lane V/C Ratio	-	-	-	1.394	0.125	-	-
HCM Control Delay (s)	0	-	-	$ 321.5	12.5	-	-
HCM Lane LOS	A	-	-	F	B	-	-
HCM 95th %tile Q(veh)	-	-	-	9.1	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	936.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	286	156	121	1253	1194	185
Future Vol, veh/h	286	156	121	1253	1194	185
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	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	311	170	132	1362	1298	201

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2344	750	1499	0	-	0
Stage 1	1399	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 30	354	443	-	-	-
Stage 1	~ 194	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 21	354	443	-	-	-
Mov Cap-2 Maneuver	~ 21	-	-	-	-	-
Stage 1	~ 136	-	-	-	-	-
Stage 2	338	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 6767	1.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	443	-	31	-	-
HCM Lane V/C Ratio	0.297	-	15.498	-	-
HCM Control Delay (s)	16.5	-	$ 6767	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	1.2	-	59.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	6	0	0	44	10
Future Vol, veh/h	0	6	0	0	44	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	0	0	48	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	54	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	1013	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	1013	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

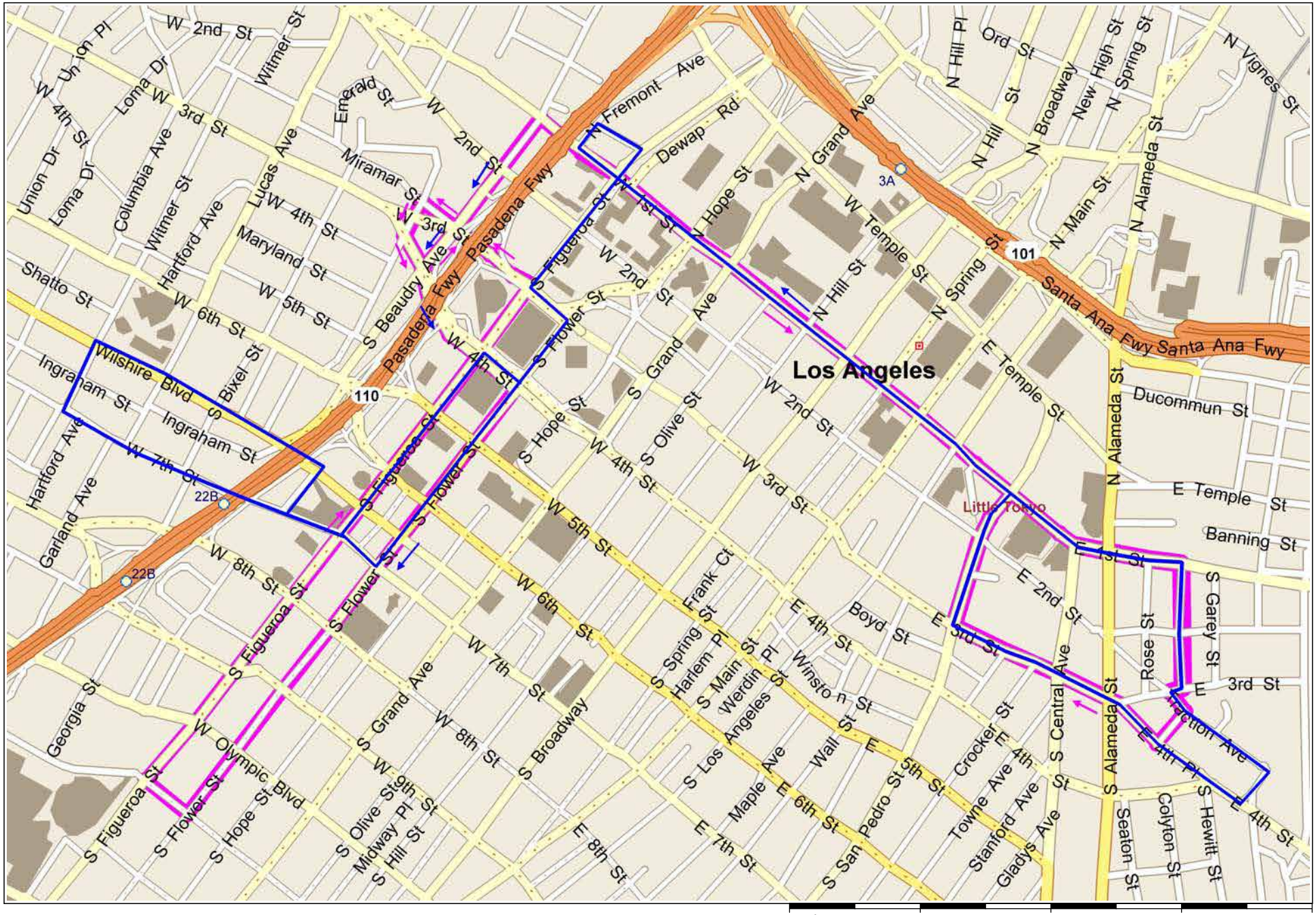
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	1013	-	-
HCM Lane V/C Ratio	-	0.006	-	-
HCM Control Delay (s)	-	8.6	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Appendix D

Proposed LADOT DASH Route Extensions

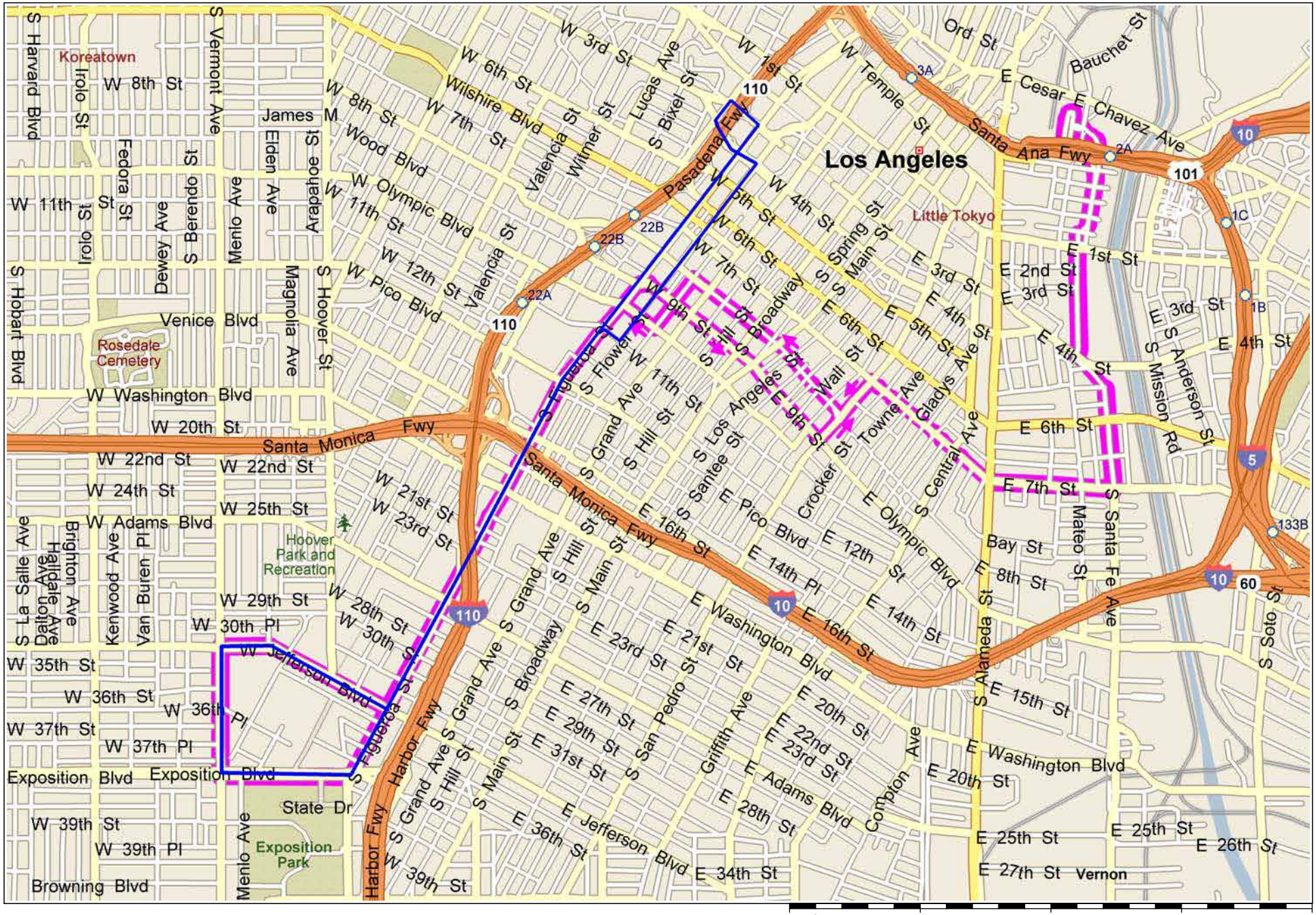
EXISTING ROUTE	Tentatively planned for **late 2017**			Tentatively planned for **2018 / 2019**	
	ADDED SERVICE	EXTEND WEEKDAY HOURS	EXTEND WEEKEND HOURS	INCREASE FREQUENCIES	ROUTE CHANGE
Downtown A	Sat. & Sun.	•			•

DOWNTOWN DASH A - RECOMMENDED ROUTE CHANGE



EXISTING ROUTE	Tentatively planned for **late 2017**			Tentatively planned for **2018 / 2019**	
	ADDED SERVICE	EXTEND WEEKDAY HOURS	EXTEND WEEKEND HOURS	INCREASE FREQUENCIES	ROUTE CHANGE
Downtown F		●	●		●

DOWNTOWN DASH F - RECOMMENDED ROUTE CHANGE



Appendix E

Threshold T-1 Evaluation Tables

Plans, Policies and Programs Consistency Worksheet

The worksheet provides a structured approach to evaluate the threshold T-1 question below, that asks whether a project conflicts with a program, plan, ordinance or policy addressing the circulation system. The intention of the worksheet is to streamline the project review by highlighting the most relevant plans, policies and programs when assessing potential impacts to the City's circulation system.

> Threshold T-1: Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities?

This worksheet does not include an exhaustive list of City policies, and does not include community plans, specific plans, or any area-specific regulatory overlays. The Department of City Planning project planner will need to be consulted to determine if the project would obstruct the City from carrying out a policy or program in a community plan, specific plan, streetscape plan, or regulatory overlay that was adopted to support multimodal transportation options or public safety. LADOT staff should be consulted if a project would lead to a conflict with a mobility investment in the Public Right of Way (PROW) that is currently undergoing planning, design, or delivery. This worksheet must be completed for all projects that meet the Section I. Screening Criteria. For description of the relevant planning documents, **see Attachment D.1.**

For any response to the following questions that checks the box in bold text ((i.e. Yes or No), further analysis is needed to demonstrate that the project does not conflict with a plan, policy, or program.

I. SCREENING CRITERIA FOR POLICY ANALYSIS

If the answer is 'yes' to any of the following questions, further analysis will be required:

Does the project require a discretionary action that requires the decision maker to find that the project would substantially conform to the purpose, intent and provisions of the General Plan?

☑ Yes ☐ No

Is the project known to directly conflict with a transportation plan, policy, or program adopted to support multimodal transportation options or public safety?

☐ Yes ☑ No

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.)?

☑ Yes ☐ No

II. PLAN CONSISTENCY ANALYSIS

A. Mobility Plan 2035 PROW Classification Standards for Dedications and Improvements

These questions address potential conflict with:

Mobility Plan 2035 Policy 2.1 *– Adaptive Reuse of Streets. Design, plan, and operate streets to serve multiple purposes and provide flexibility in design to adapt to future demands.*

Mobility Plan 2035 Policy 2.3 *– Pedestrian Infrastructure. Recognize walking as a component of every trip, and ensure high quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.*

Mobility Plan 2035 Policy 3.2 – *People with Disabilities. Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.*

Mobility Plan 2035 Street Designations and Standard Roadway Dimensions

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? ☑ Yes ☐ No

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 ☐ No ☐ N/A

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)?

☑ Yes ☐ No ☐ N/A

If the answer is to **A.1 or A.2 is NO, or to A.1, A.2 and A.3. is YES**, then the project does not conflict with the dedication and improvement requirements that are needed to comply with the Mobility Plan 2035 Street Designations and Standard Roadway Dimensions.

A.4 If the answer to **A.3. is NO**, is the project applicant asking to waive from the dedication standards?

☐ **Yes** ☐ **No** ☑ N/A

Lists any streets subject to dedications or voluntary dedications and include existing roadway and sidewalk widths, required roadway and sidewalk widths, and proposed roadway and sidewalk width or waivers.

4th Street (Half ROW)
Frontage 1 Existing PROW'/Curb' : Existing 32' to 48'/9.5 to 10' Required 43' / 15' Proposed 43' / 15'

Central Avenue (Half ROW)
Frontage 2 Existing PROW'/Curb' : Existing 50' / 14' Required 50' / 15' Proposed 50' / 15'

Alameda Street (Half ROW)
Frontage 3 Existing PROW'/Curb' : Existing 40' / 8' Required 50' / 15' Proposed 50' / 15'

Gladys Avenue (Half ROW)
Frontage 4 Existing PROW'/Curb' : Existing 30' / 10' Required 30' / 12' Proposed 30' / 12'

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
- Neighborhood Enhanced Network

To see the location of the above networks, see **Transportation Assessment Support Map**.[1]

Is the project within the service area of Metro Bike Share, or is there demonstrated demand for micro-mobility services?

If the project dedications and improvements asking to be waived are necessary to meet the City's mobility needs, the project may be found to conflict with a plan that is adopted to protect the environment.

B. Mobility Plan 2035 PROW Policy Alignment with Project-Initiated Changes

B.1 Project-Initiated Changes to the PROW Dimensions

These questions address potential conflict with:

> ***Mobility Plan 2035 Policy 2.1*** *– Adaptive Reuse of Streets. Design, plan, and operate streets to serve multiple purposes and provide flexibility in design to adapt to future demands.*
>
> ***Mobility Plan 2035 Policy 2.3*** *– Pedestrian Infrastructure. Recognize walking as a component of every trip, and ensure high quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.*
>
> ***Mobility Plan 2035 Policy 3.2 –*** *People with Disabilities. Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.*
>
> ***Mobility Plan 2035 Policy 2.10*** *– Loading Areas. Facilitate the provision of adequate on and off-site street loading areas.*
>
> **Mobility Plan 2035 Street Designations and Standard Roadway Dimensions**

[1] LADOT Transportation Assessment Support Map https://arcg.is/fubbD

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?

Examples of physical changes to the public right-of-way include:

- widening the roadway,
- narrowing the sidewalk,
- adding space for vehicle turn outs or loading areas,
- removing bicycle lanes, bike share stations, or bicycle parking
- modifying existing bus stop, transit shelter, or other street furniture
- paving, narrowing, shifting or removing an existing parkway or tree well

☐ **Yes** ☑ No

B.2 Driveway Access

These questions address potential conflict with:

Mobility Plan 2035 Policy 2.10 *– Loading Areas. Facilitate the provision of adequate on and off-site street loading areas.*

Mobility Plan 2035 Program PL.1. Driveway Access. *Require driveway access to buildings from non-arterial streets or alleys (where feasible) in order to minimize interference with pedestrian access and vehicular movement.*

Citywide Design Guidelines - Guideline 2*: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.*

Site Planning Best Practices:

- *Prioritize pedestrian access first and automobile access second. Orient parking and driveways toward the rear or side of buildings and away from the public right-of-way. On corner lots, parking should be oriented as far from the corner as possible.*
- *Minimize both the number of driveway entrances and overall driveway widths.*
- *Do not locate drop-off/pick-up areas between principal building entrances and the adjoining sidewalks.*
- *Orient vehicular access as far from street intersections as possible.*
- *Place drive-thru elements away from intersections and avoid placing them so that they create a barrier between the sidewalk and building entrance(s).*
- *Ensure that loading areas do not interfere with on-site pedestrian and vehicular circulation by separating loading areas and larger commercial vehicles from areas that are used for public parking and public entrances.*

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 (See Sec. 321 in the Manual of Policies and Procedures) by any of the following:

- locating new driveways for residential properties on an Avenue or Boulevard, and access is otherwise possible using an alley or a collector/local street, or
- locating new driveways for industrial or commercial properties on an Avenue or Boulevard and access is possible along a collector/local street, or

- the total number of new driveways exceeds 1 driveway per every 200 feet[2] along on the Avenue or Boulevard frontage, or
- locating new driveways on an Avenue or Boulevard within 150 feet from the intersecting street, or
- locating new driveways on a collector or local street within 75 feet from the intersecting street, or
- locating new driveways near mid-block crosswalks, requiring relocation of the mid-block crosswalk

☐ **Yes** ☑ No

If the answer to **B.1 and B.2 are both NO**, then the project would not conflict with a plan or policies that govern the PROW as a result of the project-initiated changes to the PROW.

Impact Analysis

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 obstructed from carrying out the plans and policies. The analysis should pay special consideration to substantial changes to the Public Right of Way that may either degrade existing facilities for people walking and bicycling (e.g., removing a bicycle lane), or preclude the City from completing complete street infrastructure as identified in the Mobility Plan 2035, especially if the physical changes are along streets that are on the High Injury Network (HIN). The analysis should also consider if the project is in a Transit Oriented Community (TOC) area, and would degrade or inhibit trips made by biking, walking and/ or transit ridership. 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

To see the location of the above networks, see **Transportation Assessment Support Map**.[3]

Once the project is reviewed relevant to plans and policies, and existing facilities that may be impacted by the project, the analysis will need to answer the following two questions in concluding if there is an impact due to plan inconsistency.

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?

☐ **Yes** ☑ No ☐ N/A

[2] for a project frontage that exceeds 400 feet along an Avenue or Boulevard, the incremental additional driveway above 2 is more than 1 driveway for every 400 additional feet.

[3] LADOT Transportation Assessment Support Map https://arcg.is/fubbD

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?

☐ **Yes** ☑ No ☐ N/A

If either of the answers to either **B.2.1 or B.2.2 are YES**, the project may conflict with the Mobility Plan 2035, and therefore conflict with a plan that is adopted to protect the environment. If either of the answers to both **B.2.1. or B.2.2. are NO**, then the project would not be shown to conflict with plans or policies that govern the Public Right-of-Way.

C. Network Access

C. 1 Alley, Street and Stairway Access

These questions address potential conflict with:

Mobility Plan Policy 3.9 *Increased Network Access: Discourage the vacation of public rights-of-way.*

C.1.1 Does the project propose to vacate or otherwise restrict public access to a street, alley, or public stairway?

☐ Yes ☑ No

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 ☐ **No** ☑ N/A

C.2 New Cul-de-sacs

These questions address potential conflict with:

Mobility Plan 2035 Policy 3.10 *Cul-de-sacs: Discourage the use of cul-de-sacs that do not provide access for active transportation options.*

C.2.1 Does the project create a cul-de-sac or is the project located adjacent to an existing cul-de-sac?

☐ Yes ☑ No

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?

☐ Yes ☐ **No** ☑ N/A

If the answers to either C.1.2 or C.2.2 are YES, then the project would not conflict with a plan or policies that ensures access for all modes of travel. If the answer to either **C.1.2 or C.2.2 are NO**, the project may conflict with a plan or policies that governs multimodal access to a property. Further analysis must assess to the degree that pedestrians and bicyclists have sufficient public access to the transportation network.

D. Parking Supply and Transportation Demand Management

These questions address potential conflict with:

Mobility Plan 2035 Policy 3.8 *– Bicycle Parking, Provide bicyclists with convenient, secure and well maintained bicycle parking facilities.*

Mobility Plan 2035 Policy 4.8 – *Transportation Demand Management Strategies. Encourage greater utilization of Transportation Demand Management Strategies to reduce dependence on single-occupancy vehicles.*

Mobility Plan 2035 Policy 4.13 *– Parking and Land Use Management: Balance on-street and off-street parking supply with other transportation and land use objectives.*

D.1 Would the project propose a supply of onsite parking that exceeds the baseline amount[4] as required in the Los Angeles Municipal Code or a Specific plan, whichever requirement prevails?

☐ Yes ☑ No

D.2 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 all users (e.g. parking cash-out), or for residential properties, unbundle the supply from the lease or sale of residential units?

☐ Yes ☐ **No** ☑ N/A

If the answer to **D.2. is NO** the project may conflict with parking management policies. Further analysis is needed to demonstrate how the supply of parking above city requirements will not result in additional (induced) drive-alone trips as compared to an alternative that provided no more parking than the baseline required by the LAMC or Specific Plan. If there is potential for the supply of parking to result in induced demand for drive-alone trips, the project should further explore transportation demand management (TDM) measures to further off-set the induced demands of driving and vehicle miles travelled (VMT) that may result from higher amounts of on-site parking. The TDM measures should specifically focus on strategies that encourage dynamic and context-sensitive pricing solutions and ensure the parking is efficiently allocated, such as providing real time information. Research has demonstrated that charging a user cost for parking or providing a 'cash-out' option in return for not using it is the most effective strategy to reduce the instances of drive-alone trips and increase non-auto mode share to further reduce VMT. To ensure the parking is efficiently managed and reduce the need to build parking for future uses, further strategies should include sharing parking with other properties and/or the general public.

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 ☐ **No**

[4] The baseline parking is defined here as the default parking requirements in section 12.21 A.4 of the Los Angeles Municipal Code or any applicable Specific Plan, whichever prevails, for each applicable use not taking into consideration other parking incentives to reduce the amount of required parking.

D.4. Does the Project include more than 25,000 square feet of gross floor area construction of new non-residential gross floor?

☑ Yes ☐ No

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?

☑ Yes ☐ **No** ☐ N/A

If the answer to **D.3. or D.5. is NO** the project conflicts with LAMC code requirements of bicycle parking and TDM measures. If the project includes uses that require bicycle parking (Section 12.21 A.16) or TDM (Section 12.26 J), and the project does not comply with those Sections of the LAMC, further analysis is required to ensure that the project supports the intent of the two LAMC sections. To meet the intent of bicycle parking requirements, the analysis should identify how the project commits to providing safe access to those traveling by bicycle and accommodates storing their bicycle in locations that demonstrates priority over vehicle access.

Similarly, to meet the intent of the TDM requirements of Section 12.26 J of the LAMC, the analysis should identify how the project commits to providing effective strategies in either physical facilities or programs that encourage non-drive alone trips to and from the project site and changes in work schedule that move trips out of the peak period or eliminate them altogether (as in the case in telecommuting or compressed work weeks).

E. Consistency with Regional Plans

This section addresses potential inconsistencies with greenhouse gas (GHG) reduction targets forecasted in the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) / Sustainable Communities Strategy (SCS).

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 ☐ No

E.2 If the Answer to E.1 is YES, does the Project or Plan result in a significant VMT impact?

☐ Yes ☑ No ☐ N/A

E.3 If the Answer to E.1 is NO, does the Project result in a net increase in VMT?

☑ Yes ☐ No ☐ N/A

If the Answer to E.2 or E.3 is NO, then the Project or Plan is shown to align with the long-term VMT and GHG reduction goals of SCAG's RTP/SCS.

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. For the purpose of making a finding that a project is consistent with the GHG reduction targets forecasted in the SCAG RTP/SCS, the project analyst should consult Section 2.2.4 of the Transportation Assessment Guidelines (TAG). Section 2.2.4 provides the methodology for evaluating a land use project's cumulative impacts to VMT, and the appropriate reliance on SCAG's most recently adopted RTP/SCS in reaching that conclusion.

The analysis methods therein can further support findings that the project is consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy for which the State Air Resources Board, pursuant to Section 65080(b)(2)(H) of the Government Code, has accepted a metropolitan planning organization's determination that the sustainable communities strategy or the alternative planning strategy would, if implemented, achieve the greenhouse gas emission reduction targets.

References

BOE Street Standard Dimensions S-470-1 http://eng2.lacity.org/techdocs/stdplans/s-400/S-470-1_20151021_150849.pdf

LADCP Citywide Design Guidelines. https://planning.lacity.org/odocument/f6608be7-d5fe-4187-bea6-20618eec5049/Citywide_Design_Guidelines.pdf

LADOT Transportation Assessment Support Map https://arcg.is/fubbD

Mobility Plan 2035 https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf

SCAG. Connect SoCal, 2020-2045 RTP/SCS, https://www.connectsocal.org/Pages/default.aspx

ATTACHMENT D.1: CITY PLAN, POLICIES AND GUIDELINES

The Transportation Element of the City's General Plan, Mobility Plan 2035, established the "Complete Streets Design Guide" as 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 what their mode choice. As a living document, it is intended to be frequently updated as City departments identify and implement street standards and experiment with different configurations to promote complete streets. The guide is meant to be a toolkit that provides numerous examples of what is possible in the public right-of-way and that provides guidance on context-sensitive design.

The Plan for A Healthy Los Angeles (March 2015) includes policies directing several City departments to develop plans that promote active transportation and safety.

The City of Los Angeles Community Plans, which make up the Land Use Element of the City's General Plan, guide the physical development of neighborhoods by establishing the goals and policies for land use. The 35 Community Plans provide specific, neighborhood-level detail for land uses and the transportation network, relevant policies, and implementation strategies necessary to achieve General Plan and community-specific objectives.

The stated goal of Vision Zero is to eliminate traffic-related deaths in Los Angeles by 2025 through a number of strategies, including modifying the design of streets to increase the safety of vulnerable road users. Extensive crash data analysis is conducted on an ongoing basis to prioritize intersections and corridors for implementation of projects that will have the greatest effect on overall fatality reduction. The City designs and deploys Vision Zero Corridor Plans as part of the implementation of Vision Zero. If a project is proposed whose site lies on the High Injury Network (HIN), the applicant should consult with LADOT to inform the project's site plan and to determine appropriate improvements, whether by funding their implementation in full or by making a contribution toward their implementation.

The Citywide Design Guidelines (October 24, 2019) 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.

The City's Transportation Demand Management (TDM) Ordinance (LA Municipal Code 12.26.J) requires certain projects to incorporate strategies that reduce drive-alone vehicle trips and improve access to destinations and services. The ordinance is revised and updated periodically and should be reviewed for application to specific projects as they are reviewed.

The City's LAMC Section 12.37 (Waivers of Dedication and Improvement) requires certain projects to dedicate and/or implement improvements within the public right-of-way to meet the street designation standards of the Mobility Plan 2035.

The Bureau of Engineering (BOE) Street Standard Dimensions S-470-1 provides the specific street widths and public right of way dimensions associated with the City's street standards.

Appendix F

Vehicle Miles Traveled Worksheets

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

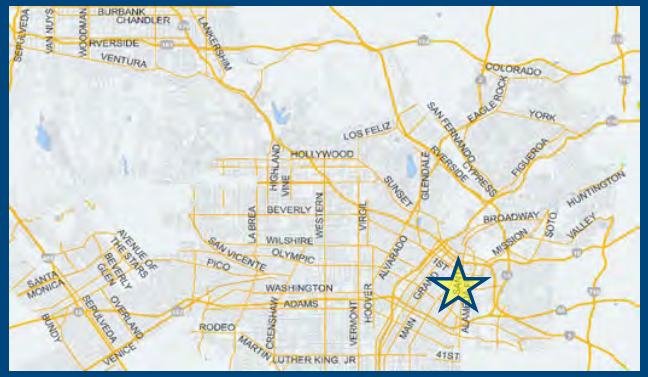
Project Information

Project: 4th & Central

Scenario: Project

Address: 400 S CENTRAL AVE, 90013

www



If the project is replacing an existing number of residential units with a smaller number of residential units, is the proposed project located within one-half mile of a fixed-rail or fixed-guideway transit station?

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
Industrial | Warehousing/Self-Storage	360.734	ksf

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 | Multi-Family	1521	DU
Housing | Hotel	68	Rooms
Retail | General Retail	45.266	ksf
Retail | High-Turnover Sit-Down Restaurant	34.423	ksf
Retail | Quality Restaurant	34.423	ksf
Office | General Office	411.113	ksf

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
659 Daily Vehicle Trips	14,405 Daily Vehicle Trips
4,518 Daily VMT	94,270 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	13,746 Net Daily Trips
The net increase in daily VMT ≤ 0	89,752 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	114.112 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

5/31/2022

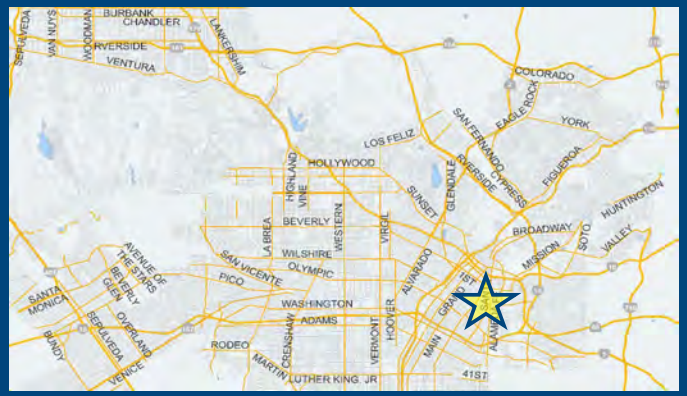
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 4th & Central

Scenario: Project

Address: 400 S CENTRAL AVE, 90013



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	1521	DU
Housing | Hotel	68	Rooms
Retail | General Retail	45.266	ksf
Retail | High-Turnover Sit-Down Restaurant	34.423	ksf
Retail | Quality Restaurant	34.423	ksf
Office | General Office	411.113	ksf

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
2658 city code parking provision for the project site
2475 actual parking provision for the project site

Unbundle Parking
☐ Proposed Prj ☐ Mitigation
25 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
13,724 Daily Vehicle Trips	**13,724** Daily Vehicle Trips
89,694 Daily VMT	**89,694** Daily VMT
3.9 Household VMT per Capita	**3.9** Household VMT per Capita
6.5 Work VMT per Employee	**6.5** Work VMT per Employee

Significant VMT Impact?

Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: No Threshold = 7.6 15% Below APC	**Work: No** Threshold = 7.6 15% Below APC

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: May 31, 2022
Project Name: 4th & Central
Project Scenario: Project
Project Address: 400 S CENTRAL AVE, 90013

Version 1.3

Project Information			
Land Use Type		**Value**	**Units**
Housing	*Single Family*	*0*	*DU*
	Multi Family	1,521	DU
	Townhouse	*0*	*DU*
	Hotel	68	Rooms
	Motel	*0*	*Rooms*
Affordable Housing	*Family*	*0*	*DU*
	Senior	*0*	*DU*
	Special Needs	*0*	*DU*
	Permanent Supportive	*0*	*DU*
Retail	General Retail	45.266	ksf
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	*0.000*	*ksf*
	Supermarket	*0.000*	*ksf*
	Bank	*0.000*	*ksf*
	Health Club	*0.000*	*ksf*
	High-Turnover Sit-Down Restaurant	34.423	ksf
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	34.423	ksf
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	General Office	411.113	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*
Other		*0*	*Trips*

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: May 31, 2022
Project Name: 4th & Central
Project Scenario: Project
Project Address: 400 S CENTRAL AVE, 90013

Version 1.3

Analysis Results			
Total Employees: 2,044 Total Population: 3,427			
Proposed Project		***With Mitigation***	
13,724	**Daily Vehicle Trips**	**13,724**	**Daily Vehicle Trips**
89,694	**Daily VMT**	**89,694**	**Daily VMT**
3.9	**Household VMT per Capita**	**3.9**	**Household VMT per Capita**
6.5	**Work VMT per Employee**	**6.5**	**Work VMT per Employee**

Significant VMT Impact?			
APC: Central			
Impact Threshold: 15% Below APC Average Household = 6.0 Work = 7.6			
Proposed Project		***With Mitigation***	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 6.0	No	Household > 6.0	No
Work > 7.6	No	Work > 7.6	No

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: May 31, 2022
Project Name: 4th & Central
Project Scenario: Project
Project Address: 400 S CENTRAL AVE, 90013

Version 1.3

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	Reduce parking supply	City code parking provision (spaces)	2658	2658
		Actual parking provision (spaces)	2475	2475
	Unbundle parking	*Monthly cost for parking ($)*	*$0*	*$0*
	Parking cash-out	Employees eligible (%)	50%	50%
	Price workplace parking	*Daily parking charge ($)*	*$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%*	*0%*
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	*$0.00*
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*	*0*
	Bike share	Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)	Yes	Yes
	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)*	*0*	*0*
	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)*	*0*	*0*
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)*	*0*	*0*

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: May 31, 2022
Project Name: 4th & Central
Project Scenario: Project
Project Address: 400 S CENTRAL AVE, 90013

Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Urban

		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	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	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%*	4%	4%	*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%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
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%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	
	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%*	

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: May 31, 2022
Project Name: 4th & Central
Project Scenario: Project
Project Address: 400 S CENTRAL AVE, 90013

Version 1.3

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Urban

		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	*0.0%*	*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, 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	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	
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 sections 1 - 2
	Pedestrian network 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%*	

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	*4%*	*4%*	*8%*	*8%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*
MAX. TDM EFFECT	*4%*	*4%*	*8%*	*8%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*

= 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: May 31, 2022
Project Name: 4th & Central
Project Scenario: Project
Project Address: 400 S CENTRAL AVE, 90013

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	1,363	-33.6%	905	6.8	9,268	6,154
Home Based Other Production	3,776	-53.1%	1,772	4.5	16,992	7,974
Non-Home Based Other Production	4,000	-6.1%	3,755	7.4	29,600	27,787
Home-Based Work Attraction	2,601	-32.8%	1,749	8.3	21,588	14,517
Home-Based Other Attraction	7,089	-47.2%	3,740	5.8	41,116	21,692
Non-Home Based Other Attraction	2,664	-6.8%	2,484	6.5	17,316	16,146

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	-4.3%	866	5,890	-4.3%	866	5,890
Home Based Other Production	-4.3%	1,696	7,632	-4.3%	1,696	7,632
Non-Home Based Other Production	-4.3%	3,594	26,596	-4.3%	3,594	26,596
Home-Based Work Attraction	-8.0%	1,610	13,360	-8.0%	1,610	13,360
Home-Based Other Attraction	-4.3%	3,580	20,762	-4.3%	3,580	20,762
Non-Home Based Other Attraction	-4.3%	2,378	15,454	-4.3%	2,378	15,454

MXD VMT Methodology Per Capita & Per Employee

Total Population: 3,427
Total Employees: 2,044
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**13,522**	**13,522**
Total Home Based Work Attraction VMT	**13,360**	**13,360**
Total Home Based VMT Per Capita	**3.9**	**3.9**
Total Work Based VMT Per Employee	**6.5**	**6.5**

Appendix G

Caltrans Off-Ramp Analysis

FREEWAY OFF-RAMP QUEUING SAFETY ANALYSIS

Off-ramp	Ramp Storage Length			Peak Hour	95th Percentile Queue		Exceeds Ramp Storage [b]	Project Adds 50 Feet [c]	Requires Speed Analysis [d]
	Ramp	Auxiliary Lane	Total [a]		Future without Project Conditions	Future with Project Conditions			
I-5 North at 7th Street	1,452	0	1,452	AM	117	139	NO	NO	NO
				PM	38	44	NO	NO	NO
I-5 South at 4th Street	1,025	0	1,025	AM	495	460	NO	NO	NO
				PM	228	305	NO	**YES**	NO
US 101 North at 4th Street	820	0	820	AM	650	733	NO	**YES**	NO
				PM	265	290	NO	NO	NO
US 101 South at Los Angeles Street	494	0	494	AM	146	178	NO	NO	NO
				PM	7	9	NO	NO	NO
I-10 East at Naomi Avenue/Central Avenue	1,048	0	1,048	AM	230	238	NO	NO	NO
				PM	433	433	NO	NO	NO
I-10 East at Alameda Street	1,100	0	1,100	AM	685	723	NO	NO	NO
				PM	283	370	NO	**YES**	NO

Notes:

Ramp storage length and 95th percentile queue reported in feet.

[a] Includes ramp length (from stop line to gore point) as well as half the length of any auxiliary lane, if provided.

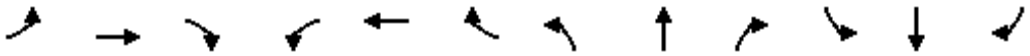
[b] Based on Future with Project Conditions queue.

[c] The difference in queue length between Future with Project Conditions and Future without Project Conditions.

[d] Speed differential analysis is required if the ramp storage length is exceeded and the Project adds 50 or more feet to the queue length.

HCM 6th Signalized Intersection Summary
23: 4th Street & I-5 SB Ramps

03/23/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	550	84	172	2092	0	0	0	0	113	3	500
Future Volume (veh/h)	0	550	84	172	2092	0	0	0	0	113	3	500
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	598	0	187	2274	0				123	3	543
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1287		220	1884	0				679	3	601
Arrive On Green	0.00	0.36	0.00	0.25	1.00	0.00				0.38	0.38	0.38
Sat Flow, veh/h	0	3647	1585	1781	3647	0				1781	9	1578
Grp Volume(v), veh/h	0	598	0	187	2274	0				123	0	546
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1781	0	1586
Q Serve(g_s), s	0.0	11.6	0.0	9.0	0.0	0.0				4.1	0.0	29.2
Cycle Q Clear(g_c), s	0.0	11.6	0.0	9.0	0.0	0.0				4.1	0.0	29.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.99
Lane Grp Cap(c), veh/h	0	1287		220	1884	0				679	0	604
V/C Ratio(X)	0.00	0.46		0.85	1.21	0.00				0.18	0.00	0.90
Avail Cap(c_a), veh/h	0	1303		317	2093	0				679	0	604
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.10	0.10	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	22.0	0.0	33.1	0.0	0.0				18.5	0.0	26.3
Incr Delay (d2), s/veh	0.0	0.3	0.0	1.6	93.7	0.0				0.6	0.0	19.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	8.3	0.0	4.4	31.5	0.0				3.2	0.0	19.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	22.3	0.0	34.7	93.7	0.0				19.1	0.0	45.6
LnGrp LOS	A	C		C	F	A				B	A	D
Approach Vol, veh/h		598	A		2461						669	
Approach Delay, s/veh		22.3			89.2						40.7	
Approach LOS		C			F						D	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		15.1	31.8		43.1		46.9					
Change Period (Y+Rc), s		4.0	4.0		4.0		4.0					
Max Green Setting (Gmax), s		16.0	33.0		29.0		53.0					
Max Q Clear Time (g_c+I1), s		11.0	13.6		31.2		2.0					
Green Ext Time (p_c), s		0.2	4.0		0.0		36.2					

Intersection Summary	
HCM 6th Ctrl Delay	69.8
HCM 6th LOS	E

Notes

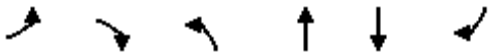
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	373	0	650	0	1	2	455	1328	10	1	1016	527
Future Volume (veh/h)	373	0	650	0	1	2	455	1328	10	1	1016	527
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	405	0	707	0	1	2	495	1443	11	1	1104	573
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	336	0	0	0	2	4	457	2438	19	245	1607	1016
Arrive On Green	0.19	0.00	0.00	0.00	0.00	0.00	0.18	0.67	0.67	0.45	0.45	0.45
Sat Flow, veh/h	1781	405		0	557	1113	1781	3615	28	366	3554	1585
Grp Volume(v), veh/h	405	153.0		0	0	3	495	709	745	1	1104	573
Grp Sat Flow(s),veh/h/ln	1781	F		0	0	1670	1781	1777	1865	366	1777	1585
Q Serve(g_s), s	17.0			0.0	0.0	0.2	16.0	19.5	19.5	0.1	22.2	18.3
Cycle Q Clear(g_c), s	17.0			0.0	0.0	0.2	16.0	19.5	19.5	0.1	22.2	18.3
Prop In Lane	1.00			0.00		0.67	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	336			0	0	5	457	1199	1258	245	1607	1016
V/C Ratio(X)	1.20			0.00	0.00	0.56	1.08	0.59	0.59	0.00	0.69	0.56
Avail Cap(c_a), veh/h	336			0	0	297	457	1199	1258	245	1607	1016
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.5			0.0	0.0	44.8	23.7	7.9	7.9	13.5	19.6	9.1
Incr Delay (d2), s/veh	116.5			0.0	0.0	68.4	66.1	2.2	2.1	0.0	2.4	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
%ile BackOfQ(95%),veh/ln	27.4			0.0	0.0	0.3	26.1	11.2	11.6	0.0	14.2	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	153.0			0.0	0.0	113.2	89.8	10.1	10.0	13.6	22.0	11.3
LnGrp LOS	F			A	A	F	F	B	A	B	C	B
Approach Vol, veh/h					3			1949			1678	
Approach Delay, s/veh					113.2			30.3			18.3	
Approach LOS					F			C			B	

Timer - Assigned Phs	2	5	6	7	8
Phs Duration (G+Y+Rc), s	64.7	20.0	44.7	21.0	4.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	45.0	16.0	25.0	17.0	16.0
Max Q Clear Time (g_c+I1), s	21.5	18.0	24.2	19.0	2.2
Green Ext Time (p_c), s	11.7	0.0	0.7	0.0	0.0

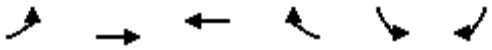
Intersection Summary	
HCM 6th Ctrl Delay	37.7
HCM 6th LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	684	0	621	921	0
Future Volume (Veh/h)	0	684	0	621	921	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	743	0	675	1001	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1338	500	1001			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1338	500	1001			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	0	100			
cM capacity (veh/h)	144	516	687			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	372	372	338	338	500	500
Volume Left	0	0	0	0	0	0
Volume Right	372	372	0	0	0	0
cSH	516	516	1700	1700	1700	1700
Volume to Capacity	0.72	0.72	0.20	0.20	0.29	0.29
Queue Length 95th (ft)	146	146	0	0	0	0
Control Delay (s)	27.9	27.9	0.0	0.0	0.0	0.0
Lane LOS	D	D				
Approach Delay (s)	27.9		0.0		0.0	
Approach LOS	D					

Intersection Summary			
Average Delay	8.6		
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Volume (veh/h)	0	529	1390	0	0	218
Future Volume (Veh/h)	0	529	1390	0	0	218
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	575	1511	0	0	237
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1511				1798	756
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1511				1798	756
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	32
cM capacity (veh/h)	439				71	351

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	288	288	756	756	237
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	237
cSH	1700	1700	1700	1700	351
Volume to Capacity	0.17	0.17	0.44	0.44	0.68
Queue Length 95th (ft)	0	0	0	0	117
Control Delay (s)	0.0	0.0	0.0	0.0	34.2
Lane LOS					D
Approach Delay (s)	0.0		0.0		34.2
Approach LOS					D

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	317	119	0	0	0	0	162	54	58	173	0
Future Volume (veh/h)	224	317	119	0	0	0	0	162	54	58	173	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	243	345	129				0	176	59	63	188	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	350	545	202				0	938	314	307	890	0
Arrive On Green	0.21	0.21	0.21				0.00	0.70	0.70	0.70	0.70	0.00
Sat Flow, veh/h	1655	2579	954				0	1340	449	367	1272	0
Grp Volume(v), veh/h	262	225	230				0	0	235	251	0	0
Grp Sat Flow(s),veh/h/ln	1788	1702	1699				0	0	1789	1638	0	0
Q Serve(g_s), s	12.2	10.8	11.1				0.0	0.0	4.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.2	10.8	11.1				0.0	0.0	4.1	4.2	0.0	0.0
Prop In Lane	0.93		0.56				0.00		0.25	0.25		0.00
Lane Grp Cap(c), veh/h	378	360	359				0	0	1252	1196	0	0
V/C Ratio(X)	0.69	0.62	0.64				0.00	0.00	0.19	0.21	0.00	0.00
Avail Cap(c_a), veh/h	834	794	793				0	0	1252	1196	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.8	32.2	32.4				0.0	0.0	4.7	4.7	0.0	0.0
Incr Delay (d2), s/veh	2.3	1.8	1.9				0.0	0.0	0.3	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	8.0	8.2				0.0	0.0	2.5	2.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	34.0	34.3				0.0	0.0	5.0	5.1	0.0	0.0
LnGrp LOS	D	C	C				A	A	A	A	A	A
Approach Vol, veh/h		717						235			251	
Approach Delay, s/veh		34.5						5.0			5.1	
Approach LOS		C						A			A	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	67.0	23.0	67.0
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	40.0	42.0	40.0
Max Q Clear Time (g_c+I1), s	6.1	14.2	6.2
Green Ext Time (p_c), s	1.5	4.8	1.6

Intersection Summary	
HCM 6th Ctrl Delay	22.6
HCM 6th LOS	C



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	386	0	0	2121	1451	30
Future Volume (veh/h)	386	0	0	2121	1451	30
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	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	420	0	0	2305	1608	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	1579	0	0	2269	1663	740
Arrive On Green	0.44	0.00	0.00	0.44	0.47	0.00
Sat Flow, veh/h	3741	0	0	5443	3563	1585
Grp Volume(v), veh/h	420	0	0	2305	1608	0
Grp Sat Flow(s),veh/h/ln	1777	0	0	1702	1781	1585
Q Serve(g_s), s	6.7	0.0	0.0	40.0	39.5	0.0
Cycle Q Clear(g_c), s	6.7	0.0	0.0	40.0	39.5	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1579	0	0	2269	1663	740
V/C Ratio(X)	0.27	0.00	0.00	1.02	0.97	0.00
Avail Cap(c_a), veh/h	1579	0	0	2269	1663	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.8	0.0	0.0	25.0	23.3	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	22.9	15.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	0.0	0.0	27.4	26.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.8	0.0	0.0	47.9	38.9	0.0
LnGrp LOS	B	A	A	F	D	A
Approach Vol, veh/h	420			2305	1608	
Approach Delay, s/veh	15.8			47.9	38.9	
Approach LOS	B			D	D	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	46.0	44.0	44.0
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	42.0	40.0	40.0
Max Q Clear Time (g_c+I1), s	41.5	8.7	42.0
Green Ext Time (p_c), s	0.4	3.0	0.0

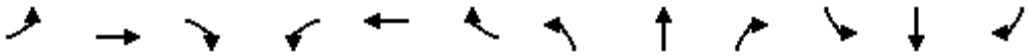
Intersection Summary	
HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
23: 4th Street & I-5 SB Ramps

03/23/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1959	98	116	938	0	0	0	0	167	2	193
Future Volume (veh/h)	0	1959	98	116	938	0	0	0	0	167	2	193
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	2129	0	126	1020	0				182	2	210
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2132		139	2567	0				336	3	297
Arrive On Green	0.00	0.60	0.00	0.16	1.00	0.00				0.19	0.19	0.19
Sat Flow, veh/h	0	3647	1585	1781	3647	0				1781	15	1572
Grp Volume(v), veh/h	0	2129	0	126	1020	0				182	0	212
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1781	0	1587
Q Serve(g_s), s	0.0	53.8	0.0	6.3	0.0	0.0				8.3	0.0	11.3
Cycle Q Clear(g_c), s	0.0	53.8	0.0	6.3	0.0	0.0				8.3	0.0	11.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.99
Lane Grp Cap(c), veh/h	0	2132		139	2567	0				336	0	300
V/C Ratio(X)	0.00	1.00		0.91	0.40	0.00				0.54	0.00	0.71
Avail Cap(c_a), veh/h	0	2132		139	2567	0				336	0	300
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.10	0.10	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.0	0.0	37.7	0.0	0.0				33.0	0.0	34.2
Incr Delay (d2), s/veh	0.0	19.1	0.0	9.1	0.0	0.0				6.1	0.0	13.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	32.6	0.0	3.7	0.0	0.0				7.4	0.0	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	37.1	0.0	46.8	0.0	0.0				39.1	0.0	47.3
LnGrp LOS	A	D		D	A	A				D	A	D
Approach Vol, veh/h		2129	A		1146						394	
Approach Delay, s/veh		37.1			5.2						43.5	
Approach LOS		D			A						D	

Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			11.0	58.0		21.0		69.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			7.0	54.0		17.0		65.0				
Max Q Clear Time (g_c+I1), s			8.3	55.8		13.3		2.0				
Green Ext Time (p_c), s			0.0	0.0		0.7		9.9				

Intersection Summary	
HCM 6th Ctrl Delay	27.8
HCM 6th LOS	C

Notes

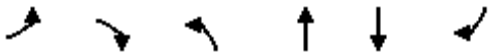
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	0	276	0	0	9	517	1276	0	0	1488	576
Future Volume (veh/h)	97	0	276	0	0	9	517	1276	0	0	1488	576
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	0	300	0	0	10	562	1387	0	0	1617	626
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	0	0	0	0	16	455	2887	0	80	2058	988
Arrive On Green	0.04	0.00	0.00	0.00	0.00	0.01	0.19	0.81	0.00	0.00	0.58	0.58
Sat Flow, veh/h	1781	105		0	0	1585	1781	3647	0	390	3554	1585
Grp Volume(v), veh/h	105	254.1		0	0	10	562	1387	0	0	1617	626
Grp Sat Flow(s),veh/h/ln	1781	F		0	0	1585	1781	1777	0	390	1777	1585
Q Serve(g_s), s	4.0			0.0	0.0	0.6	17.0	10.8	0.0	0.0	31.6	22.1
Cycle Q Clear(g_c), s	4.0			0.0	0.0	0.6	17.0	10.8	0.0	0.0	31.6	22.1
Prop In Lane	1.00			0.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	79			0	0	16	455	2887	0	80	2058	988
V/C Ratio(X)	1.33			0.00	0.00	0.64	1.24	0.48	0.00	0.00	0.79	0.63
Avail Cap(c_a), veh/h	79			0	0	282	455	2887	0	80	2058	988
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	43.0			0.0	0.0	44.4	28.5	2.6	0.0	0.0	14.6	10.5
Incr Delay (d2), s/veh	211.1			0.0	0.0	36.5	123.6	0.6	0.0	0.0	3.1	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
%ile BackOfQ(95%),veh/ln	11.3			0.0	0.0	0.7	37.2	4.1	0.0	0.0	17.9	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	254.1			0.0	0.0	80.9	152.1	3.2	0.0	0.0	17.7	13.6
LnGrp LOS	F			A	A	F	F	A	A	A	B	B
Approach Vol, veh/h					10			1949			2243	
Approach Delay, s/veh					80.9			46.1			16.6	
Approach LOS					F			D			B	

Timer - Assigned Phs	2		5	6	7	8
Phs Duration (G+Y+Rc), s	77.1		21.0	56.1	8.0	4.9
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	58.0		17.0	37.0	4.0	16.0
Max Q Clear Time (g_c+I1), s	12.8		19.0	33.6	6.0	2.6
Green Ext Time (p_c), s	15.4		0.0	3.0	0.0	0.0

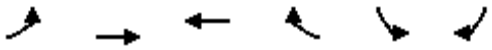
Intersection Summary		
HCM 6th Ctrl Delay		35.9
HCM 6th LOS		D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	143	0	1683	284	0
Future Volume (Veh/h)	0	143	0	1683	284	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	155	0	1829	309	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1224	154	309			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1224	154	309			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	82	100			
cM capacity (veh/h)	172	864	1248			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	78	78	914	914	154	154
Volume Left	0	0	0	0	0	0
Volume Right	78	78	0	0	0	0
cSH	864	864	1700	1700	1700	1700
Volume to Capacity	0.09	0.09	0.54	0.54	0.09	0.09
Queue Length 95th (ft)	7	7	0	0	0	0
Control Delay (s)	9.6	9.6	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	9.6		0.0		0.0	
Approach LOS	A					

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Volume (veh/h)	0	1043	582	0	0	213
Future Volume (Veh/h)	0	1043	582	0	0	213
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1134	633	0	0	232
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	633				1200	316
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	633				1200	316
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	66
cM capacity (veh/h)	946				178	679

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	567	567	316	316	232
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	232
cSH	1700	1700	1700	1700	679
Volume to Capacity	0.33	0.33	0.19	0.19	0.34
Queue Length 95th (ft)	0	0	0	0	38
Control Delay (s)	0.0	0.0	0.0	0.0	13.0
Lane LOS					B
Approach Delay (s)	0.0		0.0		13.0
Approach LOS					B

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	35.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	194	492	0	0	0	0	93	117	107	249	0
Future Volume (veh/h)	121	194	492	0	0	0	0	93	117	107	249	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	132	211	535				0	101	127	116	271	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	498	858	613				0	395	497	265	595	0
Arrive On Green	0.39	0.39	0.39				0.00	0.52	0.52	0.52	0.52	0.00
Sat Flow, veh/h	1288	2220	1585				0	753	947	406	1134	0
Grp Volume(v), veh/h	185	158	535				0	0	228	387	0	0
Grp Sat Flow(s),veh/h/ln	1806	1702	1585				0	0	1700	1540	0	0
Q Serve(g_s), s	6.3	5.6	28.1				0.0	0.0	6.6	8.7	0.0	0.0
Cycle Q Clear(g_c), s	6.3	5.6	28.1				0.0	0.0	6.6	15.4	0.0	0.0
Prop In Lane	0.71		1.00				0.00		0.56	0.30		0.00
Lane Grp Cap(c), veh/h	698	658	613				0	0	892	860	0	0
V/C Ratio(X)	0.27	0.24	0.87				0.00	0.00	0.26	0.45	0.00	0.00
Avail Cap(c_a), veh/h	843	794	740				0	0	892	860	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.9	18.7	25.6				0.0	0.0	11.7	13.8	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.2	9.8				0.0	0.0	0.7	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	4.0	17.3				0.0	0.0	4.6	8.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.1	18.9	35.3				0.0	0.0	12.4	15.5	0.0	0.0
LnGrp LOS	B	B	D				A	A	B	B	A	A
Approach Vol, veh/h		878						228			387	
Approach Delay, s/veh		28.9						12.4			15.5	
Approach LOS		C						B			B	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	51.2	38.8	51.2
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	40.0	42.0	40.0
Max Q Clear Time (g_c+I1), s	8.6	30.1	17.4
Green Ext Time (p_c), s	1.5	4.7	2.5

Intersection Summary	
HCM 6th Ctrl Delay	22.9
HCM 6th LOS	C



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1361	0	0	717	412	268
Future Volume (veh/h)	1361	0	0	717	412	268
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	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	1479	0	0	779	370	375
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	1771	0	0	2544	735	654
Arrive On Green	0.50	0.00	0.00	0.50	0.41	0.41
Sat Flow, veh/h	3741	0	0	5443	1781	1585
Grp Volume(v), veh/h	1479	0	0	779	370	375
Grp Sat Flow(s),veh/h/ln	1777	0	0	1702	1781	1585
Q Serve(g_s), s	32.2	0.0	0.0	8.1	13.9	16.4
Cycle Q Clear(g_c), s	32.2	0.0	0.0	8.1	13.9	16.4
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1771	0	0	2544	735	654
V/C Ratio(X)	0.84	0.00	0.00	0.31	0.50	0.57
Avail Cap(c_a), veh/h	2053	0	0	2950	735	654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	0.0	0.0	13.4	19.6	20.3
Incr Delay (d2), s/veh	2.8	0.0	0.0	0.1	2.5	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.8	0.0	0.0	5.4	10.0	10.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.2	0.0	0.0	13.4	22.0	24.0
LnGrp LOS	C	A	A	B	C	C
Approach Vol, veh/h	1479			779	745	
Approach Delay, s/veh	22.2			13.4	23.0	
Approach LOS	C			B	C	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	41.2	48.8	48.8
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	30.0	52.0	52.0
Max Q Clear Time (g_c+I1), s	18.4	34.2	10.1
Green Ext Time (p_c), s	2.1	10.7	6.5

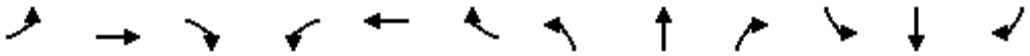
Intersection Summary	
HCM 6th Ctrl Delay	20.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
23: 4th Street & I-5 SB Ramps

03/23/2022



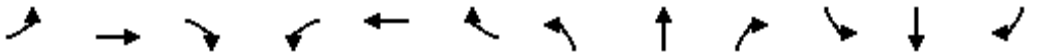
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	602	84	172	2119	0	0	0	0	113	3	537
Future Volume (veh/h)	0	602	84	172	2119	0	0	0	0	113	3	537
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	654	0	187	2303	0				123	3	584
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1074		220	1671	0				785	4	696
Arrive On Green	0.00	0.30	0.00	0.25	0.94	0.00				0.44	0.44	0.44
Sat Flow, veh/h	0	3647	1585	1781	3647	0				1781	8	1578
Grp Volume(v), veh/h	0	654	0	187	2303	0				123	0	587
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1781	0	1586
Q Serve(g_s), s	0.0	14.2	0.0	9.0	42.3	0.0				3.7	0.0	29.6
Cycle Q Clear(g_c), s	0.0	14.2	0.0	9.0	42.3	0.0				3.7	0.0	29.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.99
Lane Grp Cap(c), veh/h	0	1074		220	1671	0				785	0	699
V/C Ratio(X)	0.00	0.61		0.85	1.38	0.00				0.16	0.00	0.84
Avail Cap(c_a), veh/h	0	1224		317	2014	0				785	0	699
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.10	0.10	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	0.0	33.1	2.7	0.0				15.1	0.0	22.3
Incr Delay (d2), s/veh	0.0	0.7	0.0	1.6	170.6	0.0				0.4	0.0	11.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	9.9	0.0	4.4	55.6	0.0				2.8	0.0	18.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	27.6	0.0	34.7	173.3	0.0				15.5	0.0	33.9
LnGrp LOS	A	C		C	F	A				B	A	C
Approach Vol, veh/h		654	A		2490						710	
Approach Delay, s/veh		27.6			162.9						30.7	
Approach LOS		C			F						C	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		15.1	35.3		39.6		50.4					
Change Period (Y+Rc), s		4.0	4.0		4.0		4.0					
Max Green Setting (Gmax), s		16.0	31.0		31.0		51.0					
Max Q Clear Time (g_c+I1), s		11.0	16.2		31.6		44.3					
Green Ext Time (p_c), s		0.2	3.9		0.0		6.2					

Intersection Summary	
HCM 6th Ctrl Delay	115.6
HCM 6th LOS	F

Notes

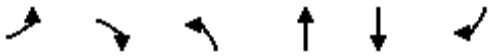
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	396	0	650	0	1	2	455	1341	10	1	1031	527
Future Volume (veh/h)	396	0	650	0	1	2	455	1341	10	1	1031	527
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	430	0	707	0	1	2	495	1458	11	1	1121	573
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	356	0	0	0	2	4	420	2398	18	237	1647	1052
Arrive On Green	0.20	0.00	0.00	0.00	0.00	0.00	0.16	0.66	0.66	0.46	0.46	0.46
Sat Flow, veh/h	1781	430		0	557	1113	1781	3615	27	361	3554	1585
Grp Volume(v), veh/h	430	152.7		0	0	3	495	716	753	1	1121	573
Grp Sat Flow(s),veh/h/ln	1781	F		0	0	1670	1781	1777	1865	361	1777	1585
Q Serve(g_s), s	18.0			0.0	0.0	0.2	14.0	20.5	20.5	0.1	22.3	17.1
Cycle Q Clear(g_c), s	18.0			0.0	0.0	0.2	14.0	20.5	20.5	2.6	22.3	17.1
Prop In Lane	1.00			0.00		0.67	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	356			0	0	5	420	1179	1238	237	1647	1052
V/C Ratio(X)	1.21			0.00	0.00	0.56	1.18	0.61	0.61	0.00	0.68	0.54
Avail Cap(c_a), veh/h	356			0	0	297	420	1179	1238	237	1647	1052
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0			0.0	0.0	44.8	23.2	8.5	8.5	14.4	18.9	8.0
Incr Delay (d2), s/veh	116.7			0.0	0.0	68.4	102.7	2.3	2.2	0.0	2.3	2.0
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	28.9			0.0	0.0	0.3	30.7	11.8	12.3	0.0	14.1	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	152.7			0.0	0.0	113.2	125.9	10.9	10.8	14.4	21.2	10.0
LnGrp LOS	F			A	A	F	F	B	B	B	C	B
Approach Vol, veh/h					3			1964			1695	
Approach Delay, s/veh					113.2			39.8			17.4	
Approach LOS					F			D			B	

Timer - Assigned Phs		2			5	6	7	8				
Phs Duration (G+Y+Rc), s		63.7			18.0	45.7	22.0	4.3				
Change Period (Y+Rc), s		4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		44.0			14.0	26.0	18.0	16.0				
Max Q Clear Time (g_c+I1), s		22.5			16.0	24.3	20.0	2.2				
Green Ext Time (p_c), s		11.2			0.0	1.4	0.0	0.0				

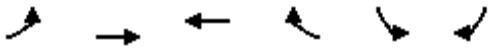
Intersection Summary												
HCM 6th Ctrl Delay			42.5									
HCM 6th LOS			D									



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	727	0	645	948	0
Future Volume (Veh/h)	0	727	0	645	948	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	790	0	701	1030	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1380	515	1030			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1380	515	1030			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	0	100			
cM capacity (veh/h)	135	505	670			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	395	395	350	350	515	515
Volume Left	0	0	0	0	0	0
Volume Right	395	395	0	0	0	0
cSH	505	505	1700	1700	1700	1700
Volume to Capacity	0.78	0.78	0.21	0.21	0.30	0.30
Queue Length 95th (ft)	178	178	0	0	0	0
Control Delay (s)	33.3	33.3	0.0	0.0	0.0	0.0
Lane LOS	D	D				
Approach Delay (s)	33.3		0.0		0.0	
Approach LOS	D					

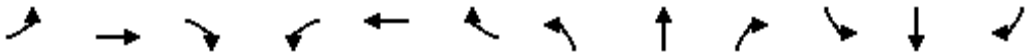
Intersection Summary			
Average Delay	10.4		
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Volume (veh/h)	9	541	1406	0	0	234
Future Volume (Veh/h)	9	541	1406	0	0	234
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	588	1528	0	0	254
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1528				1842	764
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1528				1842	764
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	27
cM capacity (veh/h)	432				65	346

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	206	392	764	764	254
Volume Left	10	0	0	0	0
Volume Right	0	0	0	0	254
cSH	432	1700	1700	1700	346
Volume to Capacity	0.02	0.23	0.45	0.45	0.73
Queue Length 95th (ft)	2	0	0	0	139
Control Delay (s)	1.0	0.0	0.0	0.0	39.2
Lane LOS	A				E
Approach Delay (s)	0.3		0.0		39.2
Approach LOS					E

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	317	119	0	0	0	0	162	54	58	173	0
Future Volume (veh/h)	248	317	119	0	0	0	0	162	54	58	173	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	270	345	129				0	176	59	63	188	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	387	546	201				0	928	311	304	881	0
Arrive On Green	0.22	0.22	0.22				0.00	0.69	0.69	0.69	0.69	0.00
Sat Flow, veh/h	1771	2497	920				0	1340	449	366	1272	0
Grp Volume(v), veh/h	272	233	239				0	0	235	251	0	0
Grp Sat Flow(s),veh/h/ln	1782	1702	1705				0	0	1789	1638	0	0
Q Serve(g_s), s	12.7	11.2	11.5				0.0	0.0	4.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.7	11.2	11.5				0.0	0.0	4.2	4.3	0.0	0.0
Prop In Lane	0.99		0.54				0.00		0.25	0.25		0.00
Lane Grp Cap(c), veh/h	389	372	373				0	0	1239	1185	0	0
V/C Ratio(X)	0.70	0.63	0.64				0.00	0.00	0.19	0.21	0.00	0.00
Avail Cap(c_a), veh/h	832	794	796				0	0	1239	1185	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.4	31.8	32.0				0.0	0.0	4.9	4.9	0.0	0.0
Incr Delay (d2), s/veh	2.3	1.7	1.8				0.0	0.0	0.3	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.5	8.2	8.4				0.0	0.0	2.5	2.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.7	33.6	33.8				0.0	0.0	5.2	5.3	0.0	0.0
LnGrp LOS	C	C	C				A	A	A	A	A	A
Approach Vol, veh/h		744						235			251	
Approach Delay, s/veh		34.1						5.2			5.3	
Approach LOS		C						A			A	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		66.3		23.7		66.3						
Change Period (Y+Rc), s		4.0		4.0		4.0						
Max Green Setting (Gmax), s		40.0		42.0		40.0						
Max Q Clear Time (g_c+I1), s		6.2		14.7		6.3						
Green Ext Time (p_c), s		1.5		5.0		1.6						

Intersection Summary		
HCM 6th Ctrl Delay		22.7
HCM 6th LOS		C



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	438	0	0	2185	1478	30
Future Volume (veh/h)	438	0	0	2185	1478	30
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	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	476	0	0	2375	1638	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	1619	0	0	2326	1623	722
Arrive On Green	0.46	0.00	0.00	0.46	0.46	0.00
Sat Flow, veh/h	3741	0	0	5443	3563	1585
Grp Volume(v), veh/h	476	0	0	2375	1638	0
Grp Sat Flow(s),veh/h/ln	1777	0	0	1702	1781	1585
Q Serve(g_s), s	7.6	0.0	0.0	41.0	41.0	0.0
Cycle Q Clear(g_c), s	7.6	0.0	0.0	41.0	41.0	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1619	0	0	2326	1623	722
V/C Ratio(X)	0.29	0.00	0.00	1.02	1.01	0.00
Avail Cap(c_a), veh/h	1619	0	0	2326	1623	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.4	0.0	0.0	24.5	24.5	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	24.2	24.6	0.0
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	0.0	28.3	29.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.5	0.0	0.0	48.7	49.1	0.0
LnGrp LOS	B	A	A	F	F	A
Approach Vol, veh/h	476			2375	1638	
Approach Delay, s/veh	15.5			48.7	49.1	
Approach LOS	B			D	D	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	45.0	45.0	45.0
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	41.0	41.0	41.0
Max Q Clear Time (g_c+I1), s	43.0	9.6	43.0
Green Ext Time (p_c), s	0.0	3.5	0.0

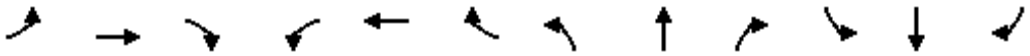
Intersection Summary	
HCM 6th Ctrl Delay	45.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
23: 4th Street & I-5 SB Ramps

03/23/2022



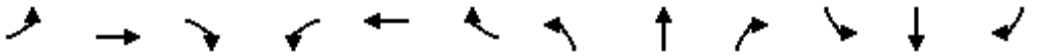
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2047	98	116	964	0	0	0	0	167	2	228
Future Volume (veh/h)	0	2047	98	116	964	0	0	0	0	167	2	228
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	2225	0	126	1048	0				182	2	248
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2172		139	2606	0				317	2	280
Arrive On Green	0.00	0.61	0.00	0.16	1.00	0.00				0.18	0.18	0.18
Sat Flow, veh/h	0	3647	1585	1781	3647	0				1781	13	1574
Grp Volume(v), veh/h	0	2225	0	126	1048	0				182	0	250
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1781	0	1587
Q Serve(g_s), s	0.0	55.0	0.0	6.3	0.0	0.0				8.4	0.0	13.8
Cycle Q Clear(g_c), s	0.0	55.0	0.0	6.3	0.0	0.0				8.4	0.0	13.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.99
Lane Grp Cap(c), veh/h	0	2172		139	2606	0				317	0	282
V/C Ratio(X)	0.00	1.02		0.91	0.40	0.00				0.57	0.00	0.89
Avail Cap(c_a), veh/h	0	2172		139	2606	0				317	0	282
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.10	0.10	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.5	0.0	37.7	0.0	0.0				33.9	0.0	36.1
Incr Delay (d2), s/veh	0.0	25.8	0.0	9.1	0.0	0.0				7.4	0.0	30.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	36.1	0.0	3.7	0.0	0.0				7.6	0.0	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	43.3	0.0	46.8	0.0	0.0				41.3	0.0	67.1
LnGrp LOS	A	F		D	A	A				D	A	E
Approach Vol, veh/h		2225	A		1174						432	
Approach Delay, s/veh		43.3			5.0						56.2	
Approach LOS		D			A						E	

Timer - Assigned Phs		3	4		6		8					
Phs Duration (G+Y+Rc), s		11.0	59.0		20.0		70.0					
Change Period (Y+Rc), s		4.0	4.0		4.0		4.0					
Max Green Setting (Gmax), s		7.0	55.0		16.0		66.0					
Max Q Clear Time (g_c+I1), s		8.3	57.0		15.8		2.0					
Green Ext Time (p_c), s		0.0	0.0		0.0		10.3					

Intersection Summary	
HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

Notes

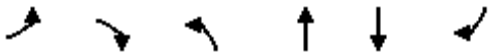
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	0	276	0	0	9	517	1286	0	0	1511	576
Future Volume (veh/h)	115	0	276	0	0	9	517	1286	0	0	1511	576
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	125	0	300	0	0	10	562	1398	0	0	1642	626
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	0	0	0	0	16	452	2887	0	80	2058	988
Arrive On Green	0.04	0.00	0.00	0.00	0.00	0.01	0.19	0.81	0.00	0.00	0.58	0.58
Sat Flow, veh/h	1781	125		0	0	1585	1781	3647	0	386	3554	1585
Grp Volume(v), veh/h	125	355.2		0	0	10	562	1398	0	0	1642	626
Grp Sat Flow(s),veh/h/ln	1781	F		0	0	1585	1781	1777	0	386	1777	1585
Q Serve(g_s), s	4.0			0.0	0.0	0.6	17.0	11.0	0.0	0.0	32.5	22.1
Cycle Q Clear(g_c), s	4.0			0.0	0.0	0.6	17.0	11.0	0.0	0.0	32.5	22.1
Prop In Lane	1.00			0.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	79			0	0	16	452	2887	0	80	2058	988
V/C Ratio(X)	1.58			0.00	0.00	0.64	1.24	0.48	0.00	0.00	0.80	0.63
Avail Cap(c_a), veh/h	79			0	0	282	452	2887	0	80	2058	988
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	43.0			0.0	0.0	44.4	28.7	2.6	0.0	0.0	14.8	10.5
Incr Delay (d2), s/veh	312.2			0.0	0.0	36.5	126.6	0.6	0.0	0.0	3.3	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
%ile BackOfQ(95%),veh/ln	14.8			0.0	0.0	0.7	37.5	4.2	0.0	0.0	18.4	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	355.2			0.0	0.0	80.9	155.3	3.2	0.0	0.0	18.2	13.6
LnGrp LOS	F			A	A	F	F	A	A	A	B	B
Approach Vol, veh/h					10			1960			2268	
Approach Delay, s/veh					80.9			46.8			16.9	
Approach LOS					F			D			B	

Timer - Assigned Phs		2			5	6	7	8				
Phs Duration (G+Y+Rc), s		77.1			21.0	56.1	8.0	4.9				
Change Period (Y+Rc), s		4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		58.0			17.0	37.0	4.0	16.0				
Max Q Clear Time (g_c+I1), s		13.0			19.0	34.5	6.0	2.6				
Green Ext Time (p_c), s		15.6			0.0	2.3	0.0	0.0				

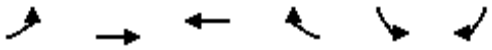
Intersection Summary		
HCM 6th Ctrl Delay		40.2
HCM 6th LOS		D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	172	0	1720	310	0
Future Volume (Veh/h)	0	172	0	1720	310	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	187	0	1870	337	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1272	168	337			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1272	168	337			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	78	100			
cM capacity (veh/h)	159	846	1219			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	94	94	935	935	168	168
Volume Left	0	0	0	0	0	0
Volume Right	94	94	0	0	0	0
cSH	846	846	1700	1700	1700	1700
Volume to Capacity	0.11	0.11	0.55	0.55	0.10	0.10
Queue Length 95th (ft)	9	9	0	0	0	0
Control Delay (s)	9.8	9.8	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	9.8		0.0		0.0	
Approach LOS	A					

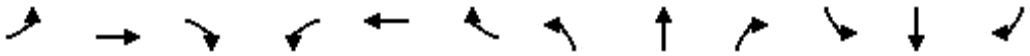
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Volume (veh/h)	16	1063	604	0	0	231
Future Volume (Veh/h)	16	1063	604	0	0	231
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	1155	657	0	0	251
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	657				1268	328
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	657				1268	328
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	62
cM capacity (veh/h)	926				157	667

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	402	770	328	328	251
Volume Left	17	0	0	0	0
Volume Right	0	0	0	0	251
cSH	926	1700	1700	1700	667
Volume to Capacity	0.02	0.45	0.19	0.19	0.38
Queue Length 95th (ft)	1	0	0	0	44
Control Delay (s)	0.6	0.0	0.0	0.0	13.6
Lane LOS	A				B
Approach Delay (s)	0.2		0.0		13.6
Approach LOS					B

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	194	492	0	0	0	0	93	117	107	249	0
Future Volume (veh/h)	142	194	492	0	0	0	0	93	117	107	249	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	154	211	535				0	101	127	116	271	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	546	811	614				0	394	496	265	594	0
Arrive On Green	0.39	0.39	0.39				0.00	0.52	0.52	0.52	0.52	0.00
Sat Flow, veh/h	1409	2093	1585				0	753	947	406	1134	0
Grp Volume(v), veh/h	197	168	535				0	0	228	387	0	0
Grp Sat Flow(s),veh/h/ln	1800	1702	1585				0	0	1700	1539	0	0
Q Serve(g_s), s	6.8	6.1	28.1				0.0	0.0	6.6	8.8	0.0	0.0
Cycle Q Clear(g_c), s	6.8	6.1	28.1				0.0	0.0	6.6	15.4	0.0	0.0
Prop In Lane	0.78		1.00				0.00		0.56	0.30		0.00
Lane Grp Cap(c), veh/h	697	659	614				0	0	890	858	0	0
V/C Ratio(X)	0.28	0.26	0.87				0.00	0.00	0.26	0.45	0.00	0.00
Avail Cap(c_a), veh/h	840	794	740				0	0	890	858	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.0	18.7	25.5				0.0	0.0	11.8	13.8	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.2	9.6				0.0	0.0	0.7	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.0	4.2	17.3				0.0	0.0	4.6	8.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.2	18.9	35.1				0.0	0.0	12.5	15.6	0.0	0.0
LnGrp LOS	B	B	D				A	A	B	B	A	A
Approach Vol, veh/h		900						228			387	
Approach Delay, s/veh		28.6						12.5			15.6	
Approach LOS		C						B			B	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		51.1		38.9		51.1						
Change Period (Y+Rc), s		4.0		4.0		4.0						
Max Green Setting (Gmax), s		40.0		42.0		40.0						
Max Q Clear Time (g_c+I1), s		8.6		30.1		17.4						
Green Ext Time (p_c), s		1.5		4.8		2.5						

Intersection Summary												
HCM 6th Ctrl Delay			22.8									
HCM 6th LOS			C									



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1449	0	0	779	436	268
Future Volume (veh/h)	1449	0	0	779	436	268
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	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	1575	0	0	847	382	389
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	1846	0	0	2652	698	621
Arrive On Green	0.52	0.00	0.00	0.52	0.39	0.39
Sat Flow, veh/h	3741	0	0	5443	1781	1585
Grp Volume(v), veh/h	1575	0	0	847	382	389
Grp Sat Flow(s),veh/h/ln	1777	0	0	1702	1781	1585
Q Serve(g_s), s	34.4	0.0	0.0	8.6	14.9	17.8
Cycle Q Clear(g_c), s	34.4	0.0	0.0	8.6	14.9	17.8
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1846	0	0	2652	698	621
V/C Ratio(X)	0.85	0.00	0.00	0.32	0.55	0.63
Avail Cap(c_a), veh/h	2053	0	0	2950	698	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	0.0	0.0	12.5	21.2	22.1
Incr Delay (d2), s/veh	3.4	0.0	0.0	0.1	3.1	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	19.9	0.0	0.0	5.6	10.8	11.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.1	0.0	0.0	12.5	24.3	26.8
LnGrp LOS	C	A	A	B	C	C
Approach Vol, veh/h	1575			847	771	
Approach Delay, s/veh	22.1			12.5	25.6	
Approach LOS	C			B	C	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	39.2	50.8	50.8
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	30.0	52.0	52.0
Max Q Clear Time (g_c+I1), s	19.8	36.4	10.6
Green Ext Time (p_c), s	2.1	10.3	7.2

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.