

Appendices

Appendix M.1 Transportation Impact Analysis

**TRANSPORTATION IMPACT ANALYSIS
FOR THE
NORWALK ENTERTAINMENT DISTRICT-
CIVIC CENTER
SPECIFIC PLAN PROJECT

NORWALK, CALIFORNIA**

JUNE 2022

PREPARED FOR
PRIMESTOR DEVELOPMENT, INC.

PREPARED BY



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FOR THE
NORWALK ENTERTAINMENT DISTRICT –
CIVIC CENTER
SPECIFIC PLAN PROJECT
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June 2022

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Chapter 1

Introduction

This study presents the transportation impact analysis for the proposed Norwalk Entertainment District – Civic Center Specific Plan Project (Specific Plan). The methodology and base assumptions used in the analysis were established in conjunction with the City of Norwalk (City).

PROJECT DESCRIPTION

The Specific Plan area encompasses the southeast corner of Imperial Highway & Norwalk Boulevard (Project Site) in the City and is composed of Los Angeles County (County) Assessor Parcel Numbers 8047-006-922, 8047-006-924, 8047-006-925, and a portion of 8047-006-927. The Specific Plan area currently contains City Hall, the City Hall Lawn, a portion of a building associated with the County Superior Court, a surface parking lot provided for City Hall uses, and a parking garage use. The new development of the Specific Plan would occur on the existing City Hall Lawn and the City Hall surface parking lot.

The Specific Plan would provide development standards for new development, including land use envelopes. The Specific Plan would authorize the construction of a mixed-use development to include up to 350 residential units (a minimum of 15% of which would be covenanted affordable units) and 110,000 square feet (sf) of commercial uses, consisting of a mix of retail, supermarket, and restaurant tenants (Project). To account for the potential range in land uses, the transportation analysis conservatively assumes that the commercial uses would be composed of 35,000 sf of retail, 40,000 sf of supermarket, and 35,000 sf of fine dining and high-turnover restaurant uses. The existing City Hall building and portion of the County accessory building would remain, and no changes are proposed.

The Project will be completed and operational in Year 2025.

Figure 1 provides the conceptual site and circulation plan for the Project.

Site Access and Circulation

Parking for the Project would be accommodated within the Project Site, with 651 spaces in parking garages constructed as part of the Project's new development and the existing 1,050-space parking garage in the southeastern portion of the Project Site. Access to the parking facilities would be provided via Norwalk Boulevard, Avenida Manuel Salinas, and Civic Center Drive. Access to the Project's new parking garages would require the installation of a new driveway along Norwalk Boulevard. All other access points would utilize existing driveways. Passenger loading areas would also be provided on-site where appropriate. In addition, truck loading zones would be provided within the new parking facilities, with access provided via Norwalk Boulevard and Avenida Manuel Salinas.

The Project may also include the construction of an elevated pedestrian bridge that would connect the existing parking garage to the Project's new development to allow for direct and efficient access. Pedestrian and bicycle access to the Project Site would be provided via pedestrian pathways accessible along Imperial Highway and Norwalk Boulevard and leading to the interior of the Project Site on the ground level. Pedestrian and bicycle access would also be provided via existing sidewalk facilities along Civic Center Drive and Avenida Manuel Salinas. The following describes the Project's three primary pedestrian and bicycle access points, based on the conceptual site plan:

- Imperial Highway – Located in the northernmost portion of the Project Site, the pedestrian and bicycle entrance along Imperial Highway would provide access to the ground floor retail in the northwest corner, the northeast retail center, and the central spine of open space.
- Avenida Manuel Salinas/Civic Center Drive/Existing Parking Garage – Located in the southern portion of the Project Site, the pedestrian and bicycle entrance point located between the southeast ground floor retail, new parking facilities, and the existing parking garage would provide access to the central spine of open space, City Hall, and ground-floor retail.
- Norwalk Boulevard – Located on the western boundary of the Project Site, the pedestrian and bicycle entrance along Norwalk Boulevard between City Hall and the new mixed-use



structure on the northwest corner of the Project Site would provide access to the ground floor open space and ground floor retail.

Pedestrian circulation would be incorporated throughout the Project Site to promote interactive use of the Project's commercial uses and publicly accessible open spaces.

The Project also includes the extension of the existing bus turnout along Imperial Highway to align the existing bus stop with the Project's proposed landscaped areas and pedestrian pathways.

PROJECT LOCATION

As illustrated in Figure 2, the Project Site is bordered by Imperial Highway to the north, Avenida Manuel Salinas to the east, the County Superior Court-Norwalk to the south, and Norwalk Boulevard to the west. The Project Site is located approximately 0.20 miles northeast of Interstate 5 (I-5), and approximately 1.80 miles east of Interstate 105 (I-105) and Interstate 605 (I-605).

The Project Site lies within an area consisting primarily of commercial, institutional, and residential uses and is served by major streets such as Imperial Highway, Norwalk Boulevard, Bloomfield Avenue, and Firestone Boulevard. The Project is served by multiple bus lines operated by the Los Angeles County Metropolitan Transportation Authority (Metro) and Norwalk Transit System (NTS) along Imperial Highway, Norwalk Boulevard, Bloomfield Avenue, and Civic Center Drive. Additionally, the Metrolink Norwalk/Santa Fe Springs Transportation Center is also located approximately 0.60 miles east of the Project Site, and the Metro C (Green) Line Norwalk Station is located approximately 1.85 miles west of the Project Site.

STUDY SCOPE

The scope of analysis for this study was developed in consultation with the City and is consistent with the guidelines outlined by the City in *Scope of Work for City Hall Lawn Project by Primestor* (January 2022) (City SOW) 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.) for the CEQA and non-CEQA analyses were

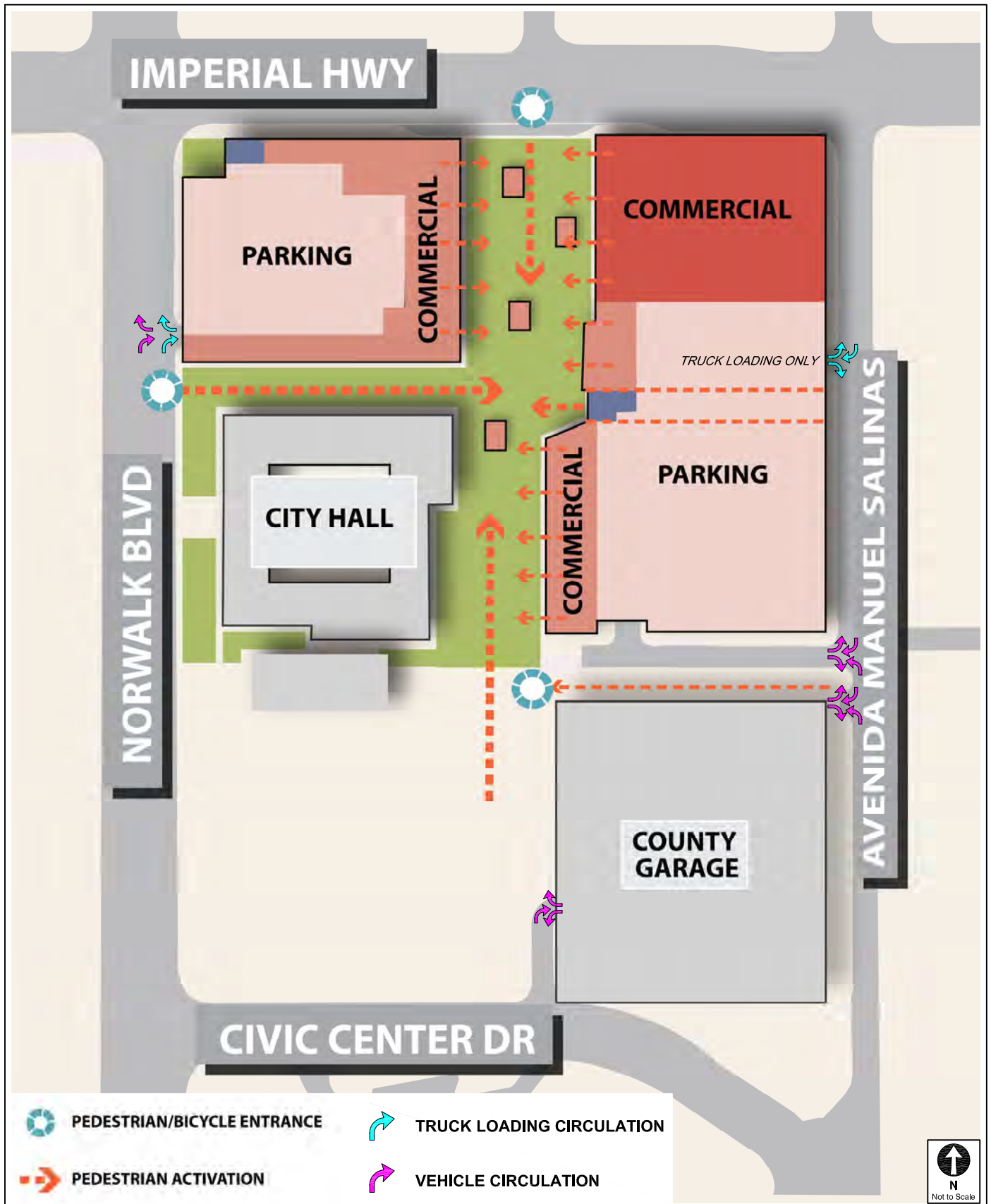
identified as part of the study approach and were outlined in the Transportation Study Scope that was reviewed and approved by the City in March 2022 and is provided in Appendix A.

The CEQA-related analysis was conducted in accordance with *State of California Senate Bill 743* (Steinberg, 2013) (SB 743). 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 (GHG) emissions, create multimodal networks, and promote mixed-use developments.

A non-CEQA transportation analysis of the Project was also conducted in accordance with the City SOW and includes a qualitative evaluation of the Project's access and circulation operations, including the anticipated LOS of the Project area. The non-CEQA transportation analysis is provided for informational purposes and not for purposes of CEQA review.

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 presents the Project traffic including the Project trip generation, trip distribution, and trip assignment. 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 and additional details supporting the technical analyses.



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 Project Study Area, as defined below.

The Existing Conditions analysis includes an assessment of the existing freeway and street systems, an analysis of traffic volumes and current operating conditions, and an assessment of the existing public transit service, as well as pedestrian and bicycle circulation in Year 2022. An inventory of lane configurations, parking restrictions, etc., for the analyzed intersections was also collected. The traffic count worksheets are provided in Appendix B.

In addition, this Chapter contains a discussion of the future conditions detailing the assumptions used to develop the Future without Project Conditions in Year 2025, which corresponds to anticipated full occupancy of the Project.

STUDY AREA

The Study Area includes 20 signalized intersections and six street segments, as shown in Figure 3 and Table 1. The Study Area was established in consultation with the City based on the existing intersection/corridor operations, distribution of Project vehicular trips, and potential operational effects due to Project traffic.

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 freeways, major and secondary highways, and collector and local streets. These facilities provide regional, sub-regional, or local access and circulation within the Study Area. Typically, the speed limits range between 25 and 40 miles per hour (mph) on the streets and highways, and between 55 and 65 mph on freeways.

Street classifications are designated in the City's *VISION NORWALK – The City of Norwalk General Plan* (February 1996) (General Plan). The available facilities in the Study Area are defined in the General Plan as follows:

- Freeways are six to 10 lane divided roadways with full access control and a typical right-of-way (ROW) in excess of 150 feet, designed and maintained by the California Department of Transportation (Caltrans).
- Major Highways are five or six lane divided roadways, with a typical ROW width of 100 feet and a curb-to-curb width of 80 feet.
- Secondary Highways are four-lane divided or undivided roadways, with a typical ROW width of 80 feet and a curb-to-curb width of 64 feet.
- Collector Roads are two-lane undivided roadways, with a typical ROW width of 54 to 60 feet and a curb-to-curb pavement width of approximately 40 feet. Its function is to distribute traffic between local streets, major and secondary arterials. Although some collectors serve as through routes, their primary function is to provide access to surrounding land uses.

Primary regional access to the Project Site is provided by I-5 and I-605. The streets providing regional and sub-regional access to the Project Site include Imperial Highway, Norwalk Boulevard, Bloomfield Avenue, and Firestone Boulevard. The following is a brief description of the major roadways in the Study Area and their designations, if applicable, in the General Plan:

Roadways

- Lakeland Road – Lakeland Road is a designated Collector Road. It generally travels in the east-west direction and is located north of the Project Site. It provides one lane in each direction. On-street parking is generally permitted on both sides of the street west of Norwalk Boulevard within the Study Area.
- Crewe Street – Crewe Street is a designated Collector Road west of Norwalk Boulevard and a designated local street west of Norwalk Boulevard. It generally travels in the east-west direction and is located north of the Project Site. It provides one lane in each direction. On-street parking is generally permitted on both sides of the street within the Study Area.
- Imperial Highway – Imperial Highway is a designated Major Highway. It generally travels in the east-west direction and is located along the northern boundary of the Project Site. It provides six travel lanes, three lanes in each direction. Left-turn lanes are provided at major intersections. No parking is permitted on both sides of the street within the Study Area.
- Civic Center Drive – Civic Center Drive is a designated Collector Road. It generally travels in the east-west direction and is located south of the Project Site. It provides four travel lanes, two lanes in each direction, west of Bloomfield Avenue. It provides one lane in each direction east of Bloomfield Avenue. Left-turn lanes are provided at major intersections. On-street parking is generally permitted on both sides of the street east of Bloomfield Avenue within the Study Area.
- Firestone Boulevard – Firestone Boulevard is a designated Secondary Highway. It generally travels in the southeast-northwest direction and is located southwest of the Project Site. It provides four to six travel lanes, two to three lanes in each direction. Left-turn lanes are provided at major intersections. On-street parking is generally permitted on the north side of the street between Woods Avenue and Pioneer Boulevard and on both sides of the street east of Pioneer Boulevard within the Study Area.
- Rosecrans Avenue – Rosecrans Avenue is a designated Major Highway. It generally travels in the east-west direction and is located south of the Project Site. It provides four to six travel lanes, two to three lanes in each direction. Left-turn lanes are provided at major intersections. On-street parking is generally permitted on the south side of the street within the Study Area.
- Pioneer Boulevard – Pioneer Boulevard is a designated Major Highway. It travels in the north-south direction and is located west of the Project Site. Left-turn lanes are provided at major intersections. It provides four travel lanes, two lanes in each direction. On-street parking is generally permitted on the east side of the street south of Orange Street and on both sides of the street between Firestone Boulevard and Imperial Highway and north of I-5 within the Study Area.
- Norwalk Boulevard – Norwalk Boulevard is a designated Major Highway. It travels in the north-south direction and is located along the western boundary of the Project Site. It generally provides four to six travel lanes, two to three in each direction. Left-turn lanes are

provided at major intersections. On-street parking is generally not permitted on either side of the street within the Study Area.

- Kalnor Avenue – Kalnor Avenue is a local street. It travels in the north-south direction and is located west of the Project Site. It provides two travel lanes, one in each direction. On-street parking for is permitted on both sides of the street within the Study Area.
- Avenida Manuel Salinas – Avenida Manuel Salinas is a local street. It travels in the north-south direction and is located along the eastern boundary of the Project Site. It provides two travel lanes, one in each direction. On-street parking is not permitted on either side of the street within the Study Area.
- Volunteer Avenue – Volunteer Avenue is a designated Collector Road. It travels in the north-south direction and is located east of the Project Site. It provides two travel lanes, one in each direction. On-street parking is generally permitted on both sides of the street north of Imperial Highway and south of Civic Center Drive.
- Bloomfield Avenue – Bloomfield Avenue is a designated Major Highway north of Rosecrans Avenue and a designated Secondary Highway south of Rosecrans Avenue. It travels in the north-south direction and is located east of the Project Site. It provides four travel lanes, two lanes in each direction. Striped bicycle lanes are provided on both sides of the street north of Imperial Highway. On-street parking is not permitted on either side of the street within the Study Area.
- San Antonio Drive – San Antonio Drive is a designated Major Highway. It travels in the southwest-northeast direction and is located southwest of the Project Site. It provides four to six travel lanes, two to three lanes in each direction. On-street parking is generally permitted on both sides of the street south of Olive Street.

The existing mobility facilities at each of the analyzed study intersections are detailed in Figure 5 and the General Plan street designations within the Study Area 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 Walk Score and assigned a score out of 100 points. Based on proximity to other commercial businesses and cultural facilities, the walkability of the Study Area is approximately 79 points¹.

¹ Walk Score (www.walkscore.com) rates the Project Site (12200 Imperial Highway) with a score of 79 out of 100 possible points (scores accessed on February 15, 2022). 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, based on available walking routes to nearby amenities, population density, and road metrics (block lengths, intersection density).

The sidewalks that serve as routes to the Project Site provide connectivity to pedestrian crossings at study intersections. The signalized intersections of Norwalk Boulevard & Imperial Highway (Intersection #8), Avenida Manuel Salinas & Imperial Highway (Intersection #9), Courthouse-AMC Theater & Civic Center Drive (Intersection #13), and Avenida Manuel Salinas & Civic Center Drive (Intersection #14) provide pedestrian facilities including marked pedestrian crossings, pedestrian phasing, and Americans with Disabilities Act-compliant curb ramps to limit mid-block crossings to the Project Site. Additional pedestrian facilities, within the Study Area are further detailed in Figure 7.

Existing Bicycle System

The Study Area consists of a limited coverage of bicycle lanes (Class II and IV) and bicycle routes (Class III). 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. Bicycle routes are identified as bicycle-friendly streets where motorists and cyclists share the roadway and there is no dedicated striping of a bicycle lane. Bicycle routes are preferably located on collector and lower volume arterial streets.

Bicycle facilities are not currently provided adjacent to the Project Site. However, within the Study Area, striped bicycle lanes are provided on Bloomfield Avenue north of Imperial Highway and Foster Road west of Pioneer Boulevard within the Study Area. In addition, Norwalk Boulevard and Pioneer Boulevard north of Lakeland Road and Lakeland Road between Pioneer Boulevard and Norwalk Boulevard are designated bicycle routes.

Existing Transit System

The Study Area is served by bus routes operated by Metro and NTS along Imperial Highway, Norwalk Boulevard, Bloomfield Avenue, and Civic Center Drive. Additionally, the Metrolink Norwalk/Santa Fe Springs Transportation Center is also located approximately 0.60 miles east of the Project Site, and the Metro C (Green) Line Norwalk Station is located approximately 1.85 miles west of the Project Site. Figure 8 illustrates the existing transit service in the Study Area. Table 2 summarizes the transit route operating in the Study Area, the type of service (peak vs. off-

peak, express vs. local), and frequency of service. The average frequency of transit service during the peak hour was derived from the number of peak-period stops made at the stop nearest to the Project Site. A bus stop serving NTS Line 4 is located adjacent to the northern boundary of the Project Site along Imperial Highway. Additional bus stops in the vicinity of the Project Site are provided along Imperial Highway at Norwalk Boulevard, which serves NTS Lines 2 and 4, Norwalk Boulevard at Imperial Highway, which serves NTS Lines 1 and 3, Norwalk Boulevard at Civic Center Drive, which serves Metro Line 62, and Civic Center Drive at Norwalk Boulevard, which serves NTS Lines 3 and 7.

Existing Traffic Volumes

Peak hour turning movement counts at the study intersections were collected in February 2022. Due to the current traffic conditions related to the State of California and County responses to COVID-19, the Year 2022 traffic count data was adjusted based on a comparison of available pre-COVID weekday peak hour traffic data collected in May 2018 at the intersection of Bloomfield Avenue & Imperial Highway (Intersection #11). Based on the comparison, a 4% increase was applied to the Year 2022 traffic data and the resulting traffic volumes reflect typical traffic operations under Existing Conditions.

The Existing Conditions intersection peak hour traffic volumes are illustrated in Figure 9. Intersection turning movement counts are provided in Appendix B.

FUTURE CUMULATIVE TRANSPORTATION CONDITIONS

The traffic volume forecast for Future without Project Conditions (Year 2025) was prepared in accordance with procedures outlined in the City SOW. As described in detail below, this scenario includes traffic increases from both regional growth projections (ambient growth) and potential future projects (Related Projects). 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. The ambient growth factor likely includes some traffic increases resulting from the Related

Projects. Therefore, through some inherent double-counting of vehicles, the traffic analysis provides a highly conservative estimate of Future without Project traffic volumes.

Ambient Traffic Growth

Existing traffic is expected to increase as a result of regional growth and development outside the Study Area. Based on discussions with the City, an ambient growth factor of 1% per year was conservatively applied by adjusting the existing traffic volumes to reflect the effects of the regional growth and development by Year 2025². The total adjustment applied over the three-year period corresponding to the buildout year of the Project was 3%. This growth factor accounts for increases in traffic due to potential Related Projects, as well as development projects not yet proposed and those located outside the Study Area.

Related Projects

In accordance with the City SOW, this study also considered the effects of the Project in relation to other developments either proposed, approved, or under construction (collectively, the Related Projects) within 1.50 miles of the Project Site. Including this analysis step, the potential impact of the Project was 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 the City, as well as an adjacent jurisdiction, the City of Santa Fe Springs. The Related Projects are detailed in Table 3 and their approximate locations are shown in Figure 10.

The buildout years of many of these Related Projects are uncertain and may be well beyond the buildout year of the Project. In addition, some Related Projects may never be approved or developed. Nonetheless, all Related Project were considered as part of this study and conservatively assumed to be completed by the Project buildout Year 2025. Therefore, the traffic growth due to the development of Related Projects considered in this analysis is highly conservative and, by itself, is appropriately assumed to substantially overestimate the actual traffic volume growth

² 2010 Congestion Management Plan (Los Angeles County Metropolitan Transportation Authority, 2010) projected a total growth of 1.2% between Year 2020 and Year 2025 for the Downey area. Thus, the application of an ambient growth rate of 1% per year is conservative.

in the Study Area that would likely occur prior to Project buildout. Thus, with consideration of both the 1% per year ambient growth factor previously discussed and the Related Projects, the Future without Project cumulative condition is even more conservative.

Using these conservative assumptions, the potential operational effects of the Project were evaluated for the purposes of the non-CEQA transportation analysis. 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 either provided by the respective jurisdiction or calculated using a combination of a review of information from other transportation and/or environmental studies and the trip generation rates contained in *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers, 2021). The Related Projects trip generation estimates summarized in Table 3 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, such analysis is conservative because, in many cases, it does 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 11 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 2025. As discussed above, this is a conservative approach as a portion of the Related Projects' traffic 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 20 study intersections and are shown in Figure 12.

Future Roadway Improvements

The analysis of Future Conditions accounted for roadway improvements that were funded and reasonably expected to be implemented prior to the buildout of the Project. Any roadway improvement that would result in changes to the physical configuration at the study intersections would be incorporated into the analysis. No traffic / trip reduction strategies such as transportation demand management (TDM) programs for individual buildings and developments were included in the Future Conditions non-CEQA transportation analyses. The following plans were evaluated for their potential effects on the future roadway configurations.

City Bicycle Plan. The City's *Norwalk Bicycle Master Plan* (February 2022) (City Bicycle Plan) establishes a comprehensive approach to improving biking in the City by identifying facility needs, improvement projects, programs, and policies to encourage biking throughout the City. As proposed in City Bicycle Plan and depicted in Figure 13, Class I bike paths are proposed along the railway located south of Firestone Boulevard. Class IV cycle tracks are proposed on Norwalk Boulevard between Foster Road and Imperial Highway, Civic Center Drive west of Bloomfield Avenue, and Bloomfield Avenue between I-5 and Firestone Boulevard. The following streets within the Study Area would install Class II bicycle lanes:

- Bloomfield Avenue north of I-5 and south of Firestone Boulevard
- Lakeland Road east of Norwalk Boulevard
- San Antonio Drive between Rosecrans Avenue and Foster Road
- Firestone Boulevard west of Bloomfield Avenue
- Norwalk Boulevard north of Imperial Highway and south of Foster Road

-
- Foster Road
 - Pioneer Boulevard south of Lakeland Road
 - Civic Center Drive between Volunteer Avenue and Bloomfield Avenue (on the south side of the street)

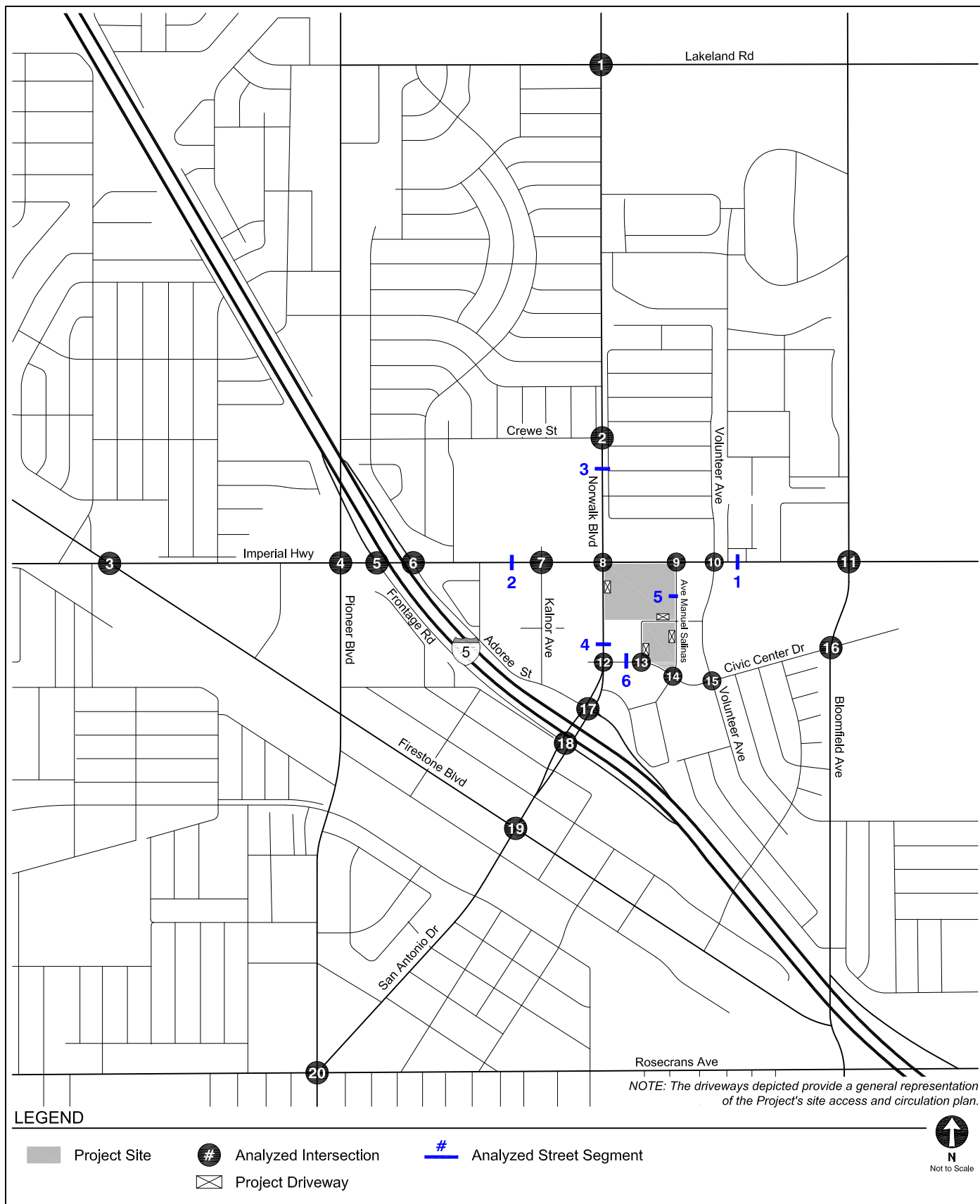
The following streets within the Study Area would install Class III bicycle routes:

- Firestone Boulevard between North Entrance and South Entrance
- Silverbow Avenue between Firestone Boulevard to Goller Avenue
- Volunteer Avenue between Civic Center Drive and Silverbow Avenue
- Goller Avenue east of Silverbow Avenue
- Lakelane Road west of Norwalk Boulevard
- Bombardier Avenue between Lakeland Road and Crewe Street
- Crewe Street between Pioneer Boulevard and Norwalk Boulevard
- Allard Street between Pioneer Boulevard and Norwalk Boulevard

Implementation of the bicycle facilities is contingent upon funding availability; therefore, there is currently no schedule of implementation. Thus, no changes to the Study Area intersection configurations under Existing Conditions illustrated in Figure 4 were assumed in the Future Conditions analyses.

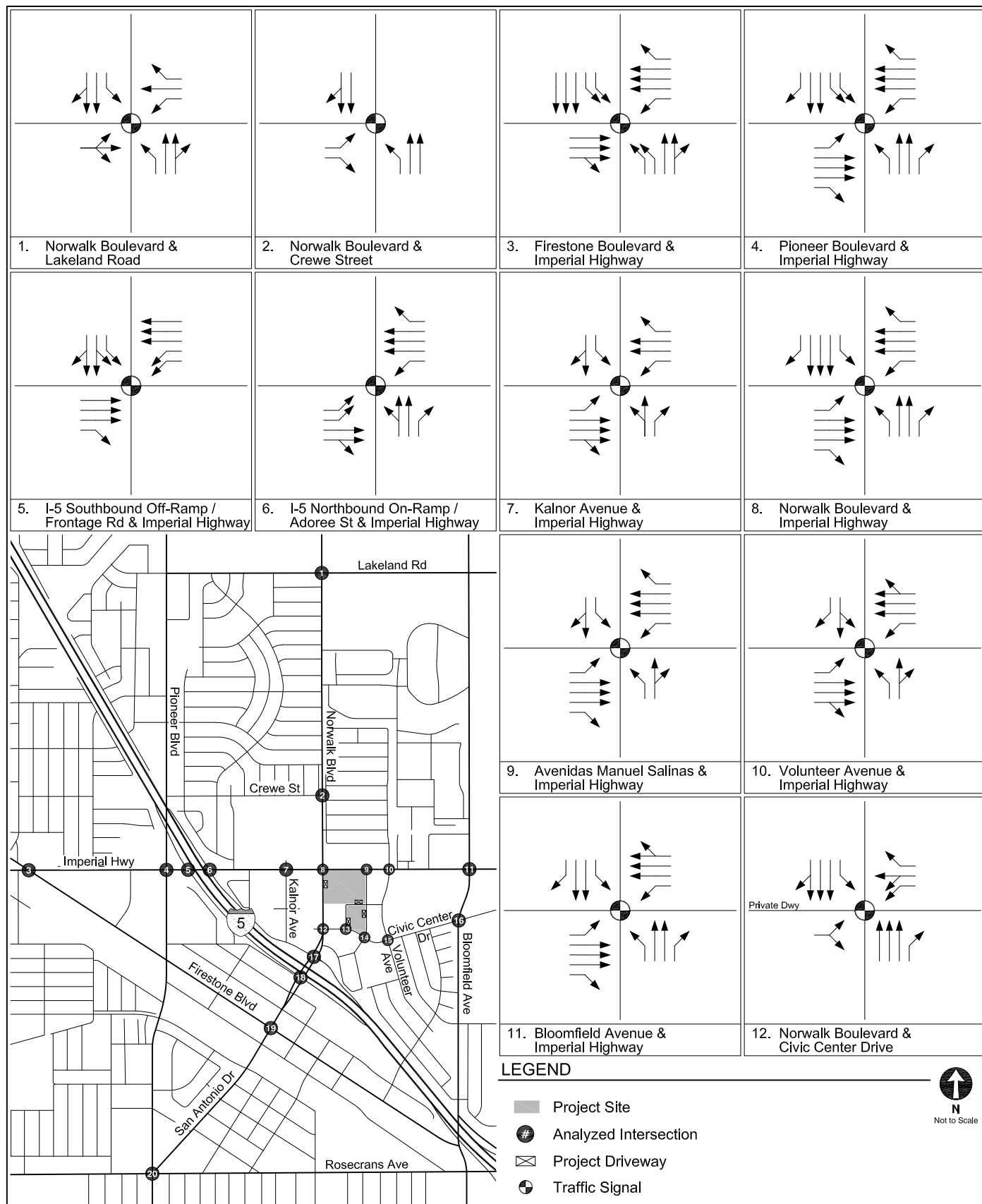
Heart of Norwalk Specific Plan. The City's proposed Heart of Norwalk Specific Plan intends to create an attractive, active, and unique environment beneficial to local residents and businesses, and to establish the San Antonio Village/Firestone Corridor as the heart of the City. The plan focuses on several districts and corridors for long-term growth that includes provision of mixed-use developments and prioritizing walking, biking, and public spaces. The Heart of Norwalk Specific Plan area is located southwest of the Project Site. Within the Study Area, the plan has identified San Antonio Drive and Firestone Boulevard as corridors that will support the new mixed-use developments and streetscape improvements.

The schedule for the adoption of the Heart of Norwalk Specific Plan and implementation of the proposed infrastructure is unknown at this time, however, are not anticipated to occur prior to the completion of the Project. Therefore, the improvements were not included in the Future Conditions non-CEQA transportation analyses.



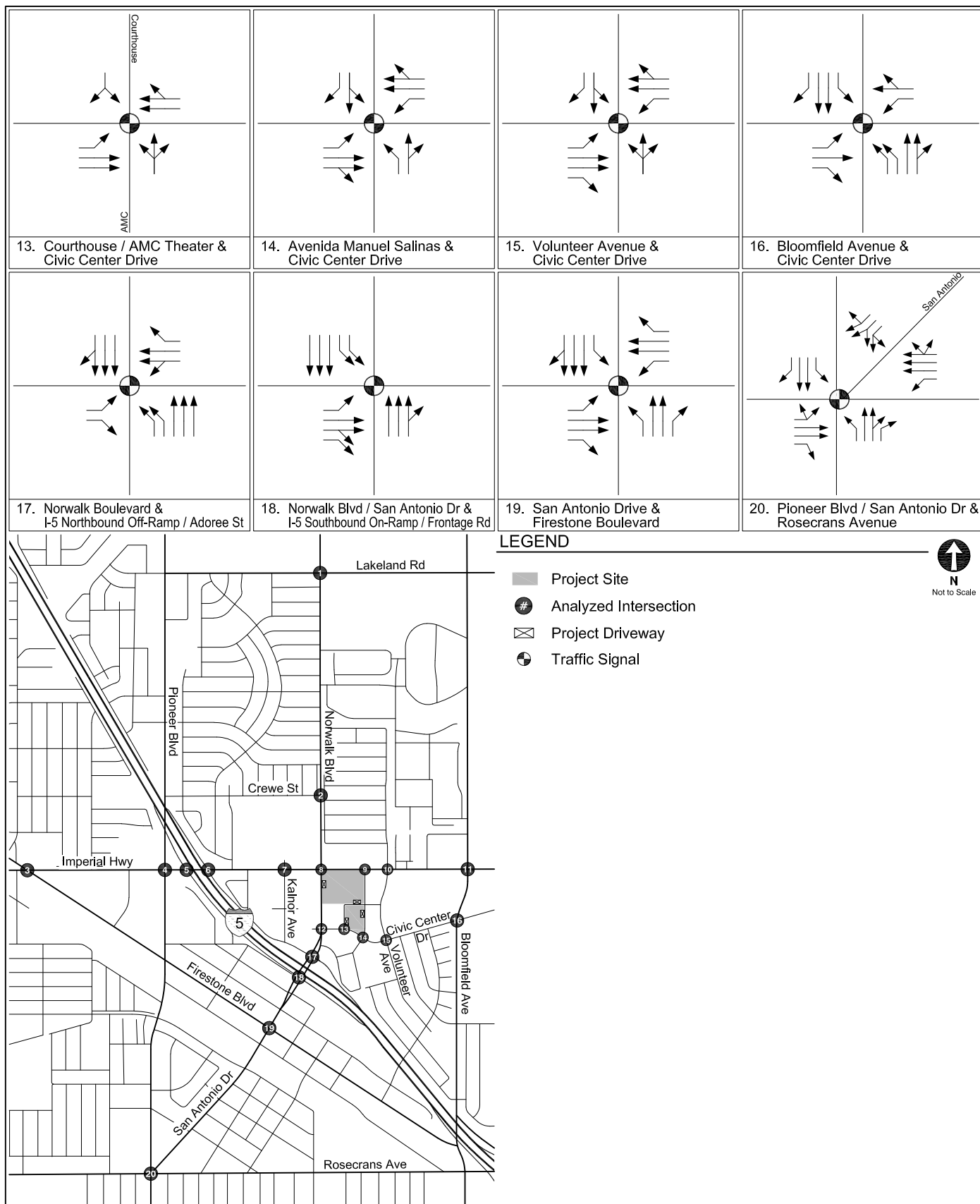
STUDY AREA & ANALYZED LOCATIONS

FIGURE
3



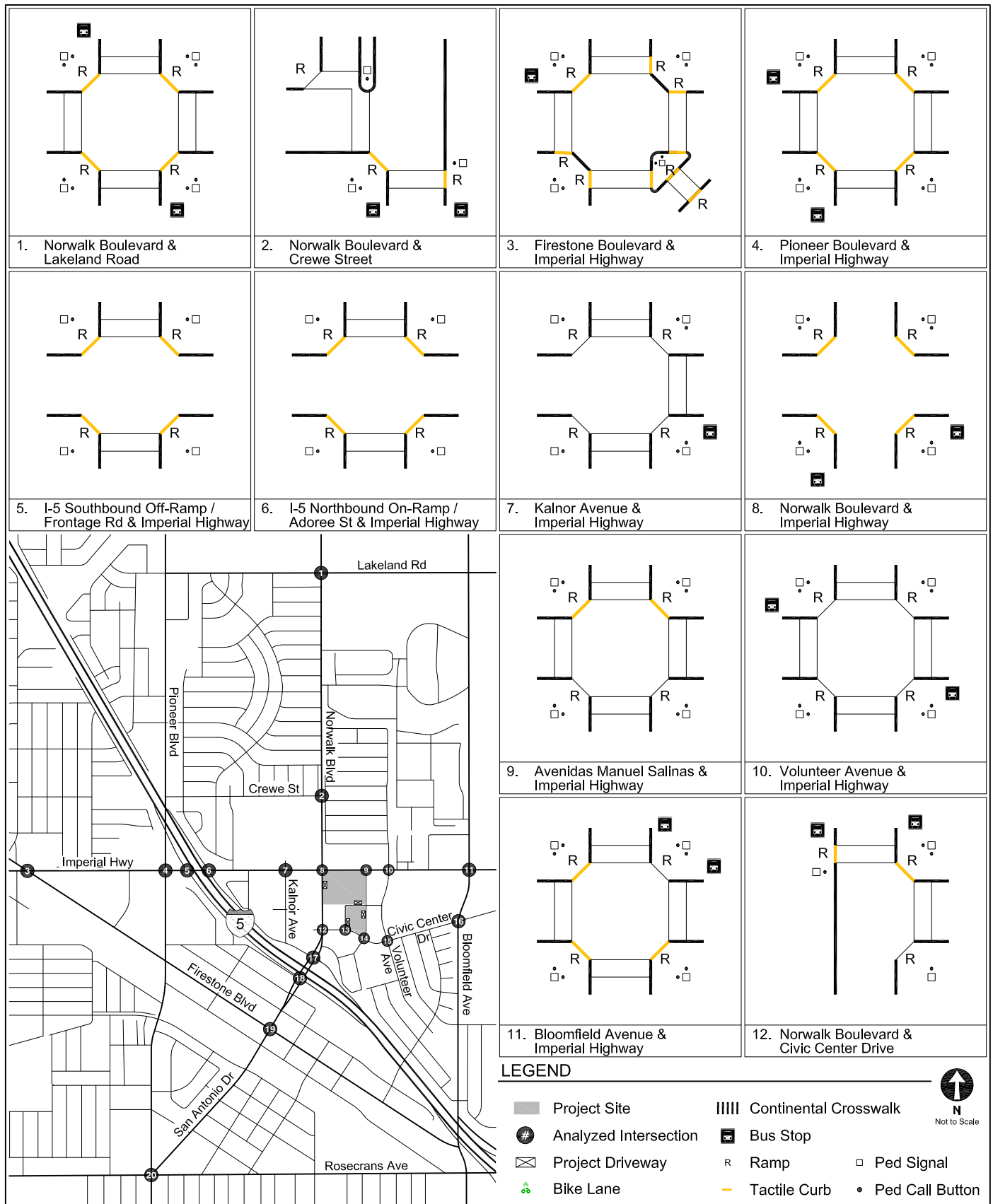
INTERSECTION LANE CONFIGURATIONS

FIGURE
4



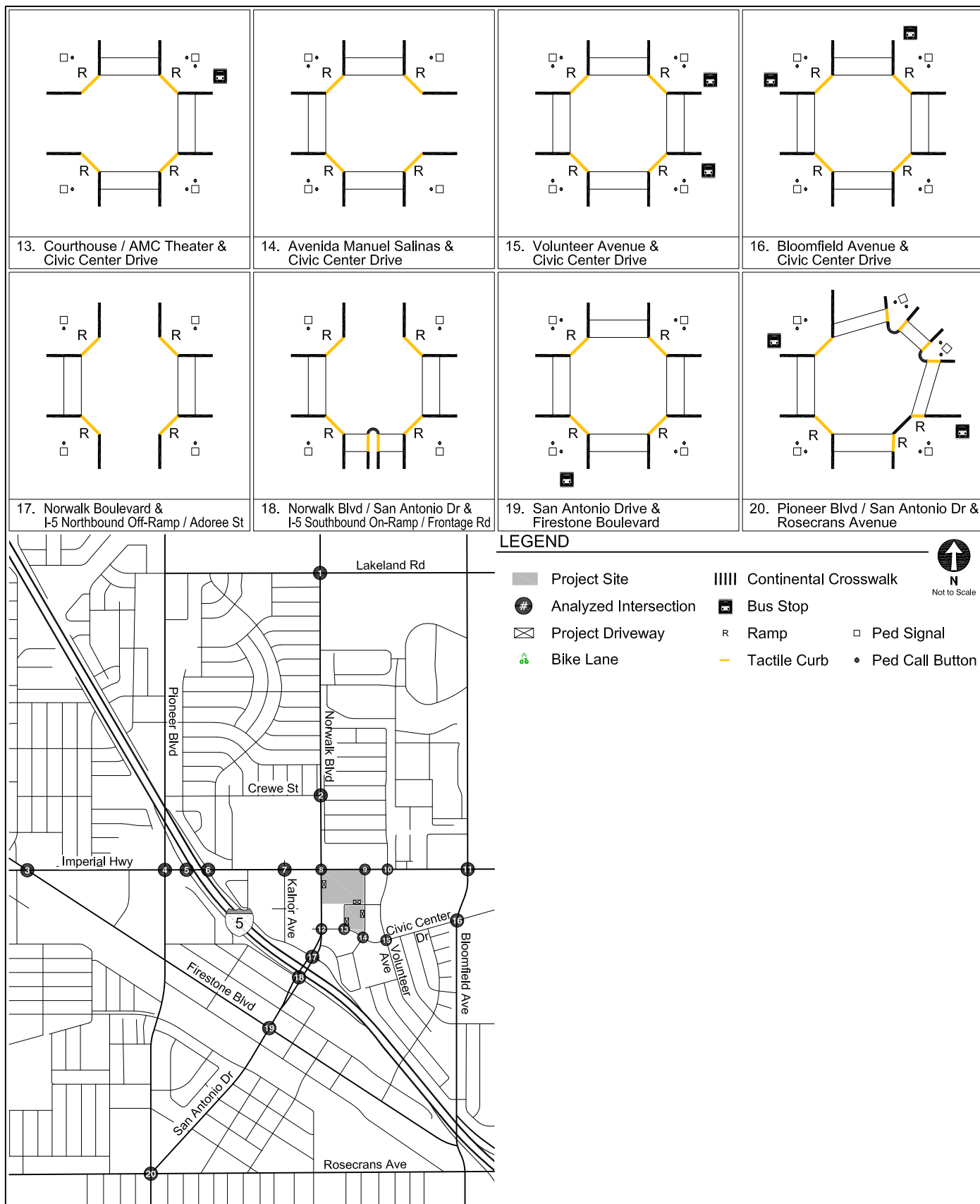
INTERSECTION LANE CONFIGURATIONS

FIGURE
4 (CONT.)



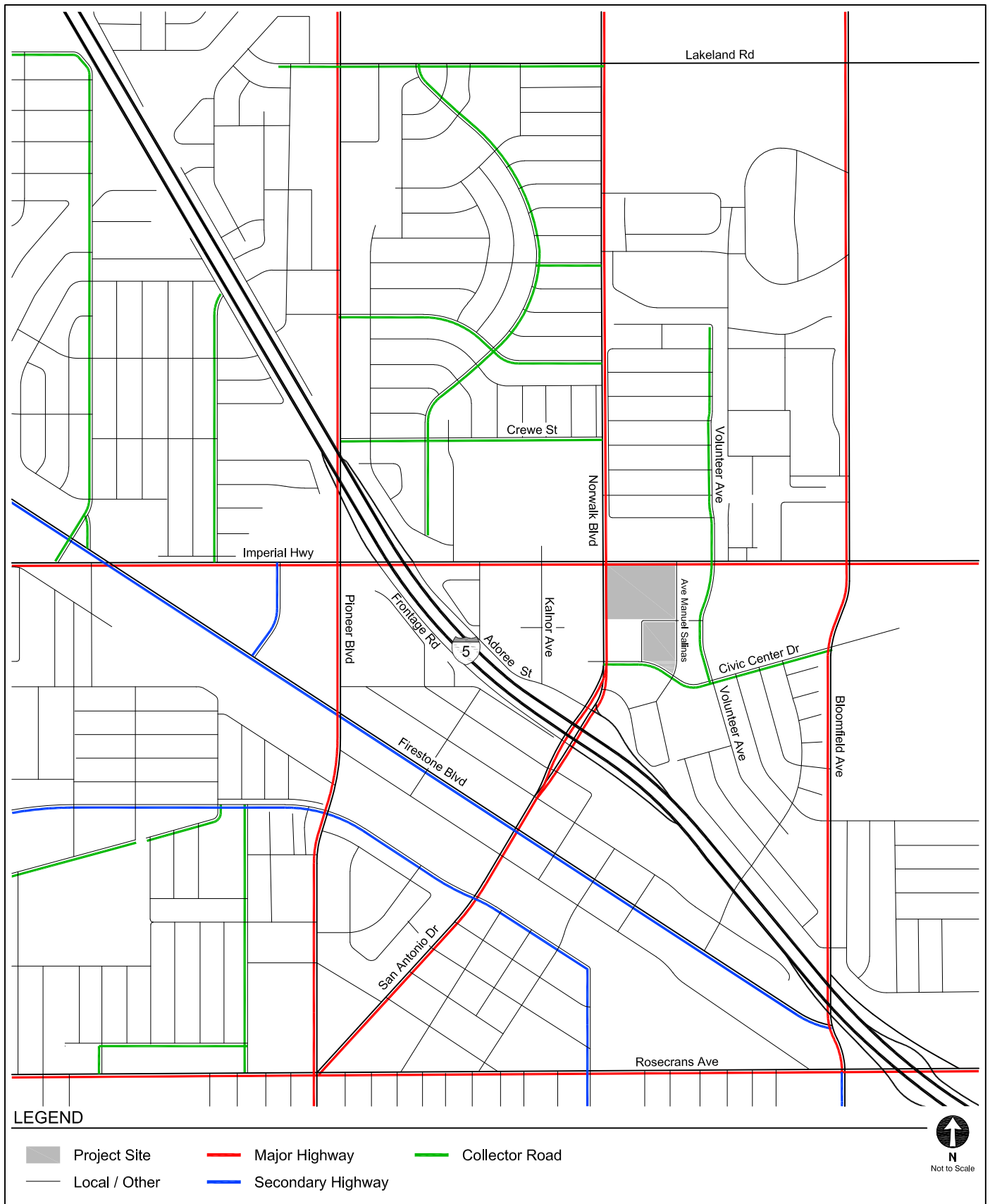
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE
5



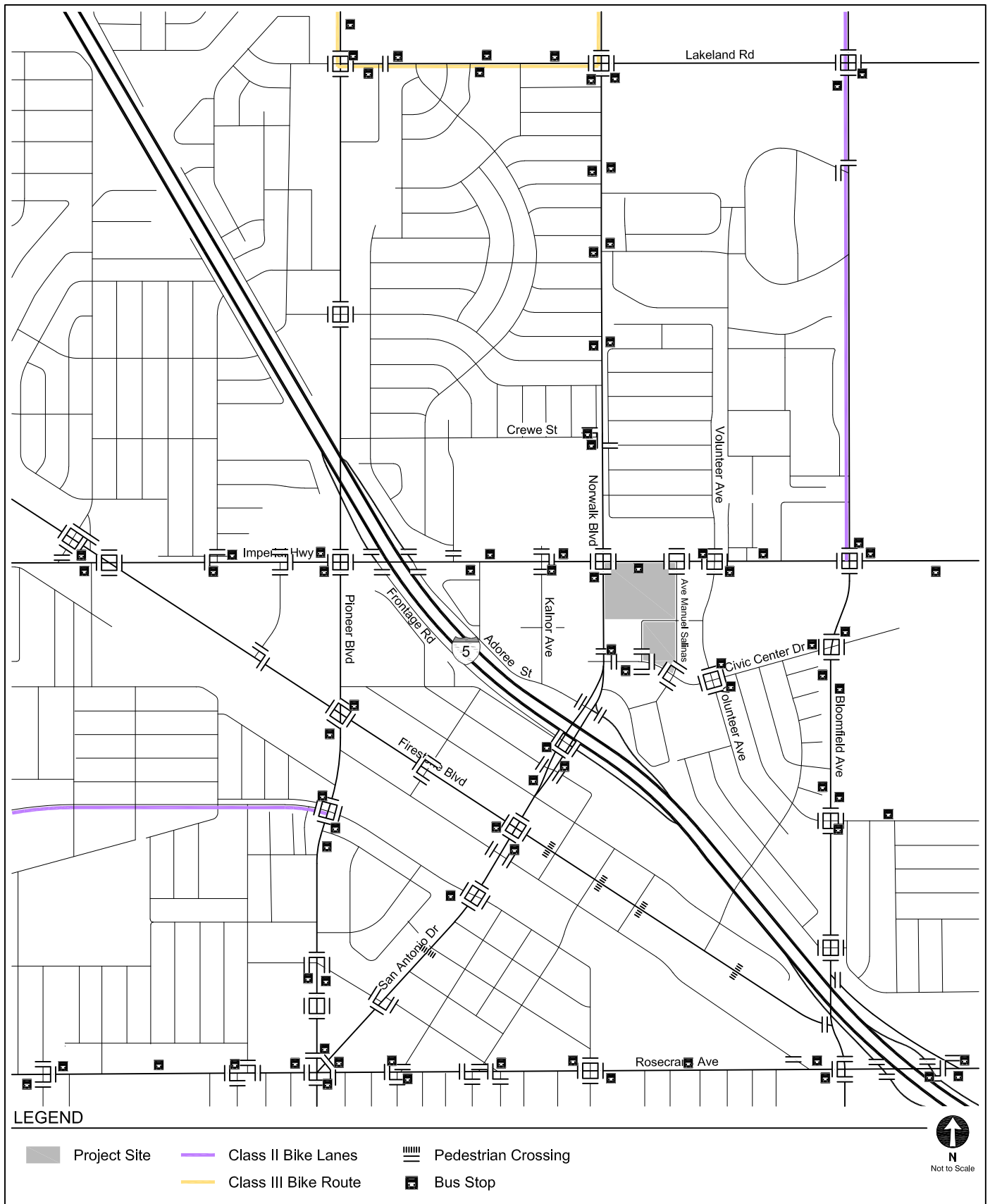
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE
5 (CONT.)



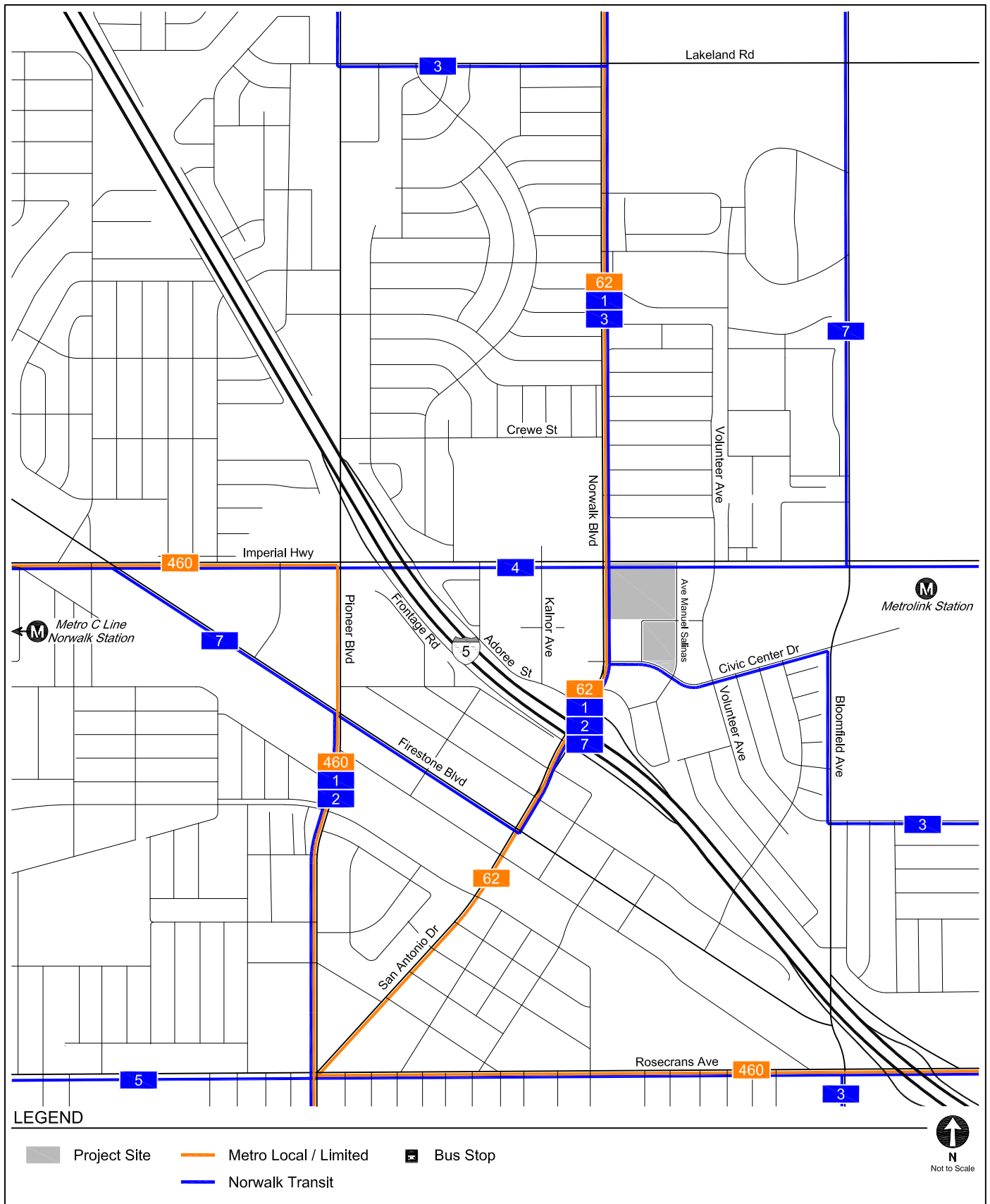
GENERAL PLAN STREET DESIGNATIONS

FIGURE
6



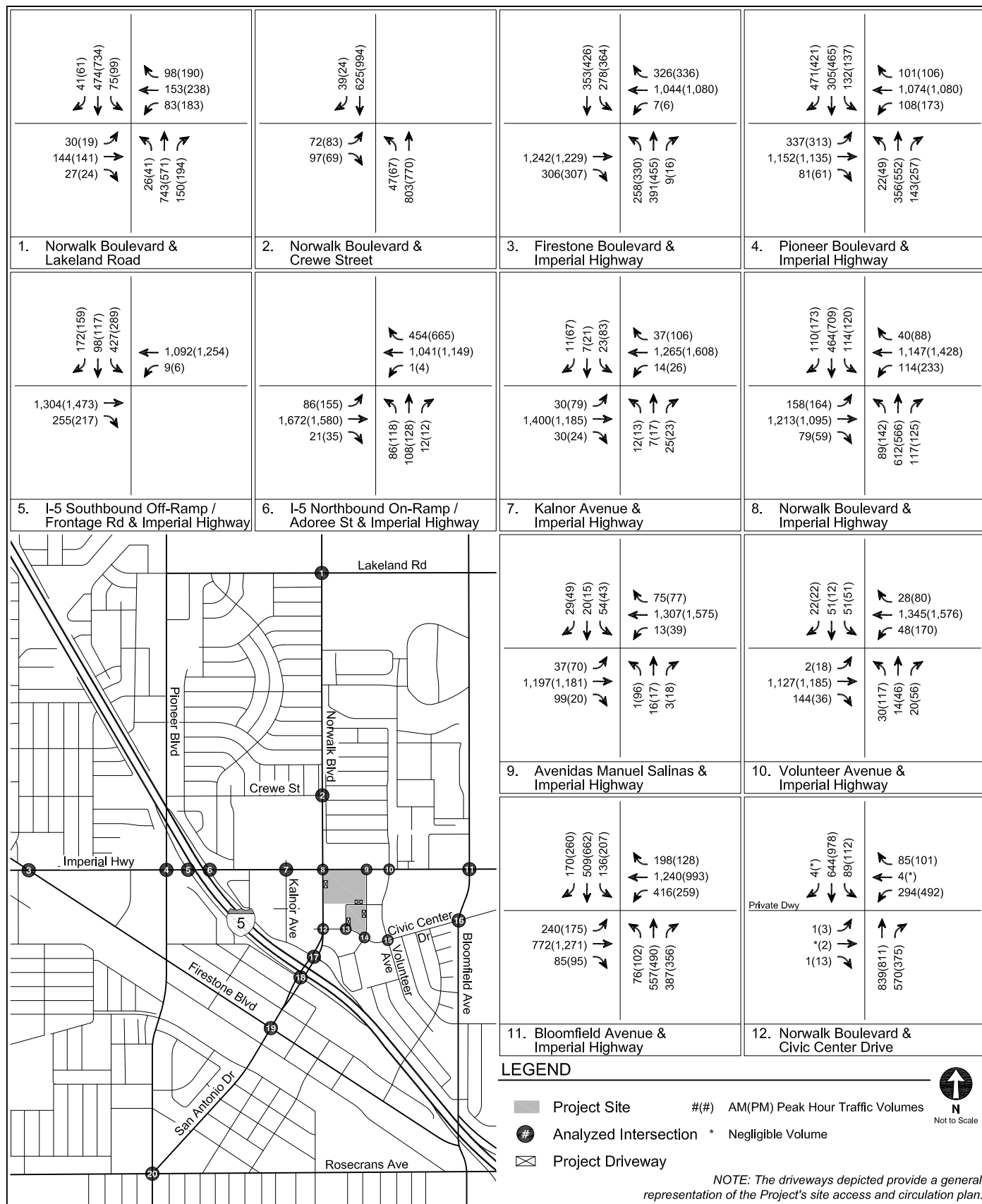
EXISTING TRANSPORTATION FACILITIES & PEDESTRIAN FACILITIES

FIGURE
7



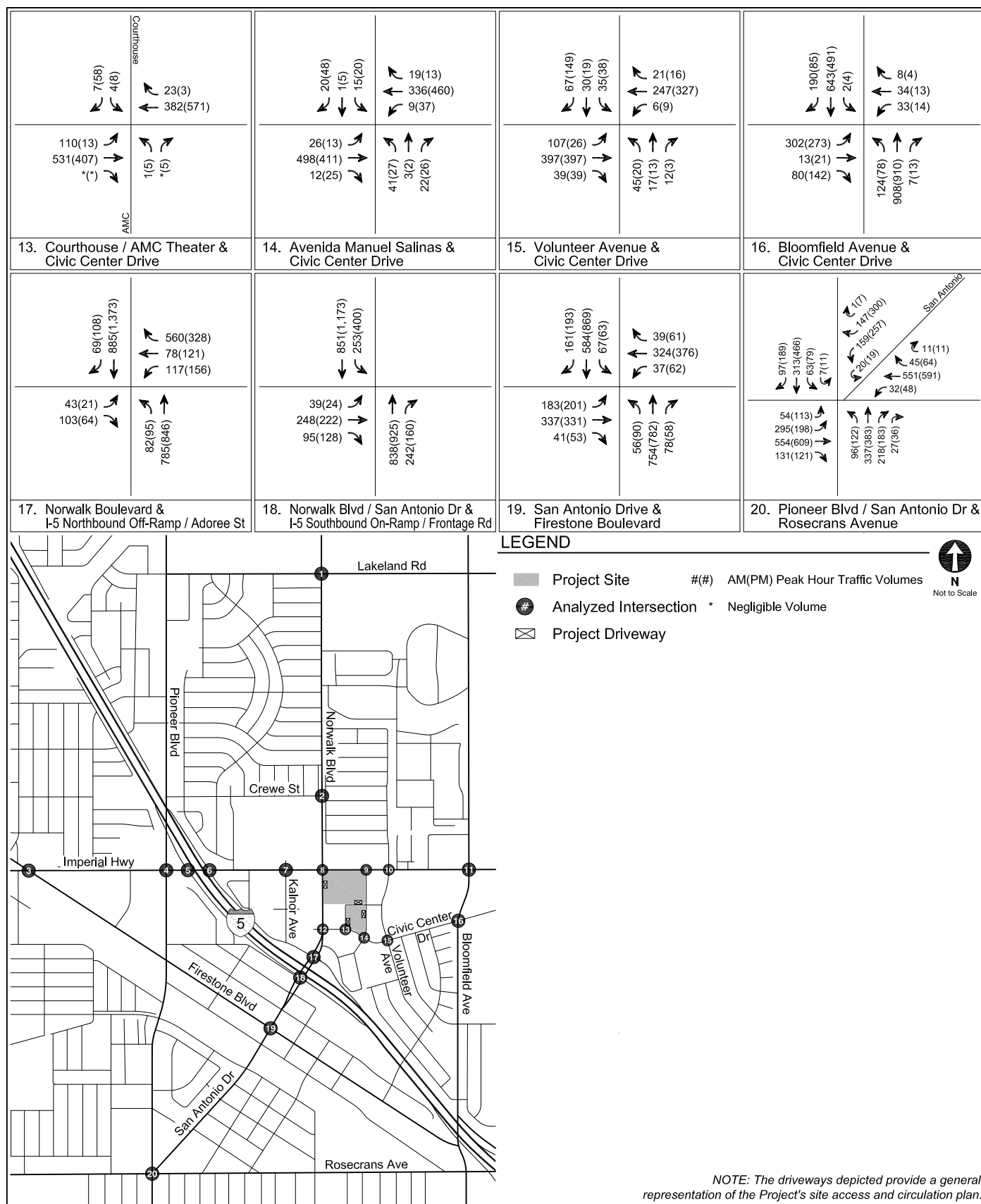
EXISTING TRANSIT SERVICE

FIGURE
8



EXISTING CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

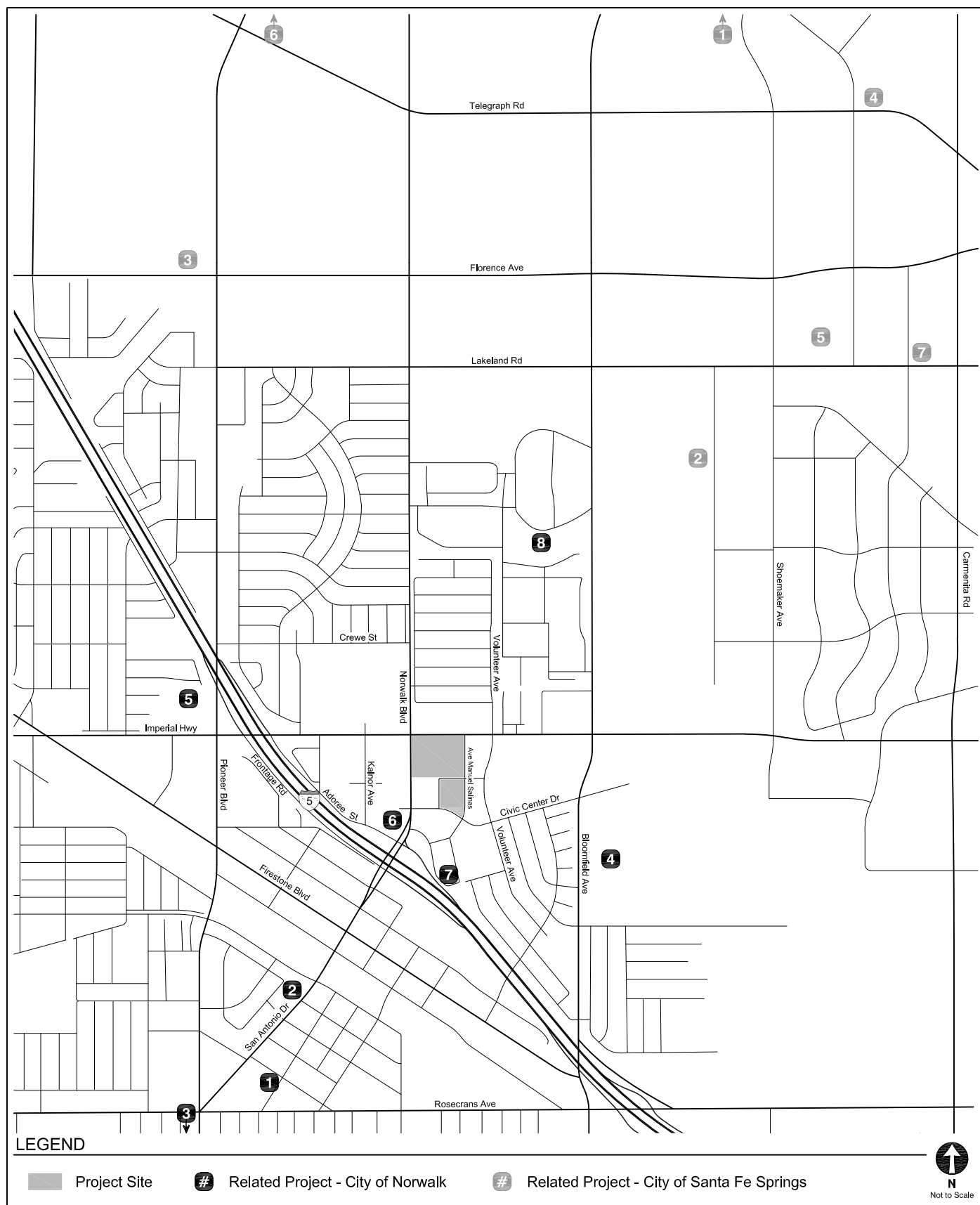
FIGURE
9

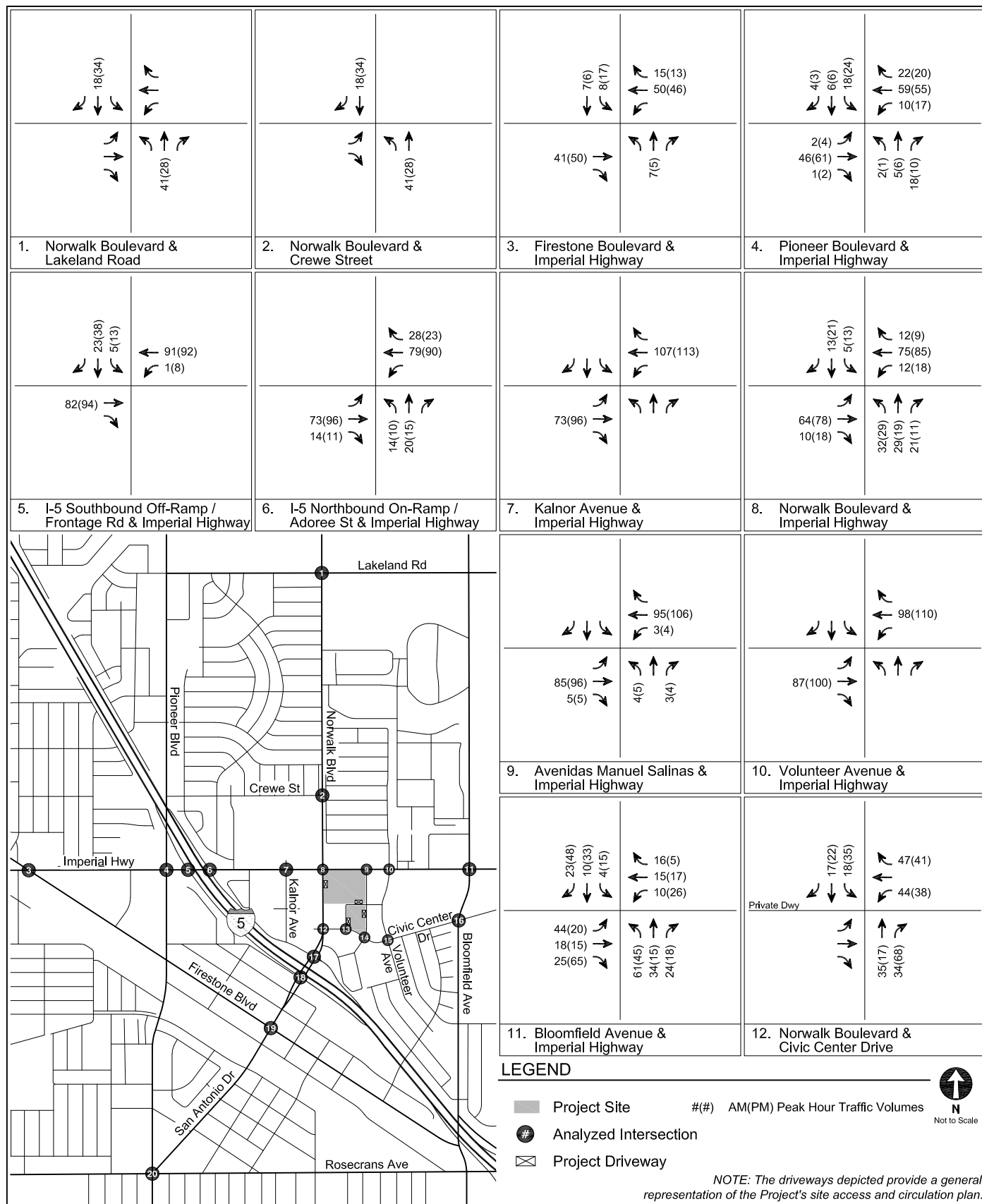


NOTE: The driveways depicted provide a general representation of the Project's site access and circulation plan.

EXISTING CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

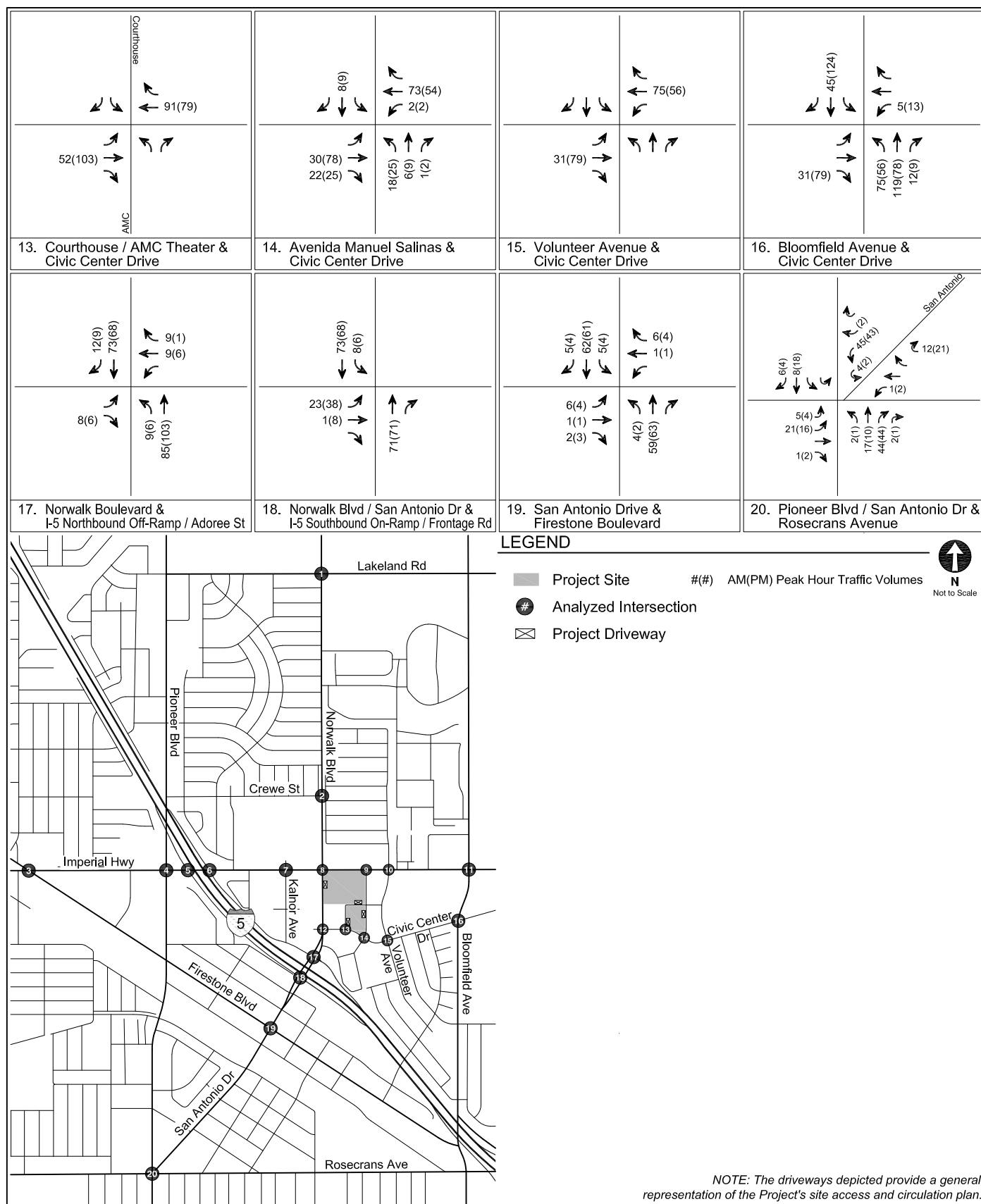
FIGURE
9 (CONT.)





RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

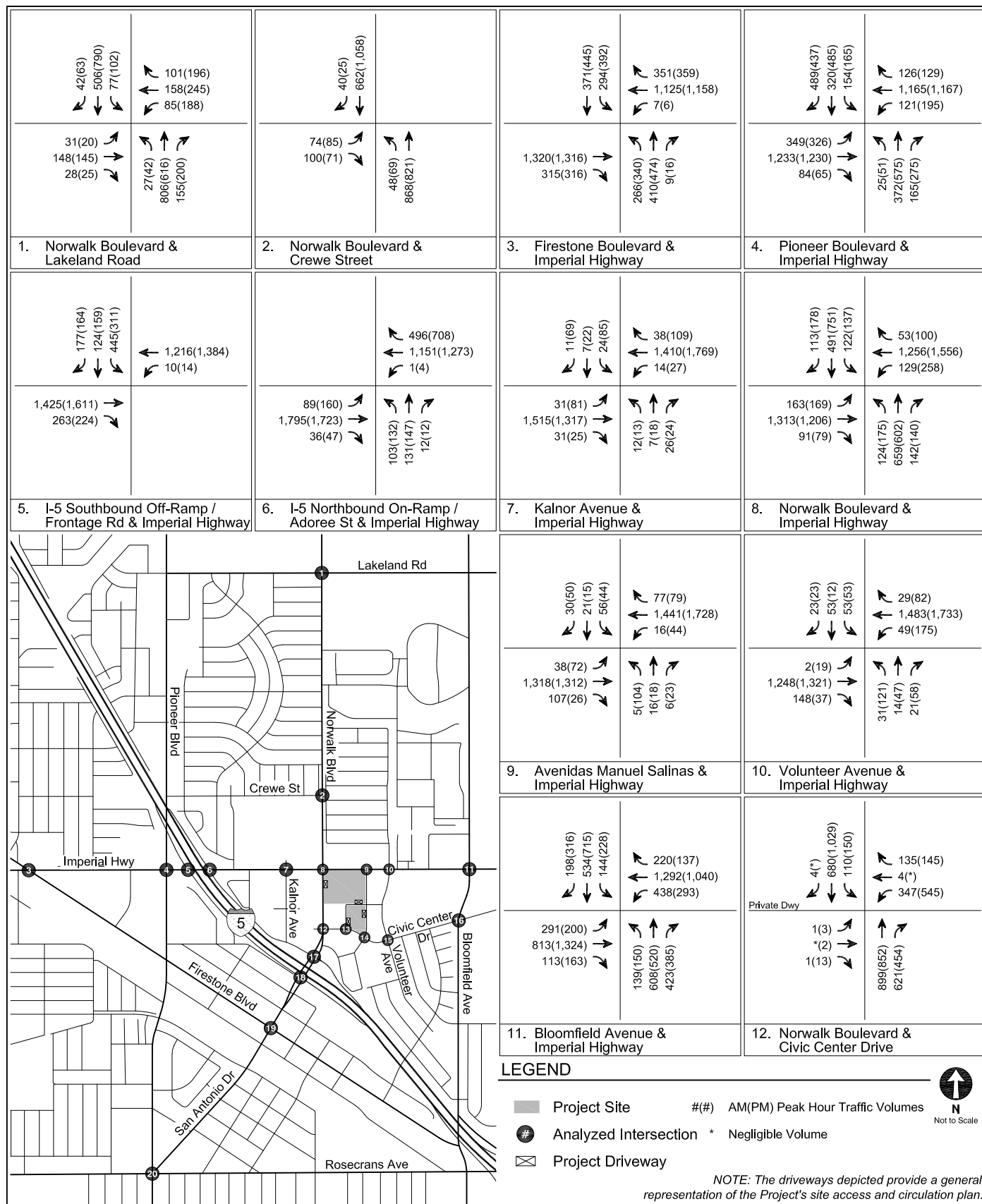
FIGURE
11



NOTE: The driveways depicted provide a general representation of the Project's site access and circulation plan.

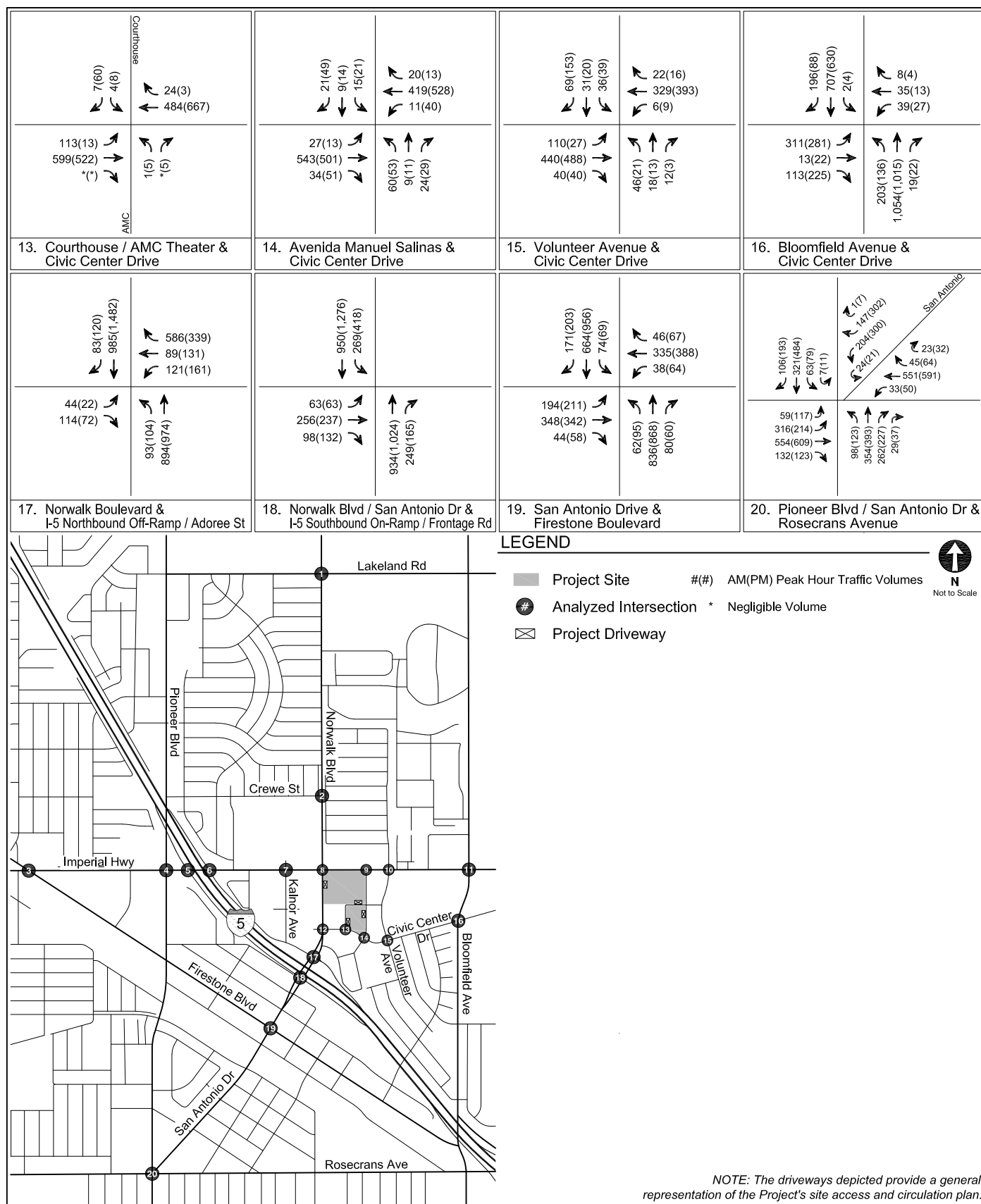
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
11 (CONT.)



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2025)
PEAK HOUR TRAFFIC VOLUMES

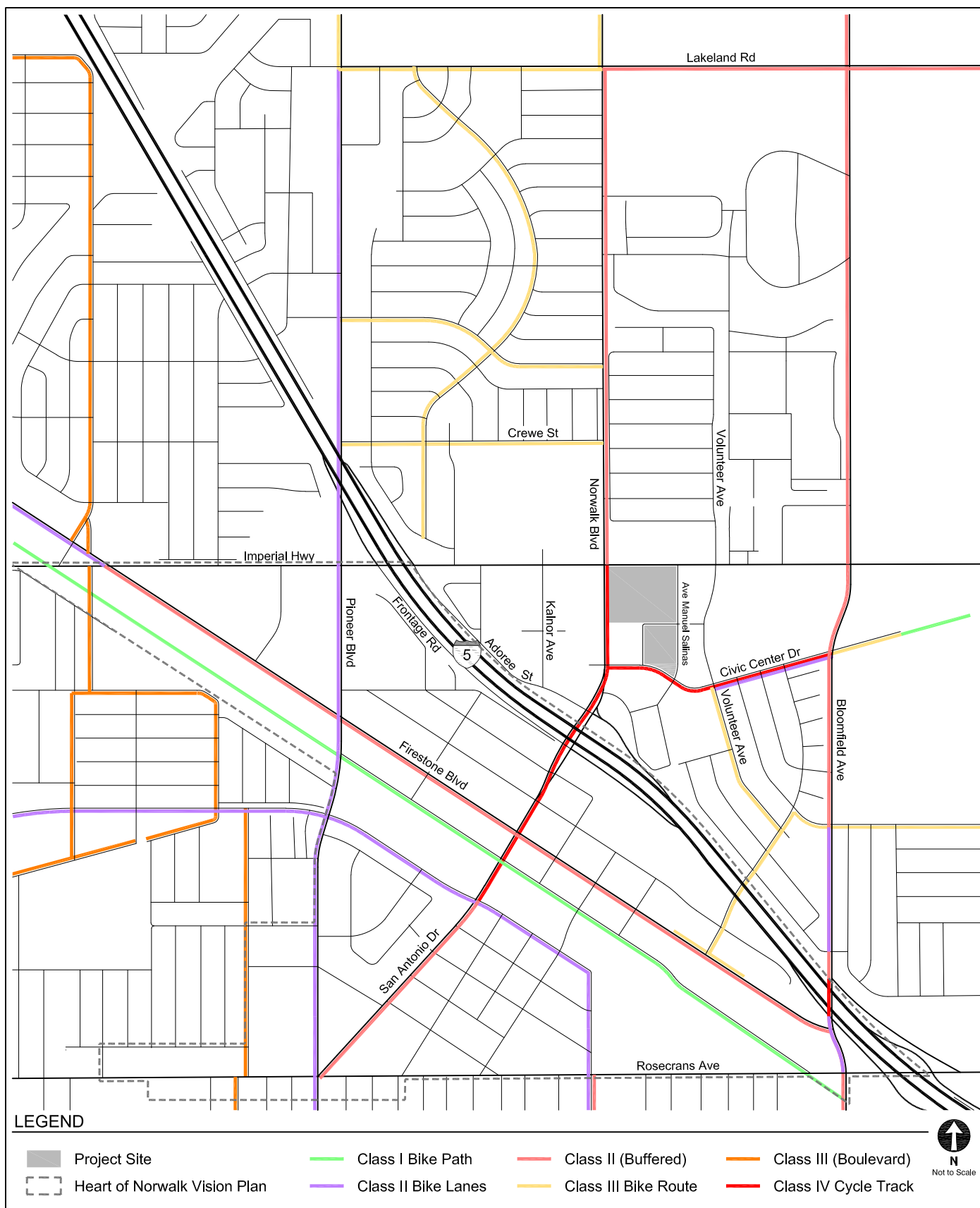
FIGURE
12



NOTE: The driveways depicted provide a general representation of the Project's site access and circulation plan.

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2025)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
12 (CONT.)



FUTURE TRANSPORTATION FACILITIES

FIGURE
13

TABLE 1
STUDY INTERSECTIONS AND STREET SEGMENTS

No.	N/S Street	E/W Street
1.	Norwalk Bl	Lakeland Road
2.	Norwalk Bl	Crewe St
3.	Firestone Bl	Imperial Highway
4.	Pioneer Bl	Imperial Highway
5.	I-5 Southbound Off-Ramp / Frontage Rd	Imperial Highway
6.	I-5 Northbound On-Ramp / Adoree St	Imperial Highway
7.	Kalnor Ave	Imperial Highway
8.	Norwalk Bl	Imperial Highway
9.	Avenida Manuel Salinas	Imperial Highway
10.	Volunteer Ave	Civic Center Dr
11.	Bloomfield Ave	Civic Center Dr
12.	Norwalk Bl	Civic Center Dr
13.	Courthouse-AMC Theater	Civic Center Dr
14.	Avenida Manuel Salinas	Civic Center Dr
15.	Volunteer Ave	Civic Center Dr
16.	Bloomfield Ave	Civic Center Dr
17.	Norwalk Bl	I-5 Northbound Off-Ramp / Adoree St
18.	Norwalk Bl / San Antonio Dr	I-5 Southbound On-Ramp / Frontage Rd
19.	San Antonio Dr	Firestone Bl
20.	Pioneer Bl / San Antonio Dr	Rosecrans Ave
No	Street Segments	
1.	Imperial Highway	btwn Norwalk Bl & Bloomfield Ave
2.	Imperial Highway	btwn Norwalk Bl & I-5
3.	Norwalk Bl	btwn Imperial Highway & Crewe Street
4.	Norwalk Bl	btwn Imperial Highway & I-5
5.	Avenida Manuel Salinas	btwn Imperial Highway & Civic Center Dr
6.	Civic Center Dr	btwn Avenida Manuel Salinas & Norwalk Bl

**TABLE 2
EXISTING TRANSIT SERVICE**

Provider, Route, and Service Area	Service Type	Hours of Operation	Average Headway (minutes) [a]			
			Morning Peak Period		Afternoon Peak Period	
Metro			NB/EB	SB/WB	NB/EB	SB/WB
62 Downtown Los Angeles - Hawaiian Gardens via Telegraph Road	Local	4:30 A.M. - 11:30 P.M.	48	30	30	40
460 Downtown Los Angeles - Disneyland via Harbor Transitway & Norwalk C Line Station	Express	4:30 A.M. - 11:15 P.M.	30	27	24	30
Norwalk Transit System (NTS)			NB/EB	SB/WB	NB/EB	SB/WB
1 Rio Honda - Bellflower via Norwalk Boulevard	Local	5:30 A.M. - 11:00 P.M.	30	30	30	34
2 Norwalk - Cerritos via Norwalk Boulevard & Studebaker Road	Local	6:00 A.M. - 8:00 P.M.	34	34	34	40
3 Santa Fe Springs - Norwalk via Norwalk Boulevard	Local	5:30 A.M. - 8:00 P.M.	60	60	60	60
4 La Mirada - Norwalk C Line Station via Imperial Highway	Local	5:30 A.M. - 11:00 P.M.	20	22	24	20
5 La Mirada - Norwalk C Line Station via Rosecrans Avenue	Local	4:30 A.M. - 7:30 P.M.	48	48	48	48
7 El Monte - Norwalk C Line Station via Bloomfield Avenue	Local	5:30 A.M. - 9:00 P.M.	48	48	48	48

Notes

NB: Northbound; SB: Southbound; EB: Eastbound; WB: Westbound

Metro: Los Angeles County Metropolitan Transportation Authority

AM Peak from 6 AM - 10 AM

PM Peak from 3 PM - 7 PM

[a] Average headways are based on the total number of trips during the peak period as indicated in Metro, and NTS data from June 2021 and May 2020, respectively.

**TABLE 3
RELATED PROJECT LIST**

No.	Project Name	Address	Description	Trip Generation [a]						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
City of Norwalk [b]										
1	11944 Orange St	11944 Orange St	Additional single-family residential unit	9	0	1	1	1	0	1
2. [c]	Mercy Housing - Norwalk Veterans' Housing	13705 San Antonio Drive	60 affordable housing apartment units	250	12	19	31	13	10	23
3.	14815 Pioneer Bl	14815 Pioneer Bl	56 market-rate apartment units and six affordable housing apartment units	298	6	16	22	17	12	29
4.	13200 Bloomfield Ave	13200 Bloomfield Ave	750 apartment units with commercial uses	4,594	100	244	344	259	180	439
5.	11729 Imperial Highway	11729 Imperial Highway	Conversion of former Walmart to last mile facility or vehicle sales	-	-	-	-	-	-	-
6.	12843 Norwalk Bl	12843 Norwalk Bl	2,480 sf fast-food restaurant with drive-through	1,159	57	54	111	43	39	82
7.	13111 Sycamore St	13111 Sycamore St	121-room hotel	967	31	25	56	36	35	71
8. [d]	CHP Sante Fe Springs Area Office Replacement Project	11401 Bloomfield Ave	Development of CHP Santa Fe Springs Area Office providing work space, vehicle and equipment storage for 159 future employees.	589	18	14	32	18	24	42
9.	Holifield Park	12500 Excelsior Dr	15 acre expansion of existing park	98	0	0	0	13	11	24
City of Santa Fe Springs [e]										
1.	10003 Freeman Ave	10003 Freeman Ave	Construction of 6,250 sf industrial building	30	4	1	5	1	3	4
2.	11401 Greenstone Ave	11401 Greenstone Ave	Construction of 137,000 sf industrial building	667	89	12	101	12	77	89
3.	11733 Florence St	11733 Florence St	63 townhome units	454	9	21	30	21	15	36
4.	13225 Telegraph Road	13225 Telegraph Road	4,723 sf fast-food restaurant with drive-through	2,208	108	103	211	81	75	156
5.	13231 Lakeland Road	13231 Lakeland Road	19 units for transitional housing and 102 apartment units	554	11	34	45	29	20	49
6.	9920-10020 Pioneer Bl	9920-10020 Pioneer Bl	Increase one industrial building from 28,146 sf to 35,837 sf; decrease one industrial building from 31,422 sf to 22,770 sf	(5)	(1)	0	(1)	0	(1)	(1)
7.	Lakeland & Laurel	Northeast corner of Lakeland & Laurel	18 condominium units	130	3	6	9	6	4	10
OTHER AREA-WIDE PROJECTS										
Project			Description							
Heart of Norwalk Vision Plan			The Heart of Norwalk Vision Plan proposes to create a vision of an attractive, active, and unique place beneficial to local residents and businesses, and establishes the San Antonio Village/Firestone Corridor as the heart of the City of Norwalk. The proposed changes would primarily increase mixed-use development and prioritize walking, biking, and public spaces through streetscape improvements along San Antonio Drive and Firestone Boulevard.							

Notes:

[a] Trip generation estimated using rates from *Trip Generation Manual, 11th Edition*, Institute of Transportation Engineers, 2021.

[b] List of related projects provided by the City of Norwalk from January 2022.

[c] Project description and trip generation estimates based on *Mercy Housing - Norwalk Veterans' Housing Draft Mitigated Negative Declaration*, CAJA Environmental Services, LLC, December 2019.

[d] Project description and trip generation estimates based on *Santa Fe Springs Area Office Replacement Project - Initial Study*, Horizon Water and Environment, LLC, March 2019.

[e] List of related projects provided by the City of Santa Fe Springs from October 2021.

Chapter 3

Project Traffic

Trip generation estimates, trip distribution patterns and trip assignments were prepared for the Project. These components form the basis of the Project's non-CEQA transportation analysis.

PROJECT TRIP GENERATION

The number of trips expected to be generated by the Project were estimated using rates published in *Trip Generation Manual, 11th Edition*. For the purposes of this transportation analysis, the trips generated by the Project's restaurant component were estimated assuming an even distribution of high-turnover restaurant and fine dining restaurant. These rates are based on surveys of similar land uses at sites around the country and are provided as both daily rates and morning and afternoon peak hour rates. They relate the number of vehicle trips traveling to and from the Project Site to the size of development for each land use.

The following trip generation reductions were applied after consultation with the City during the scoping process:

- Internal Capture: A 20% internal capture reduction was applied to the commercial uses to account for person trips made between distinct land uses within the Project (e.g., residents visiting the commercial uses without requiring an additional vehicle trip). The internal capture reduction was determined based on the NCHRP 8-51 Internal Trip Capture Estimation Tool (*National Cooperative Highway Research Program Report 684 – Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*, Transportation Research Board and National Research Council, 2011).
- Transit Usage/Walk-In: The Project Site is located within walking distance of local bus stops, 0.60 miles of the Metrolink Norwalk Station, and 1.85 miles of the Metro C (Green) Line Norwalk Station; therefore, a 5% transit/walk-in adjustment was applied to the Project

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

- Pass-By: Average pass-by reductions from *Trip Generation Manual, 11th Edition* were applied for the Project's proposed commercial land uses, including a 40% reduction to the retail use, a 24% reduction to the supermarket use, a 44% reduction to the fine dining restaurant use, and a 43% reduction to the high-turnover sit-down restaurant use, to account for trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion. Similar to the trip generation rates, the pass-by reduction in *Trip Generation Manual, 11th Edition* were based on surveys and interviews conducted of similar land uses at sites around the country.

As shown in Table 4, after accounting for the reductions detailed above, the Project is estimated to generate 6,192 trips on a typical weekday, including 294 morning peak hour trips (127 inbound, 167 outbound) and 545 afternoon peak hour trips (301 inbound, 244 outbound). The total trips at Project driveways (i.e., without application of pass-by reductions) is estimated to be 8,699 trips on a typical weekday, including 393 morning peak hour trips (183 inbound, 210 outbound) and 763 afternoon peak hour trips (420 inbound, 343 outbound).

PROJECT TRIP DISTRIBUTION

The geographic distribution of trips generated by the Project is dependent on the location of residential and employment centers from which visitors to the Project would be drawn, characteristics of the street system serving the Project Site, the level of accessibility of the routes to and from the Project Site, existing intersection traffic volumes, existing travel demand patterns, the location of the proposed driveways, and input from City staff.

As previously detailed, access to the Project Site and County parking garage would be provided via Norwalk Boulevard and Avenida Manuel Salinas. Based on these considerations, traffic entering and exiting the Project was assigned to the surrounding street system. The intersection-level trip distribution patterns for the study intersections and Project driveways are shown in Figures 14A-14D, respectively.



Generally, based on a review of existing travel demand patterns and existing access to regional connections to employment and commercial centers, the Project's residential trip distribution pattern is as follows:

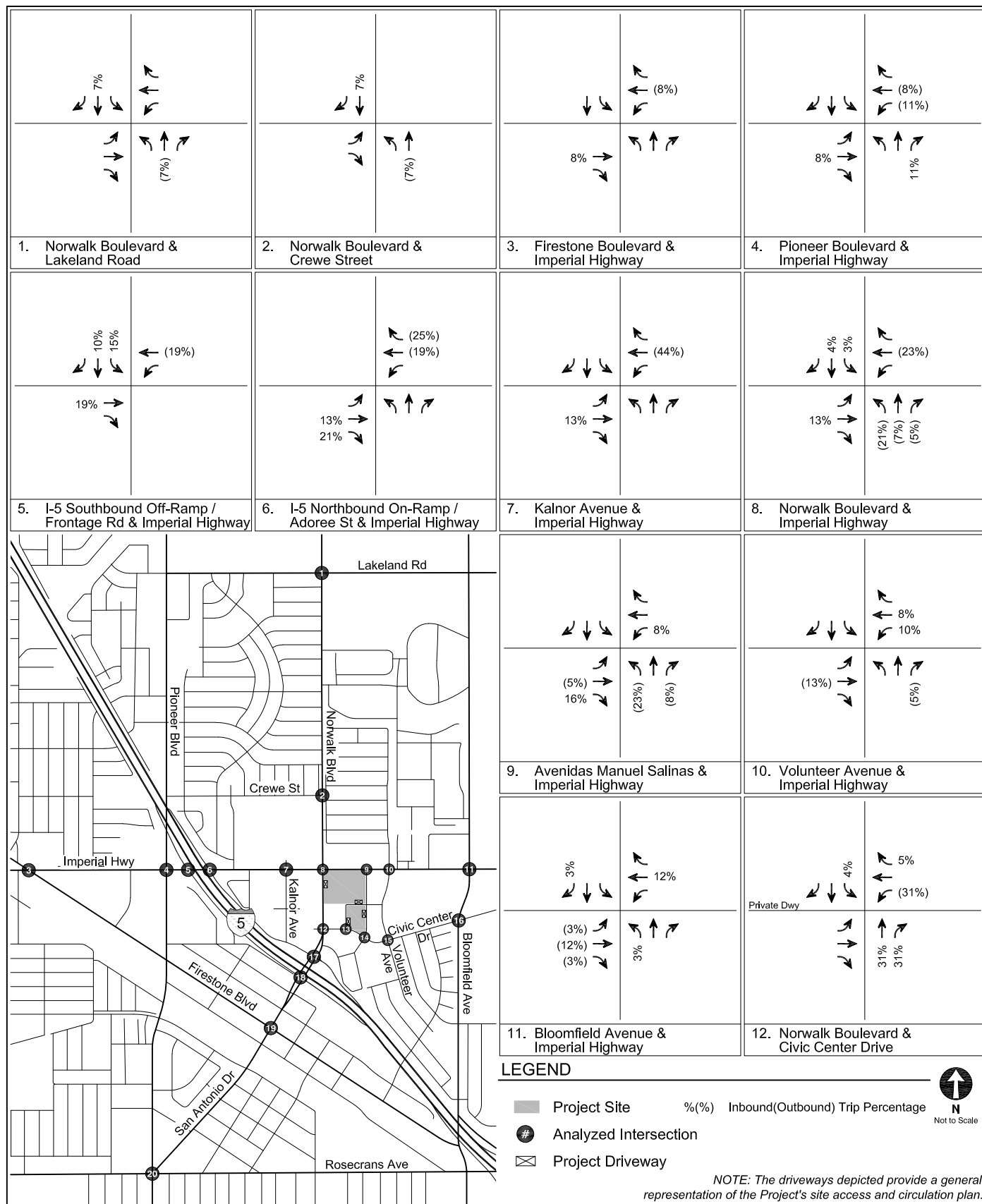
- 35% to/from the north
- 15% to/from the east
- 30% to/from the south
- 20% to/from the west

And based on a review of existing travel demand patterns, as well as existing access to local and regional connections to residential, commercial, and employment centers, the Project's commercial trip distribution pattern generally is as follows:

- 30% to/from the north
- 20% to/from the east
- 28% to/from the south
- 22% to/from the west

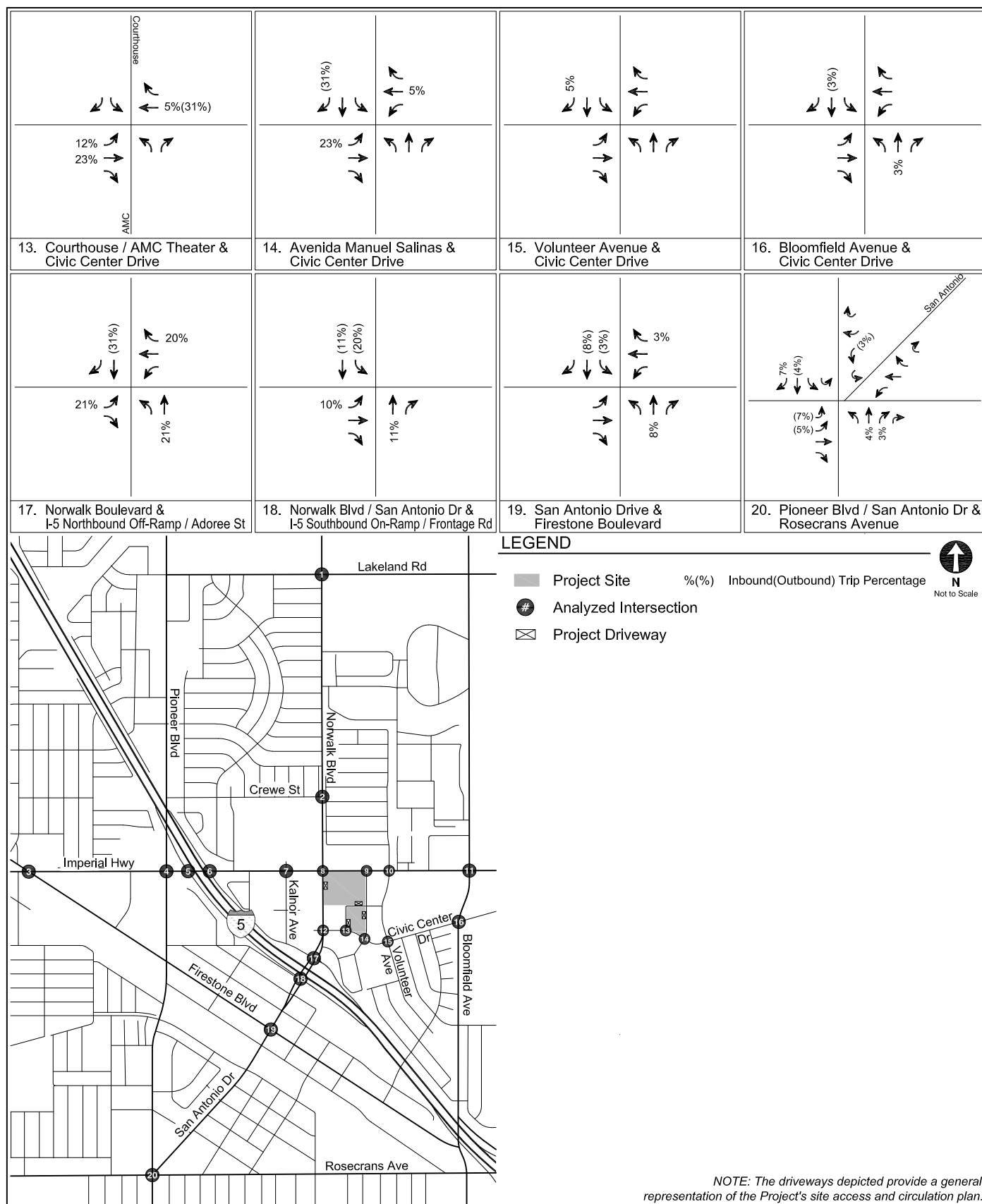
PROJECT TRIP ASSIGNMENT

The Project trip generation estimates summarized in Table 4 and the residential and commercial trip distribution patterns shown in Figures 14A-14D were used to assign the Project-generated traffic through the study intersections and driveways. Figures 15A-15B illustrate the Project-only traffic volumes at the study intersections and driveways during typical weekday morning and afternoon peak hours.



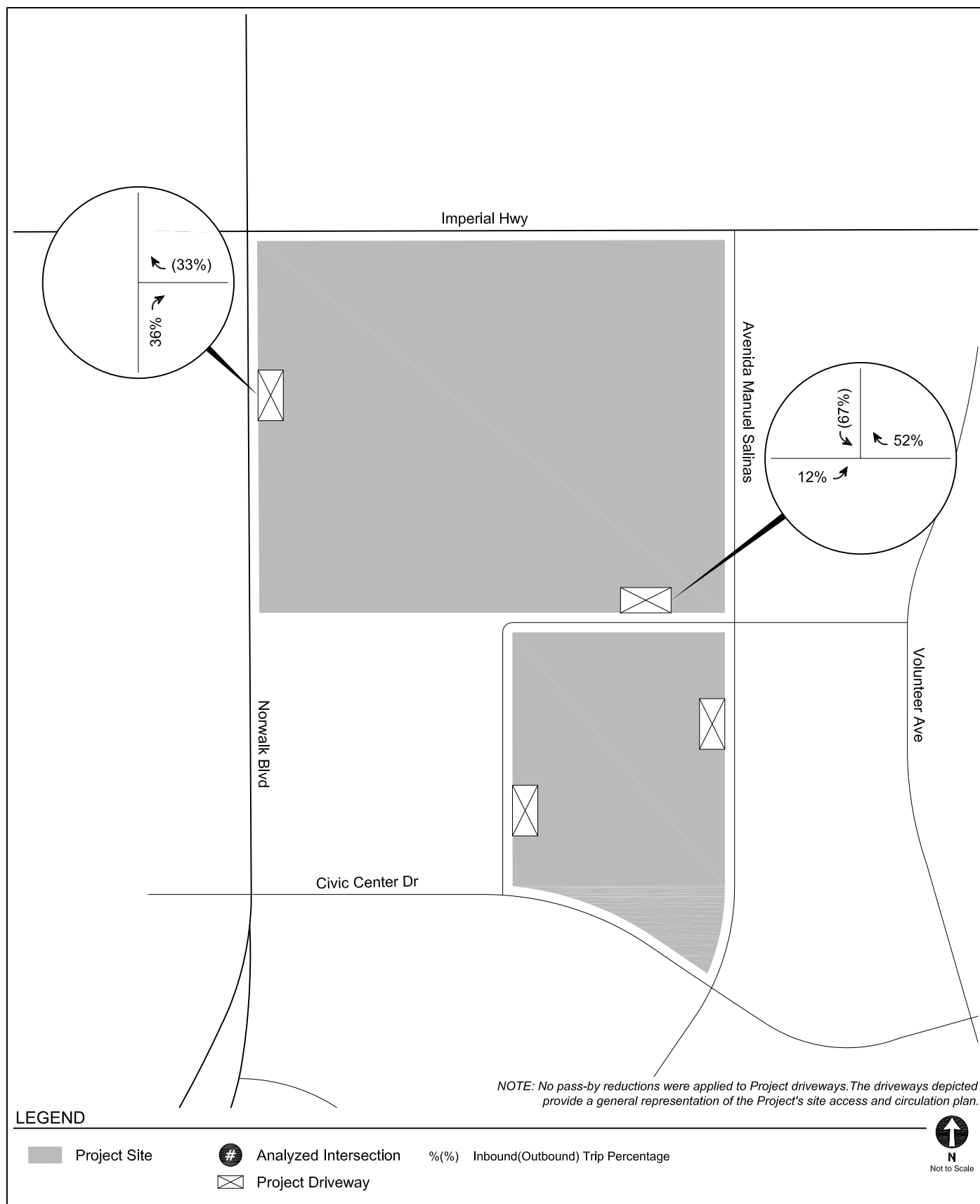
PROJECT INTERSECTION-LEVEL TRIP DISTRIBUTION
RESIDENTIAL

FIGURE
14A



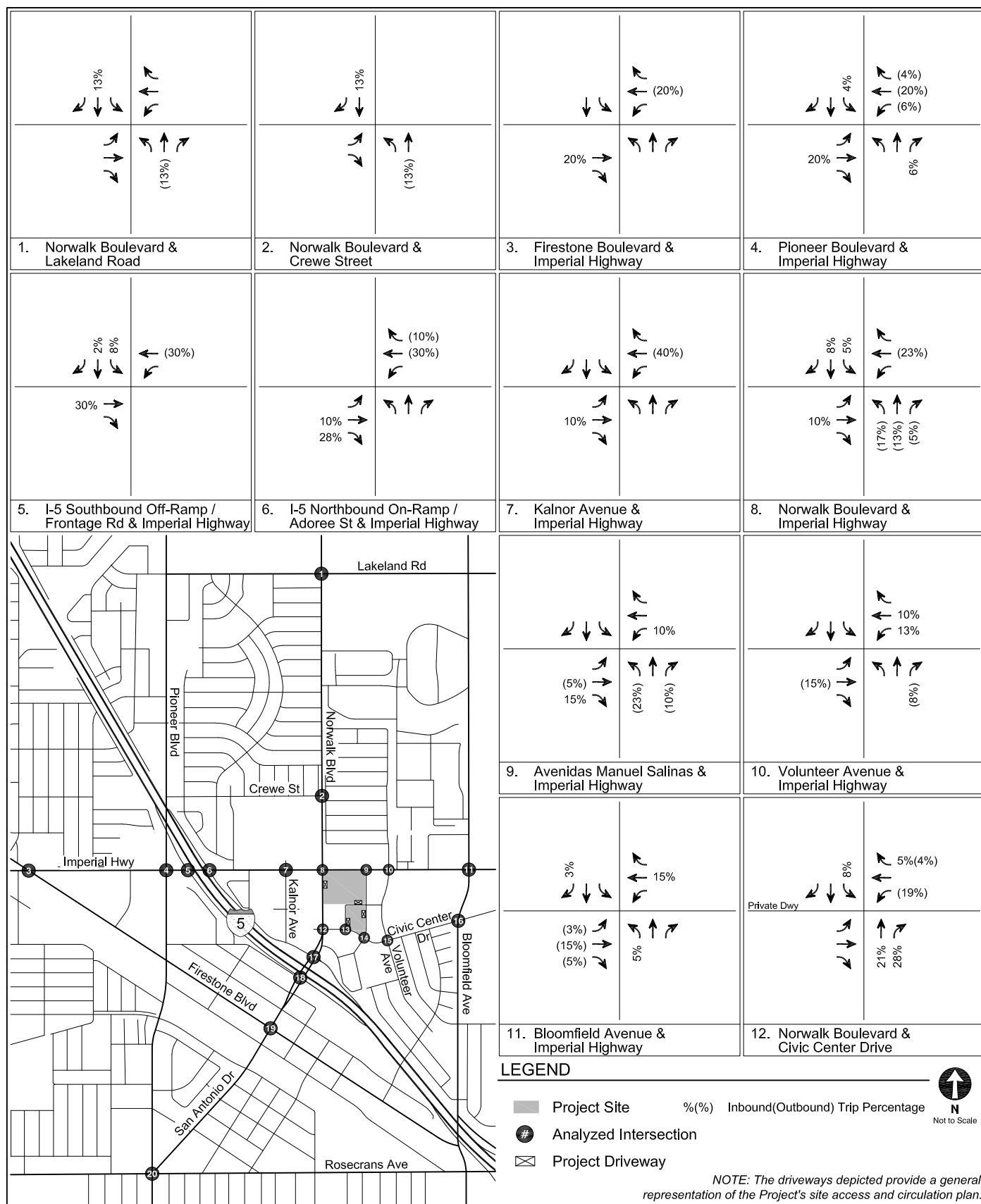
PROJECT INTERSECTION-LEVEL TRIP DISTRIBUTION
RESIDENTIAL

FIGURE
14A (CONT.)



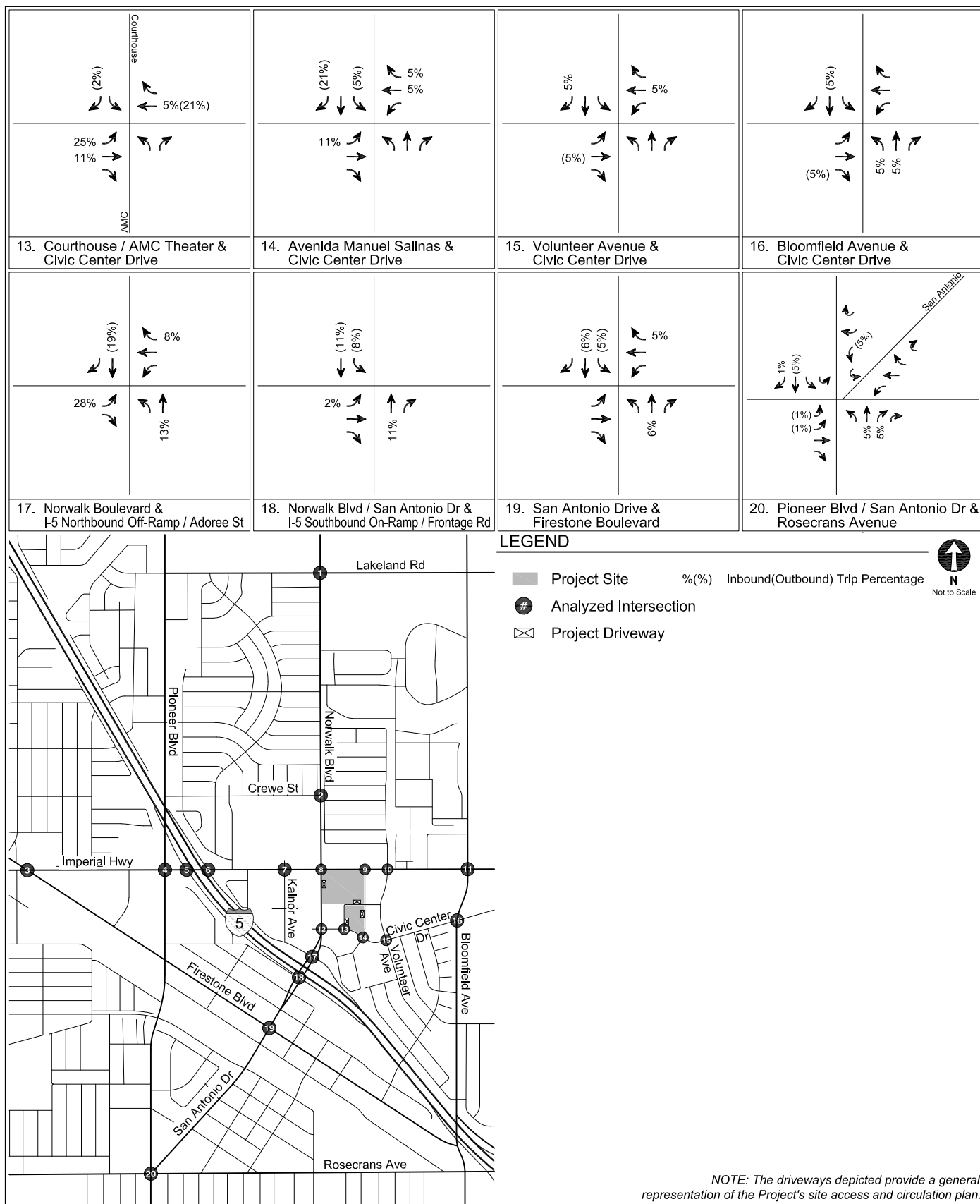
**PROJECT TRIP DISTRIBUTION AT DRIVEWAYS
RESIDENTIAL**

**FIGURE
14B**



PROJECT INTERSECTION-LEVEL TRIP DISTRIBUTION
COMMERCIAL

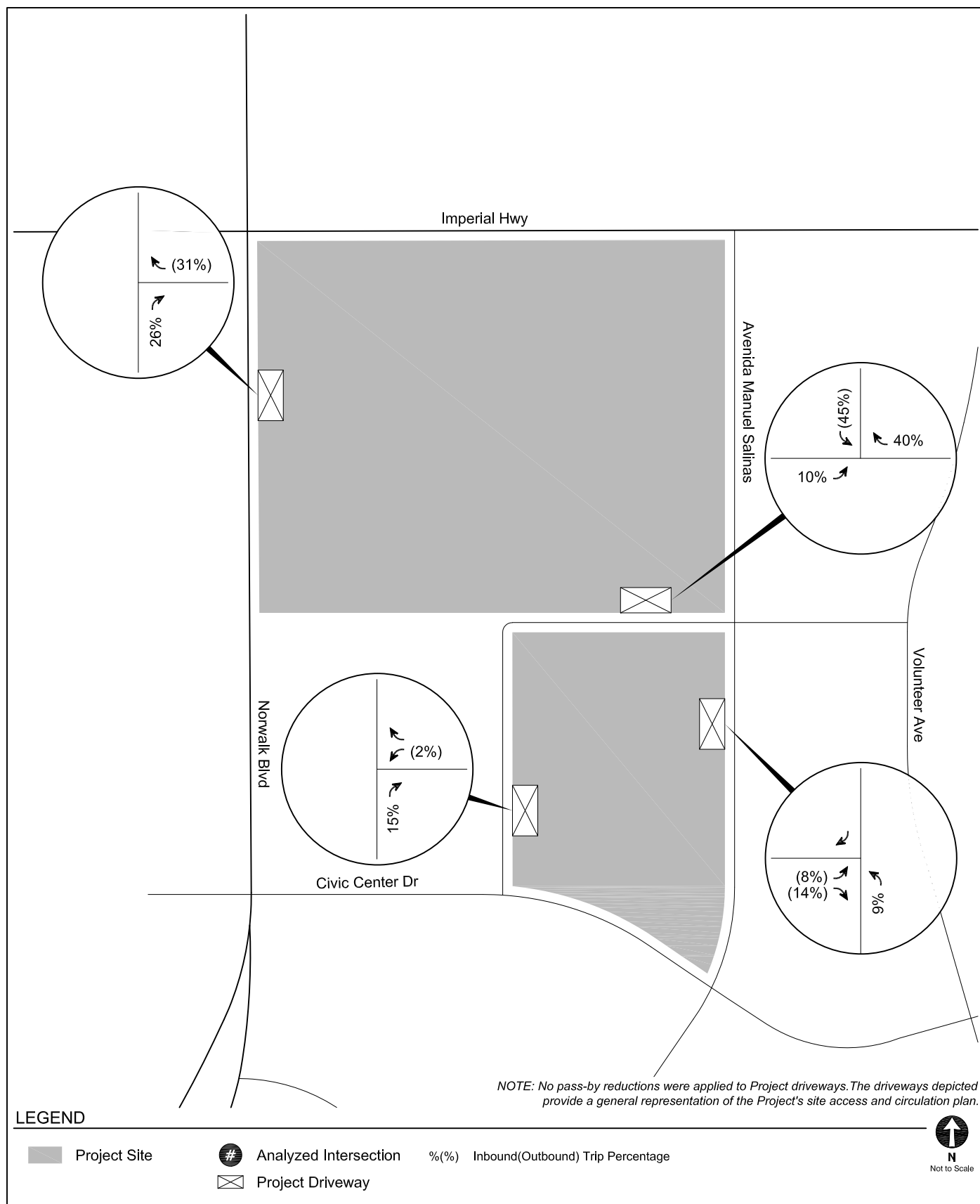
FIGURE
14C



NOTE: The driveways depicted provide a general representation of the Project's site access and circulation plan.

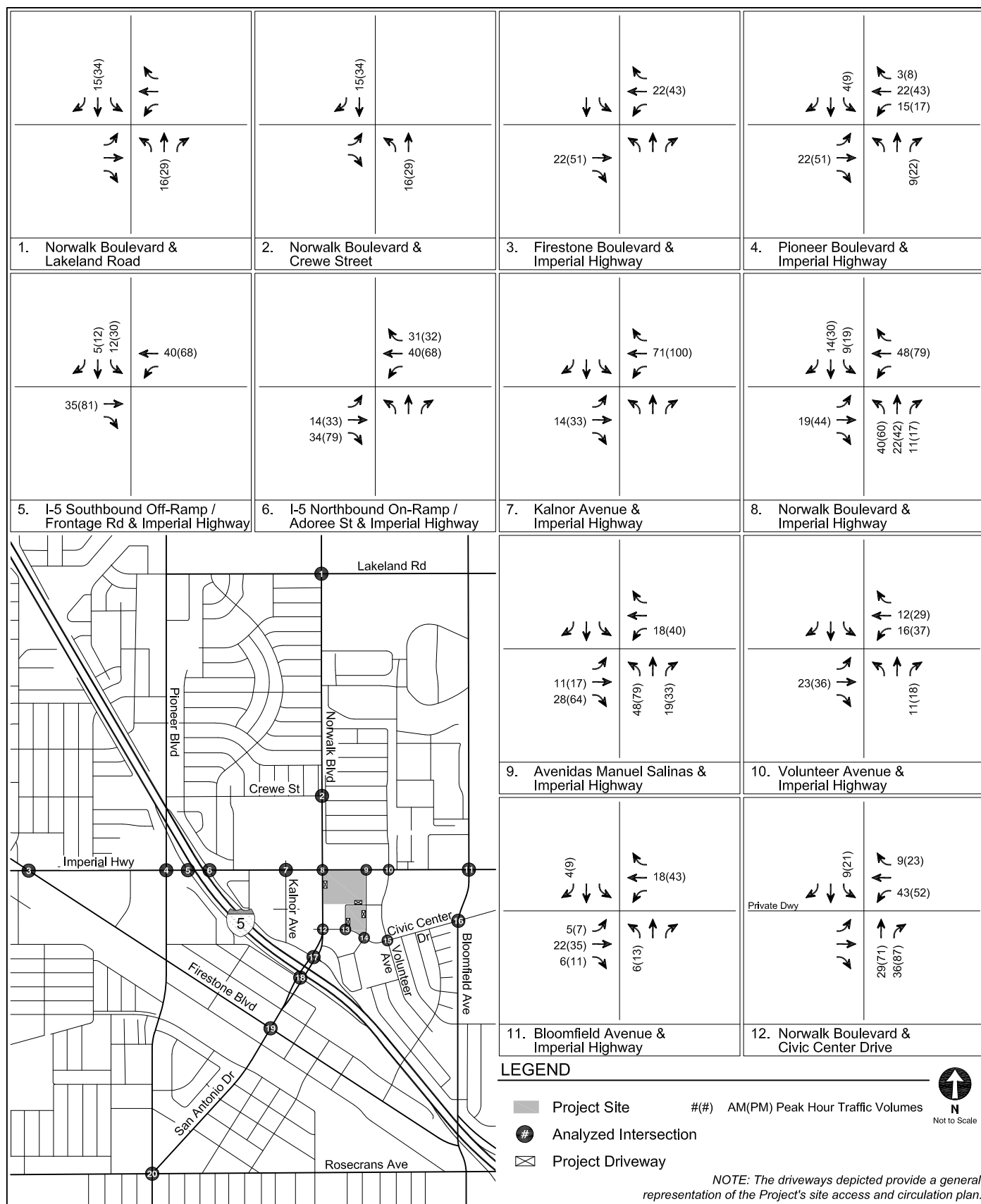
PROJECT INTERSECTION-LEVEL TRIP DISTRIBUTION
COMMERCIAL

FIGURE
14C (CONT.)



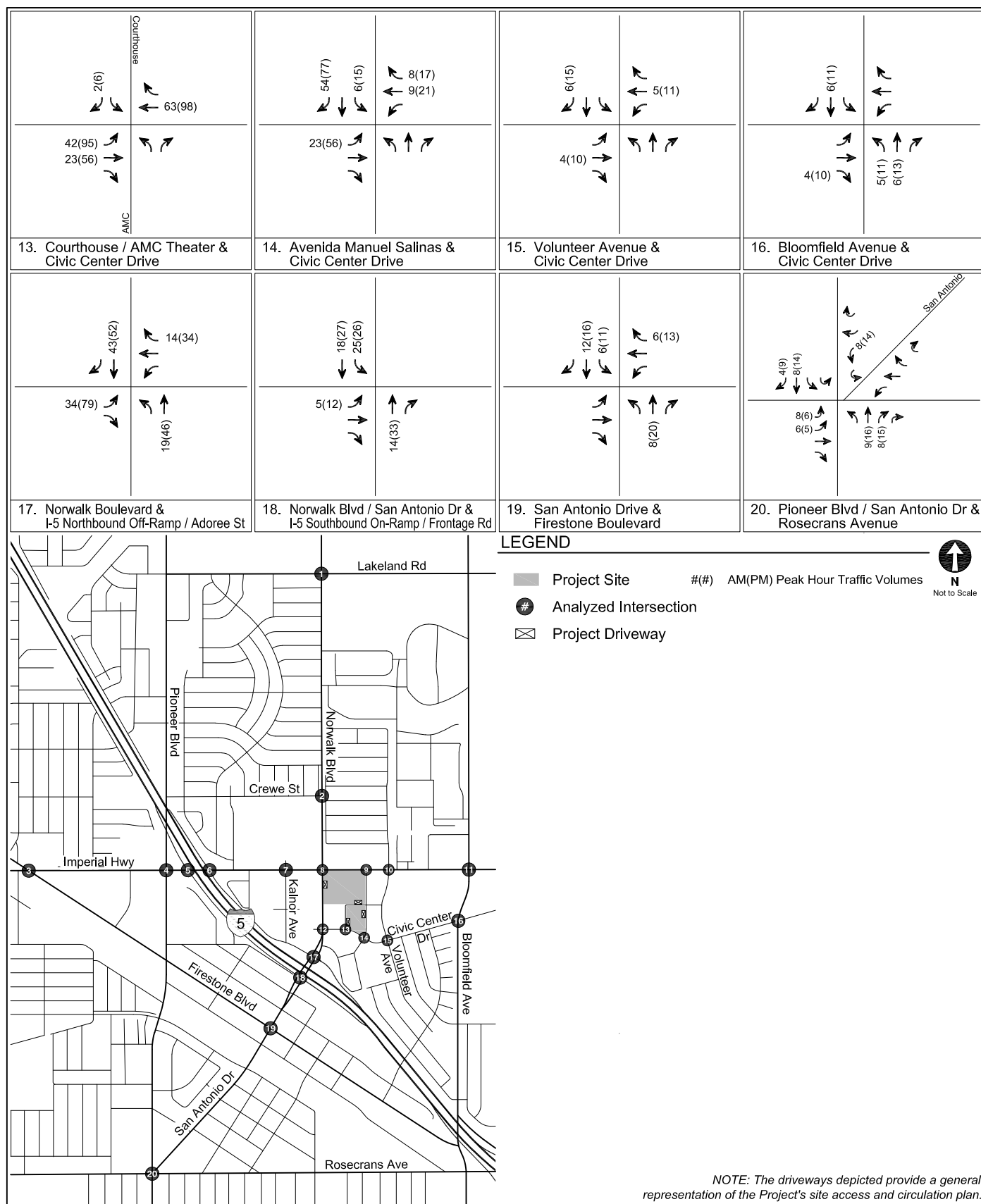
PROJECT TRIP DISTRIBUTION AT DRIVEWAYS
COMMERCIAL

FIGURE
14D



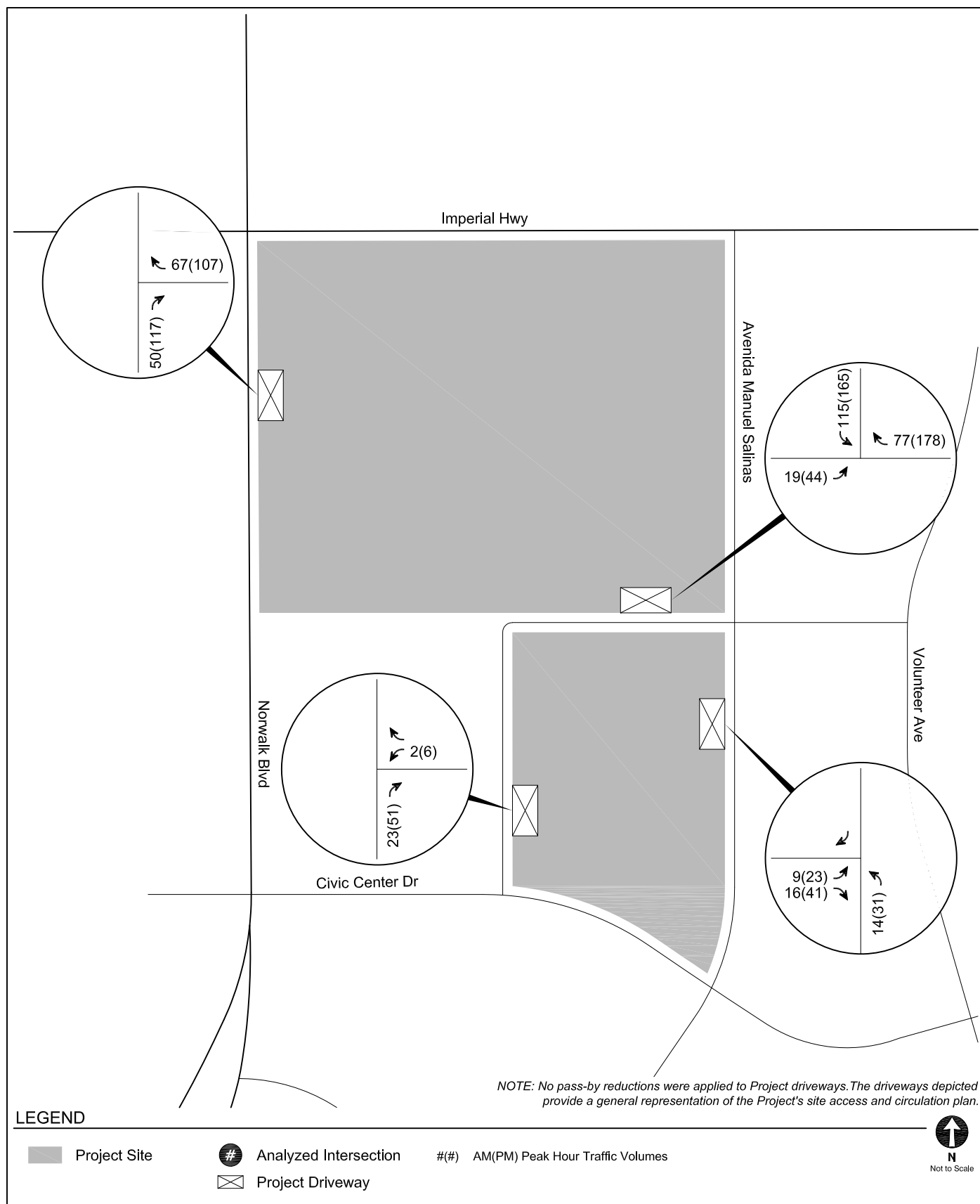
PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES AT INTERSECTIONS

FIGURE
15A



PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES AT INTERSECTIONS

FIGURE
15A (CONT.)



**PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES AT DRIVEWAYS**

**FIGURE
15B**

**TABLE 4
TRIP GENERATION**

Land Use	ITE Land Use Code	Size	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Generation Rates [a]									
Multifamily Housing (Mid-Rise)	221	per du	4.54	23%	77%	0.37	61%	39%	0.39
Shopping Plaza (40-150 ksf)	821	per ksf	67.52	62%	38%	1.73	49%	51%	5.19
Supermarket	850	per ksf	93.84	59%	41%	2.86	50%	50%	8.95
Fine Dining Restaurant	931	per ksf	83.84	[b]	[b]	0.73	67%	33%	7.80
High-Turnover Sit-Down Restaurant	932	per ksf	107.20	55%	45%	9.57	61%	39%	9.05
Proposed Project									
Residential									
Multi-Family Residential	221	350 du	1,589	30	100	130	84	53	137
Transit/Walk-In Reduction - 5%	[c]		(79)	(2)	(5)	(7)	(4)	(3)	(7)
Subtotal - Residential		350 du	1,510	28	95	123	80	50	130
Commercial									
Retail [d]	821	35,000 sf	2,363	38	23	61	89	93	182
Mixed-Use/Internal Capture - 20%	[e]		(473)	(8)	(5)	(13)	(18)	(19)	(37)
Transit/Walk-In - 5%	[d]		(95)	(2)	(1)	(3)	(4)	(4)	(8)
Pass-by - 40%	[f]		(718)	(11)	(7)	(18)	(27)	(28)	(55)
Supermarket	850	40,000 sf	3,754	67	47	114	179	179	358
Mixed-Use/Internal Capture - 20%	[e]		(751)	(13)	(9)	(22)	(36)	(36)	(72)
Transit/Walk-In - 5%	[d]		(150)	(3)	(2)	(5)	(7)	(7)	(14)
Pass-by - 24%	[f]		(685)	(12)	(9)	(21)	(33)	(33)	(66)
Fine Dining Restaurant	931	17,500 sf	1,467	7	6	13	84	53	137
Mixed-Use/Internal Capture - 20%	[e]		(293)	(1)	(1)	(2)	(17)	(11)	(28)
Transit/Walk-In - 5%	[d]		(59)	0	0	0	(3)	(2)	(5)
Pass-by - 44%	[f]		(491)	(3)	(2)	(5)	(28)	(18)	(46)
High-Turnover Sit-Down Restaurant	932	17,500 sf	1,876	92	75	167	96	62	158
Mixed-Use/Internal Capture - 20%	[e]		(375)	(18)	(15)	(33)	(19)	(12)	(31)
Transit/Walk-In - 5%	[d]		(75)	(4)	(3)	(7)	(4)	(3)	(7)
Pass-by - 43%	[f]		(613)	(30)	(25)	(55)	(31)	(20)	(51)
Subtotal - Commercial		110,000 sf	4,682	99	72	171	221	194	415
Total New Project Trips			6,192	127	167	294	301	244	545
Total Project Trips at Driveways (without Pass-By) [f]			8,699	183	210	393	420	343	763

Notes

[a] Source: *Trip Generation, 11th Edition*, Institute of Transportation Engineers, 2021.

[b] AM peak hour directional distributions are not provided for Fine Dining Restaurant uses in *Trip Generation, 11th Edition*. Therefore, the AM peak hour directional distributions for High-Turnover Restaurant use were applied.

[c] The Project Site is served by various local bus lines along Imperial Highway and Norwalk Boulevard with stops adjacent to the Project Site, and is also located less than one-mile of the Metro C (Green) Line Norwalk Station and the Metrolink Norwalk Station. Therefore, a 5% transit/walk-in reduction was applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments.

[d] The retail component includes an integrated group of commercial establishments and contains more than retail merchandising facilities, including food & beverage and health/fitness club uses, consistent with the Shopping Plaza land use definition in *Trip Generation, 11th Edition*.

[e] Internal capture reductions 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, and are consistent with the NCHRP 8-51 Internal Trip Capture Estimation Tool (*National Cooperative Highway Research Program Report 684 – Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*, Transportation Research Board and National Research Council, 2011).

[f] Pass-by reductions account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion, and are based on pass-by reductions identified in *Trip Generation, 11th Edition*. Pass-by reductions are not applied to Project driveways.

Chapter 4

CEQA Analysis of Transportation Impacts

The CEQA-related analysis was conducted in accordance with SB 743, which shifts the focus of transportation analysis from vehicular delay (LOS) to VMT, in order to reduce GHG emissions, create multimodal networks, and promote mixed-use developments.

Per CEQA Guidelines Section 15064.3, subdivision (b)(1) states that a lead agency has discretion to choose the most appropriate method to evaluate the project's VMT, and the City, as the lead agency, has the discretion to select the appropriate thresholds of significance and methodologies for evaluating a project's VMT, including whether or not to express the change in absolute terms, per capita, per household or in another measure. The City has not adopted specific guidelines for evaluating VMT. However, as detailed in *Technical Advisory on Evaluation Transportation Impacts in CEQA* (OPR, December 2018) (OPR Technical Advisory), a lead agency has discretion to rely on thresholds recommended by other agencies. As such, the City has recognized thresholds from *Los Angeles County Public Works Transportation Impact Analysis Guidelines* (County Department of Public Works, July 23, 2020) (County TIA Guidelines) to determine VMT impacts, as detailed in the Transportation Study Scope provided in Appendix A.

Section 3.1 of the County TIA Guidelines addresses whether a project causes substantial VMT and is generally applied to development projects, including non-retail and retail projects. Section 3.1.1 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." The impact criteria identified in the County TIA Guidelines are based on guidance published in the OPR Technical Advisory and *California's 2017 Climate Change Scoping Plan* (California Air Resources Board, January 2019).

VMT METHODOLOGY

The County TIA Guidelines outline screening criteria to determine if a development project would require further CEQA transportation impact analysis or if a project could be determined to have a less than significant CEQA impact. Per Section 3.1.2.1 of County TIA Guidelines, the Project would meet the requirements for further VMT analysis, as detailed in Table 5.

The following describes the methodology by which vehicle trips and VMT were calculated for the Project, which was determined in consultation with the City in the Transportation Study Scope. As detailed in Appendix C, the VMT analysis was based on the daily trip generation estimates from *Trip Generation Manual, 11th Edition*, as calculated in Chapter 3, and average trip length outputs from the *California Emissions Estimator Model Version 2020.4.0* (California Air Pollution Control Officers Association [CAPCOA], 2022) (CalEEMod) to estimate the Project generated daily VMT. The population and employment projections based on data provided by the United States Census Bureau and the United States Green Building Council, respectively, were utilized to compare the Project's VMT impact with the efficiency-based thresholds (e.g., residential VMT per capita).

VMT Impact Criteria

As previously detailed, Section 3.1 of the County TIA Guidelines provides VMT impact criteria for development (non-retail and retail) projects and land use plans (e.g., community plans, general plans, area plans). As detailed in Section E-3 of the OPR Technical Advisory, analysis of specific plans may also utilize the same thresholds identified for development projects. The Project is located within the South County, as determined in the County TIA Guidelines. Therefore, the existing baseline VMT and VMT impact criteria for the South County area were applied to the Project's VMT analysis. In accordance with the OPR Technical Advisory, the County TIA Guidelines direct mixed-use development projects to independently apply the applicable impact criteria to each project type (e.g., residential, employment, retail, etc.) included in a project.

Non-Retail Development Projects. The impact criteria for non-retail development projects are based on the residential and employment generated VMT, as the location and characteristics of residences and workplaces are often the main drivers of regional VMT, as detailed in Appendix 1

of the OPR Technical Advisory. Figure 3.1.3-1 of the County TIA Guidelines identifies the following existing baseline VMT and impact criteria (16.8% below the existing baseline VMT) for residential and employment VMT:

Residential VMT

- Existing Baseline: 12.7 residential VMT per capita
- Impact Criteria: 10.6 residential VMT per capita

Employment VMT

- Existing Baseline: 18.4 employment VMT per employee
- Impact Criteria: 15.3 employment VMT per employee

As detailed in Section 3.1.4.1 of the County Guidelines, the residential VMT thresholds apply to residential land uses and the employment VMT impact thresholds apply to office, manufacturing, and institutional land uses. The Project includes residential uses and, therefore, the residential VMT impact thresholds were applied to the Project VMT analysis as further detailed below. However, the Project does not include any office, manufacturing, or institutional land uses, as defined in Section 3.1.4.1 of the County TIA Guidelines. Therefore, the employment VMT impact criterion does not apply to the Project, and the Project would not result in an employment VMT impact.

Retail Development Projects. As detailed in the OPR Technical Advisory, retail projects (including general retail, supermarket, and restaurant land uses) typically reroute travel from other retail destinations rather than create new trips, which could lead to increases or decreases in VMT depending on the existing retail travel patterns of the area. A regional-serving retail project can lengthen trips and increase VMT because it is likely to shift business away from local-serving commercial options. Conversely, local-serving retail tends to shorten trips and reduce VMT because it attracts trips from nearby residences and businesses that would otherwise travel farther to find suitable options. As detailed in the OPR Technical Advisory and the County TIA Guidelines and outlined in the Transportation Study Scope provided in Appendix A, non-office retail uses that do not exceed 50,000 sf within mixed-use development projects are considered local-serving and are assumed to have less than significant VMT impacts.

As detailed in Section 3.1.4.2 of the County TIA Guidelines, when mixed-use developments include retail uses greater than 50,000 sf, the Southern California Association of Governments' (SCAG) Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) Travel Demand Forecasting (TDF) model³ is run to determine the net change in daily VMT with development of a project. For mixed-use projects with retail components greater than 50,000 sf, the daily VMT "with retail" is subtracted from the daily VMT "without retail" to determine the net change in VMT. If the retail component of a mixed-use development results in a net increase in VMT, the VMT impact would be considered significant, and mitigation would be required.

PROJECT VMT ANALYSIS

The VMT analysis results for the Project are summarized in Table 6 and described below.

Residential VMT Analysis

Prior to the implementation of any TDM strategies⁴, it is estimated that the Project would generate 16,001 daily residential VMT, based on the trip generation estimates detailed in Table 4 and the average residential trip length output from CalEEMod. As detailed in Table 6, the Project is projected to have a total residential population of 1,264 residents, based on projections from the United States Census Bureau. Thus, the Project would generate daily residential VMT per capita of 12.7, exceeding the residential VMT per capita threshold of 10.6. Therefore, the Project would result in a potentially significant residential VMT impact and mitigation measures would be required.

³ The SCAG RTP/SCS TDF model for *Connect SoCal: The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy of the Southern California Association of Governments* (SCAG, Adopted September 2020) (2020-2045 RTP/SCS) is not readily available for public use. Therefore, the *2016-2040 Regional Transportation Plan / Sustainable Communities Strategy* (SCAG, Adopted April 2016) (2016 RTP/SCS) TDF model is utilized.

⁴ Although TDM strategies (e.g., reduced parking, bicycle and pedestrian enhancements, etc.) are inherent to the Project's design, to provide a conservative analysis, no additional reductions were applied to the Project VMT calculations prior to mitigation.

Retail VMT Analysis

The Project includes approximately 110,000 sf of commercial uses, which for purposes of the transportation analysis were assumed to consist of approximately 35,000 sf of retail uses, a 40,000 sf supermarket, and approximately 35,000 sf of high-turnover and fine dining restaurant uses. As discussed with the City through the Transportation Study Scope, none of the individual commercial tenants would exceed the 50,000 sf threshold between local-serving and regional-serving retail. Furthermore, as stated in the OPR Technical Advisory, adding retail opportunities, including supermarket and restaurant uses, into the urban fabric improves retail destination proximity and therefore shortens trips and reduces VMT. The Project would add commercial uses proximate to existing residential and civic center uses and would also introduce residential uses on the Project Site. As such, the commercial uses of the Project would provide retail and restaurant opportunities within walking distance of the Project's residential units, as well as the existing civic center, entertainment, and residential uses in the surrounding Project Site area. The Project is also intended to implement the City's Economic Development Plan, which identified the Project Site as an opportunity for enhanced retail and commercial uses to take advantage of existing trips and demographics in the area. Thus, the commercial uses of the Project would not be considered regional-serving and would instead serve the local community.

However, because the combined commercial uses of the Project at 110,000 sf would exceed 50,000 sf, additional review on total VMT was conducted. Based on the VMT methodology outlined in Section 3.1.4.2 of the County TIA Guidelines, the 2016 RTP/SCS TDF model was used to determine the net change in regional VMT. As detailed in Table 3 of *Norwalk Entertainment District – Civic Center Specific Plan Project VMT Modeling Summary* (Iteris, Inc., June 2022), provided in Appendix C, the County-wide VMT would remain the same when comparing the Project with and without the proposed 110,000 sf of retail uses. Therefore, the inclusion the Project's proposed 110,000 sf of commercial retail uses would not result in an increase in total VMT. Thus, the retail VMT impact would be less than significant, and no mitigation measures would be required. No further retail VMT analysis is required.

TDM PROGRAM

A comprehensive TDM program would be implemented as part of the Project's mitigation program aimed at reducing VMT and vehicular trips to the Project Site and the Project area through transportation services, education programs, and incentive programs intended to promote non-auto travel and the reduction of single occupancy vehicle trips. The mitigation measure identifies a menu of available TDM strategies that the Project could implement to result in a quantitative reduction in VMT and vehicular trips.

Trip Generation Handbook, 3rd Edition (Institute of Transportation Engineers, September 2017) and *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity: Designed for Local Governments, Communities, and Project Developers* (CAPCOA, December 2021) (CAPCOA GHG Handbook) provides a summary of research of TDM programs and the effectiveness of the TDM programs at reducing VMT. The combined effect of the various strategies implemented as part of the TDM program would result in a reduction in VMT and vehicular trips by offering services, actions, specific facilities, etc., aimed at encouraging use of alternative transportation modes as compared to single occupancy vehicles (e.g., transit, bus, walking, bicycling, carpool, etc.) Based on the Project's suburban center location, a VMT reduction of up to 20% could be achievable with implementation of a TDM program, as identified in CAPCOA GHG Handbook. Thus, it would be reasonable to assume that implementation of the Project's TDM program, as detailed below, would achieve a VMT reduction of 20%⁵ from the baseline VMT (i.e., VMT prior to mitigation).

The Project would be subject to annual monitoring to provide a reasonable sample period of travel characteristics, including but not limited to the percentage of modes of travel to and from the site, parking hour utilization, and/or peak hour trips, to ensure that the consistency with the TDM target. The monitoring program would continue until the Project has shown that achievement of the target has been met for five consecutive years following full operations of the Project. Should the Project fail to meet the target after a given monitoring year, the Project would be required to review and implement enhancements to the components of the TDM Program, subject to review and

⁵ Per the CAPCOA GHG Handbook, the combined effectiveness of the TDM measures related to Land Use, Neighborhood Design, Trip Reduction Programs, Parking Management, Transit, Parking or Road Pricing/Management, and Clean Vehicles and Fuel reduce VMT. The effectiveness of the TDM strategies is based on research documented in the CAPCOA GHG Handbook, as well as other industry research and local conditions.

monitoring by the City, to increase the effectiveness of TDM in meeting the VMT and trip reduction goals the following year.

Based on a review of the City's TDM Ordinance in Section 17.03.080 of the Municipal Code, as well as *Trip Generation Handbook, 3rd Edition*, the CAPCOA GHG Handbook, and other related resources, the Project's TDM program would include, but is not limited to, the following measures, which are further described below:

- Educational Programs/On-Site TDM Coordinator
- Transportation Information Center/kiosks
- Bicycle amenities
- Promotion and support of carpools and rideshare
- Incentives for using alternative travel modes
- Parking incentives
- Mobility hub support
- Community-wide transportation management organization

Should implementation of these TDM measures become infeasible for the Project, substitute TDM measures that would be equivalent or superior in reduction vehicle trips and VMT would be implemented.

Educational Programs/On-Site Coordinator. A key component of a successful TDM program is to make residents, employees, and visitors at the Project Site aware of the various programs offered. To this end, a TDM coordinator would reach out to residents, employers, and employees directly to promote the benefits of TDM.

Transportation Information Center/Kiosk. In compliance with the City's TDM Ordinance, the Project would provide a Transportation Information Center, where Project residents, employees and visitors can obtain information regarding commute programs, and individuals can obtain real-time information for planning travel without using an automobile. A Transportation Information Center would be centrally-located and would provide information about transit schedules, commute planning, rideshare, and bicycle and pedestrian plans.

Project Design Features to Promote Bicycling and Walking. The Project would incorporate features for bicyclists and pedestrians, such as exclusive access points, upgraded pedestrian facilities, and bicycle parking. Additionally, the Project Site would be designed to be a friendly and convenient environment for pedestrians through landscaped open space and walkways.

Bikeway Improvements. The Project would contribute funding toward the implementation of bicycle improvements within the Project area.

Ridesharing Services Programs. The TDM program would provide services to match residents and employees to establish carpools and vanpools. Carpools/vanpools provide the potential for residents to go to work relaxed and/or work during the commute and reduce the number of vehicle trips to and from the Project Site.

Incentives for Using Alternative Travel Modes. The TDM program would incorporate various incentives for use of its programs. In accordance with the City's TDM Ordinance, carpool and vanpool users could be offered preferential load/unload areas or convenient designated parking spaces. Employees who choose not to drive their own cars and park them at the Project Site could receive a "parking cash-out" subsidy. For example, discounted transit passes could be offered to eligible residents and employees. Project employees who purchase transit passes from the Project Transportation Coordinator would automatically be registered in a Guaranteed Ride Home Program by which, upon request to the Transportation Coordinator, the employee will be given a voucher to travel home on transit or Uber/Lyft (or similar shared ride service) in case of illness or emergency. Each employee would receive a limited number of Guaranteed Ride Home passes per year.

Parking Incentives. The Project would provide a reduced parking supply as compared to the City's baseline Municipal Code requirements. Limiting the amount of parking available would limit the convenience of driving and disincentivize driving as a preferred mode of travel and, thus, would decrease VMT. Unbundled parking is a program wherein parking spaces are rented or sold separately from the building space, which allows for a separate charge for parking and the flexibility to vary the number of spaces rented. Unbundling parking is an essential first step toward getting people to understand the economic cost of parking. Without unbundled parking, tenants often assume that parking is free.

Mobility Hub Support. The Project would support existing and/or future efforts by the City to provide first-mile and last-mile service for transit users. Mobility hubs, typically located at or near public transit centers, would provide amenities such as, but not limited to, bicycle parking and transit information. The Project could provide space for similar amenities at the Project Site to complement future mobility hubs in the surrounding entertainment district and civic center areas.

Communitywide Transportation Management Organization (TMO). The Project area is a candidate for alternative modes of transportation, including convenient walking and bicycling, carpooling and vanpooling, use of public transit, short-term automobile rentals, etc., due to the proximity of existing employment, residential, and commercial uses, as well as the Metrolink Norwalk Station, the Metro C (Green) Line Norwalk Station, and numerous bus stops. At present, there is no organization to administer these options to the public. A Communitywide TMO would help promote these services to a community by providing information about available public transportation options and ridesharing services. Many of the strategies described above could be enhanced through participation in the Communitywide TMO.

PROJECT VMT WITH MITIGATION

The VMT analysis results for the Project with application of a 20% VMT reduction resulting from the implementation of the TDM program detailed above are summarized in Table 6. As previously noted, the Project would not result in a retail VMT impact; therefore, no further retail VMT analysis with mitigation was required or conducted.

Residential VMT Analysis with Mitigation

As shown in Table 6, with implementation of a TDM program, the Project is estimated to generate 12,805 daily residential VMT. Assuming a total population of 1,264 residents, the Project would generate daily residential VMT per capita of 10.1, which would fall below the residential VMT per capita threshold of 10.6. Thus, with implementation of the TDM program, the Project's daily residential VMT per capita would be reduced to less than significant levels.

CUMULATIVE ANALYSIS

Cumulative VMT effects of development projects are determined based on the consistency with the air quality and GHG reduction goals of the 2020-2045 RTP/SCS in terms of development location, density, and intensity. The 2020-2045 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 Section 3.1.4.3 of the County TIA Guidelines, for projects that do not demonstrate a project impact by applying an efficiency-based impact threshold (i.e., residential VMT per capita) 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 2020-2045 RTP/SCS.

As described above, the Project would not result in a significant and unavoidable VMT impact, the Project mitigation requires a variety of transportation options through a TDM program and is consistent with the 2020-2045 RTP/SCS goal of maximizing mobility and accessibility in the region. Thus, the Project would result in a less-than-significant cumulative VMT impact and no mitigation measures would be required.

TABLE 5
TRANSPORTATION IMPACT ANALYSIS SCREENING - CEQA ANALYSES

County of Los Angeles Screening Criteria [a]	Met by Project
<i>Development Projects (Section 3.1)</i>	
Does the development project generate a net increase of 110 or more daily vehicle trips?	Yes
Does the project contain retail uses that exceed 50,000 square feet of gross floor area?	Yes
Is the project located within a one-half mile radius of a major transit stop or an existing stop along a high-quality transit corridor?	No
VMT Analysis Required (Any Criteria Met)	Yes
<i>Transportation Projects (Section 3.2)</i>	
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)?	No
VMT Analysis Required	No

Notes:

[a] Screening criteria from the County TIA Guidelines Section 3, CEQA Transportation Impact Analysis Process.

**TABLE 6A
VMT DEVELOPMENT**

Land Use	Size	Daily Trip Rate [a]	Average Trip Length [b]	Prior to Mitigation		With Mitigation (20% TDM)	
				Total Daily Trips	Total Daily VMT	Total Daily Trips	Total Daily VMT
Multi-Family Residential <i>Transit/Walk-In Reduction</i> [c] Residential with Reductions	350 du 5%	4.54	10.6	1,589 (79) 1,510	16,843 (842) 16,001	1,208	12,805
Retail <i>Mixed-Use/Internal Capture</i> [c] <i>Transit/Walk-In Reduction</i> [c] Retail with Reductions [c]	35,000 sf 20% 5%	67.52	9.5	2,363 (473) (95) 1,795	22,449 (4,490) (898) 17,061	1,436	13,642
Supermarket <i>Mixed-Use/Internal Capture</i> [c] <i>Transit/Walk-In Reduction</i> [c] Supermarket with Reductions [c]	40,000 sf 20% 5%	93.84	8.6	3,754 (751) (150) 2,853	32,284 (6,457) (1,291) 24,536	2,282	19,625
Fine Dining Restaurant <i>Mixed-Use/Internal Capture</i> [c] <i>Transit/Walk-In Reduction</i> [c] Fine Dining Restaurant with Reductions [c]	17,500 sf 20% 5%	83.84	9.1	1,467 (293) (59) 1,115	13,350 (2,670) (534) 10,146	892	8,117
High-Turnover Sit-Down Restaurant <i>Mixed-Use/Internal Capture</i> [c] <i>Transit/Walk-In Reduction</i> [c] High-Turnover Sit-Down Restaurant with Reductions [c]	17,500 sf 20% 5%	107.2	8.8	1,876 (375) (75) 1,426	16,509 (3,302) (660) 12,547	1,141	10,041
Total Project Total Net Project with Trip Reductions				11,049 8,699	101,435 80,291	6,959	64,230

Notes

[a] Daily trip rates based on *Trip Generation Manual, 11th Edition* (ITE, 2021).

[b] Average vehicle trip lengths based on outputs from the *California Emissions Estimator Model Version 2020.4.0.* (CAPCOA, 2022).

[c] See Table 4 for details on the trip reductions applied to the VMT analysis. The VMT analysis is based on the total trips generated to the Project Site, therefore, no pass-by reductions are applied.

**TABLE 6B
VMT IMPACT ANALYSIS SUMMARY**

Project Information		
<u>Project Land Uses</u>		
Housing Multi-Family		350 du
Retail Shopping Center		35,000 sf
Retail Supermarket		40,000 sf
Retail Fine Dining Restaurant		17,500 sf
Retail High-Turnover Restaurant		17,500 sf
Total Population [a]		1,264
Total Employees [a]		441
<u>Los Angeles County Baseline Area</u> [b]		South County
Residential VMT Impact Threshold		10.6
Work VMT Impact Threshold [c]		15.3
VMT Analysis [d]	Prior to TDM	with TDM Program [e]
Total Daily Residential Trips [f]	1,510	1,208
Total Daily Residential VMT [f]	16,001	12,805
Household VMT per Capita	12.7	10.1
Significant Impact	YES	NO

Notes

[a] Project population and employment totals based on 2020 data from United States Census Bureau and the United States Green Building Council (2008), respectively.

[b] The City of Norwalk does not have City-specific guidelines for evaluating VMT. Therefore, thresholds identified in the Los Angeles County Public Works Transportation Impact Analysis Guidelines (July 2020) were utilized at the direction of the City Traffic Engineer.

[c] The Project does not include the development of new office uses. Therefore, the Project would not result in a significant work VMT impact.

[d] VMT development based on trip rates from ITE's *Trip Generation Manual, 11th Edition* (2021) and trip lengths from the *California Emissions Estimator Model Version 2020.04.0* (CAPCOA, 2022), as detailed in Table 1. See Appendix C for further details on the Project's retail VMT impact analysis.

[e] Implementation of the Project's TDM program would result in a maximum achievable trip reduction of up to 20% for a suburban center location type, as identified by CAPCOA.

[f] See Table 4 for the trip reductions applied to account for the transit/walk-in trips and mixed-use/internal capture.

Chapter 5

Non-CEQA Transportation Analysis

This chapter summarizes the non-CEQA transportation analysis of the Project. It includes discussions related to Project traffic, proposed access provisions, safety, and circulation operations of the Project and in the vicinity of the Project. This chapter also summarizes the evaluation of the operating conditions at the study intersections and street segments.

The City SOW and Transportation Study Scope identify the following non-CEQA transportation analyses for reviewing potential transportation deficiencies that may result from a development project:

- Operational Analysis
- Construction Analysis

The Operational Analysis is detailed in Section 5A and the Construction Analysis is detailed in Section 5B.

Section 5A

Operational Analysis

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, including the anticipated LOS at the study intersections and street segments and the anticipated traffic queues.

PROJECT ACCESS

Vehicular access to the Project's parking facilities is provided via Norwalk Boulevard, Avenida Manuel Salinas, and Civic Center Drive. Access to the Project's new parking garages would require the installation of a new driveway along Norwalk Boulevard. All other access points would be provided via existing driveways.

Access to the Project's new parking garages would be provided via Norwalk Boulevard and Avenida Manuel Salinas. Due to the existing raised median along Norwalk Boulevard and the proximity to the adjacent signalized intersection of Norwalk Boulevard and Imperial Highway, the driveway along Norwalk Boulevard would accommodate right-turn-only ingress and egress movements, which would reduce potential queue spillover into and interruptions to adjacent traffic flow along Norwalk Boulevard, in accordance with the Circulation Element of the General Plan. The vehicular driveway along Avenida Manuel Salinas would accommodate left and right-turn ingress and left-turn egress movements only. Additional truck access would be provided via a separate driveway along Avenida Manuel Salinas.

Access to the existing parking garage located in the southeastern corner of the Project Site would continue to utilize existing driveways. The parking garage provides one full access driveway located along Avenida Manuel Salinas and one driveway located along the alley accessed via Civic Center Drive. The driveway along the alley accommodates left and right-turn egress and right-turn ingress movements only. Truck loading access would also be provided on-site within the Project's new parking facilities. Truck access to the northwestern portion of the Project Site

would utilize the driveway along Norwalk Boulevard, and a separate truck driveway would be provided along Avenida Manuel Salinas to provide access to the northeastern portion of the Project Site. All truck maneuvers would be accommodated on-site without obstructing vehicle circulation or parking areas and would not require reverse maneuvers to or from the public ROW.

Emergency Access

All Project driveways and circulation aisles would be designed and/or maintained to provide adequate access for emergency vehicles to the Project Site and the surrounding area. The new parking garage access along Norwalk Boulevard would be designed in accordance with City standards to maximize internal queuing areas between security gates/controls and the public ROW to minimize the potential for queue spillover into Norwalk Boulevard and impacts to emergency vehicle access. In addition, the Project is required to meet City Municipal Code requirements for adequate emergency access and comply with Los Angeles County Fire Department access requirements.

OPERATIONAL EVALUATION

Intersection operation conditions were evaluated for the City's typical weekday morning (7:00 AM to 9:00 AM) and afternoon (3:00 PM to 6:00 PM) peak periods. A total of 20 signalized study intersections in the vicinity of the Project Site were selected for detailed transportation analysis in consultation with the City.

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

- Existing with Project Conditions (Year 2022) – 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 2025) – This analysis condition analyzes the potential intersection operating conditions that could be expected if the Project is fully occupied in the projected buildout year. In this analysis, the Project-generated traffic is added to Future without Project Conditions (Year 2025).

- Existing with Project with TDM Program Conditions (Year 2022) – This analysis condition projects the potential intersection operating conditions that could be expected if the Project were built under existing conditions, including the effect of a 20% TDM program reduction. In this analysis condition, the Project-generated traffic with a TDM program incorporated is added to the Existing Conditions.
- Future with Project with TDM Program Conditions (Year 2025) – This analysis projects the potential intersection operating conditions that could be expected if the Project were built in the projected buildout year, including the effect of a 20% TDM program reduction. In this analysis condition, the Project-generated traffic with TDM program incorporated is added to the Future without Project Conditions.

Methodology

In accordance with the City SOW and Transportation Study Scope, the intersection delay and queue analyses for the operational evaluation were conducted using the Highway Capacity Manual (HCM) methodology, which was implemented using Synchro software to analyze intersection operating conditions. The HCM signalized methodology calculates the average delay, in seconds, for each vehicle passing through the intersections. Table 7 presents a description of the LOS categories for signalized intersections, which range from excellent, nearly free-flow traffic at LOS A, to stop-and-go conditions at LOS F. The queue lengths were estimated using Synchro and the HCM signalized intersection methodology, which reports the 95th percentile queue length for signalized intersections, respectively.

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

Existing with Project Conditions (Year 2022)

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes described in Chapter 3 and shown in Figure 15A were added to the Existing Conditions (Year 2022) morning and afternoon peak hour traffic volumes shown in Figure 9. The resulting volumes are illustrated in Figure 16 and represent Existing with Project Conditions, assuming Project operation under Existing Conditions.

Intersection LOS. Table 8 summarizes the results of the Existing Conditions and Existing with Project Conditions (Year 2022) during the weekday morning and afternoon peak hours for the

study intersections. As shown in Table 8, 18 of the 20 study intersections would operate at LOS D or better under Existing Conditions and Existing with Project Conditions. The remaining two intersections would operate at LOS E in either the morning or afternoon peak hour under both Existing and Existing with Project Conditions. Thus, as detailed in Table 8, the addition of Project traffic would not worsen operations at the two study intersections to result in LOS E conditions. Nevertheless, the Project would implement a TDM program that would further reduce the Project's effect on the adjacent roadway network by reducing vehicle trips and, thus, overall circulation and queuing, as further detailed below.

Future with Project Conditions (Year 2025)

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

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes described in Chapter 3 and shown in Figure 15A were added to the Future without Project Conditions (Year 2025) morning and afternoon peak hour traffic volumes shown in Figure 12. The resulting volumes are illustrated in Figure 17 and represent Future with Project Conditions after development of the Project in Year 2025.

Intersection LOS. Table 9 summarizes the results of the Future without Project Conditions and Future with Project Conditions (Year 2025) during the weekday morning and afternoon peak hours for the study intersections. As shown in Table 9, 17 study intersections under both Future without Project Conditions and Future with Project Conditions would operate at LOS D or better. The remaining three intersections would operate at LOS E in either the morning or afternoon peak hour under both Future without Project Conditions and Future with Project Conditions. Thus, as detailed in Table 9, the addition of Project traffic would not worsen operations at the three study intersections to result in LOS E conditions. Nevertheless, the Project would implement a TDM program that would further reduce the Project's effect on the adjacent roadway network by reducing vehicle trips and, thus, overall circulation and queuing, as further detailed below.

Project Trip Reduction from the TDM Program

Consistent with the goals of the Circulation Element of the General Plan, the combined effect of the various TDM strategies implemented as part of the Project's mitigation measure mentioned in Chapter 4 would result in a reduction in peak hour trip generation by offering services, actions, specific facilities, etc., aimed at encouraging use of alternative transportation modes (e.g., transit, bus, walking, bicycling, carpool, etc.) Thus, an overall TDM trip reduction of 20% was assumed for the Project.

Table 10 summarizes the estimated trip reduction during the peak hours. As shown, the TDM program is expected to result in a reduction of 1,239 daily trips, including 58 during the morning peak hour and 109 during the afternoon peak hour. The Project, when fully built and occupied and with implementation of the TDM program, would generate a total of 4,953 daily trips, including 236 during the morning peak hour (101 inbound, 134 outbound) and 436 during the afternoon peak hour (241 inbound, 196 outbound).

The trip generation estimates with peak hour trip reductions from the TDM program were assigned through the study intersections using the trip distribution pattern illustrated in Figures 14A-D. The Project-only morning and afternoon peak hour traffic volumes, after implementation of the TDM program as part of the Project's CEQA-related mitigation, are shown in Figures 18A-B.

Existing with Project with TDM Program Conditions (Year 2022)

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes with implementation of a TDM program shown in Figure 18A were added to the Existing Conditions (Year 2022) morning and afternoon peak hour traffic volumes shown in Figure 9. The resulting volumes are illustrated in Figure 19 and represent Existing with Project with TDM Program Conditions, assuming Project operation under Existing Conditions.

Intersection LOS. Table 8 summarizes the results of the Existing, Existing with Project Conditions (Year 2022), and Existing with Project with TDM Program Conditions (Year 2022), during the weekday morning and afternoon peak hours for the study intersections. As shown in

Table 8, with the implementation of the Project's TDM program, operational conditions at the analyzed study intersections would generally improve.

Future with Project with TDM Program Conditions (Year 2025)

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

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes with implementation of a TDM program shown in Figure 18A were added to the Future without Project Conditions (Year 2025) morning and afternoon peak hour traffic volumes shown in Figure 12. The resulting volumes are illustrated in Figure 20 and represent Future with Project with TDM Program Conditions after development of the Project in Year 2025.

Intersection LOS. Table 9 summarizes the results of the Future without Project, Future with Project Conditions (Year 2025), and Future with Project with TDM Program Conditions (Year 2025) during the weekday morning and afternoon peak hours for the study intersections. As shown in Table 9, implementation of the Project's TDM program, operational conditions at the analyzed study intersections would generally improve when compared to operational conditions with the Project, prior to implementation of the TDM program.

INTERSECTION QUEUING ANALYSIS

In accordance with the City SOW, the study intersections that resulted in a change in delay of 2.0 seconds or more in either the morning or afternoon peak hour with the addition of Project traffic within the Project vicinity were analyzed to determine whether the lengths of intersection turning lanes were adequate to accommodate expected vehicle queue lengths.

The queue lengths were estimated using Synchro software, which reports the 95th percentile queue length for signalized intersections at each approach. Synchro queue results that are reported in vehicle-length were converted to linear feet by multiplying each vehicle by 25 feet to

account for the average length of a vehicle plus distance between vehicles in the queue. The reported queues are calculated using the HCM signalized intersection methodologies.

It is recognized that queues are anticipated at the analyzed intersections that extend beyond the available storage lane capacity prior to the addition of Project traffic under Existing Conditions and Future Conditions, and the Project would contribute towards the extension of the queue lengths. The summaries of the queuing analyses are shown in Tables 11 and 12 for Existing Conditions and Future Conditions, respectively. Implementation of the Project's TDM program would reduce the Project's anticipated extension of the queue lengths, as shown in Tables 11 and 12 for Existing with Project with TDM Program Conditions and Future with Project with TDM Program Conditions, respectively. The Project would extend the turn lanes at the intersections adjacent to the Project Site to better facilitate access to the Project Site, including the intersections of Norwalk Boulevard & Imperial Highway (Intersection #8) and Avenida Manuel Salinas & Imperial Highway (Intersection #9). The feasibility of the improvements would be subject to City review and approval. The conceptual improvement plans are provided in Appendix E.

Detailed queuing analysis worksheets are provided in Appendix D.

STREET SEGMENT ANALYSIS

Street segment average daily traffic (ADT) counts were conducted over a 24-hour period (from midnight to midnight) during a typical weekday (Wednesday, February 9, 2022) at six street segment locations on Norwalk Boulevard, Imperial Highway, Avenida Manuel Salinas, and Civic Center Drive. Due to the current traffic conditions related to the State of California and County response to COVID-19, the Year 2022 street segment ADT counts were compared to available street segment ADT counts from Year 2015 provided by the City at the locations along Imperial Highway, Norwalk Boulevard, and Civic Center Drive. Where data collected prior to COVID-19 conditions was not available or where traffic conditions were affected by earlier construction activities related to the I-5 ramps, Year 2022 count data was utilized. An average growth rate of 22% was applied to the Year 2022 ADT to reflect typical pre-COVID traffic conditions under Existing Conditions. The 22% growth rate was determined based on a comparison of Year 2015 and Year 2022 ADT data for the overall Study Area, as detailed in Appendix B.



An ambient growth rate of 1% per year was conservatively applied to the street segment ADT counts taken in Year 2015 not affected by construction to reflect typical Existing Conditions (Year 2022). The total adjustment applied over the seven-year period corresponding to Existing Conditions (Year 2022) is approximately 7%.

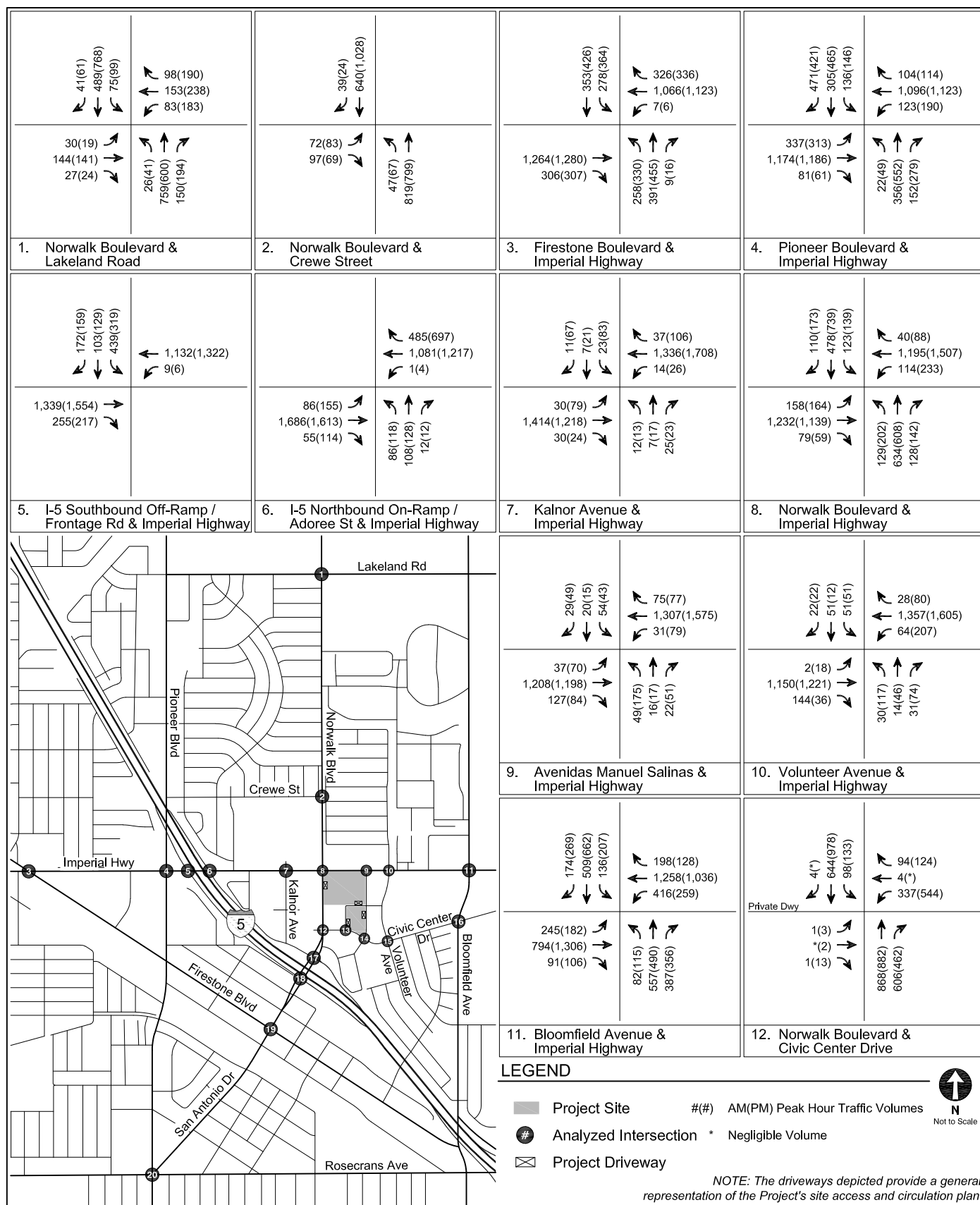
Future without Project Conditions street segment volumes were estimated by applying an ambient growth factor to the anticipated year of Project buildout and the addition of Related Project traffic to the existing street segment traffic volumes.

Project traffic volumes were added to the Existing Conditions and Future without Project Conditions ADT volumes to estimate the Existing with Project and Future with Project ADT volumes.

ADT volumes under all conditions are provided in Figure 21. The ADT volume summaries are available in Appendix B.

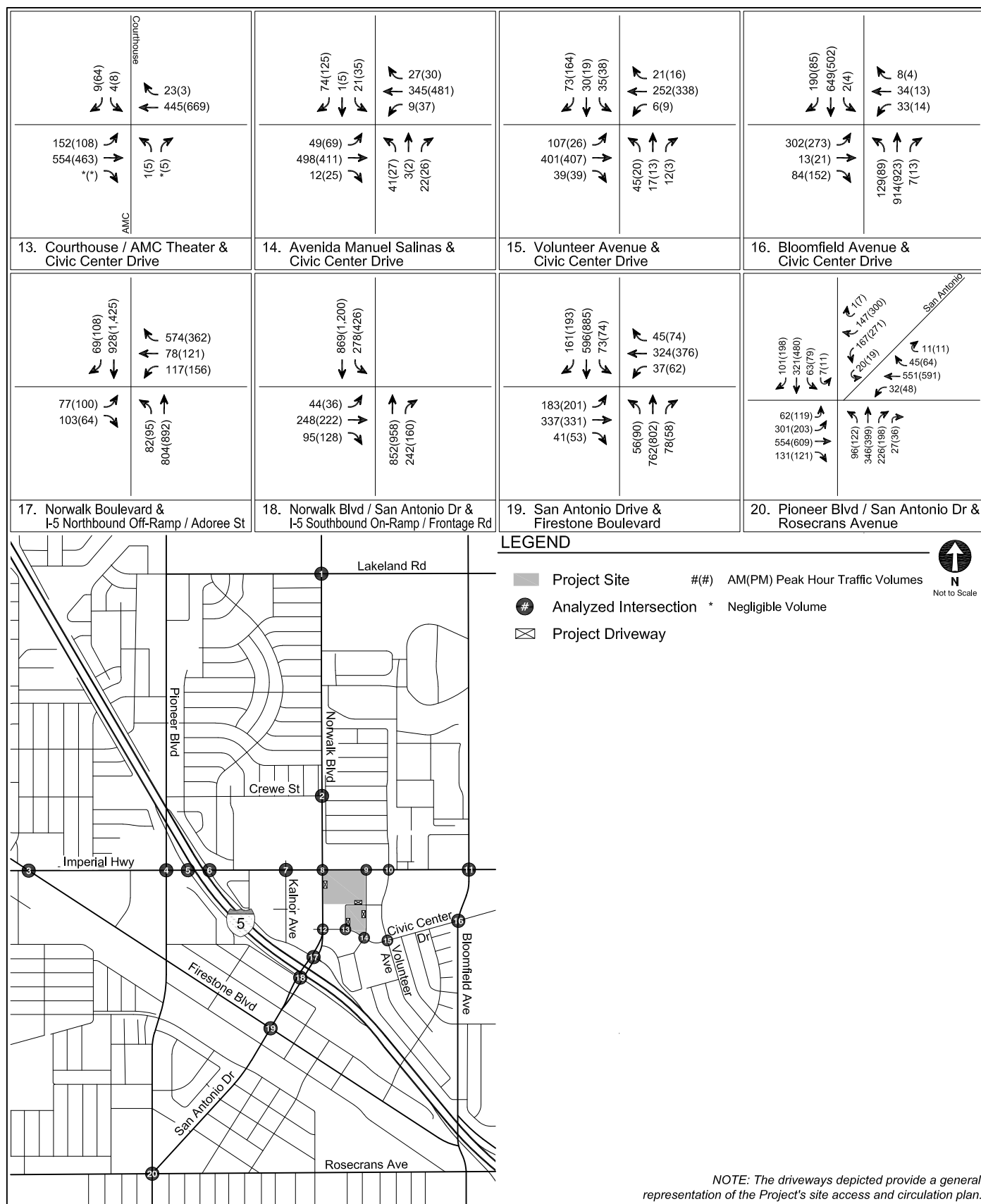
Summary

The analysis of the study street segments is provided in Tables 13 and 14 for Existing with Project Conditions and Future with Project Conditions, respectively. As shown, application of the City LOS threshold criteria to the Existing with Project and Future with Project scenarios indicates that the Project is not anticipated to result in a change of LOS at any of the six study street segments.



EXISTING WITH PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

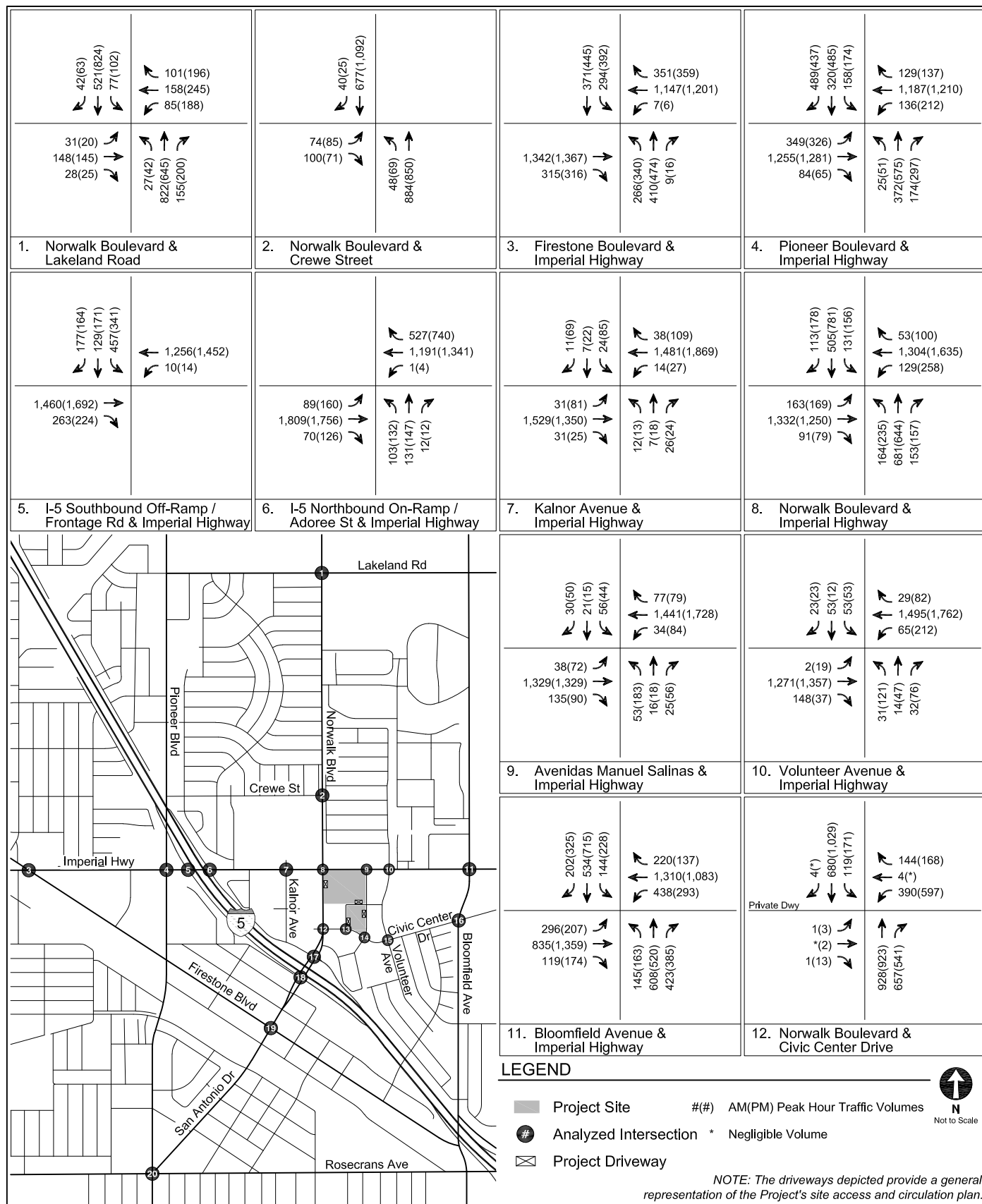
FIGURE
16



NOTE: The driveways depicted provide a general representation of the Project's site access and circulation plan.

EXISTING WITH PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

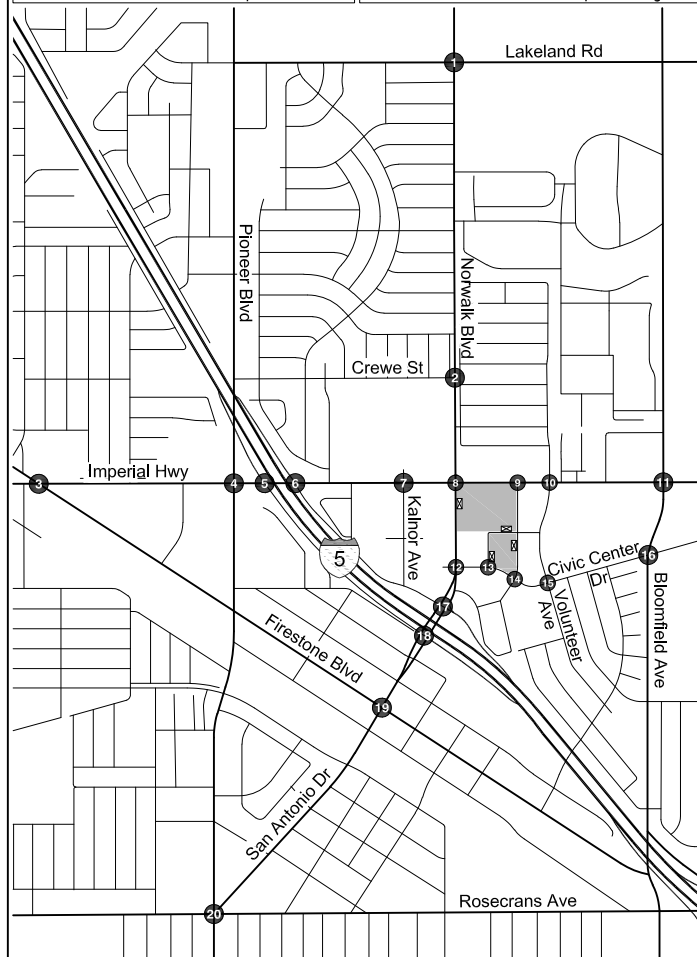
FIGURE
16 (CONT.)



FUTURE WITH PROJECT CONDITIONS (YEAR 2025)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
17

9(66) 4(8) 24(3) 547(765) 155(108) 622(578) *(*) 1(5) *(5) Courthouse AMC	75(126) 9(14) 21(36) 28(30) 428(549) 11(40) 50(69) 543(501) 34(51) 60(53) 9(11) 24(29)	75(168) 31(20) 36(39) 22(16) 334(404) 6(9) 110(27) 444(498) 40(40) 46(21) 18(13) 12(3)	196(88) 713(641) 2(4) 8(4) 35(13) 39(27) 311(281) 13(22) 117(235) 208(147) 1,060(1,028) 19(22)
13. Courthouse / AMC Theater & Civic Center Drive	14. Avenida Manuel Salinas & Civic Center Drive	15. Volunteer Avenue & Civic Center Drive	16. Bloomfield Avenue & Civic Center Drive
83(120) 1,028(1,534) 600(373) 89(131) 121(161) 78(101) 114(72) 93(104) 913(1,020)	968(1,303) 294(444) 68(75) 256(237) 98(132) 948(1,057) 249(165)	171(203) 676(972) 80(80) 52(80) 335(388) 38(64) 194(211) 348(342) 44(58) 62(95) 844(888) 80(60)	110(202) 329(498) 63(79) 7(11) 147(302) 212(314) 24(21) 23(32) 45(64) 551(591) 33(50) 67(123) 322(219) 554(609) 132(123) 98(123) 363(409) 270(242) 29(37) San Antonio
17. Norwalk Boulevard & I-5 Northbound Off-Ramp / Adoree St	18. Norwalk Blvd / San Antonio Dr & I-5 Southbound On-Ramp / Frontage Rd	19. San Antonio Drive & Firestone Boulevard	20. Pioneer Blvd / San Antonio Dr & Rosecrans Avenue



LEGEND

■ Project Site

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

● Analyzed Intersection

* Negligible Volume

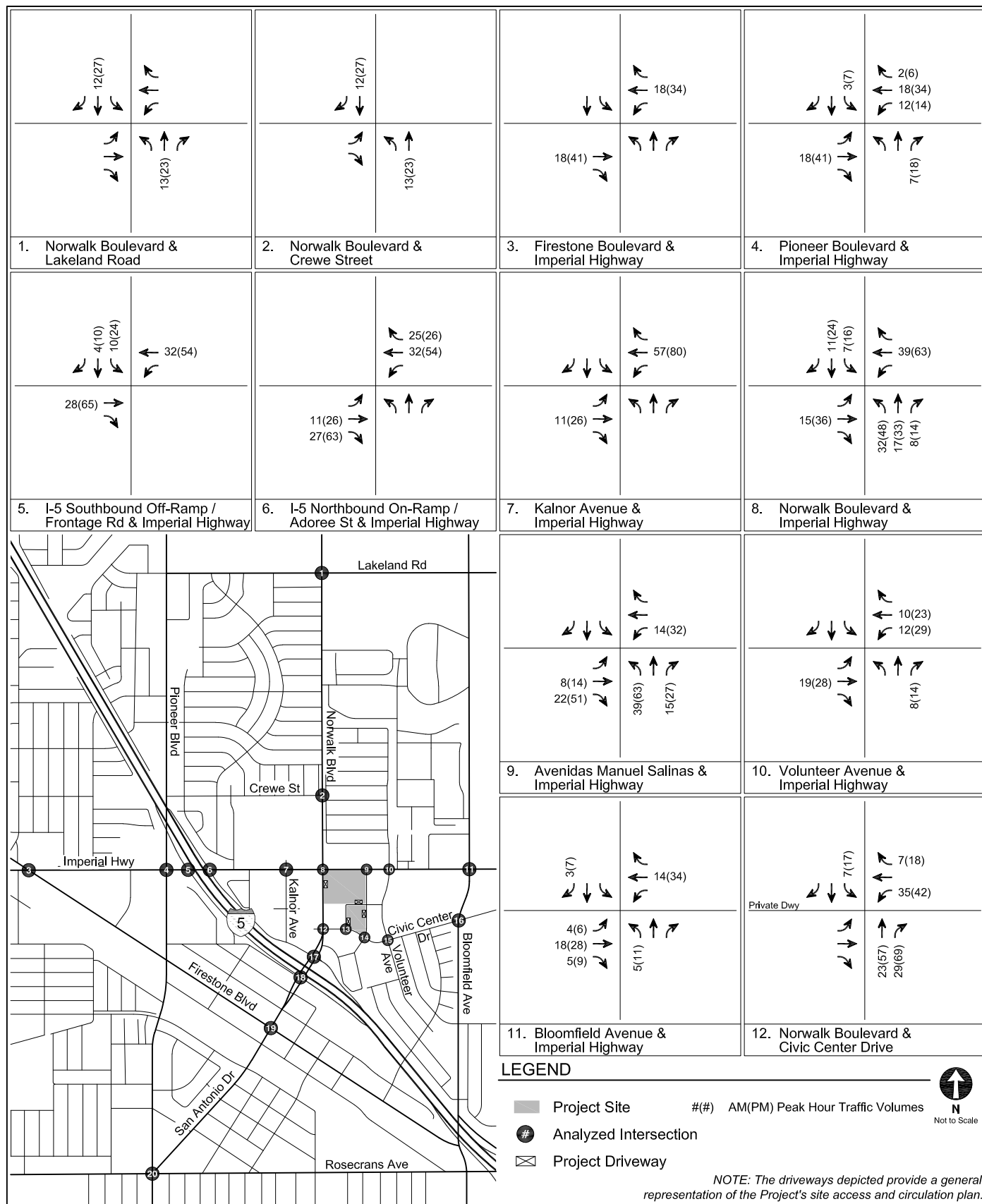
⊠ Project Driveway



NOTE: The driveways depicted provide a general representation of the Project's site access and circulation plan.

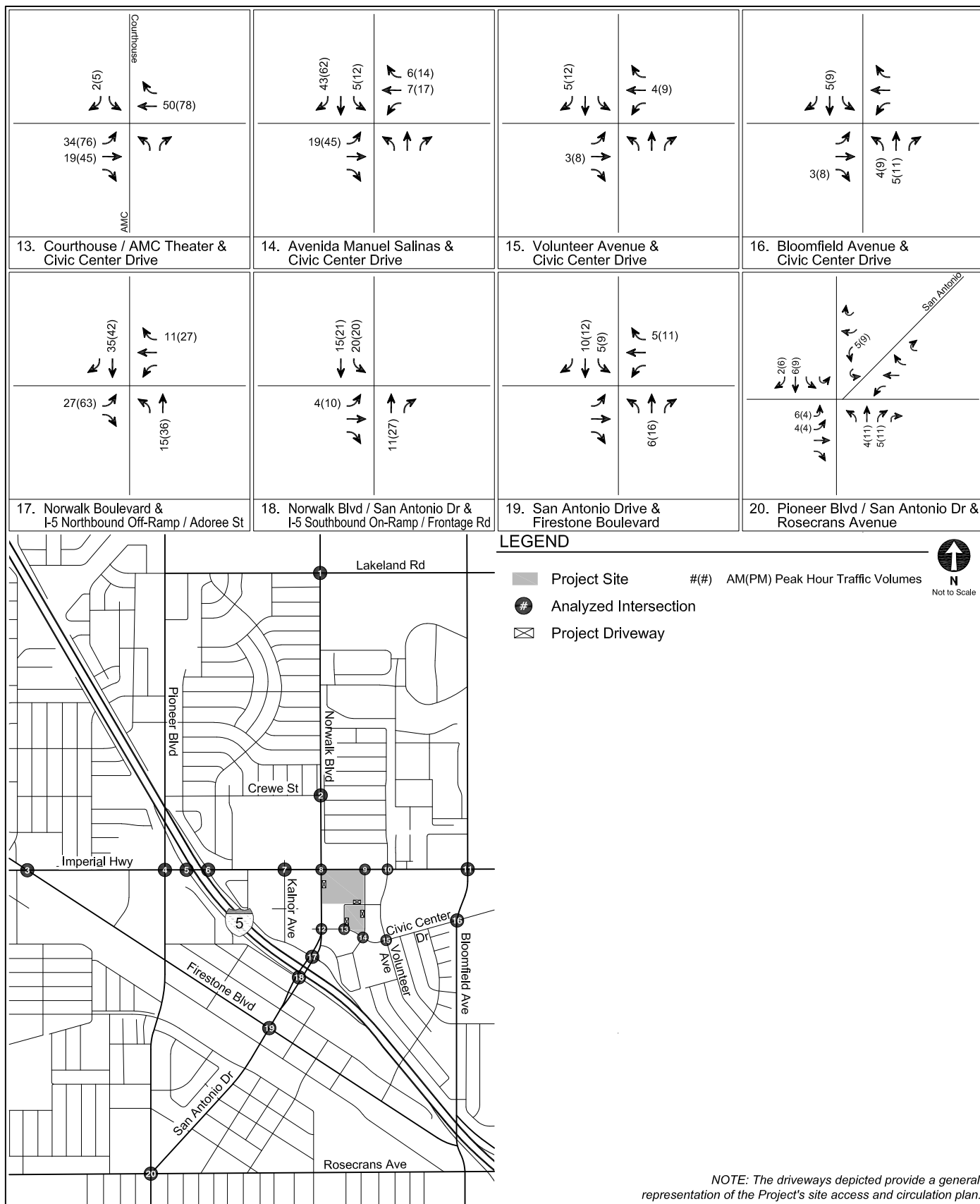
FUTURE WITH PROJECT CONDITIONS (YEAR 2025)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
17 (CONT.)



PROJECT-ONLY WITH TDM PROGRAM
PEAK HOUR TRAFFIC VOLUMES AT INTERSECTIONS

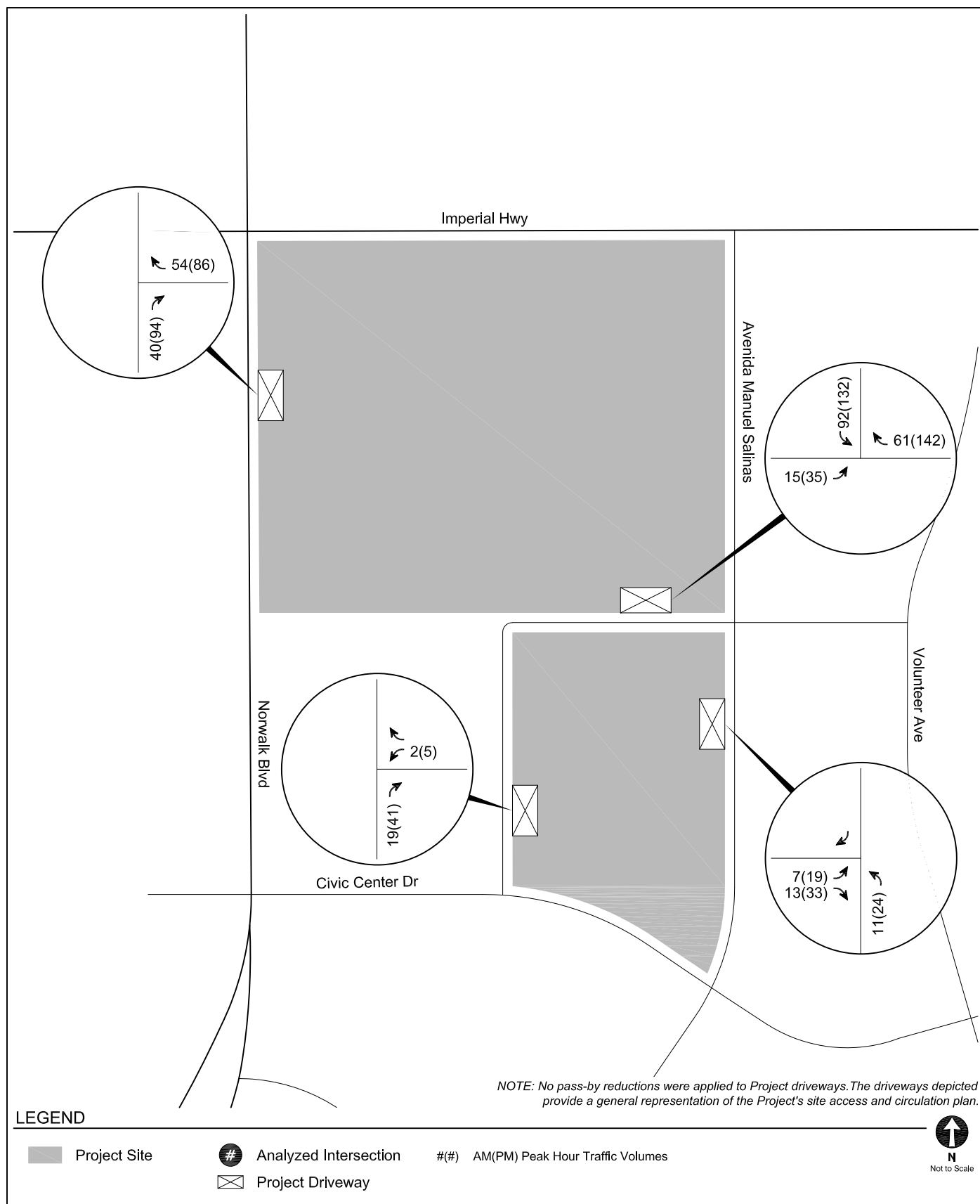
FIGURE
18A



NOTE: The driveways depicted provide a general representation of the Project's site access and circulation plan.

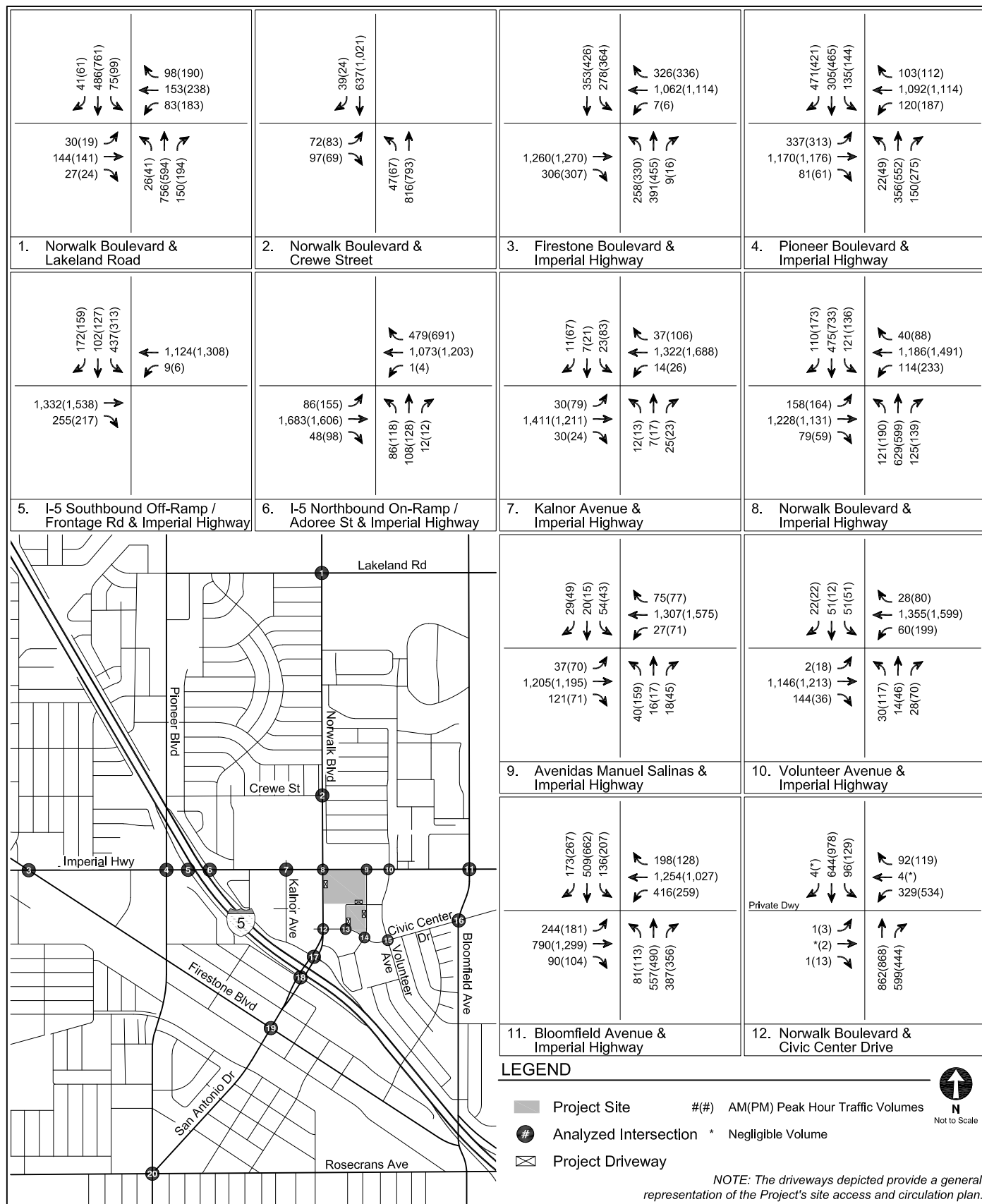
PROJECT-ONLY WITH TDM PROGRAM
PEAK HOUR TRAFFIC VOLUMES AT INTERSECTIONS

FIGURE
18A (CONT.)



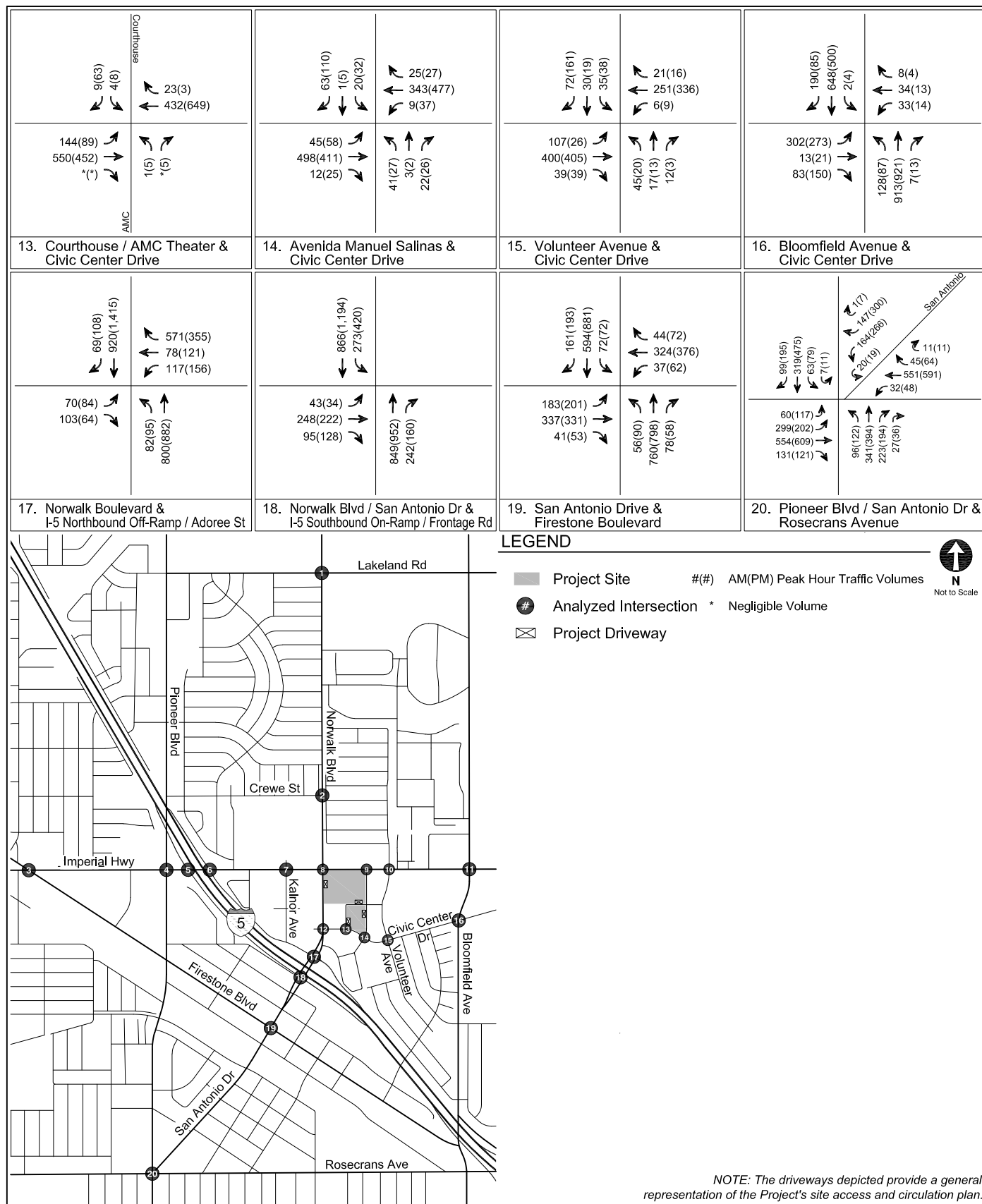
PROJECT-ONLY WITH TDM PROGRAM
PEAK HOUR TRAFFIC VOLUMES AT DRIVEWAYS

FIGURE
18B



EXISTING WITH PROJECT WITH TDM PROGRAM CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

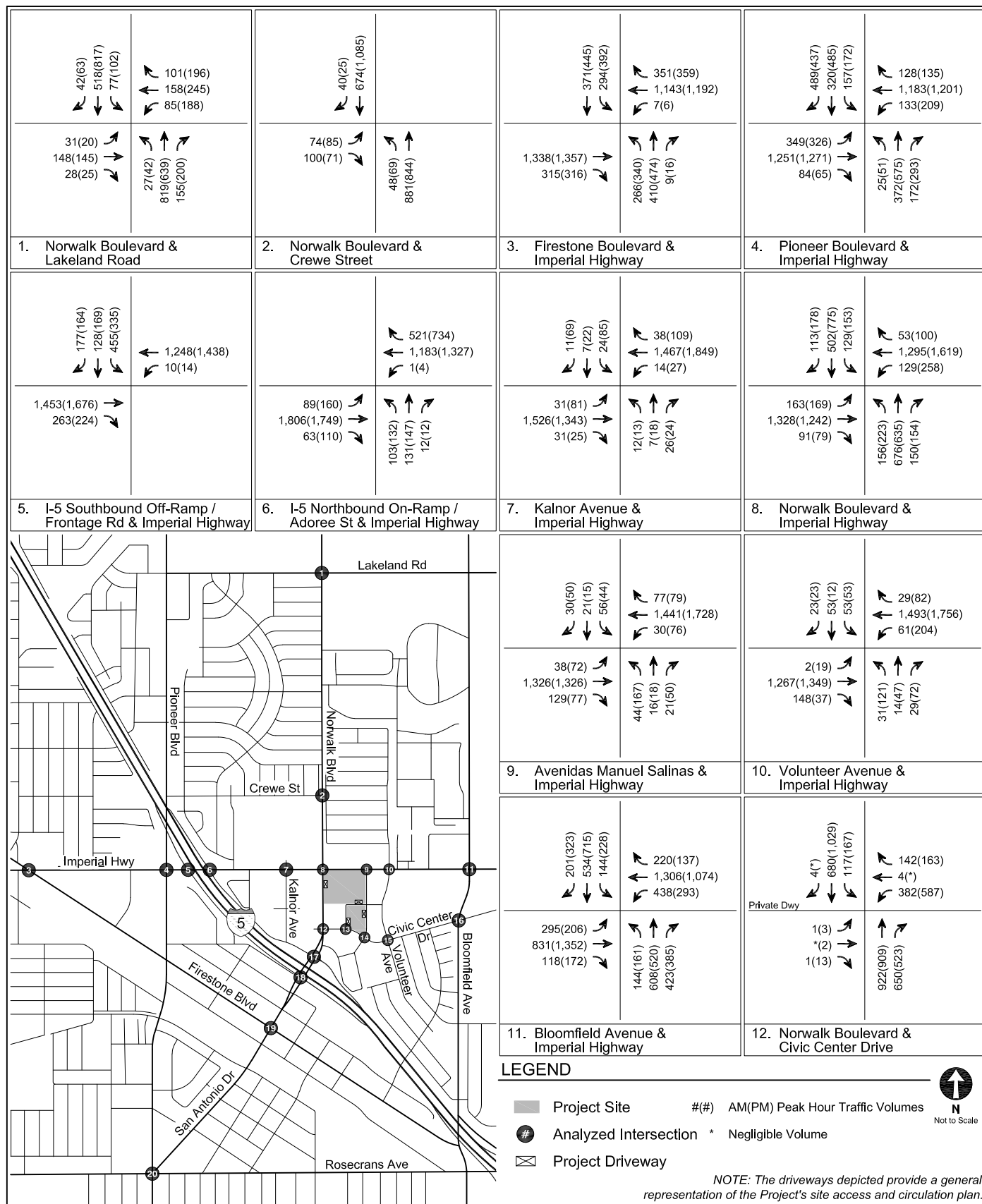
FIGURE
19



NOTE: The driveways depicted provide a general representation of the Project's site access and circulation plan.

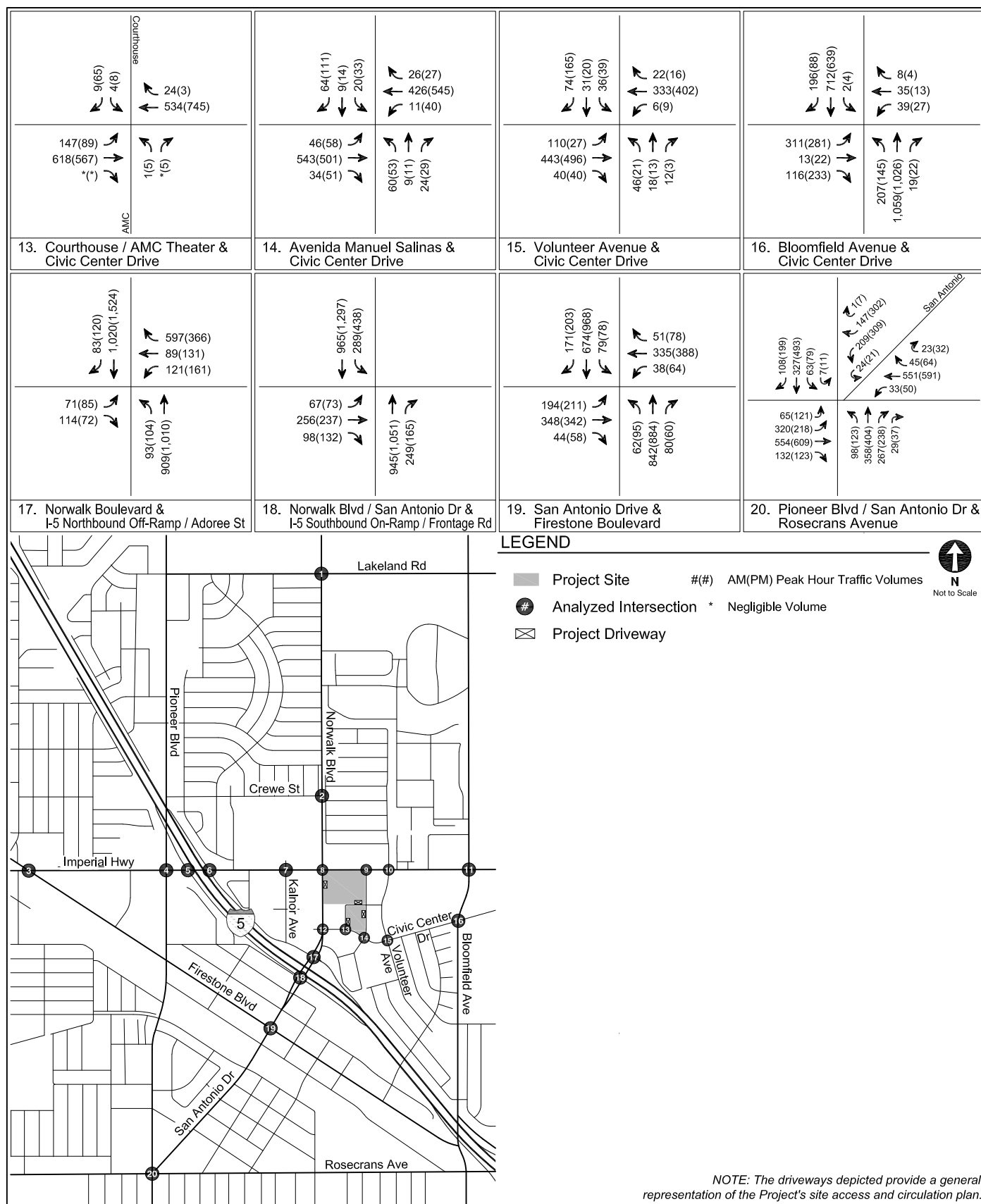
EXISTING WITH PROJECT WITH TDM PROGRAM CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
19 (CONT.)



FUTURE WITH PROJECT WITH TDM PROGRAM CONDITIONS (YEAR 2025)
PEAK HOUR TRAFFIC VOLUMES

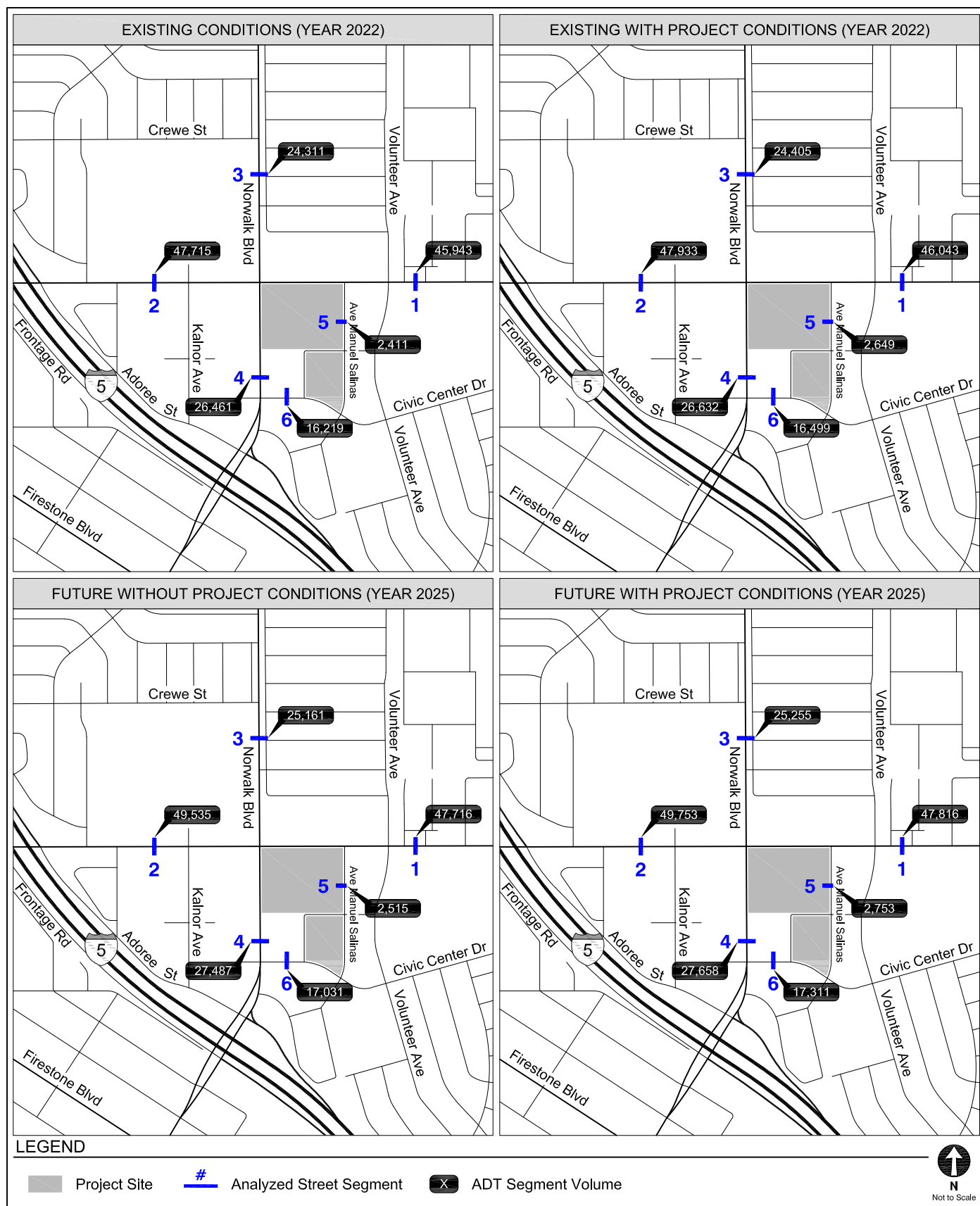
FIGURE
20



NOTE: The driveways depicted provide a general representation of the Project's site access and circulation plan.

FUTURE WITH PROJECT WITH TDM PROGRAM CONDITIONS (YEAR 2025)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
20 (CONT.)



STREET SEGMENT AVERAGE DAILY TRAFFIC VOLUMES

FIGURE
21

**TABLE 7
INTERSECTION LEVEL OF SERVICE**

Level of Service	Description	Delay [a]
		Signalized Intersections
A	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.	≤ 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
C	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	> 20 and ≤ 35
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
E	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	> 55 and ≤ 80
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

Notes

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

[a] Measured in seconds.

TABLE 8
EXISTING CONDITIONS (YEAR 2022)
INTERSECTION PEAK HOUR LEVELS OF SERVICE

No.	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions			Existing with Project with TDM Program Conditions		
			Delay	LOS	Delay	LOS	Change in Delay [a]	Delay	LOS	Change in Delay [a]
1.	Norwalk Bl & Lakeland Road	AM PM	14.4 17.3	B B	14.4 17.1	B B	0.0 0.0	14.4 17.1	B B	0.0 0.0
2.	Norwalk Bl & Crewe St	AM PM	7.1 6.3	A A	7.0 6.2	A A	0.0 0.0	7.0 6.2	A A	0.0 0.0
3.	Firestone Bl & Imperial Highway	AM PM	38.4 40.4	D D	38.4 40.4	D D	0.0 0.0	38.4 40.6	D D	0.0 0.2
4.	Pioneer Bl & Imperial Highway	AM PM	56.5 44.5	E D	57.7 45.7	E D	1.2 1.2	57.5 45.4	E D	1.0 0.9
5.	I-5 Southbound Off-Ramp / Frontage Rd & Imperial Highway	AM PM	22.2 18.6	C B	22.4 19.4	C B	0.2 0.8	22.4 19.3	C B	0.2 0.7
6.	I-5 Northbound On-Ramp / Adoree St & Imperial Highway	AM PM	21.5 23.6	C C	21.4 23.1	C C	0.0 0.0	21.4 23.4	C C	0.0 0.0
7.	Kalnor Ave & Imperial Highway	AM PM	14.5 16.8	B B	13.9 16.4	B B	0.0 0.0	14.4 16.1	B B	0.0 0.0
8.	Norwalk Bl & Imperial Highway	AM PM	34.9 35.4	C D	36.0 43.5	D D	1.1 8.1	35.7 40.6	D D	0.8 5.2
9.	Avenida Manuel Salinas & Imperial Highway	AM PM	18.3 15.6	B B	18.0 20.3	B C	0.0 4.7	17.9 19.6	B B	0.0 4.0
10.	Volunteer Ave & Imperial Highway	AM PM	34.0 20.3	C C	33.6 20.1	C C	0.0 0.0	33.7 20.2	C C	0.0 0.0
11.	Bloomfield Ave & Imperial Highway	AM PM	52.4 52.1	D D	53.8 50.2	D D	1.4 0.0	53.6 49.9	D D	1.2 0.0
12.	Norwalk Bl & Civic Center Dr	AM PM	10.4 16.1	B B	11.0 17.5	B B	0.6 1.4	10.9 17.3	B B	0.5 1.2
13.	Courthouse-AMC Theater & Civic Center Dr	AM PM	30.3 24.0	C C	27.4 19.1	C B	0.0 0.0	27.7 19.2	C B	0.0 0.0
14.	Avenida Manuel Salinas & Civic Center Dr	AM PM	29.0 32.5	C C	30.9 31.0	C C	1.9 0.0	30.7 30.3	C C	1.7 0.0
15.	Volunteer Ave & Civic Center Dr	AM PM	28.6 28.4	C C	28.5 28.3	C C	0.0 0.0	28.5 28.3	C C	0.0 0.0
16.	Bloomfield Ave & Civic Center Dr	AM PM	19.2 17.9	B B	19.3 18.2	B B	0.1 0.3	19.2 18.1	B B	0.0 0.2
17.	Norwalk Bl & I-5 Northbound Off-Ramp / Adoree St	AM PM	31.0 18.7	C B	32.9 21.3	C C	1.9 2.6	32.5 19.8	C B	1.5 1.1
18.	Norwalk Bl / San Antonio Dr & I-5 Southbound On-Ramp / Frontage Rd	AM PM	17.4 18.5	B B	17.8 18.8	B B	0.4 0.3	17.8 18.7	B B	0.4 0.2
19.	Firestone Bl & San Antonio Dr	AM PM	26.7 28.1	C C	26.8 28.5	C C	0.1 0.4	26.8 28.5	C C	0.1 0.4
20.	Pioneer Bl / San Antonio Dr & Rosecrans Ave	AM PM	62.9 68.1	E E	66.0 70.9	E E	3.1 2.8	65.2 70.0	E E	2.3 1.9

Notes

Delay is measured in seconds per vehicle

LOS = Level of service

[a] Intersection analysis based on HCM 6th Edition Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection. The resulting average delay represents the measure of effectiveness of the traffic signal. Therefore, the addition of traffic may in some cases result in decreases in average delay.

TABLE 9
FUTURE CONDITIONS (YEAR 2025)
INTERSECTION PEAK HOUR LEVELS OF SERVICE

No.	Intersection	Peak Hour	Future Conditions		Future with Project Conditions			Future with Project with TDM Program Conditions		
			Delay	LOS	Delay	LOS	Change in Delay [a]	Delay	LOS	Change in Delay [a]
1.	Norwalk Bl & Lakeland Road	AM PM	14.7 17.7	B B	14.7 18.1	B B	0.0 0.4	14.7 18.1	B B	0.0 0.4
2.	Norwalk Bl & Crewe St	AM PM	7.1 6.3	A A	7.0 6.2	A A	0.0 0.0	7.0 6.2	A A	0.0 0.0
3.	Firestone Bl & Imperial Highway	AM PM	38.6 41.1	D D	38.6 40.9	D D	0.0 0.0	38.6 40.9	D D	0.0 0.0
4.	Pioneer Bl & Imperial Highway	AM PM	64.7 48.8	E D	66.4 50.5	E D	1.7 1.7	66.2 50.2	E D	1.5 1.4
5.	I-5 Southbound Off-Ramp / Frontage Rd & Imperial Highway	AM PM	22.6 19.9	C B	22.9 20.4	C C	0.3 0.5	22.8 20.3	C C	0.2 0.4
6.	I-5 Northbound On-Ramp / Adoree St & Imperial Highway	AM PM	22.2 22.9	C C	22.9 22.7	C C	0.7 0.0	22.7 22.8	C C	0.5 0.0
7.	Kalnor Ave & Imperial Highway	AM PM	13.4 17.5	B B	13.9 17.9	B B	0.5 0.4	13.9 18.3	B B	0.5 0.8
8.	Norwalk Bl & Imperial Highway	AM PM	36.7 37.8	D D	38.9 48.2	D D	2.2 10.4	38.5 45.1	D D	1.8 7.3
9.	Avenida Manuel Salinas & Imperial Highway	AM PM	15.9 23.0	B C	15.4 28.2	B C	0.0 5.2	15.5 26.8	B C	0.0 3.8
10.	Volunteer Ave & Imperial Highway	AM PM	32.5 21.0	C C	28.4 22.2	C C	0.0 1.2	28.5 21.9	C C	0.0 0.9
11.	Bloomfield Ave & Imperial Highway	AM PM	67.7 70.5	E E	71.3 71.5	E E	3.6 1.0	70.9 71.1	E E	3.2 0.6
12.	Norwalk Bl & Civic Center Dr	AM PM	11.9 18.2	B B	12.4 19.7	B B	0.5 1.5	12.3 19.4	B B	0.4 1.2
13.	Courthouse-AMC Theater & Civic Center Dr	AM PM	27.4 19.1	C B	23.3 17.8	C B	0.0 0.0	25.8 17.8	C B	0.0 0.0
14.	Avenida Manuel Salinas & Civic Center Dr	AM PM	28.2 32.6	C C	31.0 27.5	C C	2.8 0.0	30.6 30.0	C C	2.4 0.0
15.	Volunteer Ave & Civic Center Dr	AM PM	28.1 27.8	C C	28.0 27.6	C C	0.0 0.0	28.0 27.6	C C	0.0 0.0
16.	Bloomfield Ave & Civic Center Dr	AM PM	22.2 19.2	C B	22.3 19.4	C B	0.1 0.2	22.3 19.4	C B	0.1 0.2
17.	Norwalk Bl & I-5 Northbound Off-Ramp / Adoree St	AM PM	34.6 20.1	C C	36.6 22.4	D C	2.0 2.3	36.4 21.3	D C	1.8 1.2
18.	Norwalk Bl / San Antonio Dr & I-5 Southbound On-Ramp / Frontage Rd	AM PM	17.4 19.0	B B	17.8 19.2	B B	0.4 0.2	17.7 19.1	B B	0.3 0.1
19.	Firestone Bl & San Antonio Dr	AM PM	26.7 28.9	C C	27.1 29.4	C C	0.4 0.5	26.8 29.3	C C	0.1 0.4
20.	Pioneer Bl / San Antonio Dr & Rosecrans Ave	AM PM	71.6 73.9	E E	76.4 79.8	E E	4.8 5.9	75.0 78.3	E E	3.4 4.4

Notes

Delay is measured in seconds per vehicle

LOS = Level of service

[a] Intersection analysis based on HCM 6th Edition Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection. The resulting average delay represents the measure of effectiveness of the traffic signal. Therefore, the addition of traffic may in some cases result in decreases in average delay.

TABLE 10
TRIP GENERATION WITH TDM PROGRAM

Land Use	ITE Land Use Code	Size	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Proposed Project [a]									
Residential									
Multi-Family Residential	221	350 du	1,589	30	100	130	84	53	137
Transit/Walk-In Reduction - 5%			(79)	(2)	(5)	(7)	(4)	(3)	(7)
Less TDM Program Reduction - 20% [b]			(302)	(6)	(19)	(25)	(16)	(10)	(26)
Subtotal - Residential		350 du	1,208	22	76	98	64	40	104
Commercial									
Retail	821	35,000 sf	2,363	38	23	61	89	93	182
Mixed-Use/Internal Capture - 20%			(473)	(8)	(5)	(13)	(18)	(19)	(37)
Transit/Walk-In - 5%			(95)	(2)	(1)	(3)	(4)	(4)	(8)
Pass-by - 40%			(718)	(11)	(7)	(18)	(27)	(28)	(55)
Less TDM Program Reduction - 20% [b]			(215)	(3)	(2)	(5)	(8)	(8)	(16)
Supermarket	850	40,000 sf	3,754	67	47	114	179	179	358
Mixed-Use/Internal Capture - 20%			(751)	(13)	(9)	(22)	(36)	(36)	(72)
Transit/Walk-In - 5%			(150)	(3)	(2)	(5)	(7)	(7)	(14)
Pass-by - 24%			(685)	(12)	(9)	(21)	(33)	(33)	(66)
Less TDM Program Reduction - 20% [b]			(434)	(8)	(5)	(13)	(21)	(21)	(41)
Fine Dining Restaurant	931	17,500 sf	1,467	7	6	13	84	53	137
Mixed-Use/Internal Capture - 20%			(293)	(1)	(1)	(2)	(17)	(11)	(28)
Transit/Walk-In - 5%			(59)	0	0	0	(3)	(2)	(5)
Pass-by - 44%			(491)	(3)	(2)	(5)	(28)	(18)	(46)
Less TDM Program Reduction - 20% [b]			(125)	(1)	(1)	(1)	(7)	(4)	(12)
High-Turnover Sit-Down Restaurant	932	17,500 sf	1,876	92	75	167	96	62	158
Mixed-Use/Internal Capture - 20%			(375)	(18)	(15)	(33)	(19)	(12)	(31)
Transit/Walk-In - 5%			(75)	(4)	(3)	(7)	(4)	(3)	(7)
Pass-by - 43%			(613)	(30)	(25)	(55)	(31)	(20)	(51)
Less TDM Program Reduction - 20% [b]			(163)	(8)	(6)	(14)	(8)	(5)	(14)
Subtotal - Commercial		110,000 sf	3,745	79	58	138	177	156	332
Total - Net New Project Trips with TDM Program			4,953	101	134	236	241	196	436

Notes

[a] See Table 4.

[b] As detailed in Table 5B, implementation of the Project's TDM mitigation program would result in a 20% reduction in daily trips.

TABLE 11
QUEUING ANALYSIS
EXISTING CONDITIONS (YEAR 2022)

No.	Intersection	Lane Description	Vehicle Storage Capacity (ft)	Existing Conditions (Year 2022)				Existing with Project Conditions (Year 2022)				Existing with Project with TDM Program Conditions (Year 2022)			
				Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
				Vehicle Queue Length (ft)	Exceeds Capacity?	Vehicle Queue Length (ft)	Exceeds Capacity?	Vehicle Queue Length (ft)	Exceeds Capacity?	Vehicle Queue Length (ft)	Exceeds Capacity?	Vehicle Queue Length (ft)	Exceeds Capacity?	Vehicle Queue Length (ft)	Exceeds Capacity?
8	Norwalk Boulevard & Imperial Highway	NB Left	158	163	YES	243	YES	220	YES	320	YES	210	YES	303	YES
		NB Right	955	68	NO	88	NO	83	NO	120	NO	78	NO	115	NO
		SB Left	158	213	YES	210	YES	225	YES	243	YES	223	YES	235	YES
		SB Right	103	120	YES	210	YES	130	YES	230	YES	128	YES	225	YES
		EB Left	150	258	YES	253	YES	263	YES	263	YES	260	YES	258	YES
		EB Right	76	88	YES	60	NO	88	YES	58	NO	88	YES	60	NO
		WB Left	454	170	NO	270	NO	178	NO	293	NO	178	NO	285	NO
		WB Right	108	28	NO	45	NO	25	NO	88	NO	25	NO	70	NO
9	Avenida Manuel Salinas & Imperial Highway	NB Left	188	0	NO	210	YES	43	NO	383	YES	35	NO	343	YES
		EB Left	134	70	NO	113	NO	70	NO	118	NO	70	NO	113	NO
		EB Right	115	50	NO	5	NO	65	NO	33	NO	63	NO	28	NO
		WB Left	110	23	NO	68	NO	50	NO	123	YES	43	NO	113	YES
		WB Right	106	35	NO	28	NO	33	NO	30	NO	33	NO	30	NO
11	Bloomfield Ave & Imperial Highway	NB Left	142	130	NO	190	YES	143	YES	208	YES	140	NO	203	YES
		NB Right	100	575	YES	683	YES	640	YES	710	YES	635	YES	710	YES
		SB Left	80	235	YES	365	YES	235	YES	365	YES	235	YES	365	YES
		SB Right	120	200	YES	345	YES	208	YES	370	YES	208	YES	365	YES
		EB Left	153	313	YES	238	YES	318	YES	223	YES	318	YES	225	YES
		EB Right	104	78	NO	90	NO	88	NO	65	NO	80	NO	65	NO
		WB Left	98	570	YES	388	YES	570	YES	388	YES	570	YES	388	YES
14	Avenida Manuel Salinas & Civic Center Drive	NB Left	120	30	NO	23	NO	30	NO	25	NO	30	NO	23	NO
		SB Right	38	18	NO	45	YES	70	YES	130	YES	60	YES	113	YES
		EB Left	80	23	NO	10	NO	45	NO	55	NO	43	NO	45	NO
		WB Left	50	10	NO	38	NO	10	NO	35	NO	10	NO	35	NO
17	Norwalk Bl & I-5 Northbound Ramps / Adoree St	NB Left	300	78	NO	75	NO	80	NO	75	NO	80	NO	75	NO
		EB Right	90	0	NO	0	NO	0	NO	0	NO	0	NO	0	NO
		WB Right	330	793	YES	478	YES	870	YES	583	YES	858	YES	530	YES
20	Pioneer Bl / San Antonio Dr & Rosecrans Ave	NB Left	255	235	NO	289	YES	235	NO	289	YES	235	NO	289	YES
		NB Right	344	136	NO	143	NO	143	NO	154	NO	140	NO	153	NO
		SB Left	202	124	NO	146	NO	125	NO	145	NO	124	NO	150	NO
		SB Right	126	152	YES	274	YES	157	YES	277	YES	154	YES	287	YES
		EB Left	362	636	YES	524	YES	667	YES	551	YES	661	YES	541	YES
		EB Right	55	43	NO	41	NO	43	NO	42	NO	43	NO	41	NO
		WB Left	158	85	NO	134	NO	85	NO	134	NO	85	NO	134	NO

Notes

Results per Synchro 10.

Vehicle queue lengths were converted to feet (ft) by multiplying 25-feet per reported vehicle length.

TABLE 12
QUEUING ANALYSIS
FUTURE CONDITIONS (YEAR 2025)

No.	Intersection	Lane Description	Vehicle Storage Capacity (ft)	Future without Project Conditions (Year 2025)				Future with Project Conditions (Year 2025)				Future with Project with TDM Program Conditions (Year 2025)			
				Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
				Vehicle Queue Length (ft)	Exceeds Capacity?	Vehicle Queue Length (ft)	Exceeds Capacity?	Vehicle Queue Length (ft)	Exceeds Capacity?	Vehicle Queue Length (ft)	Exceeds Capacity?	Vehicle Queue Length (ft)	Exceeds Capacity?	Vehicle Queue Length (ft)	Exceeds Capacity?
8	Norwalk Boulevard & Imperial Highway	NB Left	158	215	YES	288	YES	260	YES	368	YES	253	YES	355	YES
		NB Right	955	103	NO	120	NO	15	NO	150	NO	113	NO	145	NO
		SB Left	158	225	YES	240	YES	243	YES	275	YES	238	YES	268	YES
		SB Right	103	135	YES	230	YES	145	YES	253	YES	143	YES	248	YES
		EB Left	150	270	YES	270	YES	275	YES	278	YES	273	YES	278	YES
		EB Right	76	100	YES	80	YES	100	YES	80	YES	100	YES	80	YES
		WB Left	454	188	NO	283	NO	195	NO	315	NO	198	NO	305	NO
		WB Right	108	33	NO	43	NO	33	NO	90	NO	33	NO	78	NO
9	Avenida Manuel Salinas & Imperial Highway	NB Left	188	5	NO	248	YES	50	NO	443	YES	40	NO	400	YES
		EB Left	134	70	NO	113	NO	70	NO	115	NO	70	NO	113	NO
		EB Right	115	45	NO	3	NO	55	NO	25	NO	53	NO	20	NO
		WB Left	110	28	NO	78	NO	55	NO	135	YES	50	NO	125	YES
		WB Right	106	30	NO	68	NO	28	NO	70	NO	28	NO	70	NO
11	Bloomfield Ave & Imperial Highway	NB Left	142	225	YES	275	YES	245	YES	308	YES	243	YES	300	YES
		NB Right	100	968	YES	1008	YES	1038	YES	978	YES	1028	YES	978	YES
		SB Left	80	265	YES	420	YES	265	YES	420	YES	265	YES	420	YES
		SB Right	120	263	YES	520	YES	278	YES	550	YES	275	YES	545	YES
		EB Left	153	370	YES	278	YES	375	YES	280	YES	373	YES	280	YES
		EB Right	104	95	NO	170	YES	98	NO	178	YES	95	NO	178	YES
		WB Left	98	595	YES	448	YES	595	YES	460	YES	595	YES	460	YES
14	Avenida Manuel Salinas & Civic Center Drive	NB Left	120	48	NO	45	NO	48	NO	50	NO	48	NO	50	NO
		SB Right	38	20	NO	45	YES	73	YES	133	YES	63	YES	113	YES
		EB Left	80	23	NO	10	NO	45	NO	50	NO	40	NO	45	NO
		WB Left	50	10	NO	38	NO	10	NO	35	NO	10	NO	35	NO
17	Norwalk Bl & Northbound I-5 Freeway Ramp / Adoree St	NB Left	300	95	NO	83	NO	98	NO	88	NO	95	NO	83	NO
		EB Right	90	0	NO	0	NO	0	NO	0	NO	0	NO	0	NO
		WB Right	330	913	YES	528	YES	993	YES	620	YES	985	YES	583	YES
20	Pioneer Bl / San Antonio Dr & Rosecrans Ave	NB Left	255	239	NO	293	YES	239	NO	304	YES	239	NO	304	YES
		NB Right	344	160	NO	170	NO	164	NO	179	NO	162	NO	175	NO
		SB Left	202	132	NO	159	NO	127	NO	156	NO	125	NO	159	NO
		SB Right	126	163	YES	283	YES	167	YES	276	YES	164	YES	272	YES
		EB Left	362	703	YES	576	YES	740	YES	611	YES	729	YES	598	YES
		EB Right	55	45	NO	44	NO	46	NO	46	NO	46	NO	45	NO
		WB Left	158	86	NO	139	NO	86	NO	139	NO	86	NO	139	NO

Notes

Results per Synchro 10.

Vehicle queue lengths were converted to feet (ft) by multiplying 25-feet per reported vehicle length.

**TABLE 13
EXISTING WITH PROJECT CONDITIONS (YEAR 2022)
STREET SEGMENT ANALYSIS**

No.	Street Segment	Street Facility Type	Average Daily Traffic (ADT) Volumes			LOS [a]
			Existing	Project	Existing with Project	
1.	Imperial Highway between Norwalk Bl & Bloomfield Ave	Major Highway (Divided)	45,942	100	46,042	D
2.	Imperial Highway between Norwalk Bl & I-5 Freeway	Major Highway (Divided)	47,728	218	47,946	D
3.	Norwalk Bl between Imperial Highway & Crewe Street	Major Highway (Divided)	24,311	94	24,405	< D
4.	Norwalk Bl between Imperial Highway & I-5 Freeway	Major Highway (Divided)	26,461	171	26,632	< D
5.	Avenida Manuel Salinas between Imperial Highway & Civic Center Dr	N/A	2,411	238	2,649	N/A
6.	Civic Center Dr between Avenida Manuel Salinas & Norwalk Bl	Collector Road	16,219	280	16,499	F

Notes

LOS: Level of Service

[a] The City General Plan establishes the maximum average daily trips (ADT) for various types of roadway facilities, at certain levels of service:

<u>Facility Type</u>	<u>LOS D</u>	<u>Maximum Volume</u>	<u>LOS E</u>
Major Highway (6 lanes divided)	50,600		56,300
Major Highway (6 lanes undivided)	37,520		46,900
Secondary Highway (4 lanes divided)	30,000		37,500
Secondary Highway (4 lanes undivided)	20,000		25,000
Collector Road (2 lanes undivided)	10,000		12,500

< D represents an LOS better than D; however, the General Plan establishes ADT at LOS D or LOS E. Avenida Manuel Salinas is not classified as any facility type listed in the street designations in the General Plan; therefore, the LOS is N/A.

**TABLE 14
FUTURE WITH PROJECT CONDITIONS (YEAR 2025)
STREET SEGMENT ANALYSIS**

No.	Street Segment	Street Facility Type	Average Daily Traffic (ADT) Volumes						LOS [a]
			Existing	Ambient Growth	Related Projects	Future without Project	Project	Future with Project	
1.	Imperial Highway between Norwalk Bl & Bloomfield Ave	Major Highway (Undivided)	45,942	1,378	395	47,715	100	47,815	D
2.	Imperial Highway between Norwalk Bl & I-5 Freeway	Major Highway (Undivided)	47,728	1,432	389	49,549	218	49,767	D
3.	Norwalk Bl between Imperial Highway & Crewe Street	Major Highway (Undivided)	24,311	729	121	25,161	94	25,255	< D
4.	Norwalk Bl between Imperial Highway & I-5 Freeway	Major Highway (Undivided)	26,461	794	232	27,487	171	27,658	< D
5.	Avenida Manuel Salinas between Imperial Highway & Civic Center Dr	N/A	2,411	72	32	2,515	238	2,753	N/A
6.	Civic Center Dr between Avenida Manuel Salinas & Norwalk Bl	Collector Road	16,219	487	325	17,031	280	17,311	F

Notes

LOS: Level of Service

[a] The City of Norwalk establishes the maximum average daily trips (ADT) for various types of roadway facilities, at certain levels of service:

<u>Facility Type</u>	<u>Maximum Volume</u>	
	LOS D	LOS E
Major (6 lanes divided)	50,600	56,300
Major (6 lanes divided)	37,520	46,900
Secondary (4 lanes divided)	30,000	37,500
Secondary (4 lanes undivided)	20,000	25,000
Collector (2 lanes undivided)	10,000	12,500

< D represents an LOS better than D; however, the General Plan establishes ADT at LOS D or LOS E. Avenida Manuel Salinas is not classified as any facility type listed in the street designations in the General Plan; therefore, the LOS is N/A.

Section 5B

Construction Analysis

This section summarizes the construction schedule and construction analysis for the Project.

PROJECT CONSTRUCTION DETAILS

Schedule

The Project is anticipated to be constructed over a period of approximately 23 months, with an anticipated completion date in Year 2025. Typical construction activity would occur between the hours of 7:00 AM and 6:00 PM on weekdays, in conformance with the City's construction hour restrictions. Construction would not occur on federal holidays, though construction-related street closures may remain in place even on days construction does not occur.

Effects on Access, Transit, and Parking

All 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 roadways) and the sidewalks along Imperial Highway, Norwalk Boulevard, and Avenida Manuel Salinas may temporarily be utilized as a staging area for construction equipment adjacent to the Project's new development. Temporary traffic controls would be provided to direct traffic and/or pedestrians safely around any closures, as required in the Construction Management Plan. Public ROW would be maintained along the Project frontages, to the extent feasible, throughout the construction period and emergency access would not be impeded. Parking within the existing parking garage would be maintained and accessible to existing users during construction activities. Users of the City Hall surface parking lot would also utilize the existing parking garage once Project construction activities commence.

Construction Traffic

Project construction would result in truck traffic (haul trucks, delivery trucks, cement trucks) and worker traffic to and from the Project Site on a daily basis.

Construction delivery trucks would generally travel to and from the Project Site from Imperial Highway or Norwalk Boulevard. Haul trucks carrying dirt or debris would occur regularly throughout the workday but can be scheduled to travel to and from the Project Site during off-peak hours as necessary. Like haul trucks, trucks delivering materials and equipment can be scheduled to arrive at the Project Site during off-peak hours.

Construction workers typically arrive at the Project Site before 7:00 AM and depart by 3:00 PM or after 6:00 PM, outside of the morning and afternoon peak hours, to the extent feasible. During construction, parking for construction workers will be provided on-site at the existing parking garage or in an off-site parking facility.

EFFECTS OF PROJECT CONSTRUCTION

The severity of the Project's effects on access, transit, and parking during construction, as well as the effects of construction traffic, was assessed. The measures to minimize the negative effects of Project construction proposed below would be incorporated into a Construction Management Plan, summarized at the end of this chapter.

On-Street Parking

On-street parking is not provided along the Project frontage. Therefore, Project construction would not affect on-street parking.

Public Transit

Although the Project proposes the extension of the bus loading zone along Imperial Highway, the existing bus stop that serves NTS Route 4 would be maintained. The bus stop along Civic Center Drive at Courthouse-AMC Theater Drive that serves NTS Route 7, would also be maintained during construction. No existing bus stops are located along Norwalk Boulevard or Avenida Manuel Salinas adjacent to the Project Site; therefore, transit operations along those corridors would not be affected.

Access

Construction activities are expected to be primarily contained within the Project Site boundary, although temporary encroachment on the public ROW may occur. Temporary traffic controls would be provided to direct traffic and/or pedestrians safely around any closures, as required in the Construction Management Plan. Public ROW would be maintained to the extent feasible along the Imperial Highway, Norwalk Boulevard, Avenida Manuel Salinas, and Civic Center Drive Project frontages throughout the construction period and emergency access would not be impeded.

Construction Traffic

Project construction would result in varying levels of truck and worker traffic to and from the Project Site on a daily basis, including an estimated maximum of approximately 518 haul truck and daily vendor trips and 553 workers. However, nearly all of this traffic would occur outside of the peak hours, as described above.

CONSTRUCTION MANAGEMENT PLAN

A detailed Construction Management Plan, including haul routes and a staging plan, would be prepared and submitted to the City, Los Angeles County Fire Department, and Los Angeles County Sheriff's Department 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 related traffic restricted to off-peak hours and in consideration of any other traffic-causing events or overlapping nearby construction activities, to the extent feasible
- 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 to the extent feasible
- Provision of flagging or other directional signage to direct traffic as needed
- 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. As part of the City review process of construction management plans, potential overlapping construction activities and proposed haul routes would be reviewed to minimize the impacts of cumulative construction activities on any particular roadway.

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 is located at the southeast corner of Imperial Highway & Norwalk Boulevard and consists of the development of 350 residential units and 110,000 sf of commercial uses, that would consist of a mix of retail, supermarket, and restaurant tenants. The Project is anticipated to be completed in Year 2025.
- Vehicular access to the Project Site would be provided along Norwalk Boulevard and Avenida Manuel Salinas.
- Prior to the implementation of the TDM program, the Project is estimated to generate 6,192 net weekday trips, including 294 morning peak hour trips and 545 afternoon peak hour trips.
- The Project would generate total weekday VMT of 80,291, prior to mitigation. The Project would generate 12.7 residential VMT per capita, which would result in a residential VMT impact, prior to mitigation. The Project would implement a comprehensive TDM program as mitigation, which would reduce the residential VMT impact to 10.1, which would fall below the residential significance thresholds. The Project's retail uses are considered local-serving and would not result in an increase in regional VMT. Therefore, the Project would not result in a significant retail VMT impact. Furthermore, the not result in a significant cumulative VMT impact, as the Project mitigation requires a variety of transportation options through a TDM program and is consistent with the RTP/SCS goal of maximizing mobility and accessibility in the region.
 - o The Project's TDM program mitigation measure would include transportation services, education programs, and incentive programs intended to promote non-automobile travel and the reduction of single occupancy vehicle trips.
- All construction-related traffic 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 will be prepared to ensure that construction impacts on traffic are less than significant.

References

The 2016-2040 Regional Transportation Plan / Sustainable Communities Strategy, Southern California Association of Governments, April 2016.

California Emissions Estimator Model Version 2020.4.0, California Air Pollution Control Officers Association, 2022.

California's 2017 Climate Change Scoping Plan, California Air Resources Board, January 2019.

CEQA Guidelines, Governor's Office of Planning and Research, Updated December 28, 2018.

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

Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity: Designed for Local Governments, Communities, and Project Developers, California Air Pollution Control Officers Association, December 2021.

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

Los Angeles County Public Works Transportation Impact Analysis Guidelines, Los Angeles County Public Works, July 23, 2020.

Los Angeles County Senate Bill (SB) 743 Implementation and CEQA Updates Report, Fehr & Peers, June 2020.

National Cooperative Highway Research Program Report 684 – Enhancing Internal Trip Capture Estimation for Mixed-Use Developments (NCHRP 8-51 Internal Trip Capture Estimation Tool), Transportation Research Board and National Research Council, 2011.

Norwalk Bicycle Master Plan, City of Norwalk, January 2022.

Norwalk Entertainment District – Civic Center Specific Plan Project VMT Modeling Summary, Iteris, Inc., June 2022.

Scope of Work for City Hall Lawn Project by Primestor, City of Norwalk, January 2022.

State of California Senate Bill 743, Steinberg, 2013.

References, cont.

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

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

Trip Generation Handbook, 3rd Edition, Institute of Transportation Engineers, 2017.

Trip Generation Manual, 11th Edition, Institute of Transportation Engineers, 2021.

VISION NORWALK - The City of Norwalk General Plan, City of Norwalk, February 1996.

Appendix A
Scoping Documents

Memo

To: Beth Chow, Senior Planner
From: Joanne Itagaki, Traffic Engineering Deputy *JCI*
Date: January 11, 2022
Re: Scope of Work for City Hall Lawn Project by Primestor

Based on our discussions regarding the future City Hall Lawn Project, Primestor is requesting a scope of work for transportation/traffic analysis of the Project as part of the Specific Plan Update of Area Number 1. Primestor has not finalized the project description but it is anticipated that the Project will include a mix of residential and commercial/retail.

Vehicle Miles Traveled (VMT) Analysis

The City has not adopted any specific VMT analysis guidelines. Therefore, the analysis of the City Hall Lawn Project should follow the Los Angeles County Public Works Transportation Impact Analysis Guidelines (July 23, 2020).

Operational Traffic Impact Analysis

Based on the anticipated project description and location of the Project, an operational traffic impact analysis (TIA) of intersections in the vicinity of the Project will be necessary. The following intersections should be analyzed:

- i. Imperial Highway / Pioneer Boulevard
- ii. Imperial Highway / Southbound I-5 Freeway Ramps
- iii. Imperial Highway / Northbound I-5 Freeway Ramps
- iv. Imperial Highway / Kalnor Avenue
- v. Imperial Highway / Norwalk Boulevard
- vi. Imperial Highway / Avenida Manuel Salinas
- vii. Imperial Highway / Volunteer Avenue
- viii. Imperial Highway / Bloomfield Avenue
- ix. Norwalk Boulevard / Crewe Street
- x. Norwalk Boulevard / Civic Center Drive
- xi. Norwalk Boulevard / Northbound I-5 Freeway Ramp – Adoree Street
- xii. Norwalk Boulevard – San Antonio Drive / Southbound I-5 Freeway Ramp
- xiii. San Antonio Drive / Firestone Boulevard

The following mid-block locations should be analyzed:

- i. Imperial Highway between Norwalk Boulevard and Bloomfield Avenue
- ii. Imperial Highway between Norwalk Boulevard and I-5 Freeway

- iii. Norwalk Boulevard between Imperial Highway and Crewe Street
- iv. Norwalk Boulevard between Imperial Highway and I-5 Freeway
- v. Avenida Manuel Salinas between Imperial Highway and Civic Center Drive
- vi. Civic Center Drive between Avenida Manuel Salinas and Norwalk Boulevard

Note: These analysis locations can be adjusted after trip generation and assignment/distribution is finalized. Fewer locations may be acceptable at that time.

The consultant will be responsible to gather current traffic count data for analysis.

Methodology

The TIA will be conducted using Synchro for a Highway Capacity Manual (HCM) analysis of signalized and unsignalized intersections and mid-block locations. The Intersection Capacity Utilization (ICU) analysis through Synchro will be acceptable for signalized intersections. However, operational analysis will also be necessary to address any level of significance in delay.

Analysis Scenarios

The Level of Service (LOS) analysis will evaluate the following scenarios:

- Existing Conditions;
- Project Opening Year Conditions with Ambient Growth and Related Projects without the Proposed Project; and
- Project Opening Year Conditions with Ambient Growth and Related Projects with the Proposed Project.

Trip Generation and Assignment/Distribution

The trips associated with the Proposed Project will be estimated using the appropriate rates from ITE Trip Generation manual, latest edition. Geographic trip distribution patterns will be developed for the Proposed Project, based upon regional land use and circulation system data. The Proposed Project trips will be assigned to the study area intersections and street segments in conformance with the trip distribution patterns.

It is highly recommended that the Consultant submit the trip generation and assignment/distribution to the City's Traffic Engineer for review and approval prior to conducting analysis.

Ambient Growth

Cumulative growth in the study area will be 1-percent per year to the Project Opening Year (1%/year).

Related Projects

City Planning staff will provide a Related Projects List of projects within a 1.5-mile radius from the Proposed Project site within the City limits. Any specific trip generation and trip distribution information (traffic impact analyses) for these Related Projects will also be provided. If the 1.5-mile radius extends beyond the City of Norwalk boundaries, the

consultant shall request the adjacent agencies provide a Related Projects List and any available trip information as appropriate.

Related Projects Trip Generation – Related Project trips will be estimated using rates from the Institute of Transportation Engineers (ITE) Trip Generation manual, latest edition, or will be acquired from other sources, such as previous traffic studies.

Level of Significance

From the City of Norwalk's General Plan, the City has established LOS "D" as a threshold standard for peak hour intersection volumes. The City has also established a "target" LOS of "C". The level of significance for an intersection is determined by the following:

- An intersection operating at LOS A or B and is found to operate at LOS C or better with the addition of the Proposed Project is not considered significant. No mitigation measures are necessary.
- An intersection operating at LOS C is found to operate at LOS D or worse with the addition of the Proposed Project is considered significant. Mitigation measures are necessary to bring the intersection back to a LOS C.
- An intersection operating at LOS D or worse is found to continue to operate at LOS D or worse with the addition of the Proposed Project and has increased the existing V/C ratio by 0.010 (1 percent) is considered significant. Mitigation measures are necessary to bring the intersection back to its existing V/C ratio.

For operational analysis of the study intersections, a delay analysis will also be required. The level of significance for delay is determined by the following:

- An intersection operating at LOS E experiences an added delay of 4.0 seconds or more with the addition of the Proposed Project is considered significant. Mitigation measures are necessary to bring the intersection back to its existing LOS E (net zero delay).
- An intersection operating at LOS F experiences an added delay of 2.0 seconds or more with the addition of the Proposed Project is considered significant. Mitigation measures are necessary to bring the intersection back to its existing LOS F (net zero delay).

Report Preparation

Draft Report

A Draft Report, summarizing the findings and recommendations will be submitted to City Planning staff who will then forward to the City Traffic Engineer for review and comment.

Final Report

A Final Report (stamped and signed by a registered professional engineer) will be prepared, based on any comments received from the City and, as appropriate, from the public comments. The Final Report will be submitted to City Planning staff who will then provide the Final Report to the City Traffic Engineer.

If you have any questions, please contact me.

TRANSPORTATION STUDY SCOPE

Project Name: Norwalk Entertainment District – Civic Center Specific Plan Project (See Figure 1)

Project Location: Southeast corner of Imperial Highway and Norwalk Boulevard bounded by Imperial Highway to the north, Avenida Manuel Salinas to the east, Los Angeles Superior Court-Norwalk to the south, and Norwalk Boulevard to the west (See Figure 2)

Project APN: 8047-006-922, 8047-006-924, 8047-006-925, and a portion of 8047-006-927

Project Description: The Project proposes the construction of a mixed-use development to include up to 350 residential units and 110,000 square feet of commercial uses, that would consist of a mix of retail, supermarket, and/or restaurant tenants. To account for the potential range in land uses, the transportation analysis conservatively assumes that the commercial uses would consist of 35,000 sf of retail, 40,000 sf of supermarket, and 35,000 sf of fine dining and high-turnover restaurant uses. Parking for the Project would be accommodated on-site and within the existing Los Angeles County (County) parking garage south of the Project Site. No modifications to the existing Norwalk City Hall would be proposed with the Project.

CEQA ANALYSIS

The CEQA VMT analysis will be conducted in accordance with the Los Angeles County Department of Public Work's *Transportation Impact Analysis Guidelines* (July 2020).

VMT Methodology

- Consistent with *Transportation Impact Analysis Guidelines*, the VMT analysis for the Project to be based on the screening and impact evaluation criteria for Development Projects (Section 3.1).
 - *Transportation Impact Analysis Guidelines* Section 3.1.2 – Screening Criteria
 - Non-Retail Project Trip Generation Screening Criteria
 - Further VMT analysis is required if a development project generates a **net increase of 110 or more daily vehicle trips**, based on the most recent edition of ITE's Trip Generation Manual.
 - Retail Project Site Plan Screening Criteria
 - "A project that contains a **local serving retail use is assumed to have less than significant VMT impacts for the retail portion of the project**...However, if the retail project is part of a mixed-use project, then **the remaining portion of the project may be subject to further analysis** in accordance with other screening criteria in Section 3.1."
 - Generally, developments including retail stores less than 50,000 sf are considered local serving
- The impact criteria in *Transportation Impact Analysis Guidelines* are based on guidance published in *Technical Advisory on Evaluation Transportation Impacts in CEQA* (Governor's Office of Planning and Research, December 2018) (OPR Technical Advisory) and *California's 2017 Climate Change Scoping Plan* (California Air Resources Board, January 2019).
 - Per the OPR Technical Advisory, each component of a mixed-use project can be evaluated independently with the significance threshold for each project type applied separately
 - *Transportation Impact Analysis Guidelines* Section 3.1.3 – Impact Criteria
 - Residential Land Uses
 - "The project's residential VMT per capita exceeding would not be 16.8% below the existing residential VMT per capita for the Baseline Area in which the project is located."
 - Local Serving Retail Uses
 - The individual commercial retail, supermarket, and restaurant uses of the Project would not exceed 50,000 sf and would, therefore, be considered local serving. Thus, no further retail VMT analysis would be required, and a **no impact determination can be made** for those uses.
 - **South County Planning Area**
 - **VMT impact criteria**
 - **10.6 Residential VMT per Capita**
 - **15.3 Employment VMT per Employee**
- Trip length information, vehicle trip generation by purpose, and population and employment factors from **CalEEMod** would be utilized to determine VMT per employee, VMT per capita, and total VMT, as appropriate, consistent with GHG analysis.

NON-CEQA ANALYSIS

The non-CEQA analysis will include an operational traffic analysis of study intersections and street segments for the following scenarios:

- Existing Conditions
- Future without Project Conditions (*Project Opening Year with Ambient Growth and Related Projects*)
- Future with Project Conditions (*Project Opening Year with Ambient Growth, Related Projects, and Proposed Project*)

The intersection analysis will be conducted based on the HCM methodology using the Synchro software to determine the Project-related increases in delay and level of service (LOS). The results will be compared with the LOS thresholds from the City's General Plan. The street segment analysis will be based on average daily traffic (ADT) volumes. The Project-related increases in ADT will be compared with ADT thresholds from the City's General Plan. The transportation study will review potential recommendations and improvements based on the findings of the operational traffic analysis of the study intersections and street segments.

A review of the Project's parking plans and requirements, as well as the shared parking operations of the existing County parking garage, will also be included in the transportation study as part of the non-CEQA analysis,.

Trip Generation Rate(s): ITE 11th Edition, 2021
(See Table 1)

	in	out	total
AM Trips	127	167	294
PM Trips	301	244	545

Trip Distribution:

Residential	N:	35%	S:	30%	E:	15%	W:	20%
Commercial	N:	30%	S:	28%	E:	20%	W:	22%

Project Buildout Year: 2025 **Ambient Growth Rate:** 1.0 % Per Yr.

Study Area: *The non-CEQA operational analysis Study Area includes intersections and street segments integral to the Project's site access and circulation plan and was established in consultation with the City based on existing intersection/corridor operations, distribution of Project vehicular trips (i.e., intersections where 100 or more net new Project trips would be added), and potential operational effects of Project traffic.*

Study Intersections (See Figure 3)

1. Norwalk Boulevard & Lakeland Avenue
2. Norwalk Boulevard & Crewe Street
3. Firestone Boulevard & Imperial Highway
4. Pioneer Boulevard & Imperial Highway
5. I-5 Southbound Ramps & Imperial Highway
6. I-5 Northbound Ramps & Imperial Highway
7. Kalnor Avenue & Imperial Highway
8. Norwalk Boulevard & Imperial Highway
9. Avenida Manuel Salinas & Imperial Highway
10. Volunteer Avenue & Imperial Highway
11. Bloomfield Avenue & Imperial Highway
12. Norwalk Boulevard & Civic Center Drive
13. Courthouse-AMC Theater & Civic Center Drive
14. Avenida Manuel Salinas & Civic Center Drive
15. Volunteer Avenue & Civic Center Drive
16. Bloomfield Avenue & Civic Center Drive
17. I-5 Northbound Ramp / Adoree Street & Norwalk Boulevard
18. I-5 Southbound Ramp & Norwalk Boulevard / San Antonio Drive
19. Firestone Boulevard & San Antonio Drive
20. Pioneer Boulevard / San Antonio Drive & Rosecrans Avenue

Street Segments
(See Figure 3)

1. Imperial Highway between Norwalk Boulevard & Bloomfield Avenue
2. Imperial Highway between Norwalk Boulevard & I-5
3. Norwalk Boulevard between Imperial Highway & Crewe Street
4. Norwalk Boulevard between Imperial Highway & I-5
5. Avenida Manuel Salinas between Imperial Highway & Civic Center Drive
6. Civic Center Drive between Avenida Manuel Salinas & Norwalk Boulevard

TABLE 1
NORWALK ENTERTAINMENT DISTRICT - CIVIC CENTER SPECIFIC PLAN
TRIP GENERATION

Land Use	ITE Land Use Code	Size	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
<u>Trip Generation Rates</u> [a]									
Multifamily Housing (Mid-Rise)	221	per du	4.54	23%	77%	0.37	61%	39%	0.39
Shopping Plaza (40-150 ksf)	821	per ksf	67.52	62%	38%	1.73	49%	51%	5.19
Supermarket	850	per ksf	93.84	59%	41%	2.86	50%	50%	8.95
Fine Dining Restaurant	931	per ksf	83.84	[b]	[b]	0.73	67%	33%	7.80
High-Turnover Sit-Down Restaurant	932	per ksf	107.20	55%	45%	9.57	61%	39%	9.05
<u>Proposed Project</u>									
Residential									
Multi-Family Residential	221	350 du	1,589	30	100	130	84	53	137
Transit/Walk-In Reduction - 5%	[c]		(79)	(2)	(5)	(7)	(4)	(3)	(7)
Subtotal - Residential		350 du	1,510	28	95	123	80	50	130
Commercial									
Retail [d]	821	35,000 sf	2,363	38	23	61	89	93	182
Mixed-Use/Internal Capture - 20%	[e]		(473)	(8)	(5)	(13)	(18)	(19)	(37)
Transit/Walk-In - 5%	[d]		(95)	(2)	(1)	(3)	(4)	(4)	(8)
Pass-by - 40%	[f]		(718)	(11)	(7)	(18)	(27)	(28)	(55)
Supermarket	850	40,000 sf	3,754	67	47	114	179	179	358
Mixed-Use/Internal Capture - 20%	[e]		(751)	(13)	(9)	(22)	(36)	(36)	(72)
Transit/Walk-In - 5%	[d]		(150)	(3)	(2)	(5)	(7)	(7)	(14)
Pass-by - 24%	[f]		(685)	(12)	(9)	(21)	(33)	(33)	(66)
Fine Dining Restaurant	931	17,500 sf	1,467	7	6	13	84	53	137
Mixed-Use/Internal Capture - 20%	[e]		(293)	(1)	(1)	(2)	(17)	(11)	(28)
Transit/Walk-In - 5%	[d]		(59)	0	0	0	(3)	(2)	(5)
Pass-by - 44%	[f]		(491)	(3)	(2)	(5)	(28)	(18)	(46)
High-Turnover Sit-Down Restaurant	932	17,500 sf	1,876	92	75	167	96	62	158
Mixed-Use/Internal Capture - 20%	[e]		(375)	(18)	(15)	(33)	(19)	(12)	(31)
Transit/Walk-In - 5%	[d]		(75)	(4)	(3)	(7)	(4)	(3)	(7)
Pass-by - 43%	[f]		(613)	(30)	(25)	(55)	(31)	(20)	(51)
Subtotal - Commercial		110,000 sf	4,682	99	72	171	221	194	415
Total New Project Trips			6,192	127	167	294	301	244	545

Notes

[a] Source: *Trip Generation, 11th Edition*, Institute of Transportation Engineers, 2021.

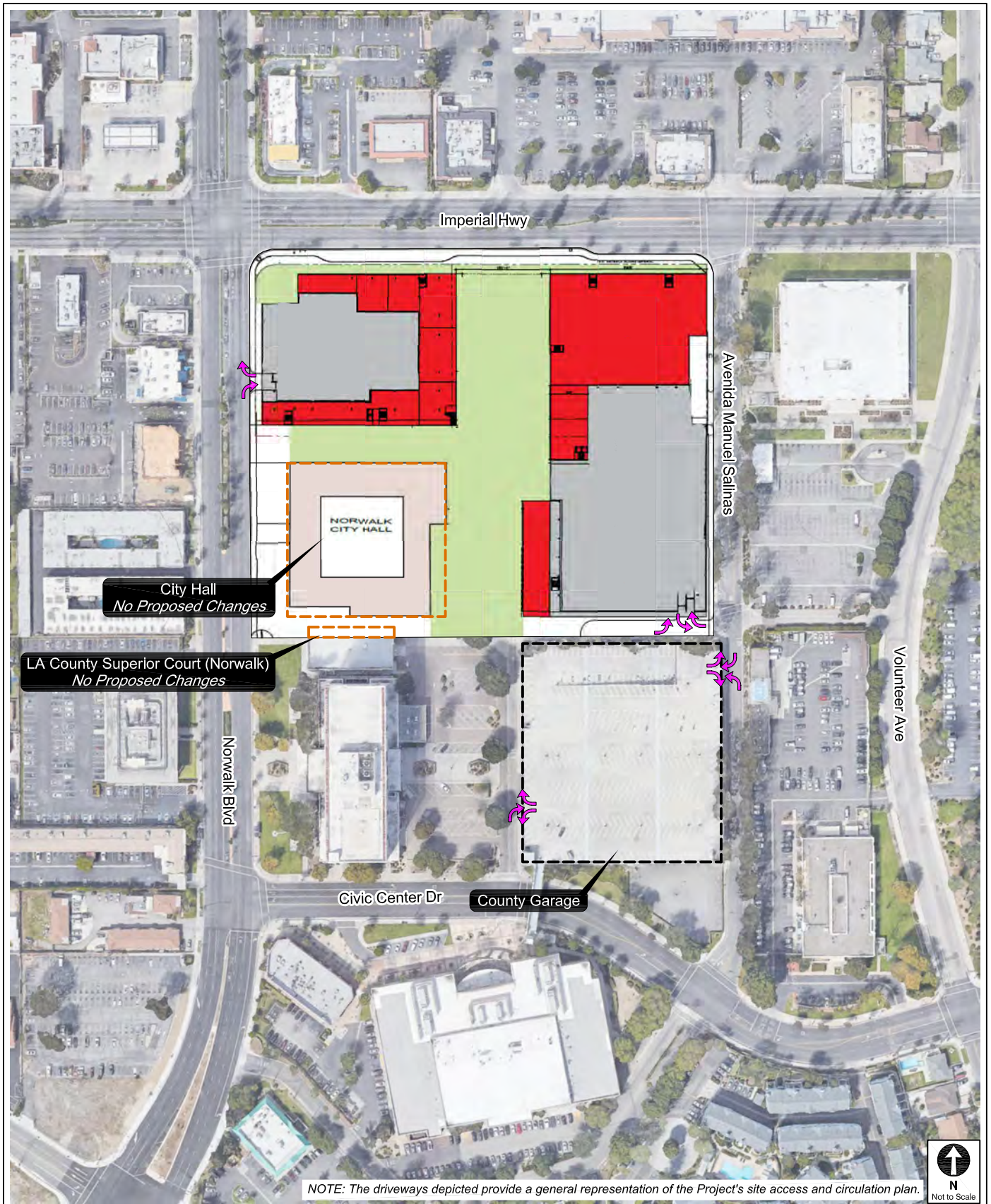
[b] AM peak hour directional distributions are not provided for Fine Dining Restaurant uses in *Trip Generation, 11th Edition*. Therefore, the AM peak hour directional distributions for High-Turnover Restaurant use were applied.

[c] The Project Site is served by various local bus lines along Imperial Highway and Norwalk Boulevard with stops adjacent to the Project Site, and is also located less than one-mile of the Metro C (Green) Line Norwalk Station and the Metrolink Norwalk Station. Therefore, a 5% transit/walk-in reduction was applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments.

[d] The retail component includes an integrated group of commercial establishments and contains more than retail merchandising facilities, including food & beverage and health/fitness club uses, consistent with the Shopping Plaza land use definition in *Trip Generation, 11th Edition*.

[e] Internal capture reductions 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, and are consistent with the NCHRP 8-51 Internal Trip Capture Estimation Tool (*National Cooperative Highway Research Program Report 684 – Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*, Transportation Research Board and National Research Council, 2011).

[f] Pass-by reductions account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion, and are based on pass-by reductions identified in *Trip Generation, 11th Edition*.



PROJECT SITE PLAN

FIGURE
1



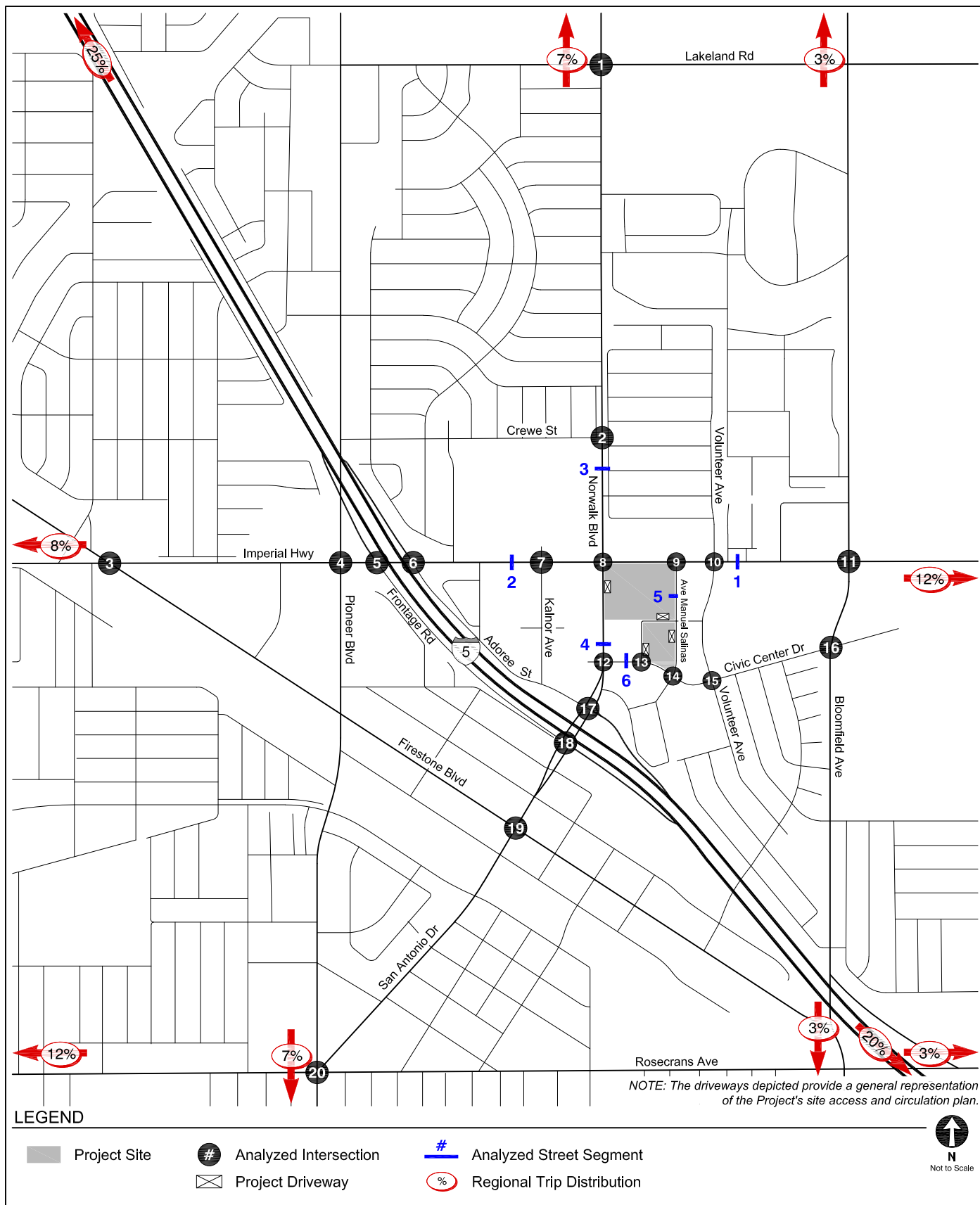
PROJECT SITE LOCATION

FIGURE
2



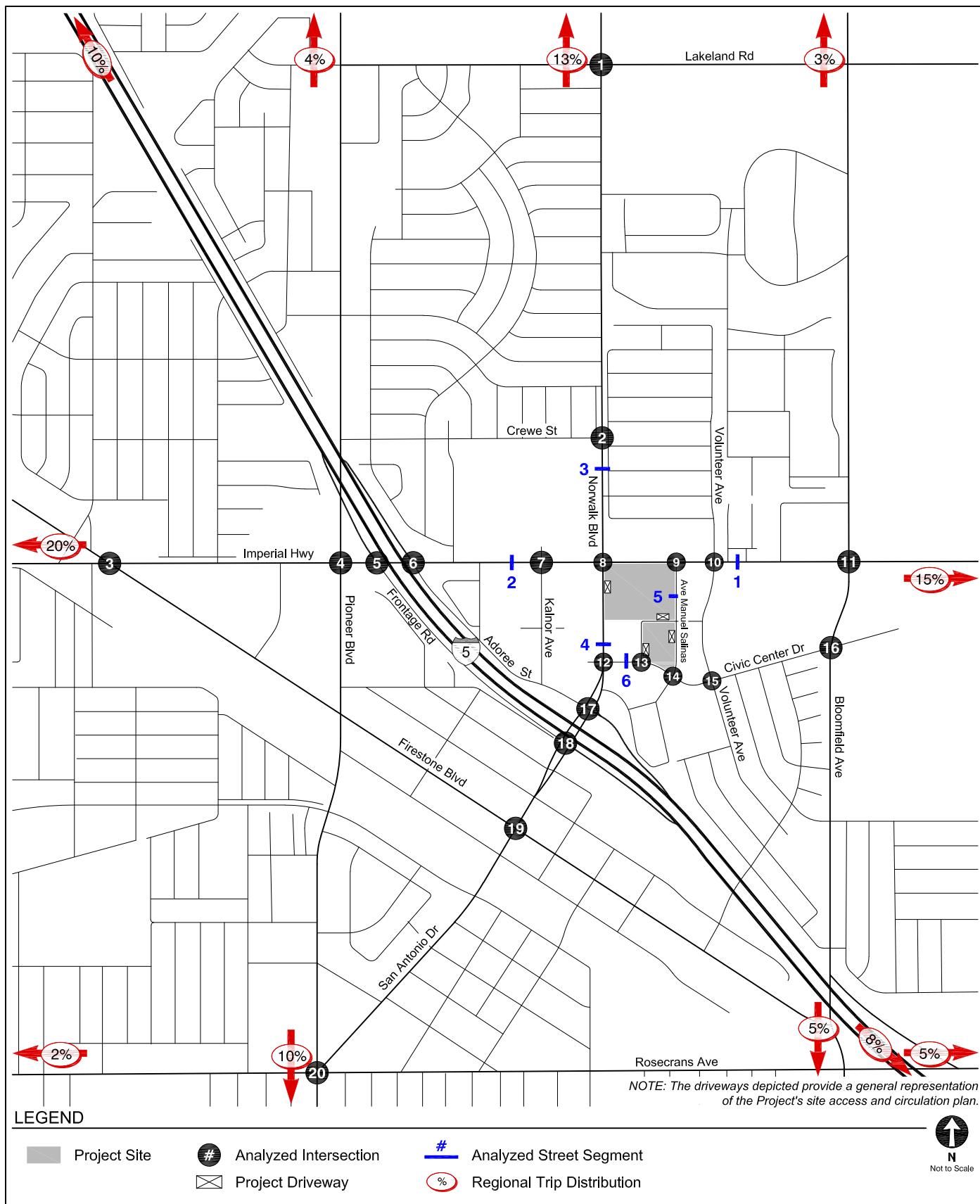
STUDY AREA & ANALYZED LOCATIONS

FIGURE
3



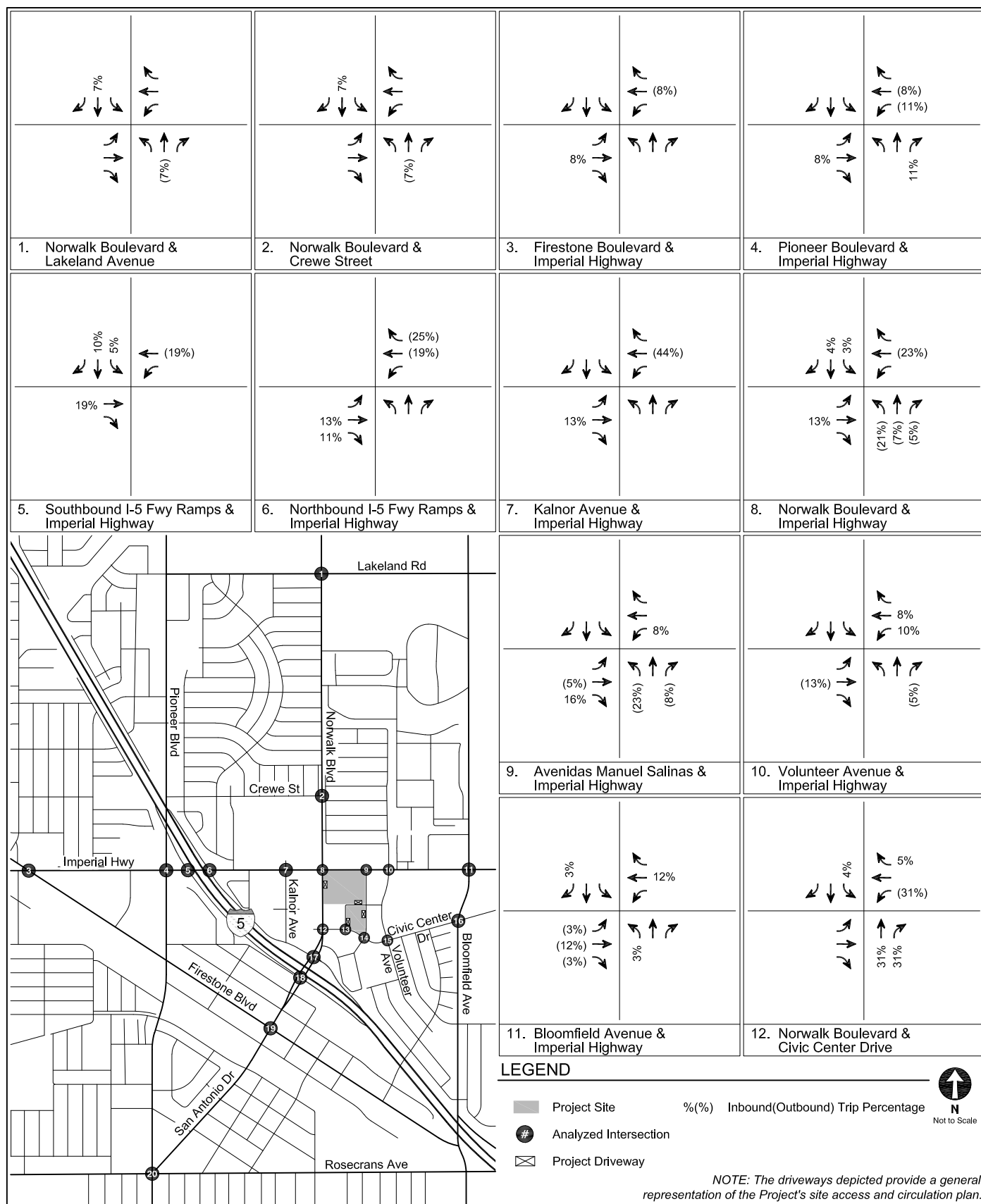
REGIONAL TRIP DISTRIBUTION
RESIDENTIAL

FIGURE
4A



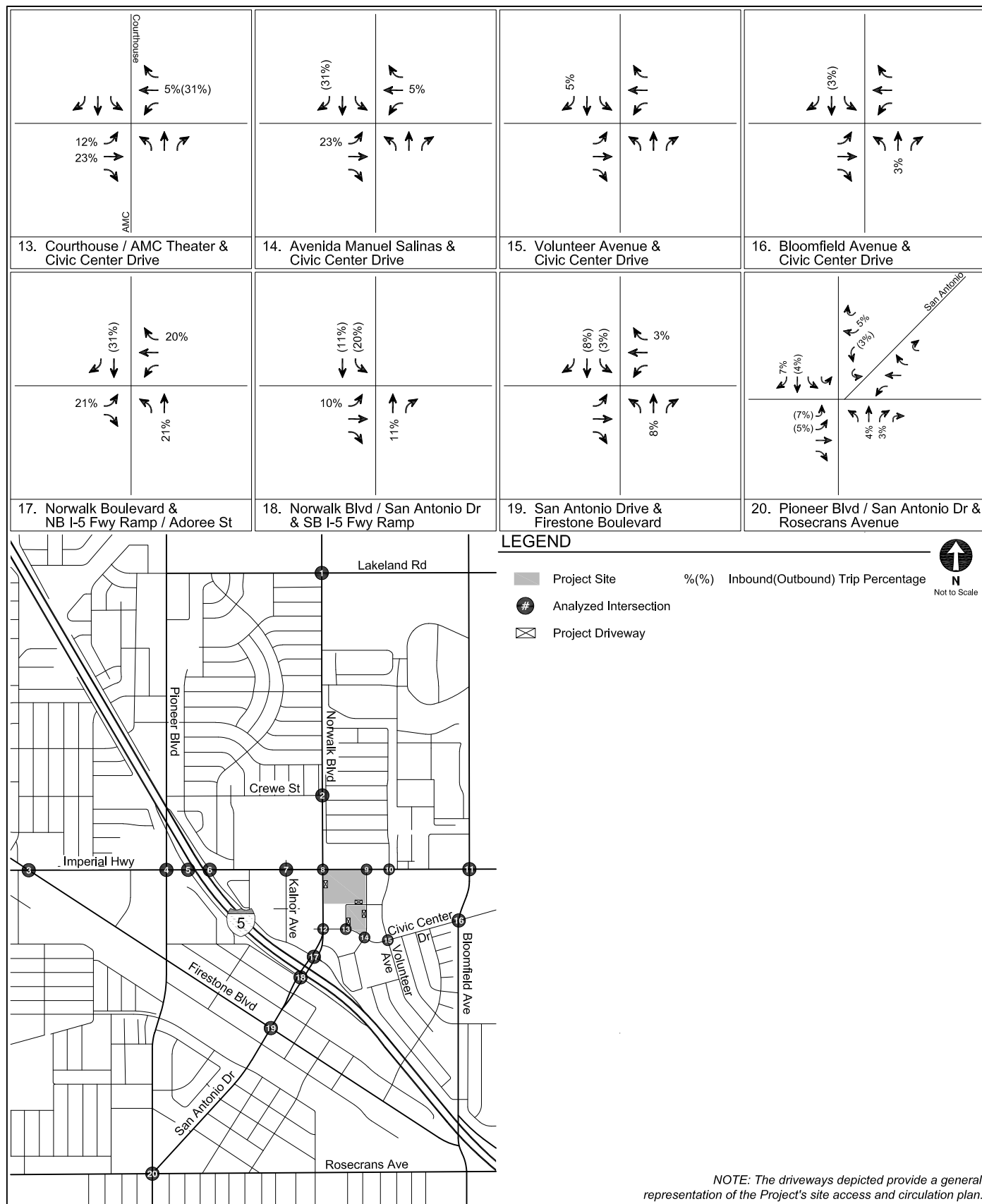
REGIONAL TRIP DISTRIBUTION
COMMERCIAL

FIGURE
4B



PROJECT INTERSECTION-LEVEL TRIP DISTRIBUTION
RESIDENTIAL

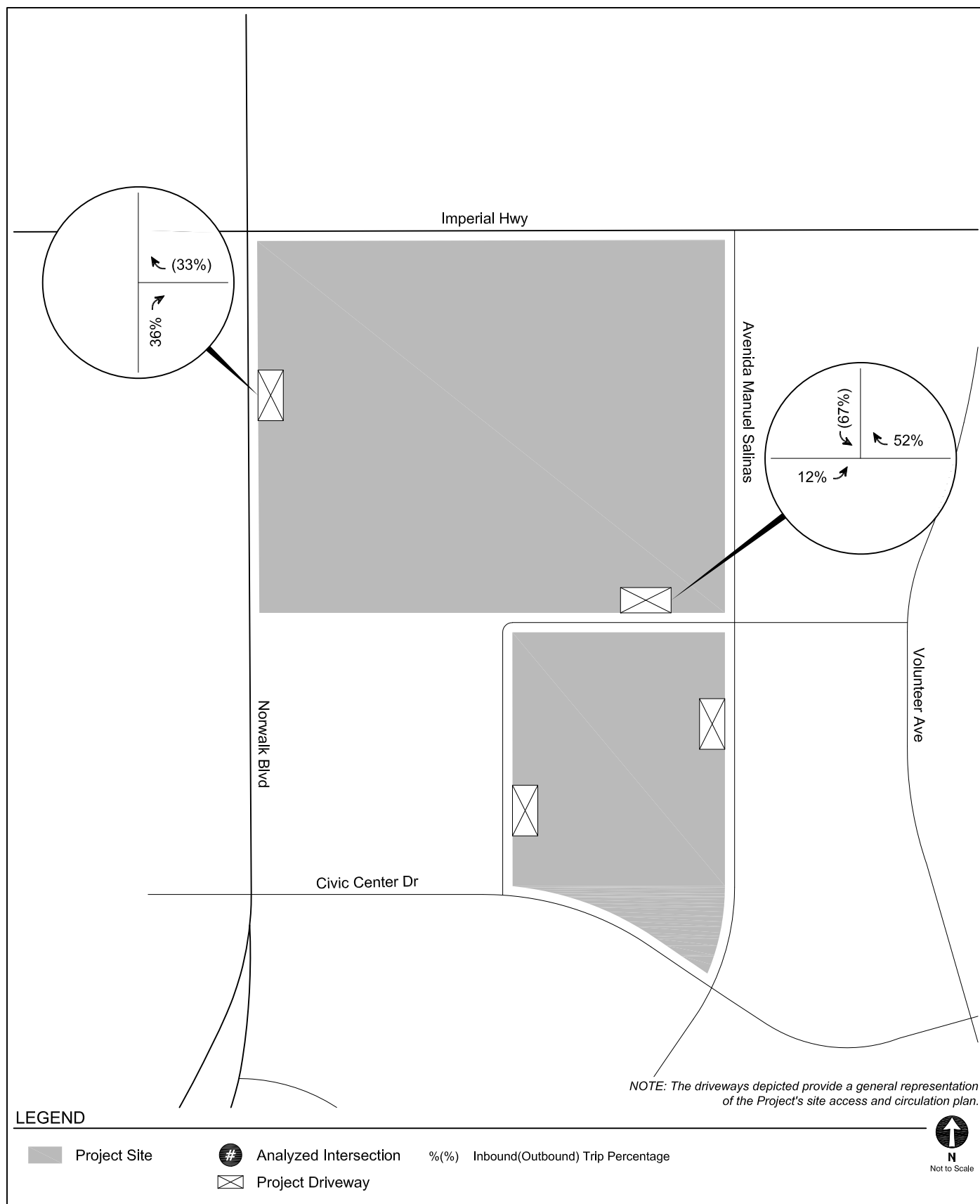
FIGURE
5A



NOTE: The driveways depicted provide a general representation of the Project's site access and circulation plan.

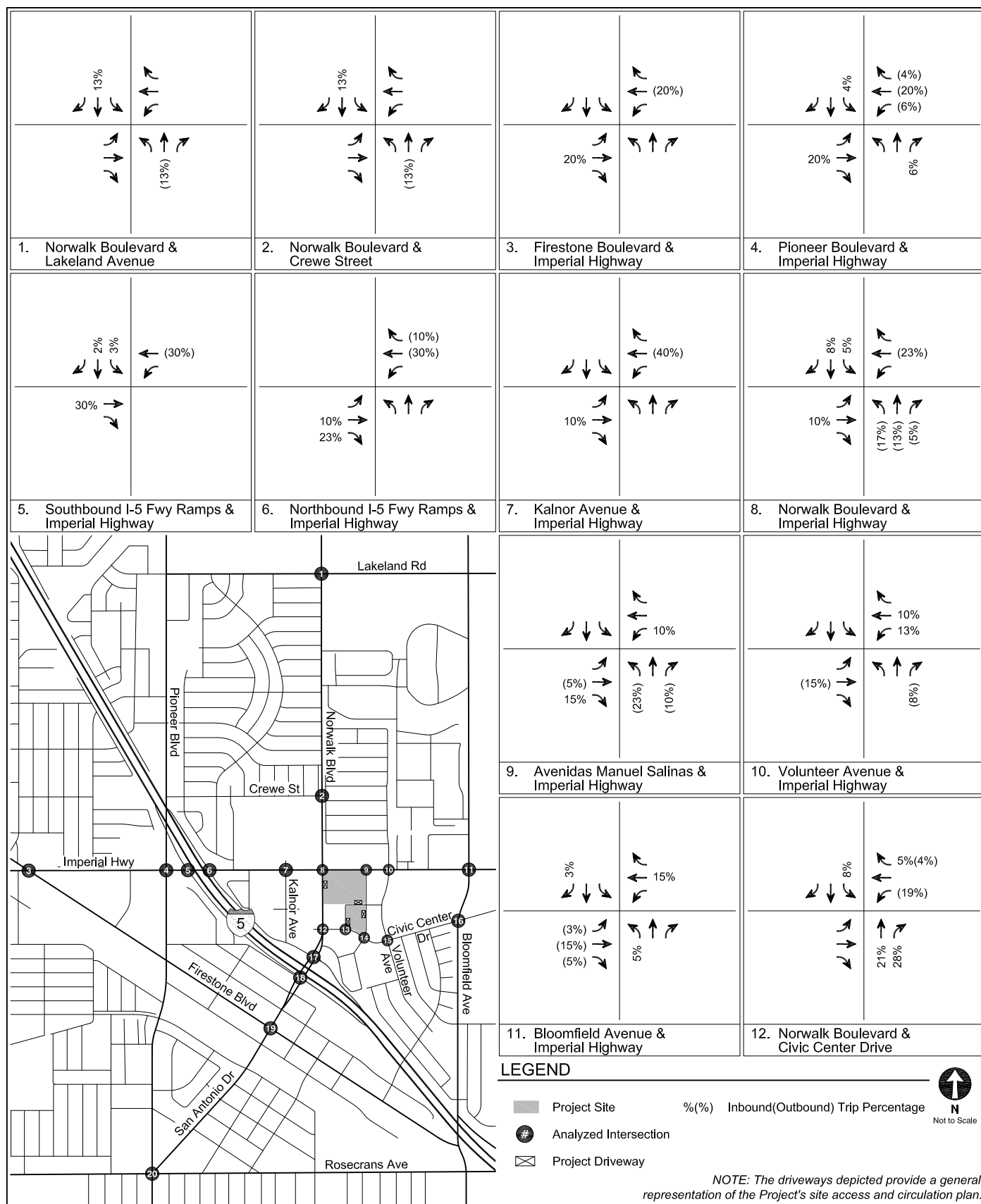
PROJECT INTERSECTION-LEVEL TRIP DISTRIBUTION
RESIDENTIAL

FIGURE
5A (CONT.)



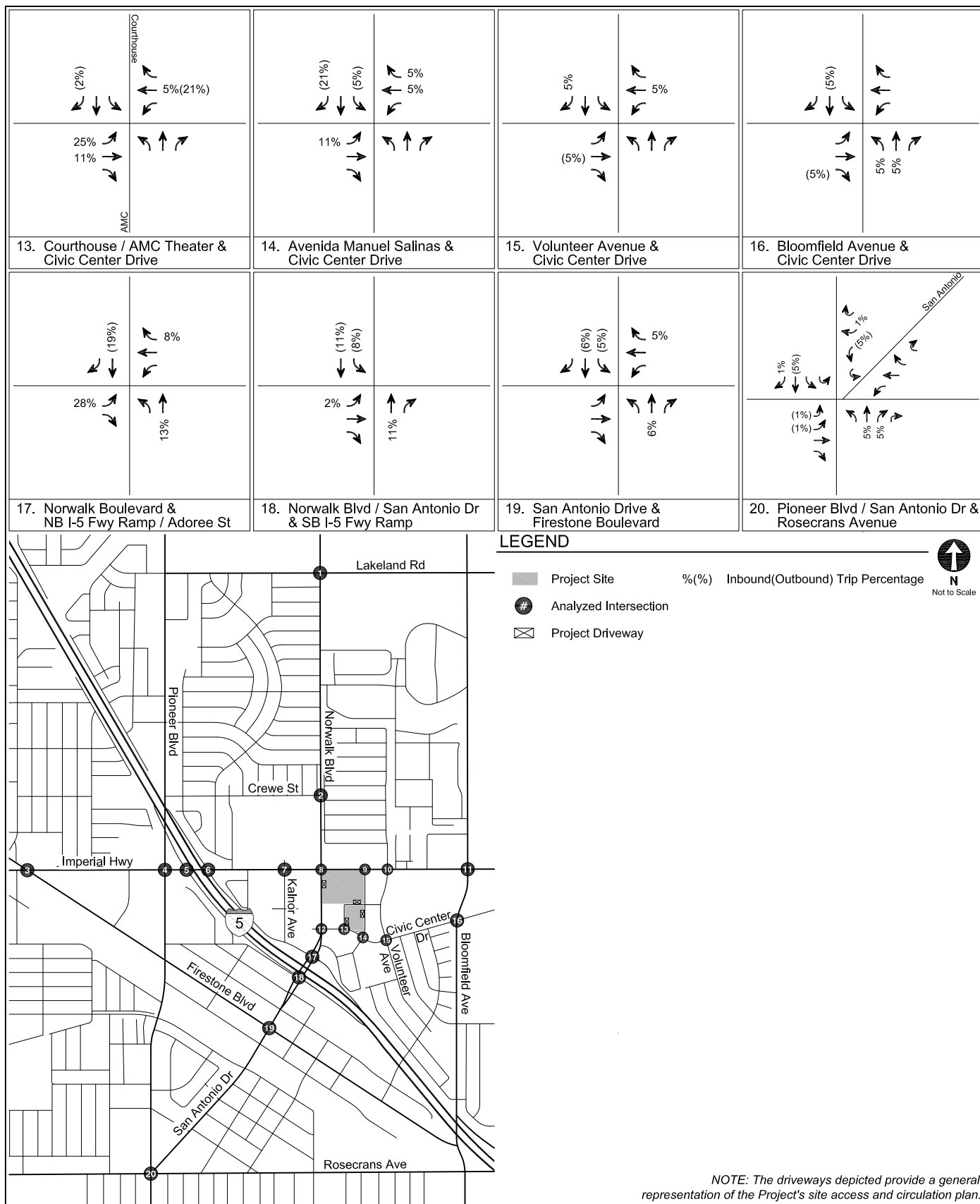
PROJECT TRIP DISTRIBUTION AT DRIVEWAYS
RESIDENTIAL

FIGURE
5B



PROJECT INTERSECTION-LEVEL TRIP DISTRIBUTION
COMMERCIAL

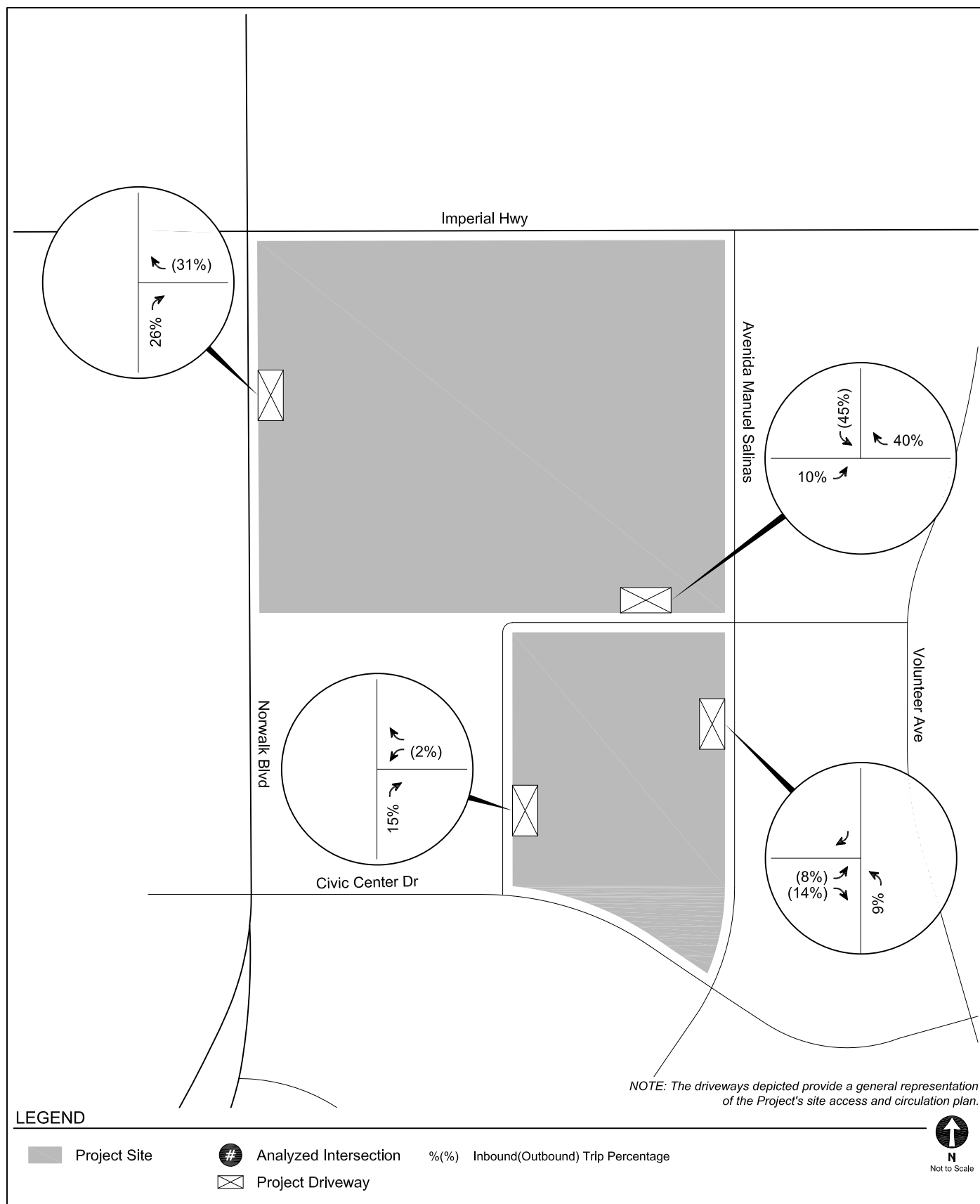
FIGURE
5C



NOTE: The driveways depicted provide a general representation of the Project's site access and circulation plan.

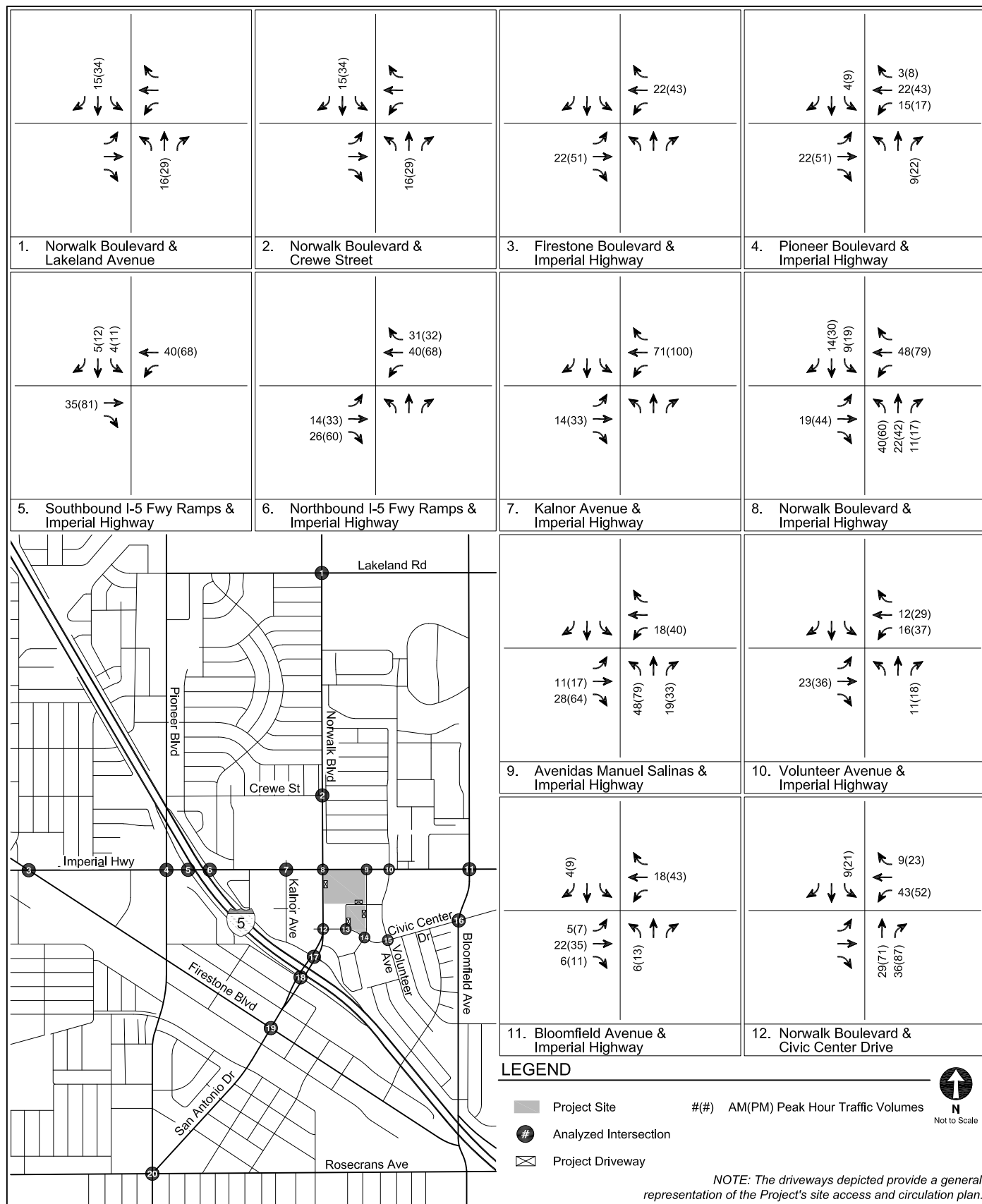
PROJECT INTERSECTION-LEVEL TRIP DISTRIBUTION
COMMERCIAL

FIGURE
5C (CONT.)



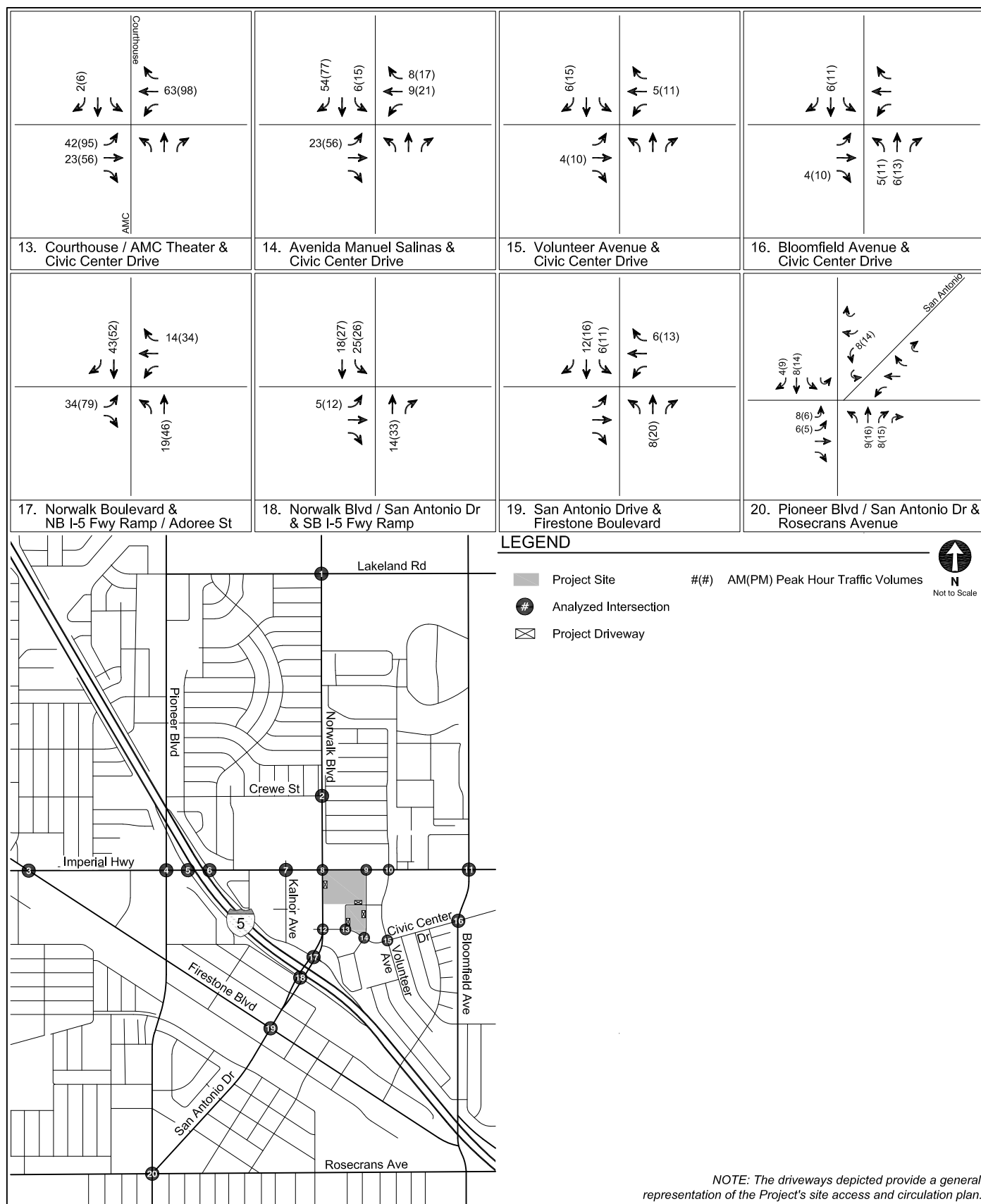
PROJECT TRIP DISTRIBUTION AT DRIVEWAYS
COMMERCIAL

FIGURE
5D



PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES AT INTERSECTIONS

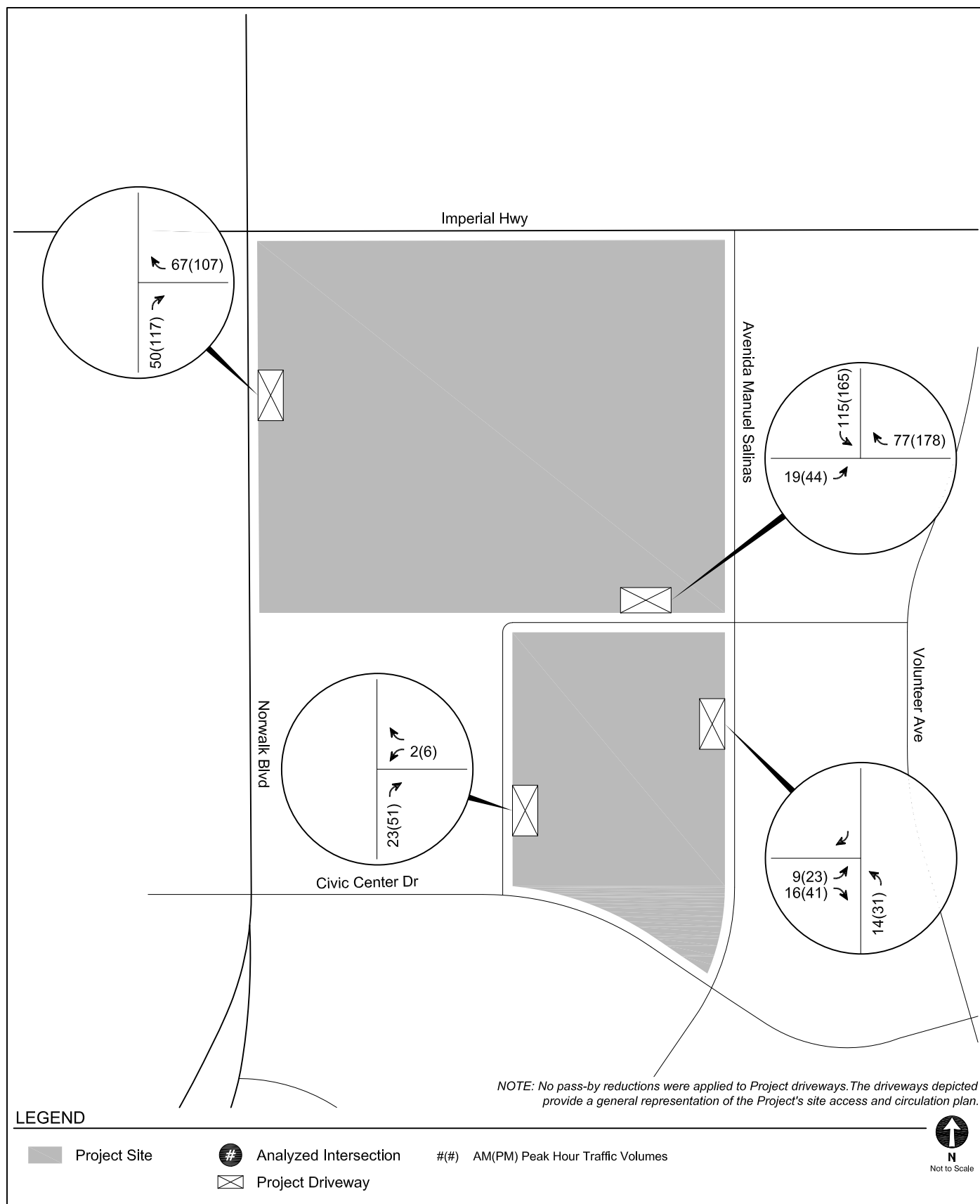
FIGURE
6A



NOTE: The driveways depicted provide a general representation of the Project's site access and circulation plan.

PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES AT INTERSECTIONS

FIGURE
6A (CONT.)



Appendix B

Traffic Count Data

APPENDIX B-1
GROWTH RATE ESTIMATION STREET SEGMENT VOLUMES

<i>Street Segment Average Daily Traffic Counts</i>		
Count Location [a]	Count Date	Average Daily Traffic (ADT)
Imperial Highway btwn Norwalk BI & Bloomfield Ave	Wednesday, February 9th, 2022	38,138
	Thursday, November 19th, 2015	42,937
Imperial Highway btwn Norwalk BI & I-5 Freeway	Wednesday, February 9th, 2022	39,111
	Thursday, November 19th, 2015	47,618
Norwalk BI btwn Imperial Highway & Crewe Street	Wednesday, February 9th, 2022	20,635
	Thursday, November 19th, 2015	22,721
Norwalk BI btwn Imperial Highway & I-5 Freeway	Wednesday, February 9th, 2022	21,689
	Thursday, November 19th, 2015	29,590
Civic Center Drive btwn Avenida Manuel Salinas & Norwalk BI	Wednesday, February 9th, 2022	9,982
	Thursday, November 19th, 2015	15,158
Total ADT (Year 2022)		129,555
Total ADT (Year 2015)		158,024
Total Growth (Percentage)		22%

Notes:

[a] Street segment volumes from Year 2015 on Avenida Manuel Salinas were not available.

DATE:
Thu, May 17, 18

LOCATION: Norwalk
NORTH & SOUTH: Bloomfield
EAST & WEST: Imperial

PROJECT #: SC1739
LOCATION #: 3
CONTROL: SIGNAL

NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

☐ Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Bloomfield			Bloomfield			Imperial			Imperial			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 1	ET 3	ER 1	WL 1	WT 3	WR 0	TOTAL

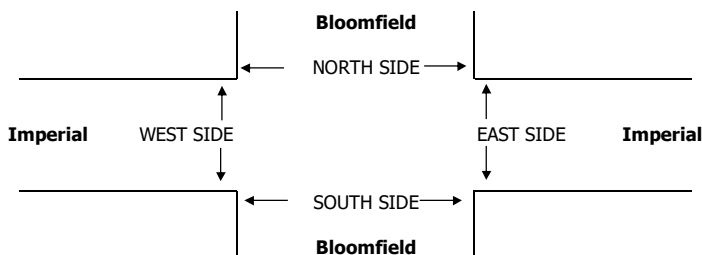
U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	

7:00 AM	35	121	64	31	95	24	48	217	15	69	316	34	1,069
7:15 AM	28	131	104	36	131	32	50	183	21	111	282	55	1,164
7:30 AM	11	138	99	36	126	45	86	215	12	97	268	50	1,183
7:45 AM	21	126	97	25	132	47	40	168	22	100	340	52	1,170
8:00 AM	13	141	72	34	100	39	55	176	27	92	302	33	1,084
8:15 AM	8	123	58	28	102	28	56	186	13	111	258	25	996
8:30 AM	15	97	61	12	86	34	64	186	4	86	264	32	941
8:45 AM	29	109	54	31	91	24	51	176	24	56	228	18	891
VOLUMES	160	986	609	233	863	273	450	1,507	138	722	2,258	299	8,498
APPROACH %	9%	56%	35%	17%	63%	20%	21%	72%	7%	22%	69%	9%	
APP/DEPART	1,755	/	1,715	1,369	/	1,730	2,095	/	2,349	3,279	/	2,704	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	73	536	372	131	489	163	231	742	82	400	1,192	190	4,601
APPROACH %	7%	55%	38%	17%	62%	21%	22%	70%	8%	22%	67%	11%	
PEAK HR FACTOR	0.933			0.946			0.843			0.905			0.972
APP/DEPART	981	/	947	783	/	975	1,055	/	1,245	1,782	/	1,434	0

0	0	3	0	3
0	0	5	0	5
2	0	1	0	3
2	0	3	0	5
0	0	1	0	1
0	0	2	0	2
1	0	3	0	4
2	0	2	0	4
7	0	20	0	27

4:00 PM	26	87	80	74	137	48	46	244	26	62	238	18	1,086
4:15 PM	20	103	103	50	131	36	54	291	19	69	235	9	1,120
4:30 PM	35	111	92	66	178	86	51	298	28	41	273	32	1,291
4:45 PM	23	106	63	47	140	62	46	333	30	70	218	18	1,156
5:00 PM	25	140	99	40	159	57	38	305	11	69	230	32	1,205
5:15 PM	15	114	88	46	160	45	33	286	22	69	234	41	1,153
5:30 PM	31	109	95	36	144	40	48	258	11	47	221	18	1,058
5:45 PM	20	85	74	20	99	24	42	352	28	57	234	22	1,057
VOLUMES	195	855	694	379	1,148	398	358	2,367	175	484	1,883	190	9,126
APPROACH %	11%	49%	40%	20%	60%	21%	12%	82%	6%	19%	74%	7%	
APP/DEPART	1,744	/	1,374	1,925	/	1,816	2,900	/	3,440	2,557	/	2,496	0
BEGIN PEAK HR	4:30 PM												
VOLUMES	98	471	342	199	637	250	168	1,222	91	249	955	123	4,805
APPROACH %	11%	52%	38%	18%	59%	23%	11%	83%	6%	19%	72%	9%	
PEAK HR FACTOR		0.863			0.823			0.905			0.959		0.930
APP/DEPART	911	/	747	1,086	/	984	1,481	/	1,763	1,327	/	1,311	0

0	0	6	0	6
1	0	4	0	5
2	0	4	0	6
1	0	5	0	6
1	0	4	0	5
3	0	2	0	5
0	0	3	0	3
1	0	1	0	2
9	0	29	0	38



	7:00 AM
	7:15 AM
	7:30 AM
	7:45 AM
	8:00 AM
	8:15 AM
	8:30 AM
	8:45 AM
	TOTAL
AM BEGIN PEAK HR	
	4:00 PM
	4:15 PM
	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
	TOTAL
PM BEGIN PEAK HR	

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

[illegible][illegible]

Turning Movement Count Report AM

Location ID: 1
 North/South: Norwalk Boulevard
 East/West: Lakeland Avenue

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	6	92	16	23	24	17	20	110	2	7	14	9	340
7:15	3	91	16	23	26	13	27	137	5	4	26	5	376
7:30	9	94	20	25	50	17	33	174	6	5	22	1	456
7:45	4	139	14	23	39	20	46	223	5	6	49	11	579
8:00	14	126	21	25	24	23	42	139	8	5	30	8	465
8:15	12	92	16	20	33	19	22	172	6	10	36	9	447
8:30	8	87	18	14	24	10	16	136	8	2	25	8	356
8:45	4	102	15	21	17	10	21	140	4	4	19	2	359

Total Volume:	60	823	136	174	237	129	227	1231	44	43	221	53	3378
Approach %	6%	81%	13%	32%	44%	24%	15%	82%	3%	14%	70%	17%	

Peak Hr Begin:	7:30												
PHV	39	451	71	93	146	79	143	708	25	26	137	29	1947
PHF	0.871			0.864			0.799			0.727			0.841

Turning Movement Count Report PM

Location ID: 1
 North/South: Norwalk Boulevard
 East/West: Lakeland Avenue

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	Totals:
16:00	11	187	27	78	65	57	39	141	14	7	33	9	668
16:15	11	143	19	38	60	43	42	127	7	5	30	5	530
16:30	24	186	22	40	61	41	43	113	10	3	34	2	579
16:45	12	183	26	25	41	33	61	163	8	8	37	2	599
17:00	10	202	24	35	56	43	36	132	13	10	25	2	588
17:15	11	192	12	19	45	36	28	129	4	5	18	8	507
17:30	12	187	11	27	40	36	27	136	7	5	21	5	514
17:45	5	137	12	22	34	27	21	110	12	3	21	5	409

Total Volume:	96	1417	153	284	402	316	297	1051	75	46	219	38	4394
Approach %	6%	85%	9%	28%	40%	32%	21%	74%	5%	15%	72%	13%	

Peak Hr Begin:	16:00												
PHV	58	699	94	181	227	174	185	544	39	23	134	18	2376
PHF	0.917			0.728			0.828			0.893			0.889

Pedestrian/Bicycle Count Report

Location ID: 1
 North/South: Norwalk Boulevard
 East/West: Lakeland Avenue

Date: 02/09/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	0	0	0	0	1	0
7:15	3	0	2	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	1	0	0	0	1	0
8:00	0	0	0	0	0	0	2	1
8:15	0	1	0	0	0	0	1	0
8:30	0	0	0	0	0	0	0	0
8:45	0	2	1	0	0	1	1	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	5	0	2	0	4	0	4	0
16:15	1	0	0	0	0	0	4	0
16:30	1	0	0	0	2	1	0	0
16:45	1	0	0	0	1	0	1	0
17:00	0	0	2	0	0	0	1	0
17:15	0	0	1	0	0	0	1	0
17:30	0	0	0	0	0	0	3	0
17:45	1	0	0	1	0	0	3	0

Turning Movement Count Report AM

Location ID: 2
 North/South: Norwalk Boulevard
 East/West: Crewe Street

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	119	3	0	0	0	0	134	5	12	0	9	282
7:15	0	137	1	0	0	0	0	154	9	13	0	8	322
7:30	0	136	10	0	0	0	0	194	11	16	0	8	375
7:45	0	164	9	0	0	0	0	243	19	27	0	24	486
8:00	0	151	12	0	0	0	0	162	11	28	0	23	387
8:15	0	144	6	0	0	0	0	166	4	21	0	14	355
8:30	0	102	8	0	0	0	0	168	6	10	0	12	306
8:45	0	132	4	0	0	0	0	123	8	9	0	20	296

Total Volume:	0	1085	53	0	0	0	0	1344	73	136	0	118	2809
Approach %	0%	95%	5%	0%	0%	0%	0%	95%	5%	54%	0%	46%	

Peak Hr Begin:	7:30												
PHV	0	595	37	0	0	0	0	765	45	92	0	69	1603
PHF	0.913			0.000			0.773			0.789			0.825

Turning Movement Count Report PM

Location ID: 2
 North/South: Norwalk Boulevard
 East/West: Crewe Street

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	253	7	0	0	0	0	184	10	20	0	29	503
16:15	0	207	4	0	0	0	0	169	18	18	0	19	435
16:30	0	221	8	0	0	0	0	176	9	8	0	26	448
16:45	0	247	6	0	0	0	0	210	14	15	0	17	509
17:00	0	248	9	0	0	0	0	191	16	20	0	17	501
17:15	0	209	0	0	0	0	0	164	23	20	0	26	442
17:30	0	243	8	0	0	0	0	168	11	11	0	19	460
17:45	0	186	7	0	0	0	0	179	19	13	0	12	416

Total Volume:	0	1814	49	0	0	0	0	1441	120	125	0	165	3714
Approach %	0%	97%	3%	0%	0%	0%	0%	92%	8%	43%	0%	57%	

Peak Hr Begin:	16:45												
PHV	0	947	23	0	0	0	0	733	64	66	0	79	1912
PHF	0.944			0.000			0.890			0.788			0.939

Pedestrian/Bicycle Count Report

Location ID: 2
 North/South: Norwalk Boulevard
 East/West: Crewe Street

Date: 02/09/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	1	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	1	0	0	0
7:45	0	0	0	0	5	0	0	0
8:00	0	0	0	0	1	0	1	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	1	0	0	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	1	0	1	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	1	0
16:45	0	0	0	0	2	0	0	0
17:00	0	0	0	0	1	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	3	0	4	0
17:45	0	0	0	0	1	0	1	1

Turning Movement Count Report AM

Location ID: 3
 North/South: Firestone Boulevard
 East/West: Imperial Highway

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	Totals:
7:00	0	40	43	42	180	1	2	63	51	54	223	0	699
7:15	0	62	53	81	299	2	1	69	50	41	249	0	907
7:30	0	83	55	68	247	0	2	89	55	70	336	0	1005
7:45	0	95	72	99	276	1	2	91	64	75	325	0	1100
8:00	0	92	81	69	230	2	1	85	71	85	284	0	1000
8:15	0	66	57	74	241	4	4	107	56	61	238	0	908
8:30	0	63	47	56	221	4	1	108	63	56	293	0	912
8:45	0	69	47	79	240	3	4	91	54	78	225	0	890

Total Volume:	0	570	455	568	1934	17	17	703	464	520	2173	0	7421
Approach %	0%	56%	44%	23%	77%	1%	1%	59%	39%	19%	81%	0%	

Peak Hr Begin:	7:30												
PHV	0	336	265	310	994	7	9	372	246	291	1183	0	4013
PHF	0.868			0.872			0.939			0.908			0.912

Turning Movement Count Report PM

Location ID: 3
 North/South: Firestone Boulevard
 East/West: Imperial Highway

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	Totals:
16:00	0	120	69	56	225	3	5	118	87	80	298	0	1061
16:15	1	126	81	75	249	1	5	102	72	72	265	0	1049
16:30	0	94	84	69	268	2	3	117	88	73	321	0	1119
16:45	0	99	105	81	230	2	4	98	66	69	279	0	1033
17:00	0	87	77	95	282	1	3	116	88	78	305	0	1132
17:15	0	108	89	76	252	3	9	113	82	72	220	0	1024
17:30	0	102	99	67	254	3	7	133	68	76	290	0	1099
17:45	0	92	70	79	199	1	4	121	63	97	324	0	1050

Total Volume:	1	828	674	598	1959	16	40	918	614	617	2302	0	8567
Approach %	0%	55%	45%	23%	76%	1%	3%	58%	39%	21%	79%	0%	

Peak Hr Begin:	16:15												
PHV	1	406	347	320	1029	6	15	433	314	292	1170	0	4333
PHF	0.906			0.896			0.916			0.928			0.957

Pedestrian/Bicycle Count Report

Location ID: 3
 North/South: Firestone Boulevard
 East/West: Imperial Highway

Date: 02/10/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	3	0	0	2	1	1	0	0
7:15	0	1	0	0	2	1	1	0
7:30	2	1	1	0	1	1	0	1
7:45	0	0	2	0	0	0	2	0
8:00	1	0	1	0	0	1	0	1
8:15	2	0	2	0	0	0	1	0
8:30	0	0	0	0	0	1	0	0
8:45	1	0	0	0	0	0	1	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	1	0	3	0	0	1	0	0
16:15	1	1	1	1	2	0	0	0
16:30	1	0	0	1	1	2	0	0
16:45	1	0	1	1	1	1	1	0
17:00	0	0	4	0	0	2	2	0
17:15	0	1	1	1	2	1	1	0
17:30	1	1	2	1	4	1	2	1
17:45	0	0	2	0	2	0	1	0

Turning Movement Count Report AM

Location ID: 4
 North/South: Pioneer Boulevard
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	91	40	30	12	207	19	51	53	5	8	204	61	781
7:15	109	67	31	14	262	26	28	59	3	12	211	78	900
7:30	158	69	34	18	231	18	31	87	5	13	246	70	980
7:45	158	88	23	35	305	27	32	108	4	17	351	90	1238
8:00	54	54	41	21	210	28	42	88	4	22	283	86	933
8:15	79	79	28	22	277	30	31	56	8	25	217	75	927
8:30	42	42	23	20	208	23	38	66	2	11	196	68	739
8:45	60	57	26	15	208	24	30	54	9	16	250	72	821

Total Volume:	751	496	236	157	1908	195	283	571	40	124	1958	600	7319
Approach %	51%	33%	16%	7%	84%	9%	32%	64%	4%	5%	73%	22%	

Peak Hr Begin:	7:30												
PHV	449	290	126	96	1023	103	136	339	21	77	1097	321	4078
PHF	0.804			0.832			0.861			0.816			0.824

Turning Movement Count Report PM

Location ID: 4
 North/South: Pioneer Boulevard
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	83	76	38	21	288	51	65	99	12	15	271	79	1098
16:15	66	86	27	21	246	33	52	124	11	21	252	70	1009
16:30	110	105	30	19	261	35	64	132	12	14	254	65	1101
16:45	88	109	35	29	241	39	61	122	14	17	273	80	1108
17:00	96	115	35	30	217	49	61	140	12	12	207	79	1053
17:15	107	114	30	23	310	42	59	132	9	15	347	74	1262
17:30	76	78	26	34	303	41	58	105	14	15	267	78	1095
17:45	83	91	28	20	201	44	61	107	10	20	220	71	956

Total Volume:	709	774	249	197	2067	334	481	961	94	129	2091	596	8682
Approach %	41%	45%	14%	8%	80%	13%	31%	63%	6%	5%	74%	21%	

Peak Hr Begin:	16:30												
PHV	401	443	130	101	1029	165	245	526	47	58	1081	298	4524
PHF	0.970			0.863			0.960			0.824			0.896

Pedestrian/Bicycle Count Report

Location ID: 4
 North/South: Pioneer Boulevard
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	2	2	0
7:15	0	0	0	0	2	0	1	0
7:30	1	0	2	0	0	1	0	0
7:45	0	0	0	0	1	0	1	0
8:00	1	0	1	0	1	0	0	0
8:15	0	0	0	0	1	3	0	0
8:30	0	0	0	0	1	0	0	2
8:45	0	0	0	2	1	0	2	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	1	0	0	4	0	4	0
16:15	4	2	0	0	2	0	4	1
16:30	0	1	0	0	3	2	3	1
16:45	0	3	0	1	4	2	2	1
17:00	3	1	4	0	4	0	2	0
17:15	2	0	0	0	0	0	1	0
17:30	3	0	1	0	2	0	1	1
17:45	0	1	0	0	0	0	4	0

Turning Movement Count Report AM

Location ID: 5
 North/South: I-5 Southbound Ramps
 East/West: Imperial Highway

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	31	28	105	0	222	3	0	0	0	54	218	0	661
7:15	27	14	71	0	281	0	0	0	0	63	271	0	727
7:30	45	19	96	0	231	1	0	0	0	72	259	0	723
7:45	52	34	130	0	290	3	0	0	0	54	399	0	962
8:00	40	26	110	0	238	5	0	0	0	54	313	0	786
8:15	30	28	100	0	259	1	0	0	0	54	219	0	691
8:30	26	11	86	0	193	3	0	0	0	55	228	0	602
8:45	36	32	93	0	267	4	0	0	0	70	241	0	743

Total Volume:	287	192	791	0	1981	20	0	0	0	476	2148	0	5895
Approach %	23%	15%	62%	0%	99%	1%	0%	0%	0%	18%	82%	0%	

Peak Hr Begin:	7:15												
PHV	164	93	407	0	1040	9	0	0	0	243	1242	0	3198
PHF	0.769			0.895			0.000			0.820			0.831

Turning Movement Count Report PM

Location ID: 5
 North/South: I-5 Southbound Ramps
 East/West: Imperial Highway

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	29	31	63	0	249	4	0	0	0	50	382	0	808
16:15	40	34	67	0	312	3	0	0	0	37	328	0	821
16:30	44	35	59	0	232	4	0	0	0	44	342	0	760
16:45	34	22	76	0	327	2	0	0	0	49	368	0	878
17:00	31	27	70	0	287	2	0	0	0	52	296	0	765
17:15	37	39	75	0	304	0	0	0	0	57	396	0	908
17:30	49	23	54	0	276	2	0	0	0	49	343	0	796
17:45	51	18	59	0	254	7	0	0	0	38	314	0	741

Total Volume:	315	229	523	0	2241	24	0	0	0	376	2769	0	6477
Approach %	30%	21%	49%	0%	99%	1%	0%	0%	0%	12%	88%	0%	

Peak Hr Begin:	16:45												
PHV	151	111	275	0	1194	6	0	0	0	207	1403	0	3347
PHF	0.889			0.912			0.000			0.889			0.922

Pedestrian/Bicycle Count Report

Location ID: 5
 North/South: I-5 Southbound Ramps
 East/West: Imperial Highway

Date: 02/10/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	2	0	0	0	1	2	0	0
7:45	0	0	0	0	0	1	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	1	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	1	0	0	0
17:15	0	0	0	0	1	0	0	0
17:30	0	0	0	0	4	0	0	0
17:45	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 6
 North/South: I-5 Northbound Ramps
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	Totals:
7:00	0	0	0	156	236	1	1	32	10	4	302	34	776
7:15	0	0	0	100	253	0	5	29	12	6	291	28	724
7:30	0	0	0	117	270	0	6	40	21	5	363	20	842
7:45	0	0	0	117	258	0	1	30	23	7	488	24	948
8:00	0	0	0	105	212	1	3	19	19	4	366	18	747
8:15	0	0	0	93	251	0	1	14	19	4	375	20	777
8:30	0	0	0	101	230	0	1	16	21	2	288	20	679
8:45	0	0	0	90	196	2	1	18	17	7	313	15	659

Total Volume:	0	0	0	879	1906	4	19	198	142	39	2786	179	6152
Approach %	0%	0%	0%	32%	68%	0%	5%	55%	40%	1%	93%	6%	

Peak Hr Begin:	7:30												
PHV	0	0	0	432	991	1	11	103	82	20	1592	82	3314
PHF	0.000			0.920			0.731			0.816			0.874

Turning Movement Count Report PM

Location ID: 6
 North/South: I-5 Northbound Ramps
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	0	0	143	309	0	2	31	20	3	347	37	892
16:15	0	0	0	122	241	0	4	32	18	6	435	20	878
16:30	0	0	0	141	260	2	3	30	26	7	390	33	892
16:45	0	0	0	135	251	2	4	26	28	9	337	43	835
17:00	0	0	0	169	274	1	5	42	26	8	422	31	978
17:15	0	0	0	189	300	1	2	26	17	6	318	42	901
17:30	0	0	0	140	273	1	1	31	41	9	357	39	892
17:45	0	0	0	135	247	1	3	23	28	10	408	36	891

Total Volume:	0	0	0	1174	2155	8	24	241	204	58	3014	281	7159
Approach %	0%	0%	0%	35%	65%	0%	5%	51%	43%	2%	90%	8%	

Peak Hr Begin:	17:00												
PHV	0	0	0	633	1094	4	11	122	112	33	1505	148	3662
PHF	0.000			0.883			0.839			0.914			0.936

Pedestrian/Bicycle Count Report

Location ID: 6
 North/South: I-5 Northbound Ramps
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	1	1	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	2	1	1	0
7:45	0	0	0	0	3	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	1	2	0	0
8:30	0	0	0	0	0	0	0	1
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	1	1	0	0
16:15	0	0	0	0	3	1	0	0
16:30	0	0	0	0	1	0	0	0
16:45	0	0	0	0	1	3	0	0
17:00	0	0	0	0	0	1	0	0
17:15	0	0	0	0	1	0	0	1
17:30	0	0	0	0	6	1	0	0
17:45	0	0	0	0	1	0	0	0

Turning Movement Count Report AM

Location ID: 7
 North/South: Kalnor Avenue
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	2	0	2	2	377	1	6	0	5	6	261	5	667
7:15	0	1	5	0	334	3	2	1	2	6	258	6	618
7:30	1	0	2	4	345	2	11	3	0	12	318	4	702
7:45	3	4	5	6	270	4	4	1	2	5	405	11	720
8:00	2	1	8	15	286	5	4	2	5	7	296	10	641
8:15	4	2	7	10	304	2	5	1	4	5	314	4	662
8:30	8	1	6	7	307	6	2	4	3	4	247	7	602
8:45	13	4	7	17	236	1	3	3	4	5	255	7	555

Total Volume:	33	13	42	61	2459	24	37	15	25	50	2354	54	5167
Approach %	38%	15%	48%	2%	97%	1%	48%	19%	32%	2%	96%	2%	

Peak Hr Begin:	7:30												
PHV	10	7	22	35	1205	13	24	7	11	29	1333	29	2725
PHF	0.750			0.892			0.750			0.826			0.946

Turning Movement Count Report PM

Location ID: 7
 North/South: Kalnor Avenue
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	14	6	21	28	373	10	6	1	3	4	296	17	779
16:15	26	3	21	14	326	6	3	2	3	5	304	13	726
16:30	19	5	13	24	310	17	6	3	6	4	293	13	713
16:45	19	5	19	32	368	8	3	3	1	5	278	18	759
17:00	19	4	17	28	395	10	6	3	5	9	270	17	783
17:15	14	6	16	20	416	3	6	8	3	6	313	24	835
17:30	12	5	27	21	352	4	7	2	3	3	268	16	720
17:45	22	5	17	22	294	9	5	4	3	5	273	18	677

Total Volume:	145	39	151	189	2834	67	42	26	27	41	2295	136	5992
Approach %	43%	12%	45%	6%	92%	2%	44%	27%	28%	2%	93%	6%	

Peak Hr Begin:	16:45												
PHV	64	20	79	101	1531	25	22	16	12	23	1129	75	3097
PHF	0.926			0.944			0.735			0.894			0.927

Pedestrian/Bicycle Count Report

Location ID: 7
 North/South: Kalnor Avenue
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	2	0	2	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	2	0	0	0	1	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	1	0	1	0	0	0
8:15	0	0	1	0	0	1	0	0
8:30	0	0	0	0	2	0	0	0
8:45	0	0	1	0	1	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	4	1	0	0	2	1	0	0
16:15	2	1	1	0	3	0	0	0
16:30	0	1	0	0	5	0	0	0
16:45	2	0	0	0	0	2	0	0
17:00	1	0	0	0	3	0	0	0
17:15	2	1	2	0	4	0	0	0
17:30	3	0	6	0	1	0	2	0
17:45	2	0	2	0	4	0	0	0

Turning Movement Count Report AM

Location ID: 8
 North/South: Norwalk Boulevard
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	28	102	21	7	339	24	21	110	16	8	227	27	930
7:15	32	92	18	8	295	19	17	127	13	11	237	35	904
7:30	31	85	22	7	307	37	21	132	19	19	265	42	987
7:45	27	135	28	13	245	30	39	193	20	16	332	52	1130
8:00	21	115	27	9	258	24	28	140	26	24	286	28	986
8:15	26	107	32	9	282	18	23	118	20	16	272	28	951
8:30	20	60	14	16	280	28	26	126	22	14	224	31	861
8:45	27	84	23	14	228	25	22	111	17	22	233	34	840

Total Volume:	212	780	185	83	2234	205	197	1057	153	130	2076	277	7589
Approach %	18%	66%	16%	3%	89%	8%	14%	75%	11%	5%	84%	11%	

Peak Hr Begin:	7:30												
PHV	105	442	109	38	1092	109	111	583	85	75	1155	150	4054
PHF	0.863			0.882			0.773			0.863			0.897

Turning Movement Count Report PM

Location ID: 8
 North/South: Norwalk Boulevard
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	53	175	25	20	314	40	34	151	26	18	253	42	1151
16:15	38	157	31	20	282	56	37	108	27	23	261	55	1095
16:30	40	161	28	19	289	62	37	121	32	22	227	49	1087
16:45	49	149	37	23	295	50	32	171	40	11	257	40	1154
17:00	49	192	26	18	379	57	29	132	29	18	257	40	1226
17:15	35	168	28	25	359	51	32	133	32	12	264	31	1170
17:30	32	166	23	18	327	64	26	103	34	15	265	45	1118
17:45	42	171	39	27	241	59	24	150	37	20	210	37	1057

Total Volume:	338	1339	237	170	2486	439	251	1069	257	139	1994	339	9058
Approach %	18%	70%	12%	5%	80%	14%	16%	68%	16%	6%	81%	14%	

Peak Hr Begin:	16:45												
PHV	165	675	114	84	1360	222	119	539	135	56	1043	156	4668
PHF	0.893			0.917			0.816			0.965			0.952

Pedestrian/Bicycle Count Report

Location ID: 8
 North/South: Norwalk Boulevard
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	0	0	1	2	0	0
7:15	3	1	1	0	1	0	2	0
7:30	3	1	1	0	3	0	1	0
7:45	1	0	0	0	0	0	1	0
8:00	1	0	1	0	2	0	0	1
8:15	4	0	0	0	5	1	0	0
8:30	3	0	4	0	4	0	3	0
8:45	0	0	4	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	6	1	4	1	4	0	0	0
16:15	6	0	14	0	4	2	3	0
16:30	8	2	1	0	2	0	1	0
16:45	6	0	4	0	2	2	1	0
17:00	1	0	6	0	3	0	1	0
17:15	5	1	1	0	9	0	1	0
17:30	5	0	2	0	0	0	2	0
17:45	3	1	1	1	3	0	0	1

Turning Movement Count Report AM

Location ID: 9
 North/South: Avenida Manuel Salinas
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	10	4	14	18	339	1	0	4	1	5	226	10	632
7:15	7	3	18	19	302	1	1	3	0	12	245	6	617
7:30	9	6	5	18	328	3	0	5	1	15	257	10	657
7:45	8	6	14	24	309	6	0	4	0	40	356	7	774
8:00	4	4	14	10	306	2	2	3	0	27	282	12	666
8:15	2	2	12	12	270	2	0	0	5	15	279	13	612
8:30	6	3	13	9	291	2	3	0	5	15	228	4	579
8:45	7	2	6	14	251	5	3	0	2	16	247	7	560

Total Volume:	53	30	96	124	2396	22	9	19	14	145	2120	69	5097
Approach %	30%	17%	54%	5%	94%	1%	21%	45%	33%	6%	91%	3%	

Peak Hr Begin:	7:15												
PHV	28	19	51	71	1245	12	3	15	1	94	1140	35	2714
PHF	0.875			0.951			0.792			0.787			0.877

Turning Movement Count Report PM

Location ID: 9
 North/South: Avenida Manuel Salinas
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	13	3	10	15	380	8	5	1	10	5	338	20	808
16:15	7	6	13	12	291	8	5	4	7	3	295	11	662
16:30	12	3	6	22	364	7	3	4	8	5	252	22	708
16:45	8	4	17	19	334	10	1	3	14	7	270	17	704
17:00	14	4	7	15	384	8	13	5	60	3	274	16	803
17:15	13	3	11	17	418	12	0	4	9	4	329	12	832
17:30	11	4	7	16	345	6	2	2	7	2	257	13	672
17:45	9	5	11	21	310	10	4	1	6	1	277	14	669

Total Volume:	87	32	82	137	2826	69	33	24	121	30	2292	125	5858
Approach %	43%	16%	41%	5%	93%	2%	19%	13%	68%	1%	94%	5%	

Peak Hr Begin:	16:30												
PHV	47	14	41	73	1500	37	17	16	91	19	1125	67	3047
PHF	0.879			0.900			0.397			0.878			0.916

Pedestrian/Bicycle Count Report

Location ID: 9
 North/South: Avenida Manuel Salinas
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	2	0	0	0	0	1	1	0
7:15	4	1	0	0	0	0	2	0
7:30	2	0	0	0	2	2	1	0
7:45	3	0	0	0	2	0	1	0
8:00	1	0	0	0	1	0	0	0
8:15	0	0	0	0	2	0	1	0
8:30	1	0	1	0	1	0	1	0
8:45	3	1	0	0	1	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	1	0	1	0	4	0	0	0
16:15	3	0	2	1	6	2	3	2
16:30	2	1	0	0	0	1	20	0
16:45	0	0	0	0	1	1	3	0
17:00	3	0	0	0	6	0	0	0
17:15	2	0	0	0	2	0	3	0
17:30	2	0	0	0	3	1	16	0
17:45	2	0	0	0	2	0	1	0

Turning Movement Count Report AM

Location ID: 10
 North/South: Volunteer Avenue
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	9	6	11	10	349	9	4	4	7	23	221	4	657
7:15	4	13	10	4	330	10	4	2	4	20	245	0	646
7:30	8	14	11	7	342	9	4	3	4	30	237	0	669
7:45	7	15	12	5	308	19	5	5	14	55	321	1	767
8:00	2	7	16	11	301	8	6	3	7	32	270	1	664
8:15	7	1	10	10	279	6	3	4	12	24	282	0	638
8:30	2	5	8	4	292	13	3	2	12	18	235	1	595
8:45	6	2	6	6	254	6	7	3	22	20	226	0	558

Total Volume:	45	63	84	57	2455	80	36	26	82	222	2037	7	5194
Approach %	23%	33%	44%	2%	95%	3%	25%	18%	57%	10%	90%	0%	

Peak Hr Begin:	7:15												
PHV	21	49	49	27	1281	46	19	13	29	137	1073	2	2746
PHF	0.875			0.946			0.635			0.804			0.895

Turning Movement Count Report PM

Location ID: 10
 North/South: Volunteer Avenue
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	6	5	7	7	372	29	12	8	30	14	334	2	826
16:15	6	2	6	14	306	28	8	8	13	7	313	6	717
16:30	4	2	15	19	355	41	9	5	15	8	251	3	727
16:45	8	4	9	16	363	32	11	14	30	12	272	5	776
17:00	6	2	8	17	362	43	27	22	47	6	274	3	817
17:15	3	3	17	24	421	46	6	3	19	8	332	6	888
17:30	4	6	9	14	329	34	13	10	25	7	268	3	722
17:45	5	6	11	16	332	31	10	5	17	3	280	6	722

Total Volume:	42	30	82	127	2840	284	96	75	196	65	2324	34	6195
Approach %	27%	19%	53%	4%	87%	9%	26%	20%	53%	3%	96%	1%	

Peak Hr Begin:	16:30												
PHV	21	11	49	76	1501	162	53	44	111	34	1129	17	3208
PHF	0.880			0.885			0.542			0.853			0.903

Pedestrian/Bicycle Count Report

Location ID: 10
 North/South: Volunteer Avenue
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	0	0	2	1	0	0
7:15	2	1	2	0	2	0	1	0
7:30	1	0	3	0	5	1	0	0
7:45	3	0	1	0	4	0	0	0
8:00	2	0	1	0	0	0	0	0
8:15	3	0	3	0	3	0	0	0
8:30	5	0	0	0	3	0	0	0
8:45	2	1	0	0	2	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	6	0	2	0	1	0	0	0
16:15	5	2	0	0	3	0	0	0
16:30	2	0	2	0	1	1	0	0
16:45	3	0	1	0	2	1	0	0
17:00	3	0	1	0	5	0	2	0
17:15	4	0	1	0	2	0	0	1
17:30	1	1	0	0	1	0	1	0
17:45	2	1	1	0	2	0	0	1

Turning Movement Count Report AM

Location ID: 11
 North/South: Bloomfield Avenue
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	28	107	15	14	290	60	45	140	28	12	158	46	943
7:15	25	124	14	17	277	75	68	139	34	12	182	45	1012
7:30	22	143	24	16	292	78	92	188	25	8	190	35	1113
7:45	33	123	17	29	288	94	79	214	20	15	217	67	1196
8:00	23	112	15	26	261	76	72	195	16	12	206	51	1065
8:15	28	95	35	22	235	72	63	159	27	17	196	38	987
8:30	22	121	18	24	274	80	68	130	28	10	153	33	961
8:45	19	78	23	18	213	73	54	152	21	16	180	46	893

Total Volume:	200	903	161	166	2130	608	541	1317	199	102	1482	361	8170
Approach %	16%	71%	13%	6%	73%	21%	26%	64%	10%	5%	76%	19%	

Peak Hr Begin:	7:15												
PHV	103	502	70	88	1118	323	311	736	95	47	795	198	4386
PHF	0.893			0.930			0.912			0.870			0.917

Turning Movement Count Report PM

Location ID: 11
 North/South: Bloomfield Avenue
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	Totals:
16:00	79	89	36	25	302	32	107	149	26	13	265	37	1160
16:15	83	114	28	15	193	40	92	165	35	9	287	51	1112
16:30	89	90	53	18	261	41	98	157	36	11	254	41	1149
16:45	100	89	44	20	269	30	76	148	31	11	229	40	1087
17:00	90	84	40	11	292	31	100	180	37	13	254	54	1186
17:15	87	99	42	12	293	38	96	152	26	16	259	42	1162
17:30	81	105	35	15	278	35	86	146	45	8	268	40	1142
17:45	71	92	31	13	240	49	90	120	38	19	265	51	1079

Total Volume:	680	762	309	129	2128	296	745	1217	274	100	2081	356	9077
Approach %	39%	44%	18%	5%	83%	12%	33%	54%	12%	4%	82%	14%	

Peak Hr Begin:	16:30												
PHV	366	362	179	61	1115	140	370	637	130	51	996	177	4584
PHF	0.973			0.959			0.897			0.953			0.966

Pedestrian/Bicycle Count Report

Location ID: 11
 North/South: Bloomfield Avenue
 East/West: Imperial Highway

Date: 02/09/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	2	1	6	0	3	0	1	1
7:15	1	1	2	0	1	0	0	1
7:30	2	0	0	0	1	0	0	0
7:45	1	0	1	1	0	1	0	0
8:00	1	0	1	0	1	0	3	0
8:15	1	0	2	0	0	0	5	0
8:30	2	0	1	0	0	0	1	0
8:45	0	0	1	0	2	0	1	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	1	0	2	1	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	2	1	0	0	0
16:45	0	0	0	1	0	0	0	0
17:00	2	0	1	1	2	0	3	0
17:15	1	0	0	0	0	0	1	0
17:30	0	0	4	0	1	0	1	0
17:45	1	0	1	0	1	0	2	0

Turning Movement Count Report AM

Location ID: 12
 North/South: Norwalk Boulevard
 East/West: Civic Center Drive

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	1	80	7	18	0	52	68	125	0	0	0	0	351
7:15	0	126	10	8	0	62	85	147	0	0	0	0	438
7:30	0	131	23	18	1	78	137	193	0	0	0	0	581
7:45	1	175	18	27	0	81	167	256	0	1	0	0	726
8:00	2	150	20	21	3	63	133	172	0	0	0	0	564
8:15	1	157	24	15	0	58	106	178	0	0	0	1	540
8:30	1	129	17	13	0	36	78	190	0	0	0	0	464
8:45	1	107	19	10	0	40	73	176	0	0	0	0	426

Total Volume:	7	1055	138	130	4	470	847	1437	0	1	0	1	4090
Approach %	1%	88%	12%	22%	1%	78%	37%	63%	0%	50%	0%	50%	

Peak Hr Begin:	7:30												
PHV	4	613	85	81	4	280	543	799	0	1	0	1	2411
PHF	0.905			0.845			0.793			0.500			0.830

Turning Movement Count Report PM

Location ID: 12
 North/South: Norwalk Boulevard
 East/West: Civic Center Drive

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	229	22	15	0	82	74	186	0	0	0	1	609
16:15	1	184	29	20	0	86	86	163	0	1	0	1	571
16:30	0	185	25	22	0	113	62	193	0	3	0	3	606
16:45	0	231	32	17	0	111	83	211	0	2	0	0	687
17:00	0	223	25	39	0	192	95	165	0	2	1	1	743
17:15	0	266	25	20	0	86	74	212	0	6	1	0	690
17:30	0	211	25	20	0	80	105	184	0	2	0	2	629
17:45	0	176	28	14	0	80	89	180	0	2	0	0	569

Total Volume:	1	1705	211	167	0	830	668	1494	0	18	2	8	5104
Approach %	0%	89%	11%	17%	0%	83%	31%	69%	0%	64%	7%	29%	

Peak Hr Begin:	16:45												
PHV	0	931	107	96	0	469	357	772	0	12	2	3	2749
PHF	0.892			0.611			0.960			0.607			0.925

Pedestrian/Bicycle Count Report

Location ID: 12
 North/South: Norwalk Boulevard
 East/West: Civic Center Drive

Date: 02/10/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	4	0	2	0	0	0	1	0
7:15	2	1	2	0	0	0	8	0
7:30	1	0	0	0	0	0	1	0
7:45	2	0	0	0	0	0	8	0
8:00	3	0	0	2	0	0	2	0
8:15	1	1	0	0	0	0	11	1
8:30	4	0	1	0	0	0	4	0
8:45	3	0	3	1	0	0	11	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	4	0	0	0	6	0
16:15	7	0	3	0	0	0	10	0
16:30	3	0	3	0	0	0	6	1
16:45	1	0	1	0	0	0	10	1
17:00	7	1	3	0	0	0	10	1
17:15	8	0	4	0	0	0	10	0
17:30	2	0	3	2	0	0	3	1
17:45	0	0	1	0	0	0	2	0

Turning Movement Count Report AM

Location ID: 13
 North/South: Courthouse-AMC Theater
 East/West: Civic Center Drive

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	1	0	0	2	68	0	0	0	0	0	70	7	148
7:15	0	0	0	2	69	0	0	0	0	0	82	8	161
7:30	1	0	2	8	98	0	0	0	0	0	128	19	256
7:45	2	0	1	7	111	0	0	0	0	0	153	32	306
8:00	3	0	1	3	83	0	0	0	1	0	117	26	234
8:15	1	0	0	4	72	0	0	0	0	0	108	28	213
8:30	2	0	0	4	53	0	0	0	0	0	64	26	149
8:45	2	0	1	8	46	0	1	0	0	0	65	27	150

Total Volume:	12	0	5	38	600	0	1	0	1	0	787	173	1617
Approach %	71%	0%	29%	6%	94%	0%	50%	0%	50%	0%	82%	18%	

Peak Hr Begin:	7:30												
PHV	7	0	4	22	364	0	0	0	1	0	506	105	1009
PHF	0.688			0.818			0.250			0.826			0.824

Turning Movement Count Report PM

Location ID: 13
 North/South: Courthouse-AMC Theater
 East/West: Civic Center Drive

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	7	0	3	2	86	0	2	0	5	0	87	3	195
16:15	9	0	1	1	97	0	3	0	0	0	96	3	210
16:30	12	0	4	0	120	0	1	0	2	0	80	3	222
16:45	7	0	1	2	124	0	0	0	0	0	108	5	247
17:00	34	0	1	1	193	0	2	0	1	0	104	2	338
17:15	2	0	2	0	107	0	2	0	2	0	96	2	213
17:30	6	0	0	0	92	0	2	1	1	0	111	4	217
17:45	8	0	0	0	82	0	3	0	1	0	102	4	200

Total Volume:	85	0	12	6	901	0	15	1	12	0	784	26	1842
Approach %	88%	0%	12%	1%	99%	0%	54%	4%	43%	0%	97%	3%	

Peak Hr Begin:	16:30												
PHV	55	0	8	3	544	0	5	0	5	0	388	12	1020
PHF	0.450			0.705			0.625			0.885			0.754

Pedestrian/Bicycle Count Report

Location ID: 13
 North/South: Courthouse-AMC Theater
 East/West: Civic Center Drive

Date: 02/10/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	0	0	0	0	0	0
7:15	0	0	1	0	3	0	0	0
7:30	1	0	1	0	0	0	0	0
7:45	1	0	0	0	0	0	0	0
8:00	1	1	1	0	0	1	0	0
8:15	0	1	1	0	0	0	0	0
8:30	2	0	0	0	0	0	0	0
8:45	1	1	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	1	0	1	0	0	0	0	0
16:15	3	0	11	0	4	0	0	0
16:30	4	0	2	0	4	0	1	0
16:45	1	0	1	0	2	0	0	0
17:00	5	1	10	0	4	0	0	0
17:15	2	0	5	0	2	0	0	0
17:30	1	0	2	0	0	0	0	0
17:45	0	0	12	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 14
 North/South: Avenida Manuel Salinas
 East/West: Civic Center Drive

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	2	65	0	5	1	7	0	69	1	150
7:15	1	0	3	5	64	1	3	1	7	2	81	3	171
7:30	4	0	4	5	95	0	8	1	7	4	127	3	258
7:45	4	1	4	6	102	4	8	1	10	1	142	8	291
8:00	6	0	5	5	68	2	3	1	11	5	108	8	222
8:15	5	0	1	2	55	3	2	0	11	1	97	6	183
8:30	1	0	1	5	49	0	4	1	8	0	60	5	134
8:45	7	0	1	2	47	1	2	1	4	3	56	7	131

Total Volume:	28	1	19	32	545	11	35	7	65	16	740	41	1540
Approach %	58%	2%	40%	5%	93%	2%	33%	7%	61%	2%	93%	5%	

Peak Hr Begin:	7:30												
PHV	19	1	14	18	320	9	21	3	39	11	474	25	954
PHF	0.773			0.775			0.829			0.844			0.820

Turning Movement Count Report PM

Location ID: 14
 North/South: Avenida Manuel Salinas
 East/West: Civic Center Drive

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	5	2	0	2	83	4	2	0	3	9	75	4	189
16:15	8	2	4	2	84	4	4	1	10	7	96	2	224
16:30	8	2	6	0	97	9	6	1	12	5	80	2	228
16:45	10	2	5	5	111	5	4	0	7	11	92	4	256
17:00	23	1	9	1	156	5	9	0	7	6	101	4	322
17:15	9	0	4	3	90	11	4	0	5	4	89	1	220
17:30	4	2	1	3	81	14	8	2	7	3	109	3	237
17:45	4	3	8	3	70	9	4	2	8	9	93	0	213

Total Volume:	71	14	37	19	772	61	41	6	59	54	735	20	1889
Approach %	58%	11%	30%	2%	91%	7%	39%	6%	56%	7%	91%	2%	

Peak Hr Begin:	16:45												
PHV	46	5	19	12	438	35	25	2	26	24	391	12	1035
PHF	0.530			0.748			0.779			0.928			0.804

Pedestrian/Bicycle Count Report

Location ID: 14
 North/South: Avenida Manuel Salinas
 East/West: Civic Center Drive

Date: 02/10/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	0	0	1	0	0	0
7:15	1	0	0	0	3	0	0	0
7:30	1	0	0	0	1	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	1	0	0	0	0	2	0	0
8:15	2	1	0	0	0	0	0	0
8:30	2	0	0	0	0	0	0	0
8:45	1	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	7	0	0	0	0	0	1	0
16:15	8	0	0	0	2	0	0	0
16:30	3	0	0	0	1	0	0	0
16:45	1	0	0	0	1	0	0	0
17:00	3	0	0	0	2	0	1	0
17:15	5	0	0	0	1	1	1	0
17:30	1	0	0	0	0	0	2	0
17:45	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 15
 North/South: Volunteer Avenue
 East/West: Civic Center Drive

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	7	2	1	8	47	1	3	3	10	1	65	13	161
7:15	11	6	6	1	45	0	2	4	11	3	74	8	171
7:30	17	3	3	4	65	2	5	1	14	13	99	23	249
7:45	25	14	9	6	69	1	2	9	18	12	107	38	310
8:00	10	4	7	4	61	1	3	2	6	4	89	30	221
8:15	12	8	14	6	40	2	1	4	5	8	83	11	194
8:30	11	6	7	5	35	1	4	3	5	5	54	5	141
8:45	10	2	3	6	36	1	2	0	1	3	48	11	123

Total Volume:	103	45	50	40	398	9	22	26	70	49	619	139	1570
Approach %	52%	23%	25%	9%	89%	2%	19%	22%	59%	6%	77%	17%	

Peak Hr Begin:	7:30												
PHV	64	29	33	20	235	6	11	16	43	37	378	102	974
PHF	0.656			0.859			0.603			0.823			0.785

Turning Movement Count Report PM

Location ID: 15
 North/South: Volunteer Avenue
 East/West: Civic Center Drive

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	23	1	2	7	58	1	2	0	2	3	74	3	176
16:15	16	5	3	3	73	3	1	2	5	9	88	5	213
16:30	25	2	6	2	72	2	2	5	6	10	80	3	215
16:45	38	6	9	4	74	1	0	4	7	10	78	5	236
17:00	67	4	11	6	83	0	1	3	5	8	114	6	308
17:15	21	3	11	1	78	4	2	1	3	5	95	5	229
17:30	16	5	5	4	76	4	0	4	4	14	91	9	232
17:45	11	5	6	5	66	5	1	3	3	6	90	7	208

Total Volume:	217	31	53	32	580	20	9	22	35	65	710	43	1817
Approach %	72%	10%	18%	5%	92%	3%	14%	33%	53%	8%	87%	5%	

Peak Hr Begin:	16:45												
PHV	142	18	36	15	311	9	3	12	19	37	378	25	1005
PHF	0.598			0.941			0.773			0.859			0.816

Pedestrian/Bicycle Count Report

Location ID: 15
 North/South: Volunteer Avenue
 East/West: Civic Center Drive

Date: 02/10/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	0	0	1	0	0	0
7:15	0	0	1	0	1	0	0	0
7:30	0	0	0	0	2	0	0	0
7:45	0	0	2	0	0	0	1	0
8:00	1	0	0	0	1	0	2	2
8:15	0	0	1	0	0	0	0	0
8:30	1	0	1	0	0	0	1	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	1	0	1	0	0	0	0	0
16:15	3	0	2	0	1	0	2	0
16:30	2	0	2	0	0	0	2	1
16:45	1	0	0	0	1	0	2	0
17:00	0	1	0	0	2	0	1	0
17:15	4	0	2	0	1	0	0	0
17:30	1	0	5	0	0	0	0	0
17:45	0	0	2	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 16
 North/South: Bloomfield Avenue
 East/West: Civic Center Drive

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	37	130	2	2	5	9	1	178	16	13	0	26	419
7:15	28	158	0	3	5	8	0	198	17	15	3	60	495
7:30	56	165	1	1	10	9	1	223	31	23	4	82	606
7:45	59	148	1	2	8	8	4	272	51	23	4	69	649
8:00	38	141	0	2	9	6	2	172	19	15	1	77	482
8:15	38	149	4	3	2	3	0	204	10	12	3	46	474
8:30	24	176	4	1	1	4	2	168	15	9	1	46	451
8:45	25	129	2	0	5	0	1	196	13	7	4	40	422

Total Volume:	305	1196	14	14	45	47	11	1611	172	117	20	446	3998
Approach %	20%	79%	1%	13%	42%	44%	1%	90%	10%	20%	3%	77%	

Peak Hr Begin:	7:15												
PHV	181	612	2	8	32	31	7	865	118	76	12	288	2232
PHF	0.895			0.888			0.757			0.862			0.860

Turning Movement Count Report PM

Location ID: 16
 North/South: Bloomfield Avenue
 East/West: Civic Center Drive

Date: 02/09/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	29	123	1	1	5	1	1	233	17	33	3	61	508
16:15	12	115	1	2	1	2	3	215	20	27	3	66	467
16:30	27	110	0	0	2	4	2	216	21	38	5	71	496
16:45	13	120	2	1	4	6	6	203	16	37	9	62	479
17:00	14	112	1	2	4	1	3	209	14	38	6	87	491
17:15	13	129	0	3	0	0	4	184	10	32	2	72	449
17:30	10	105	0	3	0	5	8	204	29	34	10	72	480
17:45	21	110	2	5	4	10	2	176	17	23	4	60	434

Total Volume:	139	924	7	17	20	29	29	1640	144	262	42	551	3804
Approach %	13%	86%	1%	26%	30%	44%	2%	90%	8%	31%	5%	64%	

Peak Hr Begin:	16:00												
PHV	81	468	4	4	12	13	12	867	74	135	20	260	1950
PHF	0.904			0.659			0.949			0.910			0.960

Pedestrian/Bicycle Count Report

Location ID: 16
 North/South: Bloomfield Avenue
 East/West: Civic Center Drive

Date: 02/09/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	4	0	0	0	0	0	2	0
7:15	0	0	2	0	0	0	0	0
7:30	0	0	1	2	5	0	0	0
7:45	1	0	1	0	2	0	1	0
8:00	0	0	0	1	0	1	1	0
8:15	0	1	1	1	3	0	2	0
8:30	1	1	1	1	0	0	0	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	2	0	1	0	1	0
16:15	2	0	1	0	0	0	0	1
16:30	0	0	1	0	0	0	3	0
16:45	0	0	2	1	0	0	1	0
17:00	2	0	1	3	0	0	0	1
17:15	0	0	0	0	0	0	2	0
17:30	2	0	4	0	0	0	1	0
17:45	4	0	4	2	0	0	0	0

Turning Movement Count Report AM

Location ID: 17
 North/South: Norwalk Boulevard
 East/West: I-5 Northbound Ramp / Adoree Street

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	6	140	0	88	12	12	0	104	15	7	0	4	388
7:15	12	159	0	107	7	18	0	135	22	17	0	4	481
7:30	14	187	0	113	15	27	0	178	19	26	0	19	598
7:45	22	271	0	167	19	30	0	234	24	27	0	15	809
8:00	15	188	0	136	27	29	0	167	21	26	0	3	612
8:15	15	197	0	117	13	25	0	169	14	19	0	4	573
8:30	8	172	0	101	13	50	0	151	15	16	0	6	532
8:45	3	142	0	110	15	35	0	133	7	7	0	6	458

Total Volume:	95	1456	0	939	121	226	0	1271	137	145	0	61	4451
Approach %	6%	94%	0%	73%	9%	18%	0%	90%	10%	70%	0%	30%	

Peak Hr Begin:	7:30												
PHV	66	843	0	533	74	111	0	748	78	98	0	41	2592
PHF	0.776			0.831			0.800			0.772			0.801

Turning Movement Count Report PM

Location ID: 17
 North/South: Norwalk Boulevard
 East/West: I-5 Northbound Ramp / Adoree Street

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	27	290	0	88	34	42	0	170	25	18	0	4	698
16:15	14	252	0	81	22	21	0	191	18	23	0	7	629
16:30	14	283	0	80	24	35	0	181	20	15	0	5	657
16:45	24	322	0	75	23	35	0	216	15	19	0	3	732
17:00	39	395	0	75	24	40	0	187	22	10	0	3	795
17:15	19	331	0	80	41	38	0	200	20	14	0	5	748
17:30	21	260	0	82	27	36	0	203	33	18	0	9	689
17:45	18	252	0	60	25	35	0	211	28	13	0	5	647

Total Volume:	176	2385	0	621	220	282	0	1559	181	130	0	41	5595
Approach %	7%	93%	0%	55%	20%	25%	0%	90%	10%	76%	0%	24%	

Peak Hr Begin:	16:45												
PHV	103	1308	0	312	115	149	0	806	90	61	0	20	2964
PHF	0.813			0.906			0.949			0.750			0.932

Pedestrian/Bicycle Count Report

Location ID: 17
 North/South: Norwalk Boulevard
 East/West: I-5 Northbound Ramp / Adoree Street

Date: 02/10/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	1	0
7:15	0	0	0	0	0	0	2	0
7:30	0	0	0	0	0	0	1	1
7:45	0	0	0	0	0	0	1	0
8:00	0	0	0	2	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	1	2	0	0	2	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	1	0	0	0	0	1
16:15	0	0	1	0	0	0	1	0
16:30	0	0	3	0	0	0	2	0
16:45	0	0	2	0	0	0	2	1
17:00	0	0	1	0	0	0	7	1
17:15	0	1	4	1	0	0	0	0
17:30	0	0	2	2	0	0	0	1
17:45	0	0	1	1	0	0	0	0

Turning Movement Count Report AM

Location ID: 18
 North/South: Norwalk Boulevard / San Antonio Drive
 East/West: I-5 Southbound Ramp

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	123	37	0	0	0	44	119	0	12	45	2	382
7:15	0	136	51	0	0	0	51	147	0	14	63	8	470
7:30	0	181	67	0	0	0	67	199	0	18	62	6	600
7:45	0	258	61	0	0	0	51	256	0	24	58	8	716
8:00	0	190	54	0	0	0	56	183	0	20	62	15	580
8:15	0	181	59	0	0	0	56	160	0	28	54	8	546
8:30	0	178	52	0	0	0	52	164	0	16	64	3	529
8:45	0	136	61	0	0	0	32	125	0	18	70	10	452

Total Volume:	0	1383	442	0	0	0	409	1353	0	150	478	60	4275
Approach %	0%	76%	24%	0%	0%	0%	23%	77%	0%	22%	69%	9%	

Peak Hr Begin:	7:30												
PHV	0	810	241	0	0	0	230	798	0	90	236	37	2442
PHF	0.824			0.000			0.837			0.936			0.853

Turning Movement Count Report PM

Location ID: 18
 North/South: Norwalk Boulevard / San Antonio Drive
 East/West: I-5 Southbound Ramp

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	243	85	0	0	0	41	195	0	34	61	6	665
16:15	0	215	94	0	0	0	33	201	0	21	28	12	604
16:30	0	253	93	0	0	0	41	186	0	33	52	7	665
16:45	0	265	90	0	0	0	34	228	0	33	51	8	709
17:00	0	342	99	0	0	0	37	204	0	33	56	4	775
17:15	0	270	113	0	0	0	43	205	0	29	56	7	723
17:30	0	240	79	0	0	0	38	244	0	27	48	4	680
17:45	0	238	71	0	0	0	23	229	0	17	32	9	619

Total Volume:	0	2066	724	0	0	0	290	1692	0	227	384	57	5440
Approach %	0%	74%	26%	0%	0%	0%	15%	85%	0%	34%	57%	9%	

Peak Hr Begin:	16:45												
PHV	0	1117	381	0	0	0	152	881	0	122	211	23	2887
PHF	0.849			0.000			0.916			0.957			0.931

Pedestrian/Bicycle Count Report

Location ID: 18
 North/South: Norwalk Boulevard / San Antonio Drive
 East/West: I-5 Southbound Ramp

Date: 02/10/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	1	0
7:15	0	0	0	0	1	0	3	0
7:30	0	0	0	0	0	0	1	1
7:45	0	0	0	0	0	0	1	0
8:00	0	0	0	0	0	0	1	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	2	3	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	1
16:15	0	0	0	0	2	0	2	0
16:30	0	0	0	0	1	0	4	1
16:45	0	0	0	0	0	0	2	1
17:00	0	0	0	0	1	0	6	1
17:15	0	0	0	0	2	0	0	0
17:30	0	0	0	0	3	0	0	1
17:45	0	0	0	0	1	1	1	2

Turning Movement Count Report AM

Location ID: 19
 North/South: San Antonio Drive
 East/West: Firestone Boulevard

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	25	76	8	7	52	9	4	106	9	2	49	21	368
7:15	27	114	10	12	59	9	12	149	11	6	64	26	499
7:30	41	116	14	8	67	8	20	176	9	8	98	45	610
7:45	35	182	19	5	85	15	22	220	10	11	72	51	727
8:00	39	135	17	9	87	5	20	154	11	11	91	43	622
8:15	38	123	14	15	70	7	12	168	23	9	60	35	574
8:30	61	100	19	11	76	4	10	123	15	12	75	58	564
8:45	42	95	14	4	69	6	10	115	16	9	54	22	456

Total Volume:	308	941	115	71	565	63	110	1211	104	68	563	301	4420
Approach %	23%	69%	8%	10%	81%	9%	8%	85%	7%	7%	60%	32%	

Peak Hr Begin:	7:30												
PHV	153	556	64	37	309	35	74	718	53	39	321	174	2533
PHF	0.819			0.907			0.838			0.884			0.871

Turning Movement Count Report PM

Location ID: 19
 North/South: San Antonio Drive
 East/West: Firestone Boulevard

Date: 02/10/22
 City: Norwalk, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	43	177	11	18	88	13	12	153	20	10	85	42	672
16:15	35	195	8	18	70	9	13	142	18	18	86	43	655
16:30	48	179	10	14	82	6	9	157	18	5	88	43	659
16:45	34	208	15	18	112	19	19	220	22	14	81	40	802
17:00	54	207	13	8	78	10	14	147	23	14	88	56	712
17:15	55	228	18	15	85	13	14	206	23	12	68	44	781
17:30	41	185	14	17	83	17	8	172	18	10	78	51	694
17:45	44	166	1	19	68	19	20	190	15	12	65	34	653

Total Volume:	354	1545	90	127	666	106	109	1387	157	95	639	353	5628
Approach %	18%	78%	5%	14%	74%	12%	7%	84%	9%	9%	59%	32%	

Peak Hr Begin:	16:45												
PHV	184	828	60	58	358	59	55	745	86	50	315	191	2989
PHF	0.890			0.797			0.849			0.880			0.932

Pedestrian/Bicycle Count Report

Location ID: 19
 North/South: San Antonio Drive
 East/West: Firestone Boulevard

Date: 02/10/22
 City: Norwalk, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	0	0	2	0	1	0
7:15	1	0	1	0	0	0	2	0
7:30	2	0	0	0	0	1	0	0
7:45	0	0	1	0	1	0	0	0
8:00	0	1	1	0	0	1	0	1
8:15	1	0	2	0	0	0	1	0
8:30	2	0	2	0	0	0	0	0
8:45	3	0	1	1	0	0	2	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	1	0	2	1	0	1
16:15	8	0	4	0	3	0	2	1
16:30	1	2	3	0	0	0	2	0
16:45	1	0	0	0	2	0	2	1
17:00	3	0	3	0	4	0	4	0
17:15	5	1	1	1	0	0	0	0
17:30	5	0	0	2	0	0	0	0
17:45	2	0	2	0	0	0	1	0

Turning Movement Count Report Mid-Day

Location ID: 20
 North/South: Pioneer Boulevard / San Antonio Drive
 East/West: Rosecrans Avenue

Date: 02/10/22
 City: Norwalk, CA

Period	Southbound Pioneer Blvd				South-WB San Antonio Dr				Westbound Rosecrans Ave				Northbound Pioneer Blvd				Eastbound Rosecrans				Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
7:00	17	33	6	2	0	35	18	6	0	8	104	2	10	35	47	18	13	75	35	7	471
7:15	25	44	7	0	1	22	31	4	1	6	131	6	5	34	55	22	15	100	61	18	588
7:30	23	68	9	1	0	35	34	3	1	4	137	5	8	59	100	30	28	104	48	12	709
7:45	26	85	15	2	0	50	46	4	2	12	164	5	3	57	82	26	42	163	88	13	885
8:00	19	93	16	1	1	27	32	5	6	16	120	9	10	55	85	23	29	130	69	8	754
8:15	24	52	20	3	0	28	39	7	1	11	104	11	5	37	54	12	26	131	76	18	659
8:30	20	56	18	0	1	13	24	1	3	9	106	5	5	48	88	22	22	102	54	21	618
8:45	27	46	11	1	0	40	23	3	3	10	116	4	3	28	60	22	17	106	55	16	591
Total Volume:	181	477	102	10	3	250	247	33	17	76	982	47	49	353	571	175	192	911	486	113	5275
Approach %	24%	62%	13%	1%	1%	47%	46%	6%	2%	7%	88%	4%	4%	31%	50%	15%	11%	54%	29%	7%	

Peak Hr Begin:	7:30																				
PHV	92	298	60	7	1	140	151	19	10	43	525	30	26	208	321	91	125	528	281	51	3007

Period	Southbound Pioneer Blvd				South-WB San Antonio Dr				Westbound Rosecrans Ave				Northbound Pioneer Blvd				Eastbound Rosecrans				Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
4:00	54	91	24	1	3	65	58	4	3	11	122	11	8	43	87	23	22	155	51	23	859
4:15	48	115	18	3	2	58	61	4	5	12	130	12	4	49	110	23	21	141	46	29	891
4:30	42	115	23	1	2	54	40	6	3	12	134	7	6	69	74	38	26	143	35	14	844
4:45	38	94	20	5	5	75	65	3	6	14	135	12	10	38	87	36	21	155	56	22	897
5:00	44	99	20	1	1	85	68	2	0	12	149	9	10	42	76	25	31	156	47	24	901
5:15	38	115	16	2	2	91	46	3	2	11	119	11	6	40	100	32	27	138	45	30	874
5:30	50	119	15	4	1	69	69	6	5	20	138	12	8	45	90	28	24	142	48	28	921
5:45	48	111	24	3	3	41	62	7	3	18	157	14	10	47	99	31	33	144	49	26	930
Total Volume:	362	859	160	20	19	538	469	35	27	110	1084	88	62	373	723	236	205	1174	377	196	7117
Approach %	26%	61%	11%	1%	2%	51%	44%	3%	2%	8%	83%	7%	4%	27%	52%	17%	11%	60%	19%	10%	

Peak Hr Begin:	5:00																				
PHV	180	444	75	10	7	286	245	18	10	61	563	46	34	174	365	116	115	580	189	108	3626

Leg:	North Pioneer		North San Antonio		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	1	0	3	0	1	0
7:15	1	0	0	1	0	2	5	0	6	0
7:30	0	0	2	0	0	1	1	0	4	3
7:45	0	0	0	0	0	0	1	0	2	0
8:00	1	0	0	0	1	0	2	0	6	0
8:15	5	0	3	0	4	0	6	0	4	1
8:30	1	0	2	0	2	2	3	1	6	0
8:45	2	0	2	0	1	0	1	0	4	1

Leg:	North Pioneer		North San Antonio		East		South		West	
	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	3	0	4	1	5	1	6	1
16:15	0	0	1	0	5	0	1	0	2	0
16:30	2	0	2	0	2	1	6	0	10	0
16:45	5	0	2	0	3	0	2	1	12	0
17:00	2	0	0	0	1	2	9	0	6	0
17:15	3	0	1	0	0	1	2	0	4	2
17:30	2	0	1	0	3	0	2	0	11	0
17:45	6	0	5	0	1	0	4	0	3	0

ADT Volume Report

Imperial Highway east of Volunteer Avenue

Day: Wednesday, February 9, 2022

City: Norwalk, CA

Daily Totals	NB	SB	EB	WB	Total
	0	0	18172	19966	38138

AM	NB		SB		EB		WB		Total		PM	NB		SB		EB		WB		Total										
00:00					36		39		75		12:00					244		326		570										
00:15					47		38		85		12:15					270		274		544										
00:30					41		40		81		12:30					265		313		578										
00:45					39		163		39		156		78		319		12:45		273		1052		310		1223		583		2275	
01:00					28		24		52		13:00					296		292		588										
01:15					15		23		38		13:15					273		284		557										
01:30					21		34		55		13:30					241		318		559										
01:45					27		91		21		102		48		193		13:45		269		1079		290		1184		559		2263	
02:00					22		30		52		14:00					236		282		518										
02:15					40		36		76		14:15					316		300		616										
02:30					23		35		58		14:30					303		348		651										
02:45					28		113		39		140		67		253		14:45		299		1154		332		1262		631		2416	
03:00					27		39		66		15:00					327		344		671										
03:15					44		42		86		15:15					298		336		634										
03:30					39		57		96		15:30					376		356		732										
03:45					56		166		50		188		106		354		15:45		359		1360		336		1372		695		2732	
04:00					58		79		137		16:00					297		368		665										
04:15					65		87		152		16:15					314		312		626										
04:30					110		124		234		16:30					290		373		663										
04:45					139		372		132		422		271		794		16:45		312		1213		345		1398		657		2611	
05:00					124		194		318		17:00					355		368		723										
05:15					141		196		337		17:15					274		320		594										
05:30					184		172		356		17:30					342		342		684										
05:45					194		643		182		744		376		1387		17:45		317		1288		304		1334		621		2622	
06:00					184		233		417		18:00					283		323		606										
06:15					186		244		430		18:15					274		302		576										
06:30					226		299		525		18:30					256		296		552										
06:45					218		814		297		1073		515		1887		18:45		243		1056		229		1150		472		2206	
07:00					237		350		587		19:00					233		225		458										
07:15					272		382		654		19:15					245		214		459										
07:30					328		370		698		19:30					181		173		354										
07:45					271		1108		395		1497		666		2605		19:45		167		826		169		781		336		1607	
08:00					318		333		651		20:00					182		181		363										
08:15					297		309		606		20:15					304		141		445										
08:30					267		342		609		20:30					158		166		324										
08:45					234		1116		276		1260		510		2376		20:45		133		777		120		608		253		1385	
09:00					241		257		498		21:00					122		167		289										
09:15					231		275		506		21:15					119		109		228										
09:30					259		257		516		21:30					102		103		205										
09:45					207		938		241		1030		448		1968		21:45		98		441		101		480		199		921	
10:00					223		242		465		22:00					89		94		183										
10:15					220		240		460		22:15					75		84		159										
10:30					259		235		494		22:30					81		76		157										
10:45					217		919		269		986		486		1905		22:45		67		312		67		321		134		633	
11:00					245		254		499		23:00					54		49		103										
11:15					194		265		459		23:15					49		57		106										
11:30					280		276		556		23:30					56		42		98										
11:45					251		970		268		1063		519		2033		23:45		42		201		44		192		86		393	
Totals					7413		8661		16074		Totals					10759		11305		22064										
Split %					46.1%		53.9%		42.1%		Split %					48.8%		51.2%		57.9%										

Daily Totals	NB	SB	EB	WB	Total
	0	0	18172	19966	38138

AM Peak Hour	07:30	07:00	07:15	PM Peak Hour	15:00	16:30	15:00
AM Peak Hr Volume	1214	1497	2669	PM Peak Hr Volume	1360	1406	2732
AM Pk Hr Factor	0.925	0.947	0.956	PM Pk Hr Factor	0.904	0.942	0.933

ADT Volume Report

Imperial Highway west of Kalnor Avenue

Day: Wednesday, February 9, 2022

City: Norwalk, CA

Daily Totals	NB	SB	EB	WB	Total
	0	0	18112	20999	39111

AM	NB	SB	EB	WB	Total		PM	NB	SB	EB	WB	Total			
00:00			33	36	69		12:00			246	319	565			
00:15			40	37	77		12:15			241	287	528			
00:30			53	48	101		12:30			249	298	547			
00:45			29	155	27	148	12:45			292	1028	239	1143	531	2171
01:00			27	35	62		13:00			255	288	543			
01:15			26	40	66		13:15			249	277	526			
01:30			30	22	52		13:30			285	293	578			
01:45			49	132	35	132	13:45			292	1081	314	1172	606	2253
02:00			23	50	73		14:00			256	294	550			
02:15			42	41	83		14:15			266	283	549			
02:30			32	33	65		14:30			227	363	590			
02:45			42	139	23	147	14:45			294	1043	272	1212	566	2255
03:00			29	32	61		15:00			277	370	647			
03:15			25	47	72		15:15			342	330	672			
03:30			52	63	115		15:30			294	385	679			
03:45			65	171	48	190	15:45			385	1298	381	1466	766	2764
04:00			53	71	124		16:00			314	406	720			
04:15			81	122	203		16:15			320	345	665			
04:30			99	124	223		16:30			319	356	675			
04:45			82	315	144	461	16:45			301	1254	402	1509	703	2763
05:00			95	163	258		17:00			300	442	742			
05:15			135	201	336		17:15			339	445	784			
05:30			154	226	380		17:30			286	389	675			
05:45			227	611	206	796	17:45			305	1230	338	1614	643	2844
06:00			177	248	425		18:00			295	376	671			
06:15			160	260	420		18:15			234	285	519			
06:30			253	290	543		18:30			278	313	591			
06:45			271	861	294	1092	18:45			243	1050	207	1181	450	2231
07:00			288	373	661		19:00			221	269	490			
07:15			260	338	598		19:15			211	218	429			
07:30			327	354	681		19:30			176	213	389			
07:45			402	1277	285	1350	19:45			206	814	164	864	370	1678
08:00			295	301	596		20:00			184	176	360			
08:15			318	309	627		20:15			173	189	362			
08:30			254	313	567		20:30			164	152	316			
08:45			270	1137	253	1176	20:45			122	643	171	688	293	1331
09:00			235	293	528		21:00			143	182	325			
09:15			227	283	510		21:15			126	149	275			
09:30			221	275	496		21:30			112	122	234			
09:45			246	929	274	1125	21:45			126	507	119	572	245	1079
10:00			212	297	509		22:00			114	89	203			
10:15			250	274	524		22:15			101	97	198			
10:30			204	276	480		22:30			89	75	164			
10:45			251	917	298	1145	22:45			99	403	74	335	173	738
11:00			229	337	566		23:00			75	64	139			
11:15			208	296	504		23:15			64	70	134			
11:30			231	314	545		23:30			51	45	96			
11:45			214	882	299	1246	23:45			45	235	56	235	101	470
Totals			7526	9008	16534		Totals			10586	11991	22577			
Split %			45.5%	54.5%	42.3%		Split %			46.9%	53.1%	57.7%			

Daily Totals	NB	SB	EB	WB	Total
	0	0	18112	20999	39111

AM Peak Hour	07:30	06:45	07:00	PM Peak Hour	15:45	16:45	16:45
AM Peak Hr Volume	1342	1359	2627	PM Peak Hr Volume	1338	1678	2904
AM Pk Hr Factor	0.835	0.911	0.956	PM Pk Hr Factor	0.869	0.943	0.926

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Norwalk Blvd south of Crewe Street

Day: Wednesday, February 9, 2022

City: Norwalk, CA

Daily Totals		NB	SB	EB	WB	Total
		9905	10730	0	0	20635

AM	NB	SB	EB	WB	Total	PM	NB	SB	EB	WB	Total
00:00	29	22			51	12:00	139	164			303
00:15	21	17			38	12:15	166	178			344
00:30	19	13			32	12:30	141	144			285
00:45	18	87	8	60	26 147	12:45	137	583	140	626	277 1209
01:00	15	15			30	13:00	135	163			298
01:15	16	9			25	13:15	123	152			275
01:30	10	11			21	13:30	112	191			303
01:45	17	58	17	52	34 110	13:45	124	494	146	652	270 1146
02:00	16	56			72	14:00	141	153			294
02:15	18	31			49	14:15	135	156			291
02:30	15	18			33	14:30	120	232			352
02:45	18	67	12	117	30 184	14:45	157	553	205	746	362 1299
03:00	13	13			26	15:00	146	224			370
03:15	8	19			27	15:15	177	227			404
03:30	24	17			41	15:30	163	268			431
03:45	28	73	11	60	39 133	15:45	182	668	220	939	402 1607
04:00	23	30			53	16:00	197	275			472
04:15	32	20			52	16:15	199	225			424
04:30	46	43			89	16:30	191	231			422
04:45	61	162	36	129	97 291	16:45	248	835	261	992	509 1827
05:00	53	103			156	17:00	211	271			482
05:15	77	58			135	17:15	187	229			416
05:30	98	79			177	17:30	183	256			439
05:45	142	370	72	312	214 682	17:45	209	790	207	963	416 1753
06:00	94	83			177	18:00	159	154			313
06:15	70	88			158	18:15	168	152			320
06:30	111	109			220	18:30	129	140			269
06:45	169	444	116	396	285 840	18:45	119	575	109	555	228 1130
07:00	137	132			269	19:00	125	108			233
07:15	163	150			313	19:15	124	113			237
07:30	197	152			349	19:30	85	110			195
07:45	260	757	193	627	453 1384	19:45	78	412	74	405	152 817
08:00	179	180			359	20:00	82	78			160
08:15	169	166			335	20:15	61	60			121
08:30	171	112			283	20:30	67	54			121
08:45	139	658	141	599	280 1257	20:45	57	267	64	256	121 523
09:00	138	158			296	21:00	59	87			146
09:15	121	142			263	21:15	62	73			135
09:30	138	118			256	21:30	61	47			108
09:45	125	522	132	550	257 1072	21:45	52	234	44	251	96 485
10:00	140	149			289	22:00	56	38			94
10:15	120	140			260	22:15	49	42			91
10:30	97	104			201	22:30	51	31			82
10:45	102	459	132	525	234 984	22:45	43	199	35	146	78 345
11:00	104	189			293	23:00	48	24			72
11:15	125	169			294	23:15	41	29			70
11:30	124	170			294	23:30	35	33			68
11:45	140	493	133	661	273 1154	23:45	21	145	25	111	46 256
Totals	4150	4088			8238	Totals	5755	6642			12397
Split %	50.4%	49.6%			39.9%	Split %	46.4%	53.6%			60.1%

Daily Totals		NB	SB	EB	WB	Total
		9905	10730	0	0	20635

AM Peak Hour	07:30	07:30	07:30	PM Peak Hour	16:15	16:45	16:45
AM Peak Volume	805	691	1496	PM Peak Volume	849	1017	1846
AM Pk Hr Factor	0.774	0.895	0.826	PM Pk Hr Factor	0.856	0.938	0.907

ADT Volume Report

Norwalk Blvd north of Civic Center Drive

Day: Thursday, February 10, 2022

City: Norwalk, CA

Daily Totals	NB		SB		EB		WB		Total
	11214		10475		0		0		21689

AM	NB	SB	EB	WB	Total	PM	NB	SB	EB	WB	Total
00:00	32	17			49	12:00	149	151			300
00:15	18	12			30	12:15	181	177			358
00:30	27	19			46	12:30	142	180			322
00:45	23	100	19	67	42 167	12:45	164	636	173	681	337 1317
01:00	17	12			29	13:00	166	156			322
01:15	18	19			37	13:15	148	175			323
01:30	4	10			14	13:30	160	188			348
01:45	8	47	15	56	23 103	13:45	157	631	162	681	319 1312
02:00	8	12			20	14:00	174	155			329
02:15	10	17			27	14:15	136	159			295
02:30	7	15			22	14:30	166	196			362
02:45	21	46	10	54	31 100	14:45	181	657	184	694	365 1351
03:00	13	19			32	15:00	204	201			405
03:15	16	13			29	15:15	198	223			421
03:30	24	19			43	15:30	174	228			402
03:45	25	78	12	63	37 141	15:45	209	785	217	869	426 1654
04:00	23	30			53	16:00	201	250			451
04:15	35	24			59	16:15	184	207			391
04:30	52	33			85	16:30	216	207			423
04:45	53	163	31	118	84 281	16:45	228	829	252	916	480 1745
05:00	67	42			109	17:00	203	239			442
05:15	76	51			127	17:15	231	283			514
05:30	103	64			167	17:30	213	227			440
05:45	143	389	61	218	204 607	17:45	195	842	196	945	391 1787
06:00	91	64			155	18:00	210	165			375
06:15	104	88			192	18:15	170	164			334
06:30	131	82			213	18:30	133	160			293
06:45	171	497	118	352	289 849	18:45	132	645	147	636	279 1281
07:00	140	85			225	19:00	148	137			285
07:15	154	133			287	19:15	134	114			248
07:30	212	149			361	19:30	106	116			222
07:45	277	783	196	563	473 1346	19:45	96	484	120	487	216 971
08:00	195	165			360	20:00	113	89			202
08:15	194	176			370	20:15	94	90			184
08:30	200	143			343	20:30	102	87			189
08:45	184	773	123	607	307 1380	20:45	87	396	73	339	160 735
09:00	154	126			280	21:00	76	65			141
09:15	142	128			270	21:15	70	69			139
09:30	165	104			269	21:30	64	74			138
09:45	136	597	123	481	259 1078	21:45	59	269	66	274	125 543
10:00	133	110			243	22:00	51	62			113
10:15	161	144			305	22:15	55	49			104
10:30	137	110			247	22:30	49	53			102
10:45	139	570	135	499	274 1069	22:45	57	212	43	207	100 419
11:00	158	123			281	23:00	45	34			79
11:15	140	152			292	23:15	37	19			56
11:30	168	143			311	23:30	39	21			60
11:45	171	637	151	569	322 1206	23:45	27	148	25	99	52 247
Totals	4680	3647			8327	Totals	6534	6828			13362
Split %	56.2%	43.8%			38.4%	Split %	48.9%	51.1%			61.6%

Daily Totals	NB		SB		EB		WB		Total
	11214		10475		0		0		21689

AM Peak Hour	07:30	07:30	07:30	PM Peak Hour	16:30	16:45	16:45
AM Peak Volume	878	686	1564	PM Peak Volume	878	1001	1876
AM Pk Hr Factor	0.792	0.875	0.827	PM Pk Hr Factor	0.950	0.884	0.912

ADT Volume Report

Avenida Manuel Salinas south of Imperial Drive

Day: Wednesday, February 9, 2022

City: Norwalk, CA

Daily Totals	NB	SB	EB	WB	Total
	931	1045	0	0	1976

AM	NB	SB	EB	WB	Total	PM	NB	SB	EB	WB	Total
00:00	0	0			0	12:00	37	28			65
00:15	3	0			3	12:15	34	22			56
00:30	3	0			3	12:30	24	25			49
00:45	0	6	0	0	0 6	12:45	22	117	30	105	52 222
01:00	1	0			1	13:00	41	26			67
01:15	1	0			1	13:15	26	28			54
01:30	1	1			2	13:30	12	16			28
01:45	0	3	1	2	1 5	13:45	10	89	21	91	31 180
02:00	1	0			1	14:00	14	18			32
02:15	0	1			1	14:15	12	18			30
02:30	0	0			0	14:30	5	7			12
02:45	0	1	0	1	0 2	14:45	10	41	11	54	21 95
03:00	1	0			1	15:00	14	25			39
03:15	0	0			0	15:15	10	23			33
03:30	1	0			1	15:30	14	17			31
03:45	0	2	0	0	0 2	15:45	17	55	24	89	41 144
04:00	0	0			0	16:00	15	15			30
04:15	0	1			1	16:15	16	16			32
04:30	0	0			0	16:30	15	13			28
04:45	0	0	1	2	1 2	16:45	18	64	19	63	37 127
05:00	2	2			4	17:00	80	14			94
05:15	1	0			1	17:15	13	17			30
05:30	4	0			4	17:30	11	12			23
05:45	2	9	4	6	6 15	17:45	11	115	15	58	26 173
06:00	3	1			4	18:00	25	11			36
06:15	2	3			5	18:15	11	6			17
06:30	3	2			5	18:30	4	13			17
06:45	4	12	15	21	19 33	18:45	8	48	5	35	13 83
07:00	5	9			14	19:00	7	13			20
07:15	4	16			20	19:15	5	5			10
07:30	6	25			31	19:30	1	5			6
07:45	4	19	53	103	57 122	19:45	2	15	4	27	6 42
08:00	6	33			39	20:00	5	3			8
08:15	5	19			24	20:15	5	5			10
08:30	8	20			28	20:30	6	3			9
08:45	5	24	23	95	28 119	20:45	3	19	9	20	12 39
09:00	11	23			34	21:00	5	5			10
09:15	11	22			33	21:15	9	5			14
09:30	16	18			34	21:30	5	4			9
09:45	18	56	19	82	37 138	21:45	5	24	2	16	7 40
10:00	21	21			42	22:00	2	0			2
10:15	23	24			47	22:15	2	1			3
10:30	23	21			44	22:30	1	3			4
10:45	37	104	20	86	57 190	22:45	0	5	0	4	0 9
11:00	15	18			33	23:00	2	1			3
11:15	30	22			52	23:15	1	1			2
11:30	20	20			40	23:30	1	1			2
11:45	33	98	22	82	55 180	23:45	1	5	0	3	1 8
Totals	334	480			814	Totals	597	565			1162
Split %	41.0%	59.0%			41.2%	Split %	51.4%	48.6%			58.8%

Daily Totals	NB	SB	EB	WB	Total
	931	1045	0	0	1976

AM Peak Hour	10:30	07:30	10:00	PM Peak Hour	16:15	12:30	12:15
AM Peak Volume	105	130	190	PM Peak Volume	129	109	224
AM Pk Hr Factor	0.709	0.613	0.833	PM Pk Hr Factor	0.403	0.908	0.836

ADT Volume Report

Civic Center Drive east of Norwalk Blvd

Day: Thursday, February 10, 2022

City: Norwalk, CA

Daily Totals	NB	SB	EB	WB	Total	
	0	0	5239	4743	9982	

AM	NB	SB	EB	WB	Total		PM	NB	SB	EB	WB	Total	
00:00			5	11	16		12:00			70	93	163	
00:15			4	6	10		12:15			89	95	184	
00:30			3	5	8		12:30			100	84	184	
00:45			1	13	5	27	12:45			86	345	94	366
01:00			3	4	7		13:00			94	66	160	
01:15			4	7	11		13:15			65	74	139	
01:30			3	0	3		13:30			67	58	125	
01:45			2	12	0	11	13:45			96	322	59	257
02:00			2	7	9		14:00			91	77	168	
02:15			1	2	3		14:15			78	68	146	
02:30			3	2	5		14:30			78	65	143	
02:45			3	9	3	14	14:45			98	345	78	288
03:00			3	2	5		15:00			103	103	206	
03:15			6	5	11		15:15			99	101	200	
03:30			5	3	8		15:30			94	108	202	
03:45			8	22	2	12	15:45			94	390	97	409
04:00			4	1	5		16:00			90	98	188	
04:15			6	7	13		16:15			100	106	206	
04:30			21	11	32		16:30			82	135	217	
04:45			20	51	19	38	16:45			113	385	130	469
05:00			22	19	41		17:00			107	226	333	
05:15			20	17	37		17:15			98	112	210	
05:30			35	19	54		17:30			115	99	214	
05:45			37	114	34	89	17:45			106	426	92	529
06:00			39	27	66		18:00			82	96	178	
06:15			47	34	81		18:15			75	70	145	
06:30			63	54	117		18:30			76	54	130	
06:45			104	253	59	174	18:45			56	289	60	280
07:00			78	69	147		19:00			61	43	104	
07:15			90	69	159		19:15			47	43	90	
07:30			148	99	247		19:30			51	29	80	
07:45			186	502	113	350	19:45			53	212	32	147
08:00			142	87	229		20:00			37	38	75	
08:15			136	72	208		20:15			41	40	81	
08:30			90	55	145		20:30			44	37	81	
08:45			92	460	49	263	20:45			35	157	32	147
09:00			87	55	142		21:00			37	24	61	
09:15			67	54	121		21:15			25	31	56	
09:30			68	39	107		21:30			24	14	38	
09:45			48	270	50	198	21:45			21	107	9	78
10:00			53	50	103		22:00			19	12	31	
10:15			54	57	111		22:15			15	15	30	
10:30			51	64	115		22:30			9	9	18	
10:45			61	219	65	236	22:45			12	55	15	51
11:00			48	65	113		23:00			8	13	21	
11:15			69	69	138		23:15			10	10	20	
11:30			63	68	131		23:30			8	9	17	
11:45			71	251	63	265	23:45			4	30	13	45
Totals			2176	1677	3853		Totals			3063	3066	6129	
Split %			56.5%	43.5%	38.6%		Split %			50.0%	50.0%	61.4%	

Daily Totals	NB	SB	EB	WB	Total	
	0	0	5239	4743	9982	

AM Peak Hour	07:30	07:30	07:30	PM Peak Hour	16:45	16:30	16:30
AM Peak Hr Volume	612	371	983	PM Peak Hr Volume	433	603	1003
AM Pk Hr Factor	0.823	0.821	0.822	PM Pk Hr Factor	0.941	0.667	0.753

City of Norwalk
Bloomfield Avenue
B/ North City Limits and Imperial Highway
24 Hour Directional Volume Count

NWK014
Site Code: 007-15614

Start Time	18-Nov-15 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		13	125			16	114				
12:15		8	154			19	114				
12:30		6	135			15	83				
12:45		11	126	38	540	5	106	55	417	93	957
01:00		6	135			10	97				
01:15		7	135			8	93				
01:30		12	144			4	93				
01:45		4	107	29	521	9	109	31	392	60	913
02:00		6	140			4	91				
02:15		5	118			3	92				
02:30		9	175			7	127				
02:45		22	115	42	548	6	139	20	449	62	997
03:00		9	140			10	137				
03:15		13	132			4	148				
03:30		17	158			16	213				
03:45		15	154	54	584	19	149	49	647	103	1231
04:00		20	147			10	182				
04:15		24	160			17	161				
04:30		39	157			23	204				
04:45		50	200	133	664	31	179	81	726	214	1390
05:00		42	214			37	173				
05:15		66	200			48	168				
05:30		99	164			46	168				
05:45		175	153	382	731	64	137	195	646	577	1377
06:00		125	170			87	98				
06:15		135	132			85	99				
06:30		170	97			92	89				
06:45		219	104	649	503	143	75	407	361	1056	864
07:00		181	97			137	66				
07:15		193	91			155	65				
07:30		240	61			200	63				
07:45		288	50	902	299	184	56	676	250	1578	549
08:00		207	49			151	46				
08:15		167	49			142	55				
08:30		160	47			111	36				
08:45		180	30	714	175	105	33	509	170	1223	345
09:00		141	46			101	29				
09:15		120	23			72	39				
09:30		112	34			92	28				
09:45		117	31	490	134	85	27	350	123	840	257
10:00		114	26			76	25				
10:15		149	33			76	19				
10:30		110	37			84	26				
10:45		96	38	469	134	85	27	321	97	790	231
11:00		96	34			109	41				
11:15		106	29			73	22				
11:30		122	26			87	27				
11:45		113	17	437	106	107	19	376	109	813	215
Total		4339	4939	4339	4939	3070	4387	3070	4387	7409	9326
Combined Total		9278		9278		7457		7457		16735	
AM Peak	-	07:15	-	-	-	07:15	-	-	-	-	-
Vol.	-	928	-	-	-	690	-	-	-	-	-
P.H.F.	-	0.806				0.863					
PM Peak	-	-	04:45	-	-	-	04:00	-	-	-	-
Vol.	-	-	778	-	-	-	726	-	-	-	-
P.H.F.	-		0.909				0.890				
Percentage		46.8%	53.2%			41.2%	58.8%				
ADT/AADT		ADT 16,735	AADT 16,735								

City of Norwalk
Bloomfield Avenue
B/ Imperial Highway and Foster Road
24 Hour Directional Volume Count

NWK015
Site Code: 007-15614

Start Time	18-Nov-15 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		8	97			9	84				
12:15		7	90			18	79				
12:30		5	100			18	98				
12:45		12	109	32	396	11	91	56	352	88	748
01:00		6	148			6	99				
01:15		7	120			6	77				
01:30		2	123			3	107				
01:45		3	114	18	505	4	111	19	394	37	899
02:00		2	112			7	119				
02:15		5	125			8	109				
02:30		9	148			9	130				
02:45		18	98	34	483	4	128	28	486	62	969
03:00		7	134			3	138				
03:15		11	118			10	129				
03:30		17	160			13	173				
03:45		21	144	56	556	18	154	44	594	100	1150
04:00		17	102			4	188				
04:15		24	118			12	172				
04:30		46	160			14	215				
04:45		53	132	140	512	24	231	54	806	194	1318
05:00		41	125			26	299				
05:15		66	152			22	224				
05:30		92	145			33	198				
05:45		163	106	362	528	40	148	121	869	483	1397
06:00		123	118			50	142				
06:15		108	113			52	134				
06:30		150	88			64	116				
06:45		170	79	551	398	96	90	262	482	813	880
07:00		170	82			87	85				
07:15		170	65			94	64				
07:30		187	70			136	64				
07:45		214	42	741	259	124	72	441	285	1182	544
08:00		155	53			106	47				
08:15		200	44			106	43				
08:30		150	33			107	46				
08:45		148	52	653	182	93	52	412	188	1065	370
09:00		105	48			87	51				
09:15		118	48			69	63				
09:30		99	50			82	58				
09:45		106	36	428	182	92	38	330	210	758	392
10:00		129	36			84	45				
10:15		110	30			72	35				
10:30		99	37			73	32				
10:45		72	41	410	144	73	21	302	133	712	277
11:00		83	32			79	40				
11:15		85	26			84	22				
11:30		98	19			68	29				
11:45		81	22	347	99	104	18	335	109	682	208
Total		3772	4244	3772	4244	2404	4908	2404	4908	6176	9152
Combined Total		8016		8016		7312		7312		15328	
AM Peak	-	07:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	756	-	-	-	472	-	-	-	-	-
P.H.F.		0.883				0.868					
PM Peak	-	-	04:30	-	-	-	04:30	-	-	-	-
Vol.	-	-	569	-	-	-	969	-	-	-	-
P.H.F.			0.889				0.810				
Percentage		47.1%	52.9%			32.9%	67.1%				
ADT/AADT		ADT 15,328	AADT 15,328								

City of Norwalk
Bloomfield Avenue
B/ Foster Road and Rosecrans Avenue
24 Hour Directional Volume Count

NWK016
Site Code: 007-15614

Start Time	18-Nov-15 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		5	59			8	64				
12:15		5	74			8	50				
12:30		4	95			13	62				
12:45		9	72	23	300	8	98	37	274	60	574
01:00		4	102			6	58				
01:15		5	90			4	67				
01:30		3	82			4	77				
01:45		4	86	16	360	3	79	17	281	33	641
02:00		4	87			4	77				
02:15		5	86			3	84				
02:30		9	93			7	89				
02:45		15	71	33	337	3	76	17	326	50	663
03:00		7	85			4	86				
03:15		9	70			7	88				
03:30		12	97			5	87				
03:45		14	75	42	327	12	90	28	351	70	678
04:00		16	75			2	105				
04:15		19	85			12	109				
04:30		43	99			11	128				
04:45		41	86	119	345	19	127	44	469	163	814
05:00		41	93			18	205				
05:15		62	91			19	152				
05:30		95	109			25	122				
05:45		166	86	364	379	25	94	87	573	451	952
06:00		116	99			42	91				
06:15		109	104			34	93				
06:30		145	86			32	64				
06:45		159	74	529	363	50	47	158	295	687	658
07:00		180	63			54	57				
07:15		166	58			56	31				
07:30		191	58			105	40				
07:45		210	36	747	215	114	40	329	168	1076	383
08:00		151	41			71	35				
08:15		166	37			63	27				
08:30		144	22			59	27				
08:45		138	34	599	134	51	25	244	114	843	248
09:00		93	53			53	24				
09:15		99	51			44	30				
09:30		68	53			41	33				
09:45		57	32	317	189	45	16	183	103	500	292
10:00		82	36			50	24				
10:15		86	27			41	14				
10:30		63	43			63	26				
10:45		55	43	286	149	53	10	207	74	493	223
11:00		52	29			62	21				
11:15		53	19			53	13				
11:30		53	22			42	14				
11:45		54	25	212	95	66	14	223	62	435	157
Total		3287	3193	3287	3193	1574	3090	1574	3090	4861	6283
Combined Total		6480		6480		4664		4664		11144	
AM Peak	-	07:00	-	-	-	07:30	-	-	-	-	-
Vol.	-	747	-	-	-	353	-	-	-	-	-
P.H.F.		0.889				0.774					
PM Peak	-	-	05:30	-	-	-	04:30	-	-	-	-
Vol.	-	-	398	-	-	-	612	-	-	-	-
P.H.F.			0.913				0.746				
Percentage		50.7%	49.3%			33.7%	66.3%				
ADT/AADT		ADT 11,144	AADT 11,144								

City of Norwalk
Bloomfield Avenue
B/ Rosecrans Avenue and Excelsior Drive
24 Hour Directional Volume Count

NWK017
Site Code: 007-15614

Start Time	18-Nov-15 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		17	108			19	97				
12:15		23	105			29	85				
12:30		20	129			31	88				
12:45		22	93	82	435	19	128	98	398	180	833
01:00		12	126			19	116				
01:15		15	90			30	106				
01:30		13	127			24	81				
01:45		12	136	52	479	23	122	96	425	148	904
02:00		19	131			20	106				
02:15		13	125			12	111				
02:30		19	130			23	97				
02:45		16	158	67	544	29	113	84	427	151	971
03:00		24	156			22	103				
03:15		13	152			27	105				
03:30		18	171			32	116				
03:45		25	192	80	671	35	137	116	461	196	1132
04:00		18	159			28	120				
04:15		21	197			23	136				
04:30		43	204			36	123				
04:45		38	194	120	754	46	146	133	525	253	1279
05:00		51	208			48	127				
05:15		62	203			64	134				
05:30		46	191			64	186				
05:45		73	148	232	750	97	144	273	591	505	1341
06:00		75	170			79	148				
06:15		78	147			79	118				
06:30		109	120			108	119				
06:45		155	111	417	548	98	86	364	471	781	1019
07:00		137	106			101	109				
07:15		166	107			133	73				
07:30		201	86			163	88				
07:45		201	74	705	373	196	86	593	356	1298	729
08:00		170	116			169	71				
08:15		152	86			137	52				
08:30		186	57			130	64				
08:45		161	59	669	318	113	78	549	265	1218	583
09:00		103	60			99	87				
09:15		101	59			82	72				
09:30		111	65			102	55				
09:45		94	45	409	229	91	56	374	270	783	499
10:00		120	47			84	46				
10:15		84	38			84	47				
10:30		92	50			76	47				
10:45		81	30	377	165	75	26	319	166	696	331
11:00		95	35			85	44				
11:15		87	29			75	29				
11:30		97	27			99	26				
11:45		134	26	413	117	98	23	357	122	770	239
Total		3623	5383	3623	5383	3356	4477	3356	4477	6979	9860
Combined Total		9006		9006		7833		7833		16839	
AM Peak	-	07:15	-	-	-	07:30	-	-	-	-	-
Vol.	-	738	-	-	-	665	-	-	-	-	-
P.H.F.		0.918				0.848					
PM Peak	-	-	04:30	-	-	-	05:15	-	-	-	-
Vol.	-	-	809	-	-	-	612	-	-	-	-
P.H.F.			0.972				0.823				
Percentage		40.2%	59.8%			42.8%	57.2%				
ADT/AADT		ADT 16,839	AADT 16,839								

City of Norwalk
Civic Center Drive
B/ Norwalk Boulevard and Volunteer Avenue
24 Hour Directional Volume Count

NWK023
Site Code: 007-15614

Start Time	18-Nov-15 Wed	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		10	109			12	151				
12:15		14	106			9	108				
12:30		6	118			2	132				
12:45		10	91	40	424	3	124	26	515	66	939
01:00		8	143			6	126				
01:15		6	125			3	112				
01:30		5	127			5	125				
01:45		10	130	29	525	4	114	18	477	47	1002
02:00		11	108			6	95				
02:15		6	112			1	99				
02:30		6	100			3	121				
02:45		8	122	31	442	3	117	13	432	44	874
03:00		1	120			3	154				
03:15		13	140			1	135				
03:30		12	145			5	178				
03:45		17	153	43	558	6	126	15	593	58	1151
04:00		9	163			15	155				
04:15		14	149			15	130				
04:30		24	146			15	179				
04:45		34	130	81	588	27	190	72	654	153	1242
05:00		21	155			29	143				
05:15		19	150			17	142				
05:30		39	154			48	134				
05:45		53	122	132	581	57	132	151	551	283	1132
06:00		39	118			91	141				
06:15		49	117			77	106				
06:30		91	127			87	83				
06:45		155	98	334	460	119	91	374	421	708	881
07:00		132	83			148	54				
07:15		132	76			162	71				
07:30		164	81			175	54				
07:45		209	55	637	295	166	50	651	229	1288	524
08:00		144	67			151	51				
08:15		155	64			130	41				
08:30		141	49			117	43				
08:45		127	77	567	257	130	29	528	164	1095	421
09:00		91	77			105	61				
09:15		89	71			116	60				
09:30		77	60			125	50				
09:45		82	66	339	274	126	32	472	203	811	477
10:00		67	43			115	39				
10:15		91	46			107	39				
10:30		74	42			103	31				
10:45		67	31	299	162	88	18	413	127	712	289
11:00		70	33			104	33				
11:15		88	22			85	22				
11:30		98	14			126	31				
11:45		99	12	355	81	109	15	424	101	779	182
Total		2887	4647	2887	4647	3157	4467	3157	4467	6044	9114
Combined Total		7534		7534		7624		7624		15158	
AM Peak	-	07:30	-	-	-	07:15	-	-	-	-	-
Vol.	-	672	-	-	-	654	-	-	-	-	-
P.H.F.		0.804				0.934					
PM Peak	-	-	03:45	-	-	-	04:00	-	-	-	-
Vol.	-	-	611	-	-	-	654	-	-	-	-
P.H.F.			0.937				0.861				
Percentage		38.3%	61.7%			41.4%	58.6%				
ADT/AADT		ADT 15,158	AADT 15,158								

City of Norwalk
Civic Center Drive
B/ Volunteer Avenue and Bloomfield Avenue
24 Hour Directional Volume Count

NWK024
Site Code: 007-15614

Start Time	18-Nov-15 Wed	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		9	79			8	96				
12:15		11	77			9	89				
12:30		6	86			0	83				
12:45		6	82	32	324	2	95	19	363	51	687
01:00		6	105			5	90				
01:15		4	92			4	71				
01:30		4	112			4	89				
01:45		6	96	20	405	3	69	16	319	36	724
02:00		9	98			2	74				
02:15		7	102			1	84				
02:30		6	83			3	84				
02:45		5	107	27	390	2	69	8	311	35	701
03:00		0	103			2	89				
03:15		9	115			3	118				
03:30		8	117			6	138				
03:45		13	130	30	465	2	108	13	453	43	918
04:00		5	163			7	102				
04:15		11	146			9	105				
04:30		18	153			9	145				
04:45		25	124	59	586	17	131	42	483	101	1069
05:00		14	181			20	141				
05:15		19	154			10	114				
05:30		40	148			32	108				
05:45		47	125	120	608	44	96	106	459	226	1067
06:00		40	110			68	106				
06:15		34	101			49	86				
06:30		76	105			61	71				
06:45		124	88	274	404	82	67	260	330	534	734
07:00		110	71			95	42				
07:15		115	61			115	45				
07:30		154	77			122	40				
07:45		162	54	541	263	136	33	468	160	1009	423
08:00		110	45			113	28				
08:15		113	43			96	31				
08:30		101	40			88	33				
08:45		84	62	408	190	93	32	390	124	798	314
09:00		70	66			80	43				
09:15		66	61			75	41				
09:30		61	46			61	40				
09:45		67	49	264	222	77	25	293	149	557	371
10:00		65	33			71	22				
10:15		67	31			73	30				
10:30		54	32			78	17				
10:45		49	21	235	117	52	18	274	87	509	204
11:00		53	28			63	23				
11:15		66	21			53	20				
11:30		67	15			79	25				
11:45		72	12	258	76	80	12	275	80	533	156
Total		2268	4050	2268	4050	2164	3318	2164	3318	4432	7368
Combined Total		6318		6318		5482		5482		11800	
AM Peak	-	07:00	-	-	-	07:15	-	-	-	-	-
Vol.	-	541	-	-	-	486	-	-	-	-	-
P.H.F.		0.835				0.893					
PM Peak	-	-	04:30	-	-	-	04:30	-	-	-	-
Vol.	-	-	612	-	-	-	531	-	-	-	-
P.H.F.			0.845				0.916				
Percentage		35.9%	64.1%			39.5%	60.5%				
ADT/AADT		ADT 11,800	AADT 11,800								

City of Norwalk
San Antonio Drive
B/ Firestone Boulevard and Rosecrans Avenue
24 Hour Directional Volume Count

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

Page 1
NWK099
Site Code: 007-15614

Start Time	02-Dec-15 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		16	107			15	102				
12:15		13	91			13	108				
12:30		11	97			15	109				
12:45		5	90	45	385	10	95	53	414	98	799
01:00		6	97			9	109				
01:15		9	103			4	107				
01:30		3	103			12	118				
01:45		5	98	23	401	5	97	30	431	53	832
02:00		3	113			9	95				
02:15		8	112			5	103				
02:30		4	104			3	111				
02:45		11	103	26	432	3	134	20	443	46	875
03:00		8	118			3	116				
03:15		7	120			4	133				
03:30		10	125			5	124				
03:45		13	130	38	493	7	144	19	517	57	1010
04:00		10	112			8	140				
04:15		12	107			11	158				
04:30		24	104			9	157				
04:45		32	113	78	436	15	179	43	634	121	1070
05:00		35	108			21	143				
05:15		33	133			19	149				
05:30		46	128			40	185				
05:45		48	107	162	476	44	155	124	632	286	1108
06:00		47	113			48	137				
06:15		49	105			61	161				
06:30		90	93			71	125				
06:45		119	98	305	409	88	105	268	528	573	937
07:00		131	88			83	104				
07:15		141	77			92	67				
07:30		166	79			122	60				
07:45		145	65	583	309	121	74	418	305	1001	614
08:00		172	64			126	54				
08:15		113	55			121	49				
08:30		125	56			97	53				
08:45		127	52	537	227	120	51	464	207	1001	434
09:00		86	65			132	48				
09:15		106	74			96	48				
09:30		83	46			105	45				
09:45		89	43	364	228	100	41	433	182	797	410
10:00		54	44			105	26				
10:15		89	20			72	24				
10:30		91	29			99	29				
10:45		86	19	320	112	123	28	399	107	719	219
11:00		96	20			100	27				
11:15		81	20			104	21				
11:30		87	6			117	11				
11:45		80	14	344	60	102	14	423	73	767	133
Total		2825	3968	2825	3968	2694	4473	2694	4473	5519	8441
Combined Total		6793		6793		7167		7167		13960	
AM Peak	-	07:15	-	-	-	07:30	-	-	-	-	-
Vol.	-	624	-	-	-	490	-	-	-	-	-
P.H.F.		0.907				0.972					
PM Peak	-	-	03:00	-	-	-	04:45	-	-	-	-
Vol.	-	-	493	-	-	-	656	-	-	-	-
P.H.F.			0.948				0.886				
Percentage		41.6%	58.4%			37.6%	62.4%				
ADT/AADT		ADT 13,960	AADT 13,960								

City of Norwalk
Volunteer Avenue
B/ Imperial Highway and Civic Center Drive
24 Hour Directional Volume Count

NWK115
Site Code: 077-15614

Start Time	18-Nov-15 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	25			3	14				
12:15		0	13			0	29				
12:30		1	37			2	9				
12:45		3	30	5	105	0	28	5	80	10	185
01:00		1	31			0	35				
01:15		0	19			0	29				
01:30		0	19			3	34				
01:45		0	13	1	82	0	21	3	119	4	201
02:00		1	15			0	21				
02:15		0	26			0	19				
02:30		2	27			0	24				
02:45		0	39	3	107	0	23	0	87	3	194
03:00		1	32			0	20				
03:15		0	24			1	18				
03:30		1	32			1	18				
03:45		2	37	4	125	1	26	3	82	7	207
04:00		1	26			2	35				
04:15		1	35			1	31				
04:30		2	56			4	39				
04:45		2	68	6	185	4	57	11	162	17	347
05:00		5	54			1	22				
05:15		6	31			4	24				
05:30		5	19			4	30				
05:45		6	18	22	122	7	26	16	102	38	224
06:00		9	13			9	22				
06:15		11	11			5	13				
06:30		24	8			7	13				
06:45		14	11	58	43	16	16	37	64	95	107
07:00		14	9			18	17				
07:15		17	8			36	14				
07:30		27	1			24	8				
07:45		28	4	86	22	20	13	98	52	184	74
08:00		17	1			21	10				
08:15		25	3			11	4				
08:30		21	5			12	8				
08:45		16	6	79	15	19	9	63	31	142	46
09:00		12	6			13	6				
09:15		14	6			16	9				
09:30		13	2			17	5				
09:45		8	2	47	16	18	7	64	27	111	43
10:00		25	0			8	2				
10:15		14	7			21	8				
10:30		13	2			14	2				
10:45		22	0	74	9	15	4	58	16	132	25
11:00		19	2			20	4				
11:15		19	5			18	0				
11:30		23	2			30	4				
11:45		37	1	98	10	19	4	87	12	185	22
Total		483	841	483	841	445	834	445	834	928	1675
Combined Total		1324		1324		1279		1279		2603	
AM Peak	-	11:00	-	-	-	07:15	-	-	-	-	-
Vol.	-	98	-	-	-	101	-	-	-	-	-
P.H.F.		0.662				0.701					
PM Peak	-	-	04:15	-	-	-	04:00	-	-	-	-
Vol.	-	-	213	-	-	-	162	-	-	-	-
P.H.F.			0.783				0.711				
Percentage		36.5%	63.5%			34.8%	65.2%				
ADT/AADT		ADT 2,603	AADT 2,603								

City of Norwalk
San Antonio Drive
B/ Interstate 5 and Firestone Boulevard
24 Hour Directional Volume Count

NWK098
Site Code: 007-15614

Start Time	02-Dec-15 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		35	212			45	238				
12:15		48	202			27	215				
12:30		27	198			45	213				
12:45		27	198	137	810	33	206	150	872	287	1682
01:00		26	176			24	222				
01:15		24	188			28	204				
01:30		24	218			12	190				
01:45		26	233	100	815	23	216	87	832	187	1647
02:00		21	195			21	179				
02:15		22	233			29	208				
02:30		33	239			18	189				
02:45		28	296	104	963	14	296	82	872	186	1835
03:00		25	301			18	243				
03:15		28	288			16	270				
03:30		32	295			23	293				
03:45		52	289	137	1173	24	277	81	1083	218	2256
04:00		50	305			33	281				
04:15		58	339			32	297				
04:30		111	311			33	329				
04:45		108	302	327	1257	41	339	139	1246	466	2503
05:00		81	360			47	326				
05:15		102	350			67	336				
05:30		123	322			79	340				
05:45		169	305	475	1337	108	324	301	1326	776	2663
06:00		117	308			121	356				
06:15		131	284			128	276				
06:30		239	283			177	185				
06:45		285	219	772	1094	202	199	628	1016	1400	2110
07:00		298	211			208	187				
07:15		302	179			237	173				
07:30		388	170			332	130				
07:45		372	148	1360	708	264	116	1041	606	2401	1314
08:00		248	157			200	120				
08:15		248	130			199	124				
08:30		201	108			200	98				
08:45		227	115	924	510	197	95	796	437	1720	947
09:00		226	166			164	152				
09:15		213	138			175	149				
09:30		201	125			177	122				
09:45		206	105	846	534	157	111	673	534	1519	1068
10:00		198	103			198	97				
10:15		187	82			166	83				
10:30		168	83			177	88				
10:45		171	66	724	334	171	88	712	356	1436	690
11:00		200	64			191	68				
11:15		190	51			172	67				
11:30		204	46			217	62				
11:45		218	48	812	209	205	51	785	248	1597	457
Total		6718	9744	6718	9744	5475	9428	5475	9428	12193	19172
Combined Total		16462		16462		14903		14903		31365	
AM Peak	-	07:00	-	-	-	07:00	-	-	-	-	-
Vol.	-	1360	-	-	-	1041	-	-	-	-	-
P.H.F.		0.876				0.784					
PM Peak	-	-	05:00	-	-	-	05:15	-	-	-	-
Vol.	-	-	1337	-	-	-	1356	-	-	-	-
P.H.F.			0.928				0.952				
Percentage		40.8%	59.2%			36.7%	63.3%				
ADT/AADT		ADT 31,365	AADT 31,365								

City of Norwalk
Rosecrans Avenue
B/ Norwalk Boulevard and Bloomfield Avenue
24 Hour Directional Volume Count

NWK095
Site Code: 007-15614

Start Time	17-Nov-15 Tue	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		10	126			28	179				
12:15		14	105			21	187				
12:30		12	166			21	165				
12:45		12	132	48	529	23	171	93	702	141	1231
01:00		10	139			28	157				
01:15		10	128			13	146				
01:30		13	145			11	170				
01:45		11	151	44	563	16	174	68	647	112	1210
02:00		12	155			25	158				
02:15		6	160			12	169				
02:30		13	205			5	185				
02:45		10	187	41	707	13	201	55	713	96	1420
03:00		16	192			30	208				
03:15		15	252			13	250				
03:30		44	220			22	234				
03:45		27	205	102	869	23	251	88	943	190	1812
04:00		28	211			25	225				
04:15		51	221			26	254				
04:30		82	188			28	234				
04:45		77	218	238	838	45	267	124	980	362	1818
05:00		83	218			63	297				
05:15		105	183			84	274				
05:30		138	183			109	278				
05:45		156	178	482	762	96	203	352	1052	834	1814
06:00		98	194			114	230				
06:15		166	170			160	176				
06:30		205	178			169	163				
06:45		218	167	687	709	243	151	686	720	1373	1429
07:00		203	158			250	153				
07:15		233	122			216	120				
07:30		230	127			252	111				
07:45		177	109	843	516	242	104	960	488	1803	1004
08:00		201	83			250	104				
08:15		242	67			255	103				
08:30		205	87			241	85				
08:45		203	85	851	322	225	96	971	388	1822	710
09:00		159	59			136	76				
09:15		117	63			167	77				
09:30		148	65			144	90				
09:45		141	51	565	238	134	48	581	291	1146	529
10:00		120	54			153	71				
10:15		134	43			168	72				
10:30		133	42			147	69				
10:45		132	42	519	181	151	56	619	268	1138	449
11:00		141	31			142	58				
11:15		146	25			159	46				
11:30		123	18			183	39				
11:45		151	23	561	97	153	39	637	182	1198	279
Total		4981	6331	4981	6331	5234	7374	5234	7374	10215	13705
Combined Total		11312		11312		12608		12608		23920	
AM Peak	-	06:45	-	-	-	07:30	-	-	-	-	-
Vol.	-	884	-	-	-	999	-	-	-	-	-
P.H.F.		0.948				0.979					
PM Peak	-	-	03:15	-	-	-	04:45	-	-	-	-
Vol.	-	-	888	-	-	-	1116	-	-	-	-
P.H.F.			0.881				0.939				
Percentage		44.0%	56.0%			41.5%	58.5%				
ADT/AADT		ADT 23,920	AADT 23,920								

City of Norwalk
Rosecrans Avenue
B/ Pioneer Boulevard and Norwalk Boulevard
24 Hour Directional Volume Count

NWK094
Site Code: 007*15614

Start Time	17-Nov-15 Tue	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		10	123			19	170				
12:15		19	105			19	150				
12:30		11	147			17	141				
12:45		13	111	53	486	21	148	76	609	129	1095
01:00		10	120			28	146				
01:15		13	100			10	158				
01:30		11	133			8	129				
01:45		9	149	43	502	10	149	56	582	99	1084
02:00		14	133			20	119				
02:15		8	153			17	161				
02:30		16	177			4	160				
02:45		13	149	51	612	9	160	50	600	101	1212
03:00		14	184			29	159				
03:15		14	192			16	189				
03:30		39	180			13	236				
03:45		37	196	104	752	33	220	91	804	195	1556
04:00		27	179			29	199				
04:15		48	168			22	186				
04:30		71	207			31	185				
04:45		70	182	216	736	50	202	132	772	348	1508
05:00		70	174			63	238				
05:15		98	184			83	219				
05:30		122	141			116	238				
05:45		129	173	419	672	100	163	362	858	781	1530
06:00		78	191			111	183				
06:15		129	160			146	160				
06:30		157	160			190	156				
06:45		182	153	546	664	174	141	621	640	1167	1304
07:00		139	160			219	113				
07:15		177	129			194	108				
07:30		202	127			206	100				
07:45		171	105	689	521	227	88	846	409	1535	930
08:00		161	87			217	90				
08:15		167	79			205	105				
08:30		131	94			211	76				
08:45		157	88	616	348	182	79	815	350	1431	698
09:00		112	57			165	60				
09:15		105	73			142	70				
09:30		127	65			117	64				
09:45		107	59	451	254	142	42	566	236	1017	490
10:00		109	55			133	58				
10:15		113	42			141	64				
10:30		122	47			132	64				
10:45		121	36	465	180	142	47	548	233	1013	413
11:00		135	35			133	48				
11:15		121	30			124	37				
11:30		123	22			160	30				
11:45		126	22	505	109	139	34	556	149	1061	258
Total		4158	5836	4158	5836	4719	6242	4719	6242	8877	12078
Combined Total		9994		9994		10961		10961		20955	
AM Peak	-	07:15	-	-	-	07:45	-	-	-	-	-
Vol.	-	711	-	-	-	860	-	-	-	-	-
P.H.F.		0.880				0.947					
PM Peak	-	-	03:00	-	-	-	04:45	-	-	-	-
Vol.	-	-	752	-	-	-	897	-	-	-	-
P.H.F.			0.959				0.942				
Percentage		41.6%	58.4%			43.1%	56.9%				
ADT/AADT		ADT 20,955	AADT 20,955								

City of Norwalk
Pioneer Boulevard
B/ Imperial Highway and Firestone Boulevard
24 Hour Directional Volume Count

NWK085
Site Code: 007-15614

Start Time	19-Nov-15 Thu	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		15	129			17	137				
12:15		20	119			14	126				
12:30		8	155			14	143				
12:45		7	129	50	532	11	129	56	535	106	1067
01:00		5	132			14	125				
01:15		8	118			10	128				
01:30		8	143			6	115				
01:45		11	132	32	525	4	133	34	501	66	1026
02:00		2	139			14	146				
02:15		6	133			9	141				
02:30		9	161			10	150				
02:45		6	166	23	599	8	172	41	609	64	1208
03:00		8	186			10	149				
03:15		6	192			9	157				
03:30		7	228			10	151				
03:45		11	190	32	796	17	160	46	617	78	1413
04:00		16	232			11	156				
04:15		25	235			13	149				
04:30		19	220			14	167				
04:45		26	251	86	938	27	167	65	639	151	1577
05:00		33	222			36	151				
05:15		59	220			35	163				
05:30		43	222			36	151				
05:45		70	188	205	852	46	147	153	612	358	1464
06:00		53	170			51	145				
06:15		64	192			77	135				
06:30		122	190			103	132				
06:45		118	193	357	745	118	124	349	536	706	1281
07:00		138	143			121	135				
07:15		172	104			130	127				
07:30		226	105			133	101				
07:45		231	97	767	449	181	103	565	466	1332	915
08:00		223	94			150	96				
08:15		168	95			167	101				
08:30		156	75			145	67				
08:45		148	71	695	335	145	68	607	332	1302	667
09:00		132	79			112	89				
09:15		145	81			106	78				
09:30		122	68			128	65				
09:45		125	58	524	286	118	59	464	291	988	577
10:00		109	57			121	60				
10:15		119	46			111	55				
10:30		137	47			130	41				
10:45		153	39	518	189	104	44	466	200	984	389
11:00		132	24			116	42				
11:15		127	15			119	25				
11:30		131	20			121	17				
11:45		128	17	518	76	122	22	478	106	996	182
Total		3807	6322	3807	6322	3324	5444	3324	5444	7131	11766
Combined Total		10129		10129		8768		8768		18897	
AM Peak	-	07:15	-	-	-	07:45	-	-	-	-	-
Vol.	-	852	-	-	-	643	-	-	-	-	-
P.H.F.		0.922				0.888					
PM Peak	-	-	04:00	-	-	-	04:30	-	-	-	-
Vol.	-	-	938	-	-	-	648	-	-	-	-
P.H.F.			0.934				0.970				
Percentage		37.6%	62.4%			37.9%	62.1%				
ADT/AADT		ADT 18,897	AADT 18,897								

City of Norwalk
Pioneer Boulevard
B/ Lakeland Road and Allard Street
24 Hour Directional Volume Count

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

Page 1
NWK083
Site Code: 007-15614

Start Time	02-Dec-15 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		18	75			14	74				
12:15		14	56			13	125				
12:30		11	74			21	83				
12:45		13	84	56	289	14	97	62	379	118	668
01:00		5	85			12	99				
01:15		8	92			7	102				
01:30		6	99			5	95				
01:45		1	95	20	371	11	101	35	397	55	768
02:00		9	119			7	87				
02:15		7	110			6	100				
02:30		1	91			4	95				
02:45		7	101	24	421	5	117	22	399	46	820
03:00		4	121			3	96				
03:15		7	118			6	120				
03:30		6	157			2	172				
03:45		6	152	23	548	4	207	15	595	38	1143
04:00		7	115			8	190				
04:15		9	106			8	201				
04:30		7	143			6	150				
04:45		6	141	29	505	8	195	30	736	59	1241
05:00		6	138			8	181				
05:15		15	127			15	232				
05:30		18	149			13	185				
05:45		8	143	47	557	24	249	60	847	107	1404
06:00		25	130			41	231				
06:15		50	151			43	207				
06:30		59	126			53	173				
06:45		60	137	194	544	61	174	198	785	392	1329
07:00		53	122			78	123				
07:15		122	115			77	116				
07:30		154	119			133	123				
07:45		97	78	426	434	132	113	420	475	846	909
08:00		186	76			160	92				
08:15		221	56			194	76				
08:30		212	71			228	85				
08:45		168	54	787	257	184	74	766	327	1553	584
09:00		154	62			174	54				
09:15		127	63			115	67				
09:30		116	58			107	49				
09:45		69	55	466	238	83	46	479	216	945	454
10:00		91	60			82	38				
10:15		71	41			76	58				
10:30		72	45			94	40				
10:45		62	30	296	176	68	37	320	173	616	349
11:00		63	24			93	26				
11:15		66	28			83	25				
11:30		80	26			100	16				
11:45		60	14	269	92	102	27	378	94	647	186
Total		2637	4432	2637	4432	2785	5423	2785	5423	5422	9855
Combined Total		7069		7069		8208		8208		15277	
AM Peak	-	08:00	-	-	-	08:15	-	-	-	-	-
Vol.	-	787	-	-	-	780	-	-	-	-	-
P.H.F.		0.890				0.855					
PM Peak	-	-	05:30	-	-	-	05:15	-	-	-	-
Vol.	-	-	573	-	-	-	897	-	-	-	-
P.H.F.			0.949				0.901				
Percentage		37.3%	62.7%			33.9%	66.1%				
ADT/AADT		ADT 15,277	AADT 15,277								

City of Norwalk
Norwalk Boulevard
B/ Imperial Highway and Interstate 5
24 Hour Directional Volume Count

NWK072
Site Code: 007-15614

Start Time	18-Nov-15 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		200	36			205	30				
12:15		209	27			242	32				
12:30		185	28			226	23				
12:45		231	22	825	113	253	26	926	111	1751	224
01:00		194	15			288	22				
01:15		236	19			250	24				
01:30		231	28			236	27				
01:45		200	22	861	84	263	23	1037	96	1898	180
02:00		176	15			227	18				
02:15		251	14			217	20				
02:30		193	10			240	17				
02:45		263	25	883	64	237	12	921	67	1804	131
03:00		210	21			288	21				
03:15		232	22			235	19				
03:30		198	24			261	16				
03:45		191	25	831	92	262	34	1046	90	1877	182
04:00		221	48			270	33				
04:15		200	41			262	28				
04:30		247	45			268	52				
04:45		258	57	926	191	278	65	1078	178	2004	369
05:00		226	75			251	56				
05:15		223	61			273	79				
05:30		230	103			277	92				
05:45		279	103	958	342	287	124	1088	351	2046	693
06:00		225	139			277	140				
06:15		221	148			269	152				
06:30		229	165			249	139				
06:45		195	203	870	655	240	184	1035	615	1905	1270
07:00		181	246			184	209				
07:15		190	219			204	203				
07:30		162	258			202	286				
07:45		126	284	659	1007	159	273	749	971	1408	1978
08:00		124	311			130	319				
08:15		122	291			141	294				
08:30		115	257			125	285				
08:45		114	221	475	1080	96	240	492	1138	967	2218
09:00		109	200			124	207				
09:15		115	179			128	222				
09:30		120	184			118	193				
09:45		104	179	448	742	94	204	464	826	912	1568
10:00		87	169			91	174				
10:15		89	199			88	191				
10:30		84	176			78	200				
10:45		68	170	328	714	91	194	348	759	676	1473
11:00		58	168			60	189				
11:15		55	222			63	222				
11:30		45	172			53	241				
11:45		47	201	205	763	46	214	222	866	427	1629
Total		8269	5847	8269	5847	9406	6068	9406	6068	17675	11915
Combined Total		14116		14116		15474		15474		29590	
AM Peak	-	05:00	-	-	-	05:15	-	-	-	-	-
Vol.	-	958	-	-	-	1114	-	-	-	-	-
P.H.F.		0.858				0.970					
PM Peak	-	-	07:30	-	-	-	07:30	-	-	-	-
Vol.	-	-	1144	-	-	-	1172	-	-	-	-
P.H.F.			0.920				0.918				
Percentage		58.6%	41.4%			60.8%	39.2%				
ADT/AADT		ADT 29,590	AADT 29,590								

City of Norwalk
Norwalk Boulevard
B/ Allard Street and Imperial Highway
24 Hour Directional Volume Count

NWK071
Site Code: 007-15614

Start Time	18-Nov-15 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		17	173			19	189				
12:15		22	150			20	151				
12:30		17	186			13	210				
12:45		25	170	81	679	19	170	71	720	152	1399
01:00		11	175			17	177				
01:15		14	175			13	172				
01:30		15	186			7	186				
01:45		14	145	54	681	6	152	43	687	97	1368
02:00		5	170			11	142				
02:15		11	168			5	173				
02:30		22	192			10	221				
02:45		14	152	52	682	10	189	36	725	88	1407
03:00		21	156			13	209				
03:15		15	159			11	208				
03:30		20	171			11	231				
03:45		29	170	85	656	27	234	62	882	147	1538
04:00		31	151			21	201				
04:15		29	182			32	240				
04:30		50	202			48	261				
04:45		68	194	178	729	38	268	139	970	317	1699
05:00		67	206			52	278				
05:15		62	212			90	297				
05:30		119	213			90	256				
05:45		123	197	371	828	102	219	334	1050	705	1878
06:00		135	194			124	188				
06:15		159	168			124	177				
06:30		220	168			153	156				
06:45		208	163	722	693	177	117	578	638	1300	1331
07:00		223	118			149	157				
07:15		232	115			252	110				
07:30		253	101			256	100				
07:45		265	90	973	424	231	89	888	456	1861	880
08:00		220	85			227	94				
08:15		169	83			212	71				
08:30		187	82			169	78				
08:45		158	90	734	340	162	85	770	328	1504	668
09:00		162	73			141	70				
09:15		137	80			120	52				
09:30		104	71			151	46				
09:45		111	66	514	290	118	53	530	221	1044	511
10:00		107	65			161	54				
10:15		131	55			145	40				
10:30		135	49			120	43				
10:45		149	39	522	208	142	34	568	171	1090	379
11:00		126	26			125	34				
11:15		116	28			158	20				
11:30		118	34			168	21				
11:45		162	24	522	112	172	26	623	101	1145	213
Total		4808	6322	4808	6322	4642	6949	4642	6949	9450	13271
Combined Total		11130		11130		11591		11591		22721	
AM Peak	-	07:00	-	-	-	07:15	-	-	-	-	-
Vol.	-	973	-	-	-	966	-	-	-	-	-
P.H.F.		0.918				0.943					
PM Peak	-	-	05:00	-	-	-	04:30	-	-	-	-
Vol.	-	-	828	-	-	-	1104	-	-	-	-
P.H.F.			0.972				0.929				
Percentage		43.2%	56.8%			40.0%	60.0%				
ADT/AADT		ADT 22,721	AADT 22,721								

City of Norwalk
Norwalk Boulevard
B/ Lakeland Road and Allard Street
24 Hour Directional Volume Count

NWK070
Site Code: 007-15614

Start Time	18-Nov-15 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		17	176			17	170				
12:15		22	175			16	126				
12:30		18	177			11	173				
12:45		22	165	79	693	24	146	68	615	147	1308
01:00		11	164			15	155				
01:15		10	168			11	138				
01:30		17	175			4	159				
01:45		10	145	48	652	4	139	34	591	82	1243
02:00		7	174			15	148				
02:15		10	169			5	152				
02:30		20	188			6	200				
02:45		17	148	54	679	10	174	36	674	90	1353
03:00		22	158			17	180				
03:15		15	164			7	173				
03:30		26	178			11	218				
03:45		34	162	97	662	20	217	55	788	152	1450
04:00		31	178			20	195				
04:15		32	169			20	204				
04:30		57	189			39	213				
04:45		82	203	202	739	35	242	114	854	316	1593
05:00		72	207			35	248				
05:15		82	205			65	244				
05:30		133	210			67	257				
05:45		152	177	439	799	86	178	253	927	692	1726
06:00		148	193			94	180				
06:15		195	155			106	151				
06:30		272	175			111	165				
06:45		246	157	861	680	134	89	445	585	1306	1265
07:00		233	98			108	137				
07:15		258	102			193	101				
07:30		298	103			186	82				
07:45		309	93	1098	396	160	93	647	413	1745	809
08:00		245	84			187	77				
08:15		198	83			172	65				
08:30		211	67			159	71				
08:45		177	76	831	310	124	79	642	292	1473	602
09:00		186	63			137	67				
09:15		143	62			99	49				
09:30		131	71			131	44				
09:45		147	54	607	250	99	50	466	210	1073	460
10:00		127	59			138	53				
10:15		140	54			121	36				
10:30		151	45			105	43				
10:45		176	37	594	195	120	33	484	165	1078	360
11:00		145	27			113	29				
11:15		144	26			162	23				
11:30		134	32			149	21				
11:45		172	25	595	110	151	32	575	105	1170	215
Total		5505	6165	5505	6165	3819	6219	3819	6219	9324	12384
Combined Total		11670		11670		10038		10038		21708	
AM Peak	-	07:15	-	-	-	07:15	-	-	-	-	-
Vol.	-	1110	-	-	-	726	-	-	-	-	-
P.H.F.		0.898				0.940					
PM Peak	-	-	04:45	-	-	-	04:45	-	-	-	-
Vol.	-	-	825	-	-	-	991	-	-	-	-
P.H.F.			0.982				0.964				
Percentage		47.2%	52.8%			38.0%	62.0%				
ADT/AADT		ADT 21,708	AADT 21,708								

City of Norwalk
Imperial Highway
B/ Norwalk Boulevard and Bloomfield Avenue
24 Hour Directional Volume Count

NWK060
Site Code: 007-15614

Start Time	19-Nov-15 Thu	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		61	288			77	381				
12:15		57	296			65	313				
12:30		53	336			60	336				
12:45		34	282	205	1202	51	286	253	1316	458	2518
01:00		21	282			45	318				
01:15		32	278			35	299				
01:30		33	326			54	320				
01:45		31	321	117	1207	38	325	172	1262	289	2469
02:00		29	287			31	326				
02:15		37	299			53	309				
02:30		49	244			45	369				
02:45		53	357	168	1187	45	322	174	1326	342	2513
03:00		58	322			38	345				
03:15		64	327			55	336				
03:30		67	287			65	346				
03:45		79	341	268	1277	94	358	252	1385	520	2662
04:00		58	312			131	373				
04:15		89	334			147	375				
04:30		113	311			174	418				
04:45		140	301	400	1258	183	399	635	1565	1035	2823
05:00		115	294			234	366				
05:15		139	270			285	470				
05:30		194	272			282	363				
05:45		212	318	660	1154	281	340	1082	1539	1742	2693
06:00		161	262			281	383				
06:15		198	296			341	324				
06:30		264	267			362	272				
06:45		326	251	949	1076	331	295	1315	1274	2264	2350
07:00		305	252			335	260				
07:15		292	224			392	222				
07:30		317	220			324	199				
07:45		309	217	1223	913	344	203	1395	884	2618	1797
08:00		300	177			364	194				
08:15		319	220			336	191				
08:30		285	178			309	157				
08:45		271	150	1175	725	318	159	1327	701	2502	1426
09:00		246	170			315	153				
09:15		254	159			269	179				
09:30		240	151			287	172				
09:45		207	148	947	628	307	141	1178	645	2125	1273
10:00		240	139			333	152				
10:15		241	135			277	147				
10:30		281	114			280	121				
10:45		257	116	1019	504	299	129	1189	549	2208	1053
11:00		285	110			360	119				
11:15		256	118			336	99				
11:30		247	98			353	98				
11:45		289	70	1077	396	351	68	1400	384	2477	780
Total		8208	11527	8208	11527	10372	12830	10372	12830	18580	24357
Combined Total		19735		19735		23202		23202		42937	
AM Peak	-	07:30	-	-	-	07:15	-	-	-	-	-
Vol.	-	1245	-	-	-	1424	-	-	-	-	-
P.H.F.		0.976				0.908					
PM Peak	-	-	03:45	-	-	-	04:30	-	-	-	-
Vol.	-	-	1298	-	-	-	1653	-	-	-	-
P.H.F.			0.952				0.879				
Percentage		41.6%	58.4%			44.7%	55.3%				
ADT/AADT		ADT 42,937	AADT 42,937								

City of Norwalk
Imperial Highway
B/ Pioneer Boulevard and Norwalk Boulevard
24 Hour Directional Volume Count

NWK059
Site Code: 007-15614

Start Time	19-Nov-15 Thu	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		63	258			86	453				
12:15		56	315			83	423				
12:30		50	285			63	319				
12:45		38	299	207	1157	70	386	302	1581	509	2738
01:00		20	265			43	303				
01:15		28	295			46	392				
01:30		30	297			54	291				
01:45		40	312	118	1169	46	393	189	1379	307	2548
02:00		36	271			39	345				
02:15		40	289			55	401				
02:30		50	264			39	350				
02:45		62	371	188	1195	44	351	177	1447	365	2642
03:00		55	347			43	368				
03:15		63	302			58	304				
03:30		78	352			64	392				
03:45		79	342	275	1343	89	391	254	1455	529	2798
04:00		48	342			114	404				
04:15		91	341			149	479				
04:30		119	345			205	444				
04:45		163	335	421	1363	179	476	647	1803	1068	3166
05:00		113	331			236	438				
05:15		159	338			320	547				
05:30		211	326			333	475				
05:45		262	335	745	1330	282	354	1171	1814	1916	3144
06:00		164	328			300	364				
06:15		260	337			368	366				
06:30		284	342			427	337				
06:45		339	268	1047	1275	305	298	1400	1365	2447	2640
07:00		316	325			396	252				
07:15		358	285			443	259				
07:30		371	253			369	255				
07:45		380	261	1425	1124	327	244	1535	1010	2960	2134
08:00		429	236			429	237				
08:15		376	233			349	218				
08:30		314	227			341	168				
08:45		292	180	1411	876	339	193	1458	816	2869	1692
09:00		303	199			347	187				
09:15		256	177			296	180				
09:30		246	181			303	212				
09:45		257	185	1062	742	331	190	1277	769	2339	1511
10:00		234	170			393	183				
10:15		241	165			353	149				
10:30		298	140			351	158				
10:45		285	137	1058	612	346	133	1443	623	2501	1235
11:00		279	123			459	137				
11:15		278	92			402	100				
11:30		260	99			365	126				
11:45		263	88	1080	402	389	100	1615	463	2695	865
Total		9037	12588	9037	12588	11468	14525	11468	14525	20505	27113
Combined Total		21625		21625		25993		25993		47618	
AM Peak	-	07:30	-	-	-	11:00	-	-	-	-	-
Vol.	-	1556	-	-	-	1615	-	-	-	-	-
P.H.F.		0.907				0.880					
PM Peak	-	-	03:30	-	-	-	04:45	-	-	-	-
Vol.	-	-	1377	-	-	-	1936	-	-	-	-
P.H.F.			0.978				0.885				
Percentage		41.8%	58.2%			44.1%	55.9%				
ADT/AADT		ADT 47,618	AADT 47,618								

City of Norwalk
Imperial Highway
B/ Firestone Boulevard and Pioneer Boulevard
24 Hour Directional Volume Count

NWK058
Site Code: 007-15614

Start Time	19-Nov-15 Thu	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		65	280			51	263				
12:15		49	310			43	251				
12:30		40	285			34	221				
12:45		30	320	184	1195	37	247	165	982	349	2177
01:00		29	305			24	212				
01:15		24	316			29	239				
01:30		29	256			22	229				
01:45		33	268	115	1145	28	251	103	931	218	2076
02:00		32	297			22	243				
02:15		31	353			31	286				
02:30		36	329			26	286				
02:45		42	356	141	1335	25	304	104	1119	245	2454
03:00		43	365			25	260				
03:15		54	355			36	282				
03:30		56	340			39	282				
03:45		64	318	217	1378	38	290	138	1114	355	2492
04:00		61	324			66	315				
04:15		84	376			70	309				
04:30		114	346			89	360				
04:45		119	316	378	1362	108	323	333	1307	711	2669
05:00		101	317			152	349				
05:15		122	322			192	378				
05:30		178	366			268	378				
05:45		189	333	590	1338	237	322	849	1427	1439	2765
06:00		172	371			257	305				
06:15		227	345			311	253				
06:30		283	350			365	310				
06:45		327	394	1009	1460	360	209	1293	1077	2302	2537
07:00		327	303			399	221				
07:15		348	292			375	230				
07:30		382	273			391	180				
07:45		369	255	1426	1123	354	178	1519	809	2945	1932
08:00		368	191			336	185				
08:15		316	214			393	179				
08:30		315	157			288	149				
08:45		320	214	1319	776	288	145	1305	658	2624	1434
09:00		291	160			249	149				
09:15		242	169			249	146				
09:30		242	160			236	140				
09:45		247	172	1022	661	205	126	939	561	1961	1222
10:00		255	122			267	106				
10:15		255	121			215	122				
10:30		228	111			229	101				
10:45		265	115	1003	469	252	93	963	422	1966	891
11:00		233	89			217	92				
11:15		265	89			241	70				
11:30		280	78			266	93				
11:45		265	82	1043	338	223	61	947	316	1990	654
Total		8447	12580	8447	12580	8658	10723	8658	10723	17105	23303
Combined Total		21027		21027		19381		19381		40408	
AM Peak	-	07:15	-	-	-	06:45	-	-	-	-	-
Vol.	-	1467	-	-	-	1525	-	-	-	-	-
P.H.F.		0.960				0.956					
PM Peak	-	-	06:00	-	-	-	04:45	-	-	-	-
Vol.	-	-	1460	-	-	-	1428	-	-	-	-
P.H.F.			0.926				0.944				
Percentage		40.2%	59.8%			44.7%	55.3%				
ADT/AADT		ADT 40,408	AADT 40,408								

City of Norwalk
Firestone Boulevard
B/ Imperial Highway and Pioneer Boulevard
24 Hour Directional Volume Count

NWK036
Site Code: 007-15614

Start Time	19-Nov-15 Thu	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		12	150			20	186				
12:15		23	143			23	152				
12:30		11	159			16	154				
12:45		14	173	60	625	24	154	83	646	143	1271
01:00		13	145			8	179				
01:15		9	125			6	162				
01:30		17	151			4	143				
01:45		6	151	45	572	10	156	28	640	73	1212
02:00		12	182			9	185				
02:15		7	168			10	151				
02:30		6	199			7	176				
02:45		5	210	30	759	8	183	34	695	64	1454
03:00		17	193			12	192				
03:15		20	210			7	198				
03:30		21	184			16	208				
03:45		22	214	80	801	18	223	53	821	133	1622
04:00		22	207			9	206				
04:15		22	229			23	216				
04:30		25	206			31	243				
04:45		55	243	124	885	27	214	90	879	214	1764
05:00		43	222			40	219				
05:15		48	209			55	265				
05:30		68	233			79	242				
05:45		99	252	258	916	103	215	277	941	535	1857
06:00		66	223			149	215				
06:15		99	211			162	195				
06:30		126	195			249	179				
06:45		151	149	442	778	230	159	790	748	1232	1526
07:00		136	170			224	156				
07:15		161	142			255	134				
07:30		203	139			276	126				
07:45		239	123	739	574	202	102	957	518	1696	1092
08:00		217	103			212	99				
08:15		205	123			231	101				
08:30		165	112			197	91				
08:45		165	78	752	416	177	97	817	388	1569	804
09:00		109	81			151	94				
09:15		135	57			128	75				
09:30		119	79			145	60				
09:45		136	69	499	286	117	60	541	289	1040	575
10:00		135	58			138	54				
10:15		110	40			139	60				
10:30		123	91			176	47				
10:45		148	43	516	232	128	47	581	208	1097	440
11:00		102	35			127	34				
11:15		143	36			149	35				
11:30		158	25			151	34				
11:45		178	19	581	115	147	31	574	134	1155	249
Total		4126	6959	4126	6959	4825	6907	4825	6907	8951	13866
Combined Total		11085		11085		11732		11732		22817	
AM Peak	-	07:30	-	-	-	06:45	-	-	-	-	-
Vol.	-	864	-	-	-	985	-	-	-	-	-
P.H.F.		0.904				0.892					
PM Peak	-	-	05:30	-	-	-	04:30	-	-	-	-
Vol.	-	-	919	-	-	-	941	-	-	-	-
P.H.F.			0.912				0.888				
Percentage		37.2%	62.8%			41.1%	58.9%				
ADT/AADT		ADT 22,817	AADT 22,817								

Appendix C
VMT Analysis

**TABLE C-1
VMT DEVELOPMENT
TRIP LENGTH OUTPUTS**

Residential Categories	Trip Length (Miles)			Trip Percentage			Average Trip Length
	Home-to-Work	Home-to-Shopping	Home-to-Other	Home-to-Work	Home-to-Shopping	Home-to-Other	
Apartments Mid Rise	14.7	5.9	8.7	40.2	19.2	40.6	10.6

Non-Residential Categories	Trip Length (Miles)			Trip Percentage			Average Trip Length
	Commercial-to-Commercial	Commercial-to-Work	Commercial-to-Nonwork	Commercial-to-Commercial	Commercial-to-Work	Commercial-to-Nonwork	
High Turnover (Sit Down Restaurant)	8.4	16.6	6.9	72.5	8.5	19	8.8
Quality Restaurant	8.4	16.6	6.9	69	12	19	9.1
Regional Shopping Center	8.4	16.6	6.9	64.7	16.3	19	9.5
Supermarket	8.4	16.6	6.9	74.5	6.5	19	8.6

Source: *California Emissions Estimator Model Version 2020.04.0* (CAPCOA, 2022)

TECHNICAL MEMORANDUM

To:
Gibson Transportation Consulting

From: Jennifer Emerson-Martin
Iteris, Inc.
801 S. Grand Avenue, Suite 750
Los Angeles, CA 90017

Date: June 17, 2022

RE: Norwalk Entertainment District – Civic Center Specific Plan Project
VMT Modeling Summary

INTRODUCTION

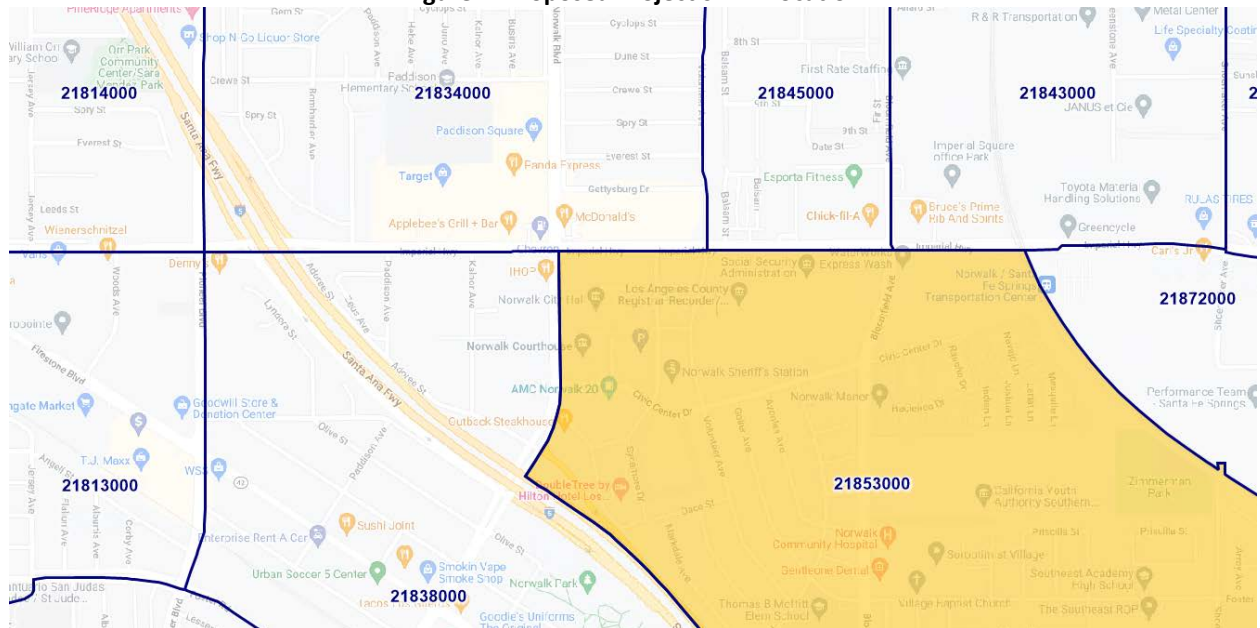
This memorandum presents Iteris' transportation assessment of a mixed-used development in the City of Norwalk. The project site currently contains the City of Norwalk City Hall and a three-level parking structure, both of which would remain, and a surface parking lot and City Hall Lawn, which would be developed with 350 residential units and 110,000 square feet of commercial uses as discussed below.

The proposed project is located at southeast corner of Norwalk Boulevard and Imperial Highway, and consists of the following:

- **Mixed-Use Development:**
 - Multi-family Residential: 350 dwelling units, assumed 1,264 population
 - Mixed-Use Commercial: 110,000 square feet, assumed 441 total employment
 - 35,000 square feet of retail
 - 40,000 square feet of supermarket
 - 35,000 square feet of restaurant
 - 17,500 square feet of fine dining
 - 17,500 square feet of high-turnover dining

Figure 1 illustrates the location of the proposed project as part of the Southern California Association of Governments (SCAG) regional model. Within the model, the project is within transportation analysis zone (TAZ) 21853000.

Figure 1: Proposed Project's TAZ Location



METHODOLOGY

Iteris utilized the SCAG 2016 RTP/SCS regional travel demand model to generate VMT statistics. VMT is an area-wide performance measure which helps compare the overall performance of a project or project alternatives and is also used as a metric to ultimately assess the transportation environmental impacts of a project.

For the purposes of this analysis, the 2018 base year scenario was utilized. Two project scenarios were executed. The project scenarios are:

- Base year 2018 Without Project
- Base year 2018 With Project
- Base year 2018 With Project's Residential Only

LAND USE SUMMARY

The model uses socioeconomic data (in terms of number of employees) from land use inputs to compute trip generation. To generate VMT results, land use conversion rates were applied to all non-residential project land uses. **Table 1** summarizes the conversion rates used for different types of land uses. This conversion rate changed square footage to number of employees for use in the model inputs, and was calculated to match the project total estimate of 441 employees.

Table 1: Land Use Conversion Factors

Land Use Category	Model Land Use Category	Conversion Rate
Residential	Households (MFDU)	None
Retail	Retail Employment	3.18 Employees per tsf
Supermarket	Retail Employment	3.0 Employees per tsf
Restaurant	Other Service Employment	6.0 Employees per tsf

tsf = thousand square feet

Table 2 summarizes the results of the conversion factors for each land use. The table also summarizes the land use input that was used for each model scenario. As a note, the SCAG model maintains thirteen (13) categories of employment, and this project only modified retail and other service employment, which is summarized in the right three columns in **Table 2**.

Table 2: Model Land Use Inputs

Model Scenario	Total Households and Employment Change						Project Specific Employment by Category	
	Households	Change in Total Households	Percent Change in Total Households	Total Employment	Change in Total Employment	Percent Change in Total Employment	Retail Employment	Other Service Employment
Existing (No Project)	2,496	0	0%	5,595	0	0%	49	83
With Project	2,846	350	14%	6,036	441	8%	280	293
With Project's Residential Only	2,846	0	0%	5,595	0	0%	49	83

VMT ANALYSIS

From the model scenario outputs, the following metrics were produced (for this Project analysis only):

- Region-wide VMT (Los Angeles County).

Table 3 summarizes daily total VMT.

Table 3: VMT Results

Model Scenario	Total VMT per Service Population
	Countywide
Existing (No Project)	396,844,618
With Project's Residential (No Commercial)	398,613,331
With Project (Residential + Commercial)	398,750,496
Percent Difference Compared to Existing (No Project)	
With Project's Residential (No Commercial)	0.4%
With Project (Residential + Commercial)	0.5%
Percent of Project with Residential Only Difference Compared to Project with Commercial and Residential	
With Project compared to With Project Residential Only (No Commercial)	0.0%

The project with residential only scenario shows similar VMT patterns as the project with both residential and commercial when compared to the no project. The total VMT remains constant between the project with residential only and project with residential and commercial scenarios.



Appendix D

Level of Service and Queuing Worksheets

HCM 6th Signalized Intersection Summary

1: Norwalk BI & Lakeland Rd

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	144	27	83	153	98	26	743	150	75	474	41
Future Volume (veh/h)	30	144	27	83	153	98	26	743	150	75	474	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	41	197	37	97	178	114	32	929	188	86	545	47
Peak Hour Factor	0.73	0.73	0.73	0.86	0.86	0.86	0.80	0.80	0.80	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	3	3	3	5	5	5
Cap, veh/h	77	249	43	217	389	330	598	2031	411	352	2248	193
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.70	0.70	0.70	0.70	0.70	0.70
Sat Flow, veh/h	150	1216	212	1165	1900	1610	818	2921	591	492	3232	278
Grp Volume(v), veh/h	275	0	0	97	178	114	32	560	557	86	292	300
Grp Sat Flow(s),veh/h/ln	1578	0	0	1165	1900	1610	818	1763	1749	492	1735	1776
Q Serve(g_s), s	8.0	0.0	0.0	0.0	7.4	5.5	1.3	12.8	12.8	8.5	5.5	5.6
Cycle Q Clear(g_c), s	15.4	0.0	0.0	14.7	7.4	5.5	6.9	12.8	12.8	21.3	5.5	5.6
Prop In Lane	0.15		0.13	1.00		1.00	1.00		0.34	1.00		0.16
Lane Grp Cap(c), veh/h	369	0	0	217	389	330	598	1226	1216	352	1206	1235
V/C Ratio(X)	0.75	0.00	0.00	0.45	0.46	0.35	0.05	0.46	0.46	0.24	0.24	0.24
Avail Cap(c_a), veh/h	520	0	0	321	559	474	598	1226	1216	352	1206	1235
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	0.0	0.0	34.3	31.4	30.6	6.3	6.1	6.1	10.9	5.0	5.0
Incr Delay (d2), s/veh	3.6	0.0	0.0	1.4	0.8	0.6	0.2	1.1	1.2	1.6	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.1	0.0	0.0	3.7	6.2	3.9	0.4	7.6	7.5	1.8	3.3	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	0.0	0.0	35.8	32.3	31.3	6.5	7.3	7.3	12.5	5.5	5.5
LnGrp LOS	D	A	A	D	C	C	A	A	A	B	A	A
Approach Vol, veh/h		275			389			1149			678	
Approach Delay, s/veh		38.1			32.8			7.3			6.4	
Approach LOS		D			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.1		22.9		67.1		22.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		54.5		26.5		54.5		26.5				
Max Q Clear Time (g_c+I1), s		14.8		17.4		23.3		16.7				
Green Ext Time (p_c), s		10.1		1.1		5.4		1.2				
Intersection Summary												
HCM 6th Ctrl Delay				14.4								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Norwalk Bl & Crewe St

05/06/2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	72	97	47	803	625	39
Future Volume (veh/h)	72	97	47	803	625	39
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	1900	1900	1856	1856	1826	1826
Adj Flow Rate, veh/h	91	123	61	1043	687	43
Peak Hour Factor	0.79	0.79	0.77	0.77	0.91	0.91
Percent Heavy Veh, %	0	0	3	3	5	5
Cap, veh/h	184	164	616	2814	2646	166
Arrive On Green	0.10	0.10	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1810	1610	720	3618	3407	207
Grp Volume(v), veh/h	91	123	61	1043	359	371
Grp Sat Flow(s),veh/h/ln	1810	1610	720	1763	1735	1789
Q Serve(g_s), s	4.3	6.7	2.1	7.6	4.7	4.8
Cycle Q Clear(g_c), s	4.3	6.7	6.9	7.6	4.7	4.8
Prop In Lane	1.00	1.00	1.00			0.12
Lane Grp Cap(c), veh/h	184	164	616	2814	1384	1427
V/C Ratio(X)	0.49	0.75	0.10	0.37	0.26	0.26
Avail Cap(c_a), veh/h	472	420	616	2814	1384	1427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.64	0.64	0.96	0.96
Uniform Delay (d), s/veh	38.2	39.3	3.2	2.6	2.3	2.3
Incr Delay (d2), s/veh	2.0	6.7	0.2	0.2	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	5.2	0.5	3.0	2.1	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.3	46.0	3.4	2.8	2.8	2.7
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	214			1104	730	
Approach Delay, s/veh	43.5			2.9	2.7	
Approach LOS	D			A	A	
Timer - Assigned Phs	2		4		6	
Phs Duration (G+Y+Rc), s	76.3		13.7		76.3	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	57.5		23.5		57.5	
Max Q Clear Time (g_c+l1), s	9.6		8.7		6.8	
Green Ext Time (p_c), s	10.8		0.5		5.4	
Intersection Summary						
HCM 6th Ctrl Delay			7.1			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

3: Firestone Bl & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↵	↑↑↑	↵	↵↵	↑↑		↵↵	↑↑↑	
Traffic Volume (veh/h)	0	1242	306	7	1044	326	258	391	9	278	353	0
Future Volume (veh/h)	0	1242	306	7	1044	326	258	391	9	278	353	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	0	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1365	336	8	1200	375	274	416	0	320	406	0
Peak Hour Factor	0.91	0.91	0.91	0.87	0.87	0.87	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	0	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	1705	419	96	2129	661	341	1246		390	1863	0
Arrive On Green	0.00	0.42	0.42	0.14	0.14	0.14	0.10	0.35	0.00	0.11	0.37	0.00
Sat Flow, veh/h	0	4224	996	286	5066	1572	3428	3618	0	3428	5233	0
Grp Volume(v), veh/h	0	1136	565	8	1200	375	274	416	0	320	406	0
Grp Sat Flow(s),veh/h/ln	0	1689	1676	286	1689	1572	1714	1763	0	1714	1689	0
Q Serve(g_s), s	0.0	35.2	35.4	3.2	26.6	26.8	9.4	10.4	0.0	11.0	6.6	0.0
Cycle Q Clear(g_c), s	0.0	35.2	35.4	38.6	26.6	26.8	9.4	10.4	0.0	11.0	6.6	0.0
Prop In Lane	0.00		0.59	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1420	705	96	2129	661	341	1246		390	1863	0
V/C Ratio(X)	0.00	0.80	0.80	0.08	0.56	0.57	0.80	0.33		0.82	0.22	0.00
Avail Cap(c_a), veh/h	0	1646	817	115	2469	767	529	1246		586	1863	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.46	0.46	0.46	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	30.4	30.4	63.7	41.4	41.5	52.9	28.4	0.0	52.0	26.1	0.0
Incr Delay (d2), s/veh	0.0	2.5	5.1	0.2	0.1	0.4	5.0	0.7	0.0	5.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	20.8	21.4	0.5	15.9	15.1	7.7	8.0	0.0	8.7	4.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	32.9	35.5	63.9	41.5	41.8	57.9	29.2	0.0	57.7	26.3	0.0
LnGrp LOS	A	C	D	E	D	D	E	C		E	C	A
Approach Vol, veh/h		1701			1583			690	A		726	
Approach Delay, s/veh		33.8			41.7			40.6			40.2	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.1	46.9		54.9	16.4	48.6		54.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	20.5	27.5		58.5	18.5	29.5		58.5				
Max Q Clear Time (g_c+I1), s	13.0	12.4		37.4	11.4	8.6		40.6				
Green Ext Time (p_c), s	0.7	2.4		12.9	0.5	2.7		9.8				

Intersection Summary

HCM 6th Ctrl Delay	38.4
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary

4: Pioneer Bl & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 		 	 	
Traffic Volume (veh/h)	337	1152	81	108	1074	101	22	356	143	132	305	471
Future Volume (veh/h)	337	1152	81	108	1074	101	22	356	143	132	305	471
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	411	1405	99	130	1294	122	26	414	166	165	381	589
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.86	0.86	0.86	0.80	0.80	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	440	2242	696	157	1431	444	43	894	399	222	1037	463
Arrive On Green	0.25	0.44	0.44	0.09	0.28	0.28	0.02	0.25	0.25	0.06	0.29	0.29
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	411	1405	99	130	1294	122	26	414	166	165	381	589
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1714	1763	1572
Q Serve(g_s), s	27.3	25.7	4.5	8.7	29.5	7.2	1.7	11.9	10.6	5.7	10.3	35.3
Cycle Q Clear(g_c), s	27.3	25.7	4.5	8.7	29.5	7.2	1.7	11.9	10.6	5.7	10.3	35.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	440	2242	696	157	1431	444	43	894	399	222	1037	463
V/C Ratio(X)	0.93	0.63	0.14	0.83	0.90	0.27	0.61	0.46	0.42	0.74	0.37	1.27
Avail Cap(c_a), veh/h	496	2242	696	243	1465	455	74	894	399	311	1037	463
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.59	0.59	0.59	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	25.8	19.9	53.7	41.5	33.5	58.0	37.9	37.4	55.1	33.5	42.3
Incr Delay (d2), s/veh	16.1	0.3	0.1	11.1	7.1	0.3	13.2	1.7	3.2	5.8	1.0	139.0
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	18.5	14.3	3.0	7.5	18.6	5.1	1.7	9.2	7.9	4.7	8.1	46.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.2	26.1	19.9	64.9	48.6	33.8	71.2	39.6	40.6	60.9	34.5	181.4
LnGrp LOS	E	C	B	E	D	C	E	D	D	E	C	F
Approach Vol, veh/h		1915			1546			606			1135	
Approach Delay, s/veh		33.1			48.8			41.2			114.6	
Approach LOS		C			D			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	34.9	15.2	57.6	7.4	39.8	34.4	38.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.9	22.7	16.5	51.9	5.0	28.6	33.7	34.7				
Max Q Clear Time (g_c+I1), s	7.7	13.9	10.7	27.7	3.7	37.3	29.3	31.5				
Green Ext Time (p_c), s	0.1	2.2	0.1	12.0	0.0	0.0	0.6	2.4				
Intersection Summary												
HCM 6th Ctrl Delay			56.5									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

5: Frontage Rd/I-5 SB Off-Ramp & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑↑	
Traffic Volume (veh/h)	0	1304	255	9	1092	0	0	0	0	427	98	172
Future Volume (veh/h)	0	1304	255	9	1092	0	0	0	0	427	98	172
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	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1590	311	10	1213	0				555	127	223
Peak Hour Factor	0.82	0.82	0.82	0.90	0.90	0.90				0.77	0.77	0.77
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	2187	679	41	2467	0				1508	258	453
Arrive On Green	0.00	0.43	0.43	0.01	0.49	0.00				0.43	0.43	0.43
Sat Flow, veh/h	0	5233	1572	3428	5233	0				3534	604	1061
Grp Volume(v), veh/h	0	1590	311	10	1213	0				555	0	350
Grp Sat Flow(s),veh/h/ln	0	1689	1572	1714	1689	0				1767	0	1665
Q Serve(g_s), s	0.0	27.1	14.6	0.3	16.8	0.0				11.1	0.0	15.9
Cycle Q Clear(g_c), s	0.0	27.1	14.6	0.3	16.8	0.0				11.1	0.0	15.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.64
Lane Grp Cap(c), veh/h	0	2187	679	41	2467	0				1508	0	710
V/C Ratio(X)	0.00	0.73	0.46	0.24	0.49	0.00				0.37	0.00	0.49
Avail Cap(c_a), veh/h	0	2745	852	181	3230	0				1508	0	710
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	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	24.5	21.0	51.0	18.0	0.0				20.3	0.0	21.7
Incr Delay (d2), s/veh	0.0	0.7	0.5	3.0	0.2	0.0				0.7	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
%ile BackOfQ(95%),veh/ln	0.0	16.0	9.1	0.3	10.5	0.0				8.2	0.0	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.3	21.5	54.0	18.2	0.0				21.0	0.0	24.1
LnGrp LOS	A	C	C	D	B	A				C	A	C
Approach Vol, veh/h		1901			1223						905	
Approach Delay, s/veh		24.7			18.5						22.2	
Approach LOS		C			B						C	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			5.8	49.5		49.0		55.3				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			5.5	56.5		44.5		66.5				
Max Q Clear Time (g_c+I1), s			2.3	29.1		17.9		18.8				
Green Ext Time (p_c), s			0.0	15.9		4.7		12.0				
Intersection Summary												
HCM 6th Ctrl Delay			22.2									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

6: Adoree St/I-5 NB On-Ramp & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	1672	21	1	1041	454	86	108	12	0	0	0
Future Volume (veh/h)	86	1672	21	1	1041	454	86	108	12	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	105	2039	26	1	1132	493	118	148	16			
Peak Hour Factor	0.82	0.82	0.82	0.92	0.92	0.92	0.73	0.73	0.73			
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3			
Cap, veh/h	157	2295	29	2	3035	942	428	427	381			
Arrive On Green	0.05	0.64	0.64	0.00	0.60	0.60	0.24	0.24	0.24			
Sat Flow, veh/h	3428	3565	45	1767	5066	1572	1767	1763	1572			
Grp Volume(v), veh/h	105	1006	1059	1	1132	493	118	148	16			
Grp Sat Flow(s),veh/h/ln	1714	1763	1847	1767	1689	1572	1767	1763	1572			
Q Serve(g_s), s	3.6	56.8	57.4	0.1	13.8	22.0	6.5	8.3	0.9			
Cycle Q Clear(g_c), s	3.6	56.8	57.4	0.1	13.8	22.0	6.5	8.3	0.9			
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	157	1135	1189	2	3035	942	428	427	381			
V/C Ratio(X)	0.67	0.89	0.89	0.41	0.37	0.52	0.28	0.35	0.04			
Avail Cap(c_a), veh/h	243	1212	1270	75	3339	1037	428	427	381			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.73	0.73	0.73	0.59	0.59	0.59	1.00	1.00	1.00			
Uniform Delay (d), s/veh	56.3	17.7	17.8	59.9	12.4	14.0	36.9	37.6	34.8			
Incr Delay (d2), s/veh	3.5	5.9	5.9	55.5	0.0	0.3	1.6	2.2	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			
%ile BackOfQ(95%),veh/ln	3.0	29.7	31.2	0.1	8.0	11.1	5.4	7.0	0.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	23.7	23.8	115.4	12.5	14.3	38.5	39.8	35.0			
LnGrp LOS	E	C	C	F	B	B	D	D	C			
Approach Vol, veh/h	2170			1626			282					
Approach Delay, s/veh	25.5			13.1			39.0					
Approach LOS	C			B			D					
Timer - Assigned Phs	2		3	4		7		8				
Phs Duration (G+Y+Rc), s	33.6		4.7	81.7		10.0		76.4				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s	18.9		5.1	82.5		8.5		79.1				
Max Q Clear Time (g_c+I1), s	10.3		2.1	59.4		5.6		24.0				
Green Ext Time (p_c), s	1.0		0.0	17.8		0.1		15.0				
Intersection Summary												
HCM 6th Ctrl Delay	21.5											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 7: Kalnor Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 							
Traffic Volume (veh/h)	30	1400	30	14	1265	37	12	7	25	23	7	11
Future Volume (veh/h)	30	1400	30	14	1265	37	12	7	25	23	7	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	36	1687	36	16	1421	42	16	9	33	31	9	15
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	60	2831	60	33	1901	848	319	165	422	438	168	280
Arrive On Green	0.03	0.55	0.55	0.02	0.54	0.54	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1767	5104	109	1767	3526	1572	942	629	1610	1386	640	1067
Grp Volume(v), veh/h	36	1116	607	16	1421	42	25	0	33	31	0	24
Grp Sat Flow(s),veh/h/ln	1767	1689	1836	1767	1763	1572	1572	0	1610	1386	0	1708
Q Serve(g_s), s	1.6	18.0	18.0	0.7	25.5	1.0	0.0	0.0	1.3	1.4	0.0	0.9
Cycle Q Clear(g_c), s	1.6	18.0	18.0	0.7	25.5	1.0	0.8	0.0	1.3	2.2	0.0	0.9
Prop In Lane	1.00		0.06	1.00		1.00	0.64		1.00	1.00		0.63
Lane Grp Cap(c), veh/h	60	1873	1018	33	1901	848	484	0	422	438	0	448
V/C Ratio(X)	0.60	0.60	0.60	0.49	0.75	0.05	0.05	0.00	0.08	0.07	0.00	0.05
Avail Cap(c_a), veh/h	183	3191	1735	162	3288	1467	484	0	422	438	0	448
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.1	12.1	12.2	39.9	14.6	8.9	22.6	0.0	22.8	23.5	0.0	22.6
Incr Delay (d2), s/veh	9.1	0.3	0.6	10.7	0.6	0.0	0.2	0.0	0.4	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	10.2	11.0	0.7	14.2	0.6	0.7	0.0	0.9	0.9	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.2	12.5	12.7	50.5	15.2	9.0	22.8	0.0	23.2	23.8	0.0	22.9
LnGrp LOS	D	B	B	D	B	A	C	A	C	C	A	C
Approach Vol, veh/h	1759		1479			58			55			
Approach Delay, s/veh	13.3		15.4			23.0			23.4			
Approach LOS	B		B			C			C			
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	26.0		6.0	50.0		26.0	7.3	48.7				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	21.5		7.5	77.5		21.5	8.5	76.5				
Max Q Clear Time (g_c+I1), s	3.3		2.7	20.0		4.2	3.6	27.5				
Green Ext Time (p_c), s	0.1		0.0	20.7		0.1	0.0	16.7				
Intersection Summary												
HCM 6th Ctrl Delay	14.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

8: Imperial Highway & Norwalk Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	158	1213	79	114	1147	40	89	612	117	114	464	110
Future Volume (veh/h)	158	1213	79	114	1147	40	89	612	117	114	464	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	184	1410	92	130	1303	45	116	795	152	133	540	128
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.77	0.77	0.77	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	5	5	5
Cap, veh/h	212	1602	497	154	1437	446	141	1252	558	159	1829	568
Arrive On Green	0.12	0.32	0.32	0.17	0.57	0.57	0.16	0.71	0.71	0.09	0.37	0.37
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	1739	4985	1547
Grp Volume(v), veh/h	184	1410	92	130	1303	45	116	795	152	133	540	128
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1739	1662	1547
Q Serve(g_s), s	12.3	31.7	5.1	8.5	27.5	1.6	7.6	14.3	4.2	9.0	9.2	6.9
Cycle Q Clear(g_c), s	12.3	31.7	5.1	8.5	27.5	1.6	7.6	14.3	4.2	9.0	9.2	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	1602	497	154	1437	446	141	1252	558	159	1829	568
V/C Ratio(X)	0.87	0.88	0.19	0.84	0.91	0.10	0.83	0.64	0.27	0.84	0.30	0.23
Avail Cap(c_a), veh/h	258	1667	518	199	1499	465	228	1252	558	196	1829	568
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	0.66	0.66	0.66	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	51.9	38.9	29.8	48.7	24.6	18.9	49.7	13.3	11.8	53.6	27.0	26.2
Incr Delay (d2), s/veh	18.6	4.6	0.1	15.4	5.6	0.1	12.0	2.5	1.2	21.7	0.4	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	10.3	19.0	3.5	6.8	12.4	1.1	6.5	7.4	2.7	8.5	6.7	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.4	43.4	29.9	64.1	30.2	19.0	61.7	15.8	13.0	75.3	27.4	27.1
LnGrp LOS	E	D	C	E	C	B	E	B	B	E	C	C
Approach Vol, veh/h	1686		1478				1063		801			
Approach Delay, s/veh	45.7		32.8				20.4		35.3			
Approach LOS	D		C				C		D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	47.1	15.0	42.4	14.0	48.5	18.9	38.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	35.5	13.5	39.5	15.5	33.5	17.5	35.5				
Max Q Clear Time (g_c+I1), s	11.0	16.3	10.5	33.7	9.6	11.2	14.3	29.5				
Green Ext Time (p_c), s	0.1	6.0	0.1	4.3	0.1	4.2	0.1	4.1				
Intersection Summary												
HCM 6th Ctrl Delay			34.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

9: Avenida Manuel Salinas & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	37	1197	99	13	1307	75	1	16	3	54	20	29
Future Volume (veh/h)	37	1197	99	13	1307	75	1	16	3	54	20	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	47	1515	125	14	1376	79	1	20	4	61	23	33
Peak Hour Factor	0.79	0.79	0.79	0.95	0.95	0.95	0.79	0.79	0.79	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	60	1794	557	27	1700	528	753	683	137	591	233	334
Arrive On Green	0.07	0.71	0.71	0.03	0.67	0.67	0.15	0.44	0.44	0.04	0.33	0.33
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1810	1537	307	1810	706	1012
Grp Volume(v), veh/h	47	1515	125	14	1376	79	1	0	24	61	0	56
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1810	0	1845	1810	0	1718
Q Serve(g_s), s	3.1	26.1	3.3	0.9	23.5	2.2	0.0	0.0	0.9	2.7	0.0	2.7
Cycle Q Clear(g_c), s	3.1	26.1	3.3	0.9	23.5	2.2	0.0	0.0	0.9	2.7	0.0	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.59
Lane Grp Cap(c), veh/h	60	1794	557	27	1700	528	753	0	819	591	0	568
V/C Ratio(X)	0.78	0.84	0.22	0.51	0.81	0.15	0.00	0.00	0.03	0.10	0.00	0.10
Avail Cap(c_a), veh/h	169	2385	740	96	2174	675	753	0	819	639	0	568
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.52	0.52	0.52	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.5	15.1	11.8	57.7	17.0	13.5	15.3	0.0	18.8	24.9	0.0	27.8
Incr Delay (d2), s/veh	10.7	1.2	0.1	11.9	1.6	0.1	0.0	0.0	0.1	0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	7.9	2.0	0.9	9.0	1.4	0.0	0.0	0.7	2.1	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.2	16.3	11.9	69.6	18.6	13.6	15.3	0.0	18.8	25.0	0.0	28.2
LnGrp LOS	E	B	B	E	B	B	B	A	B	C	A	C
Approach Vol, veh/h	1687		1469				25		117			
Approach Delay, s/veh	17.4		18.8				18.7		26.5			
Approach LOS	B		B				B		C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	57.8	6.4	47.0	22.5	44.1	8.6	44.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	31.5	6.5	56.5	18.0	21.0	11.5	51.5				
Max Q Clear Time (g_c+I1), s	4.7	2.9	2.9	28.1	2.0	4.7	5.1	25.5				
Green Ext Time (p_c), s	0.0	0.1	0.0	14.4	0.0	0.2	0.0	12.1				
Intersection Summary												
HCM 6th Ctrl Delay			18.3									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

10: Imperial Highway & Volunteer Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	2	1127	144	48	1345	28	30	14	20	51	51	22
Future Volume (veh/h)	2	1127	144	48	1345	28	30	14	20	51	51	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2	1409	180	51	1416	29	47	22	31	58	58	25
Peak Hour Factor	0.80	0.80	0.80	0.95	0.95	0.95	0.64	0.64	0.64	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	142	1861	238	166	2457	50	598	317	447	385	372	715
Arrive On Green	0.41	0.41	0.41	0.01	0.16	0.16	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	366	4547	581	1767	5109	105	1336	714	1005	765	836	1610
Grp Volume(v), veh/h	2	1046	543	51	936	509	47	0	53	116	0	25
Grp Sat Flow(s),veh/h/ln	366	1689	1751	1767	1689	1837	1336	0	1719	1602	0	1610
Q Serve(g_s), s	0.5	31.8	31.8	1.9	30.8	30.8	2.6	0.0	2.1	2.8	0.0	1.1
Cycle Q Clear(g_c), s	22.7	31.8	31.8	1.9	30.8	30.8	7.6	0.0	2.1	5.0	0.0	1.1
Prop In Lane	1.00		0.33	1.00		0.06	1.00		0.58	0.50		1.00
Lane Grp Cap(c), veh/h	142	1382	717	166	1624	883	598	0	763	756	0	715
V/C Ratio(X)	0.01	0.76	0.76	0.31	0.58	0.58	0.08	0.00	0.07	0.15	0.00	0.03
Avail Cap(c_a), veh/h	198	1900	985	260	2322	1263	598	0	763	756	0	715
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	0.38	0.38	0.38	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.3	30.3	30.3	24.3	39.2	39.2	22.2	0.0	19.1	19.9	0.0	18.8
Incr Delay (d2), s/veh	0.0	0.8	1.6	0.4	0.1	0.2	0.3	0.0	0.2	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	0.1	17.9	18.6	1.5	17.8	19.2	1.6	0.0	1.6	3.7	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	31.2	32.0	24.7	39.3	39.4	22.4	0.0	19.3	20.3	0.0	18.9
LnGrp LOS	D	C	C	C	D	D	C	A	B	C	A	B
Approach Vol, veh/h	1591			1496			100			141		
Approach Delay, s/veh	31.5			38.8			20.8			20.0		
Approach LOS	C			D			C			C		
Timer - Assigned Phs	2		3	4		6		8				
Phs Duration (G+Y+Rc), s	57.8		8.6	53.6		57.8		62.2				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s	28.5		10.5	67.5		28.5		82.5				
Max Q Clear Time (g_c+I1), s	9.6		3.9	33.8		7.0		32.8				
Green Ext Time (p_c), s	0.3		0.0	15.3		0.6		14.7				
Intersection Summary												
HCM 6th Ctrl Delay	34.0											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

11: Bloomfield Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	240	772	85	416	1240	198	76	557	387	136	509	170
Future Volume (veh/h)	240	772	85	416	1240	198	76	557	387	136	509	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	286	919	101	457	1363	218	82	599	416	143	536	179
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	308	1148	356	487	1441	230	103	890	397	169	1021	456
Arrive On Green	0.35	0.45	0.45	0.28	0.33	0.33	0.08	0.34	0.34	0.10	0.29	0.29
Sat Flow, veh/h	1767	5066	1572	1767	4402	704	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	286	919	101	457	1046	535	82	599	416	143	536	179
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1729	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	18.7	18.7	4.8	30.3	36.2	36.2	5.5	17.5	30.3	9.6	15.3	10.9
Cycle Q Clear(g_c), s	18.7	18.7	4.8	30.3	36.2	36.2	5.5	17.5	30.3	9.6	15.3	10.9
Prop In Lane	1.00		1.00	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	308	1148	356	487	1106	566	103	890	397	169	1021	456
V/C Ratio(X)	0.93	0.80	0.28	0.94	0.95	0.95	0.80	0.67	1.05	0.85	0.52	0.39
Avail Cap(c_a), veh/h	346	1148	356	546	1112	569	128	890	397	184	1021	456
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	0.66	1.00	1.00	1.00	0.73	0.73	0.73	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.3	30.5	26.7	42.5	39.3	39.3	54.6	35.6	39.9	53.4	35.7	34.2
Incr Delay (d2), s/veh	21.6	2.8	0.3	23.0	15.6	24.9	18.0	3.0	51.9	27.2	1.9	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	12.5	9.6	3.1	22.8	24.0	26.2	5.2	11.3	23.0	9.4	11.1	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	33.3	27.0	65.5	55.0	64.3	72.6	38.6	91.7	80.6	37.6	36.7
LnGrp LOS	E	C	C	E	D	E	E	D	F	F	D	D
Approach Vol, veh/h	1306			2038			1097			858		
Approach Delay, s/veh	38.6			59.8			61.3			44.6		
Approach LOS	D			E			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	34.8	37.5	31.7	11.5	39.3	25.4	43.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	26.5	37.1	25.9	8.7	30.3	23.5	39.5				
Max Q Clear Time (g_c+I1), s	11.6	32.3	32.3	20.7	7.5	17.3	20.7	38.2				
Green Ext Time (p_c), s	0.0	0.0	0.7	2.9	0.0	3.5	0.2	1.1				
Intersection Summary												
HCM 6th Ctrl Delay	52.4											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary 12: Norwalk Bl & Civic Center Dr

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	294	4	85	0	839	570	89	644	4
Future Volume (veh/h)	1	0	1	294	4	85	0	839	570	89	644	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	0	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	2	0	2	354	0	101	0	1062	722	98	708	4
Peak Hour Factor	0.50	0.50	0.50	0.84	0.84	0.84	0.79	0.79	0.79	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	0	3	3	3	3	3
Cap, veh/h	4	0	4	448	0	200	0	3290	1221	121	3927	22
Arrive On Green	0.01	0.00	0.01	0.13	0.00	0.13	0.00	1.00	1.00	0.14	1.00	1.00
Sat Flow, veh/h	832	0	832	3534	0	1572	0	5233	1572	1767	5198	29
Grp Volume(v), veh/h	4	0	0	354	0	101	0	1062	722	98	460	252
Grp Sat Flow(s),veh/h/ln	1664	0	0	1767	0	1572	0	1689	1572	1767	1689	1850
Q Serve(g_s), s	0.3	0.0	0.0	11.7	0.0	7.2	0.0	0.0	0.0	6.5	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	0.0	11.7	0.0	7.2	0.0	0.0	0.0	6.5	0.0	0.0
Prop In Lane	0.50		0.50	1.00		1.00	0.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	9	0	0	448	0	200	0	3290	1221	121	2551	1398
V/C Ratio(X)	0.46	0.00	0.00	0.79	0.00	0.51	0.00	0.32	0.59	0.81	0.18	0.18
Avail Cap(c_a), veh/h	250	0	0	1016	0	452	0	3290	1221	199	2551	1398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	0.68	0.00	0.68	0.00	0.69	0.69	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	0.0	0.0	50.8	0.0	48.9	0.0	0.0	0.0	51.0	0.0	0.0
Incr Delay (d2), s/veh	33.9	0.0	0.0	2.2	0.0	1.4	0.0	0.2	1.5	12.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	0.0	0.0	8.4	0.0	5.2	0.0	0.1	0.9	5.6	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.4	0.0	0.0	53.0	0.0	50.2	0.0	0.2	1.5	63.0	0.2	0.3
LnGrp LOS	F	A	A	D	A	D	A	A	A	E	A	A
Approach Vol, veh/h	4			455				1784				810
Approach Delay, s/veh	93.4			52.4				0.7				7.8
Approach LOS	F			D				A				A
Timer - Assigned Phs	1	2	4				6	8				
Phs Duration (G+Y+Rc), s	12.7	82.4	5.1				95.2	19.7				
Change Period (Y+Rc), s	4.5	4.5	4.5				4.5	4.5				
Max Green Setting (Gmax), s	13.5	36.0	18.0				54.0	34.5				
Max Q Clear Time (g_c+I1), s	8.5	2.0	2.3				2.0	13.7				
Green Ext Time (p_c), s	0.1	14.3	0.0				5.4	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			10.4									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Summary

13: Civic Center Dr & Courthouse-AMC Theater

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	531	0	0	382	23	1	0	0	4	0	7
Future Volume (veh/h)	110	531	0	0	382	23	1	0	0	4	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	133	640	0	0	466	28	4	0	0	6	0	10
Peak Hour Factor	0.83	0.83	0.83	0.82	0.82	0.82	0.25	0.25	0.25	0.69	0.69	0.69
Percent Heavy Veh, %	3	3	0	0	3	3	0	0	0	0	0	0
Cap, veh/h	270	1112	0	0	627	38	916	0	0	372	24	567
Arrive On Green	0.08	0.32	0.00	0.00	0.19	0.19	0.58	0.00	0.00	0.58	0.00	0.58
Sat Flow, veh/h	1767	3618	0	0	3472	203	1430	0	0	542	41	970
Grp Volume(v), veh/h	133	640	0	0	243	251	4	0	0	16	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1819	1430	0	0	1552	0	0
Q Serve(g_s), s	5.2	13.7	0.0	0.0	11.7	11.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.2	13.7	0.0	0.0	11.7	11.8	0.1	0.0	0.0	0.4	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.11	1.00		0.00	0.37		0.62
Lane Grp Cap(c), veh/h	270	1112	0	0	327	338	916	0	0	962	0	0
V/C Ratio(X)	0.49	0.58	0.00	0.00	0.74	0.74	0.00	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	493	2292	0	0	695	718	916	0	0	962	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)	0.84	0.84	0.00	0.00	0.84	0.84	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.9	25.8	0.0	0.0	34.6	34.6	7.8	0.0	0.0	7.8	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.4	0.0	0.0	2.8	2.8	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.0	9.2	0.0	0.0	8.6	8.8	0.1	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	26.2	0.0	0.0	37.4	37.4	7.8	0.0	0.0	7.9	0.0	0.0
LnGrp LOS	C	C	A	A	D	D	A	A	A	A	A	A
Approach Vol, veh/h	773			494			4			16		
Approach Delay, s/veh	26.3			37.4			7.8			7.9		
Approach LOS	C			D			A			A		
Timer - Assigned Phs	2			4			6			7		
Phs Duration (G+Y+Rc), s	57.1			32.9			57.1			11.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	22.5			58.5			22.5			18.5		
Max Q Clear Time (g_c+l1), s	2.1			15.7			2.4			7.2		
Green Ext Time (p_c), s	0.0			5.1			0.0			0.2		
Intersection Summary												
HCM 6th Ctrl Delay	30.3											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

14: Civic Center Dr & Avenida Manuel Salinas

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	498	12	9	336	19	41	3	22	15	1	20
Future Volume (veh/h)	26	498	12	9	336	19	41	3	22	15	1	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	31	593	14	12	431	24	49	4	27	19	1	22
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.83	0.83	0.83	0.77	0.77	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	209	717	17	148	639	36	681	80	538	354	19	331
Arrive On Green	0.06	0.41	0.41	0.03	0.38	0.38	0.38	0.38	0.38	0.21	0.21	0.21
Sat Flow, veh/h	1767	3520	83	1767	3396	189	1810	212	1431	1723	91	1610
Grp Volume(v), veh/h	31	297	310	12	223	232	49	0	31	20	0	22
Grp Sat Flow(s),veh/h/ln	1767	1763	1841	1767	1763	1822	1810	0	1642	1814	0	1610
Q Serve(g_s), s	1.2	13.5	13.6	0.5	9.5	9.6	1.6	0.0	1.1	0.8	0.0	1.0
Cycle Q Clear(g_c), s	1.2	13.5	13.6	0.5	9.5	9.6	1.6	0.0	1.1	0.8	0.0	1.0
Prop In Lane	1.00		0.05	1.00		0.10	1.00		0.87	0.95		1.00
Lane Grp Cap(c), veh/h	209	359	375	148	332	343	681	0	618	373	0	331
V/C Ratio(X)	0.15	0.83	0.83	0.08	0.67	0.68	0.07	0.00	0.05	0.05	0.00	0.07
Avail Cap(c_a), veh/h	264	519	542	231	519	536	681	0	618	373	0	331
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	0.87	0.87	0.87	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.6	25.2	25.2	29.2	25.7	25.8	18.0	0.0	17.8	28.7	0.0	28.8
Incr Delay (d2), s/veh	0.3	6.3	6.1	0.2	2.1	2.0	0.2	0.0	0.2	0.3	0.0	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	0.9	8.3	8.6	0.4	6.3	6.5	1.2	0.0	0.8	0.7	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	31.5	31.3	29.4	27.8	27.8	18.2	0.0	18.0	29.0	0.0	29.2
LnGrp LOS	C	C	C	C	C	C	B	A	B	C	A	C
Approach Vol, veh/h	638			467			80			42		
Approach Delay, s/veh	31.3			27.8			18.1			29.1		
Approach LOS	C			C			B			C		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	38.4		5.8	22.8		23.0		7.2	21.4			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	21.5		5.5	26.5		18.5		5.5	26.5			
Max Q Clear Time (g_c+I1), s	3.6		2.5	15.6		3.0		3.2	11.6			
Green Ext Time (p_c), s	0.2		0.0	2.8		0.1		0.0	2.3			
Intersection Summary												
HCM 6th Ctrl Delay	29.0											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 15: Civic Center Dr & Volunteer Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	397	39	6	247	21	45	17	12	35	30	67
Future Volume (veh/h)	107	397	39	6	247	21	45	17	12	35	30	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	130	484	48	7	287	24	75	28	20	53	45	102
Peak Hour Factor	0.82	0.82	0.82	0.86	0.86	0.86	0.60	0.60	0.60	0.66	0.66	0.66
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	269	699	312	157	411	34	604	223	148	596	490	1035
Arrive On Green	0.08	0.20	0.20	0.01	0.12	0.12	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1767	3526	1572	1767	3295	274	839	348	230	832	762	1610
Grp Volume(v), veh/h	130	484	48	7	153	158	123	0	0	98	0	102
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1806	1417	0	0	1594	0	1610
Q Serve(g_s), s	5.5	11.5	2.3	0.3	7.5	7.6	1.4	0.0	0.0	0.0	0.0	2.2
Cycle Q Clear(g_c), s	5.5	11.5	2.3	0.3	7.5	7.6	3.1	0.0	0.0	1.7	0.0	2.2
Prop In Lane	1.00		1.00	1.00		0.15	0.61		0.16	0.54		1.00
Lane Grp Cap(c), veh/h	269	699	312	157	220	225	975	0	0	1086	0	1035
V/C Ratio(X)	0.48	0.69	0.15	0.04	0.69	0.70	0.13	0.00	0.00	0.09	0.00	0.10
Avail Cap(c_a), veh/h	467	1469	655	308	558	572	975	0	0	1086	0	1035
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.70	0.95	0.95	0.95	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.4	33.5	29.8	34.0	37.7	37.8	6.3	0.0	0.0	6.1	0.0	6.1
Incr Delay (d2), s/veh	0.9	0.9	0.2	0.1	3.7	3.8	0.3	0.0	0.0	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	7.9	1.6	0.2	6.1	6.4	1.6	0.0	0.0	1.2	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	34.4	30.0	34.1	41.4	41.5	6.5	0.0	0.0	6.2	0.0	6.3
LnGrp LOS	C	C	C	C	D	D	A	A	A	A	A	A
Approach Vol, veh/h	662			318			123			200		
Approach Delay, s/veh	33.3			41.3			6.5			6.3		
Approach LOS	C			D			A			A		
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	62.4		5.3	22.3		62.4	11.9	15.7				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	30.5		8.5	37.5		30.5	17.5	28.5				
Max Q Clear Time (g_c+I1), s	5.1		2.3	13.5		4.2	7.5	9.6				
Green Ext Time (p_c), s	0.7		0.0	3.5		0.9	0.2	1.7				
Intersection Summary												
HCM 6th Ctrl Delay	28.6											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

16: Civic Center Dr & Bloomfield Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	302	13	80	33	34	8	124	908	7	2	643	190
Future Volume (veh/h)	302	13	80	33	34	8	124	908	7	2	643	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	351	15	93	37	38	9	163	1195	9	2	714	211
Peak Hour Factor	0.86	0.86	0.86	0.89	0.89	0.89	0.76	0.76	0.76	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	438	556	471	435	434	103	220	2099	16	5	1846	823
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.06	0.59	0.59	0.01	1.00	1.00
Sat Flow, veh/h	1348	1856	1572	1275	1450	343	3428	3586	27	1767	3526	1572
Grp Volume(v), veh/h	351	15	93	37	0	47	163	587	617	2	714	211
Grp Sat Flow(s),veh/h/ln	1348	1856	1572	1275	0	1794	1714	1763	1851	1767	1763	1572
Q Serve(g_s), s	30.4	0.7	5.3	2.5	0.0	2.3	5.6	24.9	24.9	0.1	0.0	0.0
Cycle Q Clear(g_c), s	32.7	0.7	5.3	3.2	0.0	2.3	5.6	24.9	24.9	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	438	556	471	435	0	537	220	1032	1083	5	1846	823
V/C Ratio(X)	0.80	0.03	0.20	0.09	0.00	0.09	0.74	0.57	0.57	0.42	0.39	0.26
Avail Cap(c_a), veh/h	568	734	622	558	0	710	306	1032	1083	75	1846	823
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)	0.88	0.88	0.88	1.00	0.00	1.00	1.00	1.00	1.00	0.66	0.66	0.66
Uniform Delay (d), s/veh	42.0	29.7	31.3	30.8	0.0	30.2	55.2	15.5	15.5	59.6	0.0	0.0
Incr Delay (d2), s/veh	5.5	0.0	0.2	0.1	0.0	0.1	5.9	2.3	2.2	34.7	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.7	0.6	3.7	1.4	0.0	1.8	4.7	15.5	16.1	0.2	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	29.7	31.5	30.9	0.0	30.3	61.1	17.8	17.7	94.3	0.4	0.5
LnGrp LOS	D	C	C	C	A	C	E	B	B	F	A	A
Approach Vol, veh/h	459			84			1367			927		
Approach Delay, s/veh	43.6			30.6			22.9			0.6		
Approach LOS	D			C			C			A		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	4.8	74.7	40.4		12.2	67.3	40.4					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.1	53.9	47.5		10.7	48.3	47.5					
Max Q Clear Time (g_c+I1), s	2.1	26.9	34.7		7.6	2.0	5.2					
Green Ext Time (p_c), s	0.0	9.6	1.3		0.1	6.8	0.4					
Intersection Summary												
HCM 6th Ctrl Delay	19.2											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 17: Adoree St/I-5 NB Off-Ramp & Norwalk Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	0	103	117	78	560	82	785	0	0	885	69
Future Volume (veh/h)	43	0	103	117	78	560	82	785	0	0	885	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			
Adj Sat Flow, veh/h/ln	1856	0	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	56	0	134	141	94	675	102	981	0	0	1135	88
Peak Hour Factor	0.77	0.77	0.77	0.83	0.83	0.83	0.80	0.80	0.80	0.78	0.78	0.78
Percent Heavy Veh, %	3	0	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	0	0	0	478	1097	695	154	2448	0	0	1922	149
Arrive On Green	0.00	0.00	0.00	0.44	0.44	0.44	0.01	0.16	0.00	0.00	0.80	0.80
Sat Flow, veh/h	0		1081		2483	1572	3428	5233	0	0	4961	371
Grp Volume(v), veh/h	0.0		235		0	675	102	981	0	0	799	424
Grp Sat Flow(s),veh/h/ln			1801		1763	1572	1714	1689	0	0	1689	1789
Q Serve(g_s), s			10.0		0.0	50.4	3.6	20.9	0.0	0.0	10.7	10.7
Cycle Q Clear(g_c), s			10.0		0.0	50.4	3.6	20.9	0.0	0.0	10.7	10.7
Prop In Lane			0.60		1.00		1.00	0.00		0.00	0.21	
Lane Grp Cap(c), veh/h			796		779	695	154	2448	0	0	1354	717
V/C Ratio(X)			0.30		0.00	0.97	0.66	0.40	0.00	0.00	0.59	0.59
Avail Cap(c_a), veh/h			806		789	704	169	2448	0	0	1354	717
HCM Platoon Ratio			1.00		1.00	1.00	0.33	0.33	1.00	1.00	2.00	2.00
Upstream Filter(I)			1.00		1.00	1.00	0.92	0.92	0.00	0.00	0.97	0.97
Uniform Delay (d), s/veh			21.5		0.0	32.8	58.2	34.8	0.0	0.0	8.2	8.2
Incr Delay (d2), s/veh			0.2		0.0	26.8	7.7	0.5	0.0	0.0	1.8	3.5
Initial Q Delay(d3),s/veh			0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln			7.7		0.0	31.7	3.1	14.4	0.0	0.0	5.0	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh			21.7		0.0	59.5	65.9	35.3	0.0	0.0	10.0	11.6
LnGrp LOS			C		A	E	E	D	A	A	B	B
Approach Vol, veh/h					910		1083				1223	
Approach Delay, s/veh					49.8		38.2				10.6	
Approach LOS					D		D				B	
Timer - Assigned Phs	2				5		6		8			
Phs Duration (G+Y+Rc), s	62.5				9.9		52.6		57.5			
Change Period (Y+Rc), s	4.5				4.5		4.5		4.5			
Max Green Setting (Gmax), s	44.1				5.9		33.7		53.7			
Max Q Clear Time (g_c+I1), s	22.9				5.6		12.7		52.4			
Green Ext Time (p_c), s	7.2				0.0		8.8		0.6			
Intersection Summary												
HCM 6th Ctrl Delay	31.0											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 18: San Antonio Dr & Frontage Rd/I-5 SB On-Ramp

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	248	95	0	0	0	0	838	242	253	851	0
Future Volume (veh/h)	39	248	95	0	0	0	0	838	242	253	851	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	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	41	264	101				0	998	288	309	1038	0
Peak Hour Factor	0.94	0.94	0.94				0.84	0.84	0.84	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	178	373	158				0	2636	760	383	4176	0
Arrive On Green	0.10	0.10	0.10				0.00	0.68	0.68	0.11	0.82	0.00
Sat Flow, veh/h	1767	3711	1572				0	4072	1125	3428	5233	0
Grp Volume(v), veh/h	41	264	101				0	863	423	309	1038	0
Grp Sat Flow(s),veh/h/ln	1767	1856	1572				0	1689	1653	1714	1689	0
Q Serve(g_s), s	2.6	8.3	7.4				0.0	13.4	13.4	10.6	5.4	0.0
Cycle Q Clear(g_c), s	2.6	8.3	7.4				0.0	13.4	13.4	10.6	5.4	0.0
Prop In Lane	1.00		1.00				0.00		0.68	1.00		0.00
Lane Grp Cap(c), veh/h	178	373	158				0	2280	1116	383	4176	0
V/C Ratio(X)	0.23	0.71	0.64				0.00	0.38	0.38	0.81	0.25	0.00
Avail Cap(c_a), veh/h	361	758	321				0	2280	1116	700	4176	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)	0.92	0.92	0.92				0.00	0.81	0.81	0.54	0.54	0.00
Uniform Delay (d), s/veh	49.7	52.3	51.9				0.0	8.5	8.5	52.0	2.3	0.0
Incr Delay (d2), s/veh	0.6	2.3	3.9				0.0	0.4	0.8	2.2	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	2.1	7.1	5.6				0.0	7.9	8.0	7.3	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	54.5	55.8				0.0	8.9	9.3	54.3	2.4	0.0
LnGrp LOS	D	D	E				A	A	A	D	A	A
Approach Vol, veh/h	406						1286			1347		
Approach Delay, s/veh	54.4						9.0			14.3		
Approach LOS	D						A			B		
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	17.9	85.5		16.6		103.4						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	24.5	57.5		24.5		86.5						
Max Q Clear Time (g_c+I1), s	12.6	15.4		10.3		7.4						
Green Ext Time (p_c), s	0.8	12.3		1.8		9.9						
Intersection Summary												
HCM 6th Ctrl Delay			17.4									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Summary

19: San Antonio Dr & Firestone Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	337	41	37	324	39	56	754	78	67	584	161
Future Volume (veh/h)	183	337	41	37	324	39	56	754	78	67	584	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	208	383	47	41	356	43	67	898	93	82	712	196
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.84	0.84	0.84	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	239	806	360	55	440	196	86	1875	837	103	2146	583
Arrive On Green	0.14	0.23	0.23	0.03	0.12	0.12	0.05	0.53	0.53	0.12	1.00	1.00
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	3962	1077
Grp Volume(v), veh/h	208	383	47	41	356	43	67	898	93	82	606	302
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1689	1662
Q Serve(g_s), s	13.8	11.3	2.9	2.8	11.8	3.0	4.5	19.2	3.5	5.4	0.0	0.0
Cycle Q Clear(g_c), s	13.8	11.3	2.9	2.8	11.8	3.0	4.5	19.2	3.5	5.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	239	806	360	55	440	196	86	1875	837	103	1829	900
V/C Ratio(X)	0.87	0.48	0.13	0.75	0.81	0.22	0.78	0.48	0.11	0.80	0.33	0.34
Avail Cap(c_a), veh/h	361	1072	478	110	573	256	155	1875	837	184	1829	900
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)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.97	0.97	0.97
Uniform Delay (d), s/veh	50.9	40.0	36.8	57.7	51.1	47.3	56.4	17.6	14.0	52.3	0.0	0.0
Incr Delay (d2), s/veh	13.9	0.4	0.2	18.1	6.6	0.6	1.4	0.1	0.0	12.5	0.5	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	11.4	8.6	2.0	2.7	9.5	2.1	2.7	9.0	1.8	4.8	0.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.8	40.5	37.0	75.8	57.7	47.8	57.9	17.7	14.0	64.8	0.5	1.0
LnGrp LOS	E	D	D	E	E	D	E	B	B	E	A	A
Approach Vol, veh/h	638			440			1058			990		
Approach Delay, s/veh	48.1			58.4			19.9			6.0		
Approach LOS	D			E			B			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	68.3	8.2	31.9	10.3	69.5	20.7	19.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	45.5	7.5	36.5	10.5	47.5	24.5	19.5				
Max Q Clear Time (g_c+I1), s	7.4	21.2	4.8	13.3	6.5	2.0	15.8	13.8				
Green Ext Time (p_c), s	0.1	7.3	0.0	2.7	0.0	7.6	0.4	1.2				
Intersection Summary												
HCM 6th Ctrl Delay	26.7											
HCM 6th LOS	C											

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022

												
Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	54	295	554	131	32	551	45	11	96	337	218	27
Future Volume (vph)	54	295	554	131	32	551	45	11	96	337	218	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00	1.00	0.91			1.00	0.91	0.91	
Frt		1.00	1.00	0.85	1.00	0.99			1.00	0.98	0.85	
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (prot)		1752	3505	1568	1752	4967			1752	3274	1427	
Flt Permitted		0.36	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (perm)		668	3505	1568	1752	4967			1752	3274	1427	
Peak-hour factor, PHF	0.85	0.85	0.85	1.00	0.83	0.83	0.83	0.83	0.96	0.96	0.96	0.96
Adj. Flow (vph)	64	347	652	131	39	664	54	13	100	351	227	28
RTOR Reduction (vph)	0	0	0	61	0	0	0	0	0	0	90	0
Lane Group Flow (vph)	0	411	652	70	39	731	0	0	100	421	95	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	NA			Prot	NA	Perm	
Protected Phases	7		4		3	8			5	2		
Permitted Phases		4		4							2	
Actuated Green, G (s)		67.4	67.4	67.4	4.0	75.9			6.5	32.6	32.6	
Effective Green, g (s)		67.4	67.4	67.4	4.0	75.9			6.5	32.6	32.6	
Actuated g/C Ratio		0.48	0.48	0.48	0.03	0.54			0.05	0.23	0.23	
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		321	1687	754	50	2692			81	762	332	
v/s Ratio Prot			0.19		c0.02	0.15			c0.06	0.13		
v/s Ratio Perm		c0.62		0.04							0.07	
v/c Ratio		1.28	0.39	0.09	0.78	0.27			1.23	0.55	0.29	
Uniform Delay, d1		36.3	23.1	19.7	67.6	17.2			66.8	47.3	44.1	
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2		148.0	0.1	0.1	53.9	0.1			175.8	2.9	2.2	
Delay (s)		184.3	23.3	19.8	121.5	17.3			242.5	50.2	46.3	
Level of Service		F	C	B	F	B			F	D	D	
Approach Delay (s)			78.3			22.5				76.4		
Approach LOS			E			C				E		
Intersection Summary												
HCM 2000 Control Delay			62.9			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.06									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			72.7%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022



Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	7	63	313	97	20	159	147	1
Future Volume (vph)	7	63	313	97	20	159	147	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00		0.97	0.91	
Frt		1.00	1.00	0.85		0.97	0.85	
Flt Protected		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1752	3505	1568		3337	1427	
Flt Permitted		0.49	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		902	3505	1568		3337	1427	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.78	0.78	0.78	0.78
Adj. Flow (vph)	8	71	352	109	26	204	188	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	79	352	109	0	288	131	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	Prot	Perm	
Protected Phases	1		6		12	12		
Permitted Phases		6		6			12	
Actuated Green, G (s)		21.6	21.6	21.6		18.0	18.0	
Effective Green, g (s)		21.6	21.6	21.6		18.0	18.0	
Actuated g/C Ratio		0.15	0.15	0.15		0.13	0.13	
Clearance Time (s)		4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		139	540	241		429	183	
v/s Ratio Prot			c0.10			0.09		
v/s Ratio Perm		0.09		0.07			c0.09	
v/c Ratio		0.57	0.65	0.45		0.67	0.72	
Uniform Delay, d1		54.9	55.7	53.8		58.2	58.5	
Progression Factor		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		15.8	6.0	6.0		8.1	21.2	
Delay (s)		70.6	61.7	59.8		66.3	79.8	
Level of Service		E	E	E		E	E	
Approach Delay (s)			62.6			70.5		
Approach LOS			E			E		
Intersection Summary								

HCM 6th Signalized Intersection Summary

1: Norwalk BI & Lakeland Rd

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	141	24	183	238	190	41	571	194	99	734	61
Future Volume (veh/h)	19	141	24	183	238	190	41	571	194	99	734	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	21	158	27	251	326	260	49	688	234	108	798	66
Peak Hour Factor	0.89	0.89	0.89	0.73	0.73	0.73	0.83	0.83	0.83	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	3	3	3	3	3	3
Cap, veh/h	71	453	72	430	600	509	360	1508	513	334	1925	159
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.58	0.58	0.58	0.58	0.58	0.58
Sat Flow, veh/h	87	1434	229	1218	1900	1610	635	2582	878	601	3297	273
Grp Volume(v), veh/h	206	0	0	251	326	260	49	470	452	108	427	437
Grp Sat Flow(s),veh/h/ln	1750	0	0	1218	1900	1610	635	1763	1697	601	1763	1806
Q Serve(g_s), s	0.0	0.0	0.0	10.6	12.8	11.9	4.2	13.6	13.6	11.4	12.0	12.0
Cycle Q Clear(g_c), s	7.7	0.0	0.0	19.2	12.8	11.9	17.1	13.6	13.6	26.0	12.0	12.0
Prop In Lane	0.10		0.13	1.00		1.00	1.00		0.52	1.00		0.15
Lane Grp Cap(c), veh/h	597	0	0	430	600	509	360	1029	991	334	1029	1055
V/C Ratio(X)	0.35	0.00	0.00	0.58	0.54	0.51	0.14	0.46	0.46	0.32	0.41	0.41
Avail Cap(c_a), veh/h	695	0	0	503	714	605	360	1029	991	334	1029	1055
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	0.0	28.4	25.4	25.1	15.2	10.6	10.6	18.3	10.3	10.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.3	0.8	0.8	0.7	1.4	1.4	2.6	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	6.0	0.0	0.0	8.5	9.6	8.0	1.2	8.9	8.6	3.2	8.1	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.0	0.0	0.0	29.6	26.2	25.9	16.0	12.0	12.1	20.9	11.5	11.5
LnGrp LOS	C	A	A	C	C	C	B	B	B	C	B	B
Approach Vol, veh/h		206			837			971			972	
Approach Delay, s/veh		24.0			27.1			12.2			12.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.1		30.9		59.1		30.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		47.2		33.8		47.2		33.8				
Max Q Clear Time (g_c+I1), s		19.1		9.7		28.0		21.2				
Green Ext Time (p_c), s		7.5		1.2		6.6		3.2				
Intersection Summary												
HCM 6th Ctrl Delay				17.3								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Norwalk Bl & Crewe St

05/06/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	83	69	67	770	994	24
Future Volume (veh/h)	83	69	67	770	994	24
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	1900	1900	1856	1856	1856	1856
Adj Flow Rate, veh/h	105	87	75	865	1057	26
Peak Hour Factor	0.79	0.79	0.89	0.89	0.94	0.94
Percent Heavy Veh, %	0	0	3	3	3	3
Cap, veh/h	151	134	461	2880	2872	71
Arrive On Green	0.08	0.08	0.82	0.82	0.82	0.82
Sat Flow, veh/h	1810	1610	517	3618	3609	86
Grp Volume(v), veh/h	105	87	75	865	530	553
Grp Sat Flow(s),veh/h/ln	1810	1610	517	1763	1763	1840
Q Serve(g_s), s	5.1	4.7	4.0	5.4	7.1	7.1
Cycle Q Clear(g_c), s	5.1	4.7	11.1	5.4	7.1	7.1
Prop In Lane	1.00	1.00	1.00			0.05
Lane Grp Cap(c), veh/h	151	134	461	2880	1440	1503
V/C Ratio(X)	0.70	0.65	0.16	0.30	0.37	0.37
Avail Cap(c_a), veh/h	452	403	461	2880	1440	1503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.68	0.68	0.85	0.85
Uniform Delay (d), s/veh	40.2	40.0	3.6	2.0	2.2	2.2
Incr Delay (d2), s/veh	5.7	5.2	0.5	0.2	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	3.7	0.7	1.9	2.7	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.9	45.2	4.1	2.2	2.8	2.8
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	192			940	1083	
Approach Delay, s/veh	45.6			2.3	2.8	
Approach LOS	D			A	A	
Timer - Assigned Phs	2		4		6	
Phs Duration (G+Y+Rc), s	78.0		12.0		78.0	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	58.5		22.5		58.5	
Max Q Clear Time (g_c+l1), s	13.1		7.1		9.1	
Green Ext Time (p_c), s	9.0		0.5		9.4	
Intersection Summary						
HCM 6th Ctrl Delay			6.3			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

3: Firestone Bl & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↰	↑↑↑	↱	↰↱	↑↑		↰↱	↑↑↑	
Traffic Volume (veh/h)	0	1229	307	6	1080	336	330	455	16	364	426	1
Future Volume (veh/h)	0	1229	307	6	1080	336	330	455	16	364	426	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1322	330	7	1200	373	359	495	0	400	468	1
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	0	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	1618	403	92	2027	629	430	1231		474	1890	4
Arrive On Green	0.00	0.40	0.40	0.13	0.13	0.13	0.13	0.35	0.00	0.14	0.36	0.36
Sat Flow, veh/h	0	4210	1008	300	5066	1572	3428	3618	0	3428	5219	11
Grp Volume(v), veh/h	0	1104	548	7	1200	373	359	495	0	400	303	166
Grp Sat Flow(s),veh/h/ln	0	1689	1674	300	1689	1572	1714	1763	0	1714	1689	1854
Q Serve(g_s), s	0.0	35.0	35.0	2.7	26.8	26.8	12.3	12.8	0.0	13.7	7.5	7.5
Cycle Q Clear(g_c), s	0.0	35.0	35.0	37.8	26.8	26.8	12.3	12.8	0.0	13.7	7.5	7.5
Prop In Lane	0.00		0.60	1.00		1.00	1.00		0.00	1.00		0.01
Lane Grp Cap(c), veh/h	0	1351	670	92	2027	629	430	1231		474	1223	671
V/C Ratio(X)	0.00	0.82	0.82	0.08	0.59	0.59	0.84	0.40		0.84	0.25	0.25
Avail Cap(c_a), veh/h	0	1506	746	106	2258	701	614	1231		671	1223	671
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.55	0.55	0.55	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	32.1	32.1	64.7	42.9	42.9	51.3	29.6	0.0	50.4	26.8	26.8
Incr Delay (d2), s/veh	0.0	3.3	6.5	0.2	0.2	0.6	6.8	1.0	0.0	6.9	0.5	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	0.0	20.9	21.5	0.4	16.4	15.5	9.6	9.5	0.0	10.4	5.7	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	35.4	38.7	64.9	43.0	43.5	58.0	30.5	0.0	57.3	27.3	27.7
LnGrp LOS	A	D	D	E	D	D	E	C		E	C	C
Approach Vol, veh/h		1652			1580			854	A		869	
Approach Delay, s/veh		36.5			43.2			42.1			41.2	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.1	46.4		52.5	19.5	47.9		52.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	23.5	29.5		53.5	21.5	31.5		53.5				
Max Q Clear Time (g_c+I1), s	15.7	14.8		37.0	14.3	9.5		39.8				
Green Ext Time (p_c), s	0.9	2.9		10.6	0.8	2.9		8.2				

Intersection Summary

HCM 6th Ctrl Delay	40.4
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary

4: Pioneer Bl & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 		 	 	
Traffic Volume (veh/h)	313	1135	61	173	1080	106	49	552	257	137	465	421
Future Volume (veh/h)	313	1135	61	173	1080	106	49	552	257	137	465	421
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	382	1384	74	201	1256	123	51	575	268	141	479	434
Peak Hour Factor	0.82	0.82	0.82	0.86	0.86	0.86	0.96	0.96	0.96	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	413	1931	599	231	1410	438	65	991	442	195	1061	473
Arrive On Green	0.23	0.38	0.38	0.13	0.28	0.28	0.04	0.28	0.28	0.06	0.30	0.30
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	382	1384	74	201	1256	123	51	575	268	141	479	434
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1714	1763	1572
Q Serve(g_s), s	25.4	27.9	3.7	13.4	28.6	7.3	3.4	16.8	17.7	4.9	13.2	32.0
Cycle Q Clear(g_c), s	25.4	27.9	3.7	13.4	28.6	7.3	3.4	16.8	17.7	4.9	13.2	32.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	413	1931	599	231	1410	438	65	991	442	195	1061	473
V/C Ratio(X)	0.93	0.72	0.12	0.87	0.89	0.28	0.78	0.58	0.61	0.72	0.45	0.92
Avail Cap(c_a), veh/h	493	1931	599	343	1456	452	96	991	442	214	1061	473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.55	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	31.6	24.1	51.1	41.5	33.9	57.3	37.0	37.4	55.7	33.9	40.5
Incr Delay (d2), s/veh	13.7	0.7	0.1	12.7	6.2	0.3	21.3	2.5	6.1	10.4	1.4	25.1
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	16.9	15.5	2.5	10.7	18.0	5.1	3.5	12.1	12.0	4.3	9.8	22.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.6	32.3	24.2	63.8	47.7	34.2	78.6	39.5	43.4	66.0	35.3	65.6
LnGrp LOS	E	C	C	E	D	C	E	D	D	E	D	E
Approach Vol, veh/h		1840			1580			894			1054	
Approach Delay, s/veh		37.5			48.7			42.9			51.9	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.3	38.2	20.2	50.2	8.9	40.6	32.5	37.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	26.5	23.3	44.7	6.5	27.5	33.5	34.5				
Max Q Clear Time (g_c+I1), s	6.9	19.7	15.4	29.9	5.4	34.0	27.4	30.6				
Green Ext Time (p_c), s	0.0	2.7	0.3	8.7	0.0	0.0	0.7	2.9				
Intersection Summary												
HCM 6th Ctrl Delay			44.5									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary 5: Frontage Rd/I-5 SB Off-Ramp & Imperial Highway

05/06/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑↑	
Traffic Volume (veh/h)	0	1473	217	6	1254	0	0	0	0	289	117	159
Future Volume (veh/h)	0	1473	217	6	1254	0	0	0	0	289	117	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	0	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1655	244	7	1378	0				212	290	179
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91				0.89	0.89	0.89
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	2402	745	30	2682	0				667	820	492
Arrive On Green	0.00	0.47	0.47	0.01	0.53	0.00				0.38	0.38	0.38
Sat Flow, veh/h	0	5233	1572	3428	5233	0				1767	2174	1303
Grp Volume(v), veh/h	0	1655	244	7	1378	0				212	246	223
Grp Sat Flow(s),veh/h/ln	0	1689	1572	1714	1689	0				1767	1856	1621
Q Serve(g_s), s	0.0	24.7	9.3	0.2	17.0	0.0				8.2	9.2	9.6
Cycle Q Clear(g_c), s	0.0	24.7	9.3	0.2	17.0	0.0				8.2	9.2	9.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.80
Lane Grp Cap(c), veh/h	0	2402	745	30	2682	0				667	700	612
V/C Ratio(X)	0.00	0.69	0.33	0.23	0.51	0.00				0.32	0.35	0.36
Avail Cap(c_a), veh/h	0	3326	1033	230	3903	0				667	700	612
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	1.00	1.00	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	19.9	15.8	47.6	14.7	0.0				21.3	21.6	21.7
Incr Delay (d2), s/veh	0.0	0.4	0.3	3.8	0.2	0.0				1.3	1.4	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	0.0	14.3	5.9	0.2	10.3	0.0				6.4	7.6	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.2	16.1	51.4	14.9	0.0				22.5	23.0	23.4
LnGrp LOS	A	C	B	D	B	A				C	C	C
Approach Vol, veh/h		1899			1385						681	
Approach Delay, s/veh		19.7			15.0						23.0	
Approach LOS		B			B						C	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			5.4	50.3		41.0		55.7				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			6.5	63.5		36.5		74.5				
Max Q Clear Time (g_c+I1), s			2.2	26.7		11.6		19.0				
Green Ext Time (p_c), s			0.0	19.2		3.7		15.1				
Intersection Summary												
HCM 6th Ctrl Delay			18.6									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

6: Adoree St/I-5 NB On-Ramp & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			  			 				
Traffic Volume (veh/h)	155	1580	35	4	1149	665	118	128	12	0	0	0
Future Volume (veh/h)	155	1580	35	4	1149	665	118	128	12	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	170	1736	38	5	1306	756	140	152	14			
Peak Hour Factor	0.91	0.91	0.91	0.88	0.88	0.88	0.84	0.84	0.84			
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3			
Cap, veh/h	228	2145	47	11	2776	862	482	481	429			
Arrive On Green	0.07	0.61	0.61	0.01	0.55	0.55	0.27	0.27	0.27			
Sat Flow, veh/h	3428	3527	77	1767	5066	1572	1767	1763	1572			
Grp Volume(v), veh/h	170	865	909	5	1306	756	140	152	14			
Grp Sat Flow(s),veh/h/ln	1714	1763	1842	1767	1689	1572	1767	1763	1572			
Q Serve(g_s), s	5.8	45.3	45.8	0.3	18.8	50.2	7.5	8.2	0.8			
Cycle Q Clear(g_c), s	5.8	45.3	45.8	0.3	18.8	50.2	7.5	8.2	0.8			
Prop In Lane	1.00		0.04	1.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	228	1072	1120	11	2776	862	482	481	429			
V/C Ratio(X)	0.75	0.81	0.81	0.44	0.47	0.88	0.29	0.32	0.03			
Avail Cap(c_a), veh/h	329	1168	1220	81	3103	963	482	481	429			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.76	0.76	0.76	0.47	0.47	0.47	1.00	1.00	1.00			
Uniform Delay (d), s/veh	55.0	18.1	18.2	59.4	16.5	23.6	34.4	34.7	32.0			
Incr Delay (d2), s/veh	4.1	3.1	3.0	12.2	0.1	4.3	1.5	1.7	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	4.8	24.3	25.5	0.3	10.2	23.6	6.2	6.8	0.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.1	21.2	21.2	71.6	16.6	27.9	36.0	36.4	32.1			
LnGrp LOS	E	C	C	E	B	C	D	D	C			
Approach Vol, veh/h	1944			2067			306					
Approach Delay, s/veh	24.5			20.9			36.0					
Approach LOS	C			C			D					
Timer - Assigned Phs	2		3	4		7		8				
Phs Duration (G+Y+Rc), s	37.2		5.3	77.5		12.5		70.3				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s	21.5		5.5	79.5		11.5		73.5				
Max Q Clear Time (g_c+I1), s	10.2		2.3	47.8		7.8		52.2				
Green Ext Time (p_c), s	1.3		0.0	18.3		0.2		13.5				
Intersection Summary												
HCM 6th Ctrl Delay	23.6											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

7: Kalnor Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 							
Traffic Volume (veh/h)	79	1185	24	26	1608	106	13	17	23	83	21	67
Future Volume (veh/h)	79	1185	24	26	1608	106	13	17	23	83	21	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	89	1331	27	28	1711	113	18	23	32	89	23	73
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.73	0.73	0.73	0.93	0.93	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	114	3236	66	48	2100	937	161	188	329	285	82	259
Arrive On Green	0.06	0.63	0.63	0.03	0.60	0.60	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1767	5110	104	1767	3526	1572	533	920	1610	1370	400	1271
Grp Volume(v), veh/h	89	880	478	28	1711	113	41	0	32	89	0	96
Grp Sat Flow(s),veh/h/ln	1767	1689	1837	1767	1763	1572	1453	0	1610	1370	0	1671
Q Serve(g_s), s	4.9	12.9	12.9	1.6	37.9	3.1	0.1	0.0	1.6	5.8	0.0	4.8
Cycle Q Clear(g_c), s	4.9	12.9	12.9	1.6	37.9	3.1	4.9	0.0	1.6	10.7	0.0	4.8
Prop In Lane	1.00		0.06	1.00		1.00	0.44		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	114	2138	1163	48	2100	937	348	0	329	285	0	341
V/C Ratio(X)	0.78	0.41	0.41	0.59	0.81	0.12	0.12	0.00	0.10	0.31	0.00	0.28
Avail Cap(c_a), veh/h	226	2712	1475	112	2605	1162	348	0	329	285	0	341
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.8	9.1	9.1	47.8	15.8	8.8	32.2	0.0	32.2	38.0	0.0	33.4
Incr Delay (d2), s/veh	10.9	0.1	0.2	10.8	1.7	0.1	0.7	0.0	0.6	2.9	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	4.5	7.8	8.3	1.5	20.5	1.8	1.6	0.0	1.2	3.9	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.8	9.2	9.3	58.7	17.5	8.8	32.9	0.0	32.7	40.8	0.0	35.5
LnGrp LOS	E	A	A	E	B	A	C	A	C	D	A	D
Approach Vol, veh/h	1447		1852				73			185		
Approach Delay, s/veh	12.1		17.6				32.8			38.1		
Approach LOS	B		B				C			D		
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	24.8		7.2		67.5		24.8		10.9		63.8	
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5		4.5	
Max Green Setting (Gmax), s	20.3		6.3		79.9		20.3		12.7		73.5	
Max Q Clear Time (g_c+I1), s	6.9		3.6		14.9		12.7		6.9		39.9	
Green Ext Time (p_c), s	0.2		0.0		13.8		0.4		0.1		19.4	
Intersection Summary												
HCM 6th Ctrl Delay	16.8											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

8: Imperial Highway & Norwalk Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			  	
Traffic Volume (veh/h)	164	1095	59	233	1428	88	142	566	125	120	709	173
Future Volume (veh/h)	164	1095	59	233	1428	88	142	566	125	120	709	173
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	171	1141	61	253	1552	96	173	690	152	135	797	194
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.82	0.82	0.82	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	199	1451	451	277	1676	520	198	1112	496	162	1494	464
Arrive On Green	0.11	0.29	0.29	0.31	0.66	0.66	0.22	0.63	0.63	0.09	0.29	0.29
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	1767	5066	1572
Grp Volume(v), veh/h	171	1141	61	253	1552	96	173	690	152	135	797	194
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1767	1689	1572
Q Serve(g_s), s	11.4	24.9	3.5	16.5	32.1	2.8	11.3	14.2	5.3	9.0	15.8	11.9
Cycle Q Clear(g_c), s	11.4	24.9	3.5	16.5	32.1	2.8	11.3	14.2	5.3	9.0	15.8	11.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	199	1451	451	277	1676	520	198	1112	496	162	1494	464
V/C Ratio(X)	0.86	0.79	0.14	0.91	0.93	0.18	0.87	0.62	0.31	0.84	0.53	0.42
Avail Cap(c_a), veh/h	243	1499	465	331	1752	544	243	1112	496	199	1494	464
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	0.58	0.58	0.58	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	52.3	39.4	31.8	40.4	19.0	14.1	45.8	17.8	16.1	53.6	35.4	34.0
Incr Delay (d2), s/veh	20.7	2.6	0.1	17.4	5.5	0.1	24.4	2.6	1.6	20.5	1.3	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	10.1	15.7	2.4	10.8	11.8	1.8	9.7	8.0	3.5	8.4	10.8	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.0	42.0	31.9	57.8	24.5	14.2	70.1	20.4	17.7	74.1	36.7	36.6
LnGrp LOS	E	D	C	E	C	B	E	C	B	E	D	D
Approach Vol, veh/h	1373			1901			1015			1126		
Approach Delay, s/veh	45.4			28.4			28.5			41.2		
Approach LOS	D			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	42.3	23.3	38.9	17.9	39.9	18.0	44.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	30.5	22.5	35.5	16.5	27.5	16.5	41.5				
Max Q Clear Time (g_c+I1), s	11.0	16.2	18.5	26.9	13.3	17.8	13.4	34.1				
Green Ext Time (p_c), s	0.1	4.6	0.3	5.0	0.1	4.3	0.1	5.6				
Intersection Summary												
HCM 6th Ctrl Delay	35.4											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

9: Avenida Manuel Salinas & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	70	1181	20	39	1575	77	96	17	18	43	15	49
Future Volume (veh/h)	70	1181	20	39	1575	77	96	17	18	43	15	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	80	1342	23	43	1750	86	240	42	45	49	17	56
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.40	0.40	0.40	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	101	2076	644	56	1947	605	634	315	337	465	101	331
Arrive On Green	0.11	0.82	0.82	0.06	0.77	0.77	0.15	0.38	0.38	0.03	0.26	0.26
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1810	839	899	1810	389	1281
Grp Volume(v), veh/h	80	1342	23	43	1750	86	240	0	87	49	0	73
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1810	0	1738	1810	0	1669
Q Serve(g_s), s	5.3	12.2	0.3	2.9	31.0	1.7	10.5	0.0	4.0	2.4	0.0	4.1
Cycle Q Clear(g_c), s	5.3	12.2	0.3	2.9	31.0	1.7	10.5	0.0	4.0	2.4	0.0	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		0.77
Lane Grp Cap(c), veh/h	101	2076	644	56	1947	605	634	0	652	465	0	432
V/C Ratio(X)	0.79	0.65	0.04	0.77	0.90	0.14	0.38	0.00	0.13	0.11	0.00	0.17
Avail Cap(c_a), veh/h	184	2440	757	106	2216	688	634	0	652	481	0	432
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.65	0.71	0.71	0.71	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.5	7.5	6.4	55.8	12.1	8.7	23.0	0.0	24.7	30.9	0.0	34.5
Incr Delay (d2), s/veh	8.8	0.3	0.0	14.3	3.6	0.1	1.7	0.0	0.4	0.1	0.0	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	4.5	4.6	0.2	2.7	8.2	1.1	8.4	0.0	3.1	1.9	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	7.8	6.4	70.0	15.7	8.8	24.8	0.0	25.1	31.0	0.0	35.3
LnGrp LOS	E	A	A	E	B	A	C	A	C	C	A	D
Approach Vol, veh/h	1445		1879				327		122			
Approach Delay, s/veh	10.7		16.7				24.8		33.6			
Approach LOS	B		B				C		C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	49.5	8.3	53.7	22.5	35.5	11.3	50.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	31.9	7.2	57.8	18.0	19.0	12.5	52.5				
Max Q Clear Time (g_c+I1), s	4.4	6.0	4.9	14.2	12.5	6.1	7.3	33.0				
Green Ext Time (p_c), s	0.0	0.4	0.0	13.9	0.3	0.2	0.1	13.1				
Intersection Summary												
HCM 6th Ctrl Delay	15.6											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

10: Imperial Highway & Volunteer Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	1185	36	170	1576	80	117	46	56	51	12	22
Future Volume (veh/h)	18	1185	36	170	1576	80	117	46	56	51	12	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	1394	42	191	1771	90	217	85	104	58	14	25
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.54	0.54	0.54	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	144	1734	52	250	2315	117	560	355	434	463	106	734
Arrive On Green	0.34	0.34	0.34	0.18	0.94	0.94	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	245	5053	152	1767	4937	251	1390	777	951	897	233	1610
Grp Volume(v), veh/h	21	932	504	191	1211	650	217	0	189	72	0	25
Grp Sat Flow(s),veh/h/ln	245	1689	1828	1767	1689	1810	1390	0	1729	1131	0	1610
Q Serve(g_s), s	7.4	30.0	30.0	8.2	9.5	9.5	14.2	0.0	8.0	3.5	0.0	1.0
Cycle Q Clear(g_c), s	7.4	30.0	30.0	8.2	9.5	9.5	25.8	0.0	8.0	11.5	0.0	1.0
Prop In Lane	1.00		0.08	1.00		0.14	1.00		0.55	0.81		1.00
Lane Grp Cap(c), veh/h	144	1159	627	250	1583	849	560	0	789	570	0	734
V/C Ratio(X)	0.15	0.80	0.80	0.76	0.76	0.77	0.39	0.00	0.24	0.13	0.00	0.03
Avail Cap(c_a), veh/h	157	1337	724	396	2040	1094	560	0	789	570	0	734
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.81	0.81	0.81	0.69	0.69	0.69	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.3	35.8	35.8	24.6	2.3	2.3	29.1	0.0	19.9	22.4	0.0	18.0
Incr Delay (d2), s/veh	0.4	2.6	4.8	3.3	0.9	1.7	2.0	0.0	0.7	0.5	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	0.8	17.9	19.6	5.6	2.3	2.9	8.8	0.0	6.1	2.5	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	38.4	40.5	27.9	3.2	4.0	31.1	0.0	20.6	22.9	0.0	18.1
LnGrp LOS	C	D	D	C	A	A	C	A	C	C	A	B
Approach Vol, veh/h	1457		2052			406			97			
Approach Delay, s/veh	39.0		5.7			26.3			21.7			
Approach LOS	D		A			C			C			
Timer - Assigned Phs	2		3		4		6		8			
Phs Duration (G+Y+Rc), s	59.2		15.1		45.7		59.2		60.8			
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5			
Max Green Setting (Gmax), s	38.5		20.5		47.5		38.5		72.5			
Max Q Clear Time (g_c+I1), s	27.8		10.2		32.0		13.5		11.5			
Green Ext Time (p_c), s	1.3		0.4		9.1		0.4		24.3			
Intersection Summary												
HCM 6th Ctrl Delay			20.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Bloomfield Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	175	1271	95	259	993	128	102	490	356	207	662	260
Future Volume (veh/h)	175	1271	95	259	993	128	102	490	356	207	662	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	192	1397	104	270	1034	133	119	570	414	252	807	317
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.86	0.86	0.86	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	219	1485	461	297	1533	197	143	815	363	279	1085	484
Arrive On Green	0.16	0.39	0.39	0.17	0.34	0.34	0.11	0.31	0.31	0.16	0.31	0.31
Sat Flow, veh/h	1767	5066	1572	1767	4544	584	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	192	1397	104	270	768	399	119	570	414	252	807	317
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1751	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	12.7	31.9	5.3	18.0	23.4	23.5	7.9	17.1	27.7	16.8	24.7	21.0
Cycle Q Clear(g_c), s	12.7	31.9	5.3	18.0	23.4	23.5	7.9	17.1	27.7	16.8	24.7	21.0
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	219	1485	461	297	1139	591	143	815	363	279	1085	484
V/C Ratio(X)	0.88	0.94	0.23	0.91	0.67	0.68	0.83	0.70	1.14	0.90	0.74	0.66
Avail Cap(c_a), veh/h	256	1499	465	317	1139	591	155	815	363	302	1085	484
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.57	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	35.6	27.5	49.0	34.1	34.1	52.7	37.9	41.6	49.6	37.3	36.0
Incr Delay (d2), s/veh	15.9	7.6	0.1	28.0	1.6	3.1	24.7	4.2	87.0	27.5	4.6	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.5	17.7	3.6	15.5	14.9	15.7	7.6	11.6	27.3	14.6	16.8	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.2	43.2	27.6	77.1	35.7	37.2	77.4	42.1	128.6	77.1	41.9	42.8
LnGrp LOS	E	D	C	E	D	D	E	D	F	E	D	D
Approach Vol, veh/h		1693			1437			1103			1376	
Approach Delay, s/veh		44.7			43.9			78.4			48.6	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.4	32.2	24.6	39.7	14.2	41.4	19.3	45.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.5	24.5	21.5	35.5	10.5	34.5	17.4	39.6				
Max Q Clear Time (g_c+I1), s	18.8	29.7	20.0	33.9	9.9	26.7	14.7	25.5				
Green Ext Time (p_c), s	0.1	0.0	0.1	1.3	0.0	4.0	0.1	6.8				
Intersection Summary												
HCM 6th Ctrl Delay			52.1									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

12: Norwalk Bl & Civic Center Dr

05/06/2022

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	3	2	13	492	0	101	0	811	375	112	978	0	
Future Volume (veh/h)	3	2	13	492	0	101	0	811	375	112	978	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	1856	1856	1856	1856	1856	1856	0	1856	1856	1856	1856	1856	
Adj Flow Rate, veh/h	5	3	21	807	0	166	0	845	391	126	1099	0	
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.96	0.96	0.96	0.89	0.89	0.89	
Percent Heavy Veh, %	3	3	3	3	3	3	0	3	3	3	3	3	
Cap, veh/h	7	4	30	927	0	413	0	2413	1162	151	3036	0	
Arrive On Green	0.03	0.03	0.03	0.26	0.00	0.26	0.00	0.95	0.95	0.17	1.00	0.00	
Sat Flow, veh/h	281	169	1180	3534	0	1572	0	5233	1572	1767	5233	0	
Grp Volume(v), veh/h	29	0	0	807	0	166	0	845	391	126	1099	0	
Grp Sat Flow(s),veh/h/ln	1629	0	0	1767	0	1572	0	1689	1572	1767	1689	0	
Q Serve(g_s), s	2.1	0.0	0.0	26.2	0.0	10.4	0.0	1.4	1.4	8.3	0.0	0.0	
Cycle Q Clear(g_c), s	2.1	0.0	0.0	26.2	0.0	10.4	0.0	1.4	1.4	8.3	0.0	0.0	
Prop In Lane	0.17		0.72	1.00		1.00	0.00		1.00	1.00		0.00	
Lane Grp Cap(c), veh/h	42	0	0	927	0	413	0	2413	1162	151	3036	0	
V/C Ratio(X)	0.69	0.00	0.00	0.87	0.00	0.40	0.00	0.35	0.34	0.84	0.36	0.00	
Avail Cap(c_a), veh/h	244	0	0	1222	0	544	0	2413	1162	228	3036	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	
Upstream Filter(I)	1.00	0.00	0.00	0.62	0.00	0.62	0.00	0.91	0.91	1.00	1.00	0.00	
Uniform Delay (d), s/veh	58.0	0.0	0.0	42.3	0.0	36.5	0.0	1.5	0.4	48.9	0.0	0.0	
Incr Delay (d2), s/veh	18.2	0.0	0.0	3.6	0.0	0.4	0.0	0.4	0.7	15.0	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	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	2.0	0.0	0.0	16.2	0.0	6.7	0.0	0.8	1.4	7.2	0.2	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	76.1	0.0	0.0	45.9	0.0	36.9	0.0	1.9	1.1	63.9	0.3	0.0	
LnGrp LOS	E	A	A	D	A	D	A	A	A	E	A	A	
Approach Vol, veh/h	29			973				1236				1225	
Approach Delay, s/veh	76.1			44.3				1.6				6.9	
Approach LOS	E			D				A				A	
Timer - Assigned Phs	1	2	4			6		8					
Phs Duration (G+Y+Rc), s	14.7	61.7	7.6			76.4		36.0					
Change Period (Y+Rc), s	4.5	4.5	4.5			4.5		4.5					
Max Green Setting (Gmax), s	15.5	27.0	18.0			47.0		41.5					
Max Q Clear Time (g_c+I1), s	10.3	3.4	4.1			2.0		28.2					
Green Ext Time (p_c), s	0.1	8.1	0.1			10.3		3.3					
Intersection Summary													
HCM 6th Ctrl Delay			16.1										
HCM 6th LOS			B										
Notes													

HCM 6th Signalized Intersection Summary

13: Civic Center Dr & Courthouse-AMC Theater

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	407	0	0	571	3	5	0	5	8	0	58
Future Volume (veh/h)	13	407	0	0	571	3	5	0	5	8	0	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	15	457	0	0	816	4	8	0	5	18	0	129
Peak Hour Factor	0.89	0.89	0.89	0.70	0.70	0.70	0.62	0.62	1.00	0.45	0.45	0.45
Percent Heavy Veh, %	3	3	0	0	3	3	0	0	0	0	0	0
Cap, veh/h	165	1240	0	0	1023	5	530	15	301	122	31	771
Arrive On Green	0.02	0.35	0.00	0.00	0.38	0.38	0.55	0.00	0.55	0.55	0.00	0.55
Sat Flow, veh/h	1767	3618	0	0	3690	18	850	28	548	140	56	1405
Grp Volume(v), veh/h	15	457	0	0	400	420	13	0	0	147	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1852	1426	0	0	1601	0	0
Q Serve(g_s), s	0.5	8.7	0.0	0.0	18.2	18.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	8.7	0.0	0.0	18.2	18.2	0.3	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.01	0.62		0.38	0.12		0.88
Lane Grp Cap(c), veh/h	165	1240	0	0	501	527	846	0	0	923	0	0
V/C Ratio(X)	0.09	0.37	0.00	0.00	0.80	0.80	0.02	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	282	2135	0	0	832	875	846	0	0	923	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.00	0.00	0.77	0.77	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.1	21.7	0.0	0.0	25.7	25.7	9.2	0.0	0.0	10.1	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.0	2.3	2.2	0.0	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	6.3	0.0	0.0	10.8	11.3	0.2	0.0	0.0	2.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	21.9	0.0	0.0	28.0	27.9	9.3	0.0	0.0	10.5	0.0	0.0
LnGrp LOS	C	C	A	A	C	C	A	A	A	B	A	A
Approach Vol, veh/h	472			820			13			147		
Approach Delay, s/veh	21.9			27.9			9.3			10.5		
Approach LOS	C			C			A			B		
Timer - Assigned Phs	2			4			6			7		
Phs Duration (G+Y+Rc), s	53.9			36.1			53.9			6.1		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	26.5			54.5			26.5			7.5		
Max Q Clear Time (g_c+I1), s	2.3			10.7			6.0			2.5		
Green Ext Time (p_c), s	0.0			3.4			0.8			5.4		
Intersection Summary												
HCM 6th Ctrl Delay	24.0											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

14: Civic Center Dr & Avenida Manuel Salinas

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	411	25	37	460	13	27	2	26	20	5	48
Future Volume (veh/h)	13	411	25	37	460	13	27	2	26	20	5	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	14	442	27	49	613	17	35	3	33	38	9	52
Peak Hour Factor	0.93	0.93	0.93	0.75	0.75	0.75	0.78	0.78	0.78	0.53	0.53	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	151	632	38	208	736	20	666	50	550	303	72	331
Arrive On Green	0.02	0.19	0.19	0.08	0.42	0.42	0.37	0.37	0.37	0.21	0.21	0.21
Sat Flow, veh/h	1767	3376	206	1767	3504	97	1810	136	1495	1476	350	1610
Grp Volume(v), veh/h	14	230	239	49	308	322	35	0	36	47	0	52
Grp Sat Flow(s),veh/h/ln	1767	1763	1819	1767	1763	1838	1810	0	1631	1826	0	1610
Q Serve(g_s), s	0.6	11.0	11.1	2.0	14.0	14.1	1.1	0.0	1.3	1.9	0.0	2.4
Cycle Q Clear(g_c), s	0.6	11.0	11.1	2.0	14.0	14.1	1.1	0.0	1.3	1.9	0.0	2.4
Prop In Lane	1.00		0.11	1.00		0.05	1.00		0.92	0.81		1.00
Lane Grp Cap(c), veh/h	151	330	340	208	370	386	666	0	600	375	0	331
V/C Ratio(X)	0.09	0.70	0.70	0.24	0.83	0.83	0.05	0.00	0.06	0.13	0.00	0.16
Avail Cap(c_a), veh/h	230	519	535	247	519	541	666	0	600	375	0	331
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	0.90	0.90	0.90	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.6	34.2	34.2	27.2	24.7	24.7	18.3	0.0	18.4	29.2	0.0	29.3
Incr Delay (d2), s/veh	0.2	2.5	2.5	0.5	7.2	7.0	0.1	0.0	0.2	0.7	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	8.3	8.6	1.5	8.6	8.9	0.9	0.0	0.9	1.6	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	36.7	36.7	27.8	31.9	31.7	18.5	0.0	18.6	29.8	0.0	30.4
LnGrp LOS	C	D	D	C	C	C	B	A	B	C	A	C
Approach Vol, veh/h	483			679			71			99		
Approach Delay, s/veh	36.5			31.5			18.5			30.1		
Approach LOS	D			C			B			C		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	37.6		8.0	21.3		23.0		6.0	23.4			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	21.5		5.5	26.5		18.5		5.5	26.5			
Max Q Clear Time (g_c+I1), s	3.3		4.0	13.1		4.4		2.6	16.1			
Green Ext Time (p_c), s	0.2		0.0	2.3		0.3		0.0	2.8			
Intersection Summary												
HCM 6th Ctrl Delay	32.5											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 15: Civic Center Dr & Volunteer Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	397	39	9	327	16	20	13	3	38	19	149
Future Volume (veh/h)	26	397	39	9	327	16	20	13	3	38	19	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	30	462	45	10	348	17	26	17	4	63	32	162
Peak Hour Factor	0.86	0.86	0.86	0.94	0.94	0.94	0.77	0.77	0.77	0.60	0.60	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	202	641	286	153	564	27	565	360	80	729	358	1056
Arrive On Green	0.03	0.18	0.18	0.01	0.16	0.16	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1767	3526	1572	1767	3422	167	767	548	122	1010	546	1610
Grp Volume(v), veh/h	30	462	45	10	179	186	47	0	0	95	0	162
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1826	1437	0	0	1556	0	1610
Q Serve(g_s), s	1.3	11.1	2.2	0.4	8.5	8.5	0.0	0.0	0.0	0.0	0.0	3.5
Cycle Q Clear(g_c), s	1.3	11.1	2.2	0.4	8.5	8.5	1.7	0.0	0.0	1.7	0.0	3.5
Prop In Lane	1.00		1.00	1.00		0.09	0.55		0.09	0.66		1.00
Lane Grp Cap(c), veh/h	202	641	286	153	290	301	1005	0	0	1087	0	1056
V/C Ratio(X)	0.15	0.72	0.16	0.07	0.62	0.62	0.05	0.00	0.00	0.09	0.00	0.15
Avail Cap(c_a), veh/h	337	1391	620	318	695	720	1005	0	0	1087	0	1056
HCM Platoon Ratio	1.00	1.00	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	0.99	0.99	0.99	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.2	34.7	31.0	31.2	34.9	35.0	5.5	0.0	0.0	5.6	0.0	5.9
Incr Delay (d2), s/veh	0.3	1.2	0.2	0.2	2.1	2.1	0.1	0.0	0.0	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	7.9	1.5	0.3	6.7	7.0	0.5	0.0	0.0	1.1	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	35.9	31.2	31.3	37.0	37.0	5.6	0.0	0.0	5.8	0.0	6.2
LnGrp LOS	C	D	C	C	D	D	A	A	A	A	A	A
Approach Vol, veh/h	537			375			47			257		
Approach Delay, s/veh	35.2			36.9			5.6			6.1		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	63.5		5.6	20.9		63.5		7.1	19.3			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	31.5		9.5	35.5		31.5		9.5	35.5			
Max Q Clear Time (g_c+I1), s	3.7		2.4	13.1		5.5		3.3	10.5			
Green Ext Time (p_c), s	0.2		0.0	3.3		1.0		0.0	2.2			
Intersection Summary												
HCM 6th Ctrl Delay	28.4											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

16: Civic Center Dr & Bloomfield Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	273	21	142	14	13	4	78	910	13	4	491	85
Future Volume (veh/h)	273	21	142	14	13	4	78	910	13	4	491	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	300	23	156	21	20	6	82	958	14	4	546	94
Peak Hour Factor	0.91	0.91	0.91	0.66	0.66	0.66	0.95	0.95	0.95	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	392	468	397	351	346	104	134	2240	33	9	2102	937
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.63	0.63	0.01	1.00	1.00
Sat Flow, veh/h	1374	1856	1572	1196	1370	411	3428	3557	52	1767	3526	1572
Grp Volume(v), veh/h	300	23	156	21	0	26	82	475	497	4	546	94
Grp Sat Flow(s),veh/h/ln	1374	1856	1572	1196	0	1782	1714	1763	1846	1767	1763	1572
Q Serve(g_s), s	25.4	1.1	9.9	1.6	0.0	1.3	2.8	16.4	16.4	0.3	0.0	0.0
Cycle Q Clear(g_c), s	26.8	1.1	9.9	2.7	0.0	1.3	2.8	16.4	16.4	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	392	468	397	351	0	450	134	1110	1163	9	2102	937
V/C Ratio(X)	0.77	0.05	0.39	0.06	0.00	0.06	0.61	0.43	0.43	0.44	0.26	0.10
Avail Cap(c_a), veh/h	600	750	636	532	0	720	243	1110	1163	81	2102	937
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)	0.81	0.81	0.81	1.00	0.00	1.00	1.00	1.00	1.00	0.57	0.57	0.57
Uniform Delay (d), s/veh	44.2	34.0	37.2	35.0	0.0	34.0	56.8	11.3	11.3	59.2	0.0	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.5	0.1	0.0	0.1	4.5	1.2	1.2	17.4	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.3	0.9	6.8	0.9	0.0	1.1	2.4	10.7	11.1	0.3	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.8	34.0	37.7	35.1	0.0	34.1	61.3	12.5	12.4	76.6	0.2	0.1
LnGrp LOS	D	C	D	D	A	C	E	B	B	E	A	A
Approach Vol, veh/h	479				47				1054			
Approach Delay, s/veh	43.2				34.5				16.2			
Approach LOS	D				C				B			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	5.1	80.1	34.8		9.2	76.0	34.8					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.5	52.5	48.5		8.5	49.5	48.5					
Max Q Clear Time (g_c+I1), s	2.3	18.4	28.8		4.8	2.0	4.7					
Green Ext Time (p_c), s	0.0	7.5	1.5		0.1	4.6	0.2					
Intersection Summary												
HCM 6th Ctrl Delay	17.9											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 17: Adoree St/I-5 NB Off-Ramp & Norwalk Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	0	64	156	121	328	95	846	0	0	1373	108
Future Volume (veh/h)	21	0	64	156	121	328	95	846	0	0	1373	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	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	1856	0	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	28	0	85	171	133	360	100	891	0	0	1695	133
Peak Hour Factor	0.75	0.75	0.75	0.91	0.91	0.91	0.95	0.95	0.95	0.81	0.81	0.81
Percent Heavy Veh, %	3	0	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	0	0	0	437	436	389	152	3432	0	0	2853	224
Arrive On Green	0.00	0.00	0.00	0.25	0.25	0.25	0.01	0.22	0.00	0.00	1.00	1.00
Sat Flow, veh/h	0		1767		1763	1572	3428	5233	0	0	4957	375
Grp Volume(v), veh/h	0.0		171		133	360	100	891	0	0	1194	634
Grp Sat Flow(s),veh/h/ln			1767		1763	1572	1714	1689	0	0	1689	1788
Q Serve(g_s), s			9.7		7.4	26.8	3.5	17.4	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s			9.7		7.4	26.8	3.5	17.4	0.0	0.0	0.0	0.0
Prop In Lane			1.00			1.00	1.00		0.00	0.00		0.21
Lane Grp Cap(c), veh/h			437		436	389	152	3432	0	0	2012	1065
V/C Ratio(X)			0.39		0.30	0.92	0.66	0.26	0.00	0.00	0.59	0.60
Avail Cap(c_a), veh/h			464		463	413	186	3432	0	0	2012	1065
HCM Platoon Ratio			1.00		1.00	1.00	0.33	0.33	1.00	1.00	2.00	2.00
Upstream Filter(I)			1.00		1.00	1.00	0.92	0.92	0.00	0.00	0.86	0.86
Uniform Delay (d), s/veh			37.6		36.7	44.1	58.2	21.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh			0.6		0.4	25.8	5.6	0.2	0.0	0.0	1.1	2.1
Initial Q Delay(d3),s/veh			0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln			7.7		5.8	19.1	3.0	12.4	0.0	0.0	0.6	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh			38.2		37.1	69.9	63.9	22.0	0.0	0.0	1.1	2.1
LnGrp LOS			D		D	E	E	C	A	A	A	A
Approach Vol, veh/h			664				991				1828	
Approach Delay, s/veh			55.1				26.2				1.5	
Approach LOS			E				C				A	
Timer - Assigned Phs	2				5	6	8					
Phs Duration (G+Y+Rc), s	85.8				9.8	76.0	34.2					
Change Period (Y+Rc), s	4.5				4.5	4.5	4.5					
Max Green Setting (Gmax), s	65.5				6.5	54.5	31.5					
Max Q Clear Time (g_c+I1), s	19.4				5.5	2.0	28.8					
Green Ext Time (p_c), s	7.8				0.0	22.5	0.9					
Intersection Summary												
HCM 6th Ctrl Delay			18.7									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary 18: San Antonio Dr & Frontage Rd/I-5 SB On-Ramp

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	222	128	0	0	0	0	925	160	400	1173	0
Future Volume (veh/h)	24	222	128	0	0	0	0	925	160	400	1173	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	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	25	248	121				0	1005	174	471	1380	0
Peak Hour Factor	0.96	0.96	0.96				0.92	0.92	0.92	0.85	0.85	0.82
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	185	389	165				0	2695	466	558	4154	0
Arrive On Green	0.10	0.10	0.10				0.00	0.62	0.62	0.16	0.82	0.00
Sat Flow, veh/h	1767	3711	1572				0	4513	751	3428	5233	0
Grp Volume(v), veh/h	25	248	121				0	780	399	471	1380	0
Grp Sat Flow(s),veh/h/ln	1767	1856	1572				0	1689	1720	1714	1689	0
Q Serve(g_s), s	1.5	7.7	9.0				0.0	13.7	13.8	16.0	8.1	0.0
Cycle Q Clear(g_c), s	1.5	7.7	9.0				0.0	13.7	13.8	16.0	8.1	0.0
Prop In Lane	1.00		1.00				0.00		0.44	1.00		0.00
Lane Grp Cap(c), veh/h	185	389	165				0	2094	1067	558	4154	0
V/C Ratio(X)	0.13	0.64	0.73				0.00	0.37	0.37	0.84	0.33	0.00
Avail Cap(c_a), veh/h	346	727	308				0	2094	1067	929	4154	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)	0.96	0.96	0.96				0.00	0.77	0.77	0.72	0.72	0.00
Uniform Delay (d), s/veh	48.8	51.5	52.1				0.0	11.3	11.3	48.8	2.7	0.0
Incr Delay (d2), s/veh	0.3	1.7	5.9				0.0	0.4	0.8	2.8	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	1.3	6.6	6.8				0.0	8.3	8.6	10.7	3.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.1	53.2	58.0				0.0	11.7	12.1	51.5	2.8	0.0
LnGrp LOS	D	D	E				A	B	B	D	A	A
Approach Vol, veh/h	394						1179			1851		
Approach Delay, s/veh	54.4						11.8			15.2		
Approach LOS	D						B			B		
Timer - Assigned Phs	1	2		4			6					
Phs Duration (G+Y+Rc), s	24.0	78.9		17.1			102.9					
Change Period (Y+Rc), s	4.5	4.5		4.5			4.5					
Max Green Setting (Gmax), s	32.5	50.5		23.5			87.5					
Max Q Clear Time (g_c+I1), s	18.0	15.8		11.0			10.1					
Green Ext Time (p_c), s	1.5	10.2		1.6			15.7					
Intersection Summary												
HCM 6th Ctrl Delay				18.5								
HCM 6th LOS				B								
Notes												

HCM 6th Signalized Intersection Summary

19: San Antonio Dr & Firestone Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	331	53	62	376	61	90	782	58	63	869	193
Future Volume (veh/h)	201	331	53	62	376	61	90	782	58	63	869	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	228	376	60	78	470	76	106	920	68	71	976	217
Peak Hour Factor	0.88	0.88	0.88	0.80	0.80	0.80	0.85	0.85	0.85	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	259	884	394	99	565	252	131	1735	774	90	1944	431
Arrive On Green	0.15	0.25	0.25	0.06	0.16	0.16	0.07	0.49	0.49	0.10	0.94	0.94
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	4147	920
Grp Volume(v), veh/h	228	376	60	78	470	76	106	920	68	71	794	399
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1689	1690
Q Serve(g_s), s	15.2	10.7	3.6	5.2	15.5	5.1	7.1	21.5	2.8	4.7	3.3	3.3
Cycle Q Clear(g_c), s	15.2	10.7	3.6	5.2	15.5	5.1	7.1	21.5	2.8	4.7	3.3	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.54
Lane Grp Cap(c), veh/h	259	884	394	99	565	252	131	1735	774	90	1583	792
V/C Ratio(X)	0.88	0.43	0.15	0.79	0.83	0.30	0.81	0.53	0.09	0.79	0.50	0.50
Avail Cap(c_a), veh/h	380	1102	491	177	696	311	218	1735	774	155	1583	792
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)	1.00	1.00	1.00	1.00	1.00	1.00	0.41	0.41	0.41	0.95	0.95	0.95
Uniform Delay (d), s/veh	50.2	37.7	35.0	55.9	48.8	44.4	54.7	20.9	16.2	53.3	2.1	2.1
Incr Delay (d2), s/veh	15.0	0.3	0.2	12.7	7.0	0.7	4.8	0.5	0.1	13.4	1.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.3	8.2	2.5	4.8	11.8	3.7	5.2	12.0	1.8	4.2	1.7	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.2	38.0	35.2	68.6	55.8	45.1	59.5	21.4	16.3	66.7	3.2	4.3
LnGrp LOS	E	D	D	E	E	D	E	C	B	E	A	A
Approach Vol, veh/h	664			624			1094			1264		
Approach Delay, s/veh	47.1			56.1			24.8			7.1		
Approach LOS	D			E			C			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	63.6	11.2	34.6	13.4	60.8	22.1	23.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	42.0	12.0	37.5	14.8	37.7	25.8	23.7				
Max Q Clear Time (g_c+I1), s	6.7	23.5	7.2	12.7	9.1	5.3	17.2	17.5				
Green Ext Time (p_c), s	0.0	6.6	0.1	2.7	0.1	10.2	0.4	1.7				
Intersection Summary												
HCM 6th Ctrl Delay	28.1											
HCM 6th LOS	C											

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022

												
Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	113	198	609	121	48	591	64	11	122	383	183	36
Future Volume (vph)	113	198	609	121	48	591	64	11	122	383	183	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00	1.00	0.91			1.00	0.91	0.91	
Frt		1.00	1.00	0.85	1.00	0.98			1.00	0.99	0.85	
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (prot)		1752	3505	1568	1752	4951			1752	3311	1427	
Flt Permitted		0.36	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (perm)		657	3505	1568	1752	4951			1752	3311	1427	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.89	0.89	0.89	0.89	0.92	0.92	0.92	0.92
Adj. Flow (vph)	115	202	621	123	54	664	72	12	133	416	199	39
RTOR Reduction (vph)	0	0	0	66	0	0	0	0	0	0	85	0
Lane Group Flow (vph)	0	317	621	57	54	748	0	0	133	458	111	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	NA			Prot	NA	Perm	
Protected Phases	7		4		3	8			5	2		
Permitted Phases		4		4							2	
Actuated Green, G (s)		60.5	60.5	60.5	5.0	70.0			8.5	38.0	38.0	
Effective Green, g (s)		60.5	60.5	60.5	5.0	70.0			8.5	38.0	38.0	
Actuated g/C Ratio		0.43	0.43	0.43	0.04	0.50			0.06	0.27	0.27	
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		283	1514	677	62	2475			106	898	387	
v/s Ratio Prot			0.18		c0.03	0.15			c0.08	0.14		
v/s Ratio Perm		c0.48		0.04							0.08	
v/c Ratio		1.12	0.41	0.08	0.87	0.30			1.25	0.51	0.29	
Uniform Delay, d1		39.8	27.4	23.4	67.2	20.6			65.8	43.1	40.3	
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2		89.8	0.2	0.1	70.2	0.1			170.8	2.1	1.9	
Delay (s)		129.5	27.6	23.5	137.4	20.7			236.5	45.2	42.1	
Level of Service		F	C	C	F	C			F	D	D	
Approach Delay (s)			57.6			28.5				76.8		
Approach LOS			E			C				E		
Intersection Summary												
HCM 2000 Control Delay			68.1			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			81.4%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022

								
Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	11	79	466	189	19	257	300	7
Future Volume (vph)	11	79	466	189	19	257	300	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00		0.97	0.91	
Frt		1.00	1.00	0.85		0.95	0.85	
Flt Protected		0.95	1.00	1.00		0.97	1.00	
Satd. Flow (prot)		1752	3505	1568		3299	1427	
Flt Permitted		0.48	1.00	1.00		0.97	1.00	
Satd. Flow (perm)		883	3505	1568		3299	1427	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.89	0.89	0.89	0.89
Adj. Flow (vph)	12	83	491	199	21	289	337	8
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	95	491	199	0	448	207	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	Prot	Perm	
Protected Phases	1		6		12	12		
Permitted Phases		6		6			12	
Actuated Green, G (s)		25.0	25.0	25.0		18.5	18.5	
Effective Green, g (s)		25.0	25.0	25.0		18.5	18.5	
Actuated g/C Ratio		0.18	0.18	0.18		0.13	0.13	
Clearance Time (s)		4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		157	625	280		435	188	
v/s Ratio Prot			c0.14			0.14		
v/s Ratio Perm		0.11		0.13			c0.15	
v/c Ratio		0.61	0.79	0.71		1.03	1.10	
Uniform Delay, d1		53.0	54.9	54.1		60.8	60.8	
Progression Factor		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		16.1	9.6	14.2		51.0	95.3	
Delay (s)		69.1	64.5	68.3		111.8	156.0	
Level of Service		E	E	E		F	F	
Approach Delay (s)			66.0			125.8		
Approach LOS			E			F		
Intersection Summary								

HCM 6th Signalized Intersection Summary

1: Norwalk BI & Lakeland Rd

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	144	27	83	153	98	26	759	150	75	489	41
Future Volume (veh/h)	30	144	27	83	153	98	26	759	150	75	489	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	41	197	37	97	178	114	32	949	188	86	562	47
Peak Hour Factor	0.73	0.73	0.73	0.86	0.86	0.86	0.80	0.80	0.80	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	3	3	3	5	5	5
Cap, veh/h	76	248	43	216	388	329	589	2041	404	346	2255	188
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.70	0.70	0.70	0.70	0.70	0.70
Sat Flow, veh/h	149	1214	212	1165	1900	1610	806	2933	581	483	3241	271
Grp Volume(v), veh/h	275	0	0	97	178	114	32	570	567	86	300	309
Grp Sat Flow(s),veh/h/ln	1575	0	0	1165	1900	1610	806	1763	1751	483	1735	1777
Q Serve(g_s), s	8.0	0.0	0.0	0.0	7.4	5.5	1.4	13.1	13.1	8.8	5.7	5.8
Cycle Q Clear(g_c), s	15.4	0.0	0.0	14.7	7.4	5.5	7.1	13.1	13.1	21.9	5.7	5.8
Prop In Lane	0.15		0.13	1.00		1.00	1.00		0.33	1.00		0.15
Lane Grp Cap(c), veh/h	368	0	0	216	388	329	589	1227	1218	346	1207	1237
V/C Ratio(X)	0.75	0.00	0.00	0.45	0.46	0.35	0.05	0.46	0.47	0.25	0.25	0.25
Avail Cap(c_a), veh/h	500	0	0	308	538	456	589	1227	1218	346	1207	1237
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.6	0.0	0.0	34.4	31.4	30.7	6.4	6.2	6.2	11.1	5.0	5.0
Incr Delay (d2), s/veh	4.1	0.0	0.0	1.5	0.8	0.6	0.2	1.2	1.2	1.7	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.2	0.0	0.0	3.7	6.2	3.9	0.4	7.7	7.7	1.9	3.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.7	0.0	0.0	35.8	32.3	31.3	6.5	7.3	7.3	12.8	5.5	5.5
LnGrp LOS	D	A	A	D	C	C	A	A	A	B	A	A
Approach Vol, veh/h		275			389			1169			695	
Approach Delay, s/veh		38.7			32.9			7.3			6.4	
Approach LOS		D			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.1		22.9		67.1		22.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		55.5		25.5		55.5		25.5				
Max Q Clear Time (g_c+I1), s		15.1		17.4		23.9		16.7				
Green Ext Time (p_c), s		10.4		1.0		5.6		1.2				
Intersection Summary												
HCM 6th Ctrl Delay				14.4								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Norwalk Bl & Crewe St

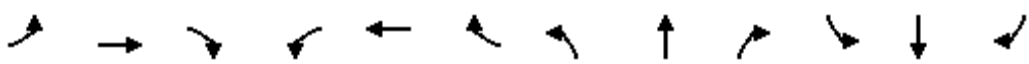
05/06/2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	72	97	47	819	640	39
Future Volume (veh/h)	72	97	47	819	640	39
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	1900	1900	1856	1856	1826	1826
Adj Flow Rate, veh/h	91	123	61	1064	703	43
Peak Hour Factor	0.79	0.79	0.77	0.77	0.91	0.91
Percent Heavy Veh, %	0	0	3	3	5	5
Cap, veh/h	187	166	606	2809	2646	162
Arrive On Green	0.10	0.10	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1810	1610	709	3618	3412	203
Grp Volume(v), veh/h	91	123	61	1064	367	379
Grp Sat Flow(s),veh/h/ln	1810	1610	709	1763	1735	1789
Q Serve(g_s), s	4.3	6.7	2.2	7.9	4.9	4.9
Cycle Q Clear(g_c), s	4.3	6.7	7.1	7.9	4.9	4.9
Prop In Lane	1.00	1.00	1.00			0.11
Lane Grp Cap(c), veh/h	187	166	606	2809	1382	1426
V/C Ratio(X)	0.49	0.74	0.10	0.38	0.27	0.27
Avail Cap(c_a), veh/h	842	750	606	2809	1382	1426
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.59	0.59	0.96	0.96
Uniform Delay (d), s/veh	38.1	39.2	3.3	2.7	2.4	2.4
Incr Delay (d2), s/veh	2.0	6.3	0.2	0.2	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	5.2	0.5	3.2	2.1	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.1	45.5	3.5	2.9	2.8	2.8
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	214			1125	746	
Approach Delay, s/veh	43.2			2.9	2.8	
Approach LOS	D			A	A	
Timer - Assigned Phs	2		4		6	
Phs Duration (G+Y+Rc), s	76.2		13.8		76.2	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	39.1		41.9		39.1	
Max Q Clear Time (g_c+l1), s	9.9		8.7		6.9	
Green Ext Time (p_c), s	9.8		0.7		5.3	
Intersection Summary						
HCM 6th Ctrl Delay			7.0			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

3: Firestone Bl & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↵	↑↑↑	↵	↵↵	↑↑		↵↵	↑↑↑	
Traffic Volume (veh/h)	0	1264	306	7	1066	326	258	391	9	278	353	0
Future Volume (veh/h)	0	1264	306	7	1066	326	258	391	9	278	353	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	0	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1389	336	8	1225	375	274	416	0	320	406	0
Peak Hour Factor	0.91	0.91	0.91	0.87	0.87	0.87	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	0	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	1730	417	95	2152	668	341	1231		390	1840	0
Arrive On Green	0.00	0.42	0.42	0.14	0.14	0.14	0.10	0.35	0.00	0.11	0.36	0.00
Sat Flow, veh/h	0	4240	983	279	5066	1572	3428	3618	0	3428	5233	0
Grp Volume(v), veh/h	0	1151	574	8	1225	375	274	416	0	320	406	0
Grp Sat Flow(s),veh/h/ln	0	1689	1679	279	1689	1572	1714	1763	0	1714	1689	0
Q Serve(g_s), s	0.0	35.7	35.9	3.3	27.1	26.7	9.4	10.5	0.0	11.0	6.7	0.0
Cycle Q Clear(g_c), s	0.0	35.7	35.9	39.2	27.1	26.7	9.4	10.5	0.0	11.0	6.7	0.0
Prop In Lane	0.00		0.59	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1435	713	95	2152	668	341	1231		390	1840	0
V/C Ratio(X)	0.00	0.80	0.80	0.08	0.57	0.56	0.80	0.34		0.82	0.22	0.00
Avail Cap(c_a), veh/h	0	1646	818	113	2469	767	529	1231		586	1840	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.45	0.45	0.45	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	30.1	30.2	63.9	41.3	41.2	52.9	28.8	0.0	52.0	26.4	0.0
Incr Delay (d2), s/veh	0.0	2.6	5.2	0.2	0.1	0.3	5.0	0.7	0.0	5.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	21.0	21.6	0.5	16.2	15.0	7.7	8.1	0.0	8.7	4.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	32.7	35.4	64.0	41.4	41.5	57.9	29.6	0.0	57.7	26.7	0.0
LnGrp LOS	A	C	D	E	D	D	E	C		E	C	A
Approach Vol, veh/h		1725			1608			690	A		726	
Approach Delay, s/veh		33.6			41.6			40.8			40.4	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.1	46.4		55.5	16.4	48.1		55.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	20.5	27.5		58.5	18.5	29.5		58.5				
Max Q Clear Time (g_c+I1), s	13.0	12.5		37.9	11.4	8.7		41.2				
Green Ext Time (p_c), s	0.7	2.4		12.9	0.5	2.7		9.8				

Intersection Summary

HCM 6th Ctrl Delay 38.4

HCM 6th LOS D

Notes

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

HCM 6th Signalized Intersection Summary

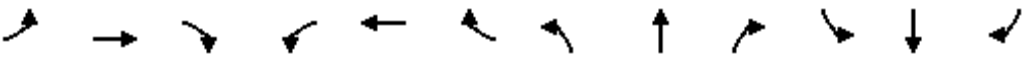
4: Pioneer Bl & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 		 	 	
Traffic Volume (veh/h)	337	1174	81	123	1096	104	22	356	152	136	305	471
Future Volume (veh/h)	337	1174	81	123	1096	104	22	356	152	136	305	471
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	411	1432	99	148	1320	125	26	414	177	170	381	589
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.86	0.86	0.86	0.80	0.80	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	440	2214	687	176	1458	453	43	870	388	228	1019	454
Arrive On Green	0.25	0.44	0.44	0.10	0.29	0.29	0.02	0.25	0.25	0.07	0.29	0.29
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	411	1432	99	148	1320	125	26	414	177	170	381	589
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1714	1763	1572
Q Serve(g_s), s	27.3	26.6	4.5	9.9	30.1	7.4	1.7	12.0	11.5	5.8	10.3	34.7
Cycle Q Clear(g_c), s	27.3	26.6	4.5	9.9	30.1	7.4	1.7	12.0	11.5	5.8	10.3	34.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	440	2214	687	176	1458	453	43	870	388	228	1019	454
V/C Ratio(X)	0.93	0.65	0.14	0.84	0.91	0.28	0.61	0.48	0.46	0.75	0.37	1.30
Avail Cap(c_a), veh/h	496	2214	687	271	1490	463	74	870	388	317	1019	454
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.59	0.59	0.59	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	26.5	20.3	53.1	41.2	33.1	58.0	38.6	38.4	55.0	34.0	42.7
Incr Delay (d2), s/veh	16.1	0.4	0.1	11.3	7.1	0.3	13.2	1.9	3.8	6.0	1.1	148.8
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	18.5	14.8	3.0	8.3	18.9	5.2	1.7	9.3	8.5	4.9	8.1	47.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.2	26.9	20.3	64.4	48.2	33.3	71.2	40.4	42.2	61.1	35.1	191.5
LnGrp LOS	E	C	C	E	D	C	E	D	D	E	D	F
Approach Vol, veh/h	1942		1593				617		1140			
Approach Delay, s/veh	33.6		48.6				42.2		119.7			
Approach LOS	C		D				D		F			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	34.1	16.5	56.9	7.4	39.2	34.4	39.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	11.1	21.9	18.4	50.6	5.0	28.0	33.7	35.3				
Max Q Clear Time (g_c+I1), s	7.8	14.0	11.9	28.6	3.7	36.7	29.3	32.1				
Green Ext Time (p_c), s	0.2	2.1	0.2	11.7	0.0	0.0	0.6	2.4				
Intersection Summary												
HCM 6th Ctrl Delay	57.7											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Summary 5: Frontage Rd/I-5 SB Off-Ramp & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑↑	
Traffic Volume (veh/h)	0	1339	255	9	1132	0	0	0	0	439	103	172
Future Volume (veh/h)	0	1339	255	9	1132	0	0	0	0	439	103	172
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	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1633	311	10	1258	0				570	134	223
Peak Hour Factor	0.82	0.82	0.82	0.90	0.90	0.90				0.77	0.77	0.77
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	2218	688	41	2495	0				1492	264	440
Arrive On Green	0.00	0.44	0.44	0.01	0.49	0.00				0.42	0.42	0.42
Sat Flow, veh/h	0	5233	1572	3428	5233	0				3534	626	1042
Grp Volume(v), veh/h	0	1633	311	10	1258	0				570	0	357
Grp Sat Flow(s),veh/h/ln	0	1689	1572	1714	1689	0				1767	0	1668
Q Serve(g_s), s	0.0	28.2	14.6	0.3	17.7	0.0				11.7	0.0	16.6
Cycle Q Clear(g_c), s	0.0	28.2	14.6	0.3	17.7	0.0				11.7	0.0	16.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.62
Lane Grp Cap(c), veh/h	0	2218	688	41	2495	0				1492	0	704
V/C Ratio(X)	0.00	0.74	0.45	0.24	0.50	0.00				0.38	0.00	0.51
Avail Cap(c_a), veh/h	0	2715	843	179	3195	0				1492	0	704
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	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	24.6	20.8	51.6	18.1	0.0				21.0	0.0	22.4
Incr Delay (d2), s/veh	0.0	0.8	0.5	3.0	0.2	0.0				0.7	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
%ile BackOfQ(95%),veh/ln	0.0	16.5	9.1	0.3	11.0	0.0				8.6	0.0	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.4	21.2	54.6	18.2	0.0				21.7	0.0	25.0
LnGrp LOS	A	C	C	D	B	A				C	A	C
Approach Vol, veh/h		1944			1268						927	
Approach Delay, s/veh		24.8			18.5						23.0	
Approach LOS		C			B						C	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			5.8	50.7		49.0		56.4				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			5.5	56.5		44.5		66.5				
Max Q Clear Time (g_c+I1), s			2.3	30.2		18.6		19.7				
Green Ext Time (p_c), s			0.0	16.0		4.8		12.7				
Intersection Summary												
HCM 6th Ctrl Delay			22.4									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

6: Adoree St/I-5 NB On-Ramp & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	1686	55	1	1081	485	86	108	12	0	0	0
Future Volume (veh/h)	86	1686	55	1	1081	485	86	108	12	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	105	2056	67	1	1175	527	118	148	16			
Peak Hour Factor	0.82	0.82	0.82	0.92	0.92	0.92	0.73	0.73	0.73			
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3			
Cap, veh/h	157	2286	74	2	3097	961	407	406	362			
Arrive On Green	0.05	0.66	0.66	0.00	0.61	0.61	0.23	0.23	0.23			
Sat Flow, veh/h	3428	3485	113	1767	5066	1572	1767	1763	1572			
Grp Volume(v), veh/h	105	1034	1089	1	1175	527	118	148	16			
Grp Sat Flow(s),veh/h/ln	1714	1763	1835	1767	1689	1572	1767	1763	1572			
Q Serve(g_s), s	3.6	58.6	60.2	0.1	14.1	23.5	6.6	8.5	0.9			
Cycle Q Clear(g_c), s	3.6	58.6	60.2	0.1	14.1	23.5	6.6	8.5	0.9			
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	157	1156	1204	2	3097	961	407	406	362			
V/C Ratio(X)	0.67	0.89	0.90	0.41	0.38	0.55	0.29	0.36	0.04			
Avail Cap(c_a), veh/h	243	1212	1262	75	3339	1037	407	406	362			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.72	0.72	0.72	0.57	0.57	0.57	1.00	1.00	1.00			
Uniform Delay (d), s/veh	56.3	17.2	17.5	59.9	11.8	13.6	38.1	38.8	35.9			
Incr Delay (d2), s/veh	3.5	6.4	6.9	53.9	0.0	0.3	1.8	2.5	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	3.0	30.3	32.3	0.1	8.0	11.6	5.5	7.1	0.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.8	23.6	24.4	113.8	11.8	13.9	39.9	41.3	36.1			
LnGrp LOS	E	C	C	F	B	B	D	D	D			
Approach Vol, veh/h	2228			1703			282					
Approach Delay, s/veh	25.7			12.6			40.4					
Approach LOS	C			B			D					
Timer - Assigned Phs	2			4			7			8		
Phs Duration (G+Y+Rc), s	32.1			4.7			10.0			77.9		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.9			5.1			8.5			79.1		
Max Q Clear Time (g_c+I1), s	10.5			2.1			5.6			25.5		
Green Ext Time (p_c), s	0.9			0.0			0.1			16.0		
Intersection Summary												
HCM 6th Ctrl Delay	21.4											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

7: Kalnor Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 							
Traffic Volume (veh/h)	30	1414	30	14	1336	37	12	7	25	23	7	11
Future Volume (veh/h)	30	1414	30	14	1336	37	12	7	25	23	7	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	36	1704	36	16	1501	42	16	9	33	31	9	15
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	60	2954	62	33	1986	886	298	154	391	408	156	259
Arrive On Green	0.03	0.58	0.58	0.02	0.56	0.56	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1767	5105	108	1767	3526	1572	940	633	1610	1386	640	1067
Grp Volume(v), veh/h	36	1127	613	16	1501	42	25	0	33	31	0	24
Grp Sat Flow(s),veh/h/ln	1767	1689	1836	1767	1763	1572	1573	0	1610	1386	0	1708
Q Serve(g_s), s	1.7	17.8	17.8	0.8	27.3	1.0	0.0	0.0	1.3	1.5	0.0	0.9
Cycle Q Clear(g_c), s	1.7	17.8	17.8	0.8	27.3	1.0	0.9	0.0	1.3	2.3	0.0	0.9
Prop In Lane	1.00		0.06	1.00		1.00	0.64		1.00	1.00		0.63
Lane Grp Cap(c), veh/h	60	1954	1062	33	1986	886	452	0	391	408	0	415
V/C Ratio(X)	0.60	0.58	0.58	0.49	0.76	0.05	0.06	0.00	0.08	0.08	0.00	0.06
Avail Cap(c_a), veh/h	178	3181	1730	136	3238	1444	452	0	391	408	0	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.2	11.2	11.2	41.0	14.0	8.3	24.5	0.0	24.7	25.4	0.0	24.5
Incr Delay (d2), s/veh	9.4	0.3	0.5	10.8	0.6	0.0	0.2	0.0	0.4	0.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	10.0	10.8	0.8	14.9	0.6	0.7	0.0	1.0	0.9	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.6	11.5	11.7	51.9	14.6	8.3	24.7	0.0	25.1	25.8	0.0	24.8
LnGrp LOS	D	B	B	D	B	A	C	A	C	C	A	C
Approach Vol, veh/h	1776		1559			58			55			
Approach Delay, s/veh	12.4		14.8			25.0			25.3			
Approach LOS	B		B			C			C			
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	25.0		6.1	53.3		25.0	7.3	52.0				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.5		6.5	79.5		20.5	8.5	77.5				
Max Q Clear Time (g_c+I1), s	3.3		2.8	19.8		4.3	3.7	29.3				
Green Ext Time (p_c), s	0.1		0.0	21.3		0.1	0.0	18.2				
Intersection Summary												
HCM 6th Ctrl Delay	13.9											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

8: Imperial Highway & Norwalk Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (veh/h)	158	1232	79	114	1195	40	129	634	128	123	478	110
Future Volume (veh/h)	158	1232	79	114	1195	40	129	634	128	123	478	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	184	1433	92	130	1358	45	168	823	166	143	556	128
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.77	0.77	0.77	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	5	5	5
Cap, veh/h	211	1638	509	154	1474	458	194	1206	538	169	1642	510
Arrive On Green	0.12	0.32	0.32	0.17	0.58	0.58	0.22	0.68	0.68	0.10	0.33	0.33
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	1739	4985	1547
Grp Volume(v), veh/h	184	1433	92	130	1358	45	168	823	166	143	556	128
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1739	1662	1547
Q Serve(g_s), s	12.3	32.0	5.0	8.5	29.0	1.5	11.0	16.6	5.1	9.7	10.1	7.3
Cycle Q Clear(g_c), s	12.3	32.0	5.0	8.5	29.0	1.5	11.0	16.6	5.1	9.7	10.1	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	1638	509	154	1474	458	194	1206	538	169	1642	510
V/C Ratio(X)	0.87	0.87	0.18	0.84	0.92	0.10	0.86	0.68	0.31	0.85	0.34	0.25
Avail Cap(c_a), veh/h	243	1710	531	184	1541	478	300	1206	538	201	1642	510
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.81	0.81	0.81	0.70	0.70	0.70	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	51.9	38.3	29.2	48.7	23.8	18.1	46.0	15.1	13.3	53.3	30.4	29.4
Incr Delay (d2), s/veh	21.1	4.3	0.1	18.8	6.8	0.1	14.8	3.1	1.5	22.9	0.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.5	19.2	3.5	7.1	13.0	1.0	8.8	8.3	3.3	9.0	7.4	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.0	42.6	29.3	67.5	30.7	18.2	60.7	18.2	14.8	76.1	30.9	30.5
LnGrp LOS	E	D	C	E	C	B	E	B	B	E	C	C
Approach Vol, veh/h	1709		1533			1157			827			
Approach Delay, s/veh	45.2		33.4			23.9			38.7			
Approach LOS	D		C			C			D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	45.5	15.0	43.3	17.7	44.0	18.9	39.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.9	35.1	12.5	40.5	20.4	28.6	16.5	36.5				
Max Q Clear Time (g_c+I1), s	11.7	18.6	10.5	34.0	13.0	12.1	14.3	31.0				
Green Ext Time (p_c), s	0.1	5.9	0.1	4.7	0.2	3.9	0.1	3.9				
Intersection Summary												
HCM 6th Ctrl Delay			36.0									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

9: Avenida Manuel Salinas & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	37	1208	127	31	1307	75	49	16	22	54	20	29
Future Volume (veh/h)	37	1208	127	31	1307	75	49	16	22	54	20	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	47	1529	161	33	1376	79	62	20	28	61	23	33
Peak Hour Factor	0.79	0.79	0.79	0.95	0.95	0.95	0.79	0.79	0.79	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	60	1791	556	49	1759	546	738	310	434	559	222	318
Arrive On Green	0.07	0.71	0.71	0.06	0.69	0.69	0.15	0.43	0.43	0.04	0.31	0.31
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1810	716	1003	1810	706	1012
Grp Volume(v), veh/h	47	1529	161	33	1376	79	62	0	48	61	0	56
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1810	0	1719	1810	0	1718
Q Serve(g_s), s	3.1	26.8	4.5	2.2	21.8	2.0	2.2	0.0	2.0	2.7	0.0	2.8
Cycle Q Clear(g_c), s	3.1	26.8	4.5	2.2	21.8	2.0	2.2	0.0	2.0	2.7	0.0	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.58	1.00		0.59
Lane Grp Cap(c), veh/h	60	1791	556	49	1759	546	738	0	743	559	0	540
V/C Ratio(X)	0.78	0.85	0.29	0.67	0.78	0.14	0.08	0.00	0.06	0.11	0.00	0.10
Avail Cap(c_a), veh/h	155	2258	701	110	2132	662	738	0	743	592	0	540
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.52	0.52	0.52	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.5	15.3	12.0	56.1	15.3	12.3	16.6	0.0	19.9	26.2	0.0	29.2
Incr Delay (d2), s/veh	10.8	1.5	0.1	12.7	1.4	0.1	0.2	0.0	0.2	0.1	0.0	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	2.8	8.1	2.6	2.0	8.2	1.3	1.7	0.0	1.5	2.1	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.2	16.7	12.2	68.8	16.7	12.4	16.8	0.0	20.1	26.3	0.0	29.5
LnGrp LOS	E	B	B	E	B	B	B	A	C	C	A	C
Approach Vol, veh/h	1737		1488				110		117			
Approach Delay, s/veh	17.7		17.6				18.2		27.8			
Approach LOS	B		B				B		C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	56.4	7.8	46.9	23.0	42.2	8.6	46.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	34.5	7.5	53.5	18.5	22.5	10.5	50.5				
Max Q Clear Time (g_c+I1), s	4.7	4.0	4.2	28.8	4.2	4.8	5.1	23.8				
Green Ext Time (p_c), s	0.0	0.2	0.0	13.7	0.1	0.2	0.0	12.3				
Intersection Summary												
HCM 6th Ctrl Delay			18.0									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

10: Imperial Highway & Volunteer Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1150	144	64	1357	28	30	14	31	51	51	22
Future Volume (veh/h)	2	1150	144	64	1357	28	30	14	31	51	51	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2	1438	180	67	1428	29	47	22	48	58	58	25
Peak Hour Factor	0.80	0.80	0.80	0.95	0.95	0.95	0.64	0.64	0.64	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	144	1889	236	170	2499	51	576	232	506	370	357	702
Arrive On Green	0.41	0.41	0.41	0.01	0.16	0.16	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	362	4559	570	1767	5110	104	1336	532	1160	746	818	1610
Grp Volume(v), veh/h	2	1065	553	67	944	513	47	0	70	116	0	25
Grp Sat Flow(s),veh/h/ln	362	1689	1753	1767	1689	1837	1336	0	1691	1564	0	1610
Q Serve(g_s), s	0.5	32.4	32.4	2.5	31.0	31.0	2.7	0.0	2.9	3.0	0.0	1.1
Cycle Q Clear(g_c), s	22.5	32.4	32.4	2.5	31.0	31.0	8.6	0.0	2.9	5.9	0.0	1.1
Prop In Lane	1.00		0.33	1.00		0.06	1.00		0.69	0.50		1.00
Lane Grp Cap(c), veh/h	144	1399	726	170	1651	898	576	0	737	727	0	702
V/C Ratio(X)	0.01	0.76	0.76	0.39	0.57	0.57	0.08	0.00	0.09	0.16	0.00	0.04
Avail Cap(c_a), veh/h	194	1871	971	274	2322	1263	576	0	737	727	0	702
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	0.38	0.38	0.38	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.7	30.1	30.1	24.6	38.7	38.7	23.4	0.0	19.9	20.7	0.0	19.4
Incr Delay (d2), s/veh	0.0	0.9	1.7	0.6	0.1	0.2	0.3	0.0	0.3	0.5	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	0.1	18.0	18.8	2.0	17.9	19.3	1.6	0.0	2.2	3.8	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	30.9	31.8	25.2	38.8	38.9	23.7	0.0	20.2	21.2	0.0	19.5
LnGrp LOS	D	C	C	C	D	D	C	A	C	C	A	B
Approach Vol, veh/h	1620		1524				117		141			
Approach Delay, s/veh	31.2		38.3				21.6		20.9			
Approach LOS	C		D				C		C			
Timer - Assigned Phs	2		3		4		6		8			
Phs Duration (G+Y+Rc), s	56.8		9.0		54.2		56.8		63.2			
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5			
Max Green Setting (Gmax), s	28.5		11.5		66.5		28.5		82.5			
Max Q Clear Time (g_c+I1), s	10.6		4.5		34.4		7.9		33.0			
Green Ext Time (p_c), s	0.4		0.1		15.3		0.6		14.9			
Intersection Summary												
HCM 6th Ctrl Delay	33.6											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

11: Bloomfield Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	245	794	91	416	1258	198	82	557	387	136	509	174
Future Volume (veh/h)	245	794	91	416	1258	198	82	557	387	136	509	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	292	945	108	457	1382	218	88	599	416	143	536	183
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	314	1200	372	487	1476	233	110	853	381	169	971	433
Arrive On Green	0.36	0.47	0.47	0.28	0.33	0.33	0.06	0.24	0.24	0.10	0.28	0.28
Sat Flow, veh/h	1767	5066	1572	1767	4412	696	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	292	945	108	457	1058	542	88	599	416	143	536	183
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1730	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	19.1	18.8	5.0	30.3	36.4	36.4	5.9	18.6	29.0	9.6	15.6	11.5
Cycle Q Clear(g_c), s	19.1	18.8	5.0	30.3	36.4	36.4	5.9	18.6	29.0	9.6	15.6	11.5
Prop In Lane	1.00		1.00	1.00		0.40	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	1200	372	487	1130	579	110	853	381	169	971	433
V/C Ratio(X)	0.93	0.79	0.29	0.94	0.94	0.94	0.80	0.70	1.09	0.85	0.55	0.42
Avail Cap(c_a), veh/h	346	1200	372	546	1140	584	135	853	381	184	971	433
HCM Platoon Ratio	2.00	2.00	2.00	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	0.73	0.73	0.73	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	29.0	25.4	42.5	38.7	38.7	55.5	41.5	45.5	53.4	37.2	35.7
Incr Delay (d2), s/veh	22.3	2.4	0.3	23.0	14.0	22.7	17.7	3.5	67.1	27.2	2.3	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.7	9.5	3.2	22.8	23.8	26.0	5.7	12.6	25.6	9.4	11.4	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.2	31.4	25.7	65.5	52.6	61.4	73.2	45.1	112.6	80.6	39.4	38.7
LnGrp LOS	E	C	C	E	D	E	E	D	F	F	D	D
Approach Vol, veh/h	1345		2057				1103		862			
Approach Delay, s/veh	37.2		57.8				72.8		46.1			
Approach LOS	D		E				E		D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	33.5	37.5	32.9	12.0	37.5	25.8	44.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	25.5	37.1	26.9	9.2	28.8	23.5	40.5				
Max Q Clear Time (g_c+I1), s	11.6	31.0	32.3	20.8	7.9	17.6	21.1	38.4				
Green Ext Time (p_c), s	0.0	0.0	0.7	3.4	0.0	3.3	0.2	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			53.8									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary 12: Norwalk Bl & Civic Center Dr

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	337	4	94	0	868	606	98	644	4
Future Volume (veh/h)	1	0	1	337	4	94	0	868	606	98	644	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	0	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	2	0	2	405	0	112	0	1099	767	108	708	4
Peak Hour Factor	0.50	0.50	0.50	0.84	0.84	0.84	0.79	0.79	0.79	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	0	3	3	3	3	3
Cap, veh/h	4	0	4	504	0	224	0	3179	1211	132	3846	22
Arrive On Green	0.01	0.00	0.01	0.14	0.00	0.14	0.00	1.00	1.00	0.15	1.00	1.00
Sat Flow, veh/h	832	0	832	3534	0	1572	0	5233	1572	1767	5198	29
Grp Volume(v), veh/h	4	0	0	405	0	112	0	1099	767	108	460	252
Grp Sat Flow(s),veh/h/ln	1664	0	0	1767	0	1572	0	1689	1572	1767	1689	1850
Q Serve(g_s), s	0.3	0.0	0.0	13.3	0.0	7.9	0.0	0.0	0.0	7.1	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	0.0	13.3	0.0	7.9	0.0	0.0	0.0	7.1	0.0	0.0
Prop In Lane	0.50		0.50	1.00		1.00	0.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	9	0	0	504	0	224	0	3179	1211	132	2498	1369
V/C Ratio(X)	0.46	0.00	0.00	0.80	0.00	0.50	0.00	0.35	0.63	0.82	0.18	0.18
Avail Cap(c_a), veh/h	250	0	0	1028	0	457	0	3179	1211	216	2498	1369
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	0.65	0.00	0.65	0.00	0.65	0.65	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	0.0	0.0	49.8	0.0	47.5	0.0	0.0	0.0	50.3	0.0	0.0
Incr Delay (d2), s/veh	33.9	0.0	0.0	2.0	0.0	1.1	0.0	0.2	1.7	11.6	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	0.0	0.0	9.3	0.0	5.5	0.0	0.1	1.0	6.1	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.4	0.0	0.0	51.8	0.0	48.6	0.0	0.2	1.7	61.9	0.2	0.3
LnGrp LOS	F	A	A	D	A	D	A	A	A	E	A	A
Approach Vol, veh/h	4			517			1866			820		
Approach Delay, s/veh	93.4			51.1			0.8			8.3		
Approach LOS	F			D			A			A		
Timer - Assigned Phs	1	2	4			6	8					
Phs Duration (G+Y+Rc), s	13.5	79.8	5.1			93.3	21.6					
Change Period (Y+Rc), s	4.5	4.5	4.5			4.5	4.5					
Max Green Setting (Gmax), s	14.7	34.4	18.0			53.6	34.9					
Max Q Clear Time (g_c+I1), s	9.1	2.0	2.3			2.0	15.3					
Green Ext Time (p_c), s	0.1	15.0	0.0			5.4	1.8					
Intersection Summary												
HCM 6th Ctrl Delay			11.0									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Summary

13: Civic Center Dr & Courthouse-AMC Theater

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	152	554	0	0	445	23	1	0	0	4	0	9
Future Volume (veh/h)	152	554	0	0	445	23	1	0	0	4	0	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	183	667	0	0	543	28	4	0	0	6	0	13
Peak Hour Factor	0.83	0.83	0.83	0.82	0.82	0.82	0.25	0.25	0.25	0.69	0.69	0.69
Percent Heavy Veh, %	3	3	0	0	3	3	0	0	0	0	0	0
Cap, veh/h	310	1264	0	0	702	36	853	0	0	295	26	580
Arrive On Green	0.10	0.36	0.00	0.00	0.27	0.27	0.54	0.00	0.00	0.54	0.00	0.54
Sat Flow, veh/h	1767	3618	0	0	3504	176	1427	0	0	447	47	1071
Grp Volume(v), veh/h	183	667	0	0	280	291	4	0	0	19	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1824	1427	0	0	1565	0	0
Q Serve(g_s), s	7.0	13.5	0.0	0.0	13.2	13.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.0	13.5	0.0	0.0	13.2	13.2	0.1	0.0	0.0	0.5	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.10	1.00		0.00	0.32		0.68
Lane Grp Cap(c), veh/h	310	1264	0	0	363	375	853	0	0	900	0	0
V/C Ratio(X)	0.59	0.53	0.00	0.00	0.77	0.77	0.00	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	532	2292	0	0	656	679	853	0	0	900	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.00	0.00	0.82	0.82	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.1	22.8	0.0	0.0	30.7	30.8	9.5	0.0	0.0	9.6	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.3	0.0	0.0	2.9	2.8	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.3	8.9	0.0	0.0	8.8	9.1	0.1	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	23.1	0.0	0.0	33.6	33.6	9.5	0.0	0.0	9.6	0.0	0.0
LnGrp LOS	C	C	A	A	C	C	A	A	A	A	A	A
Approach Vol, veh/h	850			571			4			19		
Approach Delay, s/veh	23.7			33.6			9.5			9.6		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	2			4		6		7	8			
Phs Duration (G+Y+Rc), s	53.2			36.8		53.2		13.7	23.0			
Change Period (Y+Rc), s	4.5			4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	22.5			58.5		22.5		20.5	33.5			
Max Q Clear Time (g_c+I1), s	2.1			15.5		2.5		9.0	15.2			
Green Ext Time (p_c), s	0.0			5.4		0.0		0.4	3.3			
Intersection Summary												
HCM 6th Ctrl Delay	27.4											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 14: Civic Center Dr & Avenida Manuel Salinas

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	498	12	9	345	27	41	3	22	21	1	74
Future Volume (veh/h)	49	498	12	9	345	27	41	3	22	21	1	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	58	593	14	12	442	35	49	4	27	27	1	80
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.83	0.83	0.83	0.77	0.77	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	206	713	17	147	578	46	663	78	524	379	14	349
Arrive On Green	0.09	0.41	0.41	0.03	0.35	0.35	0.37	0.37	0.37	0.22	0.22	0.22
Sat Flow, veh/h	1767	3520	83	1767	3310	261	1810	212	1431	1748	65	1610
Grp Volume(v), veh/h	58	297	310	12	235	242	49	0	31	28	0	80
Grp Sat Flow(s),veh/h/ln	1767	1763	1841	1767	1763	1809	1810	0	1642	1813	0	1610
Q Serve(g_s), s	2.4	13.6	13.6	0.5	10.6	10.7	1.6	0.0	1.1	1.1	0.0	3.7
Cycle Q Clear(g_c), s	2.4	13.6	13.6	0.5	10.6	10.7	1.6	0.0	1.1	1.1	0.0	3.7
Prop In Lane	1.00		0.05	1.00		0.14	1.00		0.87	0.96		1.00
Lane Grp Cap(c), veh/h	206	357	373	147	308	316	663	0	602	393	0	349
V/C Ratio(X)	0.28	0.83	0.83	0.08	0.76	0.77	0.07	0.00	0.05	0.07	0.00	0.23
Avail Cap(c_a), veh/h	258	499	522	230	480	492	663	0	602	393	0	349
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	0.87	0.87	0.87	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.9	25.4	25.4	30.1	27.6	27.7	18.6	0.0	18.4	28.0	0.0	29.1
Incr Delay (d2), s/veh	0.7	7.4	7.2	0.2	3.4	3.4	0.2	0.0	0.2	0.4	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	8.5	8.8	0.4	7.0	7.2	1.2	0.0	0.8	0.9	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	32.8	32.5	30.3	31.1	31.1	18.8	0.0	18.6	28.4	0.0	30.6
LnGrp LOS	C	C	C	C	C	C	B	A	B	C	A	C
Approach Vol, veh/h	665			489			80			108		
Approach Delay, s/veh	32.3			31.1			18.7			30.0		
Approach LOS	C			C			B			C		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	37.5		5.8	22.7		24.0		8.3	20.2			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	21.5		5.5	25.5		19.5		6.5	24.5			
Max Q Clear Time (g_c+I1), s	3.6		2.5	15.6		5.7		4.4	12.7			
Green Ext Time (p_c), s	0.2		0.0	2.6		0.3		0.0	2.2			
Intersection Summary												
HCM 6th Ctrl Delay	30.9											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 15: Civic Center Dr & Volunteer Ave

05/06/2022

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	107	401	39	6	252	21	45	17	12	35	30	73	
Future Volume (veh/h)	107	401	39	6	252	21	45	17	12	35	30	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	130	489	48	7	293	24	75	28	20	53	45	111	
Peak Hour Factor	0.82	0.82	0.82	0.86	0.86	0.86	0.60	0.60	0.60	0.66	0.66	0.66	
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0	
Cap, veh/h	269	705	315	157	418	34	599	222	147	595	489	1032	
Arrive On Green	0.08	0.20	0.20	0.01	0.13	0.13	0.64	0.64	0.64	0.64	0.64	0.64	
Sat Flow, veh/h	1767	3526	1572	1767	3301	269	834	346	229	832	762	1610	
Grp Volume(v), veh/h	130	489	48	7	156	161	123	0	0	98	0	111	
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1807	1409	0	0	1594	0	1610	
Q Serve(g_s), s	5.5	11.6	2.3	0.3	7.6	7.7	1.4	0.0	0.0	0.0	0.0	2.4	
Cycle Q Clear(g_c), s	5.5	11.6	2.3	0.3	7.6	7.7	3.2	0.0	0.0	1.8	0.0	2.4	
Prop In Lane	1.00		1.00	1.00		0.15	0.61		0.16	0.54		1.00	
Lane Grp Cap(c), veh/h	269	705	315	157	223	229	968	0	0	1083	0	1032	
V/C Ratio(X)	0.48	0.69	0.15	0.04	0.70	0.71	0.13	0.00	0.00	0.09	0.00	0.11	
Avail Cap(c_a), veh/h	467	1469	655	308	558	572	968	0	0	1083	0	1032	
HCM Platoon Ratio	1.00	1.00	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	0.76	0.94	0.94	0.94	1.00	0.00	0.00	1.00	0.00	1.00	
Uniform Delay (d), s/veh	29.3	33.4	29.7	33.9	37.6	37.7	6.3	0.0	0.0	6.1	0.0	6.2	
Incr Delay (d2), s/veh	1.0	0.9	0.2	0.1	3.7	3.7	0.3	0.0	0.0	0.2	0.0	0.2	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	4.2	8.1	1.6	0.2	6.2	6.5	1.6	0.0	0.0	1.2	0.0	1.4	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	30.3	34.4	29.9	34.0	41.3	41.4	6.6	0.0	0.0	6.3	0.0	6.4	
LnGrp LOS	C	C	C	C	D	D	A	A	A	A	A	A	
Approach Vol, veh/h		667			324			123			209		
Approach Delay, s/veh		33.3			41.2			6.6			6.4		
Approach LOS		C			D			A			A		
Timer - Assigned Phs		2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s		62.2		5.3		22.5		62.2		11.9		15.9	
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5		4.5			
Max Green Setting (Gmax), s		30.5		8.5		37.5		30.5		17.5		28.5	
Max Q Clear Time (g_c+I1), s		5.2		2.3		13.6		4.4		7.5		9.7	
Green Ext Time (p_c), s		0.7		0.0		3.5		0.9		0.2		1.7	
Intersection Summary													
HCM 6th Ctrl Delay			28.5										
HCM 6th LOS			C										

HCM 6th Signalized Intersection Summary 16: Civic Center Dr & Bloomfield Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	302	13	84	33	34	8	129	914	7	2	649	190
Future Volume (veh/h)	302	13	84	33	34	8	129	914	7	2	649	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	351	15	98	37	38	9	170	1203	9	2	721	211
Peak Hour Factor	0.86	0.86	0.86	0.89	0.89	0.89	0.76	0.76	0.76	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	439	556	471	433	435	103	228	2099	16	5	1838	820
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.07	0.59	0.59	0.01	1.00	1.00
Sat Flow, veh/h	1348	1856	1572	1270	1450	343	3428	3587	27	1767	3526	1572
Grp Volume(v), veh/h	351	15	98	37	0	47	170	591	621	2	721	211
Grp Sat Flow(s),veh/h/ln	1348	1856	1572	1270	0	1794	1714	1763	1851	1767	1763	1572
Q Serve(g_s), s	30.4	0.7	5.6	2.5	0.0	2.3	5.8	25.1	25.1	0.1	0.0	0.0
Cycle Q Clear(g_c), s	32.6	0.7	5.6	3.2	0.0	2.3	5.8	25.1	25.1	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	439	556	471	433	0	538	228	1031	1083	5	1838	820
V/C Ratio(X)	0.80	0.03	0.21	0.09	0.00	0.09	0.75	0.57	0.57	0.42	0.39	0.26
Avail Cap(c_a), veh/h	568	734	622	555	0	710	323	1031	1083	75	1838	820
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)	0.88	0.88	0.88	1.00	0.00	1.00	1.00	1.00	1.00	0.65	0.65	0.65
Uniform Delay (d), s/veh	42.0	29.7	31.4	30.8	0.0	30.2	55.0	15.5	15.5	59.6	0.0	0.0
Incr Delay (d2), s/veh	5.5	0.0	0.2	0.1	0.0	0.1	5.7	2.3	2.2	34.2	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.7	0.6	3.9	1.4	0.0	1.8	4.9	15.7	16.3	0.2	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	29.7	31.6	30.9	0.0	30.3	60.7	17.9	17.7	93.8	0.4	0.5
LnGrp LOS	D	C	C	C	A	C	E	B	B	F	A	A
Approach Vol, veh/h	464			84			1382			934		
Approach Delay, s/veh	43.5			30.6			23.1			0.6		
Approach LOS	D			C			C			A		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	4.8	74.7	40.5		12.5	67.1	40.5					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.1	53.9	47.5		11.3	47.7	47.5					
Max Q Clear Time (g_c+I1), s	2.1	27.1	34.6		7.8	2.0	5.2					
Green Ext Time (p_c), s	0.0	9.6	1.3		0.2	6.9	0.4					
Intersection Summary												
HCM 6th Ctrl Delay	19.3											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 17: Adoree St/I-5 NB Off-Ramp & Norwalk Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	0	103	117	78	574	82	804	0	0	928	69
Future Volume (veh/h)	77	0	103	117	78	574	82	804	0	0	928	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	1856	0	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	100	0	134	141	94	692	102	1005	0	0	1190	88
Peak Hour Factor	0.77	0.77	0.77	0.83	0.83	0.83	0.80	0.80	0.80	0.78	0.78	0.78
Percent Heavy Veh, %	3	0	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	0	0	0	473	1086	688	153	2469	0	0	1951	144
Arrive On Green	0.00	0.00	0.00	0.44	0.44	0.44	0.01	0.16	0.00	0.00	0.81	0.81
Sat Flow, veh/h		0		1081	2483	1572	3428	5233	0	0	4980	356
Grp Volume(v), veh/h	0.0			235	0	692	102	1005	0	0	835	443
Grp Sat Flow(s),veh/h/ln				1801	1763	1572	1714	1689	0	0	1689	1792
Q Serve(g_s), s				10.1	0.0	52.5	3.6	21.4	0.0	0.0	11.1	11.1
Cycle Q Clear(g_c), s				10.1	0.0	52.5	3.6	21.4	0.0	0.0	11.1	11.1
Prop In Lane				0.60		1.00	1.00		0.00	0.00		0.20
Lane Grp Cap(c), veh/h				788	771	688	153	2469	0	0	1369	726
V/C Ratio(X)				0.30	0.00	1.01	0.67	0.41	0.00	0.00	0.61	0.61
Avail Cap(c_a), veh/h				788	771	688	157	2469	0	0	1369	726
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.91	0.91	0.00	0.00	0.97	0.97
Uniform Delay (d), s/veh				21.8	0.0	33.8	58.2	34.8	0.0	0.0	7.8	7.8
Incr Delay (d2), s/veh				0.2	0.0	35.8	9.0	0.5	0.0	0.0	2.0	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
%ile BackOfQ(95%),veh/ln				7.7	0.0	34.8	3.2	14.7	0.0	0.0	5.1	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				22.0	0.0	69.5	67.2	35.2	0.0	0.0	9.8	11.5
LnGrp LOS				C	A	F	E	D	A	A	A	B
Approach Vol, veh/h				927			1107			1278		
Approach Delay, s/veh				57.5			38.2			10.4		
Approach LOS				E			D			B		
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	63.0			9.9			53.1			57.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	45.3			5.5			35.3			52.5		
Max Q Clear Time (g_c+I1), s	23.4			5.6			13.1			54.5		
Green Ext Time (p_c), s	7.5			0.0			9.5			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	32.9											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 18: San Antonio Dr & Frontage Rd/I-5 SB On-Ramp

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	248	95	0	0	0	0	852	242	278	869	0
Future Volume (veh/h)	44	248	95	0	0	0	0	852	242	278	869	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	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	47	264	101				0	1014	288	339	1060	0
Peak Hour Factor	0.94	0.94	0.94				0.84	0.84	0.84	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	178	374	158				0	2610	740	415	4175	0
Arrive On Green	0.10	0.10	0.10				0.00	0.67	0.67	0.12	0.82	0.00
Sat Flow, veh/h	1767	3711	1572				0	4087	1112	3428	5233	0
Grp Volume(v), veh/h	47	264	101				0	873	429	339	1060	0
Grp Sat Flow(s),veh/h/ln	1767	1856	1572				0	1689	1655	1714	1689	0
Q Serve(g_s), s	2.9	8.3	7.4				0.0	14.0	14.0	11.6	5.6	0.0
Cycle Q Clear(g_c), s	2.9	8.3	7.4				0.0	14.0	14.0	11.6	5.6	0.0
Prop In Lane	1.00		1.00				0.00		0.67	1.00		0.00
Lane Grp Cap(c), veh/h	178	374	158				0	2248	1102	415	4175	0
V/C Ratio(X)	0.26	0.71	0.64				0.00	0.39	0.39	0.82	0.25	0.00
Avail Cap(c_a), veh/h	361	758	321				0	2248	1102	729	4175	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)	0.91	0.91	0.91				0.00	0.79	0.79	0.48	0.48	0.00
Uniform Delay (d), s/veh	49.8	52.2	51.9				0.0	9.0	9.0	51.4	2.3	0.0
Incr Delay (d2), s/veh	0.7	2.2	3.8				0.0	0.4	0.8	2.0	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	2.4	7.1	5.6				0.0	8.2	8.3	7.6	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	54.5	55.7				0.0	9.4	9.9	53.4	2.4	0.0
LnGrp LOS	D	D	E				A	A	A	D	A	A
Approach Vol, veh/h	412						1302			1399		
Approach Delay, s/veh	54.3						9.6			14.8		
Approach LOS	D						A			B		
Timer - Assigned Phs	1	2		4			6					
Phs Duration (G+Y+Rc), s	19.0	84.4		16.6			103.4					
Change Period (Y+Rc), s	4.5	4.5		4.5			4.5					
Max Green Setting (Gmax), s	25.5	56.5		24.5			86.5					
Max Q Clear Time (g_c+I1), s	13.6	16.0		10.3			7.6					
Green Ext Time (p_c), s	0.9	12.4		1.8			10.3					
Intersection Summary												
HCM 6th Ctrl Delay			17.8									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Summary

19: San Antonio Dr & Firestone Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	337	41	37	324	45	56	762	78	73	596	161
Future Volume (veh/h)	183	337	41	37	324	45	56	762	78	73	596	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	208	383	47	41	356	49	67	907	93	89	727	196
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.84	0.84	0.84	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	239	807	360	55	440	196	86	1859	829	111	2156	574
Arrive On Green	0.14	0.23	0.23	0.03	0.12	0.12	0.05	0.53	0.53	0.13	1.00	1.00
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	3981	1061
Grp Volume(v), veh/h	208	383	47	41	356	49	67	907	93	89	615	308
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1689	1665
Q Serve(g_s), s	13.8	11.3	2.9	2.8	11.8	3.4	4.5	19.6	3.6	5.9	0.0	0.0
Cycle Q Clear(g_c), s	13.8	11.3	2.9	2.8	11.8	3.4	4.5	19.6	3.6	5.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.64
Lane Grp Cap(c), veh/h	239	807	360	55	440	196	86	1859	829	111	1829	901
V/C Ratio(X)	0.87	0.47	0.13	0.75	0.81	0.25	0.78	0.49	0.11	0.80	0.34	0.34
Avail Cap(c_a), veh/h	361	1072	478	110	573	256	155	1859	829	199	1829	901
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)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.97	0.97	0.97
Uniform Delay (d), s/veh	50.9	40.0	36.8	57.7	51.1	47.4	56.4	18.0	14.2	51.7	0.0	0.0
Incr Delay (d2), s/veh	13.9	0.4	0.2	18.1	6.5	0.7	1.4	0.1	0.0	12.1	0.5	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	11.4	8.6	2.0	2.7	9.5	2.5	2.7	9.3	1.8	5.1	0.2	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.8	40.5	37.0	75.8	57.7	48.1	57.9	18.1	14.3	63.8	0.5	1.0
LnGrp LOS	E	D	D	E	E	D	E	B	B	E	A	A
Approach Vol, veh/h	638			446			1067			1012		
Approach Delay, s/veh	48.1			58.3			20.3			6.2		
Approach LOS	D			E			C			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	67.8	8.2	32.0	10.3	69.5	20.7	19.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	44.5	7.5	36.5	10.5	47.5	24.5	19.5				
Max Q Clear Time (g_c+I1), s	7.9	21.6	4.8	13.3	6.5	2.0	15.8	13.8				
Green Ext Time (p_c), s	0.1	7.2	0.0	2.7	0.0	7.7	0.4	1.2				
Intersection Summary												
HCM 6th Ctrl Delay	26.8											
HCM 6th LOS	C											

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022

												
Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	62	301	554	131	32	551	45	11	96	346	226	27
Future Volume (vph)	62	301	554	131	32	551	45	11	96	346	226	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00	1.00	0.91			1.00	0.91	0.91	
Frt		1.00	1.00	0.85	1.00	0.99			1.00	0.97	0.85	
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (prot)		1752	3505	1568	1752	4967			1752	3272	1427	
Flt Permitted		0.36	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (perm)		668	3505	1568	1752	4967			1752	3272	1427	
Peak-hour factor, PHF	0.85	0.85	0.85	1.00	0.83	0.83	0.83	0.83	0.96	0.96	0.96	0.96
Adj. Flow (vph)	73	354	652	131	39	664	54	13	100	360	235	28
RTOR Reduction (vph)	0	0	0	61	0	0	0	0	0	0	90	0
Lane Group Flow (vph)	0	427	652	70	39	731	0	0	100	433	100	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	NA			Prot	NA	Perm	
Protected Phases	7		4		3	8			5	2		
Permitted Phases		4		4							2	
Actuated Green, G (s)		67.4	67.4	67.4	4.0	75.9			6.5	32.6	32.6	
Effective Green, g (s)		67.4	67.4	67.4	4.0	75.9			6.5	32.6	32.6	
Actuated g/C Ratio		0.48	0.48	0.48	0.03	0.54			0.05	0.23	0.23	
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		321	1687	754	50	2692			81	761	332	
v/s Ratio Prot			0.19		c0.02	0.15			c0.06	0.13		
v/s Ratio Perm		c0.64		0.04							0.07	
v/c Ratio		1.33	0.39	0.09	0.78	0.27			1.23	0.57	0.30	
Uniform Delay, d1		36.3	23.1	19.7	67.6	17.2			66.8	47.5	44.3	
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2		168.5	0.1	0.1	53.9	0.1			175.8	3.1	2.3	
Delay (s)		204.8	23.3	19.8	121.5	17.3			242.5	50.6	46.6	
Level of Service		F	C	B	F	B			F	D	D	
Approach Delay (s)			87.0			22.5				76.1		
Approach LOS			F			C				E		
Intersection Summary												
HCM 2000 Control Delay			66.0			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.09									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			74.1%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022



Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	7	63	321	101	20	167	147	1
Future Volume (vph)	7	63	321	101	20	167	147	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00		0.97	0.91	
Frt		1.00	1.00	0.85		0.97	0.85	
Flt Protected		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1752	3505	1568		3343	1427	
Flt Permitted		0.47	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		870	3505	1568		3343	1427	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.78	0.78	0.78	0.78
Adj. Flow (vph)	8	71	361	113	26	214	188	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	79	361	113	0	295	134	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	Prot	Perm	
Protected Phases	1		6		12	12		
Permitted Phases		6		6			12	
Actuated Green, G (s)		21.6	21.6	21.6		18.0	18.0	
Effective Green, g (s)		21.6	21.6	21.6		18.0	18.0	
Actuated g/C Ratio		0.15	0.15	0.15		0.13	0.13	
Clearance Time (s)		4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		134	540	241		429	183	
v/s Ratio Prot			c0.10			0.09		
v/s Ratio Perm		0.09		0.07			c0.09	
v/c Ratio		0.59	0.67	0.47		0.69	0.73	
Uniform Delay, d1		55.1	55.8	54.0		58.3	58.7	
Progression Factor		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		17.6	6.4	6.4		8.7	22.6	
Delay (s)		72.7	62.3	60.4		67.0	81.3	
Level of Service		E	E	E		E	F	
Approach Delay (s)			63.4			71.5		
Approach LOS			E			E		
Intersection Summary								

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘			↗ ↘ ↘ ↘
Traffic Vol, veh/h	0	67	930	50	0	751
Future Vol, veh/h	0	67	930	50	0	751
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, %	0	0	3	3	3	3
Mvmt Flow	0	73	1011	54	0	816
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	533	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	425	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	425	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	15.2	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 425		-		
HCM Lane V/C Ratio	-	- 0.171		-		
HCM Control Delay (s)	-	- 15.2		-		
HCM Lane LOS	-	- C		-		
HCM 95th %tile Q(veh)	-	- 0.6		-		

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	0	152	23	0	11
Future Vol, veh/h	2	0	152	23	0	11
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	2	0	165	25	0	12

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	190	178	0
Stage 1	178	-	-
Stage 2	12	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	799	865	-
Stage 1	853	-	-
Stage 2	1011	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	799	865	-
Mov Cap-2 Maneuver	799	-	-
Stage 1	853	-	-
Stage 2	1011	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	799	1384
HCM Lane V/C Ratio	-	-	0.003	-
HCM Control Delay (s)	-	-	9.5	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	16	14	65	79	0
Future Vol, veh/h	9	16	14	65	79	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	17	15	71	86	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	187	86	86	0	-	0
Stage 1	86	-	-	-	-	-
Stage 2	101	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	802	973	1510	-	-	-
Stage 1	937	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	794	973	1510	-	-	-
Mov Cap-2 Maneuver	794	-	-	-	-	-
Stage 1	928	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.1	1.3		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1510	-	900	-	-	
HCM Lane V/C Ratio	0.01	-	0.03	-	-	
HCM Control Delay (s)	7.4	0	9.1	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	0	0	77	115	0
Future Vol, veh/h	19	0	0	77	115	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	0	0	84	125	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	84	0	-	0	84	42
Stage 1	-	-	-	-	42	-
Stage 2	-	-	-	-	42	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1513	-	-	-	918	1029
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	980	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1513	-	-	-	905	1029
Mov Cap-2 Maneuver	-	-	-	-	905	-
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	980	-
Approach	EB	WB		SB		
HCM Control Delay, s	7.4	0		9.6		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1513	-	-	-	905	
HCM Lane V/C Ratio	0.014	-	-	-	0.138	
HCM Control Delay (s)	7.4	0	-	-	9.6	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.5	

HCM 6th Signalized Intersection Summary

1: Norwalk BI & Lakeland Rd

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	141	24	183	238	190	41	600	194	99	768	61
Future Volume (veh/h)	19	141	24	183	238	190	41	600	194	99	768	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	21	158	27	251	326	260	49	723	234	108	835	66
Peak Hour Factor	0.89	0.89	0.89	0.73	0.73	0.73	0.83	0.83	0.83	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	3	3	3	3	3	3
Cap, veh/h	69	419	67	418	555	470	358	1592	515	333	2012	159
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	86	1435	229	1218	1900	1610	613	2618	847	582	3310	262
Grp Volume(v), veh/h	206	0	0	251	326	260	49	487	470	108	445	456
Grp Sat Flow(s),veh/h/ln	1751	0	0	1218	1900	1610	613	1763	1703	582	1763	1808
Q Serve(g_s), s	0.0	0.0	0.0	11.0	13.2	12.3	4.3	13.5	13.5	11.6	11.9	11.9
Cycle Q Clear(g_c), s	8.0	0.0	0.0	18.2	13.2	12.3	18.2	13.5	13.5	27.2	11.9	11.9
Prop In Lane	0.10		0.13	1.00		1.00	1.00		0.50	1.00		0.14
Lane Grp Cap(c), veh/h	555	0	0	418	555	470	358	1072	1035	333	1072	1099
V/C Ratio(X)	0.37	0.00	0.00	0.60	0.59	0.55	0.14	0.45	0.45	0.32	0.41	0.42
Avail Cap(c_a), veh/h	669	0	0	502	686	581	358	1072	1035	333	1072	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)	1.00	0.00	0.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.4	0.0	0.0	29.4	27.2	26.9	14.6	9.6	9.6	17.7	9.3	9.3
Incr Delay (d2), s/veh	0.4	0.0	0.0	1.4	1.0	1.0	0.8	1.3	1.4	2.6	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	6.3	0.0	0.0	8.6	10.0	8.3	1.2	8.6	8.4	3.1	7.9	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.8	0.0	0.0	30.8	28.2	27.9	15.4	10.9	10.9	20.2	10.4	10.4
LnGrp LOS	C	A	A	C	C	C	B	B	B	C	B	B
Approach Vol, veh/h		206			837			1006			1009	
Approach Delay, s/veh		25.8			28.9			11.1			11.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		60.7		29.3		60.7		29.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		48.5		32.5		48.5		32.5				
Max Q Clear Time (g_c+I1), s		20.2		10.0		29.2		20.2				
Green Ext Time (p_c), s		7.9		1.2		7.0		3.2				
Intersection Summary												
HCM 6th Ctrl Delay				17.1								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Norwalk Bl & Crewe St

05/06/2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	83	69	67	799	1028	24
Future Volume (veh/h)	83	69	67	799	1028	24
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	1900	1900	1856	1856	1856	1856
Adj Flow Rate, veh/h	105	87	75	898	1094	26
Peak Hour Factor	0.79	0.79	0.89	0.89	0.94	0.94
Percent Heavy Veh, %	0	0	3	3	3	3
Cap, veh/h	151	134	446	2880	2875	68
Arrive On Green	0.08	0.08	0.82	0.82	0.82	0.82
Sat Flow, veh/h	1810	1610	499	3618	3612	84
Grp Volume(v), veh/h	105	87	75	898	548	572
Grp Sat Flow(s),veh/h/ln	1810	1610	499	1763	1763	1840
Q Serve(g_s), s	5.1	4.7	4.2	5.6	7.4	7.4
Cycle Q Clear(g_c), s	5.1	4.7	11.7	5.6	7.4	7.4
Prop In Lane	1.00	1.00	1.00			0.05
Lane Grp Cap(c), veh/h	151	134	446	2880	1440	1503
V/C Ratio(X)	0.70	0.65	0.17	0.31	0.38	0.38
Avail Cap(c_a), veh/h	452	403	446	2880	1440	1503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.59	0.59	0.85	0.85
Uniform Delay (d), s/veh	40.2	40.0	3.7	2.0	2.2	2.2
Incr Delay (d2), s/veh	5.7	5.2	0.5	0.2	0.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	3.7	0.7	1.9	2.9	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.9	45.2	4.2	2.2	2.8	2.8
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	192			973	1120	
Approach Delay, s/veh	45.6			2.3	2.8	
Approach LOS	D			A	A	
Timer - Assigned Phs	2		4		6	
Phs Duration (G+Y+Rc), s	78.0		12.0		78.0	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	58.5		22.5		58.5	
Max Q Clear Time (g_c+I1), s	13.7		7.1		9.4	
Green Ext Time (p_c), s	9.5		0.5		9.9	
Intersection Summary						
HCM 6th Ctrl Delay			6.2			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

3: Firestone Bl & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑	↑	↑↑	↑↑		↑↑	↑↑↑	
Traffic Volume (veh/h)	0	1280	307	6	1123	336	330	455	16	364	426	1
Future Volume (veh/h)	0	1280	307	6	1123	336	330	455	16	364	426	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1376	330	7	1248	373	359	495	0	400	468	1
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	0	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	1678	402	91	2083	647	428	1194		472	1834	4
Arrive On Green	0.00	0.41	0.41	0.14	0.14	0.14	0.12	0.34	0.00	0.14	0.35	0.35
Sat Flow, veh/h	0	4247	976	285	5066	1572	3428	3618	0	3428	5219	11
Grp Volume(v), veh/h	0	1138	568	7	1248	373	359	495	0	400	303	166
Grp Sat Flow(s),veh/h/ln	0	1689	1680	285	1689	1572	1714	1763	0	1714	1689	1854
Q Serve(g_s), s	0.0	35.9	36.1	2.9	27.8	26.7	12.3	13.0	0.0	13.7	7.7	7.7
Cycle Q Clear(g_c), s	0.0	35.9	36.1	38.9	27.8	26.7	12.3	13.0	0.0	13.7	7.7	7.7
Prop In Lane	0.00		0.58	1.00		1.00	1.00		0.00	1.00		0.01
Lane Grp Cap(c), veh/h	0	1389	691	91	2083	647	428	1194		472	1187	651
V/C Ratio(X)	0.00	0.82	0.82	0.08	0.60	0.58	0.84	0.41		0.85	0.26	0.26
Avail Cap(c_a), veh/h	0	1534	763	104	2301	714	586	1194		643	1187	651
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.53	0.53	0.53	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	31.4	31.4	64.9	42.5	42.1	51.3	30.5	0.0	50.5	27.7	27.7
Incr Delay (d2), s/veh	0.0	3.4	6.6	0.2	0.2	0.5	7.8	1.1	0.0	7.8	0.5	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	0.0	21.4	22.1	0.4	16.9	15.4	9.7	9.6	0.0	10.5	5.8	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	34.7	38.1	65.1	42.7	42.6	59.1	31.6	0.0	58.3	28.2	28.7
LnGrp LOS	A	C	D	E	D	D	E	C		E	C	C
Approach Vol, veh/h		1706			1628			854	A		869	
Approach Delay, s/veh		35.8			42.8			43.2			42.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.0	45.1		53.9	19.5	46.7		53.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	22.5	29.5		54.5	20.5	31.5		54.5				
Max Q Clear Time (g_c+I1), s	15.7	15.0		38.1	14.3	9.7		40.9				
Green Ext Time (p_c), s	0.9	2.8		10.9	0.7	2.9		8.4				

Intersection Summary

HCM 6th Ctrl Delay	40.4
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary

4: Pioneer Bl & Imperial Highway

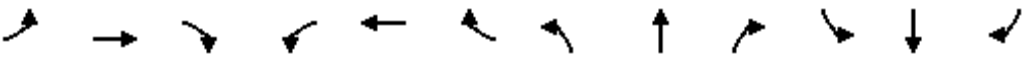
05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 		 	 	
Traffic Volume (veh/h)	313	1186	61	190	1123	114	49	552	279	146	465	421
Future Volume (veh/h)	313	1186	61	190	1123	114	49	552	279	146	465	421
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	382	1446	74	221	1306	133	51	575	291	151	479	434
Peak Hour Factor	0.82	0.82	0.82	0.86	0.86	0.86	0.96	0.96	0.96	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	412	1917	595	252	1457	452	65	950	424	205	1030	459
Arrive On Green	0.23	0.38	0.38	0.14	0.29	0.29	0.04	0.27	0.27	0.06	0.29	0.29
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	382	1446	74	221	1306	133	51	575	291	151	479	434
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1714	1763	1572
Q Serve(g_s), s	25.4	29.8	3.7	14.7	29.7	7.9	3.4	17.1	19.9	5.2	13.4	32.4
Cycle Q Clear(g_c), s	25.4	29.8	3.7	14.7	29.7	7.9	3.4	17.1	19.9	5.2	13.4	32.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	412	1917	595	252	1457	452	65	950	424	205	1030	459
V/C Ratio(X)	0.93	0.75	0.12	0.88	0.90	0.29	0.78	0.61	0.69	0.74	0.47	0.94
Avail Cap(c_a), veh/h	479	1917	595	364	1499	465	96	950	424	220	1030	459
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.54	0.54	0.54	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	32.4	24.3	50.4	41.0	33.3	57.3	38.3	39.3	55.5	34.8	41.5
Incr Delay (d2), s/veh	14.3	0.9	0.1	13.3	6.2	0.3	21.3	2.9	8.8	11.4	1.5	30.2
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	17.0	16.4	2.5	11.5	18.5	5.5	3.5	12.3	13.5	4.6	10.0	22.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	33.4	24.4	63.7	47.3	33.6	78.6	41.1	48.1	66.9	36.3	71.7
LnGrp LOS	E	C	C	E	D	C	E	D	D	E	D	E
Approach Vol, veh/h		1902			1660			917			1064	
Approach Delay, s/veh		38.2			48.3			45.4			55.1	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	36.8	21.6	49.9	8.9	39.6	32.5	39.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.7	26.3	24.7	43.3	6.5	27.5	32.5	35.5				
Max Q Clear Time (g_c+I1), s	7.2	21.9	16.7	31.8	5.4	34.4	27.4	31.7				
Green Ext Time (p_c), s	0.0	2.0	0.4	7.6	0.0	0.0	0.6	2.8				
Intersection Summary												
HCM 6th Ctrl Delay			45.7									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

5: Frontage Rd/I-5 SB Off-Ramp & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑↑	
Traffic Volume (veh/h)	0	1554	217	6	1322	0	0	0	0	319	129	159
Future Volume (veh/h)	0	1554	217	6	1322	0	0	0	0	319	129	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	0	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1746	244	7	1453	0				227	328	179
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91				0.89	0.89	0.89
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	2460	764	30	2730	0				657	847	452
Arrive On Green	0.00	0.49	0.49	0.01	0.54	0.00				0.37	0.37	0.37
Sat Flow, veh/h	0	5233	1572	3428	5233	0				1767	2277	1215
Grp Volume(v), veh/h	0	1746	244	7	1453	0				227	266	241
Grp Sat Flow(s),veh/h/ln	0	1689	1572	1714	1689	0				1767	1856	1637
Q Serve(g_s), s	0.0	27.3	9.5	0.2	18.7	0.0				9.3	10.6	10.9
Cycle Q Clear(g_c), s	0.0	27.3	9.5	0.2	18.7	0.0				9.3	10.6	10.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.74
Lane Grp Cap(c), veh/h	0	2460	764	30	2730	0				657	690	608
V/C Ratio(X)	0.00	0.71	0.32	0.23	0.53	0.00				0.35	0.39	0.40
Avail Cap(c_a), veh/h	0	3189	990	187	3691	0				657	690	608
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	1.00	1.00	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.4	15.8	49.7	15.0	0.0				22.8	23.2	23.3
Incr Delay (d2), s/veh	0.0	0.5	0.2	3.8	0.2	0.0				1.4	1.6	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	15.6	6.1	0.2	11.1	0.0				7.4	8.5	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.9	16.0	53.5	15.2	0.0				24.3	24.9	25.3
LnGrp LOS	A	C	B	D	B	A				C	C	C
Approach Vol, veh/h		1990			1460						734	
Approach Delay, s/veh		20.3			15.4						24.8	
Approach LOS		C			B						C	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			5.4	53.5		42.0		58.9				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			5.5	63.5		37.5		73.5				
Max Q Clear Time (g_c+I1), s			2.2	29.3		12.9		20.7				
Green Ext Time (p_c), s			0.0	19.7		4.0		16.3				
Intersection Summary												
HCM 6th Ctrl Delay			19.4									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary 6: Adoree St/I-5 NB On-Ramp & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			  			 				
Traffic Volume (veh/h)	155	1613	114	4	1217	697	118	128	12	0	0	0
Future Volume (veh/h)	155	1613	114	4	1217	697	118	128	12	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	170	1773	125	5	1383	792	140	152	14			
Peak Hour Factor	0.91	0.91	0.91	0.88	0.88	0.88	0.84	0.84	0.84			
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3			
Cap, veh/h	228	2107	147	11	2888	896	443	442	394			
Arrive On Green	0.07	0.63	0.63	0.01	0.57	0.57	0.25	0.25	0.25			
Sat Flow, veh/h	3428	3343	233	1767	5066	1572	1767	1763	1572			
Grp Volume(v), veh/h	170	926	972	5	1383	792	140	152	14			
Grp Sat Flow(s),veh/h/ln	1714	1763	1814	1767	1689	1572	1767	1763	1572			
Q Serve(g_s), s	5.8	49.1	51.3	0.3	19.4	52.3	7.7	8.5	0.8			
Cycle Q Clear(g_c), s	5.8	49.1	51.3	0.3	19.4	52.3	7.7	8.5	0.8			
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	228	1111	1143	11	2888	896	443	442	394			
V/C Ratio(X)	0.75	0.83	0.85	0.44	0.48	0.88	0.32	0.34	0.04			
Avail Cap(c_a), veh/h	329	1197	1232	75	3170	984	443	442	394			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.74	0.74	0.74	0.46	0.46	0.46	1.00	1.00	1.00			
Uniform Delay (d), s/veh	55.0	17.3	17.7	59.4	15.3	22.3	36.6	36.8	34.0			
Incr Delay (d2), s/veh	4.0	3.7	4.2	12.0	0.1	4.5	1.9	2.1	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	4.8	25.8	27.6	0.3	10.3	24.3	6.5	7.1	0.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	21.0	21.9	71.4	15.3	26.8	38.4	39.0	34.1			
LnGrp LOS	E	C	C	E	B	C	D	D	C			
Approach Vol, veh/h	2068			2180			306					
Approach Delay, s/veh	24.5			19.6			38.5					
Approach LOS	C			B			D					
Timer - Assigned Phs	2		3	4		7		8				
Phs Duration (G+Y+Rc), s	34.6		5.3	80.1		12.5		72.9				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s	19.9		5.1	81.5		11.5		75.1				
Max Q Clear Time (g_c+l1), s	10.5		2.3	53.3		7.8		54.3				
Green Ext Time (p_c), s	1.1		0.0	18.8		0.2		14.1				
Intersection Summary												
HCM 6th Ctrl Delay	23.1											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

7: Kalnor Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 							
Traffic Volume (veh/h)	79	1218	24	26	1708	106	13	17	23	83	21	67
Future Volume (veh/h)	79	1218	24	26	1708	106	13	17	23	83	21	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	89	1369	27	28	1817	113	18	23	32	89	23	73
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.73	0.73	0.73	0.93	0.93	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	114	3373	67	47	2193	978	143	165	292	250	73	230
Arrive On Green	0.06	0.66	0.66	0.03	0.62	0.62	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1767	5114	101	1767	3526	1572	507	909	1610	1370	400	1271
Grp Volume(v), veh/h	89	904	492	28	1817	113	41	0	32	89	0	96
Grp Sat Flow(s),veh/h/ln	1767	1689	1837	1767	1763	1572	1416	0	1610	1370	0	1671
Q Serve(g_s), s	5.1	12.7	12.7	1.6	41.0	3.0	0.1	0.0	1.7	6.2	0.0	5.1
Cycle Q Clear(g_c), s	5.1	12.7	12.7	1.6	41.0	3.0	5.2	0.0	1.7	11.3	0.0	5.1
Prop In Lane	1.00		0.05	1.00		1.00	0.44		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	114	2228	1212	47	2193	978	307	0	292	250	0	303
V/C Ratio(X)	0.78	0.41	0.41	0.59	0.83	0.12	0.13	0.00	0.11	0.36	0.00	0.32
Avail Cap(c_a), veh/h	216	2707	1473	107	2608	1163	307	0	292	250	0	303
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.0	8.1	8.1	49.1	15.0	7.9	35.0	0.0	34.9	41.2	0.0	36.3
Incr Delay (d2), s/veh	11.1	0.1	0.2	11.1	2.0	0.1	0.9	0.0	0.8	3.9	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	7.6	8.2	1.5	21.7	1.7	1.7	0.0	1.3	4.2	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	8.2	8.3	60.2	17.1	7.9	35.9	0.0	35.7	45.2	0.0	39.0
LnGrp LOS	E	A	A	E	B	A	D	A	D	D	A	D
Approach Vol, veh/h		1485			1958			73			185	
Approach Delay, s/veh		11.2			17.2			35.8			42.0	
Approach LOS		B			B			D			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.0	7.2	71.8		23.0	11.1	68.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.5	6.2	81.8		18.5	12.5	75.5				
Max Q Clear Time (g_c+I1), s		7.2	3.6	14.7		13.3	7.1	43.0				
Green Ext Time (p_c), s		0.2	0.0	14.6		0.3	0.1	20.5				
Intersection Summary												
HCM 6th Ctrl Delay			16.4									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

8: Imperial Highway & Norwalk Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			  	
Traffic Volume (veh/h)	164	1139	59	233	1507	88	202	608	142	139	739	173
Future Volume (veh/h)	164	1139	59	233	1507	88	202	608	142	139	739	173
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	171	1186	61	253	1638	96	246	741	173	156	830	194
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.82	0.82	0.82	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	198	1534	476	281	1772	550	269	1005	448	182	1196	371
Arrive On Green	0.11	0.30	0.30	0.16	0.35	0.35	0.30	0.57	0.57	0.10	0.24	0.24
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	1767	5066	1572
Grp Volume(v), veh/h	171	1186	61	253	1638	96	246	741	173	156	830	194
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1767	1689	1572
Q Serve(g_s), s	11.4	25.6	3.4	16.9	37.3	5.1	16.1	18.7	7.3	10.4	18.0	12.9
Cycle Q Clear(g_c), s	11.4	25.6	3.4	16.9	37.3	5.1	16.1	18.7	7.3	10.4	18.0	12.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	198	1534	476	281	1772	550	269	1005	448	182	1196	371
V/C Ratio(X)	0.87	0.77	0.13	0.90	0.92	0.17	0.91	0.74	0.39	0.85	0.69	0.52
Avail Cap(c_a), veh/h	214	1534	476	321	1794	557	302	1005	448	199	1196	371
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	0.45	0.45	0.45	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	52.4	38.1	30.3	49.5	37.5	27.0	41.0	22.5	20.0	52.9	41.9	39.9
Incr Delay (d2), s/veh	25.9	2.3	0.1	13.4	4.3	0.1	28.9	4.8	2.5	25.5	3.1	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.5	16.0	2.3	11.7	20.3	3.5	12.8	10.2	4.8	9.7	12.2	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.3	40.4	30.5	63.0	41.8	27.1	69.9	27.3	22.5	78.4	45.0	44.7
LnGrp LOS	E	D	C	E	D	C	E	C	C	E	D	D
Approach Vol, veh/h	1418		1987				1160		1180			
Approach Delay, s/veh	44.5		43.7				35.6		49.3			
Approach LOS	D		D				D		D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.9	38.7	23.6	40.8	22.8	32.8	17.9	46.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	31.5	21.8	35.2	20.5	24.5	14.5	42.5				
Max Q Clear Time (g_c+I1), s	12.4	20.7	18.9	27.6	18.1	20.0	13.4	39.3				
Green Ext Time (p_c), s	0.0	4.2	0.2	4.7	0.2	2.5	0.0	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			43.5									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

9: Avenida Manuel Salinas & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	70	1198	84	79	1575	77	175	17	51	43	15	49
Future Volume (veh/h)	70	1198	84	79	1575	77	175	17	51	43	15	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	80	1361	95	88	1750	86	438	42	128	49	17	56
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.40	0.40	0.40	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	100	1876	582	110	1903	591	665	159	484	394	86	284
Arrive On Green	0.11	0.74	0.74	0.12	0.75	0.75	0.20	0.38	0.38	0.03	0.22	0.22
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1810	413	1260	1810	389	1281
Grp Volume(v), veh/h	80	1361	95	88	1750	86	438	0	170	49	0	73
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1810	0	1673	1810	0	1669
Q Serve(g_s), s	5.3	18.1	2.1	5.8	33.4	1.8	21.7	0.0	8.4	2.5	0.0	4.3
Cycle Q Clear(g_c), s	5.3	18.1	2.1	5.8	33.4	1.8	21.7	0.0	8.4	2.5	0.0	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.75	1.00		0.77
Lane Grp Cap(c), veh/h	100	1876	582	110	1903	591	665	0	643	394	0	370
V/C Ratio(X)	0.80	0.73	0.16	0.80	0.92	0.15	0.66	0.00	0.26	0.12	0.00	0.20
Avail Cap(c_a), veh/h	140	1916	595	186	2047	636	665	0	643	411	0	370
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.62	0.62	0.62	0.72	0.72	0.72	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.5	12.1	10.1	51.8	13.5	9.5	25.6	0.0	25.3	34.2	0.0	38.0
Incr Delay (d2), s/veh	12.6	0.9	0.1	9.3	5.3	0.1	5.0	0.0	1.0	0.1	0.0	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	4.7	6.5	1.3	4.9	9.1	1.2	15.3	0.0	6.3	2.0	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1	13.0	10.2	61.1	18.7	9.6	30.6	0.0	26.3	34.3	0.0	39.2
LnGrp LOS	E	B	B	E	B	A	C	A	C	C	A	D
Approach Vol, veh/h	1536		1924				608		122			
Approach Delay, s/veh	15.5		20.2				29.4		37.2			
Approach LOS	B		C				C		D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	50.6	12.0	48.9	28.0	31.1	11.3	49.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	38.9	12.6	45.4	23.5	20.5	9.5	48.5				
Max Q Clear Time (g_c+I1), s	4.5	10.4	7.8	20.1	23.7	6.3	7.3	35.4				
Green Ext Time (p_c), s	0.0	1.0	0.1	11.9	0.0	0.2	0.0	9.7				
Intersection Summary												
HCM 6th Ctrl Delay			20.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Imperial Highway & Volunteer Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	18	1221	36	207	1605	80	117	46	74	51	12	22
Future Volume (veh/h)	18	1221	36	207	1605	80	117	46	74	51	12	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	1436	42	233	1803	90	217	85	137	58	14	25
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.54	0.54	0.54	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	142	1753	51	276	2416	120	504	286	460	415	95	702
Arrive On Green	0.35	0.35	0.35	0.21	0.98	0.98	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	237	5058	148	1767	4942	246	1390	655	1055	827	217	1610
Grp Volume(v), veh/h	21	959	519	233	1231	662	217	0	222	72	0	25
Grp Sat Flow(s),veh/h/ln	237	1689	1829	1767	1689	1811	1390	0	1710	1044	0	1610
Q Serve(g_s), s	7.6	31.1	31.1	10.1	3.6	3.6	15.1	0.0	10.1	3.9	0.0	1.1
Cycle Q Clear(g_c), s	7.6	31.1	31.1	10.1	3.6	3.6	29.1	0.0	10.1	14.0	0.0	1.1
Prop In Lane	1.00		0.08	1.00		0.14	1.00		0.62	0.81		1.00
Lane Grp Cap(c), veh/h	142	1170	634	276	1651	886	504	0	746	509	0	702
V/C Ratio(X)	0.15	0.82	0.82	0.84	0.75	0.75	0.43	0.00	0.30	0.14	0.00	0.04
Avail Cap(c_a), veh/h	152	1309	709	437	2097	1124	504	0	746	509	0	702
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	0.66	0.66	0.66	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.1	35.8	35.8	23.6	0.7	0.7	32.9	0.0	21.9	25.2	0.0	19.4
Incr Delay (d2), s/veh	0.3	2.5	4.5	5.7	0.7	1.4	2.7	0.0	1.0	0.6	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	0.8	17.8	19.5	6.5	1.0	1.4	9.3	0.0	7.7	2.7	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	38.3	40.3	29.4	1.5	2.1	35.6	0.0	22.9	25.8	0.0	19.5
LnGrp LOS	C	D	D	C	A	A	D	A	C	C	A	B
Approach Vol, veh/h	1499			2126			439			97		
Approach Delay, s/veh	38.9			4.7			29.2			24.2		
Approach LOS	D			A			C			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	56.8			17.1			46.1			56.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	36.5			23.5			46.5			36.5		
Max Q Clear Time (g_c+I1), s	31.1			12.1			33.1			16.0		
Green Ext Time (p_c), s	1.0			0.5			8.5			0.4		
Intersection Summary												
HCM 6th Ctrl Delay	20.1											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

11: Bloomfield Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	182	1306	106	259	1036	128	115	490	356	207	662	269
Future Volume (veh/h)	182	1306	106	259	1036	128	115	490	356	207	662	269
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	200	1435	116	270	1079	133	134	570	414	252	807	328
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.86	0.86	0.86	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	224	1515	470	297	1553	191	159	794	354	279	1033	461
Arrive On Green	0.25	0.60	0.60	0.17	0.34	0.34	0.12	0.30	0.30	0.16	0.29	0.29
Sat Flow, veh/h	1767	5066	1572	1767	4569	563	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	200	1435	116	270	797	415	134	570	414	252	807	328
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1754	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	13.1	31.5	4.2	18.0	24.5	24.5	8.9	17.3	27.0	16.8	25.2	22.4
Cycle Q Clear(g_c), s	13.1	31.5	4.2	18.0	24.5	24.5	8.9	17.3	27.0	16.8	25.2	22.4
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	224	1515	470	297	1148	596	159	794	354	279	1033	461
V/C Ratio(X)	0.89	0.95	0.25	0.91	0.69	0.70	0.84	0.72	1.17	0.90	0.78	0.71
Avail Cap(c_a), veh/h	269	1541	478	317	1148	596	169	794	354	302	1033	461
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.55	1.00	1.00	1.00	0.83	0.83	0.83	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	23.2	17.7	49.0	34.2	34.2	52.0	38.6	42.0	49.6	38.9	37.9
Incr Delay (d2), s/veh	16.2	7.9	0.1	28.0	1.8	3.5	25.0	4.6	98.4	27.5	5.9	9.0
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	8.9	13.3	2.6	15.5	15.5	16.4	8.3	11.7	28.4	14.6	17.3	14.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.1	31.1	17.9	77.1	36.1	37.8	77.0	43.2	140.4	77.1	44.7	46.9
LnGrp LOS	E	C	B	E	D	D	E	D	F	E	D	D
Approach Vol, veh/h		1751			1482			1118			1387	
Approach Delay, s/veh		33.5			44.0			83.2			51.1	
Approach LOS		C			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.4	31.5	24.6	40.4	15.3	39.7	19.7	45.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.5	23.5	21.5	36.5	11.5	32.5	18.3	39.7				
Max Q Clear Time (g_c+I1), s	18.8	29.0	20.0	33.5	10.9	27.2	15.1	26.5				
Green Ext Time (p_c), s	0.1	0.0	0.1	2.4	0.0	3.0	0.2	6.7				
Intersection Summary												
HCM 6th Ctrl Delay			50.2									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

12: Norwalk Bl & Civic Center Dr

05/06/2022

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	3	2	13	544	0	124	0	882	462	133	978	0	
Future Volume (veh/h)	3	2	13	544	0	124	0	882	462	133	978	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	1856	1856	1856	1856	1856	1856	0	1856	1856	1856	1856	1856	
Adj Flow Rate, veh/h	5	3	21	892	0	203	0	919	481	149	1099	0	
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.96	0.96	0.96	0.89	0.89	0.89	
Percent Heavy Veh, %	3	3	3	3	3	3	0	3	3	3	3	3	
Cap, veh/h	7	4	30	1007	0	448	0	2233	1141	174	2922	0	
Arrive On Green	0.03	0.03	0.03	0.28	0.00	0.28	0.00	0.88	0.88	0.20	1.00	0.00	
Sat Flow, veh/h	281	169	1180	3534	0	1572	0	5233	1572	1767	5233	0	
Grp Volume(v), veh/h	29	0	0	892	0	203	0	919	481	149	1099	0	
Grp Sat Flow(s),veh/h/ln	1629	0	0	1767	0	1572	0	1689	1572	1767	1689	0	
Q Serve(g_s), s	2.1	0.0	0.0	29.0	0.0	12.7	0.0	4.0	5.5	9.8	0.0	0.0	
Cycle Q Clear(g_c), s	2.1	0.0	0.0	29.0	0.0	12.7	0.0	4.0	5.5	9.8	0.0	0.0	
Prop In Lane	0.17		0.72	1.00		1.00	0.00		1.00	1.00		0.00	
Lane Grp Cap(c), veh/h	42	0	0	1007	0	448	0	2233	1141	174	2922	0	
V/C Ratio(X)	0.69	0.00	0.00	0.89	0.00	0.45	0.00	0.41	0.42	0.86	0.38	0.00	
Avail Cap(c_a), veh/h	244	0	0	1193	0	531	0	2233	1141	228	2922	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	
Upstream Filter(I)	1.00	0.00	0.00	0.59	0.00	0.59	0.00	0.84	0.84	1.00	1.00	0.00	
Uniform Delay (d), s/veh	58.0	0.0	0.0	41.0	0.0	35.2	0.0	4.2	1.1	47.4	0.0	0.0	
Incr Delay (d2), s/veh	18.2	0.0	0.0	4.6	0.0	0.4	0.0	0.5	1.0	21.2	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	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	2.0	0.0	0.0	17.7	0.0	7.7	0.0	2.1	3.6	8.6	0.2	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	76.1	0.0	0.0	45.6	0.0	35.7	0.0	4.7	2.1	68.6	0.4	0.0	
LnGrp LOS	E	A	A	D	A	D	A	A	A	E	A	A	
Approach Vol, veh/h	29			1095				1400				1248	
Approach Delay, s/veh	76.1			43.8				3.8				8.5	
Approach LOS	E			D				A				A	
Timer - Assigned Phs	1	2	4			6		8					
Phs Duration (G+Y+Rc), s	16.3	57.4	7.6			73.7		38.7					
Change Period (Y+Rc), s	4.5	4.5	4.5			4.5		4.5					
Max Green Setting (Gmax), s	15.5	28.0	18.0			48.0		40.5					
Max Q Clear Time (g_c+I1), s	11.8	7.5	4.1			2.0		31.0					
Green Ext Time (p_c), s	0.1	8.7	0.1			10.4		3.2					
Intersection Summary													
HCM 6th Ctrl Delay			17.5										
HCM 6th LOS			B										
Notes													

HCM 6th Signalized Intersection Summary

13: Civic Center Dr & Courthouse-AMC Theater

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	108	463	0	0	669	3	5	0	5	8	0	64
Future Volume (veh/h)	108	463	0	0	669	3	5	0	5	8	0	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	121	520	0	0	956	4	8	0	5	18	0	142
Peak Hour Factor	0.89	0.89	0.89	0.70	0.70	0.70	0.62	0.62	1.00	0.45	0.45	0.45
Percent Heavy Veh, %	3	3	0	0	3	3	0	0	0	0	0	0
Cap, veh/h	247	1491	0	0	1109	5	470	15	263	101	30	679
Arrive On Green	0.06	0.42	0.00	0.00	0.62	0.62	0.48	0.00	0.48	0.48	0.00	0.48
Sat Flow, veh/h	1767	3618	0	0	3693	15	849	32	551	118	63	1425
Grp Volume(v), veh/h	121	520	0	0	468	492	13	0	0	160	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1853	1431	0	0	1605	0	0
Q Serve(g_s), s	4.0	9.0	0.0	0.0	19.6	19.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.0	9.0	0.0	0.0	19.6	19.6	0.3	0.0	0.0	5.1	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.01	0.62		0.38	0.11		0.89
Lane Grp Cap(c), veh/h	247	1491	0	0	543	571	747	0	0	810	0	0
V/C Ratio(X)	0.49	0.35	0.00	0.00	0.86	0.86	0.02	0.00	0.00	0.20	0.00	0.00
Avail Cap(c_a), veh/h	378	2252	0	0	793	834	747	0	0	810	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.00	0.00	0.70	0.70	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.9	17.6	0.0	0.0	15.7	15.7	12.4	0.0	0.0	13.6	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.1	0.0	0.0	4.8	4.6	0.0	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	3.0	6.4	0.0	0.0	8.2	8.5	0.3	0.0	0.0	3.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.2	17.7	0.0	0.0	20.5	20.3	12.4	0.0	0.0	14.2	0.0	0.0
LnGrp LOS	C	B	A	A	C	C	B	A	A	B	A	A
Approach Vol, veh/h	641			960			13			160		
Approach Delay, s/veh	18.6			20.4			12.4			14.2		
Approach LOS	B			C			B			B		
Timer - Assigned Phs	2			4			6			7		
Phs Duration (G+Y+Rc), s	47.4			42.6			47.4			10.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	23.5			57.5			23.5			12.5		
Max Q Clear Time (g_c+I1), s	2.3			11.0			7.1			6.0		
Green Ext Time (p_c), s	0.0			4.0			0.8			0.1		
Intersection Summary												
HCM 6th Ctrl Delay	19.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 14: Civic Center Dr & Avenida Manuel Salinas

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	411	25	37	481	30	27	2	26	35	5	125
Future Volume (veh/h)	69	411	25	37	481	30	27	2	26	35	5	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	74	442	27	49	641	40	35	3	33	66	9	136
Peak Hour Factor	0.93	0.93	0.93	0.75	0.75	0.75	0.78	0.78	0.78	0.53	0.53	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	202	776	47	259	749	47	589	44	486	329	45	331
Arrive On Green	0.06	0.31	0.31	0.08	0.44	0.44	0.33	0.33	0.33	0.21	0.21	0.21
Sat Flow, veh/h	1767	3376	206	1767	3370	210	1810	136	1495	1602	218	1610
Grp Volume(v), veh/h	74	230	239	49	335	346	35	0	36	75	0	136
Grp Sat Flow(s),veh/h/ln	1767	1763	1819	1767	1763	1818	1810	0	1631	1820	0	1610
Q Serve(g_s), s	2.9	9.9	9.9	1.9	15.3	15.4	1.2	0.0	1.4	3.1	0.0	6.6
Cycle Q Clear(g_c), s	2.9	9.9	9.9	1.9	15.3	15.4	1.2	0.0	1.4	3.1	0.0	6.6
Prop In Lane	1.00		0.11	1.00		0.12	1.00		0.92	0.88		1.00
Lane Grp Cap(c), veh/h	202	405	418	259	392	404	589	0	530	374	0	331
V/C Ratio(X)	0.37	0.57	0.57	0.19	0.85	0.86	0.06	0.00	0.07	0.20	0.00	0.41
Avail Cap(c_a), veh/h	247	519	535	298	499	515	589	0	530	374	0	331
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	0.89	0.89	0.89	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.1	27.5	27.5	24.7	23.7	23.7	20.9	0.0	21.0	29.6	0.0	31.0
Incr Delay (d2), s/veh	1.1	1.2	1.2	0.3	10.1	9.9	0.2	0.0	0.2	1.2	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	2.2	7.2	7.4	1.4	9.4	9.6	1.0	0.0	1.0	2.6	0.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	28.7	28.7	25.0	33.7	33.6	21.1	0.0	21.2	30.8	0.0	34.8
LnGrp LOS	C	C	C	C	C	C	C	A	C	C	A	C
Approach Vol, veh/h	543			730			71			211		
Approach Delay, s/veh	28.5			33.1			21.1			33.4		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	33.8		8.0	25.2		23.0		8.7	24.5			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	21.5		5.5	26.5		18.5		6.5	25.5			
Max Q Clear Time (g_c+I1), s	3.4		3.9	11.9		8.6		4.9	17.4			
Green Ext Time (p_c), s	0.2		0.0	2.4		0.6		0.0	2.7			
Intersection Summary												
HCM 6th Ctrl Delay	31.0											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 15: Civic Center Dr & Volunteer Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	407	39	9	338	16	20	13	3	38	19	164
Future Volume (veh/h)	26	407	39	9	338	16	20	13	3	38	19	164
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	30	473	45	10	360	17	26	17	4	63	32	178
Peak Hour Factor	0.86	0.86	0.86	0.94	0.94	0.94	0.77	0.77	0.77	0.60	0.60	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	202	652	291	153	576	27	558	355	79	726	356	1051
Arrive On Green	0.03	0.18	0.18	0.01	0.17	0.17	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1767	3526	1572	1767	3428	161	759	543	121	1010	546	1610
Grp Volume(v), veh/h	30	473	45	10	185	192	47	0	0	95	0	178
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1826	1424	0	0	1556	0	1610
Q Serve(g_s), s	1.2	11.4	2.2	0.4	8.8	8.8	0.0	0.0	0.0	0.0	0.0	3.9
Cycle Q Clear(g_c), s	1.2	11.4	2.2	0.4	8.8	8.8	1.7	0.0	0.0	1.7	0.0	3.9
Prop In Lane	1.00		1.00	1.00		0.09	0.55		0.09	0.66		1.00
Lane Grp Cap(c), veh/h	202	652	291	153	296	307	992	0	0	1082	0	1051
V/C Ratio(X)	0.15	0.73	0.15	0.07	0.62	0.63	0.05	0.00	0.00	0.09	0.00	0.17
Avail Cap(c_a), veh/h	336	1351	603	318	676	700	992	0	0	1082	0	1051
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.98	0.98	0.98	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.9	34.5	30.8	31.0	34.8	34.8	5.6	0.0	0.0	5.7	0.0	6.1
Incr Delay (d2), s/veh	0.3	1.4	0.2	0.2	2.1	2.1	0.1	0.0	0.0	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	8.3	1.5	0.3	7.0	7.2	0.5	0.0	0.0	1.1	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	35.9	31.0	31.1	36.9	36.9	5.7	0.0	0.0	5.9	0.0	6.5
LnGrp LOS	C	D	C	C	D	D	A	A	A	A	A	A
Approach Vol, veh/h	548			387			47			273		
Approach Delay, s/veh	35.2			36.7			5.7			6.2		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	63.2		5.6	21.1		63.2	7.1	19.6				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	32.5		9.5	34.5		32.5	9.5	34.5				
Max Q Clear Time (g_c+I1), s	3.7		2.4	13.4		5.9	3.2	10.8				
Green Ext Time (p_c), s	0.2		0.0	3.3		1.1	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay	28.3											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

16: Civic Center Dr & Bloomfield Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	273	21	152	14	13	4	89	923	13	4	502	85
Future Volume (veh/h)	273	21	152	14	13	4	89	923	13	4	502	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	300	23	167	21	20	6	94	972	14	4	558	94
Peak Hour Factor	0.91	0.91	0.91	0.66	0.66	0.66	0.95	0.95	0.95	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	392	469	397	348	346	104	145	2240	32	9	2089	932
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.63	0.63	0.01	1.00	1.00
Sat Flow, veh/h	1374	1856	1572	1184	1370	411	3428	3558	51	1767	3526	1572
Grp Volume(v), veh/h	300	23	167	21	0	26	94	482	504	4	558	94
Grp Sat Flow(s),veh/h/ln	1374	1856	1572	1184	0	1782	1714	1763	1846	1767	1763	1572
Q Serve(g_s), s	25.4	1.1	10.7	1.6	0.0	1.3	3.2	16.7	16.7	0.3	0.0	0.0
Cycle Q Clear(g_c), s	26.8	1.1	10.7	2.8	0.0	1.3	3.2	16.7	16.7	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	392	469	397	348	0	450	145	1110	1163	9	2089	932
V/C Ratio(X)	0.77	0.05	0.42	0.06	0.00	0.06	0.65	0.43	0.43	0.44	0.27	0.10
Avail Cap(c_a), veh/h	589	734	622	517	0	705	243	1110	1163	81	2089	932
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)	0.80	0.80	0.80	1.00	0.00	1.00	1.00	1.00	1.00	0.52	0.52	0.52
Uniform Delay (d), s/veh	44.2	33.9	37.5	35.0	0.0	34.0	56.6	11.3	11.3	59.2	0.0	0.0
Incr Delay (d2), s/veh	2.7	0.0	0.6	0.1	0.0	0.1	4.8	1.2	1.2	16.0	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.3	0.9	7.2	0.9	0.0	1.1	2.7	10.9	11.3	0.3	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	34.0	38.1	35.1	0.0	34.1	61.4	12.6	12.5	75.2	0.2	0.1
LnGrp LOS	D	C	D	D	A	C	E	B	B	E	A	A
Approach Vol, veh/h		490			47			1080			656	
Approach Delay, s/veh		43.3			34.5			16.8			0.6	
Approach LOS		D			C			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	80.1		34.8	9.6	75.6		34.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	53.5		47.5	8.5	50.5		47.5				
Max Q Clear Time (g_c+I1), s	2.3	18.7		28.8	5.2	2.0		4.8				
Green Ext Time (p_c), s	0.0	7.7		1.6	0.1	4.7		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			18.2									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary 17: Adoree St/I-5 NB Off-Ramp & Norwalk Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	0	64	156	121	362	95	892	0	0	1425	108
Future Volume (veh/h)	100	0	64	156	121	362	95	892	0	0	1425	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	0	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	133	0	85	171	133	398	100	939	0	0	1759	133
Peak Hour Factor	0.75	0.75	0.75	0.91	0.91	0.91	0.95	0.95	0.95	0.81	0.81	0.81
Percent Heavy Veh, %	3	0	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	0	0	0	449	448	400	151	3398	0	0	2831	214
Arrive On Green	0.00	0.00	0.00	0.25	0.25	0.25	0.01	0.22	0.00	0.00	1.00	1.00
Sat Flow, veh/h	0			1767	1763	1572	3428	5233	0	0	4972	363
Grp Volume(v), veh/h	0.0			171	133	398	100	939	0	0	1235	657
Grp Sat Flow(s),veh/h/ln				1767	1763	1572	1714	1689	0	0	1689	1790
Q Serve(g_s), s				9.6	7.3	30.3	3.5	18.4	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				9.6	7.3	30.3	3.5	18.4	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.20
Lane Grp Cap(c), veh/h				449	448	400	151	3398	0	0	1990	1055
V/C Ratio(X)				0.38	0.30	1.00	0.66	0.28	0.00	0.00	0.62	0.62
Avail Cap(c_a), veh/h				449	448	400	169	3398	0	0	1990	1055
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.91	0.91	0.00	0.00	0.84	0.84
Uniform Delay (d), s/veh				37.0	36.1	44.7	58.2	22.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.5	0.4	43.8	7.3	0.2	0.0	0.0	1.2	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				7.6	5.8	23.3	3.0	12.9	0.0	0.0	0.6	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				37.5	36.5	88.5	65.5	22.7	0.0	0.0	1.2	2.3
LnGrp LOS				D	D	F	E	C	A	A	A	A
Approach Vol, veh/h				702			1039			1892		
Approach Delay, s/veh				66.2			26.9			1.6		
Approach LOS				E			C			A		
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	85.0			9.8			75.2			35.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	62.9			5.9			52.5			30.5		
Max Q Clear Time (g_c+I1), s	20.4			5.5			2.0			32.3		
Green Ext Time (p_c), s	8.3			0.0			23.5			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	21.3											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 18: San Antonio Dr & Frontage Rd/I-5 SB On-Ramp

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	222	128	0	0	0	0	958	160	426	1200	0
Future Volume (veh/h)	36	222	128	0	0	0	0	958	160	426	1200	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	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	38	248	121				0	1041	174	501	1412	0
Peak Hour Factor	0.96	0.96	0.96				0.92	0.92	0.92	0.85	0.85	0.82
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	185	388	165				0	2671	446	590	4156	0
Arrive On Green	0.10	0.10	0.10				0.00	0.61	0.61	0.17	0.82	0.00
Sat Flow, veh/h	1767	3711	1572				0	4539	730	3428	5233	0
Grp Volume(v), veh/h	38	248	121				0	804	411	501	1412	0
Grp Sat Flow(s),veh/h/ln	1767	1856	1572				0	1689	1724	1714	1689	0
Q Serve(g_s), s	2.4	7.7	9.0				0.0	14.6	14.6	17.0	8.3	0.0
Cycle Q Clear(g_c), s	2.4	7.7	9.0				0.0	14.6	14.6	17.0	8.3	0.0
Prop In Lane	1.00		1.00				0.00		0.42	1.00		0.00
Lane Grp Cap(c), veh/h	185	388	165				0	2063	1053	590	4156	0
V/C Ratio(X)	0.21	0.64	0.74				0.00	0.39	0.39	0.85	0.34	0.00
Avail Cap(c_a), veh/h	331	696	295				0	2063	1053	957	4156	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)	0.95	0.95	0.95				0.00	0.76	0.76	0.53	0.53	0.00
Uniform Delay (d), s/veh	49.2	51.5	52.1				0.0	11.9	11.9	48.2	2.7	0.0
Incr Delay (d2), s/veh	0.5	1.7	5.9				0.0	0.4	0.8	2.2	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	1.9	6.6	6.8				0.0	8.8	9.1	10.7	3.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	53.2	58.1				0.0	12.3	12.8	50.4	2.8	0.0
LnGrp LOS	D	D	E				A	B	B	D	A	A
Approach Vol, veh/h	407						1215			1913		
Approach Delay, s/veh	54.3						12.5			15.3		
Approach LOS	D						B			B		
Timer - Assigned Phs	1	2		4			6					
Phs Duration (G+Y+Rc), s	25.1	77.8		17.1			102.9					
Change Period (Y+Rc), s	4.5	4.5		4.5			4.5					
Max Green Setting (Gmax), s	33.5	50.5		22.5			88.5					
Max Q Clear Time (g_c+I1), s	19.0	16.6		11.0			10.3					
Green Ext Time (p_c), s	1.6	10.6		1.6			16.4					
Intersection Summary												
HCM 6th Ctrl Delay			18.8									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Summary

19: San Antonio Dr & Firestone Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			  	
Traffic Volume (veh/h)	201	331	53	62	376	74	90	802	58	74	885	193
Future Volume (veh/h)	201	331	53	62	376	74	90	802	58	74	885	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	228	376	60	78	470	92	106	944	68	83	994	217
Peak Hour Factor	0.88	0.88	0.88	0.80	0.80	0.80	0.85	0.85	0.85	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	258	877	391	99	559	250	131	1714	765	104	1960	427
Arrive On Green	0.15	0.25	0.25	0.06	0.16	0.16	0.07	0.49	0.49	0.12	0.94	0.94
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	4163	907
Grp Volume(v), veh/h	228	376	60	78	470	92	106	944	68	83	806	405
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1689	1692
Q Serve(g_s), s	15.2	10.8	3.6	5.2	15.5	6.3	7.1	22.5	2.8	5.5	3.2	3.2
Cycle Q Clear(g_c), s	15.2	10.8	3.6	5.2	15.5	6.3	7.1	22.5	2.8	5.5	3.2	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.54
Lane Grp Cap(c), veh/h	258	877	391	99	559	250	131	1714	765	104	1590	797
V/C Ratio(X)	0.88	0.43	0.15	0.79	0.84	0.37	0.81	0.55	0.09	0.80	0.51	0.51
Avail Cap(c_a), veh/h	361	1028	459	177	661	295	218	1714	765	169	1590	797
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)	1.00	1.00	1.00	1.00	1.00	1.00	0.34	0.34	0.34	0.94	0.94	0.94
Uniform Delay (d), s/veh	50.2	37.9	35.2	55.9	49.0	45.1	54.7	21.6	16.6	52.2	1.9	1.9
Incr Delay (d2), s/veh	16.8	0.3	0.2	12.7	8.3	0.9	4.0	0.4	0.1	12.2	1.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.5	8.3	2.5	4.8	11.9	4.5	5.0	12.2	1.8	4.8	1.6	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.0	38.2	35.4	68.6	57.3	46.0	58.7	22.1	16.6	64.4	3.0	4.1
LnGrp LOS	E	D	D	E	E	D	E	C	B	E	A	A
Approach Vol, veh/h		664			640			1118			1294	
Approach Delay, s/veh		47.9			57.1			25.2			7.3	
Approach LOS		D			E			C			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	62.9	11.2	34.3	13.4	61.0	22.0	23.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	11.5	43.5	12.0	35.0	14.8	40.2	24.5	22.5				
Max Q Clear Time (g_c+I1), s	7.5	24.5	7.2	12.8	9.1	5.2	17.2	17.5				
Green Ext Time (p_c), s	0.1	6.9	0.1	2.7	0.1	10.7	0.4	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			28.5									
HCM 6th LOS			C									

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022

												
Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	119	203	609	121	48	591	64	11	122	399	198	36
Future Volume (vph)	119	203	609	121	48	591	64	11	122	399	198	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00	1.00	0.91			1.00	0.91	0.91	
Frt		1.00	1.00	0.85	1.00	0.98			1.00	0.99	0.85	
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (prot)		1752	3505	1568	1752	4951			1752	3308	1427	
Flt Permitted		0.36	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (perm)		657	3505	1568	1752	4951			1752	3308	1427	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.89	0.89	0.89	0.89	0.92	0.92	0.92	0.92
Adj. Flow (vph)	121	207	621	123	54	664	72	12	133	434	215	39
RTOR Reduction (vph)	0	0	0	67	0	0	0	0	0	0	84	0
Lane Group Flow (vph)	0	328	621	56	54	748	0	0	133	481	123	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	NA			Prot	NA	Perm	
Protected Phases	7		4		3	8			5	2		
Permitted Phases		4		4							2	
Actuated Green, G (s)		59.5	59.5	59.5	5.0	69.0			8.5	39.0	39.0	
Effective Green, g (s)		59.5	59.5	59.5	5.0	69.0			8.5	39.0	39.0	
Actuated g/C Ratio		0.42	0.42	0.42	0.04	0.49			0.06	0.28	0.28	
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		279	1489	666	62	2440			106	921	397	
v/s Ratio Prot			0.18		c0.03	0.15			c0.08	0.15		
v/s Ratio Perm		c0.50		0.04							0.09	
v/c Ratio		1.18	0.42	0.08	0.87	0.31			1.25	0.52	0.31	
Uniform Delay, d1		40.2	28.1	24.0	67.2	21.2			65.8	42.6	39.9	
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2		110.0	0.2	0.1	70.2	0.1			170.8	2.1	2.0	
Delay (s)		150.3	28.3	24.1	137.4	21.3			236.5	44.8	41.9	
Level of Service		F	C	C	F	C			F	D	D	
Approach Delay (s)			65.2			29.1				75.1		
Approach LOS			E			C				E		
Intersection Summary												
HCM 2000 Control Delay			70.9			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.07									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			82.4%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022

								
Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	11	79	480	198	19	271	300	7
Future Volume (vph)	11	79	480	198	19	271	300	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00		0.97	0.91	
Frt		1.00	1.00	0.85		0.96	0.85	
Flt Protected		0.95	1.00	1.00		0.97	1.00	
Satd. Flow (prot)		1752	3505	1568		3304	1427	
Flt Permitted		0.47	1.00	1.00		0.97	1.00	
Satd. Flow (perm)		863	3505	1568		3304	1427	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.89	0.89	0.89	0.89
Adj. Flow (vph)	12	83	505	208	21	304	337	8
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	95	505	208	0	460	210	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	Prot	Perm	
Protected Phases	1		6		12	12		
Permitted Phases		6		6			12	
Actuated Green, G (s)		26.0	26.0	26.0		18.5	18.5	
Effective Green, g (s)		26.0	26.0	26.0		18.5	18.5	
Actuated g/C Ratio		0.19	0.19	0.19		0.13	0.13	
Clearance Time (s)		4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		160	650	291		436	188	
v/s Ratio Prot			c0.14			0.14		
v/s Ratio Perm		0.11		0.13			c0.15	
v/c Ratio		0.59	0.78	0.71		1.06	1.12	
Uniform Delay, d1		52.2	54.2	53.5		60.8	60.8	
Progression Factor		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		15.2	8.9	14.0		58.4	100.5	
Delay (s)		67.3	63.1	67.5		119.1	161.3	
Level of Service		E	E	E		F	F	
Approach Delay (s)			64.7			132.3		
Approach LOS			E			F		
Intersection Summary								

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	107	927	117	0	1120
Future Vol, veh/h	0	107	927	117	0	1120
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, %	0	0	3	3	3	3
Mvmt Flow	0	116	1008	127	0	1217
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	568	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	403	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	403	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	17.5	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 403		-		
HCM Lane V/C Ratio	-	- 0.289		-		
HCM Control Delay (s)	-	- 17.5		-		
HCM Lane LOS	-	- C		-		
HCM 95th %tile Q(veh)	-	- 1.2		-		

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	0	60	51	0	66
Future Vol, veh/h	6	0	60	51	0	66
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	7	0	65	55	0	72
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	165	93	0	0	120	0
Stage 1	93	-	-	-	-	-
Stage 2	72	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	826	964	-	-	1468	-
Stage 1	931	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	826	964	-	-	1468	-
Mov Cap-2 Maneuver	826	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.4	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	826	1468	-	
HCM Lane V/C Ratio	-	-	0.008	-	-	
HCM Control Delay (s)	-	-	9.4	0	-	
HCM Lane LOS	-	-	A	A	-	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	41	31	70	124	0
Future Vol, veh/h	23	41	31	70	124	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	45	34	76	135	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	279	135	135	0	-	0
Stage 1	135	-	-	-	-	-
Stage 2	144	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	711	914	1449	-	-	-
Stage 1	891	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	693	914	1449	-	-	-
Mov Cap-2 Maneuver	693	-	-	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.8	2.3		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1449	-	820	-	-	
HCM Lane V/C Ratio	0.023	-	0.085	-	-	
HCM Control Delay (s)	7.5	0	9.8	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-	

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	44	0	0	178	165	0
Future Vol, veh/h	44	0	0	178	165	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	0	0	193	179	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	193	0	-	0	193	97
Stage 1	-	-	-	-	97	-
Stage 2	-	-	-	-	96	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1380	-	-	-	796	959
Stage 1	-	-	-	-	927	-
Stage 2	-	-	-	-	928	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1380	-	-	-	768	959
Mov Cap-2 Maneuver	-	-	-	-	768	-
Stage 1	-	-	-	-	895	-
Stage 2	-	-	-	-	928	-
Approach	EB	WB		SB		
HCM Control Delay, s	7.7	0		11.1		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1380	-	-	-	768	
HCM Lane V/C Ratio	0.035	-	-	-	0.234	
HCM Control Delay (s)	7.7	0	-	-	11.1	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9	

HCM 6th Signalized Intersection Summary

1: Norwalk BI & Lakeland Rd

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	148	28	85	158	101	27	806	155	77	506	42
Future Volume (veh/h)	31	148	28	85	158	101	27	806	155	77	506	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	42	203	38	99	184	117	34	1008	194	89	582	48
Peak Hour Factor	0.73	0.73	0.73	0.86	0.86	0.86	0.80	0.80	0.80	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	3	3	3	5	5	5
Cap, veh/h	77	253	44	215	398	337	572	2037	391	321	2241	185
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	148	1207	210	1157	1900	1610	790	2950	567	454	3245	267
Grp Volume(v), veh/h	283	0	0	99	184	117	34	602	600	89	311	319
Grp Sat Flow(s),veh/h/ln	1565	0	0	1157	1900	1610	790	1763	1754	454	1735	1778
Q Serve(g_s), s	8.3	0.0	0.0	0.0	7.6	5.6	1.5	14.4	14.5	10.3	6.1	6.1
Cycle Q Clear(g_c), s	16.0	0.0	0.0	15.5	7.6	5.6	7.6	14.4	14.5	24.8	6.1	6.1
Prop In Lane	0.15		0.13	1.00		1.00	1.00		0.32	1.00		0.15
Lane Grp Cap(c), veh/h	373	0	0	215	398	337	572	1218	1211	321	1198	1228
V/C Ratio(X)	0.76	0.00	0.00	0.46	0.46	0.35	0.06	0.49	0.50	0.28	0.26	0.26
Avail Cap(c_a), veh/h	479	0	0	288	517	438	572	1218	1211	321	1198	1228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	0.0	34.3	31.1	30.3	6.7	6.5	6.5	12.4	5.2	5.2
Incr Delay (d2), s/veh	5.2	0.0	0.0	1.5	0.8	0.6	0.2	1.3	1.3	2.1	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.5	0.0	0.0	3.8	6.4	3.9	0.5	8.3	8.4	2.1	3.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	0.0	0.0	35.8	32.0	30.9	6.9	7.9	7.9	14.5	5.8	5.8
LnGrp LOS	D	A	A	D	C	C	A	A	A	B	A	A
Approach Vol, veh/h		283			400			1236			719	
Approach Delay, s/veh		39.6			32.6			7.8			6.9	
Approach LOS		D			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.7		23.3		66.7		23.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		56.5		24.5		56.5		24.5				
Max Q Clear Time (g_c+I1), s		16.5		18.0		26.8		17.5				
Green Ext Time (p_c), s		11.3		0.9		5.8		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				14.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Norwalk Bl & Crewe St

05/06/2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	74	100	48	868	662	40
Future Volume (veh/h)	74	100	48	868	662	40
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	1900	1900	1856	1856	1826	1826
Adj Flow Rate, veh/h	94	127	62	1127	727	44
Peak Hour Factor	0.79	0.79	0.77	0.77	0.91	0.91
Percent Heavy Veh, %	0	0	3	3	5	5
Cap, veh/h	189	168	591	2804	2643	160
Arrive On Green	0.10	0.10	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1810	1610	693	3618	3415	201
Grp Volume(v), veh/h	94	127	62	1127	379	392
Grp Sat Flow(s),veh/h/ln	1810	1610	693	1763	1735	1790
Q Serve(g_s), s	4.4	6.9	2.3	8.7	5.2	5.2
Cycle Q Clear(g_c), s	4.4	6.9	7.5	8.7	5.2	5.2
Prop In Lane	1.00	1.00	1.00			0.11
Lane Grp Cap(c), veh/h	189	168	591	2804	1380	1424
V/C Ratio(X)	0.50	0.75	0.10	0.40	0.27	0.28
Avail Cap(c_a), veh/h	472	420	591	2804	1380	1424
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.53	0.53	0.95	0.95
Uniform Delay (d), s/veh	38.1	39.2	3.4	2.8	2.4	2.4
Incr Delay (d2), s/veh	2.0	6.7	0.2	0.2	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.7	5.4	0.5	3.5	2.3	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.1	45.8	3.6	3.0	2.9	2.9
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	221			1189	771	
Approach Delay, s/veh	43.4			3.0	2.9	
Approach LOS	D			A	A	
Timer - Assigned Phs	2		4		6	
Phs Duration (G+Y+Rc), s	76.1		13.9		76.1	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	57.5		23.5		57.5	
Max Q Clear Time (g_c+I1), s	10.7		8.9		7.2	
Green Ext Time (p_c), s	12.1		0.6		5.8	
Intersection Summary						
HCM 6th Ctrl Delay			7.1			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

3: Firestone Bl & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↰	↑↑↑	↱	↰↱	↑↑		↰↱	↑↑↑	
Traffic Volume (veh/h)	0	1320	315	7	1125	351	266	410	9	294	371	0
Future Volume (veh/h)	0	1320	315	7	1125	351	266	410	9	294	371	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	0	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1451	346	8	1293	403	283	436	0	338	426	0
Peak Hour Factor	0.91	0.91	0.91	0.87	0.87	0.87	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	0	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	1790	425	93	2219	689	348	1166		407	1762	0
Arrive On Green	0.00	0.44	0.44	0.14	0.14	0.14	0.10	0.33	0.00	0.12	0.35	0.00
Sat Flow, veh/h	0	4254	971	260	5066	1572	3428	3618	0	3428	5233	0
Grp Volume(v), veh/h	0	1198	599	8	1293	403	283	436	0	338	426	0
Grp Sat Flow(s),veh/h/ln	0	1689	1681	260	1689	1572	1714	1763	0	1714	1689	0
Q Serve(g_s), s	0.0	37.1	37.4	3.6	28.6	28.7	9.7	11.3	0.0	11.6	7.2	0.0
Cycle Q Clear(g_c), s	0.0	37.1	37.4	40.9	28.6	28.7	9.7	11.3	0.0	11.6	7.2	0.0
Prop In Lane	0.00		0.58	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1479	736	93	2219	689	348	1166		407	1762	0
V/C Ratio(X)	0.00	0.81	0.81	0.09	0.58	0.59	0.81	0.37		0.83	0.24	0.00
Avail Cap(c_a), veh/h	0	1646	819	106	2469	767	500	1166		586	1762	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.36	0.36	0.36	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	29.4	29.4	64.4	41.1	41.1	52.8	30.7	0.0	51.7	27.9	0.0
Incr Delay (d2), s/veh	0.0	2.9	5.8	0.1	0.1	0.3	6.6	0.9	0.0	6.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	21.7	22.5	0.5	16.5	15.6	8.0	8.6	0.0	9.1	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	32.2	35.2	64.6	41.2	41.5	59.4	31.6	0.0	58.3	28.2	0.0
LnGrp LOS	A	C	D	E	D	D	E	C		E	C	A
Approach Vol, veh/h		1797			1704			719	A		764	
Approach Delay, s/veh		33.2			41.4			42.6			41.5	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.8	44.2		57.1	16.7	46.2		57.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	20.5	27.5		58.5	17.5	30.5		58.5				
Max Q Clear Time (g_c+I1), s	13.6	13.3		39.4	11.7	9.2		42.9				
Green Ext Time (p_c), s	0.7	2.4		12.7	0.5	2.8		9.6				

Intersection Summary

HCM 6th Ctrl Delay	38.6
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary

4: Pioneer Bl & Imperial Highway

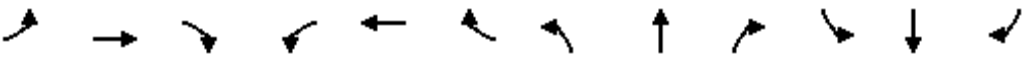
05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 		 	 	
Traffic Volume (veh/h)	349	1233	84	121	1165	126	25	372	165	154	320	489
Future Volume (veh/h)	349	1233	84	121	1165	126	25	372	165	154	320	489
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	426	1504	102	146	1404	152	29	433	192	192	400	611
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.86	0.86	0.86	0.80	0.80	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	452	2288	710	174	1491	463	46	803	358	247	966	431
Arrive On Green	0.26	0.45	0.45	0.10	0.29	0.29	0.03	0.23	0.23	0.07	0.27	0.27
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	426	1504	102	146	1404	152	29	433	192	192	400	611
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1714	1763	1572
Q Serve(g_s), s	28.4	27.8	4.6	9.7	32.5	9.1	2.0	13.0	12.9	6.6	11.2	32.9
Cycle Q Clear(g_c), s	28.4	27.8	4.6	9.7	32.5	9.1	2.0	13.0	12.9	6.6	11.2	32.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	452	2288	710	174	1491	463	46	803	358	247	966	431
V/C Ratio(X)	0.94	0.66	0.14	0.84	0.94	0.33	0.64	0.54	0.54	0.78	0.41	1.42
Avail Cap(c_a), veh/h	479	2288	710	269	1499	465	74	803	358	266	966	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.56	0.84	0.84	0.84	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.8	25.7	19.3	53.1	41.3	33.1	57.9	40.8	40.8	54.7	35.7	43.6
Incr Delay (d2), s/veh	17.8	0.4	0.1	11.0	10.5	0.3	13.7	2.6	5.7	12.8	1.3	201.5
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	19.2	15.2	3.0	8.2	20.6	6.3	1.9	9.9	9.4	5.9	8.6	55.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.6	26.1	19.3	64.1	51.8	33.4	71.6	43.4	46.4	67.6	37.0	245.1
LnGrp LOS	E	C	B	E	D	C	E	D	D	E	D	F
Approach Vol, veh/h	2032			1702			654			1203		
Approach Delay, s/veh	33.2			51.3			45.5			147.5		
Approach LOS	C			D			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	31.8	16.3	58.7	7.6	37.4	35.2	39.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.3	24.7	18.3	49.7	5.0	29.0	32.5	35.5				
Max Q Clear Time (g_c+I1), s	8.6	15.0	11.7	29.8	4.0	34.9	30.4	34.5				
Green Ext Time (p_c), s	0.0	2.5	0.2	11.6	0.0	0.0	0.3	0.9				
Intersection Summary												
HCM 6th Ctrl Delay	64.7											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Summary

5: Frontage Rd/I-5 SB Off-Ramp & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑↑	
Traffic Volume (veh/h)	0	1425	263	10	1216	0	0	0	0	445	124	177
Future Volume (veh/h)	0	1425	263	10	1216	0	0	0	0	445	124	177
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	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1738	321	11	1351	0				593	140	230
Peak Hour Factor	0.82	0.82	0.82	0.90	0.90	0.90				0.77	0.77	0.77
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	2310	717	45	2589	0				1432	256	420
Arrive On Green	0.00	0.46	0.46	0.01	0.51	0.00				0.41	0.41	0.41
Sat Flow, veh/h	0	5233	1572	3428	5233	0				3534	631	1037
Grp Volume(v), veh/h	0	1738	321	11	1351	0				593	0	370
Grp Sat Flow(s),veh/h/ln	0	1689	1572	1714	1689	0				1767	0	1669
Q Serve(g_s), s	0.0	30.5	15.0	0.3	19.1	0.0				12.9	0.0	18.2
Cycle Q Clear(g_c), s	0.0	30.5	15.0	0.3	19.1	0.0				12.9	0.0	18.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.62
Lane Grp Cap(c), veh/h	0	2310	717	45	2589	0				1432	0	676
V/C Ratio(X)	0.00	0.75	0.45	0.25	0.52	0.00				0.41	0.00	0.55
Avail Cap(c_a), veh/h	0	2713	842	176	3185	0				1432	0	676
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	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	24.2	20.0	52.5	17.5	0.0				22.8	0.0	24.4
Incr Delay (d2), s/veh	0.0	1.0	0.4	2.8	0.2	0.0				0.9	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
%ile BackOfQ(95%),veh/ln	0.0	17.6	9.3	0.3	11.6	0.0				9.3	0.0	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.2	20.4	55.3	17.7	0.0				23.7	0.0	27.6
LnGrp LOS	A	C	C	E	B	A				C	A	C
Approach Vol, veh/h		2059			1362						963	
Approach Delay, s/veh		24.5			18.0						25.2	
Approach LOS		C			B						C	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			5.9	53.5		48.0		59.4				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			5.5	57.5		43.5		67.5				
Max Q Clear Time (g_c+I1), s			2.3	32.5		20.2		21.1				
Green Ext Time (p_c), s			0.0	16.5		4.9		14.1				
Intersection Summary												
HCM 6th Ctrl Delay			22.6									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary 6: Adoree St/I-5 NB On-Ramp & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			  			 				
Traffic Volume (veh/h)	89	1795	36	1	1151	496	103	131	12	0	0	0
Future Volume (veh/h)	89	1795	36	1	1151	496	103	131	12	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	109	2189	44	1	1251	539	141	179	16			
Peak Hour Factor	0.82	0.82	0.82	0.92	0.92	0.92	0.73	0.73	0.73			
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3			
Cap, veh/h	162	2372	48	2	3167	983	380	379	338			
Arrive On Green	0.05	0.67	0.67	0.00	0.63	0.63	0.22	0.22	0.22			
Sat Flow, veh/h	3428	3535	71	1767	5066	1572	1767	1763	1572			
Grp Volume(v), veh/h	109	1088	1145	1	1251	539	141	179	16			
Grp Sat Flow(s),veh/h/ln	1714	1763	1843	1767	1689	1572	1767	1763	1572			
Q Serve(g_s), s	3.8	63.6	64.8	0.1	14.8	23.5	8.2	10.6	1.0			
Cycle Q Clear(g_c), s	3.8	63.6	64.8	0.1	14.8	23.5	8.2	10.6	1.0			
Prop In Lane	1.00		0.04	1.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	162	1183	1236	2	3167	983	380	379	338			
V/C Ratio(X)	0.67	0.92	0.93	0.41	0.40	0.55	0.37	0.47	0.05			
Avail Cap(c_a), veh/h	243	1212	1267	75	3339	1037	380	379	338			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.69	0.69	0.69	0.56	0.56	0.56	1.00	1.00	1.00			
Uniform Delay (d), s/veh	56.3	17.0	17.2	59.9	11.2	12.8	40.2	41.1	37.3			
Incr Delay (d2), s/veh	3.3	8.2	8.5	53.1	0.0	0.3	2.8	4.2	0.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	3.1	32.6	34.5	0.1	8.2	11.4	6.9	8.8	0.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.6	25.2	25.7	113.0	11.2	13.1	42.9	45.3	37.6			
LnGrp LOS	E	C	C	F	B	B	D	D	D			
Approach Vol, veh/h	2342			1791			336					
Approach Delay, s/veh	27.0			11.9			43.9					
Approach LOS	C			B			D					
Timer - Assigned Phs	2		3	4		7		8				
Phs Duration (G+Y+Rc), s	30.3		4.7	85.0		10.2		79.5				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s	18.9		5.1	82.5		8.5		79.1				
Max Q Clear Time (g_c+I1), s	12.6		2.1	66.8		5.8		25.5				
Green Ext Time (p_c), s	1.0		0.0	13.7		0.1		17.6				
Intersection Summary												
HCM 6th Ctrl Delay	22.2											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

7: Kalnor Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	1515	31	14	1410	38	12	7	26	24	7	11
Future Volume (veh/h)	31	1515	31	14	1410	38	12	7	26	24	7	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	37	1825	37	16	1584	43	16	9	35	32	9	15
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	60	3080	62	33	2070	923	278	143	360	378	143	239
Arrive On Green	0.03	0.60	0.60	0.02	0.59	0.59	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1767	5110	104	1767	3526	1572	937	637	1610	1384	640	1067
Grp Volume(v), veh/h	37	1206	656	16	1584	43	25	0	35	32	0	24
Grp Sat Flow(s),veh/h/ln	1767	1689	1837	1767	1763	1572	1574	0	1610	1384	0	1708
Q Serve(g_s), s	1.8	19.2	19.2	0.8	29.3	1.0	0.0	0.0	1.5	1.6	0.0	1.0
Cycle Q Clear(g_c), s	1.8	19.2	19.2	0.8	29.3	1.0	0.9	0.0	1.5	2.5	0.0	1.0
Prop In Lane	1.00		0.06	1.00		1.00	0.64		1.00	1.00		0.63
Lane Grp Cap(c), veh/h	60	2035	1107	33	2070	923	420	0	360	378	0	382
V/C Ratio(X)	0.62	0.59	0.59	0.49	0.77	0.05	0.06	0.00	0.10	0.08	0.00	0.06
Avail Cap(c_a), veh/h	172	3121	1698	132	3177	1417	420	0	360	378	0	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.5	10.7	10.7	42.3	13.5	7.6	26.6	0.0	26.8	27.6	0.0	26.6
Incr Delay (d2), s/veh	9.9	0.3	0.5	11.0	0.6	0.0	0.3	0.0	0.5	0.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	10.5	11.4	0.8	15.7	0.6	0.8	0.0	1.1	1.0	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.4	11.0	11.2	53.4	14.1	7.7	26.9	0.0	27.4	28.0	0.0	26.9
LnGrp LOS	D	B	B	D	B	A	C	A	C	C	A	C
Approach Vol, veh/h		1899			1643			60			56	
Approach Delay, s/veh		11.8			14.3			27.1			27.5	
Approach LOS		B			B			C			C	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.0	6.1	57.0		24.0	7.5	55.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	6.5	80.5		19.5	8.5	78.5				
Max Q Clear Time (g_c+I1), s		3.5	2.8	21.2		4.5	3.8	31.3				
Green Ext Time (p_c), s		0.1	0.0	24.0		0.1	0.0	19.8				
Intersection Summary												
HCM 6th Ctrl Delay			13.4									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

8: Imperial Highway & Norwalk Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			  	
Traffic Volume (veh/h)	163	1313	91	129	1256	53	124	659	142	122	491	113
Future Volume (veh/h)	163	1313	91	129	1256	53	124	659	142	122	491	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	190	1527	106	147	1427	60	161	856	184	142	571	131
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.77	0.77	0.77	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	5	5	5
Cap, veh/h	217	1678	521	171	1546	480	187	1147	511	168	1576	489
Arrive On Green	0.12	0.33	0.33	0.19	0.61	0.61	0.21	0.65	0.65	0.10	0.32	0.32
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	1739	4985	1547
Grp Volume(v), veh/h	190	1527	106	147	1427	60	161	856	184	142	571	131
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1739	1662	1547
Q Serve(g_s), s	12.7	34.6	5.8	9.7	30.2	1.9	10.5	19.8	6.4	9.6	10.6	7.6
Cycle Q Clear(g_c), s	12.7	34.6	5.8	9.7	30.2	1.9	10.5	19.8	6.4	9.6	10.6	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	217	1678	521	171	1546	480	187	1147	511	168	1576	489
V/C Ratio(X)	0.87	0.91	0.20	0.86	0.92	0.13	0.86	0.75	0.36	0.84	0.36	0.27
Avail Cap(c_a), veh/h	243	1710	531	199	1583	491	284	1147	511	196	1576	489
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	0.62	0.62	0.62	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	51.7	38.4	28.8	47.6	22.1	16.6	46.5	17.6	15.3	53.3	31.7	30.7
Incr Delay (d2), s/veh	21.7	6.2	0.2	18.2	6.2	0.1	15.3	4.4	2.0	23.8	0.6	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	10.8	20.8	4.0	7.5	12.5	1.3	8.6	9.6	4.1	9.0	7.7	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.5	44.6	28.9	65.7	28.3	16.7	61.8	22.1	17.2	77.1	32.3	31.9
LnGrp LOS	E	D	C	E	C	B	E	C	B	E	C	C
Approach Vol, veh/h	1823		1634			1201			844			
Approach Delay, s/veh	46.7		31.3			26.6			39.8			
Approach LOS	D		C			C			D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.1	43.5	16.1	44.2	17.2	42.4	19.2	41.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	34.5	13.5	40.5	19.3	28.7	16.5	37.5				
Max Q Clear Time (g_c+I1), s	11.6	21.8	11.7	36.6	12.5	12.6	14.7	32.2				
Green Ext Time (p_c), s	0.1	5.4	0.1	3.1	0.2	4.0	0.1	4.0				
Intersection Summary												
HCM 6th Ctrl Delay	36.7											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

9: Avenida Manuel Salinas & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	38	1318	107	16	1441	77	5	16	6	56	21	30
Future Volume (veh/h)	38	1318	107	16	1441	77	5	16	6	56	21	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	48	1668	135	17	1517	81	6	20	8	64	24	34
Peak Hour Factor	0.79	0.79	0.79	0.95	0.95	0.95	0.79	0.79	0.79	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	62	1921	596	32	1836	570	712	537	215	552	215	305
Arrive On Green	0.07	0.76	0.76	0.04	0.72	0.72	0.15	0.42	0.42	0.04	0.30	0.30
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1810	1291	516	1810	711	1007
Grp Volume(v), veh/h	48	1668	135	17	1517	81	6	0	28	64	0	58
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1810	0	1807	1810	0	1719
Q Serve(g_s), s	3.2	28.0	3.0	1.1	24.7	1.9	0.2	0.0	1.1	2.9	0.0	2.9
Cycle Q Clear(g_c), s	3.2	28.0	3.0	1.1	24.7	1.9	0.2	0.0	1.1	2.9	0.0	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.29	1.00		0.59
Lane Grp Cap(c), veh/h	62	1921	596	32	1836	570	712	0	752	552	0	520
V/C Ratio(X)	0.78	0.87	0.23	0.53	0.83	0.14	0.01	0.00	0.04	0.12	0.00	0.11
Avail Cap(c_a), veh/h	155	2385	740	96	2216	688	712	0	752	583	0	520
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.45	0.45	0.45	0.84	0.84	0.84	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.4	12.4	9.4	57.3	13.9	10.8	17.0	0.0	20.8	27.1	0.0	30.2
Incr Delay (d2), s/veh	9.2	1.4	0.1	11.1	1.9	0.1	0.0	0.0	0.1	0.1	0.0	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	2.8	7.1	1.8	1.1	8.3	1.2	0.2	0.0	0.9	2.3	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.6	13.8	9.4	68.5	15.8	10.9	17.1	0.0	20.9	27.2	0.0	30.6
LnGrp LOS	E	B	A	E	B	B	B	A	C	C	A	C
Approach Vol, veh/h		1851			1615			34			122	
Approach Delay, s/veh		14.8			16.2			20.2			28.8	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	54.4	6.7	50.0	22.5	40.8	8.7	48.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	32.5	6.5	56.5	18.0	21.0	10.5	52.5				
Max Q Clear Time (g_c+I1), s	4.9	3.1	3.1	30.0	2.2	4.9	5.2	26.7				
Green Ext Time (p_c), s	0.0	0.1	0.0	15.6	0.0	0.2	0.0	13.5				
Intersection Summary												
HCM 6th Ctrl Delay			15.9									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

10: Imperial Highway & Volunteer Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	2	1248	148	49	1483	29	31	14	21	53	53	23
Future Volume (veh/h)	2	1248	148	49	1483	29	31	14	21	53	53	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2	1560	185	52	1561	31	48	22	33	60	60	26
Peak Hour Factor	0.80	0.80	0.80	0.95	0.95	0.95	0.64	0.64	0.64	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	135	2048	242	165	2648	53	538	279	419	353	340	656
Arrive On Green	0.45	0.45	0.45	0.01	0.17	0.17	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	318	4591	544	1767	5113	102	1332	686	1029	758	835	1610
Grp Volume(v), veh/h	2	1147	598	52	1031	561	48	0	55	120	0	26
Grp Sat Flow(s),veh/h/ln	318	1689	1758	1767	1689	1837	1332	0	1715	1593	0	1610
Q Serve(g_s), s	0.6	34.2	34.3	1.8	33.8	33.8	2.9	0.0	2.4	3.4	0.0	1.2
Cycle Q Clear(g_c), s	25.7	34.2	34.3	1.8	33.8	33.8	8.6	0.0	2.4	5.8	0.0	1.2
Prop In Lane	1.00		0.31	1.00		0.06	1.00		0.60	0.50		1.00
Lane Grp Cap(c), veh/h	135	1506	784	165	1749	951	538	0	698	694	0	656
V/C Ratio(X)	0.01	0.76	0.76	0.32	0.59	0.59	0.09	0.00	0.08	0.17	0.00	0.04
Avail Cap(c_a), veh/h	177	1956	1018	244	2350	1278	538	0	698	694	0	656
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	0.26	0.26	0.26	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.2	27.9	27.9	23.0	38.0	38.0	25.6	0.0	21.8	22.7	0.0	21.4
Incr Delay (d2), s/veh	0.0	0.9	1.7	0.3	0.1	0.2	0.3	0.0	0.2	0.5	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	0.1	18.7	19.6	1.4	18.6	20.1	1.7	0.0	1.8	4.1	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	28.8	29.6	23.3	38.1	38.1	25.9	0.0	22.0	23.3	0.0	21.5
LnGrp LOS	D	C	C	C	D	D	C	A	C	C	A	C
Approach Vol, veh/h	1747				1644		103				146	
Approach Delay, s/veh	29.1				37.6		23.8				23.0	
Approach LOS	C				D		C				C	
Timer - Assigned Phs	2		3		4		6		8			
Phs Duration (G+Y+Rc), s	53.4		8.6		58.0		53.4		66.6			
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5			
Max Green Setting (Gmax), s	27.5		9.5		69.5		27.5		83.5			
Max Q Clear Time (g_c+I1), s	10.6		3.8		36.3		7.8		35.8			
Green Ext Time (p_c), s	0.3		0.0		17.2		0.6		17.1			
Intersection Summary												
HCM 6th Ctrl Delay			32.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Bloomfield Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	291	813	113	438	1292	220	139	608	423	144	534	198
Future Volume (veh/h)	291	813	113	438	1292	220	139	608	423	144	534	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	346	968	135	481	1420	242	149	654	455	152	562	208
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	364	1290	401	511	1471	250	166	742	331	169	748	334
Arrive On Green	0.41	0.51	0.51	0.29	0.34	0.34	0.09	0.21	0.21	0.10	0.21	0.21
Sat Flow, veh/h	1767	5066	1572	1767	4357	742	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	346	968	135	481	1100	562	149	654	455	152	562	208
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1722	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	22.7	18.2	6.1	31.9	38.4	38.5	10.0	21.6	25.3	10.2	17.9	14.4
Cycle Q Clear(g_c), s	22.7	18.2	6.1	31.9	38.4	38.5	10.0	21.6	25.3	10.2	17.9	14.4
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	364	1290	401	511	1140	581	166	742	331	169	748	334
V/C Ratio(X)	0.95	0.75	0.34	0.94	0.97	0.97	0.90	0.88	1.37	0.90	0.75	0.62
Avail Cap(c_a), veh/h	370	1290	401	570	1140	581	166	742	331	169	748	334
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	1.00	1.00	1.00	0.63	0.63	0.63	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	26.4	23.4	41.7	39.1	39.1	53.8	45.9	47.4	53.7	44.3	42.9
Incr Delay (d2), s/veh	26.1	1.7	0.3	23.0	18.8	29.0	29.8	9.6	180.4	41.2	6.9	8.5
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	14.8	8.9	3.8	23.8	25.7	28.2	9.0	14.6	38.7	10.6	13.3	10.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	28.1	23.8	64.7	57.9	68.1	83.6	55.5	227.8	94.9	51.2	51.4
LnGrp LOS	E	C	C	E	E	E	F	E	F	F	D	D
Approach Vol, veh/h		1449			2143			1258			922	
Approach Delay, s/veh		35.5			62.1			121.2			58.4	
Approach LOS		D			E			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	29.8	39.2	35.1	15.8	30.0	29.2	45.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	11.5	24.9	38.7	26.9	11.3	25.1	25.1	40.5				
Max Q Clear Time (g_c+I1), s	12.2	27.3	33.9	20.2	12.0	19.9	24.7	40.5				
Green Ext Time (p_c), s	0.0	0.0	0.8	3.7	0.0	2.1	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			67.7									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

12: Norwalk Bl & Civic Center Dr

05/06/2022

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	1	0	1	347	4	135	0	899	621	110	680	4	
Future Volume (veh/h)	1	0	1	347	4	135	0	899	621	110	680	4	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	0	1856	1856	1856	1856	1856	
Adj Flow Rate, veh/h	2	0	2	417	0	161	0	1138	786	121	747	4	
Peak Hour Factor	0.50	0.50	0.50	0.84	0.84	0.84	0.79	0.79	0.79	0.91	0.91	0.91	
Percent Heavy Veh, %	3	3	3	3	3	3	0	3	3	3	3	3	
Cap, veh/h	4	0	4	520	0	231	0	3118	1199	145	3823	20	
Arrive On Green	0.01	0.00	0.01	0.15	0.00	0.15	0.00	1.00	1.00	0.16	1.00	1.00	
Sat Flow, veh/h	832	0	832	3534	0	1572	0	5233	1572	1767	5200	28	
Grp Volume(v), veh/h	4	0	0	417	0	161	0	1138	786	121	485	266	
Grp Sat Flow(s),veh/h/ln	1664	0	0	1767	0	1572	0	1689	1572	1767	1689	1851	
Q Serve(g_s), s	0.3	0.0	0.0	13.7	0.0	11.7	0.0	0.0	0.0	8.0	0.0	0.0	
Cycle Q Clear(g_c), s	0.3	0.0	0.0	13.7	0.0	11.7	0.0	0.0	0.0	8.0	0.0	0.0	
Prop In Lane	0.50		0.50	1.00		1.00	0.00		1.00	1.00		0.02	
Lane Grp Cap(c), veh/h	9	0	0	520	0	231	0	3118	1199	145	2483	1360	
V/C Ratio(X)	0.46	0.00	0.00	0.80	0.00	0.70	0.00	0.36	0.66	0.83	0.20	0.20	
Avail Cap(c_a), veh/h	250	0	0	987	0	439	0	3118	1199	199	2483	1360	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	
Upstream Filter(I)	1.00	0.00	0.00	0.64	0.00	0.64	0.00	0.64	0.64	1.00	1.00	1.00	
Uniform Delay (d), s/veh	59.5	0.0	0.0	49.5	0.0	48.6	0.0	0.0	0.0	49.3	0.0	0.0	
Incr Delay (d2), s/veh	33.9	0.0	0.0	1.9	0.0	2.4	0.0	0.2	1.8	19.1	0.2	0.3	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	0.4	0.0	0.0	9.4	0.0	7.6	0.0	0.1	1.1	7.2	0.1	0.2	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	93.4	0.0	0.0	51.4	0.0	51.0	0.0	0.2	1.8	68.4	0.2	0.3	
LnGrp LOS	F	A	A	D	A	D	A	A	A	E	A	A	
Approach Vol, veh/h	4			578				1924				872	
Approach Delay, s/veh	93.4			51.3				0.9				9.7	
Approach LOS	F			D				A				A	
Timer - Assigned Phs	1	2		4		6		8					
Phs Duration (G+Y+Rc), s	14.4	78.4		5.1		92.7		22.2					
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	13.5	37.0		18.0		55.0		33.5					
Max Q Clear Time (g_c+I1), s	10.0	2.0		2.3		2.0		15.7					
Green Ext Time (p_c), s	0.1	16.2		0.0		5.8		2.0					
Intersection Summary													
HCM 6th Ctrl Delay			11.9										
HCM 6th LOS			B										
Notes													

HCM 6th Signalized Intersection Summary

13: Civic Center Dr & Courthouse-AMC Theater

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	599	0	0	484	24	1	0	0	4	0	7
Future Volume (veh/h)	113	599	0	0	484	24	1	0	0	4	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	136	722	0	0	590	29	4	0	0	6	0	10
Peak Hour Factor	0.83	0.83	0.83	0.82	0.82	0.82	0.25	0.25	0.25	0.69	0.69	0.69
Percent Heavy Veh, %	3	3	0	0	3	3	0	0	0	0	0	0
Cap, veh/h	270	1237	0	0	761	37	865	0	0	351	24	533
Arrive On Green	0.08	0.35	0.00	0.00	0.30	0.30	0.55	0.00	0.00	0.55	0.00	0.55
Sat Flow, veh/h	1767	3618	0	0	3513	168	1430	0	0	539	43	971
Grp Volume(v), veh/h	136	722	0	0	304	315	4	0	0	16	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1825	1430	0	0	1553	0	0
Q Serve(g_s), s	5.1	15.0	0.0	0.0	14.2	14.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.1	15.0	0.0	0.0	14.2	14.2	0.1	0.0	0.0	0.4	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.09	1.00		0.00	0.37		0.62
Lane Grp Cap(c), veh/h	270	1237	0	0	392	406	865	0	0	908	0	0
V/C Ratio(X)	0.50	0.58	0.00	0.00	0.77	0.78	0.00	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	475	2331	0	0	734	761	865	0	0	908	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.00	0.00	0.79	0.79	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.1	23.8	0.0	0.0	29.6	29.6	9.2	0.0	0.0	9.2	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.4	0.0	0.0	2.6	2.6	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.9	9.7	0.0	0.0	9.2	9.5	0.1	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.2	24.2	0.0	0.0	32.2	32.2	9.2	0.0	0.0	9.3	0.0	0.0
LnGrp LOS	C	C	A	A	C	C	A	A	A	A	A	A
Approach Vol, veh/h	858			619			4			16		
Approach Delay, s/veh	24.4			32.2			9.2			9.3		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	2			4			6			7		
Phs Duration (G+Y+Rc), s	53.9			36.1			53.9			11.6		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	21.5			59.5			21.5			17.5		
Max Q Clear Time (g_c+I1), s	2.1			17.0			2.4			7.1		
Green Ext Time (p_c), s	0.0			5.9			0.0			0.2		
Intersection Summary												
HCM 6th Ctrl Delay	27.4											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 14: Civic Center Dr & Avenida Manuel Salinas

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	543	34	11	419	20	60	9	24	15	9	21
Future Volume (veh/h)	27	543	34	11	419	20	60	9	24	15	9	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	32	646	40	14	537	26	72	11	29	19	12	23
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.83	0.83	0.83	0.77	0.77	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	202	764	47	151	727	35	636	162	428	232	147	331
Arrive On Green	0.06	0.45	0.45	0.03	0.42	0.42	0.35	0.35	0.35	0.21	0.21	0.21
Sat Flow, veh/h	1767	3372	209	1767	3423	165	1810	462	1218	1130	714	1610
Grp Volume(v), veh/h	32	337	349	14	276	287	72	0	40	31	0	23
Grp Sat Flow(s),veh/h/ln	1767	1763	1818	1767	1763	1826	1810	0	1681	1844	0	1610
Q Serve(g_s), s	1.2	15.3	15.3	0.5	11.8	11.9	2.4	0.0	1.4	1.2	0.0	1.0
Cycle Q Clear(g_c), s	1.2	15.3	15.3	0.5	11.8	11.9	2.4	0.0	1.4	1.2	0.0	1.0
Prop In Lane	1.00		0.11	1.00		0.09	1.00		0.73	0.61		1.00
Lane Grp Cap(c), veh/h	202	399	412	151	374	388	636	0	591	379	0	331
V/C Ratio(X)	0.16	0.84	0.85	0.09	0.74	0.74	0.11	0.00	0.07	0.08	0.00	0.07
Avail Cap(c_a), veh/h	256	539	555	230	539	558	636	0	591	379	0	331
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	0.82	0.82	0.82	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.2	23.2	23.2	27.6	23.8	23.8	19.7	0.0	19.4	28.9	0.0	28.8
Incr Delay (d2), s/veh	0.3	7.9	7.8	0.2	2.6	2.5	0.4	0.0	0.2	0.4	0.0	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	0.9	9.0	9.2	0.4	7.1	7.3	1.9	0.0	1.0	1.0	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.5	31.2	31.1	27.8	26.3	26.3	20.1	0.0	19.6	29.3	0.0	29.2
LnGrp LOS	C	C	C	C	C	C	C	A	B	C	A	C
Approach Vol, veh/h	718			577			112			54		
Approach Delay, s/veh	30.9			26.4			19.9			29.3		
Approach LOS	C			C			B			C		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	36.1		6.0	24.9		23.0		7.3	23.6			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	20.5		5.5	27.5		18.5		5.5	27.5			
Max Q Clear Time (g_c+I1), s	4.4		2.5	17.3		3.2		3.2	13.9			
Green Ext Time (p_c), s	0.3		0.0	3.1		0.1		0.0	2.9			
Intersection Summary												
HCM 6th Ctrl Delay	28.2											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 15: Civic Center Dr & Volunteer Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	440	40	6	329	22	46	18	12	36	31	69
Future Volume (veh/h)	110	440	40	6	329	22	46	18	12	36	31	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	134	537	49	7	383	26	77	30	20	55	47	105
Peak Hour Factor	0.82	0.82	0.82	0.86	0.86	0.86	0.60	0.60	0.60	0.66	0.66	0.66
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	271	810	361	171	524	35	571	220	136	569	469	984
Arrive On Green	0.08	0.23	0.23	0.01	0.16	0.16	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	1767	3526	1572	1767	3351	227	828	360	222	829	768	1610
Grp Volume(v), veh/h	134	537	49	7	201	208	127	0	0	102	0	105
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1815	1410	0	0	1597	0	1610
Q Serve(g_s), s	5.5	12.5	2.2	0.3	9.8	9.8	1.8	0.0	0.0	0.0	0.0	2.4
Cycle Q Clear(g_c), s	5.5	12.5	2.2	0.3	9.8	9.8	3.8	0.0	0.0	2.0	0.0	2.4
Prop In Lane	1.00		1.00	1.00		0.12	0.61		0.16	0.54		1.00
Lane Grp Cap(c), veh/h	271	810	361	171	275	284	926	0	0	1038	0	984
V/C Ratio(X)	0.49	0.66	0.14	0.04	0.73	0.73	0.14	0.00	0.00	0.10	0.00	0.11
Avail Cap(c_a), veh/h	469	1508	673	322	578	595	926	0	0	1038	0	984
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	0.89	0.89	0.89	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.5	31.5	27.6	31.7	36.2	36.2	7.5	0.0	0.0	7.2	0.0	7.3
Incr Delay (d2), s/veh	1.0	0.6	0.1	0.1	3.3	3.3	0.3	0.0	0.0	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	8.4	1.5	0.2	7.6	7.8	1.9	0.0	0.0	1.4	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	32.1	27.7	31.8	39.4	39.5	7.8	0.0	0.0	7.4	0.0	7.5
LnGrp LOS	C	C	C	C	D	D	A	A	A	A	A	A
Approach Vol, veh/h		720			416			127			207	
Approach Delay, s/veh		31.2			39.3			7.8			7.4	
Approach LOS		C			D			A			A	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		59.5	5.3	25.2		59.5	11.9	18.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		29.5	8.5	38.5		29.5	17.5	29.5				
Max Q Clear Time (g_c+I1), s		5.8	2.3	14.5		4.4	7.5	11.8				
Green Ext Time (p_c), s		0.7	0.0	3.9		0.9	0.2	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			28.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 16: Civic Center Dr & Bloomfield Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	311	13	113	39	35	8	203	1054	19	2	707	196
Future Volume (veh/h)	311	13	113	39	35	8	203	1054	19	2	707	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	362	15	131	44	39	9	267	1387	25	2	786	218
Peak Hour Factor	0.86	0.86	0.86	0.89	0.89	0.89	0.76	0.76	0.76	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	448	570	483	431	448	103	330	2047	37	5	1707	762
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.10	0.58	0.58	0.01	0.97	0.97
Sat Flow, veh/h	1347	1856	1572	1232	1458	337	3428	3543	64	1767	3526	1572
Grp Volume(v), veh/h	362	15	131	44	0	48	267	690	722	2	786	218
Grp Sat Flow(s),veh/h/ln	1347	1856	1572	1232	0	1795	1714	1763	1844	1767	1763	1572
Q Serve(g_s), s	31.4	0.7	7.6	3.1	0.0	2.3	9.2	32.6	32.6	0.1	1.5	0.7
Cycle Q Clear(g_c), s	33.7	0.7	7.6	3.8	0.0	2.3	9.2	32.6	32.6	0.1	1.5	0.7
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	448	570	483	431	0	551	330	1018	1065	5	1707	762
V/C Ratio(X)	0.81	0.03	0.27	0.10	0.00	0.09	0.81	0.68	0.68	0.42	0.46	0.29
Avail Cap(c_a), veh/h	523	673	570	500	0	651	449	1018	1065	75	1707	762
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)	0.88	0.88	0.88	1.00	0.00	1.00	1.00	1.00	1.00	0.55	0.55	0.55
Uniform Delay (d), s/veh	41.6	29.0	31.4	30.4	0.0	29.6	53.2	17.6	17.6	59.6	1.0	1.0
Incr Delay (d2), s/veh	7.1	0.0	0.3	0.1	0.0	0.1	7.8	3.6	3.5	29.4	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.4	0.6	5.3	1.7	0.0	1.8	7.7	19.8	20.5	0.2	0.8	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.7	29.1	31.7	30.5	0.0	29.7	61.0	21.2	21.1	89.0	1.5	1.5
LnGrp LOS	D	C	C	C	A	C	E	C	C	F	A	A
Approach Vol, veh/h		508			92			1679			1006	
Approach Delay, s/veh		43.8			30.1			27.5			1.7	
Approach LOS		D			C			C			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.8	73.8		41.3	16.0	62.6		41.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	57.9		43.5	15.7	47.3		43.5				
Max Q Clear Time (g_c+I1), s	2.1	34.6		35.7	11.2	3.5		5.8				
Green Ext Time (p_c), s	0.0	11.2		1.1	0.4	7.6		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				22.2								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary 17: Adoree St/I-5 NB Off-Ramp & Norwalk Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	0	114	121	89	586	93	894	0	0	985	83
Future Volume (veh/h)	44	0	114	121	89	586	93	894	0	0	985	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	1856	0	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	57	0	148	146	107	706	116	1118	0	0	1263	106
Peak Hour Factor	0.77	0.77	0.77	0.83	0.83	0.83	0.80	0.80	0.80	0.78	0.78	0.78
Percent Heavy Veh, %	3	0	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	0	0	0	455	1105	688	157	2469	0	0	1924	161
Arrive On Green	0.00	0.00	0.00	0.44	0.44	0.44	0.02	0.16	0.00	0.00	0.81	0.81
Sat Flow, veh/h		0		1041	2526	1572	3428	5233	0	0	4928	400
Grp Volume(v), veh/h	0.0			253	0	706	116	1118	0	0	896	473
Grp Sat Flow(s),veh/h/ln				1804	1763	1572	1714	1689	0	0	1689	1784
Q Serve(g_s), s				11.0	0.0	52.5	4.0	24.0	0.0	0.0	13.0	13.0
Cycle Q Clear(g_c), s				11.0	0.0	52.5	4.0	24.0	0.0	0.0	13.0	13.0
Prop In Lane				0.58		1.00	1.00		0.00	0.00		0.22
Lane Grp Cap(c), veh/h				789	771	688	157	2469	0	0	1365	721
V/C Ratio(X)				0.32	0.00	1.03	0.74	0.45	0.00	0.00	0.66	0.66
Avail Cap(c_a), veh/h				789	771	688	157	2469	0	0	1365	721
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.89	0.89	0.00	0.00	0.97	0.97
Uniform Delay (d), s/veh				22.1	0.0	33.8	58.4	35.9	0.0	0.0	8.1	8.1
Incr Delay (d2), s/veh				0.2	0.0	41.2	15.0	0.5	0.0	0.0	2.4	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				8.3	0.0	36.5	3.8	16.1	0.0	0.0	5.6	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				22.3	0.0	74.9	73.4	36.4	0.0	0.0	10.5	12.6
LnGrp LOS				C	A	F	E	D	A	A	B	B
Approach Vol, veh/h				959			1234			1369		
Approach Delay, s/veh				61.0			39.9			11.2		
Approach LOS				E			D			B		
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	63.0			10.0			53.0			57.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	47.1			5.5			37.1			52.5		
Max Q Clear Time (g_c+I1), s	26.0			6.0			15.0			54.5		
Green Ext Time (p_c), s	8.4			0.0			10.3			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	34.6											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 18: San Antonio Dr & Frontage Rd/I-5 SB On-Ramp

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	256	98	0	0	0	0	934	249	269	950	0
Future Volume (veh/h)	63	256	98	0	0	0	0	934	249	269	950	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	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	67	272	104				0	1112	296	328	1159	0
Peak Hour Factor	0.94	0.94	0.94				0.84	0.84	0.84	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	182	383	162				0	2656	707	403	4163	0
Arrive On Green	0.10	0.10	0.10				0.00	0.67	0.67	0.12	0.82	0.00
Sat Flow, veh/h	1767	3711	1572				0	4149	1060	3428	5233	0
Grp Volume(v), veh/h	67	272	104				0	943	465	328	1159	0
Grp Sat Flow(s),veh/h/ln	1767	1856	1572				0	1689	1665	1714	1689	0
Q Serve(g_s), s	4.2	8.5	7.6				0.0	15.5	15.5	11.2	6.3	0.0
Cycle Q Clear(g_c), s	4.2	8.5	7.6				0.0	15.5	15.5	11.2	6.3	0.0
Prop In Lane	1.00		1.00				0.00		0.64	1.00		0.00
Lane Grp Cap(c), veh/h	182	383	162				0	2252	1110	403	4163	0
V/C Ratio(X)	0.37	0.71	0.64				0.00	0.42	0.42	0.81	0.28	0.00
Avail Cap(c_a), veh/h	346	727	308				0	2252	1110	700	4163	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)	0.89	0.89	0.89				0.00	0.73	0.73	0.42	0.42	0.00
Uniform Delay (d), s/veh	50.2	52.1	51.7				0.0	9.2	9.2	51.7	2.5	0.0
Incr Delay (d2), s/veh	1.1	2.2	3.7				0.0	0.4	0.8	1.7	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	3.5	7.2	5.7				0.0	8.8	8.9	7.3	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	54.3	55.4				0.0	9.7	10.1	53.4	2.5	0.0
LnGrp LOS	D	D	E				A	A	B	D	A	A
Approach Vol, veh/h	443						1408			1487		
Approach Delay, s/veh	54.1						9.8			13.8		
Approach LOS	D						A			B		
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	18.6	84.5		16.9		103.1						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	24.5	58.5		23.5		87.5						
Max Q Clear Time (g_c+I1), s	13.2	17.5		10.5		8.3						
Green Ext Time (p_c), s	0.9	13.9		1.9		11.8						
Intersection Summary												
HCM 6th Ctrl Delay			17.4									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Summary 19: San Antonio Dr & Firestone Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	348	44	38	335	46	62	836	80	74	664	171
Future Volume (veh/h)	194	348	44	38	335	46	62	836	80	74	664	171
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	220	395	50	42	368	51	74	995	95	90	810	209
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.84	0.84	0.84	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	251	840	375	55	451	201	94	1822	813	112	2117	542
Arrive On Green	0.14	0.24	0.24	0.03	0.13	0.13	0.05	0.52	0.52	0.13	1.00	1.00
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	4018	1029
Grp Volume(v), veh/h	220	395	50	42	368	51	74	995	95	90	680	339
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1689	1670
Q Serve(g_s), s	14.6	11.5	3.0	2.8	12.2	3.5	5.0	22.8	3.7	5.9	0.0	0.0
Cycle Q Clear(g_c), s	14.6	11.5	3.0	2.8	12.2	3.5	5.0	22.8	3.7	5.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	251	840	375	55	451	201	94	1822	813	112	1779	880
V/C Ratio(X)	0.88	0.47	0.13	0.76	0.82	0.25	0.78	0.55	0.12	0.80	0.38	0.39
Avail Cap(c_a), veh/h	362	1084	484	106	573	256	158	1822	813	188	1779	880
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)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.96	0.96	0.96
Uniform Delay (d), s/veh	50.5	39.2	36.0	57.7	50.9	47.2	56.1	19.5	14.9	51.7	0.0	0.0
Incr Delay (d2), s/veh	15.5	0.4	0.2	18.7	7.1	0.7	1.3	0.1	0.0	11.9	0.6	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	12.0	8.7	2.1	2.8	9.8	2.5	3.0	10.7	1.9	5.2	0.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.0	39.6	36.1	76.3	58.1	47.8	57.4	19.6	14.9	63.6	0.6	1.2
LnGrp LOS	E	D	D	E	E	D	E	B	B	E	A	A
Approach Vol, veh/h	665			461			1164			1109		
Approach Delay, s/veh	48.1			58.6			21.6			5.9		
Approach LOS	D			E			C			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	66.5	8.3	33.1	10.9	67.7	21.5	19.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.8	45.1	7.2	36.9	10.7	47.2	24.6	19.5				
Max Q Clear Time (g_c+I1), s	7.9	24.8	4.8	13.5	7.0	2.0	16.6	14.2				
Green Ext Time (p_c), s	0.1	7.7	0.0	2.8	0.0	8.8	0.4	1.2				
Intersection Summary												
HCM 6th Ctrl Delay	26.7											
HCM 6th LOS	C											

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022

												
Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	59	316	554	132	33	551	45	23	98	354	262	29
Future Volume (vph)	59	316	554	132	33	551	45	23	98	354	262	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00	1.00	0.91			1.00	0.91	0.91	
Frt		1.00	1.00	0.85	1.00	0.98			1.00	0.97	0.85	
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (prot)		1752	3505	1568	1752	4953			1752	3252	1427	
Flt Permitted		0.36	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (perm)		658	3505	1568	1752	4953			1752	3252	1427	
Peak-hour factor, PHF	0.85	0.85	0.85	1.00	0.83	0.83	0.83	0.83	0.96	0.96	0.96	0.96
Adj. Flow (vph)	69	372	652	132	40	664	54	28	102	369	273	30
RTOR Reduction (vph)	0	0	0	62	0	0	0	0	0	0	89	0
Lane Group Flow (vph)	0	441	652	70	40	746	0	0	102	467	116	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	NA			Prot	NA	Perm	
Protected Phases	7		4		3	8			5	2		
Permitted Phases		4		4							2	
Actuated Green, G (s)		66.4	66.4	66.4	4.0	74.9			6.5	33.6	33.6	
Effective Green, g (s)		66.4	66.4	66.4	4.0	74.9			6.5	33.6	33.6	
Actuated g/C Ratio		0.47	0.47	0.47	0.03	0.54			0.05	0.24	0.24	
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		312	1662	743	50	2649			81	780	342	
v/s Ratio Prot			0.19		c0.02	0.15			c0.06	c0.14		
v/s Ratio Perm		c0.67		0.04							0.08	
v/c Ratio		1.41	0.39	0.09	0.80	0.28			1.26	0.60	0.34	
Uniform Delay, d1		36.8	23.8	20.3	67.6	17.8			66.8	47.2	44.0	
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2		204.0	0.2	0.1	59.1	0.1			184.8	3.4	2.7	
Delay (s)		240.8	23.9	20.3	126.7	17.9			251.6	50.6	46.7	
Level of Service		F	C	C	F	B			F	D	D	
Approach Delay (s)			101.6			23.4				76.0		
Approach LOS			F			C				E		
Intersection Summary												
HCM 2000 Control Delay			71.6			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.15									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			76.8%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022



Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	7	63	321	106	24	204	147	1
Future Volume (vph)	7	63	321	106	24	204	147	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00		0.97	0.91	
Frt		1.00	1.00	0.85		0.98	0.85	
Flt Protected		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1752	3505	1568		3367	1427	
Flt Permitted		0.43	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		790	3505	1568		3367	1427	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.78	0.78	0.78	0.78
Adj. Flow (vph)	8	71	361	119	31	262	188	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	79	361	119	0	332	150	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	Prot	Perm	
Protected Phases	1		6		12	12		
Permitted Phases		6		6			12	
Actuated Green, G (s)		22.6	22.6	22.6		18.0	18.0	
Effective Green, g (s)		22.6	22.6	22.6		18.0	18.0	
Actuated g/C Ratio		0.16	0.16	0.16		0.13	0.13	
Clearance Time (s)		4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		127	565	253		432	183	
v/s Ratio Prot			0.10			0.10		
v/s Ratio Perm		0.10		0.08			c0.11	
v/c Ratio		0.62	0.64	0.47		0.77	0.82	
Uniform Delay, d1		54.7	54.9	53.3		59.0	59.4	
Progression Factor		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		20.8	5.5	6.2		12.4	32.1	
Delay (s)		75.5	60.3	59.4		71.4	91.5	
Level of Service		E	E	E		E	F	
Approach Delay (s)			62.3			77.6		
Approach LOS			E			E		
Intersection Summary								

HCM 6th Signalized Intersection Summary

1: Norwalk Bl & Lakeland Rd

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	145	25	188	245	196	42	616	200	102	790	63
Future Volume (veh/h)	20	145	25	188	245	196	42	616	200	102	790	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	1900	1900	1900	1900	1900	1900	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	22	163	28	258	336	268	51	742	241	111	859	68
Peak Hour Factor	0.89	0.89	0.89	0.73	0.73	0.73	0.83	0.83	0.83	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	3	3	3	3	3	3
Cap, veh/h	73	458	74	431	610	517	332	1515	492	308	1916	152
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.58	0.58	0.58	0.58	0.58	0.58
Sat Flow, veh/h	89	1426	229	1211	1900	1610	599	2616	850	568	3309	262
Grp Volume(v), veh/h	213	0	0	258	336	268	51	500	483	111	458	469
Grp Sat Flow(s),veh/h/ln	1744	0	0	1211	1900	1610	599	1763	1703	568	1763	1808
Q Serve(g_s), s	0.0	0.0	0.0	11.2	13.1	12.2	4.8	15.0	15.0	13.1	13.3	13.3
Cycle Q Clear(g_c), s	7.9	0.0	0.0	20.1	13.1	12.2	19.0	15.0	15.0	29.0	13.3	13.3
Prop In Lane	0.10		0.13	1.00		1.00	1.00		0.50	1.00		0.14
Lane Grp Cap(c), veh/h	604	0	0	431	610	517	332	1021	986	308	1021	1047
V/C Ratio(X)	0.35	0.00	0.00	0.60	0.55	0.52	0.15	0.49	0.49	0.36	0.45	0.45
Avail Cap(c_a), veh/h	670	0	0	480	686	581	332	1021	986	308	1021	1047
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	0.0	28.4	25.2	24.9	16.5	11.1	11.1	20.0	10.8	10.8
Incr Delay (d2), s/veh	0.4	0.0	0.0	1.7	0.8	0.8	0.9	1.6	1.6	3.2	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.2	0.0	0.0	8.8	9.9	8.2	1.3	9.6	9.3	3.5	8.8	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.8	0.0	0.0	30.1	26.0	25.7	17.4	12.7	12.8	23.3	12.2	12.2
LnGrp LOS	C	A	A	C	C	C	B	B	B	C	B	B
Approach Vol, veh/h		213			862			1034			1038	
Approach Delay, s/veh		23.8			27.1			13.0			13.4	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		58.5		31.5		58.5		31.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		48.5		32.5		48.5		32.5				
Max Q Clear Time (g_c+I1), s		21.0		9.9		31.0		22.1				
Green Ext Time (p_c), s		8.2		1.3		6.9		3.0				
Intersection Summary												
HCM 6th Ctrl Delay				17.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Norwalk Bl & Crewe St

05/06/2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	85	71	69	821	1058	25
Future Volume (veh/h)	85	71	69	821	1058	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1856	1856	1856	1856
Adj Flow Rate, veh/h	108	90	78	922	1126	27
Peak Hour Factor	0.79	0.79	0.89	0.89	0.94	0.94
Percent Heavy Veh, %	0	0	3	3	3	3
Cap, veh/h	154	137	432	2874	2868	69
Arrive On Green	0.08	0.08	0.82	0.82	0.82	0.82
Sat Flow, veh/h	1810	1610	484	3618	3612	84
Grp Volume(v), veh/h	108	90	78	922	564	589
Grp Sat Flow(s),veh/h/ln	1810	1610	484	1763	1763	1840
Q Serve(g_s), s	5.2	4.9	4.7	5.9	7.8	7.8
Cycle Q Clear(g_c), s	5.2	4.9	12.5	5.9	7.8	7.8
Prop In Lane	1.00	1.00	1.00			0.05
Lane Grp Cap(c), veh/h	154	137	432	2874	1437	1500
V/C Ratio(X)	0.70	0.66	0.18	0.32	0.39	0.39
Avail Cap(c_a), veh/h	432	385	432	2874	1437	1500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.58	0.58	0.83	0.83
Uniform Delay (d), s/veh	40.1	39.9	4.0	2.1	2.3	2.3
Incr Delay (d2), s/veh	5.7	5.3	0.5	0.2	0.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	3.8	0.8	2.1	3.1	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.8	45.2	4.5	2.3	2.9	2.9
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	198			1000	1153	
Approach Delay, s/veh	45.5			2.4	2.9	
Approach LOS	D			A	A	
Timer - Assigned Phs	2		4		6	
Phs Duration (G+Y+Rc), s	77.9		12.1		77.9	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	59.5		21.5		59.5	
Max Q Clear Time (g_c+l1), s	14.5		7.2		9.8	
Green Ext Time (p_c), s	10.0		0.5		10.4	
Intersection Summary						
HCM 6th Ctrl Delay			6.3			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

3: Firestone Bl & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑	↑	↑↑	↑↑		↑↑	↑↑↑	
Traffic Volume (veh/h)	0	1316	316	6	1158	359	340	474	16	392	445	1
Future Volume (veh/h)	0	1316	316	6	1158	359	340	474	16	392	445	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1415	340	7	1287	399	370	515	0	431	489	1
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	0	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	1696	406	88	2106	654	439	1144		504	1794	4
Arrive On Green	0.00	0.42	0.42	0.14	0.14	0.14	0.13	0.32	0.00	0.15	0.34	0.34
Sat Flow, veh/h	0	4247	977	271	5066	1572	3428	3618	0	3428	5220	11
Grp Volume(v), veh/h	0	1171	584	7	1287	399	370	515	0	431	316	174
Grp Sat Flow(s),veh/h/ln	0	1689	1680	271	1689	1572	1714	1763	0	1714	1689	1854
Q Serve(g_s), s	0.0	37.2	37.4	3.0	28.7	28.7	12.7	13.9	0.0	14.7	8.1	8.1
Cycle Q Clear(g_c), s	0.0	37.2	37.4	40.4	28.7	28.7	12.7	13.9	0.0	14.7	8.1	8.1
Prop In Lane	0.00		0.58	1.00		1.00	1.00		0.00	1.00		0.01
Lane Grp Cap(c), veh/h	0	1404	698	88	2106	654	439	1144		504	1161	637
V/C Ratio(X)	0.00	0.83	0.84	0.08	0.61	0.61	0.84	0.45		0.85	0.27	0.27
Avail Cap(c_a), veh/h	0	1506	749	96	2258	701	586	1144		671	1161	637
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.49	0.49	0.49	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	31.3	31.4	65.9	42.6	42.6	51.1	32.1	0.0	49.9	28.5	28.5
Incr Delay (d2), s/veh	0.0	4.0	7.8	0.2	0.2	0.7	8.3	1.3	0.0	8.2	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	22.1	23.0	0.4	17.2	16.2	9.9	10.2	0.0	11.2	6.1	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	35.3	39.2	66.1	42.8	43.3	59.5	33.3	0.0	58.1	29.1	29.6
LnGrp LOS	A	D	D	E	D	D	E	C		E	C	C
Approach Vol, veh/h		1755			1693			885	A		921	
Approach Delay, s/veh		36.6			43.0			44.3			42.8	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.1	43.5		54.4	19.9	45.7		54.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	23.5	29.5		53.5	20.5	32.5		53.5				
Max Q Clear Time (g_c+I1), s	16.7	15.9		39.4	14.7	10.1		42.4				
Green Ext Time (p_c), s	0.9	2.9		9.9	0.7	3.1		7.5				

Intersection Summary

HCM 6th Ctrl Delay 41.1

HCM 6th LOS D

Notes

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

HCM 6th Signalized Intersection Summary

4: Pioneer Bl & Imperial Highway

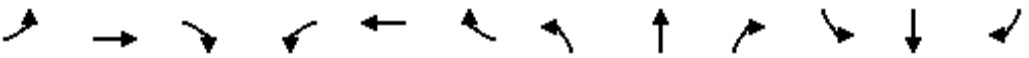
05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 		 	 	
Traffic Volume (veh/h)	326	1230	65	195	1167	129	51	575	275	165	485	437
Future Volume (veh/h)	326	1230	65	195	1167	129	51	575	275	165	485	437
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	398	1500	79	227	1357	150	53	599	286	170	500	451
Peak Hour Factor	0.82	0.82	0.82	0.86	0.86	0.86	0.96	0.96	0.96	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	427	1990	618	255	1497	465	68	872	389	224	967	431
Arrive On Green	0.24	0.39	0.39	0.14	0.30	0.30	0.04	0.25	0.25	0.07	0.27	0.27
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	398	1500	79	227	1357	150	53	599	286	170	500	451
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1714	1763	1572
Q Serve(g_s), s	26.5	30.6	3.9	15.1	30.9	8.9	3.6	18.5	20.1	5.9	14.4	32.9
Cycle Q Clear(g_c), s	26.5	30.6	3.9	15.1	30.9	8.9	3.6	18.5	20.1	5.9	14.4	32.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	427	1990	618	255	1497	465	68	872	389	224	967	431
V/C Ratio(X)	0.93	0.75	0.13	0.89	0.91	0.32	0.78	0.69	0.74	0.76	0.52	1.05
Avail Cap(c_a), veh/h	482	2064	641	295	1528	474	93	872	389	243	967	431
HCM Platoon Ratio	1.00	1.00	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	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	31.4	23.3	50.4	40.7	32.9	57.2	40.9	41.5	55.1	36.8	43.5
Incr Delay (d2), s/veh	14.3	0.8	0.0	21.3	6.9	0.3	24.5	4.4	11.7	11.9	2.0	55.7
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	17.4	16.6	2.6	12.5	19.2	6.2	3.7	13.3	13.9	5.2	10.6	27.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.9	32.2	23.3	71.7	47.5	33.3	81.7	45.3	53.2	67.1	38.8	99.2
LnGrp LOS	E	C	C	E	D	C	F	D	D	E	D	F
Approach Vol, veh/h		1977			1734			938			1121	
Approach Delay, s/veh		37.2			49.5			49.8			67.4	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	34.2	21.8	51.6	9.1	37.4	33.5	40.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	24.6	20.0	48.9	6.3	26.8	32.7	36.2				
Max Q Clear Time (g_c+I1), s	7.9	22.1	17.1	32.6	5.6	34.9	28.5	32.9				
Green Ext Time (p_c), s	0.0	1.3	0.2	10.0	0.0	0.0	0.5	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			48.8									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

5: Frontage Rd/I-5 SB Off-Ramp & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑↑	
Traffic Volume (veh/h)	0	1611	224	14	1384	0	0	0	0	311	159	164
Future Volume (veh/h)	0	1611	224	14	1384	0	0	0	0	311	159	164
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	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1810	252	15	1521	0				237	335	184
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91				0.89	0.89	0.89
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	2494	774	58	2799	0				638	819	440
Arrive On Green	0.00	0.49	0.49	0.02	0.55	0.00				0.36	0.36	0.36
Sat Flow, veh/h	0	5233	1572	3428	5233	0				1767	2271	1221
Grp Volume(v), veh/h	0	1810	252	15	1521	0				237	272	247
Grp Sat Flow(s),veh/h/ln	0	1689	1572	1714	1689	0				1767	1856	1636
Q Serve(g_s), s	0.0	29.3	10.1	0.4	20.0	0.0				10.3	11.4	11.8
Cycle Q Clear(g_c), s	0.0	29.3	10.1	0.4	20.0	0.0				10.3	11.4	11.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.75
Lane Grp Cap(c), veh/h	0	2494	774	58	2799	0				638	670	590
V/C Ratio(X)	0.00	0.73	0.33	0.26	0.54	0.00				0.37	0.41	0.42
Avail Cap(c_a), veh/h	0	3095	961	181	3582	0				638	670	590
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	1.00	1.00	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.8	15.9	50.4	14.9	0.0				24.5	24.9	25.0
Incr Delay (d2), s/veh	0.0	0.7	0.2	2.3	0.2	0.0				1.7	1.8	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	0.0	16.7	6.4	0.4	11.7	0.0				8.1	9.1	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.5	16.2	52.8	15.0	0.0				26.2	26.7	27.2
LnGrp LOS	A	C	B	D	B	A				C	C	C
Approach Vol, veh/h		2062			1536						756	
Approach Delay, s/veh		20.8			15.4						26.7	
Approach LOS		C			B						C	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			6.3	55.7		42.0		61.9				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			5.5	63.5		37.5		73.5				
Max Q Clear Time (g_c+I1), s			2.4	31.3		13.8		22.0				
Green Ext Time (p_c), s			0.0	19.8		4.1		17.4				
Intersection Summary												
HCM 6th Ctrl Delay			19.9									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

6: Adoree St/I-5 NB On-Ramp & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	1723	47	4	1273	708	132	147	12	0	0	0
Future Volume (veh/h)	160	1723	47	4	1273	708	132	147	12	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	176	1893	52	5	1447	805	157	175	14			
Peak Hour Factor	0.91	0.91	0.91	0.88	0.88	0.88	0.84	0.84	0.84			
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3			
Cap, veh/h	234	2241	61	11	2924	908	428	426	380			
Arrive On Green	0.07	0.64	0.64	0.01	0.58	0.58	0.24	0.24	0.24			
Sat Flow, veh/h	3428	3505	96	1767	5066	1572	1767	1763	1572			
Grp Volume(v), veh/h	176	948	997	5	1447	805	157	175	14			
Grp Sat Flow(s),veh/h/ln	1714	1763	1838	1767	1689	1572	1767	1763	1572			
Q Serve(g_s), s	6.1	50.3	51.4	0.3	20.3	53.2	8.9	10.0	0.8			
Cycle Q Clear(g_c), s	6.1	50.3	51.4	0.3	20.3	53.2	8.9	10.0	0.8			
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	234	1127	1175	11	2924	908	428	426	380			
V/C Ratio(X)	0.75	0.84	0.85	0.44	0.49	0.89	0.37	0.41	0.04			
Avail Cap(c_a), veh/h	331	1197	1249	75	3166	983	428	426	380			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.71	0.71	0.71	0.42	0.42	0.42	1.00	1.00	1.00			
Uniform Delay (d), s/veh	54.9	16.9	17.1	59.4	15.0	22.0	37.8	38.3	34.8			
Incr Delay (d2), s/veh	4.2	3.8	4.0	11.0	0.1	4.3	2.4	2.9	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	4.9	26.1	27.6	0.3	10.5	24.3	7.5	8.2	0.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.1	20.7	21.0	70.4	15.1	26.3	40.3	41.2	35.0			
LnGrp LOS	E	C	C	E	B	C	D	D	C			
Approach Vol, veh/h	2121			2257			346					
Approach Delay, s/veh	24.1			19.2			40.5					
Approach LOS	C			B			D					
Timer - Assigned Phs	2			4			7			8		
Phs Duration (G+Y+Rc), s	33.5			5.3			12.7			73.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.9			5.1			11.6			75.0		
Max Q Clear Time (g_c+I1), s	12.0			2.3			8.1			55.2		
Green Ext Time (p_c), s	1.2			0.0			0.2			14.1		
Intersection Summary												
HCM 6th Ctrl Delay	22.9											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 7: Kalnor Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 							
Traffic Volume (veh/h)	81	1317	25	27	1769	109	13	18	24	85	22	69
Future Volume (veh/h)	81	1317	25	27	1769	109	13	18	24	85	22	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	91	1480	28	29	1882	116	18	25	33	91	24	75
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.73	0.73	0.73	0.93	0.93	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	115	3401	64	48	2207	984	136	171	294	245	74	231
Arrive On Green	0.07	0.66	0.66	0.03	0.63	0.63	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1767	5118	97	1767	3526	1572	482	938	1610	1366	405	1267
Grp Volume(v), veh/h	91	976	532	29	1882	116	43	0	33	91	0	99
Grp Sat Flow(s),veh/h/ln	1767	1689	1838	1767	1763	1572	1420	0	1610	1366	0	1672
Q Serve(g_s), s	5.4	14.6	14.6	1.7	45.8	3.2	0.1	0.0	1.8	6.6	0.0	5.5
Cycle Q Clear(g_c), s	5.4	14.6	14.6	1.7	45.8	3.2	5.6	0.0	1.8	12.2	0.0	5.5
Prop In Lane	1.00		0.05	1.00		1.00	0.42		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	115	2244	1221	48	2207	984	307	0	294	245	0	305
V/C Ratio(X)	0.79	0.44	0.44	0.61	0.85	0.12	0.14	0.00	0.11	0.37	0.00	0.32
Avail Cap(c_a), veh/h	190	2549	1387	104	2489	1110	307	0	294	245	0	305
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.2	8.5	8.5	51.5	16.0	8.1	36.6	0.0	36.5	43.3	0.0	38.0
Incr Delay (d2), s/veh	11.2	0.1	0.2	11.8	2.8	0.1	1.0	0.0	0.8	4.3	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.9	8.5	9.2	1.7	24.3	1.9	1.8	0.0	1.4	4.6	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.5	8.6	8.7	63.3	18.8	8.1	37.6	0.0	37.3	47.6	0.0	40.8
LnGrp LOS	E	A	A	E	B	A	D	A	D	D	A	D
Approach Vol, veh/h	1599			2027			76			190		
Approach Delay, s/veh	11.6			18.9			37.4			44.1		
Approach LOS	B			B			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.0			7.4			24.0			11.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			6.3			19.5			11.5		
Max Q Clear Time (g_c+I1), s	7.6			3.7			14.2			7.4		
Green Ext Time (p_c), s	0.2			0.0			0.3			0.1		
Intersection Summary												
HCM 6th Ctrl Delay	17.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 8: Imperial Highway & Norwalk BI

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			  	
Traffic Volume (veh/h)	169	1206	79	258	1556	100	175	602	140	137	751	178
Future Volume (veh/h)	169	1206	79	258	1556	100	175	602	140	137	751	178
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	176	1256	82	280	1691	109	213	734	171	154	844	200
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.82	0.82	0.82	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	202	1500	466	303	1788	555	237	988	441	181	1259	391
Arrive On Green	0.11	0.30	0.30	0.34	0.71	0.71	0.27	0.56	0.56	0.10	0.25	0.25
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	1767	5066	1572
Grp Volume(v), veh/h	176	1256	82	280	1691	109	213	734	171	154	844	200
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1767	1689	1572
Q Serve(g_s), s	11.8	27.8	4.6	18.3	35.4	2.8	14.0	18.8	7.3	10.3	18.0	13.1
Cycle Q Clear(g_c), s	11.8	27.8	4.6	18.3	35.4	2.8	14.0	18.8	7.3	10.3	18.0	13.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	1500	466	303	1788	555	237	988	441	181	1259	391
V/C Ratio(X)	0.87	0.84	0.18	0.92	0.95	0.20	0.90	0.74	0.39	0.85	0.67	0.51
Avail Cap(c_a), veh/h	214	1500	466	352	1836	570	267	988	441	199	1259	391
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	0.50	0.50	0.50	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	52.2	39.5	31.4	38.7	16.6	11.8	43.2	23.1	20.6	53.0	40.7	38.8
Incr Delay (d2), s/veh	26.8	4.0	0.2	16.5	6.1	0.1	28.7	5.0	2.6	24.8	2.6	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.8	17.4	3.2	11.3	11.1	1.7	11.5	10.4	4.8	9.6	12.1	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.0	43.5	31.5	55.2	22.7	11.9	71.8	28.2	23.2	77.8	43.3	43.1
LnGrp LOS	E	D	C	E	C	B	E	C	C	E	D	D
Approach Vol, veh/h		1514			2080			1118			1198	
Approach Delay, s/veh		47.0			26.5			35.7			47.7	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.8	38.1	25.1	40.0	20.6	34.3	18.2	46.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	30.5	23.9	34.1	18.1	25.9	14.5	43.5				
Max Q Clear Time (g_c+I1), s	12.3	20.8	20.3	29.8	16.0	20.0	13.8	37.4				
Green Ext Time (p_c), s	0.0	3.9	0.3	3.0	0.1	3.1	0.0	4.9				
Intersection Summary												
HCM 6th Ctrl Delay			37.8									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

9: Avenida Manuel Salinas & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	72	1312	26	44	1728	79	104	18	23	44	15	50
Future Volume (veh/h)	72	1312	26	44	1728	79	104	18	23	44	15	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	82	1491	30	49	1920	88	260	45	58	50	17	57
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.40	0.40	0.40	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	103	2324	721	63	2210	686	559	243	313	391	79	264
Arrive On Green	0.12	0.92	0.92	0.04	0.44	0.44	0.15	0.32	0.32	0.03	0.21	0.21
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1810	754	971	1810	383	1285
Grp Volume(v), veh/h	82	1491	30	49	1920	88	260	0	103	50	0	74
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1810	0	1725	1810	0	1669
Q Serve(g_s), s	5.4	7.1	0.2	3.3	41.3	4.0	12.6	0.0	5.2	2.6	0.0	4.4
Cycle Q Clear(g_c), s	5.4	7.1	0.2	3.3	41.3	4.0	12.6	0.0	5.2	2.6	0.0	4.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.56	1.00		0.77
Lane Grp Cap(c), veh/h	103	2324	721	63	2210	686	559	0	555	391	0	343
V/C Ratio(X)	0.80	0.64	0.04	0.78	0.87	0.13	0.47	0.00	0.19	0.13	0.00	0.22
Avail Cap(c_a), veh/h	155	2368	735	131	2301	714	559	0	555	407	0	343
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.54	0.54	0.54	0.71	0.71	0.71	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.3	3.0	2.7	57.4	30.7	20.2	27.8	0.0	29.4	35.7	0.0	39.6
Incr Delay (d2), s/veh	9.0	0.3	0.0	13.5	2.7	0.1	2.8	0.0	0.7	0.1	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	2.3	0.1	3.1	22.6	2.7	9.9	0.0	4.1	2.1	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	3.3	2.7	70.9	33.4	20.3	30.6	0.0	30.1	35.8	0.0	41.1
LnGrp LOS	E	A	A	E	C	C	C	A	C	D	A	D
Approach Vol, veh/h		1603			2057			363			124	
Approach Delay, s/veh		6.2			33.7			30.5			39.0	
Approach LOS		A			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	43.1	8.8	59.5	22.5	29.2	11.5	56.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	31.9	8.9	56.1	18.0	19.0	10.5	54.5				
Max Q Clear Time (g_c+I1), s	4.6	7.2	5.3	9.1	14.6	6.4	7.4	43.3				
Green Ext Time (p_c), s	0.0	0.5	0.0	16.7	0.2	0.2	0.0	9.1				
Intersection Summary												
HCM 6th Ctrl Delay			23.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Imperial Highway & Volunteer Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	19	1321	37	175	1733	82	121	47	58	53	12	23
Future Volume (veh/h)	19	1321	37	175	1733	82	121	47	58	53	12	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	22	1554	44	197	1947	92	224	87	107	60	14	26
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.54	0.54	0.54	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	132	2217	63	278	2804	132	382	265	326	339	73	551
Arrive On Green	0.44	0.44	0.44	0.08	0.57	0.57	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	206	5063	143	1767	4957	234	1389	775	953	796	212	1610
Grp Volume(v), veh/h	22	1036	562	197	1325	714	224	0	194	74	0	26
Grp Sat Flow(s),veh/h/ln	206	1689	1830	1767	1689	1813	1389	0	1728	1009	0	1610
Q Serve(g_s), s	8.4	24.4	24.4	5.6	27.4	27.6	14.6	0.0	8.1	3.7	0.0	1.1
Cycle Q Clear(g_c), s	23.5	24.4	24.4	5.6	27.4	27.6	26.4	0.0	8.1	11.8	0.0	1.1
Prop In Lane	1.00		0.08	1.00		0.13	1.00		0.55	0.81		1.00
Lane Grp Cap(c), veh/h	132	1478	801	278	1910	1026	382	0	592	412	0	551
V/C Ratio(X)	0.17	0.70	0.70	0.71	0.69	0.70	0.59	0.00	0.33	0.18	0.00	0.05
Avail Cap(c_a), veh/h	154	1846	1000	485	2675	1436	382	0	592	412	0	551
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.1	22.3	22.3	19.1	15.2	15.2	35.3	0.0	23.8	27.0	0.0	21.5
Incr Delay (d2), s/veh	0.6	0.9	1.6	3.3	0.5	0.9	6.5	0.0	1.5	1.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	14.5	15.7	4.3	15.0	16.2	9.4	0.0	6.3	2.6	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	23.2	23.9	22.4	15.6	16.1	41.8	0.0	25.3	28.0	0.0	21.7
LnGrp LOS	C	C	C	C	B	B	D	A	C	C	A	C
Approach Vol, veh/h	1620			2236			418			100		
Approach Delay, s/veh	23.5			16.4			34.2			26.3		
Approach LOS	C			B			C			C		
Timer - Assigned Phs	2		3	4		6		8				
Phs Duration (G+Y+Rc), s	38.0		12.5	47.3		38.0		59.9				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s	33.5		19.5	53.5		33.5		77.5				
Max Q Clear Time (g_c+I1), s	28.4		7.6	26.4		13.8		29.6				
Green Ext Time (p_c), s	0.9		0.4	14.6		0.4		25.8				
Intersection Summary												
HCM 6th Ctrl Delay	21.0											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

11: Bloomfield Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	200	1324	163	293	1040	137	150	520	385	228	715	316
Future Volume (veh/h)	200	1324	163	293	1040	137	150	520	385	228	715	316
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	220	1455	179	305	1083	143	174	605	448	278	872	385
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.86	0.86	0.86	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	248	1507	468	323	1538	203	190	717	320	295	925	413
Arrive On Green	0.14	0.30	0.30	0.18	0.34	0.34	0.11	0.20	0.20	0.17	0.26	0.26
Sat Flow, veh/h	1767	5066	1572	1767	4528	597	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	220	1455	179	305	807	419	174	605	448	278	872	385
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1748	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	14.7	34.0	10.8	20.5	24.9	24.9	11.7	19.8	24.4	18.7	29.1	28.7
Cycle Q Clear(g_c), s	14.7	34.0	10.8	20.5	24.9	24.9	11.7	19.8	24.4	18.7	29.1	28.7
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	248	1507	468	323	1147	594	190	717	320	295	925	413
V/C Ratio(X)	0.89	0.97	0.38	0.95	0.70	0.70	0.92	0.84	1.40	0.94	0.94	0.93
Avail Cap(c_a), veh/h	289	1507	468	323	1147	594	190	717	320	295	925	413
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	41.5	33.4	48.5	34.4	34.4	53.0	46.0	47.8	49.4	43.4	43.2
Incr Delay (d2), s/veh	16.5	11.2	0.3	36.0	2.0	3.8	36.5	9.6	195.1	37.6	18.5	30.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.1	20.6	6.8	17.9	15.8	16.6	11.0	14.1	40.3	16.8	21.3	20.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.2	52.7	33.7	84.4	36.3	38.2	89.5	55.5	242.9	87.1	61.9	73.5
LnGrp LOS	E	D	C	F	D	D	F	E	F	F	E	E
Approach Vol, veh/h		1854			1531			1227			1535	
Approach Delay, s/veh		52.6			46.4			128.7			69.4	
Approach LOS		D			D			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.5	28.9	26.4	40.2	17.4	36.0	21.3	45.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.0	24.4	21.9	35.7	12.9	31.5	19.6	38.0				
Max Q Clear Time (g_c+I1), s	20.7	26.4	22.5	36.0	13.7	31.1	16.7	26.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.3	0.2	6.0				
Intersection Summary												
HCM 6th Ctrl Delay			70.5									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary 12: Norwalk Bl & Civic Center Dr

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	2	13	545	0	145	0	852	454	150	1029	0
Future Volume (veh/h)	3	2	13	545	0	145	0	852	454	150	1029	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	1856	1856	1856	1856	1856	1856	0	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	5	3	21	893	0	238	0	888	473	169	1156	0
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.96	0.96	0.96	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	0	3	3	3	3	3
Cap, veh/h	7	4	30	1010	0	449	0	2172	1123	194	2917	0
Arrive On Green	0.03	0.03	0.03	0.29	0.00	0.29	0.00	0.86	0.86	0.22	1.00	0.00
Sat Flow, veh/h	281	169	1180	3534	0	1572	0	5233	1572	1767	5233	0
Grp Volume(v), veh/h	29	0	0	893	0	238	0	888	473	169	1156	0
Grp Sat Flow(s),veh/h/ln	1629	0	0	1767	0	1572	0	1689	1572	1767	1689	0
Q Serve(g_s), s	2.1	0.0	0.0	29.0	0.0	15.3	0.0	4.6	6.5	11.1	0.0	0.0
Cycle Q Clear(g_c), s	2.1	0.0	0.0	29.0	0.0	15.3	0.0	4.6	6.5	11.1	0.0	0.0
Prop In Lane	0.17		0.72	1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	42	0	0	1010	0	449	0	2172	1123	194	2917	0
V/C Ratio(X)	0.69	0.00	0.00	0.88	0.00	0.53	0.00	0.41	0.42	0.87	0.40	0.00
Avail Cap(c_a), veh/h	244	0	0	1193	0	531	0	2172	1123	243	2917	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	0.61	0.00	0.61	0.00	0.89	0.89	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.0	0.0	0.0	41.0	0.0	36.1	0.0	5.2	1.5	46.0	0.0	0.0
Incr Delay (d2), s/veh	18.2	0.0	0.0	4.6	0.0	0.6	0.0	0.5	1.0	23.4	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	0.0	0.0	17.8	0.0	9.1	0.0	2.4	4.3	9.5	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.1	0.0	0.0	45.6	0.0	36.7	0.0	5.7	2.5	69.5	0.4	0.0
LnGrp LOS	E	A	A	D	A	D	A	A	A	E	A	A
Approach Vol, veh/h	29			1131				1361			1325	
Approach Delay, s/veh	76.1			43.7				4.6			9.2	
Approach LOS	E			D				A			A	
Timer - Assigned Phs	1	2	4			6		8				
Phs Duration (G+Y+Rc), s	17.7	55.9	7.6			73.6		38.8				
Change Period (Y+Rc), s	4.5	4.5	4.5			4.5		4.5				
Max Green Setting (Gmax), s	16.5	27.0	18.0			48.0		40.5				
Max Q Clear Time (g_c+I1), s	13.1	8.5	4.1			2.0		31.0				
Green Ext Time (p_c), s	0.1	8.0	0.1			11.1		3.3				
Intersection Summary												
HCM 6th Ctrl Delay			18.2									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Summary

13: Civic Center Dr & Courthouse-AMC Theater

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	522	0	0	667	3	5	0	5	8	0	60
Future Volume (veh/h)	13	522	0	0	667	3	5	0	5	8	0	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	15	587	0	0	953	4	8	0	5	18	0	133
Peak Hour Factor	0.89	0.89	0.89	0.70	0.70	0.70	0.62	0.62	1.00	0.45	0.45	0.45
Percent Heavy Veh, %	3	3	0	0	3	3	0	0	0	0	0	0
Cap, veh/h	167	1330	0	0	1116	5	509	15	287	114	30	738
Arrive On Green	0.02	0.38	0.00	0.00	0.62	0.62	0.52	0.00	0.52	0.52	0.00	0.52
Sat Flow, veh/h	1767	3618	0	0	3693	15	849	29	549	133	58	1412
Grp Volume(v), veh/h	15	587	0	0	467	490	13	0	0	151	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1853	1428	0	0	1603	0	0
Q Serve(g_s), s	0.5	11.2	0.0	0.0	19.2	19.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	11.2	0.0	0.0	19.2	19.2	0.3	0.0	0.0	4.4	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.01	0.62		0.38	0.12		0.88
Lane Grp Cap(c), veh/h	167	1330	0	0	546	574	811	0	0	882	0	0
V/C Ratio(X)	0.09	0.44	0.00	0.00	0.85	0.85	0.02	0.00	0.00	0.17	0.00	0.00
Avail Cap(c_a), veh/h	264	2174	0	0	872	916	811	0	0	882	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.00	0.00	0.76	0.76	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.8	20.9	0.0	0.0	15.5	15.5	10.3	0.0	0.0	11.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.0	3.8	3.6	0.0	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	7.8	0.0	0.0	8.1	8.4	0.2	0.0	0.0	2.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.0	21.1	0.0	0.0	19.2	19.0	10.4	0.0	0.0	11.7	0.0	0.0
LnGrp LOS	C	C	A	A	B	B	B	A	A	B	A	A
Approach Vol, veh/h	602		957			13			151			
Approach Delay, s/veh	21.2		19.1			10.4			11.7			
Approach LOS	C		B			B			B			
Timer - Assigned Phs	2		4		6		7	8				
Phs Duration (G+Y+Rc), s	51.5		38.5		51.5		6.1	32.4				
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5	4.5				
Max Green Setting (Gmax), s	25.5		55.5		25.5		6.5	44.5				
Max Q Clear Time (g_c+I1), s	2.3		13.2		6.4		2.5	21.2				
Green Ext Time (p_c), s	0.0		4.6		0.8		0.0	6.7				
Intersection Summary												
HCM 6th Ctrl Delay	19.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

14: Civic Center Dr & Avenida Manuel Salinas

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	501	51	40	528	13	53	11	29	21	14	49
Future Volume (veh/h)	13	501	51	40	528	13	53	11	29	21	14	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	14	539	55	53	704	17	68	14	37	40	26	53
Peak Hour Factor	0.93	0.93	0.93	0.75	0.75	0.75	0.78	0.78	0.78	0.53	0.53	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	152	683	69	195	829	20	620	158	417	230	149	331
Arrive On Green	0.02	0.21	0.21	0.08	0.47	0.47	0.34	0.34	0.34	0.21	0.21	0.21
Sat Flow, veh/h	1767	3230	329	1767	3518	85	1810	461	1219	1118	726	1610
Grp Volume(v), veh/h	14	293	301	53	353	368	68	0	51	66	0	53
Grp Sat Flow(s),veh/h/ln	1767	1763	1796	1767	1763	1840	1810	0	1681	1844	0	1610
Q Serve(g_s), s	0.6	14.2	14.3	2.1	15.9	15.9	2.3	0.0	1.9	2.7	0.0	2.4
Cycle Q Clear(g_c), s	0.6	14.2	14.3	2.1	15.9	15.9	2.3	0.0	1.9	2.7	0.0	2.4
Prop In Lane	1.00		0.18	1.00		0.05	1.00		0.73	0.61		1.00
Lane Grp Cap(c), veh/h	152	372	380	195	415	434	620	0	575	379	0	331
V/C Ratio(X)	0.09	0.79	0.79	0.27	0.85	0.85	0.11	0.00	0.09	0.17	0.00	0.16
Avail Cap(c_a), veh/h	231	535	545	235	539	562	620	0	575	379	0	331
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	0.88	0.88	0.88	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.1	33.6	33.6	26.0	22.4	22.4	20.2	0.0	20.1	29.5	0.0	29.4
Incr Delay (d2), s/veh	0.2	4.6	4.6	0.7	8.7	8.4	0.4	0.0	0.3	1.0	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	10.4	10.6	1.5	9.2	9.5	1.8	0.0	1.4	2.3	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	38.2	38.3	26.6	31.1	30.8	20.6	0.0	20.4	30.5	0.0	30.4
LnGrp LOS	C	D	D	C	C	C	C	A	C	C	A	C
Approach Vol, veh/h		608			774			119			119	
Approach Delay, s/veh		38.0			30.6			20.5			30.4	
Approach LOS		D			C			C			C	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		35.3	8.2	23.5		23.0	6.0	25.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		20.5	5.7	27.3		18.5	5.5	27.5				
Max Q Clear Time (g_c+I1), s		4.3	4.1	16.3		4.7	2.6	17.9				
Green Ext Time (p_c), s		0.3	0.0	2.8		0.4	0.0	3.1				
Intersection Summary												
HCM 6th Ctrl Delay			32.6									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 15: Civic Center Dr & Volunteer Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	27	488	40	9	393	16	21	13	3	39	20	153
Future Volume (veh/h)	27	488	40	9	393	16	21	13	3	39	20	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	31	567	47	10	418	17	27	17	4	65	33	166
Peak Hour Factor	0.86	0.86	0.86	0.94	0.94	0.94	0.77	0.77	0.77	0.60	0.60	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	217	766	342	156	690	28	540	330	73	693	340	999
Arrive On Green	0.03	0.22	0.22	0.01	0.20	0.20	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	1767	3526	1572	1767	3453	140	770	532	118	1010	547	1610
Grp Volume(v), veh/h	31	567	47	10	213	222	48	0	0	98	0	166
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1830	1421	0	0	1557	0	1610
Q Serve(g_s), s	1.2	13.5	2.2	0.4	9.9	9.9	0.0	0.0	0.0	0.0	0.0	3.9
Cycle Q Clear(g_c), s	1.2	13.5	2.2	0.4	9.9	9.9	1.9	0.0	0.0	1.9	0.0	3.9
Prop In Lane	1.00		1.00	1.00		0.08	0.56		0.08	0.66		1.00
Lane Grp Cap(c), veh/h	217	766	342	156	352	365	944	0	0	1033	0	999
V/C Ratio(X)	0.14	0.74	0.14	0.06	0.60	0.61	0.05	0.00	0.00	0.09	0.00	0.17
Avail Cap(c_a), veh/h	351	1469	655	301	715	742	944	0	0	1033	0	999
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	0.96	0.96	0.96	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.7	32.8	28.4	28.9	32.8	32.8	6.7	0.0	0.0	6.8	0.0	7.2
Incr Delay (d2), s/veh	0.2	1.0	0.1	0.2	1.6	1.6	0.1	0.0	0.0	0.2	0.0	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	1.0	9.0	1.5	0.3	7.6	7.9	0.6	0.0	0.0	1.3	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	33.8	28.5	29.1	34.4	34.4	6.8	0.0	0.0	7.0	0.0	7.6
LnGrp LOS	C	C	C	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		645			445			48			264	
Approach Delay, s/veh		33.2			34.3			6.8			7.4	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		60.3	5.6	24.1		60.3	7.2	22.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		30.5	8.5	37.5		30.5	9.5	36.5				
Max Q Clear Time (g_c+I1), s		3.9	2.4	15.5		5.9	3.2	11.9				
Green Ext Time (p_c), s		0.2	0.0	4.1		1.1	0.0	2.6				
Intersection Summary												
HCM 6th Ctrl Delay				27.8								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

16: Civic Center Dr & Bloomfield Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	281	22	225	27	13	4	136	1015	22	4	630	88
Future Volume (veh/h)	281	22	225	27	13	4	136	1015	22	4	630	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	309	24	247	41	20	6	143	1068	23	4	700	98
Peak Hour Factor	0.91	0.91	0.91	0.66	0.66	0.66	0.95	0.95	0.95	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	403	483	410	336	357	107	200	2194	47	9	2005	894
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.06	0.62	0.62	0.01	1.00	1.00
Sat Flow, veh/h	1374	1856	1572	1099	1370	411	3428	3529	76	1767	3526	1572
Grp Volume(v), veh/h	309	24	247	41	0	26	143	534	557	4	700	98
Grp Sat Flow(s),veh/h/ln	1374	1856	1572	1099	0	1782	1714	1763	1842	1767	1763	1572
Q Serve(g_s), s	26.1	1.2	16.5	3.5	0.0	1.3	4.9	19.7	19.7	0.3	0.0	0.0
Cycle Q Clear(g_c), s	27.4	1.2	16.5	4.6	0.0	1.3	4.9	19.7	19.7	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	403	483	410	336	0	464	200	1096	1145	9	2005	894
V/C Ratio(X)	0.77	0.05	0.60	0.12	0.00	0.06	0.72	0.49	0.49	0.44	0.35	0.11
Avail Cap(c_a), veh/h	566	704	596	466	0	675	300	1096	1145	81	2005	894
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)	0.76	0.76	0.76	1.00	0.00	1.00	1.00	1.00	1.00	0.38	0.38	0.38
Uniform Delay (d), s/veh	43.6	33.2	38.9	35.0	0.0	33.3	55.5	12.3	12.3	59.2	0.0	0.0
Incr Delay (d2), s/veh	3.1	0.0	1.1	0.2	0.0	0.0	4.7	1.5	1.5	11.8	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.5	1.0	10.1	1.7	0.0	1.0	4.1	12.5	12.9	0.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	33.3	40.0	35.1	0.0	33.3	60.3	13.9	13.8	71.0	0.2	0.1
LnGrp LOS	D	C	D	D	A	C	E	B	B	E	A	A
Approach Vol, veh/h	580			67			1234			802		
Approach Delay, s/veh	43.3			34.4			19.2			0.5		
Approach LOS	D			C			B			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	79.1		35.8	11.5	72.7		35.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	55.5		45.5	10.5	50.5		45.5				
Max Q Clear Time (g_c+I1), s	2.3	21.7		29.4	6.9	2.0		6.6				
Green Ext Time (p_c), s	0.0	8.9		1.8	0.1	6.2		0.3				
Intersection Summary												
HCM 6th Ctrl Delay	19.2											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 17: Adoree St/I-5 NB Off-Ramp & Norwalk Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	0	72	161	131	339	104	974	0	0	1482	120
Future Volume (veh/h)	22	0	72	161	131	339	104	974	0	0	1482	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	0	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	29	0	96	177	144	373	109	1025	0	0	1830	148
Peak Hour Factor	0.75	0.75	0.75	0.91	0.91	0.91	0.95	0.95	0.95	0.81	0.81	0.81
Percent Heavy Veh, %	3	0	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	0	0	0	434	433	387	162	3440	0	0	2841	229
Arrive On Green	0.00	0.00	0.00	0.25	0.25	0.25	0.02	0.22	0.00	0.00	1.00	1.00
Sat Flow, veh/h		0		1767	1763	1572	3428	5233	0	0	4945	385
Grp Volume(v), veh/h	0.0			177	144	373	109	1025	0	0	1292	686
Grp Sat Flow(s),veh/h/ln				1767	1763	1572	1714	1689	0	0	1689	1786
Q Serve(g_s), s				10.1	8.1	28.1	3.8	20.2	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				10.1	8.1	28.1	3.8	20.2	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.22
Lane Grp Cap(c), veh/h				434	433	387	162	3440	0	0	2008	1062
V/C Ratio(X)				0.41	0.33	0.96	0.67	0.30	0.00	0.00	0.64	0.65
Avail Cap(c_a), veh/h				434	433	387	186	3440	0	0	2008	1062
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.89	0.89	0.00	0.00	0.82	0.82
Uniform Delay (d), s/veh				37.9	37.2	44.7	58.1	22.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.6	0.4	36.5	6.9	0.2	0.0	0.0	1.3	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
%ile BackOfQ(95%),veh/ln				7.9	6.4	21.1	3.3	13.9	0.0	0.0	0.7	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				38.5	37.6	81.3	65.0	23.0	0.0	0.0	1.3	2.5
LnGrp LOS				D	D	F	E	C	A	A	A	A
Approach Vol, veh/h				694			1134			1978		
Approach Delay, s/veh				61.3			27.0			1.7		
Approach LOS				E			C			A		
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	86.0			10.2			75.8			34.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	68.5			6.5			57.5			29.5		
Max Q Clear Time (g_c+I1), s	22.2			5.8			2.0			30.1		
Green Ext Time (p_c), s	9.4			0.0			26.3			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	20.1											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary
18: San Antonio Dr & Frontage Rd/I-5 SB On-Ramp

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	237	132	0	0	0	0	1024	165	418	1276	0
Future Volume (veh/h)	63	237	132	0	0	0	0	1024	165	418	1276	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	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	66	261	128				0	1113	179	492	1501	0
Peak Hour Factor	0.96	0.96	0.96				0.92	0.92	0.92	0.85	0.85	0.82
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	194	408	173				0	2678	430	578	4129	0
Arrive On Green	0.11	0.11	0.11				0.00	0.61	0.61	0.17	0.82	0.00
Sat Flow, veh/h	1767	3711	1572				0	4565	707	3428	5233	0
Grp Volume(v), veh/h	66	261	128				0	854	438	492	1501	0
Grp Sat Flow(s),veh/h/ln	1767	1856	1572				0	1689	1728	1714	1689	0
Q Serve(g_s), s	4.1	8.1	9.5				0.0	15.9	15.9	16.7	9.3	0.0
Cycle Q Clear(g_c), s	4.1	8.1	9.5				0.0	15.9	15.9	16.7	9.3	0.0
Prop In Lane	1.00		1.00				0.00		0.41	1.00		0.00
Lane Grp Cap(c), veh/h	194	408	173				0	2056	1052	578	4129	0
V/C Ratio(X)	0.34	0.64	0.74				0.00	0.42	0.42	0.85	0.36	0.00
Avail Cap(c_a), veh/h	331	696	295				0	2056	1052	900	4129	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)	0.94	0.94	0.94				0.00	0.71	0.71	0.61	0.61	0.00
Uniform Delay (d), s/veh	49.4	51.1	51.7				0.0	12.3	12.3	48.4	2.9	0.0
Incr Delay (d2), s/veh	1.0	1.6	5.7				0.0	0.4	0.9	3.0	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	3.4	6.9	7.2				0.0	9.3	9.7	10.8	4.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	52.7	57.5				0.0	12.7	13.2	51.4	3.1	0.0
LnGrp LOS	D	D	E				A	B	B	D	A	A
Approach Vol, veh/h	455						1292			1993		
Approach Delay, s/veh	53.7						12.9			15.0		
Approach LOS	D						B			B		
Timer - Assigned Phs	1	2	4		6							
Phs Duration (G+Y+Rc), s	24.7	77.6	17.7		102.3							
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5							
Max Green Setting (Gmax), s	31.5	52.5	22.5		88.5							
Max Q Clear Time (g_c+I1), s	18.7	17.9	11.5		11.3							
Green Ext Time (p_c), s	1.5	11.6	1.7		18.3							
Intersection Summary												
HCM 6th Ctrl Delay	19.0											
HCM 6th LOS	B											
Notes												

HCM 6th Signalized Intersection Summary

19: San Antonio Dr & Firestone Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	342	58	64	388	67	95	868	60	69	956	203
Future Volume (veh/h)	211	342	58	64	388	67	95	868	60	69	956	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	240	389	66	80	485	84	112	1021	71	78	1074	228
Peak Hour Factor	0.88	0.88	0.88	0.80	0.80	0.80	0.85	0.85	0.85	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	270	908	405	102	572	255	138	1690	754	98	1913	406
Arrive On Green	0.15	0.26	0.26	0.06	0.16	0.16	0.08	0.48	0.48	0.11	0.91	0.91
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	4185	888
Grp Volume(v), veh/h	240	389	66	80	485	84	112	1021	71	78	866	436
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1689	1696
Q Serve(g_s), s	16.0	11.1	3.9	5.4	16.0	5.7	7.5	25.5	3.0	5.2	5.4	5.4
Cycle Q Clear(g_c), s	16.0	11.1	3.9	5.4	16.0	5.7	7.5	25.5	3.0	5.2	5.4	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	270	908	405	102	572	255	138	1690	754	98	1544	775
V/C Ratio(X)	0.89	0.43	0.16	0.79	0.85	0.33	0.81	0.60	0.09	0.79	0.56	0.56
Avail Cap(c_a), veh/h	361	1025	457	178	661	295	199	1690	754	155	1544	775
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)	1.00	1.00	1.00	1.00	1.00	1.00	0.24	0.24	0.24	0.93	0.93	0.93
Uniform Delay (d), s/veh	49.8	37.2	34.5	55.8	48.8	44.5	54.5	22.9	17.0	52.7	3.0	3.0
Incr Delay (d2), s/veh	18.4	0.3	0.2	12.5	9.1	0.7	4.1	0.4	0.1	12.9	1.4	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.2	8.4	2.7	4.9	12.3	4.1	5.0	13.1	1.9	4.6	2.5	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.3	37.5	34.7	68.3	57.9	45.2	58.6	23.3	17.1	65.5	4.4	5.8
LnGrp LOS	E	D	C	E	E	D	E	C	B	E	A	A
Approach Vol, veh/h	695			649			1204			1380		
Approach Delay, s/veh	47.9			57.6			26.2			8.3		
Approach LOS	D			E			C			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	62.0	11.4	35.4	13.8	59.4	22.8	24.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	44.5	12.1	34.9	13.5	41.5	24.5	22.5				
Max Q Clear Time (g_c+I1), s	7.2	27.5	7.4	13.1	9.5	7.4	18.0	18.0				
Green Ext Time (p_c), s	0.0	7.2	0.1	2.8	0.1	11.7	0.4	1.4				
Intersection Summary												
HCM 6th Ctrl Delay	28.9											
HCM 6th LOS	C											

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022

												
Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	117	214	609	123	50	591	64	32	123	393	227	37
Future Volume (vph)	117	214	609	123	50	591	64	32	123	393	227	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00	1.00	0.91			1.00	0.91	0.91	
Frt		1.00	1.00	0.85	1.00	0.98			1.00	0.98	0.85	
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (prot)		1752	3505	1568	1752	4930			1752	3287	1427	
Flt Permitted		0.35	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (perm)		641	3505	1568	1752	4930			1752	3287	1427	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.89	0.89	0.89	0.89	0.92	0.92	0.92	0.92
Adj. Flow (vph)	119	218	621	126	56	664	72	36	134	427	247	40
RTOR Reduction (vph)	0	0	0	67	0	0	0	0	0	0	85	0
Lane Group Flow (vph)	0	337	621	59	56	772	0	0	134	496	133	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	NA			Prot	NA	Perm	
Protected Phases	7		4		3	8			5	2		
Permitted Phases		4		4							2	
Actuated Green, G (s)		59.5	59.5	59.5	5.0	69.0			8.5	38.0	38.0	
Effective Green, g (s)		59.5	59.5	59.5	5.0	69.0			8.5	38.0	38.0	
Actuated g/C Ratio		0.42	0.42	0.42	0.04	0.49			0.06	0.27	0.27	
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		272	1489	666	62	2429			106	892	387	
v/s Ratio Prot			0.18		c0.03	0.16			c0.08	0.15		
v/s Ratio Perm		c0.53		0.04							0.09	
v/c Ratio		1.24	0.42	0.09	0.90	0.32			1.26	0.56	0.34	
Uniform Delay, d1		40.2	28.1	24.0	67.3	21.3			65.8	43.8	41.0	
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2		134.9	0.2	0.1	80.1	0.1			174.3	2.5	2.4	
Delay (s)		175.1	28.3	24.1	147.4	21.4			240.0	46.3	43.4	
Level of Service		F	C	C	F	C			F	D	D	
Approach Delay (s)			73.5			29.9				76.1		
Approach LOS			E			C				E		
Intersection Summary												
HCM 2000 Control Delay			73.9			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.11									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			83.6%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022



Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	11	79	484	193	21	300	302	7
Future Volume (vph)	11	79	484	193	21	300	302	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00		0.97	0.91	
Frt		1.00	1.00	0.85		0.96	0.85	
Flt Protected		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1752	3505	1568		3317	1427	
Flt Permitted		0.45	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		826	3505	1568		3317	1427	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.89	0.89	0.89	0.89
Adj. Flow (vph)	12	83	509	203	24	337	339	8
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	95	509	203	0	486	222	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	Prot	Perm	
Protected Phases	1		6		12	12		
Permitted Phases		6		6			12	
Actuated Green, G (s)		25.0	25.0	25.0		19.5	19.5	
Effective Green, g (s)		25.0	25.0	25.0		19.5	19.5	
Actuated g/C Ratio		0.18	0.18	0.18		0.14	0.14	
Clearance Time (s)		4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		147	625	280		462	198	
v/s Ratio Prot			c0.15			0.15		
v/s Ratio Perm		0.12		0.13			c0.16	
v/c Ratio		0.65	0.81	0.72		1.05	1.12	
Uniform Delay, d1		53.4	55.3	54.3		60.2	60.2	
Progression Factor		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		19.9	11.1	15.1		56.2	100.3	
Delay (s)		73.3	66.4	69.4		116.4	160.5	
Level of Service		E	E	E		F	F	
Approach Delay (s)			68.0			130.3		
Approach LOS			E			F		
Intersection Summary								

HCM 6th Signalized Intersection Summary

1: Norwalk BI & Lakeland Rd

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	148	28	85	158	101	27	822	155	77	521	42
Future Volume (veh/h)	31	148	28	85	158	101	27	822	155	77	521	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	42	203	38	99	184	117	34	1028	194	89	599	48
Peak Hour Factor	0.73	0.73	0.73	0.86	0.86	0.86	0.80	0.80	0.80	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	3	3	3	5	5	5
Cap, veh/h	77	253	44	215	398	337	563	2045	385	314	2247	180
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	148	1207	210	1157	1900	1610	778	2960	558	446	3253	260
Grp Volume(v), veh/h	283	0	0	99	184	117	34	611	611	89	319	328
Grp Sat Flow(s),veh/h/ln	1565	0	0	1157	1900	1610	778	1763	1755	446	1735	1779
Q Serve(g_s), s	8.3	0.0	0.0	0.0	7.6	5.6	1.6	14.8	14.9	10.7	6.3	6.3
Cycle Q Clear(g_c), s	16.0	0.0	0.0	15.5	7.6	5.6	7.9	14.8	14.9	25.5	6.3	6.3
Prop In Lane	0.15		0.13	1.00		1.00	1.00		0.32	1.00		0.15
Lane Grp Cap(c), veh/h	373	0	0	215	398	337	563	1218	1212	314	1198	1229
V/C Ratio(X)	0.76	0.00	0.00	0.46	0.46	0.35	0.06	0.50	0.50	0.28	0.27	0.27
Avail Cap(c_a), veh/h	479	0	0	288	517	438	563	1218	1212	314	1198	1229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	0.0	34.3	31.1	30.3	6.8	6.6	6.6	12.7	5.3	5.3
Incr Delay (d2), s/veh	5.2	0.0	0.0	1.5	0.8	0.6	0.2	1.3	1.4	2.2	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.5	0.0	0.0	3.8	6.4	3.9	0.5	8.5	8.5	2.1	3.7	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	0.0	0.0	35.8	32.0	30.9	7.0	7.9	8.0	14.9	5.8	5.8
LnGrp LOS	D	A	A	D	C	C	A	A	A	B	A	A
Approach Vol, veh/h		283			400			1256			736	
Approach Delay, s/veh		39.6			32.6			7.9			6.9	
Approach LOS		D			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.7		23.3		66.7		23.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		56.5		24.5		56.5		24.5				
Max Q Clear Time (g_c+I1), s		16.9		18.0		27.5		17.5				
Green Ext Time (p_c), s		11.6		0.9		6.0		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				14.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Norwalk Bl & Crewe St

05/06/2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	74	100	48	884	677	40
Future Volume (veh/h)	74	100	48	884	677	40
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	1900	1900	1856	1856	1826	1826
Adj Flow Rate, veh/h	94	127	62	1148	744	44
Peak Hour Factor	0.79	0.79	0.77	0.77	0.91	0.91
Percent Heavy Veh, %	0	0	3	3	5	5
Cap, veh/h	189	168	582	2805	2648	157
Arrive On Green	0.10	0.10	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1810	1610	682	3618	3420	197
Grp Volume(v), veh/h	94	127	62	1148	388	400
Grp Sat Flow(s),veh/h/ln	1810	1610	682	1763	1735	1790
Q Serve(g_s), s	4.4	6.9	2.4	8.9	5.3	5.3
Cycle Q Clear(g_c), s	4.4	6.9	7.7	8.9	5.3	5.3
Prop In Lane	1.00	1.00	1.00			0.11
Lane Grp Cap(c), veh/h	189	168	582	2805	1380	1424
V/C Ratio(X)	0.50	0.76	0.11	0.41	0.28	0.28
Avail Cap(c_a), veh/h	452	403	582	2805	1380	1424
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.49	0.49	0.95	0.95
Uniform Delay (d), s/veh	38.1	39.2	3.4	2.8	2.4	2.4
Incr Delay (d2), s/veh	2.0	6.7	0.2	0.2	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.7	5.4	0.5	3.5	2.3	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.1	45.9	3.6	3.0	2.9	2.9
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	221			1210	788	
Approach Delay, s/veh	43.4			3.0	2.9	
Approach LOS	D			A	A	
Timer - Assigned Phs	2		4		6	
Phs Duration (G+Y+Rc), s	76.1		13.9		76.1	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	58.5		22.5		58.5	
Max Q Clear Time (g_c+l1), s	10.9		8.9		7.3	
Green Ext Time (p_c), s	12.5		0.5		5.9	
Intersection Summary						
HCM 6th Ctrl Delay			7.0			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

3: Firestone Bl & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑	↑	↑↑	↑↑		↑↑	↑↑↑	
Traffic Volume (veh/h)	0	1342	315	7	1147	351	266	410	9	294	371	0
Future Volume (veh/h)	0	1342	315	7	1147	351	266	410	9	294	371	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	0	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1475	346	8	1318	403	283	436	0	338	426	0
Peak Hour Factor	0.91	0.91	0.91	0.87	0.87	0.87	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	0	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	1813	423	92	2239	695	348	1151		407	1742	0
Arrive On Green	0.00	0.44	0.44	0.15	0.15	0.15	0.10	0.33	0.00	0.12	0.34	0.00
Sat Flow, veh/h	0	4269	958	254	5066	1572	3428	3618	0	3428	5233	0
Grp Volume(v), veh/h	0	1213	608	8	1318	403	283	436	0	338	426	0
Grp Sat Flow(s),veh/h/ln	0	1689	1683	254	1689	1572	1714	1763	0	1714	1689	0
Q Serve(g_s), s	0.0	37.5	37.9	3.7	29.2	28.7	9.7	11.4	0.0	11.6	7.2	0.0
Cycle Q Clear(g_c), s	0.0	37.5	37.9	41.5	29.2	28.7	9.7	11.4	0.0	11.6	7.2	0.0
Prop In Lane	0.00		0.57	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1493	744	92	2239	695	348	1151		407	1742	0
V/C Ratio(X)	0.00	0.81	0.82	0.09	0.59	0.58	0.81	0.38		0.83	0.24	0.00
Avail Cap(c_a), veh/h	0	1646	821	104	2469	767	500	1151		586	1742	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.36	0.36	0.36	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	29.1	29.2	64.7	41.1	40.8	52.8	31.0	0.0	51.7	28.2	0.0
Incr Delay (d2), s/veh	0.0	3.0	6.0	0.1	0.1	0.3	6.6	0.9	0.0	6.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	21.9	22.8	0.5	16.8	15.6	8.0	8.7	0.0	9.1	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	32.1	35.2	64.8	41.2	41.2	59.4	32.0	0.0	58.3	28.5	0.0
LnGrp LOS	A	C	D	E	D	D	E	C		E	C	A
Approach Vol, veh/h		1821			1729			719	A		764	
Approach Delay, s/veh		33.2			41.3			42.8			41.7	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.8	43.7		57.5	16.7	45.8		57.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	20.5	27.5		58.5	17.5	30.5		58.5				
Max Q Clear Time (g_c+I1), s	13.6	13.4		39.9	11.7	9.2		43.5				
Green Ext Time (p_c), s	0.7	2.4		12.6	0.5	2.8		9.5				

Intersection Summary

HCM 6th Ctrl Delay	38.6
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary

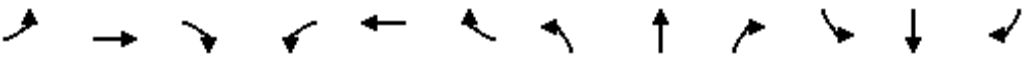
4: Pioneer Bl & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 		 	 	
Traffic Volume (veh/h)	349	1255	84	136	1187	129	25	372	174	158	320	489
Future Volume (veh/h)	349	1255	84	136	1187	129	25	372	174	158	320	489
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	426	1530	102	164	1430	155	29	433	202	198	400	611
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.86	0.86	0.86	0.80	0.80	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	452	2273	705	193	1529	475	46	770	344	253	939	419
Arrive On Green	0.26	0.45	0.45	0.11	0.30	0.30	0.03	0.22	0.22	0.07	0.27	0.27
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	426	1530	102	164	1430	155	29	433	202	198	400	611
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1714	1763	1572
Q Serve(g_s), s	28.4	28.6	4.6	10.9	32.9	9.2	2.0	13.1	13.8	6.8	11.3	32.0
Cycle Q Clear(g_c), s	28.4	28.6	4.6	10.9	32.9	9.2	2.0	13.1	13.8	6.8	11.3	32.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	452	2273	705	193	1529	475	46	770	344	253	939	419
V/C Ratio(X)	0.94	0.67	0.14	0.85	0.94	0.33	0.64	0.56	0.59	0.78	0.43	1.46
Avail Cap(c_a), veh/h	479	2273	705	287	1541	478	74	770	344	274	939	419
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.55	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.8	26.1	19.5	52.5	40.7	32.4	57.9	41.8	42.1	54.6	36.4	44.0
Incr Delay (d2), s/veh	17.6	0.4	0.1	12.2	9.4	0.3	13.7	3.0	7.2	12.8	1.4	219.2
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	19.1	15.5	3.1	9.0	20.6	6.4	1.9	10.1	10.1	6.1	8.7	57.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.4	26.6	19.6	64.7	50.2	32.8	71.6	44.7	49.3	67.4	37.8	263.2
LnGrp LOS	E	C	B	E	D	C	E	D	D	E	D	F
Approach Vol, veh/h		2058			1749			664			1209	
Approach Delay, s/veh		33.4			50.0			47.3			156.6	
Approach LOS		C			D			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	30.7	17.6	58.3	7.6	36.5	35.2	40.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.6	23.4	19.5	49.5	5.0	28.0	32.5	36.5				
Max Q Clear Time (g_c+I1), s	8.8	15.8	12.9	30.6	4.0	34.0	30.4	34.9				
Green Ext Time (p_c), s	0.1	2.2	0.2	11.4	0.0	0.0	0.3	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			66.4									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary 5: Frontage Rd/I-5 SB Off-Ramp & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑↑	
Traffic Volume (veh/h)	0	1460	263	10	1256	0	0	0	0	457	129	177
Future Volume (veh/h)	0	1460	263	10	1256	0	0	0	0	457	129	177
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	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1780	321	11	1396	0				608	148	230
Peak Hour Factor	0.82	0.82	0.82	0.90	0.90	0.90				0.77	0.77	0.77
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	2335	725	45	2611	0				1419	263	409
Arrive On Green	0.00	0.46	0.46	0.01	0.52	0.00				0.40	0.40	0.40
Sat Flow, veh/h	0	5233	1572	3428	5233	0				3534	655	1018
Grp Volume(v), veh/h	0	1780	321	11	1396	0				608	0	378
Grp Sat Flow(s),veh/h/ln	0	1689	1572	1714	1689	0				1767	0	1672
Q Serve(g_s), s	0.0	31.6	15.0	0.3	20.0	0.0				13.5	0.0	18.9
Cycle Q Clear(g_c), s	0.0	31.6	15.0	0.3	20.0	0.0				13.5	0.0	18.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.61
Lane Grp Cap(c), veh/h	0	2335	725	45	2611	0				1419	0	671
V/C Ratio(X)	0.00	0.76	0.44	0.25	0.53	0.00				0.43	0.00	0.56
Avail Cap(c_a), veh/h	0	2688	835	174	3156	0				1419	0	671
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	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	24.3	19.8	52.9	17.6	0.0				23.4	0.0	25.1
Incr Delay (d2), s/veh	0.0	1.2	0.4	2.8	0.2	0.0				0.9	0.0	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	0.0	18.3	9.3	0.3	12.1	0.0				9.7	0.0	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.4	20.2	55.8	17.7	0.0				24.4	0.0	28.5
LnGrp LOS	A	C	C	E	B	A				C	A	C
Approach Vol, veh/h		2101			1407						986	
Approach Delay, s/veh		24.6			18.0						26.0	
Approach LOS		C			B						C	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			5.9	54.4		48.0		60.3				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			5.5	57.5		43.5		67.5				
Max Q Clear Time (g_c+I1), s			2.3	33.6		20.9		22.0				
Green Ext Time (p_c), s			0.0	16.3		5.0		14.7				
Intersection Summary												
HCM 6th Ctrl Delay			22.9									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

6: Adoree St/I-5 NB On-Ramp & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	1809	70	1	1191	527	103	131	12	0	0	0
Future Volume (veh/h)	89	1809	70	1	1191	527	103	131	12	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	109	2206	85	1	1295	573	141	179	16			
Peak Hour Factor	0.82	0.82	0.82	0.92	0.92	0.92	0.73	0.73	0.73			
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3			
Cap, veh/h	162	2350	90	2	3206	995	366	365	326			
Arrive On Green	0.05	0.68	0.68	0.00	0.63	0.63	0.21	0.21	0.21			
Sat Flow, veh/h	3428	3462	133	1767	5066	1572	1767	1763	1572			
Grp Volume(v), veh/h	109	1116	1175	1	1295	573	141	179	16			
Grp Sat Flow(s),veh/h/ln	1714	1763	1832	1767	1689	1572	1767	1763	1572			
Q Serve(g_s), s	3.8	66.5	68.9	0.1	15.1	25.2	8.2	10.8	1.0			
Cycle Q Clear(g_c), s	3.8	66.5	68.9	0.1	15.1	25.2	8.2	10.8	1.0			
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	162	1197	1243	2	3206	995	366	365	326			
V/C Ratio(X)	0.67	0.93	0.94	0.41	0.40	0.58	0.38	0.49	0.05			
Avail Cap(c_a), veh/h	243	1212	1259	75	3339	1037	366	365	326			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.68	0.68	0.68	0.53	0.53	0.53	1.00	1.00	1.00			
Uniform Delay (d), s/veh	56.3	16.9	17.3	59.9	10.9	12.7	41.0	42.0	38.1			
Incr Delay (d2), s/veh	3.3	9.5	10.6	50.7	0.0	0.4	3.0	4.6	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			
%ile BackOfQ(95%),veh/ln	3.1	34.0	36.6	0.1	8.2	12.0	7.1	8.9	0.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.5	26.3	27.8	110.5	10.9	13.1	44.0	46.6	38.4			
LnGrp LOS	E	C	C	F	B	B	D	D	D			
Approach Vol, veh/h	2400			1869			336					
Approach Delay, s/veh	28.6			11.6			45.1					
Approach LOS	C			B			D					
Timer - Assigned Phs	2		3	4		7		8				
Phs Duration (G+Y+Rc), s	29.4		4.7	86.0		10.2		80.5				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s	18.9		5.1	82.5		8.5		79.1				
Max Q Clear Time (g_c+I1), s	12.8		2.1	70.9		5.8		27.2				
Green Ext Time (p_c), s	0.9		0.0	10.5		0.1		18.7				
Intersection Summary												
HCM 6th Ctrl Delay	22.9											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 7: Kalnor Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 							
Traffic Volume (veh/h)	31	1529	31	14	1481	38	12	7	26	24	7	11
Future Volume (veh/h)	31	1529	31	14	1481	38	12	7	26	24	7	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	37	1842	37	16	1664	43	16	9	35	32	9	15
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	58	3149	63	32	2119	945	271	140	355	368	141	235
Arrive On Green	0.03	0.62	0.62	0.02	0.60	0.60	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1767	5112	103	1767	3526	1572	940	633	1610	1384	640	1067
Grp Volume(v), veh/h	37	1217	662	16	1664	43	25	0	35	32	0	24
Grp Sat Flow(s),veh/h/ln	1767	1689	1837	1767	1763	1572	1573	0	1610	1384	0	1708
Q Serve(g_s), s	1.9	20.1	20.1	0.8	33.1	1.0	0.0	0.0	1.6	1.7	0.0	1.0
Cycle Q Clear(g_c), s	1.9	20.1	20.1	0.8	33.1	1.0	1.0	0.0	1.6	2.7	0.0	1.0
Prop In Lane	1.00		0.06	1.00		1.00	0.64		1.00	1.00		0.63
Lane Grp Cap(c), veh/h	58	2080	1132	32	2119	945	410	0	355	368	0	377
V/C Ratio(X)	0.63	0.58	0.59	0.50	0.79	0.05	0.06	0.00	0.10	0.09	0.00	0.06
Avail Cap(c_a), veh/h	143	2888	1571	124	2977	1328	410	0	355	368	0	377
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.4	10.7	10.7	45.2	14.0	7.6	28.6	0.0	28.9	29.7	0.0	28.6
Incr Delay (d2), s/veh	10.7	0.3	0.5	11.4	0.9	0.0	0.3	0.0	0.6	0.5	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	11.0	11.9	0.8	17.6	0.6	0.8	0.0	1.2	1.1	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	11.0	11.2	56.6	15.0	7.6	28.9	0.0	29.4	30.1	0.0	29.0
LnGrp LOS	E	B	B	E	B	A	C	A	C	C	A	C
Approach Vol, veh/h	1916				1723		60				56	
Approach Delay, s/veh	11.9				15.2		29.2				29.6	
Approach LOS	B				B		C				C	
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	25.0		6.2	61.8		25.0	7.6	60.4				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.5		6.5	79.5		20.5	7.5	78.5				
Max Q Clear Time (g_c+I1), s	3.6		2.8	22.1		4.7	3.9	35.1				
Green Ext Time (p_c), s	0.1		0.0	24.2		0.1	0.0	20.7				
Intersection Summary												
HCM 6th Ctrl Delay			13.9									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

8: Imperial Highway & Norwalk Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			  	
Traffic Volume (veh/h)	163	1332	91	129	1304	53	164	681	153	131	505	113
Future Volume (veh/h)	163	1332	91	129	1304	53	164	681	153	131	505	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	190	1549	106	147	1482	60	213	884	199	152	587	131
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.77	0.77	0.77	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	5	5	5
Cap, veh/h	217	1689	524	171	1558	484	239	1119	499	178	1418	440
Arrive On Green	0.12	0.33	0.33	0.19	0.62	0.62	0.27	0.64	0.64	0.10	0.28	0.28
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	1739	4985	1547
Grp Volume(v), veh/h	190	1549	106	147	1482	60	213	884	199	152	587	131
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1739	1662	1547
Q Serve(g_s), s	12.7	35.2	5.8	9.7	32.6	1.9	13.9	22.0	7.4	10.3	11.5	7.9
Cycle Q Clear(g_c), s	12.7	35.2	5.8	9.7	32.6	1.9	13.9	22.0	7.4	10.3	11.5	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	217	1689	524	171	1558	484	239	1119	499	178	1418	440
V/C Ratio(X)	0.88	0.92	0.20	0.86	0.95	0.12	0.89	0.79	0.40	0.85	0.41	0.30
Avail Cap(c_a), veh/h	228	1710	531	184	1583	491	356	1119	499	196	1418	440
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	0.67	0.67	0.67	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	51.8	38.4	28.6	47.6	22.2	16.4	42.9	19.0	16.3	53.0	34.8	33.6
Incr Delay (d2), s/veh	24.4	6.8	0.2	22.0	9.5	0.1	16.8	5.7	2.4	26.3	0.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.0	21.2	4.0	7.9	13.9	1.3	10.4	10.7	0.6	9.7	8.3	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.1	45.2	28.7	69.6	31.7	16.4	59.7	24.7	18.7	79.3	35.7	35.2
LnGrp LOS	E	D	C	E	C	B	E	C	B	E	D	D
Approach Vol, veh/h		1845			1689			1296			870	
Approach Delay, s/veh		47.4			34.5			29.5			43.2	
Approach LOS		D			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.8	42.6	16.1	44.5	20.8	38.6	19.2	41.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	35.5	12.5	40.5	24.2	24.8	15.5	37.5				
Max Q Clear Time (g_c+I1), s	12.3	24.0	11.7	37.2	15.9	13.5	14.7	34.6				
Green Ext Time (p_c), s	0.0	5.3	0.0	2.7	0.4	3.4	0.0	2.4				
Intersection Summary												
HCM 6th Ctrl Delay			38.9									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

9: Avenida Manuel Salinas & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	38	1329	135	34	1441	77	53	16	25	56	21	30
Future Volume (veh/h)	38	1329	135	34	1441	77	53	16	25	56	21	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	48	1682	171	36	1517	81	67	20	32	64	24	34
Peak Hour Factor	0.79	0.79	0.79	0.95	0.95	0.95	0.79	0.79	0.79	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	61	1928	598	51	1899	590	696	265	425	520	203	288
Arrive On Green	0.07	0.76	0.76	0.06	0.75	0.75	0.15	0.40	0.40	0.04	0.29	0.29
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1810	658	1053	1810	711	1007
Grp Volume(v), veh/h	48	1682	171	36	1517	81	67	0	52	64	0	58
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1810	0	1711	1810	0	1719
Q Serve(g_s), s	3.2	28.3	4.0	2.4	22.4	1.7	2.5	0.0	2.2	3.0	0.0	3.0
Cycle Q Clear(g_c), s	3.2	28.3	4.0	2.4	22.4	1.7	2.5	0.0	2.2	3.0	0.0	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.62	1.00		0.59
Lane Grp Cap(c), veh/h	61	1928	598	51	1899	590	696	0	690	520	0	492
V/C Ratio(X)	0.78	0.87	0.29	0.70	0.80	0.14	0.10	0.00	0.08	0.12	0.00	0.12
Avail Cap(c_a), veh/h	140	2343	727	110	2258	701	696	0	690	536	0	492
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.44	0.44	0.44	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.4	12.3	9.4	56.0	12.2	9.6	18.5	0.0	22.0	28.5	0.0	31.6
Incr Delay (d2), s/veh	9.1	1.5	0.1	13.6	1.5	0.1	0.3	0.0	0.2	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	7.0	2.2	2.2	7.6	1.1	2.0	0.0	1.7	2.4	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.5	13.8	9.5	69.6	13.7	9.7	18.8	0.0	22.2	28.6	0.0	32.1
LnGrp LOS	E	B	A	E	B	A	B	A	C	C	A	C
Approach Vol, veh/h		1901			1634			119			122	
Approach Delay, s/veh		14.7			14.7			20.3			30.3	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	52.9	8.0	50.2	23.0	38.8	8.7	49.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	33.5	7.5	55.5	18.5	20.5	9.5	53.5				
Max Q Clear Time (g_c+I1), s	5.0	4.2	4.4	30.3	4.5	5.0	5.2	24.4				
Green Ext Time (p_c), s	0.0	0.2	0.0	15.3	0.1	0.2	0.0	14.4				
Intersection Summary												
HCM 6th Ctrl Delay			15.4									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

10: Imperial Highway & Volunteer Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	2	1271	148	65	1495	29	31	14	32	53	53	23
Future Volume (veh/h)	2	1271	148	65	1495	29	31	14	32	53	53	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2	1589	185	68	1574	31	48	22	50	60	60	26
Peak Hour Factor	0.80	0.80	0.80	0.95	0.95	0.95	0.64	0.64	0.64	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	145	2064	240	168	2676	53	520	207	471	341	328	647
Arrive On Green	0.45	0.45	0.45	0.03	0.35	0.35	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	314	4602	535	1767	5114	101	1332	516	1173	737	815	1610
Grp Volume(v), veh/h	2	1165	609	68	1039	566	48	0	72	120	0	26
Grp Sat Flow(s),veh/h/ln	314	1689	1759	1767	1689	1837	1332	0	1689	1552	0	1610
Q Serve(g_s), s	0.6	34.9	35.0	2.4	30.2	30.2	2.9	0.0	3.2	3.6	0.0	1.2
Cycle Q Clear(g_c), s	21.8	34.9	35.0	2.4	30.2	30.2	9.7	0.0	3.2	6.8	0.0	1.2
Prop In Lane	1.00		0.30	1.00		0.05	1.00		0.69	0.50		1.00
Lane Grp Cap(c), veh/h	145	1515	789	168	1767	962	520	0	678	668	0	647
V/C Ratio(X)	0.01	0.77	0.77	0.41	0.59	0.59	0.09	0.00	0.11	0.18	0.00	0.04
Avail Cap(c_a), veh/h	181	1900	990	286	2378	1294	520	0	678	668	0	647
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.63	0.25	0.25	0.25	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	27.9	27.9	23.4	28.4	28.4	26.7	0.0	22.4	23.5	0.0	21.8
Incr Delay (d2), s/veh	0.0	1.0	1.9	0.4	0.1	0.1	0.4	0.0	0.3	0.6	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	0.1	18.9	19.8	1.8	15.9	17.2	1.8	0.0	2.4	4.2	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	28.8	29.8	23.8	28.5	28.5	27.0	0.0	22.8	24.1	0.0	22.0
LnGrp LOS	C	C	C	C	C	C	C	A	C	C	A	C
Approach Vol, veh/h	1776		1673			120			146			
Approach Delay, s/veh	29.2		28.3			24.5			23.7			
Approach LOS	C		C			C			C			
Timer - Assigned Phs	2		3		4		6		8			
Phs Duration (G+Y+Rc), s	52.7		9.0		58.3		52.7		67.3			
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5			
Max Green Setting (Gmax), s	26.5		12.5		67.5		26.5		84.5			
Max Q Clear Time (g_c+I1), s	11.7		4.4		37.0		8.8		32.2			
Green Ext Time (p_c), s	0.4		0.1		16.8		0.6		17.8			
Intersection Summary												
HCM 6th Ctrl Delay			28.4									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Bloomfield Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	296	835	119	438	1310	220	145	608	423	144	534	202
Future Volume (veh/h)	296	835	119	438	1310	220	145	608	423	144	534	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	352	994	142	481	1440	242	156	654	455	152	562	213
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	370	1324	411	511	1489	250	172	719	321	169	713	318
Arrive On Green	0.42	0.52	0.52	0.29	0.34	0.34	0.03	0.07	0.07	0.10	0.20	0.20
Sat Flow, veh/h	1767	5066	1572	1767	4368	733	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	352	994	142	481	1113	569	156	654	455	152	562	213
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1724	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	23.1	18.5	6.3	31.9	38.9	39.0	10.6	22.1	24.5	10.2	18.2	15.0
Cycle Q Clear(g_c), s	23.1	18.5	6.3	31.9	38.9	39.0	10.6	22.1	24.5	10.2	18.2	15.0
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	370	1324	411	511	1151	587	172	719	321	169	713	318
V/C Ratio(X)	0.95	0.75	0.35	0.94	0.97	0.97	0.91	0.91	1.42	0.90	0.79	0.67
Avail Cap(c_a), veh/h	374	1324	411	570	1151	587	172	719	321	169	713	318
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	0.66	1.00	1.00	1.00	0.63	0.63	0.63	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	25.6	22.7	41.7	38.9	38.9	57.5	54.9	56.0	53.7	45.4	44.2
Incr Delay (d2), s/veh	26.0	1.6	0.3	23.0	19.0	29.3	31.0	12.2	199.9	41.2	8.6	10.7
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	15.0	8.9	3.9	23.8	26.0	28.5	9.8	16.2	41.5	10.6	13.6	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.3	27.2	23.0	64.7	57.9	68.2	88.5	67.1	255.8	94.9	54.0	54.9
LnGrp LOS	E	C	C	E	E	E	F	E	F	F	D	D
Approach Vol, veh/h		1488			2163			1265			927	
Approach Delay, s/veh		34.6			62.1			137.6			60.9	
Approach LOS		C			E			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	29.0	39.2	35.9	16.2	28.8	29.6	45.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	11.5	24.2	38.7	27.6	11.7	24.0	25.4	40.9				
Max Q Clear Time (g_c+I1), s	12.2	26.5	33.9	20.5	12.6	20.2	25.1	41.0				
Green Ext Time (p_c), s	0.0	0.0	0.8	4.0	0.0	1.6	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			71.3									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary 12: Norwalk Bl & Civic Center Dr

05/06/2022

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	1	0	1	390	4	144	0	928	657	119	680	4	
Future Volume (veh/h)	1	0	1	390	4	144	0	928	657	119	680	4	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	0	1856	1856	1856	1856	1856	
Adj Flow Rate, veh/h	2	0	2	468	0	171	0	1175	832	131	747	4	
Peak Hour Factor	0.50	0.50	0.50	0.84	0.84	0.84	0.79	0.79	0.79	0.91	0.91	0.91	
Percent Heavy Veh, %	3	3	3	3	3	3	0	3	3	3	3	3	
Cap, veh/h	4	0	4	574	0	255	0	3011	1190	155	3743	20	
Arrive On Green	0.01	0.00	0.01	0.16	0.00	0.16	0.00	1.00	1.00	0.18	1.00	1.00	
Sat Flow, veh/h	832	0	832	3534	0	1572	0	5233	1572	1767	5200	28	
Grp Volume(v), veh/h	4	0	0	468	0	171	0	1175	832	131	485	266	
Grp Sat Flow(s),veh/h/ln	1664	0	0	1767	0	1572	0	1689	1572	1767	1689	1851	
Q Serve(g_s), s	0.3	0.0	0.0	15.3	0.0	12.3	0.0	0.0	0.0	8.6	0.0	0.0	
Cycle Q Clear(g_c), s	0.3	0.0	0.0	15.3	0.0	12.3	0.0	0.0	0.0	8.6	0.0	0.0	
Prop In Lane	0.50		0.50	1.00		1.00	0.00		1.00	1.00		0.02	
Lane Grp Cap(c), veh/h	9	0	0	574	0	255	0	3011	1190	155	2431	1332	
V/C Ratio(X)	0.46	0.00	0.00	0.82	0.00	0.67	0.00	0.39	0.70	0.84	0.20	0.20	
Avail Cap(c_a), veh/h	250	0	0	987	0	439	0	3011	1190	199	2431	1332	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	
Upstream Filter(I)	1.00	0.00	0.00	0.63	0.00	0.63	0.00	0.58	0.58	1.00	1.00	1.00	
Uniform Delay (d), s/veh	59.5	0.0	0.0	48.5	0.0	47.2	0.0	0.0	0.0	48.6	0.0	0.0	
Incr Delay (d2), s/veh	33.9	0.0	0.0	1.8	0.0	1.9	0.0	0.2	2.0	22.1	0.2	0.3	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	0.4	0.0	0.0	10.3	0.0	7.8	0.0	0.1	1.2	7.9	0.1	0.2	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	93.4	0.0	0.0	50.4	0.0	49.2	0.0	0.2	2.0	70.7	0.2	0.3	
LnGrp LOS	F	A	A	D	A	D	A	A	A	E	A	A	
Approach Vol, veh/h	4			639				2007				882	
Approach Delay, s/veh	93.4			50.0				1.0				10.7	
Approach LOS	F			D				A				B	
Timer - Assigned Phs	1	2	4			6		8					
Phs Duration (G+Y+Rc), s	15.1	75.8	5.1			90.9		24.0					
Change Period (Y+Rc), s	4.5	4.5	4.5			4.5		4.5					
Max Green Setting (Gmax), s	13.5	37.0	18.0			55.0		33.5					
Max Q Clear Time (g_c+I1), s	10.6	2.0	2.3			2.0		17.3					
Green Ext Time (p_c), s	0.1	17.2	0.0			5.8		2.1					
Intersection Summary													
HCM 6th Ctrl Delay			12.4										
HCM 6th LOS			B										
Notes													

HCM 6th Signalized Intersection Summary

13: Civic Center Dr & Courthouse-AMC Theater

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	622	0	0	547	24	1	0	0	4	0	9
Future Volume (veh/h)	155	622	0	0	547	24	1	0	0	4	0	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	187	749	0	0	667	29	4	0	0	6	0	13
Peak Hour Factor	0.83	0.83	0.83	0.82	0.82	0.82	0.25	0.25	0.25	0.69	0.69	0.69
Percent Heavy Veh, %	3	3	0	0	3	3	0	0	0	0	0	0
Cap, veh/h	310	1366	0	0	814	35	812	0	0	280	26	549
Arrive On Green	0.10	0.39	0.00	0.00	0.47	0.47	0.51	0.00	0.00	0.51	0.00	0.51
Sat Flow, veh/h	1767	3618	0	0	3535	150	1427	0	0	444	50	1071
Grp Volume(v), veh/h	187	749	0	0	341	355	4	0	0	19	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1829	1427	0	0	1565	0	0
Q Serve(g_s), s	6.8	14.9	0.0	0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.8	14.9	0.0	0.0	15.0	15.0	0.1	0.0	0.0	0.5	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.08	1.00		0.00	0.32		0.68
Lane Grp Cap(c), veh/h	310	1366	0	0	417	432	812	0	0	855	0	0
V/C Ratio(X)	0.60	0.55	0.00	0.00	0.82	0.82	0.00	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	495	2331	0	0	715	742	812	0	0	855	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.00	0.00	0.78	0.78	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.8	21.4	0.0	0.0	22.1	22.1	10.7	0.0	0.0	10.8	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.3	0.0	0.0	3.2	3.1	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.2	9.4	0.0	0.0	7.9	8.2	0.1	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	21.7	0.0	0.0	25.2	25.2	10.7	0.0	0.0	10.9	0.0	0.0
LnGrp LOS	C	C	A	A	C	C	B	A	A	B	A	A
Approach Vol, veh/h	936			696			4			19		
Approach Delay, s/veh	22.2			25.2			10.7			10.9		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	2			4			6			7		
Phs Duration (G+Y+Rc), s	50.6			39.4			50.6			13.6		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	21.5			59.5			21.5			18.5		
Max Q Clear Time (g_c+I1), s	2.1			16.9			2.5			8.8		
Green Ext Time (p_c), s	0.0			6.2			0.0			0.3		
Intersection Summary												
HCM 6th Ctrl Delay	23.3											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 14: Civic Center Dr & Avenida Manuel Salinas

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	543	34	11	428	28	60	9	24	21	9	75
Future Volume (veh/h)	50	543	34	11	428	28	60	9	24	21	9	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	60	646	40	14	549	36	72	11	29	27	12	82
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.83	0.83	0.83	0.77	0.77	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	199	759	47	150	666	44	639	163	430	261	116	331
Arrive On Green	0.09	0.45	0.45	0.03	0.40	0.40	0.35	0.35	0.35	0.21	0.21	0.21
Sat Flow, veh/h	1767	3372	209	1767	3359	220	1810	462	1218	1271	565	1610
Grp Volume(v), veh/h	60	337	349	14	288	297	72	0	40	39	0	82
Grp Sat Flow(s),veh/h/ln	1767	1763	1818	1767	1763	1816	1810	0	1681	1836	0	1610
Q Serve(g_s), s	2.4	15.3	15.4	0.6	13.2	13.2	2.4	0.0	1.4	1.6	0.0	3.8
Cycle Q Clear(g_c), s	2.4	15.3	15.4	0.6	13.2	13.2	2.4	0.0	1.4	1.6	0.0	3.8
Prop In Lane	1.00		0.11	1.00		0.12	1.00		0.73	0.69		1.00
Lane Grp Cap(c), veh/h	199	397	409	150	350	360	639	0	593	377	0	331
V/C Ratio(X)	0.30	0.85	0.85	0.09	0.82	0.83	0.11	0.00	0.07	0.10	0.00	0.25
Avail Cap(c_a), veh/h	250	519	535	229	499	515	639	0	593	377	0	331
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	0.83	0.83	0.83	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	23.4	23.4	28.4	25.7	25.7	19.6	0.0	19.3	29.0	0.0	29.9
Incr Delay (d2), s/veh	0.8	9.1	9.0	0.2	6.2	6.1	0.4	0.0	0.2	0.5	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	1.8	9.2	9.4	0.4	8.1	8.3	1.9	0.0	1.0	1.3	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.3	32.5	32.4	28.7	31.9	31.9	20.0	0.0	19.5	29.6	0.0	31.7
LnGrp LOS	C	C	C	C	C	C	B	A	B	C	A	C
Approach Vol, veh/h	746			599			112			121		
Approach Delay, s/veh	32.0			31.8			19.8			31.0		
Approach LOS	C			C			B			C		
Timer - Assigned Phs												
	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	36.3		6.0	24.8		23.0	8.4	22.4				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	21.5		5.5	26.5		18.5	6.5	25.5				
Max Q Clear Time (g_c+I1), s	4.4		2.6	17.4		5.8	4.4	15.2				
Green Ext Time (p_c), s	0.3		0.0	2.9		0.3	0.0	2.6				
Intersection Summary												
HCM 6th Ctrl Delay	31.0											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 15: Civic Center Dr & Volunteer Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	444	40	6	334	22	46	18	12	36	31	75
Future Volume (veh/h)	110	444	40	6	334	22	46	18	12	36	31	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	134	541	49	7	388	26	77	30	20	55	47	114
Peak Hour Factor	0.82	0.82	0.82	0.86	0.86	0.86	0.60	0.60	0.60	0.66	0.66	0.66
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	271	814	363	171	529	35	567	218	135	568	468	982
Arrive On Green	0.08	0.23	0.23	0.01	0.16	0.16	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	1767	3526	1572	1767	3354	224	824	358	221	829	768	1610
Grp Volume(v), veh/h	134	541	49	7	203	211	127	0	0	102	0	114
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1815	1402	0	0	1597	0	1610
Q Serve(g_s), s	5.4	12.5	2.2	0.3	9.9	10.0	1.8	0.0	0.0	0.0	0.0	2.7
Cycle Q Clear(g_c), s	5.4	12.5	2.2	0.3	9.9	10.0	3.8	0.0	0.0	2.0	0.0	2.7
Prop In Lane	1.00		1.00	1.00		0.12	0.61		0.16	0.54		1.00
Lane Grp Cap(c), veh/h	271	814	363	171	278	286	920	0	0	1036	0	982
V/C Ratio(X)	0.50	0.66	0.13	0.04	0.73	0.74	0.14	0.00	0.00	0.10	0.00	0.12
Avail Cap(c_a), veh/h	449	1469	655	322	578	595	920	0	0	1036	0	982
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	0.89	0.89	0.89	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.4	31.4	27.5	31.6	36.1	36.1	7.5	0.0	0.0	7.2	0.0	7.4
Incr Delay (d2), s/veh	1.0	0.7	0.1	0.1	3.3	3.3	0.3	0.0	0.0	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	8.5	1.5	0.2	7.7	7.9	1.9	0.0	0.0	1.4	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	32.1	27.6	31.7	39.4	39.4	7.9	0.0	0.0	7.4	0.0	7.6
LnGrp LOS	C	C	C	C	D	D	A	A	A	A	A	A
Approach Vol, veh/h	724			421			127			216		
Approach Delay, s/veh	31.1			39.2			7.9			7.5		
Approach LOS	C			D			A			A		
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	59.4		5.3	25.3		59.4	11.9	18.7				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	30.5		8.5	37.5		30.5	16.5	29.5				
Max Q Clear Time (g_c+I1), s	5.8		2.3	14.5		4.7	7.4	12.0				
Green Ext Time (p_c), s	0.7		0.0	3.9		0.9	0.2	2.2				
Intersection Summary												
HCM 6th Ctrl Delay	28.0											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 16: Civic Center Dr & Bloomfield Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	311	13	117	39	35	8	208	1060	19	2	713	196
Future Volume (veh/h)	311	13	117	39	35	8	208	1060	19	2	713	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	362	15	136	44	39	9	274	1395	25	2	792	218
Peak Hour Factor	0.86	0.86	0.86	0.89	0.89	0.89	0.76	0.76	0.76	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	448	570	483	430	448	103	337	2047	37	5	1700	758
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.10	0.58	0.58	0.01	0.96	0.96
Sat Flow, veh/h	1347	1856	1572	1227	1458	337	3428	3543	63	1767	3526	1572
Grp Volume(v), veh/h	362	15	136	44	0	48	274	694	726	2	792	218
Grp Sat Flow(s),veh/h/ln	1347	1856	1572	1227	0	1795	1714	1763	1844	1767	1763	1572
Q Serve(g_s), s	31.4	0.7	7.9	3.1	0.0	2.3	9.4	32.9	32.9	0.1	1.7	0.8
Cycle Q Clear(g_c), s	33.7	0.7	7.9	3.8	0.0	2.3	9.4	32.9	32.9	0.1	1.7	0.8
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	448	570	483	430	0	551	337	1018	1065	5	1700	758
V/C Ratio(X)	0.81	0.03	0.28	0.10	0.00	0.09	0.81	0.68	0.68	0.42	0.47	0.29
Avail Cap(c_a), veh/h	523	673	570	498	0	651	454	1018	1065	75	1700	758
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)	0.88	0.88	0.88	1.00	0.00	1.00	1.00	1.00	1.00	0.52	0.52	0.52
Uniform Delay (d), s/veh	41.6	29.0	31.5	30.4	0.0	29.6	53.0	17.6	17.7	59.6	1.1	1.1
Incr Delay (d2), s/veh	7.1	0.0	0.3	0.1	0.0	0.1	8.0	3.7	3.5	28.0	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.4	0.6	5.5	1.7	0.0	1.8	7.9	19.9	20.7	0.2	0.9	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.7	29.1	31.8	30.5	0.0	29.7	61.1	21.3	21.2	87.6	1.6	1.6
LnGrp LOS	D	C	C	C	A	C	E	C	C	F	A	A
Approach Vol, veh/h	513			92			1694			1012		
Approach Delay, s/veh	43.7			30.0			27.7			1.8		
Approach LOS	D			C			C			A		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	4.8	73.8	41.4		16.3	62.4	41.4					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.1	57.9	43.5		15.9	47.1	43.5					
Max Q Clear Time (g_c+I1), s	2.1	34.9	35.7		11.4	3.7	5.8					
Green Ext Time (p_c), s	0.0	11.2	1.2		0.4	7.7	0.4					
Intersection Summary												
HCM 6th Ctrl Delay	22.3											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 17: Adoree St/I-5 NB Off-Ramp & Norwalk Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	0	114	121	89	600	93	913	0	0	1028	83
Future Volume (veh/h)	78	0	114	121	89	600	93	913	0	0	1028	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	1856	0	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	101	0	148	146	107	723	116	1141	0	0	1318	106
Peak Hour Factor	0.77	0.77	0.77	0.83	0.83	0.83	0.80	0.80	0.80	0.78	0.78	0.78
Percent Heavy Veh, %	3	0	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	0	0	0	450	1092	680	154	2495	0	0	1959	158
Arrive On Green	0.00	0.00	0.00	0.43	0.43	0.43	0.01	0.16	0.00	0.00	0.82	0.82
Sat Flow, veh/h		0		1041	2526	1572	3428	5233	0	0	4946	384
Grp Volume(v), veh/h	0.0			253	0	723	116	1141	0	0	931	493
Grp Sat Flow(s),veh/h/ln				1804	1763	1572	1714	1689	0	0	1689	1786
Q Serve(g_s), s				11.1	0.0	51.9	4.0	24.5	0.0	0.0	13.3	13.3
Cycle Q Clear(g_c), s				11.1	0.0	51.9	4.0	24.5	0.0	0.0	13.3	13.3
Prop In Lane				0.58		1.00	1.00		0.00	0.00		0.22
Lane Grp Cap(c), veh/h				780	762	680	154	2495	0	0	1385	732
V/C Ratio(X)				0.32	0.00	1.06	0.75	0.46	0.00	0.00	0.67	0.67
Avail Cap(c_a), veh/h				780	762	680	154	2495	0	0	1385	732
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.88	0.88	0.00	0.00	0.96	0.96
Uniform Delay (d), s/veh				22.5	0.0	34.0	58.4	35.7	0.0	0.0	7.6	7.6
Incr Delay (d2), s/veh				0.2	0.0	52.5	16.6	0.5	0.0	0.0	2.5	4.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				8.3	0.0	39.7	3.9	16.3	0.0	0.0	5.6	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				22.7	0.0	86.6	75.0	36.3	0.0	0.0	10.1	12.3
LnGrp LOS				C	A	F	E	D	A	A	B	B
Approach Vol, veh/h				976			1257			1424		
Approach Delay, s/veh				70.0			39.8			10.8		
Approach LOS				E			D			B		
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	63.6			9.9			53.7			56.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	46.1			5.4			36.2			51.9		
Max Q Clear Time (g_c+I1), s	26.5			6.0			15.3			53.9		
Green Ext Time (p_c), s	8.3			0.0			10.4			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	36.6											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary 18: San Antonio Dr & Frontage Rd/I-5 SB On-Ramp

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	256	98	0	0	0	0	948	249	294	968	0
Future Volume (veh/h)	68	256	98	0	0	0	0	948	249	294	968	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	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	72	272	104				0	1129	296	359	1180	0
Peak Hour Factor	0.94	0.94	0.94				0.84	0.84	0.84	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	181	381	161				0	2629	689	435	4166	0
Arrive On Green	0.10	0.10	0.10				0.00	0.66	0.66	0.13	0.82	0.00
Sat Flow, veh/h	1767	3711	1572				0	4163	1048	3428	5233	0
Grp Volume(v), veh/h	72	272	104				0	954	471	359	1180	0
Grp Sat Flow(s),veh/h/ln	1767	1856	1572				0	1689	1667	1714	1689	0
Q Serve(g_s), s	4.6	8.5	7.6				0.0	16.2	16.2	12.3	6.5	0.0
Cycle Q Clear(g_c), s	4.6	8.5	7.6				0.0	16.2	16.2	12.3	6.5	0.0
Prop In Lane	1.00		1.00				0.00		0.63	1.00		0.00
Lane Grp Cap(c), veh/h	181	381	161				0	2221	1097	435	4166	0
V/C Ratio(X)	0.40	0.71	0.64				0.00	0.43	0.43	0.82	0.28	0.00
Avail Cap(c_a), veh/h	331	696	295				0	2221	1097	729	4166	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)	0.89	0.89	0.89				0.00	0.73	0.73	0.29	0.29	0.00
Uniform Delay (d), s/veh	50.4	52.1	51.7				0.0	9.8	9.8	51.1	2.5	0.0
Incr Delay (d2), s/veh	1.2	2.2	3.8				0.0	0.4	0.9	1.2	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	3.8	7.2	5.7				0.0	9.2	9.3	7.4	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.6	54.4	55.5				0.0	10.2	10.7	52.3	2.5	0.0
LnGrp LOS	D	D	E				A	B	B	D	A	A
Approach Vol, veh/h	448						1425			1539		
Approach Delay, s/veh	54.2						10.4			14.1		
Approach LOS	D						B			B		
Timer - Assigned Phs	1	2		4			6					
Phs Duration (G+Y+Rc), s	19.7	83.4		16.8			103.2					
Change Period (Y+Rc), s	4.5	4.5		4.5			4.5					
Max Green Setting (Gmax), s	25.5	58.5		22.5			88.5					
Max Q Clear Time (g_c+I1), s	14.3	18.2		10.5			8.5					
Green Ext Time (p_c), s	1.0	14.1		1.8			12.1					
Intersection Summary												
HCM 6th Ctrl Delay			17.8									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Summary

19: San Antonio Dr & Firestone Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	348	44	38	335	52	62	844	80	80	676	171
Future Volume (veh/h)	194	348	44	38	335	52	62	844	80	80	676	171
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	220	395	50	42	368	57	74	1005	95	98	824	209
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.84	0.84	0.84	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	250	835	372	55	447	199	94	1810	807	121	2131	537
Arrive On Green	0.14	0.24	0.24	0.03	0.13	0.13	0.05	0.51	0.51	0.14	1.00	1.00
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	4034	1016
Grp Volume(v), veh/h	220	395	50	42	368	57	74	1005	95	98	689	344
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1689	1673
Q Serve(g_s), s	14.6	11.6	3.0	2.8	12.2	3.9	5.0	23.3	3.8	6.5	0.0	0.0
Cycle Q Clear(g_c), s	14.6	11.6	3.0	2.8	12.2	3.9	5.0	23.3	3.8	6.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.61
Lane Grp Cap(c), veh/h	250	835	372	55	447	199	94	1810	807	121	1784	884
V/C Ratio(X)	0.88	0.47	0.13	0.76	0.82	0.29	0.78	0.56	0.12	0.81	0.39	0.39
Avail Cap(c_a), veh/h	346	1022	456	106	544	242	158	1810	807	184	1784	884
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)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.96	0.96	0.96
Uniform Delay (d), s/veh	50.5	39.4	36.1	57.7	51.1	47.5	56.1	19.9	15.1	51.0	0.0	0.0
Incr Delay (d2), s/veh	17.2	0.4	0.2	18.7	8.4	0.8	1.3	0.1	0.0	14.1	0.6	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	12.2	8.8	2.1	2.8	9.9	2.9	3.0	10.9	1.9	5.7	0.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	39.8	36.3	76.3	59.5	48.3	57.4	20.0	15.1	65.1	0.6	1.2
LnGrp LOS	E	D	D	E	E	D	E	B	B	E	A	A
Approach Vol, veh/h	665			467			1174			1131		
Approach Delay, s/veh	48.7			59.6			22.0			6.4		
Approach LOS	D			E			C			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.7	66.1	8.3	32.9	10.9	67.9	21.5	19.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	47.5	7.2	34.8	10.7	49.3	23.5	18.5				
Max Q Clear Time (g_c+I1), s	8.5	25.3	4.8	13.6	7.0	2.0	16.6	14.2				
Green Ext Time (p_c), s	0.1	8.1	0.0	2.7	0.0	9.1	0.3	1.0				
Intersection Summary												
HCM 6th Ctrl Delay	27.1											
HCM 6th LOS	C											

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022

												
Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	67	322	554	132	33	551	45	23	98	363	270	29
Future Volume (vph)	67	322	554	132	33	551	45	23	98	363	270	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00	1.00	0.91			1.00	0.91	0.91	
Frt		1.00	1.00	0.85	1.00	0.98			1.00	0.97	0.85	
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (prot)		1752	3505	1568	1752	4953			1752	3251	1427	
Flt Permitted		0.36	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (perm)		658	3505	1568	1752	4953			1752	3251	1427	
Peak-hour factor, PHF	0.85	0.85	0.85	1.00	0.83	0.83	0.83	0.83	0.96	0.96	0.96	0.96
Adj. Flow (vph)	79	379	652	132	40	664	54	28	102	378	281	30
RTOR Reduction (vph)	0	0	0	62	0	0	0	0	0	0	88	0
Lane Group Flow (vph)	0	458	652	70	40	746	0	0	102	479	122	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	NA			Prot	NA	Perm	
Protected Phases	7		4		3	8			5	2		
Permitted Phases		4		4							2	
Actuated Green, G (s)		65.4	65.4	65.4	4.0	73.9			6.5	34.6	34.6	
Effective Green, g (s)		65.4	65.4	65.4	4.0	73.9			6.5	34.6	34.6	
Actuated g/C Ratio		0.47	0.47	0.47	0.03	0.53			0.05	0.25	0.25	
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		307	1637	732	50	2614			81	803	352	
v/s Ratio Prot			0.19		c0.02	0.15			c0.06	c0.15		
v/s Ratio Perm		c0.70		0.04							0.09	
v/c Ratio		1.49	0.40	0.10	0.80	0.29			1.26	0.60	0.35	
Uniform Delay, d1		37.3	24.4	20.8	67.6	18.4			66.8	46.5	43.4	
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2		237.9	0.2	0.1	59.1	0.1			184.8	3.3	2.7	
Delay (s)		275.2	24.6	20.9	126.7	18.4			251.6	49.8	46.1	
Level of Service		F	C	C	F	B			F	D	D	
Approach Delay (s)			116.6			23.9				74.8		
Approach LOS			F			C				E		
Intersection Summary												
HCM 2000 Control Delay			76.4			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.19									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			78.1%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022



Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	7	63	329	110	24	212	147	1
Future Volume (vph)	7	63	329	110	24	212	147	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00		0.97	0.91	
Frt		1.00	1.00	0.85		0.98	0.85	
Flt Protected		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1752	3505	1568		3371	1427	
Flt Permitted		0.42	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		771	3505	1568		3371	1427	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.78	0.78	0.78	0.78
Adj. Flow (vph)	8	71	370	124	31	272	188	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	79	370	124	0	339	153	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	Prot	Perm	
Protected Phases	1		6		12	12		
Permitted Phases		6		6			12	
Actuated Green, G (s)		23.6	23.6	23.6		18.0	18.0	
Effective Green, g (s)		23.6	23.6	23.6		18.0	18.0	
Actuated g/C Ratio		0.17	0.17	0.17		0.13	0.13	
Clearance Time (s)		4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		129	590	264		433	183	
v/s Ratio Prot			0.11			0.10		
v/s Ratio Perm		0.10		0.08			c0.11	
v/c Ratio		0.61	0.63	0.47		0.78	0.84	
Uniform Delay, d1		54.0	54.1	52.5		59.1	59.6	
Progression Factor		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		19.8	5.0	5.9		13.2	34.3	
Delay (s)		73.8	59.1	58.4		72.3	93.8	
Level of Service		E	E	E		E	F	
Approach Delay (s)			61.0			79.0		
Approach LOS			E			E		
Intersection Summary								

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↑↑↑	↗ ↑↑↑			↗ ↑↑↑
Traffic Vol, veh/h	0	67	1040	50	0	808
Future Vol, veh/h	0	67	1040	50	0	808
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, %	0	0	3	3	3	3
Mvmt Flow	0	73	1130	54	0	878
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	592	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	389	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	389	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	16.4	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 389		-		
HCM Lane V/C Ratio	-	- 0.187		-		
HCM Control Delay (s)	-	- 16.4		-		
HCM Lane LOS	-	- C		-		
HCM 95th %tile Q(veh)	-	- 0.7		-		

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	0	156	23	0	11
Future Vol, veh/h	2	0	156	23	0	11
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	2	0	170	25	0	12
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	195	183	0	0	195	0
Stage 1	183	-	-	-	-	-
Stage 2	12	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	794	859	-	-	1378	-
Stage 1	848	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	794	859	-	-	1378	-
Mov Cap-2 Maneuver	794	-	-	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.5	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	794	1378	-	
HCM Lane V/C Ratio	-	-	0.003	-	-	
HCM Control Delay (s)	-	-	9.5	0	-	
HCM Lane LOS	-	-	A	A	-	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	16	14	72	88	0
Future Vol, veh/h	9	16	14	72	88	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	17	15	78	96	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	204	96	96
Stage 1	96	-	-
Stage 2	108	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	784	960	1498
Stage 1	928	-	-
Stage 2	916	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	776	960	1498
Mov Cap-2 Maneuver	776	-	-
Stage 1	919	-	-
Stage 2	916	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1498	-	884	-	-
HCM Lane V/C Ratio	0.01	-	0.031	-	-
HCM Control Delay (s)	7.4	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	0	0	77	115	0
Future Vol, veh/h	19	0	0	77	115	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	0	0	84	125	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	84	0	-	0	84	42
Stage 1	-	-	-	-	42	-
Stage 2	-	-	-	-	42	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1513	-	-	-	918	1029
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	980	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1513	-	-	-	905	1029
Mov Cap-2 Maneuver	-	-	-	-	905	-
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	980	-
Approach	EB	WB		SB		
HCM Control Delay, s	7.4	0		9.6		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1513	-	-	-	905	
HCM Lane V/C Ratio	0.014	-	-	-	0.138	
HCM Control Delay (s)	7.4	0	-	-	9.6	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.5	

HCM 6th Signalized Intersection Summary

1: Norwalk Bl & Lakeland Rd

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	145	25	188	245	196	42	645	200	102	824	63
Future Volume (veh/h)	20	145	25	188	245	196	42	645	200	102	824	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	1900	1900	1900	1900	1900	1900	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	22	163	28	258	336	268	51	777	241	111	896	68
Peak Hour Factor	0.89	0.89	0.89	0.73	0.73	0.73	0.83	0.83	0.83	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	3	3	3	3	3	3
Cap, veh/h	74	473	76	417	631	535	317	1504	466	295	1886	143
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	90	1423	229	1211	1900	1610	578	2649	822	549	3321	252
Grp Volume(v), veh/h	213	0	0	258	336	268	51	517	501	111	476	488
Grp Sat Flow(s),veh/h/ln	1742	0	0	1211	1900	1610	578	1763	1708	549	1763	1810
Q Serve(g_s), s	0.0	0.0	0.0	11.3	12.9	12.0	5.1	16.1	16.1	13.9	14.4	14.4
Cycle Q Clear(g_c), s	7.8	0.0	0.0	22.4	12.9	12.0	19.3	16.1	16.1	29.8	14.4	14.4
Prop In Lane	0.10		0.13	1.00		1.00	1.00		0.48	1.00		0.14
Lane Grp Cap(c), veh/h	623	0	0	417	631	535	317	1001	970	295	1001	1028
V/C Ratio(X)	0.34	0.00	0.00	0.62	0.53	0.50	0.16	0.52	0.52	0.38	0.48	0.48
Avail Cap(c_a), veh/h	652	0	0	439	665	564	317	1001	970	295	1001	1028
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	0.0	29.0	24.4	24.1	17.1	11.9	11.9	20.9	11.5	11.5
Incr Delay (d2), s/veh	0.3	0.0	0.0	2.4	0.7	0.7	1.0	1.8	1.8	3.6	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	6.1	0.0	0.0	9.0	9.7	8.1	1.4	10.3	10.0	3.6	9.5	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.0	0.0	0.0	31.4	25.1	24.8	18.2	13.7	13.7	24.5	13.1	13.1
LnGrp LOS	C	A	A	C	C	C	B	B	B	C	B	B
Approach Vol, veh/h		213			862			1069			1075	
Approach Delay, s/veh		23.0			26.9			13.9			14.3	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.1		32.9		57.1		32.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		49.5		31.5		49.5		31.5				
Max Q Clear Time (g_c+I1), s		21.3		9.8		31.8		24.4				
Green Ext Time (p_c), s		8.6		1.2		7.3		2.4				
Intersection Summary												
HCM 6th Ctrl Delay				18.1								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Norwalk Bl & Crewe St

05/06/2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	85	71	69	850	1092	25
Future Volume (veh/h)	85	71	69	850	1092	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1856	1856	1856	1856
Adj Flow Rate, veh/h	108	90	78	955	1162	27
Peak Hour Factor	0.79	0.79	0.89	0.89	0.94	0.94
Percent Heavy Veh, %	0	0	3	3	3	3
Cap, veh/h	154	137	418	2874	2871	67
Arrive On Green	0.08	0.08	0.82	0.82	0.82	0.82
Sat Flow, veh/h	1810	1610	467	3618	3615	82
Grp Volume(v), veh/h	108	90	78	955	582	607
Grp Sat Flow(s),veh/h/ln	1810	1610	467	1763	1763	1841
Q Serve(g_s), s	5.2	4.9	5.0	6.2	8.2	8.2
Cycle Q Clear(g_c), s	5.2	4.9	13.2	6.2	8.2	8.2
Prop In Lane	1.00	1.00	1.00			0.04
Lane Grp Cap(c), veh/h	154	137	418	2874	1437	1500
V/C Ratio(X)	0.70	0.66	0.19	0.33	0.40	0.40
Avail Cap(c_a), veh/h	432	385	418	2874	1437	1500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.52	0.52	0.82	0.82
Uniform Delay (d), s/veh	40.1	39.9	4.1	2.1	2.3	2.3
Incr Delay (d2), s/veh	5.7	5.3	0.5	0.2	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	3.8	0.8	2.2	3.2	3.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.8	45.2	4.6	2.3	3.0	3.0
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	198			1033	1189	
Approach Delay, s/veh	45.5			2.4	3.0	
Approach LOS	D			A	A	
Timer - Assigned Phs	2		4		6	
Phs Duration (G+Y+Rc), s	77.9		12.1		77.9	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	59.5		21.5		59.5	
Max Q Clear Time (g_c+I1), s	15.2		7.2		10.2	
Green Ext Time (p_c), s	10.5		0.5		10.9	
Intersection Summary						
HCM 6th Ctrl Delay			6.2			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

3: Firestone Bl & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑	↑	↑↑	↑↑		↑↑	↑↑↑	
Traffic Volume (veh/h)	0	1367	316	6	1201	359	340	474	16	392	445	1
Future Volume (veh/h)	0	1367	316	6	1201	359	340	474	16	392	445	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1470	340	7	1334	399	370	515	0	431	489	1
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	0	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	1755	404	87	2161	671	439	1107		503	1738	4
Arrive On Green	0.00	0.43	0.43	0.14	0.14	0.14	0.13	0.31	0.00	0.15	0.33	0.33
Sat Flow, veh/h	0	4282	948	257	5066	1572	3428	3618	0	3428	5220	11
Grp Volume(v), veh/h	0	1205	605	7	1334	399	370	515	0	431	316	174
Grp Sat Flow(s),veh/h/ln	0	1689	1685	257	1689	1572	1714	1763	0	1714	1689	1854
Q Serve(g_s), s	0.0	38.2	38.5	3.2	29.7	28.6	12.7	14.1	0.0	14.7	8.3	8.3
Cycle Q Clear(g_c), s	0.0	38.2	38.5	41.7	29.7	28.6	12.7	14.1	0.0	14.7	8.3	8.3
Prop In Lane	0.00		0.56	1.00		1.00	1.00		0.00	1.00		0.01
Lane Grp Cap(c), veh/h	0	1441	719	87	2161	671	439	1107		503	1124	617
V/C Ratio(X)	0.00	0.84	0.84	0.08	0.62	0.59	0.84	0.47		0.86	0.28	0.28
Avail Cap(c_a), veh/h	0	1534	765	94	2301	714	586	1107		657	1124	617
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.46	0.46	0.46	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	30.7	30.8	66.2	42.3	41.8	51.1	33.1	0.0	50.0	29.5	29.5
Incr Delay (d2), s/veh	0.0	4.0	8.0	0.2	0.2	0.6	8.3	1.4	0.0	8.7	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	22.6	23.7	0.4	17.6	16.0	9.9	10.3	0.0	11.2	6.3	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	34.7	38.8	66.4	42.5	42.4	59.5	34.5	0.0	58.7	30.1	30.6
LnGrp LOS	A	C	D	E	D	D	E	C		E	C	C
Approach Vol, veh/h		1810			1740			885	A		921	
Approach Delay, s/veh		36.1			42.6			44.9			43.6	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.1	42.2		55.7	19.9	44.4		55.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	23.0	29.0		54.5	20.5	31.5		54.5				
Max Q Clear Time (g_c+I1), s	16.7	16.1		40.5	14.7	10.3		43.7				
Green Ext Time (p_c), s	0.9	2.8		10.1	0.7	3.1		7.5				
Intersection Summary												
HCM 6th Ctrl Delay				40.9								
HCM 6th LOS				D								
Notes												
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Summary

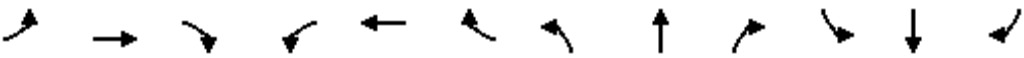
4: Pioneer Bl & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 		 	 	
Traffic Volume (veh/h)	326	1281	65	212	1210	137	51	575	297	174	485	437
Future Volume (veh/h)	326	1281	65	212	1210	137	51	575	297	174	485	437
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	398	1562	79	247	1407	159	53	599	309	179	500	451
Peak Hour Factor	0.82	0.82	0.82	0.86	0.86	0.86	0.96	0.96	0.96	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	426	1955	607	275	1523	473	68	848	378	233	952	425
Arrive On Green	0.24	0.39	0.39	0.16	0.30	0.30	0.04	0.24	0.24	0.07	0.27	0.27
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	398	1562	79	247	1407	159	53	599	309	179	500	451
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1714	1763	1572
Q Serve(g_s), s	26.5	32.9	3.9	16.5	32.3	9.4	3.6	18.7	22.3	6.2	14.5	32.4
Cycle Q Clear(g_c), s	26.5	32.9	3.9	16.5	32.3	9.4	3.6	18.7	22.3	6.2	14.5	32.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	426	1955	607	275	1523	473	68	848	378	233	952	425
V/C Ratio(X)	0.94	0.80	0.13	0.90	0.92	0.34	0.78	0.71	0.82	0.77	0.53	1.06
Avail Cap(c_a), veh/h	464	1971	612	314	1541	478	93	848	378	243	952	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	0.49	0.81	0.81	0.81	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	32.7	23.8	49.7	40.6	32.7	57.2	41.7	43.1	55.0	37.3	43.8
Incr Delay (d2), s/veh	15.3	1.2	0.0	21.4	8.1	0.3	24.5	4.9	17.5	13.3	2.1	61.1
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	17.5	17.7	2.6	13.3	20.0	6.5	3.7	13.5	15.8	5.6	10.7	28.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	33.9	23.9	71.1	48.8	33.0	81.7	46.6	60.6	68.3	39.3	104.9
LnGrp LOS	E	C	C	E	D	C	F	D	E	E	D	F
Approach Vol, veh/h		2039			1813			961			1130	
Approach Delay, s/veh		38.6			50.4			53.0			70.1	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.7	33.4	23.2	50.8	9.1	36.9	33.4	40.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	25.5	21.3	46.7	6.3	27.7	31.5	36.5				
Max Q Clear Time (g_c+I1), s	8.2	24.3	18.5	34.9	5.6	34.4	28.5	34.3				
Green Ext Time (p_c), s	0.0	0.7	0.2	8.2	0.0	0.0	0.4	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			50.5									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary 5: Frontage Rd/I-5 SB Off-Ramp & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑↑	
Traffic Volume (veh/h)	0	1692	224	14	1452	0	0	0	0	341	171	164
Future Volume (veh/h)	0	1692	224	14	1452	0	0	0	0	341	171	164
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	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1901	252	15	1596	0				253	374	184
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91				0.89	0.89	0.89
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	2552	792	58	2852	0				623	832	403
Arrive On Green	0.00	0.50	0.50	0.02	0.56	0.00				0.35	0.35	0.35
Sat Flow, veh/h	0	5233	1572	3428	5233	0				1767	2362	1144
Grp Volume(v), veh/h	0	1901	252	15	1596	0				253	293	265
Grp Sat Flow(s),veh/h/ln	0	1689	1572	1714	1689	0				1767	1856	1650
Q Serve(g_s), s	0.0	31.7	10.1	0.5	21.4	0.0				11.5	12.9	13.2
Cycle Q Clear(g_c), s	0.0	31.7	10.1	0.5	21.4	0.0				11.5	12.9	13.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.69
Lane Grp Cap(c), veh/h	0	2552	792	58	2852	0				623	654	581
V/C Ratio(X)	0.00	0.74	0.32	0.26	0.56	0.00				0.41	0.45	0.46
Avail Cap(c_a), veh/h	0	3023	938	177	3499	0				623	654	581
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	1.00	1.00	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	15.6	51.7	14.8	0.0				26.0	26.5	26.6
Incr Delay (d2), s/veh	0.0	0.9	0.2	2.4	0.2	0.0				2.0	2.2	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
%ile BackOfQ(95%),veh/ln	0.0	17.8	6.4	0.4	12.4	0.0				8.9	10.1	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.8	15.8	54.0	15.0	0.0				28.0	28.7	29.2
LnGrp LOS	A	C	B	D	B	A				C	C	C
Approach Vol, veh/h		2153			1611						811	
Approach Delay, s/veh		21.1			15.4						28.6	
Approach LOS		C			B						C	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			6.3	58.1		42.0		64.4				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			5.5	63.5		37.5		73.5				
Max Q Clear Time (g_c+I1), s			2.5	33.7		15.2		23.4				
Green Ext Time (p_c), s			0.0	19.9		4.4		18.7				
Intersection Summary												
HCM 6th Ctrl Delay			20.4									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

6: Adoree St/I-5 NB On-Ramp & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	1756	126	4	1341	740	132	147	12	0	0	0
Future Volume (veh/h)	160	1756	126	4	1341	740	132	147	12	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	176	1930	138	5	1524	841	157	175	14			
Peak Hour Factor	0.91	0.91	0.91	0.88	0.88	0.88	0.84	0.84	0.84			
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3			
Cap, veh/h	232	2206	156	11	3036	943	390	389	347			
Arrive On Green	0.07	0.66	0.66	0.01	0.60	0.60	0.22	0.22	0.22			
Sat Flow, veh/h	3428	3340	236	1767	5066	1572	1767	1763	1572			
Grp Volume(v), veh/h	176	1007	1061	5	1524	841	157	175	14			
Grp Sat Flow(s),veh/h/ln	1714	1763	1813	1767	1689	1572	1767	1763	1572			
Q Serve(g_s), s	6.1	54.3	57.4	0.3	20.7	55.3	9.1	10.3	0.8			
Cycle Q Clear(g_c), s	6.1	54.3	57.4	0.3	20.7	55.3	9.1	10.3	0.8			
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	232	1165	1198	11	3036	943	390	389	347			
V/C Ratio(X)	0.76	0.87	0.89	0.44	0.50	0.89	0.40	0.45	0.04			
Avail Cap(c_a), veh/h	274	1197	1231	75	3250	1009	390	389	347			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.68	0.68	0.68	0.38	0.38	0.38	1.00	1.00	1.00			
Uniform Delay (d), s/veh	55.0	16.1	16.6	59.4	13.8	20.7	40.0	40.5	36.8			
Incr Delay (d2), s/veh	6.9	4.7	5.6	10.0	0.0	4.1	3.1	3.7	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	5.1	27.6	30.0	0.3	10.4	24.5	7.7	8.5	0.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.8	20.8	22.2	69.4	13.8	24.8	43.1	44.2	37.0			
LnGrp LOS	E	C	C	E	B	C	D	D	D			
Approach Vol, veh/h	2244			2370			346					
Approach Delay, s/veh	24.7			17.8			43.4					
Approach LOS	C			B			D					
Timer - Assigned Phs	2			4			7			8		
Phs Duration (G+Y+Rc), s	31.0			5.3			12.6			76.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.9			5.1			9.6			77.0		
Max Q Clear Time (g_c+I1), s	12.3			2.3			8.1			57.3		
Green Ext Time (p_c), s	1.1			0.0			0.1			14.7		
Intersection Summary												
HCM 6th Ctrl Delay	22.7											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 7: Kalnor Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 							
Traffic Volume (veh/h)	81	1350	25	27	1869	109	13	18	24	85	22	69
Future Volume (veh/h)	81	1350	25	27	1869	109	13	18	24	85	22	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	91	1517	28	29	1988	116	18	25	33	91	24	75
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.73	0.73	0.73	0.93	0.93	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	115	3502	65	47	2275	1015	123	155	270	221	68	212
Arrive On Green	0.07	0.68	0.68	0.03	0.65	0.65	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1767	5121	95	1767	3526	1572	461	924	1610	1366	405	1267
Grp Volume(v), veh/h	91	1000	545	29	1988	116	43	0	33	91	0	99
Grp Sat Flow(s),veh/h/ln	1767	1689	1839	1767	1763	1572	1384	0	1610	1366	0	1672
Q Serve(g_s), s	5.6	14.7	14.7	1.8	50.7	3.1	0.1	0.0	1.9	7.0	0.0	5.8
Cycle Q Clear(g_c), s	5.6	14.7	14.7	1.8	50.7	3.1	5.9	0.0	1.9	12.9	0.0	5.8
Prop In Lane	1.00		0.05	1.00		1.00	0.42		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	115	2309	1257	47	2275	1015	278	0	270	221	0	280
V/C Ratio(X)	0.79	0.43	0.43	0.62	0.87	0.11	0.15	0.00	0.12	0.41	0.00	0.35
Avail Cap(c_a), veh/h	168	2497	1359	101	2473	1103	278	0	270	221	0	280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.9	7.9	7.9	53.2	15.9	7.5	39.2	0.0	39.1	46.4	0.0	40.7
Incr Delay (d2), s/veh	14.5	0.1	0.2	12.3	3.6	0.0	1.2	0.0	0.9	5.6	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.3	8.5	9.2	1.7	26.6	1.8	2.0	0.0	1.5	4.9	0.0	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.5	8.0	8.1	65.5	19.5	7.6	40.4	0.0	40.0	52.0	0.0	44.2
LnGrp LOS	E	A	A	E	B	A	D	A	D	D	A	D
Approach Vol, veh/h	1636		2133			76			190			
Approach Delay, s/veh	11.2		19.5			40.2			47.9			
Approach LOS	B		B			D			D			
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	23.0		7.4		80.1		23.0		11.7		75.8	
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5			
Max Green Setting (Gmax), s	18.5		6.3		81.7		18.5		10.5		77.5	
Max Q Clear Time (g_c+I1), s	7.9		3.8		16.7		14.9		7.6		52.7	
Green Ext Time (p_c), s	0.2		0.0		17.4		0.2		0.0		18.7	
Intersection Summary												
HCM 6th Ctrl Delay			17.9									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

8: Imperial Highway & Norwalk Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			  	
Traffic Volume (veh/h)	169	1250	79	258	1635	100	235	644	157	156	781	178
Future Volume (veh/h)	169	1250	79	258	1635	100	235	644	157	156	781	178
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	176	1302	82	280	1777	109	287	785	191	175	878	200
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.82	0.82	0.82	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	199	1540	478	302	1836	570	308	926	413	199	1019	316
Arrive On Green	0.11	0.30	0.30	0.17	0.36	0.36	0.35	0.53	0.53	0.11	0.20	0.20
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	1767	5066	1572
Grp Volume(v), veh/h	176	1302	82	280	1777	109	287	785	191	175	878	200
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1767	1689	1572
Q Serve(g_s), s	11.8	28.9	4.6	18.7	41.3	5.7	18.8	22.9	9.1	11.7	20.1	14.0
Cycle Q Clear(g_c), s	11.8	28.9	4.6	18.7	41.3	5.7	18.8	22.9	9.1	11.7	20.1	14.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	199	1540	478	302	1836	570	308	926	413	199	1019	316
V/C Ratio(X)	0.89	0.85	0.17	0.93	0.97	0.19	0.93	0.85	0.46	0.88	0.86	0.63
Avail Cap(c_a), veh/h	199	1541	478	302	1836	570	317	926	413	199	1019	316
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	0.35	0.35	0.35	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	52.5	39.1	30.7	49.0	37.6	26.2	38.4	26.4	23.2	52.5	46.3	43.9
Incr Delay (d2), s/veh	31.9	4.1	0.2	15.9	6.7	0.1	33.2	9.5	3.7	31.2	8.8	8.5
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	11.1	18.0	3.2	12.6	22.0	3.6	14.7	13.1	6.0	11.0	14.0	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.4	43.2	30.8	64.9	44.3	26.3	71.6	35.9	26.9	83.6	55.1	52.4
LnGrp LOS	F	D	C	E	D	C	E	D	C	F	E	D
Approach Vol, veh/h		1560			2166			1263			1253	
Approach Delay, s/veh		47.2			46.1			42.7			58.7	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	36.0	25.0	41.0	25.4	28.6	18.0	48.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	31.5	20.5	36.5	21.5	23.5	13.5	43.5				
Max Q Clear Time (g_c+I1), s	13.7	24.9	20.7	30.9	20.8	22.1	13.8	43.3				
Green Ext Time (p_c), s	0.0	3.2	0.0	3.9	0.1	0.9	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			48.2									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

9: Avenida Manuel Salinas & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	72	1329	90	84	1728	79	183	18	56	44	15	50
Future Volume (veh/h)	72	1329	90	84	1728	79	183	18	56	44	15	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	82	1510	102	93	1920	88	458	45	140	50	17	57
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.40	0.40	0.40	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	102	2059	639	117	2100	652	606	140	435	347	71	239
Arrive On Green	0.12	0.81	0.81	0.07	0.41	0.41	0.19	0.34	0.34	0.03	0.19	0.19
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1810	407	1265	1810	383	1285
Grp Volume(v), veh/h	82	1510	102	93	1920	88	458	0	185	50	0	74
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1810	0	1672	1810	0	1669
Q Serve(g_s), s	5.4	16.6	1.7	6.2	42.9	4.2	23.0	0.0	9.8	2.7	0.0	4.5
Cycle Q Clear(g_c), s	5.4	16.6	1.7	6.2	42.9	4.2	23.0	0.0	9.8	2.7	0.0	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	1.00		0.77
Lane Grp Cap(c), veh/h	102	2059	639	117	2100	652	606	0	575	347	0	310
V/C Ratio(X)	0.80	0.73	0.16	0.80	0.91	0.13	0.76	0.00	0.32	0.14	0.00	0.24
Avail Cap(c_a), veh/h	128	2059	639	191	2132	662	606	0	575	363	0	310
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.51	0.51	0.51	0.70	0.70	0.70	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.4	8.2	6.8	55.2	33.1	21.8	30.2	0.0	29.1	37.6	0.0	41.6
Incr Delay (d2), s/veh	13.6	0.7	0.1	8.4	4.8	0.1	8.5	0.0	1.5	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	4.6	5.2	1.0	5.4	23.9	2.8	17.7	0.0	7.5	2.2	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.9	8.9	6.9	63.6	37.9	21.8	38.7	0.0	30.5	37.8	0.0	43.4
LnGrp LOS	E	A	A	E	D	C	D	A	C	D	A	D
Approach Vol, veh/h		1694			2101			643			124	
Approach Delay, s/veh		11.5			38.4			36.4			41.2	
Approach LOS		B			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	45.7	12.4	53.3	27.5	26.8	11.5	54.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	37.7	13.0	46.2	23.0	19.8	8.7	50.5				
Max Q Clear Time (g_c+I1), s	4.7	11.8	8.2	18.6	25.0	6.5	7.4	44.9				
Green Ext Time (p_c), s	0.0	1.1	0.1	14.0	0.0	0.2	0.0	4.9				
Intersection Summary												
HCM 6th Ctrl Delay			28.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Imperial Highway & Volunteer Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	19	1357	37	212	1762	82	121	47	76	53	12	23
Future Volume (veh/h)	19	1357	37	212	1762	82	121	47	76	53	12	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	22	1596	44	238	1980	92	224	87	141	60	14	26
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.54	0.54	0.54	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	129	2174	60	294	2832	131	345	221	358	308	65	545
Arrive On Green	0.43	0.43	0.43	0.10	0.57	0.57	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	199	5068	140	1767	4961	230	1389	652	1057	716	193	1610
Grp Volume(v), veh/h	22	1063	577	238	1346	726	224	0	228	74	0	26
Grp Sat Flow(s),veh/h/ln	199	1689	1830	1767	1689	1814	1389	0	1710	909	0	1610
Q Serve(g_s), s	8.8	26.0	26.0	7.0	28.2	28.4	15.3	0.0	10.1	4.0	0.0	1.1
Cycle Q Clear(g_c), s	23.1	26.0	26.0	7.0	28.2	28.4	29.4	0.0	10.1	14.0	0.0	1.1
Prop In Lane	1.00		0.08	1.00		0.13	1.00		0.62	0.81		1.00
Lane Grp Cap(c), veh/h	129	1449	785	294	1928	1036	345	0	578	373	0	545
V/C Ratio(X)	0.17	0.73	0.73	0.81	0.70	0.70	0.65	0.00	0.39	0.20	0.00	0.05
Avail Cap(c_a), veh/h	145	1722	933	525	2643	1420	345	0	578	373	0	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.5	23.6	23.6	20.1	15.2	15.2	38.1	0.0	25.0	29.0	0.0	22.0
Incr Delay (d2), s/veh	0.6	1.4	2.5	5.3	0.5	0.9	9.1	0.0	2.0	1.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	15.5	16.9	5.5	15.3	16.5	10.0	0.0	7.8	2.8	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	24.9	26.1	25.4	15.7	16.1	47.2	0.0	27.0	30.1	0.0	22.2
LnGrp LOS	C	C	C	C	B	B	D	A	C	C	A	C
Approach Vol, veh/h	1662				2310		452				100	
Approach Delay, s/veh	25.4				16.8		37.0				28.1	
Approach LOS	C				B		D				C	
Timer - Assigned Phs	2		3		4		6		8			
Phs Duration (G+Y+Rc), s	38.0		14.0		47.0		38.0		61.0			
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5			
Max Green Setting (Gmax), s	33.5		22.5		50.5		33.5		77.5			
Max Q Clear Time (g_c+I1), s	31.4		9.0		28.0		16.0		30.4			
Green Ext Time (p_c), s	0.5		0.6		13.4		0.4		26.2			
Intersection Summary												
HCM 6th Ctrl Delay			22.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Bloomfield Ave & Imperial Highway

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	207	1359	174	293	1083	137	163	520	385	228	715	325
Future Volume (veh/h)	207	1359	174	293	1083	137	163	520	385	228	715	325
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	227	1493	191	305	1128	143	190	605	448	278	872	396
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.86	0.86	0.86	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	255	1499	465	317	1505	191	199	734	328	295	925	413
Arrive On Green	0.14	0.30	0.30	0.18	0.33	0.33	0.11	0.21	0.21	0.17	0.26	0.26
Sat Flow, veh/h	1767	5066	1572	1767	4552	577	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	227	1493	191	305	837	434	190	605	448	278	872	396
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1752	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	15.1	35.3	11.7	20.5	26.5	26.5	12.8	19.7	25.0	18.7	29.1	29.8
Cycle Q Clear(g_c), s	15.1	35.3	11.7	20.5	26.5	26.5	12.8	19.7	25.0	18.7	29.1	29.8
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	255	1499	465	317	1117	579	199	734	328	295	925	413
V/C Ratio(X)	0.89	1.00	0.41	0.96	0.75	0.75	0.96	0.82	1.37	0.94	0.94	0.96
Avail Cap(c_a), veh/h	299	1499	465	317	1117	579	199	734	328	295	925	413
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.56	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.4	42.2	33.9	48.9	35.7	35.7	53.0	45.4	47.5	49.4	43.4	43.6
Incr Delay (d2), s/veh	15.2	16.5	0.3	40.6	2.9	5.4	44.8	8.3	180.4	37.6	18.5	35.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.2	21.8	7.1	18.4	16.7	17.8	12.3	13.9	39.1	16.8	21.3	22.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.6	58.7	34.2	89.5	38.6	41.2	97.7	53.7	227.9	87.1	61.9	78.8
LnGrp LOS	E	E	C	F	D	D	F	D	F	F	E	E
Approach Vol, veh/h		1911			1576			1243			1546	
Approach Delay, s/veh		57.1			49.1			123.2			70.8	
Approach LOS		E			D			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.5	29.5	26.0	40.0	18.0	36.0	21.8	44.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.0	25.0	21.5	35.5	13.5	31.5	20.3	36.7				
Max Q Clear Time (g_c+I1), s	20.7	27.0	22.5	37.3	14.8	31.8	17.1	28.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.2	5.0				
Intersection Summary												
HCM 6th Ctrl Delay			71.5									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

12: Norwalk Bl & Civic Center Dr

05/06/2022

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations								  			  		
Traffic Volume (veh/h)	3	2	13	597	0	168	0	923	541	171	1029	0	
Future Volume (veh/h)	3	2	13	597	0	168	0	923	541	171	1029	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	1856	1856	1856	1856	1856	1856	0	1856	1856	1856	1856	1856	
Adj Flow Rate, veh/h	5	3	21	979	0	275	0	961	564	192	1156	0	
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.96	0.96	0.96	0.89	0.89	0.89	
Percent Heavy Veh, %	3	3	3	3	3	3	0	3	3	3	3	3	
Cap, veh/h	7	4	30	1084	0	482	0	2002	1104	216	2811	0	
Arrive On Green	0.03	0.03	0.03	0.31	0.00	0.31	0.00	0.79	0.79	0.24	1.00	0.00	
Sat Flow, veh/h	281	169	1180	3534	0	1572	0	5233	1572	1767	5233	0	
Grp Volume(v), veh/h	29	0	0	979	0	275	0	961	564	192	1156	0	
Grp Sat Flow(s),veh/h/ln	1629	0	0	1767	0	1572	0	1689	1572	1767	1689	0	
Q Serve(g_s), s	2.1	0.0	0.0	31.9	0.0	17.6	0.0	7.7	15.7	12.6	0.0	0.0	
Cycle Q Clear(g_c), s	2.1	0.0	0.0	31.9	0.0	17.6	0.0	7.7	15.7	12.6	0.0	0.0	
Prop In Lane	0.17		0.72	1.00		1.00	0.00		1.00	1.00		0.00	
Lane Grp Cap(c), veh/h	42	0	0	1084	0	482	0	2002	1104	216	2811	0	
V/C Ratio(X)	0.69	0.00	0.00	0.90	0.00	0.57	0.00	0.48	0.51	0.89	0.41	0.00	
Avail Cap(c_a), veh/h	244	0	0	1193	0	531	0	2002	1104	243	2811	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	
Upstream Filter(I)	1.00	0.00	0.00	0.56	0.00	0.56	0.00	0.81	0.81	1.00	1.00	0.00	
Uniform Delay (d), s/veh	58.0	0.0	0.0	39.9	0.0	34.9	0.0	8.4	2.7	44.6	0.0	0.0	
Incr Delay (d2), s/veh	18.2	0.0	0.0	5.5	0.0	0.7	0.0	0.7	1.4	28.6	0.4	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	2.0	0.0	0.0	19.2	0.0	10.0	0.0	3.9	7.3	10.7	0.2	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	76.1	0.0	0.0	45.4	0.0	35.6	0.0	9.1	4.0	73.1	0.4	0.0	
LnGrp LOS	E	A	A	D	A	D	A	A	A	E	A	A	
Approach Vol, veh/h	29			1254				1525				1348	
Approach Delay, s/veh	76.1			43.2				7.2				10.8	
Approach LOS	E			D				A				B	
Timer - Assigned Phs	1	2	4			6		8					
Phs Duration (G+Y+Rc), s	19.2	51.9	7.6			71.1		41.3					
Change Period (Y+Rc), s	4.5	4.5	4.5			4.5		4.5					
Max Green Setting (Gmax), s	16.5	27.0	18.0			48.0		40.5					
Max Q Clear Time (g_c+I1), s	14.6	17.7	4.1			2.0		33.9					
Green Ext Time (p_c), s	0.1	5.7	0.1			11.1		2.9					
Intersection Summary													
HCM 6th Ctrl Delay			19.7										
HCM 6th LOS			B										
Notes													

HCM 6th Signalized Intersection Summary

13: Civic Center Dr & Courthouse-AMC Theater

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	578	0	0	765	3	5	0	5	8	0	66
Future Volume (veh/h)	108	578	0	0	765	3	5	0	5	8	0	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	1856	1856	0	0	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	121	649	0	0	1093	4	8	0	5	18	0	147
Peak Hour Factor	0.89	0.89	0.89	0.70	0.70	0.70	0.62	0.62	1.00	0.45	0.45	0.45
Percent Heavy Veh, %	3	3	0	0	3	3	0	0	0	0	0	0
Cap, veh/h	243	1609	0	0	1239	5	438	15	243	93	29	635
Arrive On Green	0.06	0.46	0.00	0.00	0.69	0.69	0.44	0.00	0.44	0.44	0.00	0.44
Sat Flow, veh/h	1767	3618	0	0	3696	13	841	34	547	109	66	1431
Grp Volume(v), veh/h	121	649	0	0	535	562	13	0	0	165	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1853	1423	0	0	1607	0	0
Q Serve(g_s), s	3.8	11.0	0.0	0.0	21.7	21.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.8	11.0	0.0	0.0	21.7	21.7	0.4	0.0	0.0	5.6	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.01	0.62		0.38	0.11		0.89
Lane Grp Cap(c), veh/h	243	1609	0	0	606	637	696	0	0	757	0	0
V/C Ratio(X)	0.50	0.40	0.00	0.00	0.88	0.88	0.02	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	358	2292	0	0	832	875	696	0	0	757	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.00	0.00	0.68	0.68	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.9	16.3	0.0	0.0	12.6	12.6	14.0	0.0	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.1	0.0	0.0	6.0	5.7	0.0	0.0	0.0	0.7	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	2.8	7.4	0.0	0.0	8.1	8.3	0.3	0.0	0.0	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	16.4	0.0	0.0	18.6	18.3	14.1	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	C	B	A	A	B	B	B	A	A	B	A	A
Approach Vol, veh/h	770		1097				13			165		
Approach Delay, s/veh	17.2		18.5				14.1			16.1		
Approach LOS	B		B				B			B		
Timer - Assigned Phs	2		4		6		7	8				
Phs Duration (G+Y+Rc), s	44.4		45.6		44.4		10.1	35.4				
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5	4.5				
Max Green Setting (Gmax), s	22.5		58.5		22.5		11.5	42.5				
Max Q Clear Time (g_c+I1), s	2.4		13.0		7.6		5.8	23.7				
Green Ext Time (p_c), s	0.0		5.2		0.8		0.1	7.3				
Intersection Summary												
HCM 6th Ctrl Delay	17.8											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 14: Civic Center Dr & Avenida Manuel Salinas

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	501	51	40	549	30	53	11	29	36	14	126
Future Volume (veh/h)	69	501	51	40	549	30	53	11	29	36	14	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	74	539	55	53	732	40	68	14	37	68	26	137
Peak Hour Factor	0.93	0.93	0.93	0.75	0.75	0.75	0.78	0.78	0.78	0.53	0.53	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	203	821	84	259	844	46	550	140	370	267	102	324
Arrive On Green	0.09	0.51	0.51	0.08	0.50	0.50	0.30	0.30	0.30	0.20	0.20	0.20
Sat Flow, veh/h	1767	3230	329	1767	3399	186	1810	461	1219	1326	507	1610
Grp Volume(v), veh/h	74	293	301	53	379	393	68	0	51	94	0	137
Grp Sat Flow(s),veh/h/ln	1767	1763	1796	1767	1763	1822	1810	0	1681	1834	0	1610
Q Serve(g_s), s	2.8	11.0	11.1	2.0	17.1	17.2	2.4	0.0	2.0	3.9	0.0	6.7
Cycle Q Clear(g_c), s	2.8	11.0	11.1	2.0	17.1	17.2	2.4	0.0	2.0	3.9	0.0	6.7
Prop In Lane	1.00		0.18	1.00		0.10	1.00		0.73	0.72		1.00
Lane Grp Cap(c), veh/h	203	448	457	259	438	452	550	0	511	369	0	324
V/C Ratio(X)	0.37	0.65	0.66	0.20	0.87	0.87	0.12	0.00	0.10	0.25	0.00	0.42
Avail Cap(c_a), veh/h	251	570	581	295	546	565	550	0	511	369	0	324
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	0.88	0.88	0.88	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.9	19.2	19.2	23.1	21.4	21.4	22.7	0.0	22.5	30.3	0.0	31.4
Incr Delay (d2), s/veh	1.1	1.7	1.8	0.3	10.5	10.2	0.5	0.0	0.4	1.7	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	6.6	6.7	1.4	9.8	10.0	2.0	0.0	1.5	3.4	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	20.9	21.0	23.4	31.8	31.6	23.1	0.0	22.9	31.9	0.0	35.4
LnGrp LOS	C	C	C	C	C	C	C	A	C	C	A	D
Approach Vol, veh/h	668			825			119			231		
Approach Delay, s/veh	21.4			31.2			23.0			34.0		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	31.8		8.2	27.4		22.6		8.7	26.8			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	19.3		5.5	29.1		18.1		6.7	27.9			
Max Q Clear Time (g_c+I1), s	4.4		4.0	13.1		8.7		4.8	19.2			
Green Ext Time (p_c), s	0.3		0.0	3.3		0.6		0.0	3.2			
Intersection Summary												
HCM 6th Ctrl Delay				27.5								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary 15: Civic Center Dr & Volunteer Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	498	40	9	404	16	21	13	3	39	20	168
Future Volume (veh/h)	27	498	40	9	404	16	21	13	3	39	20	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	31	579	47	10	430	17	27	17	4	65	33	183
Peak Hour Factor	0.86	0.86	0.86	0.94	0.94	0.94	0.77	0.77	0.77	0.60	0.60	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	217	780	348	156	704	28	532	325	72	689	338	993
Arrive On Green	0.03	0.22	0.22	0.01	0.20	0.20	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	1767	3526	1572	1767	3457	136	761	528	117	1010	548	1610
Grp Volume(v), veh/h	31	579	47	10	219	228	48	0	0	98	0	183
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1831	1406	0	0	1558	0	1610
Q Serve(g_s), s	1.2	13.8	2.2	0.4	10.2	10.2	0.0	0.0	0.0	0.0	0.0	4.4
Cycle Q Clear(g_c), s	1.2	13.8	2.2	0.4	10.2	10.2	1.9	0.0	0.0	1.9	0.0	4.4
Prop In Lane	1.00		1.00	1.00		0.07	0.56		0.08	0.66		1.00
Lane Grp Cap(c), veh/h	217	780	348	156	359	373	929	0	0	1027	0	993
V/C Ratio(X)	0.14	0.74	0.14	0.06	0.61	0.61	0.05	0.00	0.00	0.10	0.00	0.18
Avail Cap(c_a), veh/h	331	1469	655	301	734	763	929	0	0	1027	0	993
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	0.95	0.95	0.95	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.5	32.7	28.1	28.7	32.6	32.6	6.8	0.0	0.0	7.0	0.0	7.5
Incr Delay (d2), s/veh	0.2	1.2	0.1	0.2	1.6	1.5	0.1	0.0	0.0	0.2	0.0	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	0.9	9.5	1.5	0.3	7.8	8.0	0.6	0.0	0.0	1.3	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	33.8	28.3	28.8	34.2	34.2	6.9	0.0	0.0	7.2	0.0	7.9
LnGrp LOS	C	C	C	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h	657				457				48			
Approach Delay, s/veh	33.1				34.0				6.9			
Approach LOS	C				C				A			
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	60.0		5.6	24.4		60.0	7.2	22.8				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	30.5		8.5	37.5		30.5	8.5	37.5				
Max Q Clear Time (g_c+I1), s	3.9		2.4	15.8		6.4	3.2	12.2				
Green Ext Time (p_c), s	0.2		0.0	4.1		1.1	0.0	2.7				
Intersection Summary												
HCM 6th Ctrl Delay	27.6											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 16: Civic Center Dr & Bloomfield Ave

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	281	22	235	27	13	4	147	1028	22	4	641	88
Future Volume (veh/h)	281	22	235	27	13	4	147	1028	22	4	641	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	309	24	258	41	20	6	155	1082	23	4	712	98
Peak Hour Factor	0.91	0.91	0.91	0.66	0.66	0.66	0.95	0.95	0.95	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	403	484	410	333	357	107	213	2194	47	9	1991	888
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.06	0.62	0.62	0.01	1.00	1.00
Sat Flow, veh/h	1374	1856	1572	1088	1370	411	3428	3530	75	1767	3526	1572
Grp Volume(v), veh/h	309	24	258	41	0	26	155	540	565	4	712	98
Grp Sat Flow(s),veh/h/ln	1374	1856	1572	1088	0	1782	1714	1763	1842	1767	1763	1572
Q Serve(g_s), s	26.1	1.2	17.4	3.5	0.0	1.3	5.3	20.1	20.1	0.3	0.0	0.0
Cycle Q Clear(g_c), s	27.4	1.2	17.4	4.7	0.0	1.3	5.3	20.1	20.1	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	403	484	410	333	0	465	213	1096	1145	9	1991	888
V/C Ratio(X)	0.77	0.05	0.63	0.12	0.00	0.06	0.73	0.49	0.49	0.44	0.36	0.11
Avail Cap(c_a), veh/h	566	704	596	462	0	675	329	1096	1145	81	1991	888
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)	0.76	0.76	0.76	1.00	0.00	1.00	1.00	1.00	1.00	0.38	0.38	0.38
Uniform Delay (d), s/veh	43.6	33.2	39.2	35.0	0.0	33.3	55.3	12.4	12.4	59.2	0.0	0.0
Incr Delay (d2), s/veh	3.1	0.0	1.2	0.2	0.0	0.0	4.7	1.6	1.5	11.8	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.5	1.0	10.6	1.7	0.0	1.0	4.4	12.7	13.2	0.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	33.2	40.4	35.1	0.0	33.3	60.0	14.0	13.9	71.0	0.2	0.1
LnGrp LOS	D	C	D	D	A	C	E	B	B	E	A	A
Approach Vol, veh/h	591			67			1260			814		
Approach Delay, s/veh	43.4			34.4			19.6			0.5		
Approach LOS	D			C			B			A		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	5.1	79.1	35.8		12.0	72.3	35.8					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.5	55.5	45.5		11.5	49.5	45.5					
Max Q Clear Time (g_c+I1), s	2.3	22.1	29.4		7.3	2.0	6.7					
Green Ext Time (p_c), s	0.0	9.0	1.9		0.2	6.3	0.3					
Intersection Summary												
HCM 6th Ctrl Delay	19.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 17: Adoree St/I-5 NB Off-Ramp & Norwalk Bl

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	0	72	161	131	373	104	1020	0	0	1534	120
Future Volume (veh/h)	101	0	72	161	131	373	104	1020	0	0	1534	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	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	1856	0	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	135	0	96	177	144	410	109	1074	0	0	1894	148
Peak Hour Factor	0.75	0.75	0.75	0.91	0.91	0.91	0.95	0.95	0.95	0.81	0.81	0.81
Percent Heavy Veh, %	3	0	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	0	0	0	449	448	400	157	3398	0	0	2816	219
Arrive On Green	0.00	0.00	0.00	0.25	0.25	0.25	0.02	0.22	0.00	0.00	1.00	1.00
Sat Flow, veh/h		0		1767	1763	1572	3428	5233	0	0	4960	373
Grp Volume(v), veh/h	0.0			177	144	410	109	1074	0	0	1332	710
Grp Sat Flow(s),veh/h/ln				1767	1763	1572	1714	1689	0	0	1689	1788
Q Serve(g_s), s				10.0	8.0	30.5	3.8	21.3	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				10.0	8.0	30.5	3.8	21.3	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.21
Lane Grp Cap(c), veh/h				449	448	400	157	3398	0	0	1984	1051
V/C Ratio(X)				0.39	0.32	1.03	0.69	0.32	0.00	0.00	0.67	0.68
Avail Cap(c_a), veh/h				449	448	400	157	3398	0	0	1984	1051
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.88	0.88	0.00	0.00	0.80	0.80
Uniform Delay (d), s/veh				37.1	36.3	44.7	58.3	23.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.6	0.4	51.8	11.0	0.2	0.0	0.0	1.5	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				7.8	6.3	24.8	3.5	14.5	0.0	0.0	0.7	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				37.7	36.8	96.5	69.2	23.9	0.0	0.0	1.5	2.8
LnGrp LOS				D	D	F	E	C	A	A	A	A
Approach Vol, veh/h				731			1183			2042		
Approach Delay, s/veh				70.5			28.1			1.9		
Approach LOS				E			C			A		
Timer - Assigned Phs	2			5		6	8					
Phs Duration (G+Y+Rc), s	85.0			10.0		75.0	35.0					
Change Period (Y+Rc), s	4.5			4.5		4.5	4.5					
Max Green Setting (Gmax), s	64.5			5.5		54.5	30.5					
Max Q Clear Time (g_c+I1), s	23.3			5.8		2.0	32.5					
Green Ext Time (p_c), s	9.9			0.0		27.1	0.0					
Intersection Summary												
HCM 6th Ctrl Delay			22.4									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 18: San Antonio Dr & Frontage Rd/I-5 SB On-Ramp

05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	237	132	0	0	0	0	1057	165	444	1303	0
Future Volume (veh/h)	75	237	132	0	0	0	0	1057	165	444	1303	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	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	78	261	128				0	1149	179	522	1533	0
Peak Hour Factor	0.96	0.96	0.96				0.92	0.92	0.92	0.85	0.85	0.82
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	194	406	172				0	2652	413	610	4131	0
Arrive On Green	0.11	0.11	0.11				0.00	0.60	0.60	0.18	0.82	0.00
Sat Flow, veh/h	1767	3711	1572				0	4587	688	3428	5233	0
Grp Volume(v), veh/h	78	261	128				0	878	450	522	1533	0
Grp Sat Flow(s),veh/h/ln	1767	1856	1572				0	1689	1732	1714	1689	0
Q Serve(g_s), s	4.9	8.1	9.5				0.0	16.9	16.9	17.7	9.6	0.0
Cycle Q Clear(g_c), s	4.9	8.1	9.5				0.0	16.9	16.9	17.7	9.6	0.0
Prop In Lane	1.00		1.00				0.00		0.40	1.00		0.00
Lane Grp Cap(c), veh/h	194	406	172				0	2026	1039	610	4131	0
V/C Ratio(X)	0.40	0.64	0.74				0.00	0.43	0.43	0.86	0.37	0.00
Avail Cap(c_a), veh/h	317	665	282				0	2026	1039	929	4131	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)	0.93	0.93	0.93				0.00	0.67	0.67	0.41	0.41	0.00
Uniform Delay (d), s/veh	49.8	51.2	51.8				0.0	13.0	13.0	47.8	2.9	0.0
Incr Delay (d2), s/veh	1.3	1.6	5.8				0.0	0.5	0.9	2.2	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	4.1	6.9	7.2				0.0	9.7	10.1	10.7	4.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.0	52.8	57.6				0.0	13.4	13.9	50.0	3.0	0.0
LnGrp LOS	D	D	E				A	B	B	D	A	A
Approach Vol, veh/h	467						1328			2055		
Approach Delay, s/veh	53.8						13.6			15.0		
Approach LOS	D						B			B		
Timer - Assigned Phs	1	2	4		6							
Phs Duration (G+Y+Rc), s	25.8	76.5	17.6		102.4							
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5							
Max Green Setting (Gmax), s	32.5	52.5	21.5		89.5							
Max Q Clear Time (g_c+I1), s	19.7	18.9	11.5		11.6							
Green Ext Time (p_c), s	1.6	11.9	1.7		19.1							
Intersection Summary												
HCM 6th Ctrl Delay			19.2									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Summary 19: San Antonio Dr & Firestone Bl

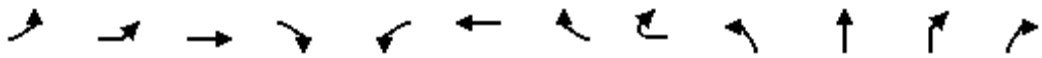
05/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			  	
Traffic Volume (veh/h)	211	342	58	64	388	80	95	888	60	80	972	203
Future Volume (veh/h)	211	342	58	64	388	80	95	888	60	80	972	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	240	389	66	80	485	100	112	1045	71	90	1092	228
Peak Hour Factor	0.88	0.88	0.88	0.80	0.80	0.80	0.85	0.85	0.85	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	270	900	401	102	565	252	137	1671	745	112	1929	403
Arrive On Green	0.15	0.26	0.26	0.06	0.16	0.16	0.08	0.47	0.47	0.13	0.92	0.92
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	4199	876
Grp Volume(v), veh/h	240	389	66	80	485	100	112	1045	71	90	878	442
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1689	1698
Q Serve(g_s), s	16.0	11.1	3.9	5.4	16.1	6.8	7.5	26.6	3.0	5.9	5.3	5.3
Cycle Q Clear(g_c), s	16.0	11.1	3.9	5.4	16.1	6.8	7.5	26.6	3.0	5.9	5.3	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	270	900	401	102	565	252	137	1671	745	112	1552	780
V/C Ratio(X)	0.89	0.43	0.16	0.79	0.86	0.40	0.82	0.63	0.10	0.81	0.57	0.57
Avail Cap(c_a), veh/h	346	967	431	178	632	282	184	1671	745	155	1552	780
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)	1.00	1.00	1.00	1.00	1.00	1.00	0.12	0.12	0.12	0.93	0.93	0.93
Uniform Delay (d), s/veh	49.9	37.4	34.7	55.8	49.1	45.2	54.5	23.6	17.4	51.7	2.8	2.8
Incr Delay (d2), s/veh	20.0	0.3	0.2	12.5	10.5	1.0	2.6	0.2	0.0	17.8	1.4	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.3	8.4	2.8	4.9	12.5	5.0	4.5	12.8	1.7	5.5	2.4	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.9	37.7	34.9	68.3	59.6	46.2	57.1	23.8	17.4	69.5	4.2	5.6
LnGrp LOS	E	D	C	E	E	D	E	C	B	E	A	A
Approach Vol, veh/h		695			665			1228			1410	
Approach Delay, s/veh		48.6			58.6			26.5			8.8	
Approach LOS		D			E			C			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	61.4	11.4	35.1	13.8	59.6	22.8	23.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	46.5	12.1	32.9	12.5	44.5	23.5	21.5				
Max Q Clear Time (g_c+I1), s	7.9	28.6	7.4	13.1	9.5	7.3	18.0	18.1				
Green Ext Time (p_c), s	0.0	7.5	0.1	2.7	0.1	12.2	0.3	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			29.4									
HCM 6th LOS			C									

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022

												
Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations		↰	↶	↷	↰	↶	↷		↰	↶	↷	
Traffic Volume (vph)	123	219	609	123	50	591	64	32	123	409	242	37
Future Volume (vph)	123	219	609	123	50	591	64	32	123	409	242	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00	1.00	0.91			1.00	0.91	0.91	
Frt		1.00	1.00	0.85	1.00	0.98			1.00	0.98	0.85	
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (prot)		1752	3505	1568	1752	4930			1752	3284	1427	
Flt Permitted		0.35	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (perm)		641	3505	1568	1752	4930			1752	3284	1427	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.89	0.89	0.89	0.89	0.92	0.92	0.92	0.92
Adj. Flow (vph)	126	223	621	126	56	664	72	36	134	445	263	40
RTOR Reduction (vph)	0	0	0	69	0	0	0	0	0	0	84	0
Lane Group Flow (vph)	0	349	621	57	56	772	0	0	134	521	143	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	NA			Prot	NA	Perm	
Protected Phases	7		4		3	8			5	2		
Permitted Phases		4		4							2	
Actuated Green, G (s)		57.5	57.5	57.5	5.0	67.0			7.5	40.0	40.0	
Effective Green, g (s)		57.5	57.5	57.5	5.0	67.0			7.5	40.0	40.0	
Actuated g/C Ratio		0.41	0.41	0.41	0.04	0.48			0.05	0.29	0.29	
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		263	1439	644	62	2359			93	938	407	
v/s Ratio Prot			0.18		c0.03	0.16			c0.08	0.16		
v/s Ratio Perm		c0.54		0.04							0.10	
v/c Ratio		1.33	0.43	0.09	0.90	0.33			1.44	0.56	0.35	
Uniform Delay, d1		41.2	29.5	25.2	67.3	22.6			66.2	42.5	39.7	
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2		171.0	0.2	0.1	80.1	0.1			248.8	2.4	2.4	
Delay (s)		212.3	29.8	25.3	147.4	22.6			315.1	44.8	42.1	
Level of Service		F	C	C	F	C			F	D	D	
Approach Delay (s)			87.4			31.1				85.2		
Approach LOS			F			C				F		
Intersection Summary												
HCM 2000 Control Delay			79.8			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.15									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			84.6%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/06/2022



Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	11	79	498	202	21	314	302	7
Future Volume (vph)	11	79	498	202	21	314	302	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00		0.97	0.91	
Frt		1.00	1.00	0.85		0.96	0.85	
Flt Protected		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1752	3505	1568		3324	1427	
Flt Permitted		0.41	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		757	3505	1568		3324	1427	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.89	0.89	0.89	0.89
Adj. Flow (vph)	12	83	524	213	24	353	339	8
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	95	524	213	0	496	228	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	Prot	Perm	
Protected Phases	1		6		12	12		
Permitted Phases		6		6			12	
Actuated Green, G (s)		28.0	28.0	28.0		19.5	19.5	
Effective Green, g (s)		28.0	28.0	28.0		19.5	19.5	
Actuated g/C Ratio		0.20	0.20	0.20		0.14	0.14	
Clearance Time (s)		4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		151	701	313		462	198	
v/s Ratio Prot			c0.15			0.15		
v/s Ratio Perm		0.13		0.14			c0.16	
v/c Ratio		0.63	0.75	0.68		1.07	1.15	
Uniform Delay, d1		51.2	52.7	51.9		60.2	60.2	
Progression Factor		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		18.2	7.2	11.4		63.0	110.7	
Delay (s)		69.5	59.8	63.2		123.2	171.0	
Level of Service		E	E	E		F	F	
Approach Delay (s)			61.8			138.3		
Approach LOS			E			F		
Intersection Summary								

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘			↗ ↘ ↘ ↘
Traffic Vol, veh/h	0	107	1012	117	0	1210
Future Vol, veh/h	0	107	1012	117	0	1210
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, %	0	0	3	3	3	3
Mvmt Flow	0	116	1100	127	0	1315
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	614	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	377	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	377	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	18.8	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 377		-		
HCM Lane V/C Ratio	-	- 0.308		-		
HCM Control Delay (s)	-	- 18.8		-		
HCM Lane LOS	-	- C		-		
HCM 95th %tile Q(veh)	-	- 1.3		-		

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	0	60	51	0	68
Future Vol, veh/h	6	0	60	51	0	68
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	7	0	65	55	0	74
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	167	93	0	0	120	0
Stage 1	93	-	-	-	-	-
Stage 2	74	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	823	964	-	-	1468	-
Stage 1	931	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	823	964	-	-	1468	-
Mov Cap-2 Maneuver	823	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.4	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	823	1468	-	
HCM Lane V/C Ratio	-	-	0.008	-	-	
HCM Control Delay (s)	-	-	9.4	0	-	
HCM Lane LOS	-	-	A	A	-	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	41	31	80	135	0
Future Vol, veh/h	23	41	31	80	135	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	45	34	87	147	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	302	147	147	0	-	0
Stage 1	147	-	-	-	-	-
Stage 2	155	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	690	900	1435	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	673	900	1435	-	-	-
Mov Cap-2 Maneuver	673	-	-	-	-	-
Stage 1	858	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.9	2.1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1435	-	803	-	-	
HCM Lane V/C Ratio	0.023	-	0.087	-	-	
HCM Control Delay (s)	7.6	0	9.9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-	

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	44	0	0	178	165	0
Future Vol, veh/h	44	0	0	178	165	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	0	0	193	179	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	193	0	-	0	193	97
Stage 1	-	-	-	-	97	-
Stage 2	-	-	-	-	96	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1380	-	-	-	796	959
Stage 1	-	-	-	-	927	-
Stage 2	-	-	-	-	928	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1380	-	-	-	768	959
Mov Cap-2 Maneuver	-	-	-	-	768	-
Stage 1	-	-	-	-	895	-
Stage 2	-	-	-	-	928	-
Approach	EB	WB		SB		
HCM Control Delay, s	7.7	0		11.1		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1380	-	-	-	768	
HCM Lane V/C Ratio	0.035	-	-	-	0.234	
HCM Control Delay (s)	7.7	0	-	-	11.1	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9	

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	411	652	131	39	731	100	421	185	79	352	109	288
v/c Ratio	1.28	0.39	0.16	0.63	0.27	1.23	0.54	0.43	0.55	0.63	0.43	0.67
Control Delay	180.4	24.4	5.1	106.1	18.0	228.1	49.5	20.4	69.7	60.3	59.1	66.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	180.4	24.4	5.1	106.1	18.0	228.1	49.5	20.4	69.7	60.3	59.1	66.7
Queue Length 50th (ft)	~481	200	7	36	128	~112	185	54	67	159	91	130
Queue Length 95th (ft)	#636	232	43	#85	141	#235	243	136	124	212	152	154
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	321	1687	815	62	2659	81	783	430	144	563	252	429
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.28	0.39	0.16	0.63	0.27	1.23	0.54	0.43	0.55	0.63	0.43	0.67

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	131
v/c Ratio	0.72
Control Delay	80.4
Queue Delay	0.0
Total Delay	80.4
Queue Length 50th (ft)	127
Queue Length 95th (ft)	178
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	183
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.72

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	317	621	123	54	748	133	458	196	95	491	199	448
v/c Ratio	1.12	0.41	0.17	0.87	0.30	1.25	0.51	0.42	0.61	0.79	0.71	1.03
Control Delay	127.2	28.5	5.1	147.3	21.0	221.7	45.5	19.7	70.5	64.9	69.1	108.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	127.2	28.5	5.1	147.3	21.0	221.7	45.5	19.7	70.5	64.9	69.1	108.8
Queue Length 50th (ft)	~331	202	3	50	143	~151	195	61	81	227	173	~223
Queue Length 95th (ft)	#524	254	41	#134	171	#289	253	143	#146	293	#274	#329
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	283	1514	744	62	2475	106	898	472	157	625	280	436
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	0.41	0.17	0.87	0.30	1.25	0.51	0.42	0.61	0.79	0.71	1.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	207
v/c Ratio	1.10
Control Delay	149.8
Queue Delay	0.0
Total Delay	149.8
Queue Length 50th (ft)	~234
Queue Length 95th (ft)	#408
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	188
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	1.10

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	427	652	131	39	731	100	433	190	79	361	113	295
v/c Ratio	1.33	0.39	0.16	0.63	0.27	1.23	0.55	0.44	0.57	0.64	0.45	0.69
Control Delay	200.2	24.4	5.1	106.1	18.0	228.1	49.8	21.2	71.5	60.9	59.6	67.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	200.2	24.4	5.1	106.1	18.0	228.1	49.8	21.2	71.5	60.9	59.6	67.4
Queue Length 50th (ft)	~512	200	7	36	128	~112	191	59	67	163	94	134
Queue Length 95th (ft)	#667	232	43	#85	141	#235	251	143	125	216	157	158
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	321	1687	815	62	2659	81	783	430	139	563	252	429
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.33	0.39	0.16	0.63	0.27	1.23	0.55	0.44	0.57	0.64	0.45	0.69

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	134
v/c Ratio	0.73
Control Delay	81.8
Queue Delay	0.0
Total Delay	81.8
Queue Length 50th (ft)	130
Queue Length 95th (ft)	182
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	183
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.73

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	328	621	123	54	748	133	481	207	95	505	208	460
v/c Ratio	1.18	0.42	0.17	0.87	0.31	1.25	0.52	0.43	0.59	0.78	0.71	1.06
Control Delay	146.8	29.2	5.2	147.3	21.6	221.7	45.1	20.6	68.8	63.5	68.3	115.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	146.8	29.2	5.2	147.3	21.6	221.7	45.1	20.6	68.8	63.5	68.3	115.4
Queue Length 50th (ft)	~356	205	3	50	145	~151	203	70	80	232	180	~235
Queue Length 95th (ft)	#551	257	42	#134	174	#289	264	154	145	298	#277	#341
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	279	1489	733	62	2439	106	921	481	160	650	291	436
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.18	0.42	0.17	0.87	0.31	1.25	0.52	0.43	0.59	0.78	0.71	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	210
v/c Ratio	1.12
Control Delay	154.3
Queue Delay	0.0
Total Delay	154.3
Queue Length 50th (ft)	~240
Queue Length 95th (ft)	#416
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	188
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	1.12

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	441	652	132	40	746	102	467	205	79	361	119	332
v/c Ratio	1.41	0.39	0.16	0.65	0.28	1.26	0.58	0.47	0.60	0.61	0.45	0.77
Control Delay	234.8	25.1	5.3	108.2	18.7	236.0	49.9	22.8	73.8	59.1	58.7	71.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	234.8	25.1	5.3	108.2	18.7	236.0	49.9	22.8	73.8	59.1	58.7	71.6
Queue Length 50th (ft)	~546	203	7	37	134	~116	207	71	67	162	99	153
Queue Length 95th (ft)	#703	236	45	#86	147	#239	269	160	#132	214	163	176
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	312	1662	805	62	2619	81	801	439	132	588	263	432
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.41	0.39	0.16	0.65	0.28	1.26	0.58	0.47	0.60	0.61	0.45	0.77

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	150
v/c Ratio	0.82
Control Delay	91.7
Queue Delay	0.0
Total Delay	91.7
Queue Length 50th (ft)	148
Queue Length 95th (ft)	#218
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	183
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.82

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	337	621	126	56	772	134	496	218	95	509	203	486
v/c Ratio	1.24	0.42	0.17	0.90	0.32	1.26	0.56	0.46	0.65	0.81	0.72	1.05
Control Delay	170.4	29.2	5.5	154.7	21.8	224.8	46.6	22.6	74.6	66.7	70.1	113.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	170.4	29.2	5.5	154.7	21.8	224.8	46.6	22.6	74.6	66.7	70.1	113.6
Queue Length 50th (ft)	~380	205	5	52	151	~153	214	81	81	237	177	~248
Queue Length 95th (ft)	#576	257	44	#139	180	#293	276	170	#159	#304	#283	#355
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	272	1489	733	62	2429	106	892	472	147	625	280	461
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.24	0.42	0.17	0.90	0.32	1.26	0.56	0.46	0.65	0.81	0.72	1.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	222
v/c Ratio	1.12
Control Delay	153.5
Queue Delay	0.0
Total Delay	153.5
Queue Length 50th (ft)	~254
Queue Length 95th (ft)	#432
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	198
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	1.12

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	458	652	132	40	746	102	479	210	79	370	124	339
v/c Ratio	1.49	0.40	0.17	0.65	0.29	1.26	0.58	0.47	0.59	0.60	0.45	0.78
Control Delay	267.8	25.8	5.5	108.2	19.2	236.0	49.1	22.8	72.3	58.0	57.8	72.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	267.8	25.8	5.5	108.2	19.2	236.0	49.1	22.8	72.3	58.0	57.8	72.5
Queue Length 50th (ft)	~583	206	7	37	136	~116	210	75	67	165	102	156
Queue Length 95th (ft)	#740	239	46	#86	149	#239	274	164	#127	218	167	180
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	307	1637	795	62	2583	81	824	449	134	613	274	433
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.49	0.40	0.17	0.65	0.29	1.26	0.58	0.47	0.59	0.60	0.45	0.78

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	153
v/c Ratio	0.84
Control Delay	93.9
Queue Delay	0.0
Total Delay	93.9
Queue Length 50th (ft)	151
Queue Length 95th (ft)	#225
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	183
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.84

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	349	621	126	56	772	134	521	227	95	524	213	496
v/c Ratio	1.33	0.43	0.18	0.90	0.33	1.44	0.56	0.46	0.63	0.75	0.68	1.07
Control Delay	207.6	30.7	5.8	154.7	23.1	293.2	45.2	22.7	71.0	60.2	64.1	118.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	207.6	30.7	5.8	154.7	23.1	293.2	45.2	22.7	71.0	60.2	64.1	118.7
Queue Length 50th (ft)	~411	211	5	52	156	~165	221	87	80	238	182	~257
Queue Length 95th (ft)	#611	265	45	#139	186	#304	285	179	#156	305	276	#365
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	262	1439	712	62	2359	93	938	491	151	701	313	462
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.33	0.43	0.18	0.90	0.33	1.44	0.56	0.46	0.63	0.75	0.68	1.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	228
v/c Ratio	1.15
Control Delay	162.6
Queue Delay	0.0
Total Delay	162.6
Queue Length 50th (ft)	~267
Queue Length 95th (ft)	#447
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	198
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	1.15

Intersection Summary

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘			↗ ↘ ↘ ↘
Traffic Vol, veh/h	0	67	930	50	0	751
Future Vol, veh/h	0	67	930	50	0	751
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, %	0	0	3	3	3	3
Mvmt Flow	0	73	1011	54	0	816
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	533	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	425	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	425	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	15.2	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 425		-		
HCM Lane V/C Ratio	-	- 0.171		-		
HCM Control Delay (s)	-	- 15.2		-		
HCM Lane LOS	-	- C		-		
HCM 95th %tile Q(veh)	-	- 0.6		-		

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	0	152	23	0	11
Future Vol, veh/h	2	0	152	23	0	11
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	2	0	165	25	0	12

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	190	178	0
Stage 1	178	-	-
Stage 2	12	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	799	865	-
Stage 1	853	-	-
Stage 2	1011	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	799	865	-
Mov Cap-2 Maneuver	799	-	-
Stage 1	853	-	-
Stage 2	1011	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	799	1384
HCM Lane V/C Ratio	-	-	0.003	-
HCM Control Delay (s)	-	-	9.5	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	16	14	65	79	0
Future Vol, veh/h	9	16	14	65	79	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	17	15	71	86	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	187	86	86	0	-	0
Stage 1	86	-	-	-	-	-
Stage 2	101	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	802	973	1510	-	-	-
Stage 1	937	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	794	973	1510	-	-	-
Mov Cap-2 Maneuver	794	-	-	-	-	-
Stage 1	928	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.1	1.3		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1510	-	900	-	-	
HCM Lane V/C Ratio	0.01	-	0.03	-	-	
HCM Control Delay (s)	7.4	0	9.1	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	0	0	77	115	0
Future Vol, veh/h	19	0	0	77	115	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	0	0	84	125	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	84	0	-	0	84	42
Stage 1	-	-	-	-	42	-
Stage 2	-	-	-	-	42	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1513	-	-	-	918	1029
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	980	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1513	-	-	-	905	1029
Mov Cap-2 Maneuver	-	-	-	-	905	-
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	980	-
Approach	EB	WB		SB		
HCM Control Delay, s	7.4	0		9.6		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1513	-	-	-	905	
HCM Lane V/C Ratio	0.014	-	-	-	0.138	
HCM Control Delay (s)	7.4	0	-	-	9.6	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.5	

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘			↗ ↘ ↘ ↘
Traffic Vol, veh/h	0	107	927	117	0	1120
Future Vol, veh/h	0	107	927	117	0	1120
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, %	0	0	3	3	3	3
Mvmt Flow	0	116	1008	127	0	1217
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	568	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	403	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	403	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	17.5	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	403		-		
HCM Lane V/C Ratio	-	0.289		-		
HCM Control Delay (s)	-	17.5		-		
HCM Lane LOS	-	C		-		
HCM 95th %tile Q(veh)	-	1.2		-		

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	0	60	51	0	66
Future Vol, veh/h	6	0	60	51	0	66
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	7	0	65	55	0	72
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	165	93	0	0	120	0
Stage 1	93	-	-	-	-	-
Stage 2	72	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	826	964	-	-	1468	-
Stage 1	931	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	826	964	-	-	1468	-
Mov Cap-2 Maneuver	826	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.4	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	826	1468	-	
HCM Lane V/C Ratio	-	-	0.008	-	-	
HCM Control Delay (s)	-	-	9.4	0	-	
HCM Lane LOS	-	-	A	A	-	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	41	31	70	124	0
Future Vol, veh/h	23	41	31	70	124	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	45	34	76	135	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	279	135	135	0	-	0
Stage 1	135	-	-	-	-	-
Stage 2	144	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	711	914	1449	-	-	-
Stage 1	891	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	693	914	1449	-	-	-
Mov Cap-2 Maneuver	693	-	-	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.8	2.3		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1449	-	820	-	-	
HCM Lane V/C Ratio	0.023	-	0.085	-	-	
HCM Control Delay (s)	7.5	0	9.8	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-	

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	44	0	0	178	165	0
Future Vol, veh/h	44	0	0	178	165	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	0	0	193	179	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	193	0	-	0	193	97
Stage 1	-	-	-	-	97	-
Stage 2	-	-	-	-	96	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1380	-	-	-	796	959
Stage 1	-	-	-	-	927	-
Stage 2	-	-	-	-	928	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1380	-	-	-	768	959
Mov Cap-2 Maneuver	-	-	-	-	768	-
Stage 1	-	-	-	-	895	-
Stage 2	-	-	-	-	928	-
Approach	EB	WB		SB		
HCM Control Delay, s	7.7	0		11.1		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1380	-	-	-	768	
HCM Lane V/C Ratio	0.035	-	-	-	0.234	
HCM Control Delay (s)	7.7	0	-	-	11.1	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9	

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘			↗ ↘ ↘ ↘
Traffic Vol, veh/h	0	67	1040	50	0	808
Future Vol, veh/h	0	67	1040	50	0	808
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, %	0	0	3	3	3	3
Mvmt Flow	0	73	1130	54	0	878
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	592	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	389	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	389	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	16.4	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 389		-		
HCM Lane V/C Ratio	-	- 0.187		-		
HCM Control Delay (s)	-	- 16.4		-		
HCM Lane LOS	-	- C		-		
HCM 95th %tile Q(veh)	-	- 0.7		-		

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	0	156	23	0	11
Future Vol, veh/h	2	0	156	23	0	11
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	2	0	170	25	0	12
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	195	183	0	0	195	0
Stage 1	183	-	-	-	-	-
Stage 2	12	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	794	859	-	-	1378	-
Stage 1	848	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	794	859	-	-	1378	-
Mov Cap-2 Maneuver	794	-	-	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.5	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	794	1378	-	
HCM Lane V/C Ratio	-	-	0.003	-	-	
HCM Control Delay (s)	-	-	9.5	0	-	
HCM Lane LOS	-	-	A	A	-	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	16	14	72	88	0
Future Vol, veh/h	9	16	14	72	88	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	17	15	78	96	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	204	96	96	0	-	0
Stage 1	96	-	-	-	-	-
Stage 2	108	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	784	960	1498	-	-	-
Stage 1	928	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	776	960	1498	-	-	-
Mov Cap-2 Maneuver	776	-	-	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.2	1.2		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1498	-	884	-	-	
HCM Lane V/C Ratio	0.01	-	0.031	-	-	
HCM Control Delay (s)	7.4	0	9.2	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	0	0	77	115	0
Future Vol, veh/h	19	0	0	77	115	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	0	0	84	125	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	84	0	-	0	84	42
Stage 1	-	-	-	-	42	-
Stage 2	-	-	-	-	42	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1513	-	-	-	918	1029
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	980	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1513	-	-	-	905	1029
Mov Cap-2 Maneuver	-	-	-	-	905	-
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	980	-
Approach	EB	WB		SB		
HCM Control Delay, s	7.4	0		9.6		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1513	-	-	-	905	
HCM Lane V/C Ratio	0.014	-	-	-	0.138	
HCM Control Delay (s)	7.4	0	-	-	9.6	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.5	

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	107	1012	117	0	1210
Future Vol, veh/h	0	107	1012	117	0	1210
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, %	0	0	3	3	3	3
Mvmt Flow	0	116	1100	127	0	1315
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	614	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	377	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	377	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	18.8	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	377		-		
HCM Lane V/C Ratio	-	0.308		-		
HCM Control Delay (s)	-	18.8		-		
HCM Lane LOS	-	C		-		
HCM 95th %tile Q(veh)	-	1.3		-		

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	0	60	51	0	68
Future Vol, veh/h	6	0	60	51	0	68
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	7	0	65	55	0	74
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	167	93	0	0	120	0
Stage 1	93	-	-	-	-	-
Stage 2	74	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	823	964	-	-	1468	-
Stage 1	931	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	823	964	-	-	1468	-
Mov Cap-2 Maneuver	823	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.4	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	823	1468	-	
HCM Lane V/C Ratio	-	-	0.008	-	-	
HCM Control Delay (s)	-	-	9.4	0	-	
HCM Lane LOS	-	-	A	A	-	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	41	31	80	135	0
Future Vol, veh/h	23	41	31	80	135	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	45	34	87	147	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	302	147	147	0	-	0
Stage 1	147	-	-	-	-	-
Stage 2	155	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	690	900	1435	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	673	900	1435	-	-	-
Mov Cap-2 Maneuver	673	-	-	-	-	-
Stage 1	858	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.9	2.1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1435	-	803	-	-	
HCM Lane V/C Ratio	0.023	-	0.087	-	-	
HCM Control Delay (s)	7.6	0	9.9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-	

Intersection

Int Delay, s/veh 5.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	44	0	0	178	165	0
Future Vol, veh/h	44	0	0	178	165	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	0	0	193	179	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	193	0	0 193 97
Stage 1	-	-	- 97 -
Stage 2	-	-	- 96 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1380	-	- 796 959
Stage 1	-	-	- 927 -
Stage 2	-	-	- 928 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1380	-	- 768 959
Mov Cap-2 Maneuver	-	-	- 768 -
Stage 1	-	-	- 895 -
Stage 2	-	-	- 928 -

Approach	EB	WB	SB
HCM Control Delay, s	7.7	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1380	-	-	-	768
HCM Lane V/C Ratio	0.035	-	-	-	0.234
HCM Control Delay (s)	7.7	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	411	652	131	39	731	100	421	185	79	352	109	288
v/c Ratio	1.28	0.39	0.16	0.63	0.27	1.23	0.54	0.43	0.55	0.63	0.43	0.67
Control Delay	180.4	24.4	5.1	106.1	18.0	228.1	49.5	20.4	69.7	60.3	59.1	66.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	180.4	24.4	5.1	106.1	18.0	228.1	49.5	20.4	69.7	60.3	59.1	66.7
Queue Length 50th (ft)	~481	200	7	36	128	~112	185	54	67	159	91	130
Queue Length 95th (ft)	#636	232	43	#85	141	#235	243	136	124	212	152	154
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	321	1687	815	62	2659	81	783	430	144	563	252	429
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.28	0.39	0.16	0.63	0.27	1.23	0.54	0.43	0.55	0.63	0.43	0.67

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	131
v/c Ratio	0.72
Control Delay	80.4
Queue Delay	0.0
Total Delay	80.4
Queue Length 50th (ft)	127
Queue Length 95th (ft)	178
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	183
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.72

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	317	621	123	54	748	133	458	196	95	491	199	448
v/c Ratio	1.12	0.41	0.17	0.87	0.30	1.25	0.51	0.42	0.61	0.79	0.71	1.03
Control Delay	127.2	28.5	5.1	147.3	21.0	221.7	45.5	19.7	70.5	64.9	69.1	108.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	127.2	28.5	5.1	147.3	21.0	221.7	45.5	19.7	70.5	64.9	69.1	108.8
Queue Length 50th (ft)	~331	202	3	50	143	~151	195	61	81	227	173	~223
Queue Length 95th (ft)	#524	254	41	#134	171	#289	253	143	#146	293	#274	#329
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	283	1514	744	62	2475	106	898	472	157	625	280	436
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	0.41	0.17	0.87	0.30	1.25	0.51	0.42	0.61	0.79	0.71	1.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	207
v/c Ratio	1.10
Control Delay	149.8
Queue Delay	0.0
Total Delay	149.8
Queue Length 50th (ft)	~234
Queue Length 95th (ft)	#408
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	188
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	1.10

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	427	652	131	39	731	100	433	190	79	361	113	295
v/c Ratio	1.33	0.39	0.16	0.63	0.27	1.23	0.55	0.44	0.57	0.64	0.45	0.69
Control Delay	200.2	24.4	5.1	106.1	18.0	228.1	49.8	21.2	71.5	60.9	59.6	67.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	200.2	24.4	5.1	106.1	18.0	228.1	49.8	21.2	71.5	60.9	59.6	67.4
Queue Length 50th (ft)	~512	200	7	36	128	~112	191	59	67	163	94	134
Queue Length 95th (ft)	#667	232	43	#85	141	#235	251	143	125	216	157	158
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	321	1687	815	62	2659	81	783	430	139	563	252	429
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.33	0.39	0.16	0.63	0.27	1.23	0.55	0.44	0.57	0.64	0.45	0.69

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	134
v/c Ratio	0.73
Control Delay	81.8
Queue Delay	0.0
Total Delay	81.8
Queue Length 50th (ft)	130
Queue Length 95th (ft)	182
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	183
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.73

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	328	621	123	54	748	133	481	207	95	505	208	460
v/c Ratio	1.18	0.42	0.17	0.87	0.31	1.25	0.52	0.43	0.59	0.78	0.71	1.06
Control Delay	146.8	29.2	5.2	147.3	21.6	221.7	45.1	20.6	68.8	63.5	68.3	115.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	146.8	29.2	5.2	147.3	21.6	221.7	45.1	20.6	68.8	63.5	68.3	115.4
Queue Length 50th (ft)	~356	205	3	50	145	~151	203	70	80	232	180	~235
Queue Length 95th (ft)	#551	257	42	#134	174	#289	264	154	145	298	#277	#341
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	279	1489	733	62	2439	106	921	481	160	650	291	436
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.18	0.42	0.17	0.87	0.31	1.25	0.52	0.43	0.59	0.78	0.71	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	210
v/c Ratio	1.12
Control Delay	154.3
Queue Delay	0.0
Total Delay	154.3
Queue Length 50th (ft)	~240
Queue Length 95th (ft)	#416
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	188
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	1.12

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	441	652	132	40	746	102	467	205	79	361	119	332
v/c Ratio	1.41	0.39	0.16	0.65	0.28	1.26	0.58	0.47	0.60	0.61	0.45	0.77
Control Delay	234.8	25.1	5.3	108.2	18.7	236.0	49.9	22.8	73.8	59.1	58.7	71.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	234.8	25.1	5.3	108.2	18.7	236.0	49.9	22.8	73.8	59.1	58.7	71.6
Queue Length 50th (ft)	~546	203	7	37	134	~116	207	71	67	162	99	153
Queue Length 95th (ft)	#703	236	45	#86	147	#239	269	160	#132	214	163	176
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	312	1662	805	62	2619	81	801	439	132	588	263	432
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.41	0.39	0.16	0.65	0.28	1.26	0.58	0.47	0.60	0.61	0.45	0.77

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	150
v/c Ratio	0.82
Control Delay	91.7
Queue Delay	0.0
Total Delay	91.7
Queue Length 50th (ft)	148
Queue Length 95th (ft)	#218
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	183
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.82

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	337	621	126	56	772	134	496	218	95	509	203	486
v/c Ratio	1.24	0.42	0.17	0.90	0.32	1.26	0.56	0.46	0.65	0.81	0.72	1.05
Control Delay	170.4	29.2	5.5	154.7	21.8	224.8	46.6	22.6	74.6	66.7	70.1	113.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	170.4	29.2	5.5	154.7	21.8	224.8	46.6	22.6	74.6	66.7	70.1	113.6
Queue Length 50th (ft)	~380	205	5	52	151	~153	214	81	81	237	177	~248
Queue Length 95th (ft)	#576	257	44	#139	180	#293	276	170	#159	#304	#283	#355
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	272	1489	733	62	2429	106	892	472	147	625	280	461
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.24	0.42	0.17	0.90	0.32	1.26	0.56	0.46	0.65	0.81	0.72	1.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



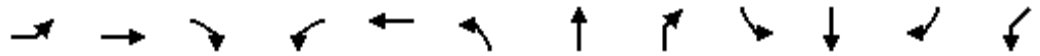
Lane Group	SWR
Lane Group Flow (vph)	222
v/c Ratio	1.12
Control Delay	153.5
Queue Delay	0.0
Total Delay	153.5
Queue Length 50th (ft)	~254
Queue Length 95th (ft)	#432
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	198
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	1.12

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	458	652	132	40	746	102	479	210	79	370	124	339
v/c Ratio	1.49	0.40	0.17	0.65	0.29	1.26	0.58	0.47	0.59	0.60	0.45	0.78
Control Delay	267.8	25.8	5.5	108.2	19.2	236.0	49.1	22.8	72.3	58.0	57.8	72.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	267.8	25.8	5.5	108.2	19.2	236.0	49.1	22.8	72.3	58.0	57.8	72.5
Queue Length 50th (ft)	~583	206	7	37	136	~116	210	75	67	165	102	156
Queue Length 95th (ft)	#740	239	46	#86	149	#239	274	164	#127	218	167	180
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	307	1637	795	62	2583	81	824	449	134	613	274	433
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.49	0.40	0.17	0.65	0.29	1.26	0.58	0.47	0.59	0.60	0.45	0.78

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	153
v/c Ratio	0.84
Control Delay	93.9
Queue Delay	0.0
Total Delay	93.9
Queue Length 50th (ft)	151
Queue Length 95th (ft)	#225
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	183
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.84

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	349	621	126	56	772	134	521	227	95	524	213	496
v/c Ratio	1.33	0.43	0.18	0.90	0.33	1.44	0.56	0.46	0.63	0.75	0.68	1.07
Control Delay	207.6	30.7	5.8	154.7	23.1	293.2	45.2	22.7	71.0	60.2	64.1	118.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	207.6	30.7	5.8	154.7	23.1	293.2	45.2	22.7	71.0	60.2	64.1	118.7
Queue Length 50th (ft)	~411	211	5	52	156	~165	221	87	80	238	182	~257
Queue Length 95th (ft)	#611	265	45	#139	186	#304	285	179	#156	305	276	#365
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	262	1439	712	62	2359	93	938	491	151	701	313	462
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.33	0.43	0.18	0.90	0.33	1.44	0.56	0.46	0.63	0.75	0.68	1.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	228
v/c Ratio	1.15
Control Delay	162.6
Queue Delay	0.0
Total Delay	162.6
Queue Length 50th (ft)	~267
Queue Length 95th (ft)	#447
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	198
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	1.15

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	423	652	131	39	731	100	427	188	79	358	111	292
v/c Ratio	1.32	0.39	0.16	0.63	0.27	1.23	0.55	0.44	0.56	0.64	0.44	0.68
Control Delay	195.2	24.4	5.1	106.1	18.0	228.1	49.7	20.9	70.4	60.7	59.3	67.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	195.2	24.4	5.1	106.1	18.0	228.1	49.7	20.9	70.4	60.7	59.3	67.1
Queue Length 50th (ft)	~504	200	7	36	128	~112	188	57	67	162	92	132
Queue Length 95th (ft)	#661	232	43	#85	141	#235	247	140	124	215	154	156
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	321	1687	815	62	2659	81	783	430	142	563	252	429
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.32	0.39	0.16	0.63	0.27	1.23	0.55	0.44	0.56	0.64	0.44	0.68

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	133
v/c Ratio	0.73
Control Delay	81.3
Queue Delay	0.0
Total Delay	81.3
Queue Length 50th (ft)	129
Queue Length 95th (ft)	181
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	183
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.73

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	325	621	123	54	748	133	474	204	95	500	205	455
v/c Ratio	1.15	0.41	0.17	0.87	0.30	1.25	0.53	0.43	0.61	0.80	0.73	1.04
Control Delay	136.6	28.5	5.1	147.3	21.0	221.7	45.9	20.7	71.2	65.7	70.6	112.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	136.6	28.5	5.1	147.3	21.0	221.7	45.9	20.7	71.2	65.7	70.6	112.6
Queue Length 50th (ft)	~346	202	3	50	143	~151	202	68	81	232	178	~230
Queue Length 95th (ft)	#541	254	41	#134	171	#289	263	153	#150	298	#287	#336
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	283	1514	744	62	2475	106	897	472	155	625	280	436
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.15	0.41	0.17	0.87	0.30	1.25	0.53	0.43	0.61	0.80	0.73	1.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	210
v/c Ratio	1.12
Control Delay	154.3
Queue Delay	0.0
Total Delay	154.3
Queue Length 50th (ft)	~240
Queue Length 95th (ft)	#416
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	188
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	1.12

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	452	652	132	40	746	102	473	208	79	367	121	337
v/c Ratio	1.47	0.40	0.17	0.65	0.29	1.26	0.57	0.46	0.58	0.60	0.44	0.78
Control Delay	259.6	25.8	5.5	108.2	19.2	236.0	48.9	22.6	71.1	57.9	57.5	72.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	259.6	25.8	5.5	108.2	19.2	236.0	48.9	22.6	71.1	57.9	57.5	72.2
Queue Length 50th (ft)	~572	206	7	37	136	~116	208	73	67	164	100	155
Queue Length 95th (ft)	#729	239	46	#86	149	#239	270	162	125	216	164	178
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	307	1637	795	62	2583	81	824	449	137	613	274	433
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.47	0.40	0.17	0.65	0.29	1.26	0.57	0.46	0.58	0.60	0.44	0.78

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	151
v/c Ratio	0.83
Control Delay	92.4
Queue Delay	0.0
Total Delay	92.4
Queue Length 50th (ft)	149
Queue Length 95th (ft)	#220
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	183
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.83

Intersection Summary

Queues

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	SWL
Lane Group Flow (vph)	345	621	126	56	772	134	514	224	95	519	209	493
v/c Ratio	1.29	0.42	0.17	0.90	0.32	1.44	0.56	0.47	0.65	0.77	0.69	1.07
Control Delay	191.3	30.0	5.6	154.7	22.4	293.2	46.0	22.9	73.4	62.1	65.8	116.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	191.3	30.0	5.6	154.7	22.4	293.2	46.0	22.9	73.4	62.1	65.8	116.9
Queue Length 50th (ft)	~399	208	5	52	153	~165	220	85	81	238	179	~254
Queue Length 95th (ft)	#598	261	45	#139	183	#304	284	175	#159	305	272	#361
Internal Link Dist (ft)		2332			1904		852			1775		3298
Turn Bay Length (ft)	362		55	158		255		344	202		126	
Base Capacity (vph)	267	1464	723	62	2394	93	914	481	147	675	302	462
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.29	0.42	0.17	0.90	0.32	1.44	0.56	0.47	0.65	0.77	0.69	1.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	SWR
Lane Group Flow (vph)	225
v/c Ratio	1.14
Control Delay	158.0
Queue Delay	0.0
Total Delay	158.0
Queue Length 50th (ft)	~260
Queue Length 95th (ft)	#441
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	198
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	1.14

Intersection Summary

HCM 6th Signalized Intersection Summary

1: Norwalk BI & Lakeland Rd

05/11/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	144	27	83	153	98	26	756	150	75	486	41
Future Volume (veh/h)	30	144	27	83	153	98	26	756	150	75	486	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	41	197	37	97	178	114	32	945	188	86	559	47
Peak Hour Factor	0.73	0.73	0.73	0.86	0.86	0.86	0.80	0.80	0.80	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	3	3	3	5	5	5
Cap, veh/h	77	249	43	217	389	330	590	2038	405	347	2253	189
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.70	0.70	0.70	0.70	0.70	0.70
Sat Flow, veh/h	150	1216	212	1165	1900	1610	808	2931	583	485	3240	272
Grp Volume(v), veh/h	275	0	0	97	178	114	32	568	565	86	299	307
Grp Sat Flow(s),veh/h/ln	1578	0	0	1165	1900	1610	808	1763	1751	485	1735	1777
Q Serve(g_s), s	8.0	0.0	0.0	0.0	7.4	5.5	1.4	13.0	13.1	8.7	5.7	5.7
Cycle Q Clear(g_c), s	15.4	0.0	0.0	14.7	7.4	5.5	7.1	13.0	13.1	21.8	5.7	5.7
Prop In Lane	0.15		0.13	1.00		1.00	1.00		0.33	1.00		0.15
Lane Grp Cap(c), veh/h	369	0	0	217	389	330	590	1226	1217	347	1206	1236
V/C Ratio(X)	0.75	0.00	0.00	0.45	0.46	0.35	0.05	0.46	0.46	0.25	0.25	0.25
Avail Cap(c_a), veh/h	520	0	0	321	559	474	590	1226	1217	347	1206	1236
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	0.0	0.0	34.3	31.4	30.6	6.4	6.2	6.2	11.1	5.0	5.0
Incr Delay (d2), s/veh	3.6	0.0	0.0	1.4	0.8	0.6	0.2	1.2	1.2	1.7	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.1	0.0	0.0	3.7	6.2	3.9	0.4	7.7	7.7	1.9	3.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	0.0	0.0	35.8	32.3	31.3	6.5	7.3	7.4	12.8	5.5	5.5
LnGrp LOS	D	A	A	D	C	C	A	A	A	B	A	A
Approach Vol, veh/h		275			389			1165			692	
Approach Delay, s/veh		38.1			32.8			7.3			6.4	
Approach LOS		D			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.1		22.9		67.1		22.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		54.5		26.5		54.5		26.5				
Max Q Clear Time (g_c+I1), s		15.1		17.4		23.8		16.7				
Green Ext Time (p_c), s		10.3		1.1		5.5		1.2				
Intersection Summary												
HCM 6th Ctrl Delay				14.4								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Norwalk Bl & Crewe St

05/11/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	72	97	47	816	637	39
Future Volume (veh/h)	72	97	47	816	637	39
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	1900	1900	1856	1856	1826	1826
Adj Flow Rate, veh/h	91	123	61	1060	700	43
Peak Hour Factor	0.79	0.79	0.77	0.77	0.91	0.91
Percent Heavy Veh, %	0	0	3	3	5	5
Cap, veh/h	184	164	609	2814	2650	163
Arrive On Green	0.10	0.10	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1810	1610	711	3618	3411	204
Grp Volume(v), veh/h	91	123	61	1060	366	377
Grp Sat Flow(s), veh/h/ln	1810	1610	711	1763	1735	1789
Q Serve(g_s), s	4.3	6.7	2.2	7.8	4.9	4.9
Cycle Q Clear(g_c), s	4.3	6.7	7.0	7.8	4.9	4.9
Prop In Lane	1.00	1.00	1.00			0.11
Lane Grp Cap(c), veh/h	184	164	609	2814	1384	1428
V/C Ratio(X)	0.49	0.75	0.10	0.38	0.26	0.26
Avail Cap(c_a), veh/h	472	420	609	2814	1384	1428
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.60	0.60	0.96	0.96
Uniform Delay (d), s/veh	38.2	39.3	3.2	2.6	2.3	2.3
Incr Delay (d2), s/veh	2.0	6.7	0.2	0.2	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	5.2	0.5	3.1	2.1	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.3	46.0	3.4	2.9	2.8	2.8
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	214			1121	743	
Approach Delay, s/veh	43.5			2.9	2.8	
Approach LOS	D			A	A	
Timer - Assigned Phs	2			4		6
Phs Duration (G+Y+Rc), s	76.3			13.7		76.3
Change Period (Y+Rc), s	4.5			4.5		4.5
Max Green Setting (Gmax), s	57.5			23.5		57.5
Max Q Clear Time (g_c+I1), s	9.8			8.7		6.9
Green Ext Time (p_c), s	11.0			0.5		5.5
Intersection Summary						
HCM 6th Ctrl Delay			7.0			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

3: Firestone Bl & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↖ ↑↑↑	↖ ↑↑↑	↖	↖ ↖	↑↑		↖ ↖ ↑↑↑		
Traffic Volume (veh/h)	0	1260	306	7	1062	326	258	391	9	278	353	0
Future Volume (veh/h)	0	1260	306	7	1062	326	258	391	9	278	353	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	0	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1385	336	8	1221	375	274	416	0	320	406	0
Peak Hour Factor	0.91	0.91	0.91	0.87	0.87	0.87	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	0	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	1726	418	95	2148	667	341	1233		390	1844	0
Arrive On Green	0.00	0.42	0.42	0.14	0.14	0.14	0.10	0.35	0.00	0.11	0.36	0.00
Sat Flow, veh/h	0	4237	985	280	5066	1572	3428	3618	0	3428	5233	0
Grp Volume(v), veh/h	0	1148	573	8	1221	375	274	416	0	320	406	0
Grp Sat Flow(s),veh/h/ln	0	1689	1678	280	1689	1572	1714	1763	0	1714	1689	0
Q Serve(g_s), s	0.0	35.6	35.8	3.3	27.0	26.7	9.4	10.4	0.0	11.0	6.6	0.0
Cycle Q Clear(g_c), s	0.0	35.6	35.8	39.1	27.0	26.7	9.4	10.4	0.0	11.0	6.6	0.0
Prop In Lane	0.00		0.59	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1432	712	95	2148	667	341	1233		390	1844	0
V/C Ratio(X)	0.00	0.80	0.80	0.08	0.57	0.56	0.80	0.34		0.82	0.22	0.00
Avail Cap(c_a), veh/h	0	1646	818	113	2469	767	529	1233		586	1844	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.46	0.46	0.46	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	30.2	30.2	63.8	41.3	41.2	52.9	28.8	0.0	52.0	26.4	0.0
Incr Delay (d2), s/veh	0.0	2.6	5.2	0.2	0.1	0.3	5.0	0.7	0.0	5.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	21.0	21.6	0.5	16.2	15.1	7.7	8.1	0.0	8.7	4.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	32.8	35.4	64.0	41.5	41.6	57.9	29.5	0.0	57.7	26.7	0.0
LnGrp LOS	A	C	D	E	D	D	E	C		E	C	A
Approach Vol, veh/h	1721			1604			690			726		
Approach Delay, s/veh	33.6			41.6			40.8			40.3		
Approach LOS	C			D			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.1	46.5		55.4	16.4	48.2		55.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	20.5	27.5		58.5	18.5	29.5		58.5				
Max Q Clear Time (g_c+1.0), s	13.0	12.4		37.8	11.4	8.6		41.1				
Green Ext Time (p_c), s	0.7	2.4		12.9	0.5	2.7		9.8				

Intersection Summary

HCM 6th Ctrl Delay 38.4

HCM 6th LOS D

Notes

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

HCM 6th Signalized Intersection Summary

4: Pioneer Bl & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	337	1170	81	120	1092	103	22	356	150	135	305	471
Future Volume (veh/h)	337	1170	81	120	1092	103	22	356	150	135	305	471
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	411	1427	99	145	1316	124	26	414	174	169	381	589
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.86	0.86	0.86	0.80	0.80	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	440	2219	689	173	1453	451	43	874	390	227	1022	456
Arrive On Green	0.25	0.44	0.44	0.10	0.29	0.29	0.02	0.25	0.25	0.07	0.29	0.29
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	411	1427	99	145	1316	124	26	414	174	169	381	589
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1714	1763	1572
Q Serve(g_s), s	27.3	26.4	4.5	9.7	30.0	7.3	1.7	12.0	11.2	5.8	10.3	34.8
Cycle Q Clear(g_c), s	27.3	26.4	4.5	9.7	30.0	7.3	1.7	12.0	11.2	5.8	10.3	34.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	440	2219	689	173	1453	451	43	874	390	227	1022	456
V/C Ratio(X)	0.93	0.64	0.14	0.84	0.91	0.27	0.61	0.47	0.45	0.75	0.37	1.29
Avail Cap(c_a), veh/h	496	2219	689	268	1486	461	74	874	390	314	1022	456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.59	0.59	0.59	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	26.4	20.2	53.2	41.2	33.1	58.0	38.5	38.2	55.0	33.9	42.6
Incr Delay (d2), s/veh	16.1	0.4	0.1	11.2	7.2	0.3	13.2	1.8	3.7	6.1	1.0	147.2
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	18.5	14.7	3.0	8.2	18.9	5.1	1.7	9.2	8.3	4.9	8.1	47.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.2	26.8	20.3	64.3	48.4	33.4	71.2	40.3	41.8	61.1	35.0	189.8
LnGrp LOS	E	C	C	E	D	C	E	D	D	E	C	F
Approach Vol, veh/h	1937			1585			614			1139		
Approach Delay, s/veh	33.5			48.7			42.0			118.9		
Approach LOS	C			D			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	34.2	16.3	57.1	7.4	39.3	34.4	38.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	11.0	22.1	18.2	50.7	5.0	28.1	33.7	35.2				
Max Q Clear Time (g_c+I), s	17.8	14.0	11.7	28.4	3.7	36.8	29.3	32.0				
Green Ext Time (p_c), s	0.1	2.1	0.2	11.7	0.0	0.0	0.6	2.4				

Intersection Summary

HCM 6th Ctrl Delay 57.5

HCM 6th LOS E

HCM 6th Signalized Intersection Summary

5: Frontage Rd/I-5 SB Off-Ramp & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑↑	
Traffic Volume (veh/h)	0	1332	255	9	1124	0	0	0	0	437	102	172
Future Volume (veh/h)	0	1332	255	9	1124	0	0	0	0	437	102	172
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	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1624	311	10	1249	0				568	132	223
Peak Hour Factor	0.82	0.82	0.82	0.90	0.90	0.90				0.77	0.77	0.77
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	2212	687	41	2489	0				1495	262	443
Arrive On Green	0.00	0.44	0.44	0.01	0.49	0.00				0.42	0.42	0.42
Sat Flow, veh/h	0	5233	1572	3428	5233	0				3534	620	1047
Grp Volume(v), veh/h	0	1624	311	10	1249	0				568	0	355
Grp Sat Flow(s),veh/h/ln	0	1689	1572	1714	1689	0				1767	0	1667
Q Serve(g_s), s	0.0	28.0	14.6	0.3	17.5	0.0				11.6	0.0	16.4
Cycle Q Clear(g_c), s	0.0	28.0	14.6	0.3	17.5	0.0				11.6	0.0	16.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.63
Lane Grp Cap(c), veh/h	0	2212	687	41	2489	0				1495	0	705
V/C Ratio(X)	0.00	0.73	0.45	0.24	0.50	0.00				0.38	0.00	0.50
Avail Cap(c_a), veh/h	0	2721	845	179	3202	0				1495	0	705
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	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	24.6	20.8	51.5	18.1	0.0				20.9	0.0	22.2
Incr Delay (d2), s/veh	0.0	0.8	0.5	3.0	0.2	0.0				0.7	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
%ile BackOfQ(95%),veh/ln	0.0	16.4	9.1	0.3	10.9	0.0				8.5	0.0	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.4	21.3	54.5	18.2	0.0				21.6	0.0	24.8
LnGrp LOS	A	C	C	D	B	A				C	A	C
Approach Vol, veh/h		1935			1259						923	
Approach Delay, s/veh		24.7			18.5						22.8	
Approach LOS		C			B						C	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			5.8	50.4		49.0		56.2				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			5.5	56.5		44.5		66.5				
Max Q Clear Time (g_c+I1), s			2.3	30.0		18.4		19.5				
Green Ext Time (p_c), s			0.0	16.0		4.8		12.5				
Intersection Summary												
HCM 6th Ctrl Delay			22.4									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary 6: Adoree St/I-5 NB On-Ramp & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕		↔↔	↕↕↕	↔		↕↕	↔			
Traffic Volume (veh/h)	86	1683	48	1	1073	479	86	108	12	0	0	0
Future Volume (veh/h)	86	1683	48	1	1073	479	86	108	12	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	105	2052	59	1	1166	521	118	148	16			
Peak Hour Factor	0.82	0.82	0.82	0.92	0.92	0.92	0.73	0.73	0.73			
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3			
Cap, veh/h	157	2287	65	2	3085	958	411	410	366			
Arrive On Green	0.05	0.65	0.65	0.00	0.61	0.61	0.23	0.23	0.23			
Sat Flow, veh/h	3428	3500	100	1767	5066	1572	1767	1763	1572			
Grp Volume(v), veh/h	105	1028	1083	1	1166	521	118	148	16			
Grp Sat Flow(s),veh/h/ln	1714	1763	1838	1767	1689	1572	1767	1763	1572			
Q Serve(g_s), s	3.6	58.2	59.6	0.1	14.0	23.3	6.6	8.4	0.9			
Cycle Q Clear(g_c), s	3.6	58.2	59.6	0.1	14.0	23.3	6.6	8.4	0.9			
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	157	1152	1201	2	3085	958	411	410	366			
V/C Ratio(X)	0.67	0.89	0.90	0.41	0.38	0.54	0.29	0.36	0.04			
Avail Cap(c_a), veh/h	243	1212	1263	75	3339	1037	411	410	366			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.72	0.72	0.72	0.57	0.57	0.57	1.00	1.00	1.00			
Uniform Delay (d), s/veh	56.3	17.3	17.5	59.9	11.9	13.7	37.9	38.6	35.7			
Incr Delay (d2), s/veh	3.5	6.3	6.7	53.9	0.0	0.3	1.8	2.5	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	8.0	30.1	32.0	0.1	7.9	11.5	5.5	7.1	0.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.8	23.6	24.2	113.8	12.0	14.0	39.6	41.0	35.9			
LnGrp LOS	E	C	C	F	B	B	D	D	D			
Approach Vol, veh/h												
		2216				1688				282		
		25.6				12.7				40.1		
		C				B				D		
Timer - Assigned Phs												
		2	3	4				7	8			
		32.4	4.7	82.9				10.0	77.6			
		4.5	4.5	4.5				4.5	4.5			
		18.9	5.1	82.5				8.5	79.1			
		10.4	2.1	61.6				5.6	25.3			
		0.9	0.0	16.8				0.1	15.8			
Intersection Summary												
HCM 6th Ctrl Delay			21.4									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

7: Kalnor Ave & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↱ ↲ ↳			↰ ↱ ↲ ↳			↰ ↱ ↲ ↳			↰ ↱ ↲ ↳		
Traffic Volume (veh/h)	30	1411	30	14	1322	37	12	7	25	23	7	11
Future Volume (veh/h)	30	1411	30	14	1322	37	12	7	25	23	7	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	36	1700	36	16	1485	42	16	9	33	31	9	15
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	59	2913	62	33	1958	873	307	159	406	421	162	269
Arrive On Green	0.03	0.57	0.57	0.02	0.56	0.56	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1767	5105	108	1767	3526	1572	942	629	1610	1386	640	1067
Grp Volume(v), veh/h	36	1124	612	16	1485	42	25	0	33	31	0	24
Grp Sat Flow(s), veh/h/ln	1767	1689	1836	1767	1763	1572	1572	0	1610	1386	0	1708
Q Serve(g_s), s	1.7	18.3	18.3	0.8	27.6	1.0	0.0	0.0	1.3	1.5	0.0	0.9
Cycle Q Clear(g_c), s	1.7	18.3	18.3	0.8	27.6	1.0	0.8	0.0	1.3	2.3	0.0	0.9
Prop In Lane	1.00		0.06	1.00		1.00	0.64		1.00	1.00		0.63
Lane Grp Cap(c), veh/h	59	1927	1048	33	1958	873	466	0	406	421	0	431
V/C Ratio(X)	0.61	0.58	0.58	0.49	0.76	0.05	0.05	0.00	0.08	0.07	0.00	0.06
Avail Cap(c_a), veh/h	176	3112	1692	135	3166	1412	466	0	406	421	0	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.6	11.8	11.8	41.4	14.5	8.6	24.1	0.0	24.3	25.0	0.0	24.1
Incr Delay (d2), s/veh	9.5	0.3	0.5	10.9	0.6	0.0	0.2	0.0	0.4	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	10.3	11.1	0.8	15.1	0.6	0.7	0.0	1.0	0.9	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.1	12.1	12.3	52.3	15.2	8.7	24.3	0.0	24.7	25.3	0.0	24.4
LnGrp LOS	D	B	B	D	B	A	C	A	C	C	A	C
Approach Vol, veh/h	1772			1543			58			55		
Approach Delay, s/veh	12.9			15.4			24.5			24.9		
Approach LOS	B			B			C			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	26.0			6.1			53.1			26.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	21.5			6.5			78.5			21.5		
Max Q Clear Time (g_c+I1), s	3.3			2.8			20.3			4.3		
Green Ext Time (p_c), s	0.1			0.0			21.0			0.1		

Intersection Summary

HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

8: Imperial Highway & Norwalk BI

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	1228	79	114	1186	40	121	629	125	121	475	110
Future Volume (veh/h)	158	1228	79	114	1186	40	121	629	125	121	475	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	184	1428	92	130	1348	45	157	817	162	141	552	128
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.77	0.77	0.77	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	5	5	5
Cap, veh/h	211	1634	507	154	1470	456	183	1213	541	167	1679	521
Arrive On Green	0.12	0.32	0.32	0.17	0.58	0.58	0.21	0.69	0.69	0.10	0.34	0.34
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	1739	4985	1547
Grp Volume(v), veh/h	184	1428	92	130	1348	45	157	817	162	141	552	128
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1739	1662	1547
Q Serve(g_s), s	12.3	31.9	5.1	8.5	28.7	1.5	10.3	16.2	4.9	9.6	9.9	7.2
Cycle Q Clear(g_c), s	12.3	31.9	5.1	8.5	28.7	1.5	10.3	16.2	4.9	9.6	9.9	7.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	1634	507	154	1470	456	183	1213	541	167	1679	521
V/C Ratio(X)	0.87	0.87	0.18	0.84	0.92	0.10	0.86	0.67	0.30	0.84	0.33	0.25
Avail Cap(c_a), veh/h	243	1710	531	184	1541	478	280	1213	541	197	1679	521
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	0.70	0.70	0.70	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	51.9	38.3	29.2	48.7	23.9	18.2	46.7	14.8	13.0	53.3	29.7	28.8
Incr Delay (d2), s/veh	20.9	4.2	0.1	18.8	6.5	0.1	15.0	3.0	1.4	23.3	0.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.4	19.1	3.5	7.1	12.8	1.0	8.4	8.2	3.1	8.9	7.3	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.8	42.6	29.4	67.5	30.4	18.3	61.8	17.8	14.4	76.6	30.2	29.9
LnGrp LOS	E	D	C	E	C	B	E	B	B	E	C	C
Approach Vol, veh/h	1704		1523			1136			821			
Approach Delay, s/veh	45.1		33.2			23.4			38.1			
Approach LOS	D		C			C			D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	45.8	15.0	43.2	16.9	44.9	18.9	39.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.6	35.4	12.5	40.5	19.0	30.0	16.5	36.5				
Max Q Clear Time (g_c+1), s	11.6	18.2	10.5	33.9	12.3	11.9	14.3	30.7				
Green Ext Time (p_c), s	0.1	6.0	0.1	4.8	0.2	4.0	0.1	4.1				

Intersection Summary

HCM 6th Ctrl Delay	35.7
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

9: Avenida Manuel Salinas & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	1205	121	27	1307	75	40	16	18	54	20	29
Future Volume (veh/h)	37	1205	121	27	1307	75	40	16	18	54	20	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	47	1525	153	28	1376	79	51	20	23	61	23	33
Peak Hour Factor	0.79	0.79	0.79	0.95	0.95	0.95	0.79	0.79	0.79	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	60	1794	557	45	1749	543	741	350	403	564	223	320
Arrive On Green	0.07	0.71	0.71	0.05	0.69	0.69	0.15	0.43	0.43	0.04	0.32	0.32
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1810	806	927	1810	706	1012
Grp Volume(v), veh/h	47	1525	153	28	1376	79	51	0	43	61	0	56
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1810	0	1733	1810	0	1718
Q Serve(g_s), s	3.1	26.5	4.2	1.9	22.1	2.1	1.8	0.0	1.7	2.7	0.0	2.8
Cycle Q Clear(g_c), s	3.1	26.5	4.2	1.9	22.1	2.1	1.8	0.0	1.7	2.7	0.0	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.53	1.00		0.59
Lane Grp Cap(c), veh/h	60	1794	557	45	1749	543	741	0	753	564	0	544
V/C Ratio(X)	0.78	0.85	0.27	0.63	0.79	0.15	0.07	0.00	0.06	0.11	0.00	0.10
Avail Cap(c_a), veh/h	155	2301	714	110	2174	675	741	0	753	596	0	544
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.52	0.52	0.52	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.5	15.2	11.9	56.4	15.6	12.5	16.3	0.0	19.7	26.0	0.0	29.0
Incr Delay (d2), s/veh	10.8	1.4	0.1	11.6	1.4	0.1	0.2	0.0	0.1	0.1	0.0	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	2.8	8.0	2.5	1.7	8.3	1.3	1.4	0.0	1.3	2.1	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.2	16.5	12.1	68.0	16.9	12.6	16.5	0.0	19.8	26.1	0.0	29.4
LnGrp LOS	E	B	B	E	B	B	B	A	B	C	A	C
Approach Vol, veh/h	1725		1483				94			117		
Approach Delay, s/veh	17.5		17.7				18.0			27.7		
Approach LOS	B		B				B			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	56.6	7.5	47.0	23.0	42.5	8.6	45.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5	33.5	7.5	54.5	18.5	21.5	10.5	51.5				
Max Q Clear Time (g_c+1.7), s	14.7	3.7	3.9	28.5	3.8	4.8	5.1	24.1				
Green Ext Time (p_c), s	0.0	0.2	0.0	14.0	0.1	0.2	0.0	12.4				
Intersection Summary												
HCM 6th Ctrl Delay			17.9									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

10: Imperial Highway & Volunteer Ave

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑ ↱			↰ ↑↑ ↱			↰ ↱			↰ ↱		
Traffic Volume (veh/h)	2	1146	144	60	1355	28	30	14	28	51	51	22
Future Volume (veh/h)	2	1146	144	60	1355	28	30	14	28	51	51	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2	1432	180	63	1426	29	47	22	44	58	58	25
Peak Hour Factor	0.80	0.80	0.80	0.95	0.95	0.95	0.64	0.64	0.64	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	143	1882	236	169	2489	51	582	248	495	374	360	705
Arrive On Green	0.41	0.41	0.41	0.01	0.16	0.16	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	362	4557	573	1767	5110	104	1336	565	1131	750	823	1610
Grp Volume(v), veh/h	2	1061	551	63	942	513	47	0	66	116	0	25
Grp Sat Flow(s),veh/h/ln	362	1689	1752	1767	1689	1837	1336	0	1696	1573	0	1610
Q Serve(g_s), s	0.5	32.3	32.3	2.4	31.0	31.0	2.7	0.0	2.7	3.0	0.0	1.1
Cycle Q Clear(g_c), s	22.6	32.3	32.3	2.4	31.0	31.0	8.4	0.0	2.7	5.7	0.0	1.1
Prop In Lane	1.00		0.33	1.00		0.06	1.00		0.67	0.50		1.00
Lane Grp Cap(c), veh/h	143	1395	724	169	1645	895	582	0	743	734	0	705
V/C Ratio(X)	0.01	0.76	0.76	0.37	0.57	0.57	0.08	0.00	0.09	0.16	0.00	0.04
Avail Cap(c_a), veh/h	194	1871	971	274	2322	1263	582	0	743	734	0	705
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	0.39	0.39	0.39	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.9	30.1	30.2	24.5	38.8	38.8	23.1	0.0	19.7	20.5	0.0	19.3
Incr Delay (d2), s/veh	0.0	0.9	1.7	0.5	0.1	0.2	0.3	0.0	0.2	0.5	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	0.1	17.9	18.7	1.8	17.9	19.3	1.6	0.0	2.0	3.8	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.9	31.0	31.8	25.0	38.9	39.0	23.4	0.0	20.0	21.0	0.0	19.3
LnGrp LOS	D	C	C	C	D	D	C	A	B	C	A	B
Approach Vol, veh/h	1614			1518			113			141		
Approach Delay, s/veh	31.3			38.4			21.4			20.7		
Approach LOS	C			D			C			C		
Timer - Assigned Phs	2		3	4	6			8				
Phs Duration (G+Y+Rc), s	57.0		8.9	54.1	57.0			63.0				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5			4.5				
Max Green Setting (Gmax), s	28.5		11.5	66.5	28.5			82.5				
Max Q Clear Time (g_c+I1), s	10.4		4.4	34.3	7.7			33.0				
Green Ext Time (p_c), s	0.4		0.1	15.3	0.6			14.9				
Intersection Summary												
HCM 6th Ctrl Delay			33.7									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

11: Bloomfield Ave & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	244	790	90	416	1254	198	81	557	387	136	509	173
Future Volume (veh/h)	244	790	90	416	1254	198	81	557	387	136	509	173
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	290	940	107	457	1378	218	87	599	416	143	536	182
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	312	1193	370	487	1474	233	109	858	383	169	978	436
Arrive On Green	0.35	0.47	0.47	0.28	0.33	0.33	0.06	0.24	0.24	0.10	0.28	0.28
Sat Flow, veh/h	1767	5066	1572	1767	4410	697	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	290	940	107	457	1055	541	87	599	416	143	536	182
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1730	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	19.0	18.7	5.0	30.3	36.3	36.3	5.8	18.6	29.2	9.6	15.5	11.4
Cycle Q Clear(g_c), s	19.0	18.7	5.0	30.3	36.3	36.3	5.8	18.6	29.2	9.6	15.5	11.4
Prop In Lane	1.00		1.00	1.00		0.40	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	312	1193	370	487	1129	578	109	858	383	169	978	436
V/C Ratio(X)	0.93	0.79	0.29	0.94	0.93	0.94	0.80	0.70	1.09	0.85	0.55	0.42
Avail Cap(c_a), veh/h	346	1193	370	546	1140	584	134	858	383	184	978	436
HCM Platoon Ratio	2.00	2.00	2.00	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	0.73	0.73	0.73	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	29.2	25.6	42.5	38.7	38.7	55.5	41.4	45.4	53.4	37.0	35.4
Incr Delay (d2), s/veh	22.0	2.4	0.3	23.0	13.7	22.4	17.7	3.5	65.0	27.2	2.2	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.7	9.5	3.2	22.8	23.7	25.9	5.6	12.5	25.4	9.4	11.3	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.1	31.6	25.9	65.5	52.4	61.1	73.3	44.8	110.4	80.6	39.2	38.4
LnGrp LOS	E	C	C	E	D	E	E	D	F	F	D	D
Approach Vol, veh/h	1337		2053			1102			861			
Approach Delay, s/veh	37.3		57.6			71.9			45.9			
Approach LOS	D		E			E			D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	33.7	37.5	32.8	11.9	37.8	25.7	44.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	25.5	37.1	26.9	9.1	28.9	23.5	40.5				
Max Q Clear Time (g_c+1), s	11.6	31.2	32.3	20.7	7.8	17.5	21.0	38.3				
Green Ext Time (p_c), s	0.0	0.0	0.7	3.4	0.0	3.3	0.2	1.8				

Intersection Summary

HCM 6th Ctrl Delay 53.6

HCM 6th LOS D

HCM 6th Signalized Intersection Summary

12: Norwalk Bl & Civic Center Dr

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔		↑↑↑	↔	↔	↑↑↑	
Traffic Volume (veh/h)	1	0	1	329	4	92	0	862	599	96	644	4
Future Volume (veh/h)	1	0	1	329	4	92	0	862	599	96	644	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	0	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	2	0	2	396	0	110	0	1091	758	105	708	4
Peak Hour Factor	0.50	0.50	0.50	0.84	0.84	0.84	0.79	0.79	0.79	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	0	3	3	3	3	3
Cap, veh/h	4	0	4	494	0	220	0	3203	1214	129	3860	22
Arrive On Green	0.01	0.00	0.01	0.14	0.00	0.14	0.00	1.00	1.00	0.15	1.00	1.00
Sat Flow, veh/h	832	0	832	3534	0	1572	0	5233	1572	1767	5198	29
Grp Volume(v), veh/h	4	0	0	396	0	110	0	1091	758	105	460	252
Grp Sat Flow(s), veh/h/ln	1664	0	0	1767	0	1572	0	1689	1572	1767	1689	1850
Q Serve(g_s), s	0.3	0.0	0.0	13.0	0.0	7.8	0.0	0.0	0.0	6.9	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	0.0	13.0	0.0	7.8	0.0	0.0	0.0	6.9	0.0	0.0
Prop In Lane	0.50		0.50	1.00		1.00	0.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	9	0	0	494	0	220	0	3203	1214	129	2508	1374
V/C Ratio(X)	0.46	0.00	0.00	0.80	0.00	0.50	0.00	0.34	0.62	0.82	0.18	0.18
Avail Cap(c_a), veh/h	250	0	0	1016	0	452	0	3203	1214	216	2508	1374
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	0.66	0.00	0.66	0.00	0.66	0.66	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	0.0	0.0	50.0	0.0	47.7	0.0	0.0	0.0	50.5	0.0	0.0
Incr Delay (d2), s/veh	33.9	0.0	0.0	2.1	0.0	1.2	0.0	0.2	1.6	11.7	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	0.0	0.0	9.1	0.0	5.5	0.0	0.1	1.0	5.9	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.4	0.0	0.0	52.1	0.0	48.9	0.0	0.2	1.6	62.2	0.2	0.3
LnGrp LOS	F	A	A	D	A	D	A	A	A	E	A	A
Approach Vol, veh/h	4			506			1849			817		
Approach Delay, s/veh	93.4			51.4			0.8			8.2		
Approach LOS	F			D			A			A		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.2	80.4		5.1		93.6		21.3				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	14.7	34.8		18.0		54.0		34.5				
Max Q Clear Time (g_c+1.0), s	10.9	2.0		2.3		2.0		15.0				
Green Ext Time (p_c), s	0.1	14.9		0.0		5.4		1.7				

Intersection Summary

HCM 6th Ctrl Delay 10.9

HCM 6th LOS B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

13: Civic Center Dr & Courthouse-AMC Theater

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	550	0	0	432	23	1	0	0	4	0	9
Future Volume (veh/h)	144	550	0	0	432	23	1	0	0	4	0	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No						No	
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	173	663	0	0	527	28	4	0	0	6	0	13
Peak Hour Factor	0.83	0.83	0.83	0.82	0.82	0.82	0.25	0.25	0.25	0.69	0.69	0.69
Percent Heavy Veh, %	3	3	0	0	3	3	0	0	0	0	0	0
Cap, veh/h	303	1233	0	0	686	36	865	0	0	299	26	589
Arrive On Green	0.10	0.35	0.00	0.00	0.27	0.27	0.55	0.00	0.00	0.55	0.00	0.55
Sat Flow, veh/h	1767	3618	0	0	3498	181	1427	0	0	447	47	1070
Grp Volume(v), veh/h	173	663	0	0	272	283	4	0	0	19	0	0
Grp Sat Flow(s),veh/h/ln	1767	3618	0	0	3498	1823	1427	0	0	1564	0	0
Q Serve(g_s), s	6.6	13.6	0.0	0.0	12.8	12.9	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.6	13.6	0.0	0.0	12.8	12.9	0.1	0.0	0.0	0.5	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.10	1.00		0.00	0.32		0.68
Lane Grp Cap(c), veh/h	303	1233	0	0	355	367	865	0	0	913	0	0
V/C Ratio(X)	0.57	0.54	0.00	0.00	0.77	0.77	0.00	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	532	2331	0	0	676	699	865	0	0	913	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.00	0.00	0.82	0.82	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.5	23.4	0.0	0.0	31.0	31.0	9.1	0.0	0.0	9.2	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.3	0.0	0.0	2.9	2.8	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.0	9.0	0.0	0.0	8.7	8.9	0.1	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	23.7	0.0	0.0	33.9	33.8	9.1	0.0	0.0	9.3	0.0	0.0
LnGrp LOS	C	C	A	A	C	C	A	A	A	A	A	A
Approach Vol, veh/h	836				555		4				19	
Approach Delay, s/veh	24.2				33.8		9.1				9.3	
Approach LOS	C				C		A				A	
Timer - Assigned Phs	2		4		6		7	8				
Phs Duration (G+Y+Rc), s	54.0		36.0		54.0		13.3	22.6				
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5	4.5				
Max Green Setting (Gmax), s	21.5		59.5		21.5		20.5	34.5				
Max Q Clear Time (g_c+I1), s	2.1		15.6		2.5		8.6	14.9				
Green Ext Time (p_c), s	0.0		5.3		0.0		0.3	3.3				
Intersection Summary												
HCM 6th Ctrl Delay			27.7									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

14: Civic Center Dr & Avenida Manuel Salinas

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	498	12	9	343	25	41	3	22	20	1	63
Future Volume (veh/h)	45	498	12	9	343	25	41	3	22	20	1	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	54	593	14	12	440	32	49	4	27	26	1	68
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.83	0.83	0.83	0.77	0.77	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	207	713	17	147	586	42	683	80	540	359	14	331
Arrive On Green	0.08	0.41	0.41	0.03	0.35	0.35	0.38	0.38	0.38	0.21	0.21	0.21
Sat Flow, veh/h	1767	3520	83	1767	3333	242	1810	212	1431	1746	67	1610
Grp Volume(v), veh/h	54	297	310	12	232	240	49	0	31	27	0	68
Grp Sat Flow(s),veh/h/ln	1767	1763	1841	1767	1763	1812	1810	0	1642	1813	0	1610
Q Serve(g_s), s	2.2	13.6	13.6	0.5	10.4	10.5	1.6	0.0	1.1	1.1	0.0	3.2
Cycle Q Clear(g_c), s	2.2	13.6	13.6	0.5	10.4	10.5	1.6	0.0	1.1	1.1	0.0	3.2
Prop In Lane	1.00		0.05	1.00		0.13	1.00		0.87	0.96		1.00
Lane Grp Cap(c), veh/h	207	357	373	147	310	319	683	0	620	373	0	331
V/C Ratio(X)	0.26	0.83	0.83	0.08	0.75	0.75	0.07	0.00	0.05	0.07	0.00	0.21
Avail Cap(c_a), veh/h	262	499	522	230	480	493	683	0	620	373	0	331
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	0.87	0.87	0.87	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.8	25.4	25.4	30.0	27.4	27.4	17.9	0.0	17.8	28.8	0.0	29.7
Incr Delay (d2), s/veh	0.6	7.4	7.2	0.2	3.2	3.1	0.2	0.0	0.2	0.4	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	8.5	8.8	0.4	6.9	7.1	1.2	0.0	0.8	0.9	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	32.8	32.5	30.2	30.6	30.6	18.1	0.0	17.9	29.2	0.0	31.1
LnGrp LOS	C	C	C	C	C	C	B	A	B	C	A	C
Approach Vol, veh/h	661					484		80		95		
Approach Delay, s/veh	32.3					30.6		18.1		30.5		
Approach LOS	C					C		B		C		
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	38.5		5.8		22.7		23.0		8.2		20.3	
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5		4.5	
Max Green Setting (Gmax), s	22.5		5.5		25.5		18.5		6.5		24.5	
Max Q Clear Time (g_c+I1), s	3.6		2.5		15.6		5.2		4.2		12.5	
Green Ext Time (p_c), s	0.2		0.0		2.6		0.2		0.0		2.2	
Intersection Summary												
HCM 6th Ctrl Delay	30.7											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

15: Civic Center Dr & Volunteer Ave

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	107	400	39	6	251	21	45	17	12	35	30	72	
Future Volume (veh/h)	107	400	39	6	251	21	45	17	12	35	30	72	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	130	488	48	7	292	24	75	28	20	53	45	109	
Peak Hour Factor	0.82	0.82	0.82	0.86	0.86	0.86	0.60	0.60	0.60	0.66	0.66	0.66	
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0	
Cap, veh/h	269	704	314	157	417	34	600	222	147	595	489	1033	
Arrive On Green	0.08	0.20	0.20	0.01	0.13	0.13	0.64	0.64	0.64	0.64	0.64	0.64	
Sat Flow, veh/h	1767	3526	1572	1767	3300	270	835	346	229	832	762	1610	
Grp Volume(v), veh/h	130	488	48	7	155	161	123	0	0	98	0	109	
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1807	1411	0	0	1594	0	1610	
Q Serve(g_s), s	5.5	11.6	2.3	0.3	7.6	7.7	1.4	0.0	0.0	0.0	0.0	2.3	
Cycle Q Clear(g_c), s	5.5	11.6	2.3	0.3	7.6	7.7	3.2	0.0	0.0	1.8	0.0	2.3	
Prop In Lane	1.00		1.00	1.00		0.15	0.61		0.16	0.54		1.00	
Lane Grp Cap(c), veh/h	269	704	314	157	223	228	969	0	0	1084	0	1033	
V/C Ratio(X)	0.48	0.69	0.15	0.04	0.70	0.70	0.13	0.00	0.00	0.09	0.00	0.11	
Avail Cap(c_a), veh/h	467	1469	655	308	558	572	969	0	0	1084	0	1033	
HCM Platoon Ratio	1.00	1.00	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	0.76	0.95	0.95	0.95	1.00	0.00	0.00	1.00	0.00	1.00	
Uniform Delay (d), s/veh	29.3	33.4	29.7	33.9	37.7	37.7	6.3	0.0	0.0	6.1	0.0	6.2	
Incr Delay (d2), s/veh	1.0	0.9	0.2	0.1	3.7	3.8	0.3	0.0	0.0	0.2	0.0	0.2	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	4.3	8.1	1.6	0.2	6.2	6.5	1.6	0.0	0.0	1.2	0.0	1.4	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	30.4	34.4	29.9	34.0	41.4	41.5	6.6	0.0	0.0	6.3	0.0	6.4	
LnGrp LOS	C	C	C	C	D	D	A	A	A	A	A	A	
Approach Vol, veh/h		666		323			123			207			
Approach Delay, s/veh		33.3		41.2			6.6			6.3			
Approach LOS		C		D			A			A			
Timer - Assigned Phs		2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s		62.2		5.3		22.5		62.2		11.9		15.9	
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5		4.5		4.5	
Max Green Setting (Gmax), s		30.5		8.5		37.5		30.5		17.5		28.5	
Max Q Clear Time (g_c+I1), s		5.2		2.3		13.6		4.3		7.5		9.7	
Green Ext Time (p_c), s		0.7		0.0		3.5		0.9		0.2		1.7	
Intersection Summary													
HCM 6th Ctrl Delay			28.5										
HCM 6th LOS			C										

HCM 6th Signalized Intersection Summary

16: Civic Center Dr & Bloomfield Ave

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	302	13	83	33	34	8	128	913	7	2	648	190
Future Volume (veh/h)	302	13	83	33	34	8	128	913	7	2	648	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	351	15	97	37	38	9	168	1201	9	2	720	211
Peak Hour Factor	0.86	0.86	0.86	0.89	0.89	0.89	0.76	0.76	0.76	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	438	556	471	434	435	103	226	2099	16	5	1840	821
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.07	0.59	0.59	0.01	1.00	1.00
Sat Flow, veh/h	1348	1856	1572	1271	1450	343	3428	3587	27	1767	3526	1572
Grp Volume(v), veh/h	351	15	97	37	0	47	168	590	620	2	720	211
Grp Sat Flow(s),veh/h/ln	1348	1856	1572	1271	0	1794	1714	1763	1851	1767	1763	1572
Q Serve(g_s), s	30.4	0.7	5.5	2.5	0.0	2.3	5.8	25.1	25.1	0.1	0.0	0.0
Cycle Q Clear(g_c), s	32.7	0.7	5.5	3.2	0.0	2.3	5.8	25.1	25.1	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	438	556	471	434	0	538	226	1031	1083	5	1840	821
V/C Ratio(X)	0.80	0.03	0.21	0.09	0.00	0.09	0.74	0.57	0.57	0.42	0.39	0.26
Avail Cap(c_a), veh/h	568	734	622	556	0	710	323	1031	1083	75	1840	821
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)	0.88	0.88	0.88	1.00	0.00	1.00	1.00	1.00	1.00	0.65	0.65	0.65
Uniform Delay (d), s/veh	42.0	29.7	31.4	30.8	0.0	30.2	55.1	15.5	15.5	59.6	0.0	0.0
Incr Delay (d2), s/veh	5.5	0.0	0.2	0.1	0.0	0.1	5.5	2.3	2.2	34.2	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.7	0.6	3.8	1.4	0.0	1.8	4.8	15.6	16.3	0.2	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	29.7	31.6	30.9	0.0	30.3	60.5	17.8	17.7	93.8	0.4	0.5
LnGrp LOS	D	C	C	C	A	C	E	B	B	F	A	A
Approach Vol, veh/h	463		84			1378			933			
Approach Delay, s/veh	43.5		30.6			23.0			0.6			
Approach LOS	D		C			C			A			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	4.8	74.7	40.5		12.4	67.1	40.5					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.1	53.9	47.5		11.3	47.7	47.5					
Max Q Clear Time (g_c+I2), s	12.1	27.1	34.7		7.8	2.0	5.2					
Green Ext Time (p_c), s	0.0	9.6	1.3		0.2	6.9	0.4					
Intersection Summary												
HCM 6th Ctrl Delay			19.2									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary 17: Adoree St/I-5 NB Off-Ramp & Norwalk Bl

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	0	103	117	78	571	82	800	0	0	920	69
Future Volume (veh/h)	70	0	103	117	78	571	82	800	0	0	920	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	1856	0	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	91	0	134	141	94	688	102	1000	0	0	1179	88
Peak Hour Factor	0.77	0.77	0.77	0.83	0.83	0.83	0.80	0.80	0.80	0.78	0.78	0.78
Percent Heavy Veh, %	3	0	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	0	0	0	473	1086	688	153	2469	0	0	1949	145
Arrive On Green	0.00	0.00	0.00	0.44	0.44	0.44	0.01	0.16	0.00	0.00	0.81	0.81
Sat Flow, veh/h		0		1081	2483	1572	3428	5233	0	0	4976	359
Grp Volume(v), veh/h	0.0			235	0	688	102	1000	0	0	828	439
Grp Sat Flow(s),veh/h/ln				1801	1763	1572	1714	1689	0	0	1689	1791
Q Serve(g_s), s				10.1	0.0	52.5	3.6	21.3	0.0	0.0	10.9	10.9
Cycle Q Clear(g_c), s				10.1	0.0	52.5	3.6	21.3	0.0	0.0	10.9	10.9
Prop In Lane				0.60		1.00	1.00		0.00	0.00		0.20
Lane Grp Cap(c), veh/h				788	771	688	153	2469	0	0	1369	726
V/C Ratio(X)				0.30	0.00	1.00	0.67	0.40	0.00	0.00	0.60	0.61
Avail Cap(c_a), veh/h				788	771	688	157	2469	0	0	1369	726
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.91	0.91	0.00	0.00	0.97	0.97
Uniform Delay (d), s/veh				21.8	0.0	33.8	58.2	34.7	0.0	0.0	7.8	7.8
Incr Delay (d2), s/veh				0.2	0.0	34.3	9.0	0.5	0.0	0.0	1.9	3.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				7.7	0.0	34.3	3.2	14.6	0.0	0.0	5.0	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				22.0	0.0	68.1	67.2	35.2	0.0	0.0	9.7	11.4
LnGrp LOS				C	A	F	E	D	A	A	A	B
Approach Vol, veh/h				923			1102			1267		
Approach Delay, s/veh				56.4			38.1			10.3		
Approach LOS				E			D			B		
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	63.0			9.9			53.1			57.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	45.5			5.5			35.5			52.5		
Max Q Clear Time (g_c+I1), s	23.3			5.6			12.9			54.5		
Green Ext Time (p_c), s	7.5			0.0			9.5			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	32.5											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary 18: San Antonio Dr & Frontage Rd/I-5 SB On-Ramp

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	248	95	0	0	0	0	849	242	273	866	0
Future Volume (veh/h)	43	248	95	0	0	0	0	849	242	273	866	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	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	46	264	101				0	1011	288	333	1056	0
Peak Hour Factor	0.94	0.94	0.94				0.84	0.84	0.84	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	178	374	158				0	2615	744	409	4176	0
Arrive On Green	0.10	0.10	0.10				0.00	0.67	0.67	0.12	0.82	0.00
Sat Flow, veh/h	1767	3711	1572				0	4084	1115	3428	5233	0
Grp Volume(v), veh/h	46	264	101				0	871	428	333	1056	0
Grp Sat Flow(s),veh/h/ln	1767	1856	1572				0	1689	1655	1714	1689	0
Q Serve(g_s), s	2.9	8.3	7.4				0.0	13.9	13.9	11.4	5.6	0.0
Cycle Q Clear(g_c), s	2.9	8.3	7.4				0.0	13.9	13.9	11.4	5.6	0.0
Prop In Lane	1.00		1.00				0.00		0.67	1.00		0.00
Lane Grp Cap(c), veh/h	178	374	158				0	2254	1105	409	4176	0
V/C Ratio(X)	0.26	0.71	0.64				0.00	0.39	0.39	0.81	0.25	0.00
Avail Cap(c_a), veh/h	361	758	321				0	2254	1105	729	4176	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)	0.91	0.91	0.91				0.00	0.79	0.79	0.51	0.51	0.00
Uniform Delay (d), s/veh	49.8	52.2	51.9				0.0	8.9	8.9	51.6	2.3	0.0
Incr Delay (d2), s/veh	0.7	2.2	3.8				0.0	0.4	0.8	2.1	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	2.4	7.1	5.6				0.0	8.2	8.2	7.6	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.5	54.5	55.7				0.0	9.3	9.8	53.6	2.4	0.0
LnGrp LOS	D	D	E				A	A	A	D	A	A
Approach Vol, veh/h	411						1299			1389		
Approach Delay, s/veh	54.3						9.5			14.7		
Approach LOS	D						A			B		
Timer - Assigned Phs	1	2	4		6							
Phs Duration (G+Y+Rc), s	18.8	84.6	16.6		103.4							
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5							
Max Green Setting (Gmax), s	25.5	56.5	24.5		86.5							
Max Q Clear Time (g_c+1), s	13.4	15.9	10.3		7.6							
Green Ext Time (p_c), s	0.9	12.3	1.8		10.2							

Intersection Summary

HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

19: San Antonio Dr & Firestone Bl

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	337	41	37	324	44	56	760	78	72	594	161
Future Volume (veh/h)	183	337	41	37	324	44	56	760	78	72	594	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	208	383	47	41	356	48	67	905	93	88	724	196
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.84	0.84	0.84	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	239	806	360	55	440	196	86	1862	830	110	2154	576
Arrive On Green	0.14	0.23	0.23	0.03	0.12	0.12	0.05	0.53	0.53	0.12	1.00	1.00
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	3977	1064
Grp Volume(v), veh/h	208	383	47	41	356	48	67	905	93	88	613	307
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1689	1664
Q Serve(g_s), s	13.8	11.3	2.9	2.8	11.8	3.3	4.5	19.6	3.6	5.8	0.0	0.0
Cycle Q Clear(g_c), s	13.8	11.3	2.9	2.8	11.8	3.3	4.5	19.6	3.6	5.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.64
Lane Grp Cap(c), veh/h	239	806	360	55	440	196	86	1862	830	110	1829	901
V/C Ratio(X)	0.87	0.47	0.13	0.75	0.81	0.24	0.78	0.49	0.11	0.80	0.34	0.34
Avail Cap(c_a), veh/h	361	1072	478	110	573	256	155	1862	830	186	1829	901
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)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.97	0.97	0.97
Uniform Delay (d), s/veh	50.9	40.0	36.8	57.7	51.1	47.4	56.4	18.0	14.2	51.8	0.0	0.0
Incr Delay (d2), s/veh	13.9	0.4	0.2	18.1	6.6	0.6	1.4	0.1	0.0	12.2	0.5	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	11.4	8.6	2.0	2.7	9.5	2.4	2.7	9.2	1.8	5.1	0.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.8	40.5	37.0	75.8	57.7	48.0	57.9	18.1	14.2	64.0	0.5	1.0
LnGrp LOS	E	D	D	E	E	D	E	B	B	E	A	A
Approach Vol, veh/h	638		445			1065			1008			
Approach Delay, s/veh	48.1		58.3			20.2			6.2			
Approach LOS	D		E			C			A			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	67.9	8.2	31.9	10.3	69.5	20.7	19.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.6	45.4	7.5	36.5	10.5	47.5	24.5	19.5				
Max Q Clear Time (g_c+I), s	17.8	21.6	4.8	13.3	6.5	2.0	15.8	13.8				
Green Ext Time (p_c), s	0.1	7.3	0.0	2.7	0.0	7.7	0.4	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			26.8									
HCM 6th LOS			C									

HCM 6th Edition methodology does not support more than 4 approaches.

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022

												
Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	60	299	554	131	32	551	45	11	96	341	223	27
Future Volume (vph)	60	299	554	131	32	551	45	11	96	341	223	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00	1.00	0.91			1.00	0.91	0.91	
Frt		1.00	1.00	0.85	1.00	0.99			1.00	0.97	0.85	
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (prot)		1752	3505	1568	1752	4967			1752	3272	1427	
Flt Permitted		0.36	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (perm)		668	3505	1568	1752	4967			1752	3272	1427	
Peak-hour factor, PHF	0.85	0.85	0.85	1.00	0.83	0.83	0.83	0.83	0.96	0.96	0.96	0.96
Adj. Flow (vph)	71	352	652	131	39	664	54	13	100	355	232	28
RTOR Reduction (vph)	0	0	0	61	0	0	0	0	0	0	90	0
Lane Group Flow (vph)	0	423	652	70	39	731	0	0	100	427	98	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	NA			Prot	NA	Perm	
Protected Phases	7		4		3	8			5	2		
Permitted Phases		4		4							2	
Actuated Green, G (s)		67.4	67.4	67.4	4.0	75.9			6.5	32.6	32.6	
Effective Green, g (s)		67.4	67.4	67.4	4.0	75.9			6.5	32.6	32.6	
Actuated g/C Ratio		0.48	0.48	0.48	0.03	0.54			0.05	0.23	0.23	
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		321	1687	754	50	2692			81	761	332	
v/s Ratio Prot			0.19		c0.02	0.15			c0.06	0.13		
v/s Ratio Perm		c0.63		0.04							0.07	
v/c Ratio		1.32	0.39	0.09	0.78	0.27			1.23	0.56	0.30	
Uniform Delay, d1		36.3	23.1	19.7	67.6	17.2			66.8	47.4	44.2	
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2		163.3	0.1	0.1	53.9	0.1			175.8	3.0	2.3	
Delay (s)		199.6	23.3	19.8	121.5	17.3			242.5	50.4	46.5	
Level of Service		F	C	B	F	B			F	D	D	
Approach Delay (s)			84.8			22.5				76.2		
Approach LOS			F			C				E		
Intersection Summary												
HCM 2000 Control Delay			65.2			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.08									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			73.6%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	7	63	319	99	20	164	147	1
Future Volume (vph)	7	63	319	99	20	164	147	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00		0.97	0.91	
Frt		1.00	1.00	0.85		0.97	0.85	
Flt Protected		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1752	3505	1568		3341	1427	
Flt Permitted		0.48	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		886	3505	1568		3341	1427	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.78	0.78	0.78	0.78
Adj. Flow (vph)	8	71	358	111	26	210	188	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	79	358	111	0	292	133	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	Prot	Perm	
Protected Phases	1		6		12	12		
Permitted Phases		6		6			12	
Actuated Green, G (s)		21.6	21.6	21.6		18.0	18.0	
Effective Green, g (s)		21.6	21.6	21.6		18.0	18.0	
Actuated g/C Ratio		0.15	0.15	0.15		0.13	0.13	
Clearance Time (s)		4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		136	540	241		429	183	
v/s Ratio Prot			c0.10			0.09		
v/s Ratio Perm		0.09		0.07			c0.09	
v/c Ratio		0.58	0.66	0.46		0.68	0.73	
Uniform Delay, d1		55.0	55.8	53.9		58.3	58.6	
Progression Factor		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		16.8	6.3	6.2		8.4	22.2	
Delay (s)		71.8	62.1	60.1		66.7	80.8	
Level of Service		E	E	E		E	F	
Approach Delay (s)			63.1			71.1		
Approach LOS			E			E		
Intersection Summary								

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	54	929	40	0	748
Future Vol, veh/h	0	54	929	40	0	748
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, %	0	0	3	3	3	2
Mvmt Flow	0	59	1010	43	0	813
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	527	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	428	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	428	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14.7	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	428		-		
HCM Lane V/C Ratio	-	0.137		-		
HCM Control Delay (s)	-	14.7		-		
HCM Lane LOS	-	B		-		
HCM 95th %tile Q(veh)	-	0.5		-		

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	0	149	20	0	11
Future Vol, veh/h	2	0	149	20	0	11
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	2	0	162	22	0	12

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	185	173	0
Stage 1	173	-	-
Stage 2	12	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	804	871	-
Stage 1	857	-	-
Stage 2	1011	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	804	871	-
Mov Cap-2 Maneuver	804	-	-
Stage 1	857	-	-
Stage 2	1011	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	804	1391
HCM Lane V/C Ratio	-	-	0.003	-
HCM Control Delay (s)	-	-	9.5	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	14	12	63	73	0
Future Vol, veh/h	8	14	12	63	73	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	15	13	68	79	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	173	79	79
Stage 1	79	-	-
Stage 2	94	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	817	981	1519
Stage 1	944	-	-
Stage 2	930	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	810	981	1519
Mov Cap-2 Maneuver	810	-	-
Stage 1	936	-	-
Stage 2	930	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1519	-	911	-	-
HCM Lane V/C Ratio	0.009	-	0.026	-	-
HCM Control Delay (s)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection

Int Delay, s/veh 5.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	0	0	65	98	0
Future Vol, veh/h	16	0	0	65	98	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	0	0	71	107	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	71	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1529	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1529	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	7.4	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1529	-	-	-	924
HCM Lane V/C Ratio	0.011	-	-	-	0.115
HCM Control Delay (s)	7.4	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4

HCM 6th Signalized Intersection Summary

1: Norwalk BI & Lakeland Rd

05/11/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	141	24	183	238	190	41	594	194	99	761	61
Future Volume (veh/h)	19	141	24	183	238	190	41	594	194	99	761	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	21	158	27	251	326	260	49	716	234	108	827	66
Peak Hour Factor	0.89	0.89	0.89	0.73	0.73	0.73	0.83	0.83	0.83	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	3	3	3	3	3	3
Cap, veh/h	69	419	67	418	555	470	361	1587	519	335	2010	160
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	86	1435	229	1218	1900	1610	618	2611	853	586	3307	264
Grp Volume(v), veh/h	206	0	0	251	326	260	49	483	467	108	441	452
Grp Sat Flow(s),veh/h/ln	1751	0	0	1218	1900	1610	618	1763	1702	586	1763	1808
Q Serve(g_s), s	0.0	0.0	0.0	11.0	13.2	12.3	4.2	13.3	13.3	11.5	11.8	11.8
Cycle Q Clear(g_c), s	8.0	0.0	0.0	18.2	13.2	12.3	18.0	13.3	13.3	26.9	11.8	11.8
Prop In Lane	0.10		0.13	1.00		1.00	1.00		0.50	1.00		0.15
Lane Grp Cap(c), veh/h	555	0	0	418	555	470	361	1072	1035	335	1072	1099
V/C Ratio(X)	0.37	0.00	0.00	0.60	0.59	0.55	0.14	0.45	0.45	0.32	0.41	0.41
Avail Cap(c_a), veh/h	669	0	0	502	686	581	361	1072	1035	335	1072	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)	1.00	0.00	0.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.4	0.0	0.0	29.4	27.2	26.9	14.5	9.5	9.5	17.5	9.2	9.2
Incr Delay (d2), s/veh	0.4	0.0	0.0	1.4	1.0	1.0	0.7	1.3	1.4	2.5	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.3	0.0	0.0	8.6	10.0	8.3	1.2	8.6	8.3	3.1	7.9	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.8	0.0	0.0	30.8	28.2	27.9	15.3	10.8	10.9	20.1	10.4	10.4
LnGrp LOS	C	A	A	C	C	C	B	B	B	C	B	B
Approach Vol, veh/h		206			837			999			1001	
Approach Delay, s/veh		25.8			28.9			11.1			11.4	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		60.7		29.3		60.7		29.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		48.5		32.5		48.5		32.5				
Max Q Clear Time (g_c+I1), s		20.0		10.0		28.9		20.2				
Green Ext Time (p_c), s		7.9		1.2		6.9		3.2				
Intersection Summary												
HCM 6th Ctrl Delay				17.1								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Norwalk Bl & Crewe St

05/11/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	83	69	67	793	1021	24
Future Volume (veh/h)	83	69	67	793	1021	24
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	1900	1900	1856	1856	1856	1856
Adj Flow Rate, veh/h	105	87	75	891	1086	26
Peak Hour Factor	0.79	0.79	0.89	0.89	0.94	0.94
Percent Heavy Veh, %	0	0	3	3	3	3
Cap, veh/h	151	134	450	2880	2874	69
Arrive On Green	0.08	0.08	0.82	0.82	0.82	0.82
Sat Flow, veh/h	1810	1610	503	3618	3612	84
Grp Volume(v), veh/h	105	87	75	891	544	568
Grp Sat Flow(s), veh/h/ln	1810	1610	503	1763	1763	1840
Q Serve(g_s), s	5.1	4.7	4.2	5.6	7.4	7.4
Cycle Q Clear(g_c), s	5.1	4.7	11.5	5.6	7.4	7.4
Prop In Lane	1.00	1.00	1.00			0.05
Lane Grp Cap(c), veh/h	151	134	450	2880	1440	1503
V/C Ratio(X)	0.70	0.65	0.17	0.31	0.38	0.38
Avail Cap(c_a), veh/h	452	403	450	2880	1440	1503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.59	0.59	0.85	0.85
Uniform Delay (d), s/veh	40.2	40.0	3.7	2.0	2.2	2.2
Incr Delay (d2), s/veh	5.7	5.2	0.5	0.2	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	3.7	0.7	1.9	2.9	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.9	45.2	4.2	2.2	2.8	2.8
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	192			966	1112	
Approach Delay, s/veh	45.6			2.3	2.8	
Approach LOS	D			A	A	
Timer - Assigned Phs	2			4		6
Phs Duration (G+Y+Rc), s	78.0			12.0		78.0
Change Period (Y+Rc), s	4.5			4.5		4.5
Max Green Setting (Gmax), s	58.5			22.5		58.5
Max Q Clear Time (g_c+I1), s	13.5			7.1		9.4
Green Ext Time (p_c), s	9.4			0.5		9.8
Intersection Summary						
HCM 6th Ctrl Delay			6.2			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

3: Firestone Bl & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↖ ↑↑↑	↖ ↑↑↑	↖	↖ ↖	↑↑		↖ ↖ ↑↑↑		
Traffic Volume (veh/h)	0	1270	307	6	1114	336	330	455	16	364	426	1
Future Volume (veh/h)	0	1270	307	6	1114	336	330	455	16	364	426	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1366	330	7	1238	373	359	495	0	400	468	1
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	0	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	1657	400	91	2061	640	430	1209		472	1854	4
Arrive On Green	0.00	0.41	0.41	0.13	0.13	0.13	0.13	0.34	0.00	0.14	0.36	0.36
Sat Flow, veh/h	0	4241	982	287	5066	1572	3428	3618	0	3428	5219	11
Grp Volume(v), veh/h	0	1132	564	7	1238	373	359	495	0	400	303	166
Grp Sat Flow(s),veh/h/ln	0	1689	1679	287	1689	1572	1714	1763	0	1714	1689	1854
Q Serve(g_s), s	0.0	35.9	36.0	2.8	27.6	26.7	12.3	12.9	0.0	13.7	7.6	7.6
Cycle Q Clear(g_c), s	0.0	35.9	36.0	38.9	27.6	26.7	12.3	12.9	0.0	13.7	7.6	7.6
Prop In Lane	0.00		0.59	1.00		1.00	1.00		0.00	1.00		0.01
Lane Grp Cap(c), veh/h	0	1374	683	91	2061	640	430	1209		472	1200	659
V/C Ratio(X)	0.00	0.82	0.83	0.08	0.60	0.58	0.84	0.41		0.85	0.25	0.25
Avail Cap(c_a), veh/h	0	1506	748	102	2258	701	614	1209		643	1200	659
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.53	0.53	0.53	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	31.8	31.8	65.2	42.8	42.4	51.3	30.1	0.0	50.5	27.4	27.4
Incr Delay (d2), s/veh	0.0	3.6	7.0	0.2	0.2	0.6	6.8	1.0	0.0	7.8	0.5	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	0.0	21.4	22.2	0.4	16.8	15.4	9.6	9.5	0.0	10.5	5.7	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	35.3	38.8	65.3	43.0	42.9	58.0	31.2	0.0	58.3	27.9	28.3
LnGrp LOS	A	D	D	E	D	D	E	C		E	C	C
Approach Vol, veh/h	1696			1618			854			869		
Approach Delay, s/veh	36.5			43.1			42.5			42.0		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.0	45.7		53.3	19.5	47.1		53.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	22.5	30.5		53.5	21.5	31.5		53.5				
Max Q Clear Time (g_c+1.5), s	14.9	14.9		38.0	14.3	9.6		40.9				
Green Ext Time (p_c), s	0.9	2.9		10.4	0.8	2.9		8.0				

Intersection Summary

HCM 6th Ctrl Delay 40.6

HCM 6th LOS D

Notes

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

HCM 6th Signalized Intersection Summary

4: Pioneer Bl & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	313	1176	61	187	1114	112	49	552	275	144	465	421
Future Volume (veh/h)	313	1176	61	187	1114	112	49	552	275	144	465	421
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	382	1434	74	217	1295	130	51	575	286	148	479	434
Peak Hour Factor	0.82	0.82	0.82	0.86	0.86	0.86	0.96	0.96	0.96	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	412	1924	597	247	1452	451	65	956	427	202	1033	461
Arrive On Green	0.23	0.38	0.38	0.14	0.29	0.29	0.04	0.27	0.27	0.06	0.29	0.29
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	382	1434	74	217	1295	130	51	575	286	148	479	434
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1714	1763	1572
Q Serve(g_s), s	25.4	29.4	3.7	14.4	29.4	7.7	3.4	17.0	19.4	5.1	13.3	32.3
Cycle Q Clear(g_c), s	25.4	29.4	3.7	14.4	29.4	7.7	3.4	17.0	19.4	5.1	13.3	32.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	412	1924	597	247	1452	451	65	956	427	202	1033	461
V/C Ratio(X)	0.93	0.75	0.12	0.88	0.89	0.29	0.78	0.60	0.67	0.73	0.46	0.94
Avail Cap(c_a), veh/h	479	1924	597	359	1499	465	96	956	427	217	1033	461
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.53	0.84	0.84	0.84	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	32.2	24.2	50.6	41.0	33.3	57.3	38.1	38.9	55.5	34.7	41.4
Incr Delay (d2), s/veh	14.1	0.9	0.0	13.3	6.0	0.3	21.3	2.8	8.1	11.2	1.5	29.6
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	16.9	16.2	2.5	11.3	18.3	5.4	3.5	12.3	13.2	4.5	9.9	22.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.1	33.1	24.3	63.9	47.0	33.6	78.6	40.9	47.1	66.8	36.2	71.0
LnGrp LOS	E	C	C	E	D	C	E	D	D	E	D	E
Approach Vol, veh/h	1890		1642				912		1061			
Approach Delay, s/veh	38.0		48.2				44.9		54.7			
Approach LOS	D		D				D		D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	37.1	21.3	50.1	8.9	39.7	32.5	38.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.6	26.4	24.4	43.6	6.5	27.5	32.5	35.5				
Max Q Clear Time (g_c+I1), s	17.1	21.4	16.4	31.4	5.4	34.3	27.4	31.4				
Green Ext Time (p_c), s	0.0	2.2	0.4	7.8	0.0	0.0	0.6	3.0				

Intersection Summary

HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

5: Frontage Rd/I-5 SB Off-Ramp & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑↑	
Traffic Volume (veh/h)	0	1538	217	6	1308	0	0	0	0	313	127	159
Future Volume (veh/h)	0	1538	217	6	1308	0	0	0	0	313	127	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	0	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1728	244	7	1437	0				225	321	179
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91				0.89	0.89	0.89
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	2446	759	30	2718	0				661	844	460
Arrive On Green	0.00	0.48	0.48	0.01	0.54	0.00				0.37	0.37	0.37
Sat Flow, veh/h	0	5233	1572	3428	5233	0				1767	2259	1231
Grp Volume(v), veh/h	0	1728	244	7	1437	0				225	262	238
Grp Sat Flow(s),veh/h/ln	0	1689	1572	1714	1689	0				1767	1856	1634
Q Serve(g_s), s	0.0	26.9	9.5	0.2	18.4	0.0				9.2	10.3	10.7
Cycle Q Clear(g_c), s	0.0	26.9	9.5	0.2	18.4	0.0				9.2	10.3	10.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.75
Lane Grp Cap(c), veh/h	0	2446	759	30	2718	0				661	694	611
V/C Ratio(X)	0.00	0.71	0.32	0.23	0.53	0.00				0.34	0.38	0.39
Avail Cap(c_a), veh/h	0	3206	995	188	3711	0				661	694	611
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	1.00	1.00	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.4	15.9	49.4	15.0	0.0				22.5	22.9	23.0
Incr Delay (d2), s/veh	0.0	0.5	0.2	3.8	0.2	0.0				1.4	1.6	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	15.4	6.1	0.2	11.0	0.0				7.2	8.3	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.9	16.1	53.2	15.2	0.0				23.9	24.5	24.9
LnGrp LOS	A	C	B	D	B	A				C	C	C
Approach Vol, veh/h		1972			1444						725	
Approach Delay, s/veh		20.3			15.4						24.4	
Approach LOS		C			B						C	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			5.4	52.9		42.0		58.3				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			5.5	63.5		37.5		73.5				
Max Q Clear Time (g_c+I1), s			2.2	28.9		12.7		20.4				
Green Ext Time (p_c), s			0.0	19.6		3.9		16.0				
Intersection Summary												
HCM 6th Ctrl Delay			19.3									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary 6: Adoree St/I-5 NB On-Ramp & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↱	↰↱		↰↱	↰↱↱	↰		↰↱	↰			
Traffic Volume (veh/h)	155	1606	98	4	1203	691	118	128	12	0	0	0
Future Volume (veh/h)	155	1606	98	4	1203	691	118	128	12	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	170	1765	108	5	1367	785	140	152	14			
Peak Hour Factor	0.91	0.91	0.91	0.88	0.88	0.88	0.84	0.84	0.84			
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3			
Cap, veh/h	228	2108	128	11	2857	887	454	453	404			
Arrive On Green	0.07	0.62	0.62	0.01	0.56	0.56	0.26	0.26	0.26			
Sat Flow, veh/h	3428	3377	205	1767	5066	1572	1767	1763	1572			
Grp Volume(v), veh/h	170	914	959	5	1367	785	140	152	14			
Grp Sat Flow(s),veh/h/ln	1714	1763	1819	1767	1689	1572	1767	1763	1572			
Q Serve(g_s), s	5.8	48.5	50.3	0.3	19.3	52.2	7.7	8.4	0.8			
Cycle Q Clear(g_c), s	5.8	48.5	50.3	0.3	19.3	52.2	7.7	8.4	0.8			
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	228	1100	1135	11	2857	887	454	453	404			
V/C Ratio(X)	0.75	0.83	0.84	0.44	0.48	0.89	0.31	0.34	0.03			
Avail Cap(c_a), veh/h	329	1183	1220	75	3128	971	454	453	404			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.74	0.74	0.74	0.46	0.46	0.46	1.00	1.00	1.00			
Uniform Delay (d), s/veh	55.0	17.6	17.9	59.4	15.6	22.8	36.0	36.3	33.4			
Incr Delay (d2), s/veh	4.0	3.6	4.0	12.0	0.1	4.6	1.8	2.0	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	4.8	25.6	27.3	0.3	10.3	24.3	6.4	7.0	0.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	21.2	22.0	71.4	15.7	27.4	37.7	38.2	33.6			
LnGrp LOS	E	C	C	E	B	C	D	D	C			
Approach Vol, veh/h												
		2043				2157				306		
Approach Delay, s/veh												
		24.7				20.1				37.8		
Approach LOS												
		C				C				D		
Timer - Assigned Phs												
		2		3		4		7		8		
Phs Duration (G+Y+Rc), s												
		35.3		5.3		79.4		12.5		72.2		
Change Period (Y+Rc), s												
		4.5		4.5		4.5		4.5		4.5		
Max Green Setting (Gmax), s												
		20.9		5.1		80.5		11.5		74.1		
Max Q Clear Time (g_c+I1), s												
		10.4		2.3		52.3		7.8		54.2		
Green Ext Time (p_c), s												
		1.2		0.0		18.4		0.2		13.5		
Intersection Summary												
HCM 6th Ctrl Delay												
			23.4									
HCM 6th LOS												
			C									

HCM 6th Signalized Intersection Summary

7: Kalnor Ave & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩ ↑↑↑			↩ ↑↑		↩		↩		↩	↩	
Traffic Volume (veh/h)	79	1211	24	26	1688	106	13	17	23	83	21	67
Future Volume (veh/h)	79	1211	24	26	1688	106	13	17	23	83	21	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	89	1361	27	28	1796	113	18	23	32	89	23	73
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.73	0.73	0.73	0.93	0.93	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	114	3361	67	48	2185	975	144	166	293	251	73	231
Arrive On Green	0.06	0.66	0.66	0.03	0.62	0.62	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1767	5113	101	1767	3526	1572	507	912	1610	1370	400	1271
Grp Volume(v), veh/h	89	899	489	28	1796	113	41	0	32	89	0	96
Grp Sat Flow(s),veh/h/ln	1767	1689	1837	1767	1763	1572	1420	0	1610	1370	0	1671
Q Serve(g_s), s	5.0	12.5	12.5	1.6	39.8	3.0	0.1	0.0	1.7	6.1	0.0	5.0
Cycle Q Clear(g_c), s	5.0	12.5	12.5	1.6	39.8	3.0	5.1	0.0	1.7	11.2	0.0	5.0
Prop In Lane	1.00		0.06	1.00		1.00	0.44		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	114	2220	1208	48	2185	975	309	0	293	251	0	304
V/C Ratio(X)	0.78	0.40	0.40	0.59	0.82	0.12	0.13	0.00	0.11	0.35	0.00	0.32
Avail Cap(c_a), veh/h	223	2750	1496	109	2643	1179	309	0	293	251	0	304
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.4	8.1	8.1	48.4	14.8	7.8	34.5	0.0	34.4	40.7	0.0	35.8
Incr Delay (d2), s/veh	11.0	0.1	0.2	11.0	1.8	0.1	0.9	0.0	0.8	3.9	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	7.5	8.0	1.5	21.0	1.7	1.6	0.0	1.3	4.2	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.4	8.2	8.3	59.4	16.7	7.9	35.4	0.0	35.2	44.5	0.0	38.5
LnGrp LOS	E	A	A	E	B	A	D	A	D	D	A	D
Approach Vol, veh/h	1477			1937			73			185		
Approach Delay, s/veh	11.2			16.8			35.3			41.4		
Approach LOS	B			B			D			D		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	22.8			7.2			70.7			22.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.3			6.2			82.0			18.3		
Max Q Clear Time (g_c+I1), s	7.1			3.6			14.5			13.2		
Green Ext Time (p_c), s	0.2			0.0			14.4			0.3		

Intersection Summary

HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

8: Imperial Highway & Norwalk Bl

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	1131	59	233	1491	88	190	599	139	136	733	173
Future Volume (veh/h)	164	1131	59	233	1491	88	190	599	139	136	733	173
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	171	1178	61	253	1621	96	232	730	170	153	824	194
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.82	0.82	0.82	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	198	1532	475	279	1764	548	256	1014	452	180	1240	385
Arrive On Green	0.11	0.30	0.30	0.21	0.46	0.46	0.29	0.58	0.58	0.10	0.24	0.24
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	1767	5066	1572
Grp Volume(v), veh/h	171	1178	61	253	1621	96	232	730	170	153	824	194
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1767	1689	1572
Q Serve(g_s), s	11.4	25.4	3.4	16.8	35.9	4.3	15.2	18.0	7.0	10.2	17.6	12.8
Cycle Q Clear(g_c), s	11.4	25.4	3.4	16.8	35.9	4.3	15.2	18.0	7.0	10.2	17.6	12.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	198	1532	475	279	1764	548	256	1014	452	180	1240	385
V/C Ratio(X)	0.86	0.77	0.13	0.91	0.92	0.18	0.91	0.72	0.38	0.85	0.66	0.50
Avail Cap(c_a), veh/h	231	1545	480	321	1803	560	299	1014	452	209	1240	385
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	0.47	0.47	0.47	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	52.4	38.1	30.4	46.5	30.6	22.1	41.8	22.0	19.6	53.0	40.9	39.0
Incr Delay (d2), s/veh	22.7	2.2	0.1	14.4	4.1	0.1	27.0	4.4	2.4	22.7	2.6	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.3	15.9	2.4	11.4	18.1	2.8	12.1	9.8	4.6	9.4	11.9	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.0	40.3	30.5	60.9	34.7	22.2	68.9	26.4	22.0	75.7	43.5	43.3
LnGrp LOS	E	D	C	E	C	C	E	C	C	E	D	D
Approach Vol, veh/h	1410					1970		1132		1171		
Approach Delay, s/veh	44.1					37.5		34.4		47.7		
Approach LOS	D					D		C		D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	36.7	39.0	23.5	40.8	21.9	33.9	18.0	46.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	14.2	29.4	21.8	36.6	20.3	23.3	15.7	42.7				
Max Q Clear Time (g_c+1.2), s	11.2	20.0	18.8	27.4	17.2	19.6	13.4	37.9				
Green Ext Time (p_c), s	0.1	3.8	0.2	5.4	0.2	2.1	0.1	3.9				

Intersection Summary

HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

9: Avenida Manuel Salinas & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	1195	71	71	1575	77	159	17	45	43	15	49
Future Volume (veh/h)	70	1195	71	71	1575	77	159	17	45	43	15	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	80	1358	81	79	1750	86	398	42	112	49	17	56
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.40	0.40	0.40	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	101	1906	592	100	1903	591	662	176	469	409	89	295
Arrive On Green	0.11	0.75	0.75	0.11	0.75	0.75	0.19	0.38	0.38	0.03	0.23	0.23
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1810	458	1222	1810	389	1281
Grp Volume(v), veh/h	80	1358	81	79	1750	86	398	0	154	49	0	73
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1810	0	1680	1810	0	1669
Q Serve(g_s), s	5.3	17.2	1.7	5.2	33.4	1.8	19.1	0.0	7.5	2.5	0.0	4.2
Cycle Q Clear(g_c), s	5.3	17.2	1.7	5.2	33.4	1.8	19.1	0.0	7.5	2.5	0.0	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.73	1.00		0.77
Lane Grp Cap(c), veh/h	101	1906	592	100	1903	591	662	0	645	409	0	384
V/C Ratio(X)	0.80	0.71	0.14	0.79	0.92	0.15	0.60	0.00	0.24	0.12	0.00	0.19
Avail Cap(c_a), veh/h	155	1984	616	177	2047	636	662	0	645	425	0	384
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	0.72	0.72	0.72	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.5	11.4	9.5	52.6	13.5	9.5	24.9	0.0	25.1	33.5	0.0	37.2
Incr Delay (d2), s/veh	9.8	0.8	0.1	9.8	5.3	0.1	4.0	0.0	0.9	0.1	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	6.3	1.1	4.5	9.1	1.2	13.7	0.0	5.7	2.0	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.3	12.1	9.5	62.3	18.7	9.6	28.9	0.0	25.9	33.6	0.0	38.3
LnGrp LOS	E	B	A	E	B	A	C	A	C	C	A	D
Approach Vol, veh/h	1519		1915			552			122			
Approach Delay, s/veh	14.7		20.1			28.1			36.4			
Approach LOS	B		C			C			D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	50.6	11.3	49.6	27.0	32.1	11.3	49.6					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	37.9	12.0	47.0	22.5	20.5	10.5	48.5					
Max Q Clear Time (g_c+14.5)	9.5	7.2	19.2	21.1	6.2	7.3	35.4					
Green Ext Time (p_c), s	0.0	0.9	0.1	12.3	0.2	0.2	0.0	9.7				

Intersection Summary

HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

10: Imperial Highway & Volunteer Ave

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑ ↱			↰ ↑↑ ↱			↰ ↱				↰ ↱	
Traffic Volume (veh/h)	18	1213	36	199	1599	80	117	46	70	51	12	22
Future Volume (veh/h)	18	1213	36	199	1599	80	117	46	70	51	12	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	1427	42	224	1797	90	217	85	130	58	14	25
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.54	0.54	0.54	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	142	1746	51	271	2392	120	517	299	457	425	97	710
Arrive On Green	0.35	0.35	0.35	0.20	0.97	0.97	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	239	5057	149	1767	4941	247	1390	677	1036	842	221	1610
Grp Volume(v), veh/h	21	953	516	224	1227	660	217	0	215	72	0	25
Grp Sat Flow(s),veh/h/ln	239	1689	1829	1767	1689	1811	1390	0	1714	1063	0	1610
Q Serve(g_s), s	7.6	30.9	30.9	9.7	5.0	5.1	14.9	0.0	9.6	3.8	0.0	1.1
Cycle Q Clear(g_c), s	7.6	30.9	30.9	9.7	5.0	5.1	28.3	0.0	9.6	13.4	0.0	1.1
Prop In Lane	1.00		0.08	1.00		0.14	1.00		0.60	0.81		1.00
Lane Grp Cap(c), veh/h	142	1166	631	271	1635	877	517	0	755	523	0	710
V/C Ratio(X)	0.15	0.82	0.82	0.83	0.75	0.75	0.42	0.00	0.28	0.14	0.00	0.04
Avail Cap(c_a), veh/h	152	1309	709	437	2097	1124	517	0	755	523	0	710
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	0.66	0.66	0.66	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.2	35.8	35.8	23.9	1.1	1.1	32.0	0.0	21.5	24.6	0.0	19.1
Incr Delay (d2), s/veh	0.3	2.7	4.9	4.7	0.8	1.4	2.5	0.0	0.9	0.5	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	0.8	18.0	19.7	6.3	1.3	1.7	9.2	0.0	7.3	2.7	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	38.6	40.7	28.5	1.8	2.5	34.5	0.0	22.4	25.1	0.0	19.2
LnGrp LOS	C	D	D	C	A	A	C	A	C	C	A	B
Approach Vol, veh/h												
		1490			2111			432			97	
Approach Delay, s/veh												
		39.2			4.9			28.5			23.6	
Approach LOS												
		D			A			C			C	
Timer - Assigned Phs												
		2		3		4		6		8		
Phs Duration (G+Y+Rc), s												
		57.4		16.7		45.9		57.4		62.6		
Change Period (Y+Rc), s												
		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s												
		36.5		23.5		46.5		36.5		74.5		
Max Q Clear Time (g_c+I1), s												
		30.3		11.7		32.9		15.4		7.1		
Green Ext Time (p_c), s												
		1.0		0.5		8.5		0.4		25.8		
Intersection Summary												
HCM 6th Ctrl Delay												
			20.2									
HCM 6th LOS												
			C									

HCM 6th Signalized Intersection Summary

11: Bloomfield Ave & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	181	1299	104	259	1027	128	113	490	356	207	662	267
Future Volume (veh/h)	181	1299	104	259	1027	128	113	490	356	207	662	267
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	199	1427	114	270	1070	133	131	570	414	252	807	326
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.86	0.86	0.86	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	223	1511	469	297	1551	193	156	797	355	279	1042	465
Arrive On Green	0.25	0.60	0.60	0.17	0.34	0.34	0.12	0.30	0.30	0.16	0.30	0.30
Sat Flow, veh/h	1767	5066	1572	1767	4564	567	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	199	1427	114	270	791	412	131	570	414	252	807	326
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1754	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	13.0	31.2	4.1	18.0	24.2	24.3	8.7	17.3	27.1	16.8	25.1	22.1
Cycle Q Clear(g_c), s	13.0	31.2	4.1	18.0	24.2	24.3	8.7	17.3	27.1	16.8	25.1	22.1
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	1511	469	297	1147	596	156	797	355	279	1042	465
V/C Ratio(X)	0.89	0.94	0.24	0.91	0.69	0.69	0.84	0.72	1.16	0.90	0.77	0.70
Avail Cap(c_a), veh/h	267	1541	478	317	1147	596	169	797	355	302	1042	465
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.56	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	23.3	17.8	49.0	34.2	34.2	52.1	38.5	42.0	49.6	38.6	37.6
Incr Delay (d2), s/veh	16.6	7.6	0.1	28.0	1.8	3.4	24.4	4.6	97.1	27.5	5.6	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	0.0	13.2	2.6	15.5	15.4	16.3	8.1	11.7	28.4	14.6	17.2	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.6	30.9	18.0	77.1	35.9	37.6	76.5	43.1	139.1	77.1	44.2	46.1
LnGrp LOS	E	C	B	E	D	D	E	D	F	E	D	D
Approach Vol, veh/h	1740			1473			1115			1385		
Approach Delay, s/veh	33.5			43.9			82.7			50.7		
Approach LOS	C			D			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.4	31.6	24.6	40.3	15.1	40.0	19.7	45.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.5	23.5	21.5	36.5	11.5	32.5	18.1	39.9				
Max Q Clear Time (g_c+1.0), s	19.8	29.1	20.0	33.2	10.7	27.1	15.0	26.3				
Green Ext Time (p_c), s	0.1	0.0	0.1	2.6	0.0	3.0	0.2	6.8				

Intersection Summary

HCM 6th Ctrl Delay 49.9
 HCM 6th LOS D

HCM 6th Signalized Intersection Summary

12: Norwalk Bl & Civic Center Dr

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔		↑↑↑	↔	↔	↑↑↑	
Traffic Volume (veh/h)	3	2	13	534	0	119	0	868	444	129	978	0
Future Volume (veh/h)	3	2	13	534	0	119	0	868	444	129	978	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	1856	1856	1856	1856	1856	1856	0	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	5	3	21	875	0	195	0	904	462	145	1099	0
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.96	0.96	0.96	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	0	3	3	3	3	3
Cap, veh/h	7	4	30	991	0	441	0	2268	1145	170	2945	0
Arrive On Green	0.03	0.03	0.03	0.28	0.00	0.28	0.00	0.90	0.90	0.19	1.00	0.00
Sat Flow, veh/h	281	169	1180	3534	0	1572	0	5233	1572	1767	5233	0
Grp Volume(v), veh/h	29	0	0	875	0	195	0	904	462	145	1099	0
Grp Sat Flow(s), veh/h/ln	1629	0	0	1767	0	1572	0	1689	1572	1767	1689	0
Q Serve(g_s), s	2.1	0.0	0.0	28.4	0.0	12.2	0.0	3.5	4.4	9.5	0.0	0.0
Cycle Q Clear(g_c), s	2.1	0.0	0.0	28.4	0.0	12.2	0.0	3.5	4.4	9.5	0.0	0.0
Prop In Lane	0.17		0.72	1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	42	0	0	991	0	441	0	2268	1145	170	2945	0
V/C Ratio(X)	0.69	0.00	0.00	0.88	0.00	0.44	0.00	0.40	0.40	0.85	0.37	0.00
Avail Cap(c_a), veh/h	244	0	0	1193	0	531	0	2268	1145	228	2945	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	0.60	0.00	0.60	0.00	0.86	0.86	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.0	0.0	0.0	41.3	0.0	35.5	0.0	3.7	1.0	47.6	0.0	0.0
Incr Delay (d2), s/veh	18.2	0.0	0.0	4.4	0.0	0.4	0.0	0.5	0.9	20.2	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	0.0	0.0	17.4	0.0	7.5	0.0	1.8	3.1	8.3	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.1	0.0	0.0	45.7	0.0	35.9	0.0	4.1	1.9	67.8	0.4	0.0
LnGrp LOS	E	A	A	D	A	D	A	A	A	E	A	A
Approach Vol, veh/h	29			1070			1366			1244		
Approach Delay, s/veh	76.1			43.9			3.3			8.2		
Approach LOS	E			D			A			A		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	16.0	58.2		7.6		74.3		38.1				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	15.5	28.0		18.0		48.0		40.5				
Max Q Clear Time (g_c+1), s	11.5	6.4		4.1		2.0		30.4				
Green Ext Time (p_c), s	0.1	8.7		0.1		10.4		3.2				

Intersection Summary

HCM 6th Ctrl Delay	17.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

13: Civic Center Dr & Courthouse-AMC Theater

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	452	0	0	649	3	5	0	5	8	0	63
Future Volume (veh/h)	89	452	0	0	649	3	5	0	5	8	0	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	1856	1856	0	0	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	100	508	0	0	927	4	8	0	5	18	0	140
Peak Hour Factor	0.89	0.89	0.89	0.70	0.70	0.70	0.62	0.62	1.00	0.45	0.45	0.45
Percent Heavy Veh, %	3	3	0	0	3	3	0	0	0	0	0	0
Cap, veh/h	232	1434	0	0	1085	5	483	15	271	105	30	701
Arrive On Green	0.06	0.41	0.00	0.00	0.60	0.60	0.49	0.00	0.49	0.49	0.00	0.49
Sat Flow, veh/h	1767	3618	0	0	3693	16	849	31	550	122	61	1422
Grp Volume(v), veh/h	100	508	0	0	454	477	13	0	0	158	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1853	1430	0	0	1604	0	0
Q Serve(g_s), s	3.4	9.0	0.0	0.0	19.0	19.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	9.0	0.0	0.0	19.0	19.0	0.3	0.0	0.0	4.9	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.01	0.62		0.38	0.11		0.89
Lane Grp Cap(c), veh/h	232	1434	0	0	531	558	770	0	0	836	0	0
V/C Ratio(X)	0.43	0.35	0.00	0.00	0.85	0.85	0.02	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	340	2213	0	0	813	854	770	0	0	836	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.00	0.00	0.70	0.70	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.3	18.5	0.0	0.0	16.3	16.3	11.6	0.0	0.0	12.8	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.1	0.0	0.0	4.0	3.8	0.0	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	2.5	6.4	0.0	0.0	8.1	8.4	0.2	0.0	0.0	3.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	18.6	0.0	0.0	20.3	20.1	11.7	0.0	0.0	13.3	0.0	0.0
LnGrp LOS	C	B	A	A	C	C	B	A	A	B	A	A
Approach Vol, veh/h	608			931			13			158		
Approach Delay, s/veh	19.3			20.2			11.7			13.3		
Approach LOS	B			C			B			B		
Timer - Assigned Phs	2			4			6			7		
Phs Duration (G+Y+Rc), s	48.9			41.1			48.9			9.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	24.5			56.5			24.5			10.5		
Max Q Clear Time (g_c+I1), s	2.3			11.0			6.9			5.4		
Green Ext Time (p_c), s	0.0			3.9			0.8			0.1		

Intersection Summary

HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

14: Civic Center Dr & Avenida Manuel Salinas

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	411	25	37	477	27	27	2	26	32	5	110
Future Volume (veh/h)	58	411	25	37	477	27	27	2	26	32	5	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	62	442	27	49	636	36	35	3	33	60	9	120
Peak Hour Factor	0.93	0.93	0.93	0.75	0.75	0.75	0.78	0.78	0.78	0.53	0.53	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	198	763	46	255	751	42	596	45	492	325	49	331
Arrive On Green	0.06	0.30	0.30	0.08	0.44	0.44	0.33	0.33	0.33	0.21	0.21	0.21
Sat Flow, veh/h	1767	3376	206	1767	3392	192	1810	136	1495	1583	238	1610
Grp Volume(v), veh/h	62	230	239	49	330	342	35	0	36	69	0	120
Grp Sat Flow(s),veh/h/ln	1767	1763	1819	1767	1763	1821	1810	0	1631	1821	0	1610
Q Serve(g_s), s	2.4	9.9	10.0	1.9	15.0	15.1	1.2	0.0	1.4	2.8	0.0	5.8
Cycle Q Clear(g_c), s	2.4	9.9	10.0	1.9	15.0	15.1	1.2	0.0	1.4	2.8	0.0	5.8
Prop In Lane	1.00		0.11	1.00		0.11	1.00		0.92	0.87		1.00
Lane Grp Cap(c), veh/h	198	398	411	255	390	403	596	0	537	374	0	331
V/C Ratio(X)	0.31	0.58	0.58	0.19	0.85	0.85	0.06	0.00	0.07	0.18	0.00	0.36
Avail Cap(c_a), veh/h	249	539	556	293	519	536	596	0	537	374	0	331
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	0.89	0.89	0.89	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.1	27.8	27.9	24.8	23.7	23.7	20.6	0.0	20.7	29.5	0.0	30.7
Incr Delay (d2), s/veh	0.9	1.3	1.3	0.3	8.6	8.5	0.2	0.0	0.2	1.1	0.0	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	1.8	7.2	7.5	1.4	9.1	9.3	0.9	0.0	1.0	2.4	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	29.1	29.1	25.1	32.3	32.2	20.8	0.0	20.9	30.6	0.0	33.7
LnGrp LOS	C	C	C	C	C	C	C	A	C	C	A	C
Approach Vol, veh/h	531					721		71		189		
Approach Delay, s/veh	28.9					31.8		20.9		32.6		
Approach LOS	C					C		C		C		
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	34.1		8.0		24.8		23.0		8.4		24.4	
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5		4.5	
Max Green Setting (Gmax), s	20.5		5.5		27.5		18.5		6.5		26.5	
Max Q Clear Time (g_c+I1), s	3.4		3.9		12.0		7.8		4.4		17.1	
Green Ext Time (p_c), s	0.2		0.0		2.5		0.5		0.0		2.9	
Intersection Summary												
HCM 6th Ctrl Delay			30.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

15: Civic Center Dr & Volunteer Ave

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	405	39	9	336	16	20	13	3	38	19	161
Future Volume (veh/h)	26	405	39	9	336	16	20	13	3	38	19	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	30	471	45	10	357	17	26	17	4	63	32	175
Peak Hour Factor	0.86	0.86	0.86	0.94	0.94	0.94	0.77	0.77	0.77	0.60	0.60	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	202	650	290	153	573	27	559	356	79	726	357	1052
Arrive On Green	0.03	0.18	0.18	0.01	0.17	0.17	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1767	3526	1572	1767	3426	163	761	544	121	1010	546	1610
Grp Volume(v), veh/h	30	471	45	10	183	191	47	0	0	95	0	175
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1826	1426	0	0	1556	0	1610
Q Serve(g_s), s	1.2	11.3	2.2	0.4	8.7	8.7	0.0	0.0	0.0	0.0	0.0	3.8
Cycle Q Clear(g_c), s	1.2	11.3	2.2	0.4	8.7	8.7	1.7	0.0	0.0	1.7	0.0	3.8
Prop In Lane	1.00		1.00	1.00		0.09	0.55		0.09	0.66		1.00
Lane Grp Cap(c), veh/h	202	650	290	153	295	306	994	0	0	1083	0	1052
V/C Ratio(X)	0.15	0.72	0.16	0.07	0.62	0.62	0.05	0.00	0.00	0.09	0.00	0.17
Avail Cap(c_a), veh/h	337	1351	603	318	676	700	994	0	0	1083	0	1052
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.98	0.98	0.98	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.0	34.6	30.8	31.0	34.8	34.8	5.5	0.0	0.0	5.7	0.0	6.1
Incr Delay (d2), s/veh	0.3	1.4	0.2	0.2	2.1	2.1	0.1	0.0	0.0	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	8.3	1.5	0.3	6.9	7.2	0.5	0.0	0.0	1.1	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.3	35.9	31.0	31.2	36.9	36.9	5.6	0.0	0.0	5.9	0.0	6.4
LnGrp LOS	C	D	C	C	D	D	A	A	A	A	A	A
Approach Vol, veh/h	546		384			47			270			
Approach Delay, s/veh	35.2		36.8			5.6			6.2			
Approach LOS	D		D			A			A			
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	63.3		5.6	21.1		63.3		7.1	19.6			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	32.5		9.5	34.5		32.5		9.5	34.5			
Max Q Clear Time (g_c+I1), s	3.7		2.4	13.3		5.8		3.2	10.7			
Green Ext Time (p_c), s	0.2		0.0	3.3		1.1		0.0	2.2			
Intersection Summary												
HCM 6th Ctrl Delay			28.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

16: Civic Center Dr & Bloomfield Ave

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	273	21	150	14	13	4	87	921	13	4	500	85
Future Volume (veh/h)	273	21	150	14	13	4	87	921	13	4	500	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	300	23	165	21	20	6	92	969	14	4	556	94
Peak Hour Factor	0.91	0.91	0.91	0.66	0.66	0.66	0.95	0.95	0.95	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	392	469	397	348	346	104	143	2240	32	9	2092	933
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.63	0.63	0.01	1.00	1.00
Sat Flow, veh/h	1374	1856	1572	1186	1370	411	3428	3558	51	1767	3526	1572
Grp Volume(v), veh/h	300	23	165	21	0	26	92	480	503	4	556	94
Grp Sat Flow(s),veh/h/ln	1374	1856	1572	1186	0	1782	1714	1763	1846	1767	1763	1572
Q Serve(g_s), s	25.4	1.1	10.5	1.6	0.0	1.3	3.2	16.6	16.6	0.3	0.0	0.0
Cycle Q Clear(g_c), s	26.8	1.1	10.5	2.8	0.0	1.3	3.2	16.6	16.6	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	392	469	397	348	0	450	143	1110	1163	9	2092	933
V/C Ratio(X)	0.77	0.05	0.42	0.06	0.00	0.06	0.65	0.43	0.43	0.44	0.27	0.10
Avail Cap(c_a), veh/h	589	734	622	518	0	705	243	1110	1163	81	2092	933
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)	0.80	0.80	0.80	1.00	0.00	1.00	1.00	1.00	1.00	0.52	0.52	0.52
Uniform Delay (d), s/veh	44.2	33.9	37.5	35.0	0.0	34.0	56.6	11.3	11.3	59.2	0.0	0.0
Incr Delay (d2), s/veh	2.7	0.0	0.6	0.1	0.0	0.1	4.8	1.2	1.2	16.0	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.3	0.9	7.1	0.9	0.0	1.1	2.6	10.8	11.2	0.3	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	34.0	38.0	35.1	0.0	34.1	61.5	12.5	12.5	75.2	0.2	0.1
LnGrp LOS	D	C	D	D	A	C	E	B	B	E	A	A
Approach Vol, veh/h	488					47	1075			654		
Approach Delay, s/veh	43.3					34.5	16.7			0.6		
Approach LOS	D					C	B			A		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	5.1	80.1	34.8		9.5	75.7	34.8					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.5	53.5	47.5		8.5	50.5	47.5					
Max Q Clear Time (g_c+I), s	12.3	18.6	28.8		5.2	2.0	4.8					
Green Ext Time (p_c), s	0.0	7.7	1.5		0.1	4.7	0.2					
Intersection Summary												
HCM 6th Ctrl Delay	18.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 17: Adoree St/I-5 NB Off-Ramp & Norwalk Bl

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	0	64	156	121	355	95	882	0	0	1415	108
Future Volume (veh/h)	84	0	64	156	121	355	95	882	0	0	1415	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	0	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	112	0	85	171	133	390	100	928	0	0	1747	133
Peak Hour Factor	0.75	0.75	0.75	0.91	0.91	0.91	0.95	0.95	0.95	0.81	0.81	0.81
Percent Heavy Veh, %	3	0	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	0	0	0	462	460	411	151	3363	0	0	2796	212
Arrive On Green	0.00	0.00	0.00	0.26	0.26	0.26	0.01	0.22	0.00	0.00	1.00	1.00
Sat Flow, veh/h	0			1767	1763	1572	3428	5233	0	0	4969	365
Grp Volume(v), veh/h	0.0			171	133	390	100	928	0	0	1228	652
Grp Sat Flow(s),veh/h/ln				1767	1763	1572	1714	1689	0	0	1689	1790
Q Serve(g_s), s				9.5	7.2	29.2	3.5	18.3	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				9.5	7.2	29.2	3.5	18.3	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.20
Lane Grp Cap(c), veh/h				462	460	411	151	3363	0	0	1966	1042
V/C Ratio(X)				0.37	0.29	0.95	0.66	0.28	0.00	0.00	0.62	0.63
Avail Cap(c_a), veh/h				464	463	413	169	3363	0	0	1966	1042
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.91	0.91	0.00	0.00	0.84	0.84
Uniform Delay (d), s/veh				36.3	35.4	43.6	58.2	22.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.5	0.3	31.5	7.3	0.2	0.0	0.0	1.3	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
%ile BackOfQ(95%),veh/ln				7.5	5.7	21.2	3.0	12.8	0.0	0.0	0.6	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				36.8	35.8	75.1	65.5	23.1	0.0	0.0	1.3	2.4
LnGrp LOS				D	D	E	E	C	A	A	A	A
Approach Vol, veh/h				694			1028			1880		
Approach Delay, s/veh				58.1			27.2			1.7		
Approach LOS				E			C			A		
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	84.2			9.8			74.4			35.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	63.2			5.9			52.8			31.5		
Max Q Clear Time (g_c+I1), s	20.3			5.5			2.0			31.2		
Green Ext Time (p_c), s	8.2			0.0			23.3			0.1		
Intersection Summary												
HCM 6th Ctrl Delay	19.8											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 18: San Antonio Dr & Frontage Rd/I-5 SB On-Ramp

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	222	128	0	0	0	0	952	160	420	1194	0
Future Volume (veh/h)	34	222	128	0	0	0	0	952	160	420	1194	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	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	35	248	121				0	1035	174	494	1405	0
Peak Hour Factor	0.96	0.96	0.96				0.92	0.92	0.92	0.85	0.85	0.82
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	185	388	164				0	2678	449	582	4156	0
Arrive On Green	0.10	0.10	0.10				0.00	0.61	0.61	0.17	0.82	0.00
Sat Flow, veh/h	1767	3711	1572				0	4535	733	3428	5233	0
Grp Volume(v), veh/h	35	248	121				0	800	409	494	1405	0
Grp Sat Flow(s),veh/h/ln	1767	3711	1572				0	4535	733	3428	5233	0
Q Serve(g_s), s	2.2	7.7	9.0				0.0	14.4	14.5	16.8	8.3	0.0
Cycle Q Clear(g_c), s	2.2	7.7	9.0				0.0	14.4	14.5	16.8	8.3	0.0
Prop In Lane	1.00		1.00				0.00		0.43	1.00		0.00
Lane Grp Cap(c), veh/h	185	388	164				0	2070	1057	582	4156	0
V/C Ratio(X)	0.19	0.64	0.74				0.00	0.39	0.39	0.85	0.34	0.00
Avail Cap(c_a), veh/h	331	696	295				0	2070	1057	957	4156	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)	0.95	0.95	0.95				0.00	0.76	0.76	0.56	0.56	0.00
Uniform Delay (d), s/veh	49.1	51.6	52.1				0.0	11.8	11.8	48.3	2.7	0.0
Incr Delay (d2), s/veh	0.5	1.7	6.0				0.0	0.4	0.8	2.3	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	1.8	6.6	6.8				0.0	8.7	9.0	10.7	3.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.5	53.2	58.1				0.0	12.2	12.6	50.6	2.8	0.0
LnGrp LOS	D	D	E				A	B	B	D	A	A
Approach Vol, veh/h	404						1209			1899		
Approach Delay, s/veh	54.4						12.3			15.2		
Approach LOS	D						B			B		
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	24.9	78.1	17.0	103.0								
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	23.5	50.5	22.5	88.5								
Max Q Clear Time (g_c+10), s	19.8	16.5	11.0	10.3								
Green Ext Time (p_c), s	1.6	10.5	1.6	16.3								

Intersection Summary

HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

19: San Antonio Dr & Firestone Bl

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	331	53	62	376	72	90	798	58	72	881	193
Future Volume (veh/h)	201	331	53	62	376	72	90	798	58	72	881	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	228	376	60	78	470	90	106	939	68	81	990	217
Peak Hour Factor	0.88	0.88	0.88	0.80	0.80	0.80	0.85	0.85	0.85	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	258	877	391	99	559	249	131	1719	767	102	1958	428
Arrive On Green	0.15	0.25	0.25	0.06	0.16	0.16	0.07	0.49	0.49	0.12	0.94	0.94
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	4159	910
Grp Volume(v), veh/h	228	376	60	78	470	90	106	939	68	81	803	404
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1689	1692
Q Serve(g_s), s	15.2	10.8	3.6	5.2	15.5	6.1	7.1	22.3	2.8	5.4	3.2	3.2
Cycle Q Clear(g_c), s	15.2	10.8	3.6	5.2	15.5	6.1	7.1	22.3	2.8	5.4	3.2	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.54
Lane Grp Cap(c), veh/h	258	877	391	99	559	249	131	1719	767	102	1590	797
V/C Ratio(X)	0.88	0.43	0.15	0.79	0.84	0.36	0.81	0.55	0.09	0.80	0.51	0.51
Avail Cap(c_a), veh/h	361	1028	459	177	661	295	218	1719	767	169	1590	797
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)	1.00	1.00	1.00	1.00	1.00	1.00	0.37	0.37	0.37	0.94	0.94	0.94
Uniform Delay (d), s/veh	50.2	37.9	35.2	55.9	49.0	45.1	54.7	21.5	16.5	52.4	1.9	1.9
Incr Delay (d2), s/veh	16.8	0.3	0.2	12.7	8.3	0.9	4.4	0.5	0.1	12.3	1.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.5	8.3	2.5	4.8	11.9	4.4	5.1	12.2	1.8	4.7	1.6	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.0	38.2	35.4	68.6	57.3	45.9	59.0	21.9	16.6	64.7	3.0	4.1
LnGrp LOS	E	D	D	E	E	D	E	C	B	E	A	A
Approach Vol, veh/h	664		638			1113			1288			
Approach Delay, s/veh	47.9		57.1			25.1			7.2			
Approach LOS	D		E			C			A			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	63.0	11.2	34.3	13.4	61.0	22.0	23.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	41.5	43.5	12.0	35.0	14.8	40.2	24.5	22.5				
Max Q Clear Time (g_c+I1), s	17.4	24.3	7.2	12.8	9.1	5.2	17.2	17.5				
Green Ext Time (p_c), s	0.1	6.9	0.1	2.7	0.1	10.6	0.4	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			28.5									
HCM 6th LOS			C									

HCM 6th Edition methodology does not support more than 4 approaches.

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022

												
Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	117	202	609	121	48	591	64	11	122	394	194	36
Future Volume (vph)	117	202	609	121	48	591	64	11	122	394	194	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00	1.00	0.91			1.00	0.91	0.91	
Frt		1.00	1.00	0.85	1.00	0.98			1.00	0.99	0.85	
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (prot)		1752	3505	1568	1752	4951			1752	3308	1427	
Flt Permitted		0.36	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (perm)		657	3505	1568	1752	4951			1752	3308	1427	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.89	0.89	0.89	0.89	0.92	0.92	0.92	0.92
Adj. Flow (vph)	119	206	621	123	54	664	72	12	133	428	211	39
RTOR Reduction (vph)	0	0	0	66	0	0	0	0	0	0	85	0
Lane Group Flow (vph)	0	325	621	57	54	748	0	0	133	474	119	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	NA			Prot	NA	Perm	
Protected Phases	7		4		3	8			5	2		
Permitted Phases		4		4							2	
Actuated Green, G (s)		60.5	60.5	60.5	5.0	70.0			8.5	38.0	38.0	
Effective Green, g (s)		60.5	60.5	60.5	5.0	70.0			8.5	38.0	38.0	
Actuated g/C Ratio		0.43	0.43	0.43	0.04	0.50			0.06	0.27	0.27	
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		283	1514	677	62	2475			106	897	387	
v/s Ratio Prot			0.18		c0.03	0.15			c0.08	0.14		
v/s Ratio Perm		c0.49		0.04							0.08	
v/c Ratio		1.15	0.41	0.08	0.87	0.30			1.25	0.53	0.31	
Uniform Delay, d1		39.8	27.4	23.4	67.2	20.6			65.8	43.4	40.5	
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2		99.7	0.2	0.1	70.2	0.1			170.8	2.2	2.0	
Delay (s)		139.5	27.6	23.5	137.4	20.7			236.5	45.6	42.6	
Level of Service		F	C	C	F	C			F	D	D	
Approach Delay (s)			61.2			28.5				76.2		
Approach LOS			E			C				E		
Intersection Summary												
HCM 2000 Control Delay			70.0			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.06									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			82.1%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	11	79	475	195	19	266	300	7
Future Volume (vph)	11	79	475	195	19	266	300	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00		0.97	0.91	
Frt		1.00	1.00	0.85		0.96	0.85	
Flt Protected		0.95	1.00	1.00		0.97	1.00	
Satd. Flow (prot)		1752	3505	1568		3303	1427	
Flt Permitted		0.47	1.00	1.00		0.97	1.00	
Satd. Flow (perm)		869	3505	1568		3303	1427	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.89	0.89	0.89	0.89
Adj. Flow (vph)	12	83	500	205	21	299	337	8
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	95	500	205	0	455	210	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	Prot	Perm	
Protected Phases	1		6		12	12		
Permitted Phases		6		6			12	
Actuated Green, G (s)		25.0	25.0	25.0		18.5	18.5	
Effective Green, g (s)		25.0	25.0	25.0		18.5	18.5	
Actuated g/C Ratio		0.18	0.18	0.18		0.13	0.13	
Clearance Time (s)		4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		155	625	280		436	188	
v/s Ratio Prot			c0.14			0.14		
v/s Ratio Perm		0.11		0.13			c0.15	
v/c Ratio		0.61	0.80	0.73		1.04	1.12	
Uniform Delay, d1		53.0	55.1	54.3		60.8	60.8	
Progression Factor		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		16.8	10.3	15.6		54.9	100.5	
Delay (s)		69.8	65.4	69.9		115.7	161.3	
Level of Service		E	E	E		F	F	
Approach Delay (s)			67.1			130.1		
Approach LOS			E			F		
Intersection Summary								

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	86	924	94	0	1114
Future Vol, veh/h	0	86	924	94	0	1114
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, %	0	0	3	3	3	3
Mvmt Flow	0	93	1004	102	0	1211
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	553	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	412	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	412	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	16.3	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 412		-		
HCM Lane V/C Ratio	-	- 0.227		-		
HCM Control Delay (s)	-	- 16.3		-		
HCM Lane LOS	-	- C		-		
HCM 95th %tile Q(veh)	-	- 0.9		-		

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	53	43	0	66
Future Vol, veh/h	5	0	53	43	0	66
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	0	58	47	0	72
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	154	82	0	0	105	0
Stage 1	82	-	-	-	-	-
Stage 2	72	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	838	978	-	-	1486	-
Stage 1	941	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	838	978	-	-	1486	-
Mov Cap-2 Maneuver	838	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.3	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	838	1486	-	
HCM Lane V/C Ratio	-	-	0.006	-	-	
HCM Control Delay (s)	-	-	9.3	0	-	
HCM Lane LOS	-	-	A	A	-	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	35	26	64	116	0
Future Vol, veh/h	20	35	26	64	116	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	38	28	70	126	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	252	126	126	0	-	0
Stage 1	126	-	-	-	-	-
Stage 2	126	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	737	924	1460	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	900	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	722	924	1460	-	-	-
Mov Cap-2 Maneuver	722	-	-	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	900	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.6	2.2		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1460	-	839	-	-	
HCM Lane V/C Ratio	0.019	-	0.071	-	-	
HCM Control Delay (s)	7.5	0	9.6	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	37	0	0	151	140	0
Future Vol, veh/h	37	0	0	151	140	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	0	0	164	152	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	164	0	0 162 82
Stage 1	-	-	- 82 -
Stage 2	-	-	- 80 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1414	-	- 829 978
Stage 1	-	-	- 941 -
Stage 2	-	-	- 943 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1414	-	- 806 978
Mov Cap-2 Maneuver	-	-	- 806 -
Stage 1	-	-	- 915 -
Stage 2	-	-	- 943 -

Approach	EB	WB	SB
HCM Control Delay, s	7.6	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1414	-	-	-	806
HCM Lane V/C Ratio	0.028	-	-	-	0.189
HCM Control Delay (s)	7.6	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

HCM 6th Signalized Intersection Summary

1: Norwalk BI & Lakeland Rd

05/11/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	148	28	85	158	101	27	819	155	77	518	42
Future Volume (veh/h)	31	148	28	85	158	101	27	819	155	77	518	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	42	203	38	99	184	117	34	1024	194	89	595	48
Peak Hour Factor	0.73	0.73	0.73	0.86	0.86	0.86	0.80	0.80	0.80	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	3	3	3	5	5	5
Cap, veh/h	77	253	44	215	398	337	565	2043	386	316	2246	181
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	148	1207	210	1157	1900	1610	781	2958	559	447	3251	262
Grp Volume(v), veh/h	283	0	0	99	184	117	34	609	609	89	317	326
Grp Sat Flow(s),veh/h/ln	1565	0	0	1157	1900	1610	781	1763	1755	447	1735	1779
Q Serve(g_s), s	8.3	0.0	0.0	0.0	7.6	5.6	1.6	14.7	14.8	10.6	6.2	6.2
Cycle Q Clear(g_c), s	16.0	0.0	0.0	15.5	7.6	5.6	7.8	14.7	14.8	25.4	6.2	6.2
Prop In Lane	0.15		0.13	1.00		1.00	1.00		0.32	1.00		0.15
Lane Grp Cap(c), veh/h	373	0	0	215	398	337	565	1218	1212	316	1198	1229
V/C Ratio(X)	0.76	0.00	0.00	0.46	0.46	0.35	0.06	0.50	0.50	0.28	0.26	0.27
Avail Cap(c_a), veh/h	479	0	0	288	517	438	565	1218	1212	316	1198	1229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	0.0	34.3	31.1	30.3	6.7	6.6	6.6	12.6	5.3	5.3
Incr Delay (d2), s/veh	5.2	0.0	0.0	1.5	0.8	0.6	0.2	1.3	1.4	2.2	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.5	0.0	0.0	3.8	6.4	3.9	0.5	8.5	8.5	2.1	3.7	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	0.0	0.0	35.8	32.0	30.9	6.9	7.9	7.9	14.8	5.8	5.8
LnGrp LOS	D	A	A	D	C	C	A	A	A	B	A	A
Approach Vol, veh/h		283			400			1252			732	
Approach Delay, s/veh		39.6			32.6			7.9			6.9	
Approach LOS		D			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.7		23.3		66.7		23.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		56.5		24.5		56.5		24.5				
Max Q Clear Time (g_c+I1), s		16.8		18.0		27.4		17.5				
Green Ext Time (p_c), s		11.5		0.9		5.9		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				14.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Norwalk Bl & Crewe St

05/11/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	74	100	48	881	674	40
Future Volume (veh/h)	74	100	48	881	674	40
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	1900	1900	1856	1856	1826	1826
Adj Flow Rate, veh/h	94	127	62	1144	741	44
Peak Hour Factor	0.79	0.79	0.77	0.77	0.91	0.91
Percent Heavy Veh, %	0	0	3	3	5	5
Cap, veh/h	189	168	584	2805	2647	157
Arrive On Green	0.10	0.10	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1810	1610	684	3618	3419	198
Grp Volume(v), veh/h	94	127	62	1144	386	399
Grp Sat Flow(s), veh/h/ln	1810	1610	684	1763	1735	1790
Q Serve(g_s), s	4.4	6.9	2.4	8.8	5.3	5.3
Cycle Q Clear(g_c), s	4.4	6.9	7.6	8.8	5.3	5.3
Prop In Lane	1.00	1.00	1.00			0.11
Lane Grp Cap(c), veh/h	189	168	584	2805	1380	1424
V/C Ratio(X)	0.50	0.76	0.11	0.41	0.28	0.28
Avail Cap(c_a), veh/h	452	403	584	2805	1380	1424
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.50	0.50	0.95	0.95
Uniform Delay (d), s/veh	38.1	39.2	3.4	2.8	2.4	2.4
Incr Delay (d2), s/veh	2.0	6.7	0.2	0.2	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.7	5.4	0.5	3.5	2.3	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.1	45.9	3.6	3.0	2.9	2.9
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	221			1206	785	
Approach Delay, s/veh	43.4			3.0	2.9	
Approach LOS	D			A	A	
Timer - Assigned Phs	2			4		6
Phs Duration (G+Y+Rc), s	76.1			13.9		76.1
Change Period (Y+Rc), s	4.5			4.5		4.5
Max Green Setting (Gmax), s	58.5			22.5		58.5
Max Q Clear Time (g_c+I1), s	10.8			8.9		7.3
Green Ext Time (p_c), s	12.4			0.5		5.9
Intersection Summary						
HCM 6th Ctrl Delay			7.0			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

3: Firestone Bl & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↖ ↑↑↑	↖ ↑↑↑	↖	↖ ↖	↑↑		↖ ↖ ↑↑↑		
Traffic Volume (veh/h)	0	1338	315	7	1143	351	266	410	9	294	371	0
Future Volume (veh/h)	0	1338	315	7	1143	351	266	410	9	294	371	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	0	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1470	346	8	1314	403	283	436	0	338	426	0
Peak Hour Factor	0.91	0.91	0.91	0.87	0.87	0.87	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	0	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	1809	424	92	2235	694	348	1154		407	1746	0
Arrive On Green	0.00	0.44	0.44	0.15	0.15	0.15	0.10	0.33	0.00	0.12	0.34	0.00
Sat Flow, veh/h	0	4266	960	256	5066	1572	3428	3618	0	3428	5233	0
Grp Volume(v), veh/h	0	1210	606	8	1314	403	283	436	0	338	426	0
Grp Sat Flow(s),veh/h/ln	0	1689	1683	256	1689	1572	1714	1763	0	1714	1689	0
Q Serve(g_s), s	0.0	37.4	37.8	3.6	29.1	28.7	9.7	11.4	0.0	11.6	7.2	0.0
Cycle Q Clear(g_c), s	0.0	37.4	37.8	41.4	29.1	28.7	9.7	11.4	0.0	11.6	7.2	0.0
Prop In Lane	0.00		0.57	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1490	742	92	2235	694	348	1154		407	1746	0
V/C Ratio(X)	0.00	0.81	0.82	0.09	0.59	0.58	0.81	0.38		0.83	0.24	0.00
Avail Cap(c_a), veh/h	0	1646	820	104	2469	767	500	1154		586	1746	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.36	0.36	0.36	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	29.2	29.3	64.6	41.1	40.9	52.8	31.0	0.0	51.7	28.1	0.0
Incr Delay (d2), s/veh	0.0	2.9	5.9	0.1	0.1	0.3	6.6	0.9	0.0	6.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	21.9	22.7	0.5	16.8	15.6	8.0	8.7	0.0	9.1	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	32.1	35.2	64.7	41.2	41.2	59.4	31.9	0.0	58.3	28.5	0.0
LnGrp LOS	A	C	D	E	D	D	E	C		E	C	A
Approach Vol, veh/h	1816			1725			719			764		
Approach Delay, s/veh	33.2			41.3			42.7			41.7		
Approach LOS	C			D			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.8	43.8		57.5	16.7	45.9		57.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	20.5	27.5		58.5	17.5	30.5		58.5				
Max Q Clear Time (g_c+1.6), s	13.6	13.4		39.8	11.7	9.2		43.4				
Green Ext Time (p_c), s	0.7	2.4		12.7	0.5	2.8		9.6				

Intersection Summary

HCM 6th Ctrl Delay 38.6

HCM 6th LOS D

Notes

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

HCM 6th Signalized Intersection Summary

4: Pioneer Bl & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑	↱	↰	↑↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	349	1251	84	133	1183	128	25	372	172	157	320	489
Future Volume (veh/h)	349	1251	84	133	1183	128	25	372	172	157	320	489
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	426	1526	102	160	1425	154	29	433	200	196	400	611
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.86	0.86	0.86	0.80	0.80	0.80
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	452	2283	709	189	1528	474	46	773	345	251	940	419
Arrive On Green	0.26	0.45	0.45	0.11	0.30	0.30	0.03	0.22	0.22	0.07	0.27	0.27
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	426	1526	102	160	1425	154	29	433	200	196	400	611
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1714	1763	1572
Q Serve(g_s), s	28.4	28.4	4.6	10.7	32.8	9.1	2.0	13.1	13.7	6.7	11.3	32.0
Cycle Q Clear(g_c), s	28.4	28.4	4.6	10.7	32.8	9.1	2.0	13.1	13.7	6.7	11.3	32.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	452	2283	709	189	1528	474	46	773	345	251	940	419
V/C Ratio(X)	0.94	0.67	0.14	0.85	0.93	0.32	0.64	0.56	0.58	0.78	0.43	1.46
Avail Cap(c_a), veh/h	479	2283	709	283	1541	478	74	773	345	274	940	419
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.56	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.8	25.9	19.4	52.6	40.7	32.4	57.9	41.7	41.9	54.7	36.4	44.0
Incr Delay (d2), s/veh	17.8	0.4	0.1	12.0	9.2	0.3	13.7	2.9	7.0	12.5	1.4	218.6
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	10.2	15.5	3.0	8.8	20.5	6.3	1.9	10.0	10.0	6.0	8.7	57.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.6	26.3	19.4	64.6	49.9	32.8	71.6	44.6	48.9	67.2	37.8	262.6
LnGrp LOS	E	C	B	E	D	C	E	D	D	E	D	F
Approach Vol, veh/h	2054					1739		662		1207		
Approach Delay, s/veh	33.3					49.7		47.1		156.4		
Approach LOS	C					D		D		F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.3	30.8	17.3	58.6	7.6	36.5	35.2	40.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	23.4	23.4	19.2	49.8	5.0	28.0	32.5	36.5				
Max Q Clear Time (g_c+I), s	15.7	15.7	12.7	30.4	4.0	34.0	30.4	34.8				
Green Ext Time (p_c), s	0.1	2.2	0.2	11.5	0.0	0.0	0.3	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			66.2									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

5: Frontage Rd/I-5 SB Off-Ramp & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑↑	
Traffic Volume (veh/h)	0	1453	263	10	1248	0	0	0	0	455	128	177
Future Volume (veh/h)	0	1453	263	10	1248	0	0	0	0	455	128	177
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	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1772	321	11	1387	0				605	147	230
Peak Hour Factor	0.82	0.82	0.82	0.90	0.90	0.90				0.77	0.77	0.77
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	2330	723	45	2607	0				1421	262	410
Arrive On Green	0.00	0.46	0.46	0.01	0.51	0.00				0.40	0.40	0.40
Sat Flow, veh/h	0	5233	1572	3428	5233	0				3534	652	1020
Grp Volume(v), veh/h	0	1772	321	11	1387	0				605	0	377
Grp Sat Flow(s),veh/h/ln	0	1689	1572	1714	1689	0				1767	0	1672
Q Serve(g_s), s	0.0	31.4	15.0	0.3	19.8	0.0				13.4	0.0	18.8
Cycle Q Clear(g_c), s	0.0	31.4	15.0	0.3	19.8	0.0				13.4	0.0	18.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.61
Lane Grp Cap(c), veh/h	0	2330	723	45	2607	0				1421	0	672
V/C Ratio(X)	0.00	0.76	0.44	0.25	0.53	0.00				0.43	0.00	0.56
Avail Cap(c_a), veh/h	0	2693	836	174	3161	0				1421	0	672
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	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	24.3	19.8	52.9	17.5	0.0				23.3	0.0	25.0
Incr Delay (d2), s/veh	0.0	1.1	0.4	2.8	0.2	0.0				0.9	0.0	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	0.0	18.1	9.3	0.3	12.0	0.0				9.6	0.0	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.4	20.2	55.7	17.7	0.0				24.3	0.0	28.3
LnGrp LOS	A	C	C	E	B	A				C	A	C
Approach Vol, veh/h		2093			1398						982	
Approach Delay, s/veh		24.6			18.0						25.8	
Approach LOS		C			B						C	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			5.9	54.3		48.0		60.2				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			5.5	57.5		43.5		67.5				
Max Q Clear Time (g_c+I1), s			2.3	33.4		20.8		21.8				
Green Ext Time (p_c), s			0.0	16.3		5.0		14.6				
Intersection Summary												
HCM 6th Ctrl Delay			22.8									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

6: Adoree St/I-5 NB On-Ramp & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕		↔↔	↕↕↕	↔		↕↕	↔			
Traffic Volume (veh/h)	89	1806	63	1	1183	521	103	131	12	0	0	0
Future Volume (veh/h)	89	1806	63	1	1183	521	103	131	12	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	109	2202	77	1	1286	566	141	179	16			
Peak Hour Factor	0.82	0.82	0.82	0.92	0.92	0.92	0.73	0.73	0.73			
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3			
Cap, veh/h	162	2354	82	2	3199	993	369	368	328			
Arrive On Green	0.05	0.68	0.68	0.00	0.63	0.63	0.21	0.21	0.21			
Sat Flow, veh/h	3428	3476	121	1767	5066	1572	1767	1763	1572			
Grp Volume(v), veh/h	109	1110	1169	1	1286	566	141	179	16			
Grp Sat Flow(s),veh/h/ln	1714	1763	1834	1767	1689	1572	1767	1763	1572			
Q Serve(g_s), s	3.8	65.9	68.0	0.1	15.0	24.9	8.2	10.7	1.0			
Cycle Q Clear(g_c), s	3.8	65.9	68.0	0.1	15.0	24.9	8.2	10.7	1.0			
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	162	1194	1242	2	3199	993	369	368	328			
V/C Ratio(X)	0.67	0.93	0.94	0.41	0.40	0.57	0.38	0.49	0.05			
Avail Cap(c_a), veh/h	243	1212	1261	75	3339	1037	369	368	328			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.68	0.68	0.68	0.53	0.53	0.53	1.00	1.00	1.00			
Uniform Delay (d), s/veh	56.3	16.9	17.2	59.9	10.9	12.7	40.8	41.8	38.0			
Incr Delay (d2), s/veh	3.3	9.1	10.1	50.7	0.0	0.4	3.0	4.5	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			
%ile BackOfQ(95%),veh/ln	8.1	33.7	36.2	0.1	8.2	11.9	7.0	8.9	0.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.5	26.0	27.3	110.5	11.0	13.1	43.8	46.4	38.2			
LnGrp LOS	E	C	C	F	B	B	D	D	D			
Approach Vol, veh/h												
		2388			1853			336				
Approach Delay, s/veh												
		28.2			11.7			44.9				
Approach LOS												
		C			B			D				
Timer - Assigned Phs												
		2		3	4		7		8			
Phs Duration (G+Y+Rc), s												
		29.5		4.7	85.8		10.2		80.3			
Change Period (Y+Rc), s												
		4.5		4.5	4.5		4.5		4.5			
Max Green Setting (Gmax), s												
		18.9		5.1	82.5		8.5		79.1			
Max Q Clear Time (g_c+I1), s												
		12.7		2.1	70.0		5.8		26.9			
Green Ext Time (p_c), s												
		1.0		0.0	11.3		0.1		18.4			
Intersection Summary												
HCM 6th Ctrl Delay												
			22.7									
HCM 6th LOS												
			C									

HCM 6th Signalized Intersection Summary

7: Kalnor Ave & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↱ ↲ ↳			↰ ↱ ↲ ↳			↰ ↱ ↲ ↳			↰ ↱ ↲ ↳		
Traffic Volume (veh/h)	31	1526	31	14	1467	38	12	7	26	24	7	11
Future Volume (veh/h)	31	1526	31	14	1467	38	12	7	26	24	7	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	37	1839	37	16	1648	43	16	9	35	32	9	15
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	59	3132	63	32	2108	940	273	141	358	372	142	237
Arrive On Green	0.03	0.61	0.61	0.02	0.60	0.60	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1767	5111	103	1767	3526	1572	940	633	1610	1384	640	1067
Grp Volume(v), veh/h	37	1215	661	16	1648	43	25	0	35	32	0	24
Grp Sat Flow(s),veh/h/ln	1767	1689	1837	1767	1763	1572	1573	0	1610	1384	0	1708
Q Serve(g_s), s	1.9	20.0	20.1	0.8	32.5	1.0	0.0	0.0	1.6	1.7	0.0	1.0
Cycle Q Clear(g_c), s	1.9	20.0	20.1	0.8	32.5	1.0	1.0	0.0	1.6	2.7	0.0	1.0
Prop In Lane	1.00		0.06	1.00		1.00	0.64		1.00	1.00		0.63
Lane Grp Cap(c), veh/h	59	2069	1126	32	2108	940	414	0	358	372	0	380
V/C Ratio(X)	0.63	0.59	0.59	0.50	0.78	0.05	0.06	0.00	0.10	0.09	0.00	0.06
Avail Cap(c_a), veh/h	144	2914	1585	125	3004	1340	414	0	358	372	0	380
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.0	10.8	10.8	44.8	14.0	7.7	28.2	0.0	28.5	29.3	0.0	28.2
Incr Delay (d2), s/veh	10.6	0.3	0.5	11.3	0.9	0.0	0.3	0.0	0.5	0.5	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	11.0	11.9	0.8	17.3	0.6	0.8	0.0	1.2	1.1	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.6	11.1	11.3	56.1	14.9	7.7	28.5	0.0	29.0	29.7	0.0	28.6
LnGrp LOS	D	B	B	E	B	A	C	A	C	C	A	C
Approach Vol, veh/h	1913			1707			60			56		
Approach Delay, s/veh	12.0			15.1			28.8			29.2		
Approach LOS	B			B			C			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	25.0			6.2			61.0			25.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.5			6.5			79.5			20.5		
Max Q Clear Time (g_c+I1), s	3.6			2.8			22.1			4.7		
Green Ext Time (p_c), s	0.1			0.0			24.1			0.1		

Intersection Summary

HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

8: Imperial Highway & Norwalk BI

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	1328	91	129	1295	53	156	676	150	129	502	113
Future Volume (veh/h)	163	1328	91	129	1295	53	156	676	150	129	502	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	190	1544	106	147	1472	60	203	878	195	150	584	131
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.77	0.77	0.77	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	5	5	5
Cap, veh/h	217	1685	523	171	1554	482	229	1127	502	176	1450	450
Arrive On Green	0.12	0.33	0.33	0.19	0.61	0.61	0.26	0.64	0.64	0.10	0.29	0.29
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	1739	4985	1547
Grp Volume(v), veh/h	190	1544	106	147	1472	60	203	878	195	150	584	131
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1739	1662	1547
Q Serve(g_s), s	12.7	35.1	5.8	9.7	32.2	1.9	13.2	21.5	7.1	10.2	11.3	7.9
Cycle Q Clear(g_c), s	12.7	35.1	5.8	9.7	32.2	1.9	13.2	21.5	7.1	10.2	11.3	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	217	1685	523	171	1554	482	229	1127	502	176	1450	450
V/C Ratio(X)	0.88	0.92	0.20	0.86	0.95	0.12	0.88	0.78	0.39	0.85	0.40	0.29
Avail Cap(c_a), veh/h	228	1710	531	184	1583	491	346	1127	502	196	1450	450
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	0.67	0.67	0.67	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	51.8	38.4	28.7	47.6	22.3	16.4	43.6	18.6	16.0	53.0	34.2	33.0
Incr Delay (d2), s/veh	24.1	6.7	0.1	22.0	9.0	0.1	16.2	5.4	2.3	25.8	0.8	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	10.9	21.1	4.0	7.9	13.8	1.3	10.1	10.4	4.5	9.5	8.2	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.9	45.1	28.8	69.6	31.3	16.5	59.7	24.0	18.3	78.9	35.0	34.5
LnGrp LOS	E	D	C	E	C	B	E	C	B	E	C	C
Approach Vol, veh/h	1840			1679			1276			865		
Approach Delay, s/veh	47.4			34.1			28.8			42.5		
Approach LOS	D			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.6	42.8	16.1	44.4	20.1	39.4	19.2	41.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	35.5	12.5	40.5	23.5	25.5	15.5	37.5				
Max Q Clear Time (g_c+1.2), s	12.2	23.5	11.7	37.1	15.2	13.3	14.7	34.2				
Green Ext Time (p_c), s	0.0	5.4	0.0	2.8	0.3	3.6	0.0	2.6				

Intersection Summary

HCM 6th Ctrl Delay 38.5

HCM 6th LOS D

HCM 6th Signalized Intersection Summary

9: Avenida Manuel Salinas & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	38	1326	129	30	1441	77	44	16	21	56	21	30
Future Volume (veh/h)	38	1326	129	30	1441	77	44	16	21	56	21	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	48	1678	163	32	1517	81	56	20	27	64	24	34
Peak Hour Factor	0.79	0.79	0.79	0.95	0.95	0.95	0.79	0.79	0.79	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	61	1924	597	48	1886	586	699	298	402	525	205	291
Arrive On Green	0.07	0.76	0.76	0.05	0.74	0.74	0.15	0.41	0.41	0.04	0.29	0.29
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1810	733	989	1810	711	1007
Grp Volume(v), veh/h	48	1678	163	32	1517	81	56	0	47	64	0	58
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1810	0	1722	1810	0	1719
Q Serve(g_s), s	3.2	28.3	3.8	2.1	22.9	1.8	2.1	0.0	2.0	3.0	0.0	3.0
Cycle Q Clear(g_c), s	3.2	28.3	3.8	2.1	22.9	1.8	2.1	0.0	2.0	3.0	0.0	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.57	1.00		0.59
Lane Grp Cap(c), veh/h	61	1924	597	48	1886	586	699	0	699	525	0	496
V/C Ratio(X)	0.78	0.87	0.27	0.66	0.80	0.14	0.08	0.00	0.07	0.12	0.00	0.12
Avail Cap(c_a), veh/h	140	2343	727	110	2258	701	699	0	699	541	0	496
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.44	0.44	0.44	0.84	0.84	0.84	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.4	12.3	9.4	56.2	12.5	9.8	18.2	0.0	21.8	28.3	0.0	31.4
Incr Delay (d2), s/veh	9.1	1.5	0.1	12.3	1.6	0.1	0.2	0.0	0.2	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	7.1	2.1	2.0	7.7	1.1	1.6	0.0	1.5	2.4	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.5	13.9	9.5	68.5	14.1	9.9	18.4	0.0	21.9	28.4	0.0	31.9
LnGrp LOS	E	B	A	E	B	A	B	A	C	C	A	C
Approach Vol, veh/h	1889					1630		103		122		
Approach Delay, s/veh	14.8					15.0		20.0		30.1		
Approach LOS	B					B		C		C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	53.2	7.8	50.1	23.0	39.1	8.7	49.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	33.5	7.5	55.5	18.5	20.5	9.5	53.5				
Max Q Clear Time (g_c+1.0), s	15.0	4.0	4.1	30.3	4.1	5.0	5.2	24.9				
Green Ext Time (p_c), s	0.0	0.2	0.0	15.3	0.1	0.2	0.0	14.3				
Intersection Summary												
HCM 6th Ctrl Delay			15.5									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

10: Imperial Highway & Volunteer Ave

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑ ↱			↰ ↑↑ ↱			↰ ↱				↰ ↱	
Traffic Volume (veh/h)	2	1267	148	61	1493	29	31	14	29	53	53	23
Future Volume (veh/h)	2	1267	148	61	1493	29	31	14	29	53	53	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2	1584	185	64	1572	31	48	22	45	60	60	26
Peak Hour Factor	0.80	0.80	0.80	0.95	0.95	0.95	0.64	0.64	0.64	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	145	2059	240	167	2668	53	525	224	459	345	331	649
Arrive On Green	0.45	0.45	0.45	0.02	0.35	0.35	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	314	4600	536	1767	5114	101	1332	557	1138	743	821	1610
Grp Volume(v), veh/h	2	1162	607	64	1038	565	48	0	67	120	0	26
Grp Sat Flow(s),veh/h/ln	314	1689	1759	1767	1689	1837	1332	0	1695	1564	0	1610
Q Serve(g_s), s	0.6	34.8	34.9	2.3	30.2	30.2	2.9	0.0	2.9	3.5	0.0	1.2
Cycle Q Clear(g_c), s	21.9	34.8	34.9	2.3	30.2	30.2	9.4	0.0	2.9	6.5	0.0	1.2
Prop In Lane	1.00		0.30	1.00		0.05	1.00		0.67	0.50		1.00
Lane Grp Cap(c), veh/h	145	1511	787	167	1762	959	525	0	684	676	0	649
V/C Ratio(X)	0.01	0.77	0.77	0.38	0.59	0.59	0.09	0.00	0.10	0.18	0.00	0.04
Avail Cap(c_a), veh/h	181	1900	989	286	2378	1294	525	0	684	676	0	649
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.63	0.25	0.25	0.25	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.2	27.9	28.0	23.3	28.5	28.5	26.3	0.0	22.2	23.3	0.0	21.7
Incr Delay (d2), s/veh	0.0	1.0	1.9	0.4	0.1	0.1	0.3	0.0	0.3	0.6	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	0.1	18.8	19.8	1.7	15.9	17.2	1.8	0.0	2.2	4.2	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.2	28.9	29.8	23.6	28.6	28.6	26.7	0.0	22.5	23.9	0.0	21.8
LnGrp LOS	C	C	C	C	C	C	C	A	C	C	A	C
Approach Vol, veh/h												
		1771		1667			115			146		
Approach Delay, s/veh												
		29.2		28.4			24.3			23.5		
Approach LOS												
		C		C			C			C		
Timer - Assigned Phs												
		2		3		4		6		8		
Phs Duration (G+Y+Rc), s												
		52.9		8.9		58.2		52.9		67.1		
Change Period (Y+Rc), s												
		4.5		4.5		4.5		4.5		4.5		
Max Green Setting (Gmax), s												
		26.5		12.5		67.5		26.5		84.5		
Max Q Clear Time (g_c+I1), s												
		11.4		4.3		36.9		8.5		32.2		
Green Ext Time (p_c), s												
		0.4		0.1		16.8		0.6		17.8		
Intersection Summary												
HCM 6th Ctrl Delay												
			28.5									
HCM 6th LOS												
			C									

HCM 6th Signalized Intersection Summary

11: Bloomfield Ave & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	295	831	118	438	1306	220	144	608	423	144	534	201
Future Volume (veh/h)	295	831	118	438	1306	220	144	608	423	144	534	201
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	351	989	140	481	1435	242	155	654	455	152	562	212
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	369	1316	409	511	1484	250	172	724	323	169	718	320
Arrive On Green	0.42	0.52	0.52	0.29	0.34	0.34	0.03	0.07	0.07	0.10	0.20	0.20
Sat Flow, veh/h	1767	5066	1572	1767	4365	735	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	351	989	140	481	1110	567	155	654	455	152	562	212
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1723	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	23.0	18.5	6.2	31.9	38.8	38.9	10.5	22.1	24.6	10.2	18.1	14.9
Cycle Q Clear(g_c), s	23.0	18.5	6.2	31.9	38.8	38.9	10.5	22.1	24.6	10.2	18.1	14.9
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	369	1316	409	511	1148	586	172	724	323	169	718	320
V/C Ratio(X)	0.95	0.75	0.34	0.94	0.97	0.97	0.90	0.90	1.41	0.90	0.78	0.66
Avail Cap(c_a), veh/h	373	1316	409	570	1148	586	172	724	323	169	718	320
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	0.66	1.00	1.00	1.00	0.63	0.63	0.63	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	25.8	22.8	41.7	38.9	39.0	57.5	54.8	55.9	53.7	45.3	44.0
Incr Delay (d2), s/veh	26.0	1.6	0.3	23.0	19.0	29.2	29.9	11.6	195.6	41.2	8.3	10.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.9	8.9	3.8	23.8	25.9	28.4	9.7	16.1	41.1	10.6	13.6	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	27.4	23.2	64.7	57.9	68.2	87.4	66.3	251.5	94.9	53.6	54.3
LnGrp LOS	E	C	C	E	E	E	F	E	F	F	D	D
Approach Vol, veh/h	1480					2158		1264		926		
Approach Delay, s/veh	34.8					62.1		135.6		60.5		
Approach LOS	C					E		F		E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	29.1	39.2	35.7	16.2	28.9	29.6	45.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	11.5	24.4	38.7	27.4	11.7	24.2	25.3	40.8				
Max Q Clear Time (g_c+1/2), s	12.2	26.6	33.9	20.5	12.5	20.1	25.0	40.9				
Green Ext Time (p_c), s	0.0	0.0	0.8	3.9	0.0	1.7	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	70.9
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary

12: Norwalk Bl & Civic Center Dr

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔		↑↑↑	↔	↔	↑↑↑	
Traffic Volume (veh/h)	1	0	1	382	4	142	0	922	650	117	680	4
Future Volume (veh/h)	1	0	1	382	4	142	0	922	650	117	680	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	0	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	2	0	2	459	0	169	0	1167	823	129	747	4
Peak Hour Factor	0.50	0.50	0.50	0.84	0.84	0.84	0.79	0.79	0.79	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	0	3	3	3	3	3
Cap, veh/h	4	0	4	564	0	251	0	3031	1192	153	3757	20
Arrive On Green	0.01	0.00	0.01	0.16	0.00	0.16	0.00	1.00	1.00	0.17	1.00	1.00
Sat Flow, veh/h	832	0	832	3534	0	1572	0	5233	1572	1767	5200	28
Grp Volume(v), veh/h	4	0	0	459	0	169	0	1167	823	129	485	266
Grp Sat Flow(s),veh/h/ln	1664	0	0	1767	0	1572	0	1689	1572	1767	1689	1851
Q Serve(g_s), s	0.3	0.0	0.0	15.0	0.0	12.1	0.0	0.0	0.0	8.5	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	0.0	15.0	0.0	12.1	0.0	0.0	0.0	8.5	0.0	0.0
Prop In Lane	0.50		0.50	1.00		1.00	0.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	9	0	0	564	0	251	0	3031	1192	153	2440	1337
V/C Ratio(X)	0.46	0.00	0.00	0.81	0.00	0.67	0.00	0.39	0.69	0.84	0.20	0.20
Avail Cap(c_a), veh/h	250	0	0	987	0	439	0	3031	1192	199	2440	1337
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	0.63	0.00	0.63	0.00	0.60	0.60	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	0.0	0.0	48.7	0.0	47.5	0.0	0.0	0.0	48.8	0.0	0.0
Incr Delay (d2), s/veh	33.9	0.0	0.0	1.8	0.0	2.0	0.0	0.2	2.0	21.5	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	0.0	0.0	10.2	0.0	7.8	0.0	0.1	1.2	7.8	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.4	0.0	0.0	50.5	0.0	49.4	0.0	0.2	2.0	70.3	0.2	0.3
LnGrp LOS	F	A	A	D	A	D	A	A	A	E	A	A
Approach Vol, veh/h	4			628			1990			880		
Approach Delay, s/veh	93.4			50.2			1.0			10.5		
Approach LOS	F			D			A			B		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	14.9	76.3		5.1		91.2		23.7				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	13.5	37.0		18.0		55.0		33.5				
Max Q Clear Time (g_c+1.0), s	10.5	2.0		2.3		2.0		17.0				
Green Ext Time (p_c), s	0.1	17.0		0.0		5.8		2.1				

Intersection Summary

HCM 6th Ctrl Delay 12.3

HCM 6th LOS B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

13: Civic Center Dr & Courthouse-AMC Theater

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	618	0	0	534	24	1	0	0	4	0	9
Future Volume (veh/h)	147	618	0	0	534	24	1	0	0	4	0	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	177	745	0	0	651	29	4	0	0	6	0	13
Peak Hour Factor	0.83	0.83	0.83	0.82	0.82	0.82	0.25	0.25	0.25	0.69	0.69	0.69
Percent Heavy Veh, %	3	3	0	0	3	3	0	0	0	0	0	0
Cap, veh/h	301	1362	0	0	826	37	813	0	0	281	26	550
Arrive On Green	0.10	0.39	0.00	0.00	0.32	0.32	0.51	0.00	0.00	0.51	0.00	0.51
Sat Flow, veh/h	1767	3618	0	0	3530	153	1427	0	0	444	50	1071
Grp Volume(v), veh/h	177	745	0	0	334	346	4	0	0	19	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1828	1427	0	0	1565	0	0
Q Serve(g_s), s	6.4	14.8	0.0	0.0	15.5	15.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.4	14.8	0.0	0.0	15.5	15.5	0.1	0.0	0.0	0.5	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.08	1.00		0.00	0.32		0.68
Lane Grp Cap(c), veh/h	301	1362	0	0	423	439	813	0	0	857	0	0
V/C Ratio(X)	0.59	0.55	0.00	0.00	0.79	0.79	0.00	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	494	2331	0	0	715	741	813	0	0	857	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.00	0.00	0.78	0.78	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.8	21.5	0.0	0.0	28.5	28.5	10.7	0.0	0.0	10.8	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.3	0.0	0.0	2.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.8	9.4	0.0	0.0	9.8	10.1	0.1	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	21.8	0.0	0.0	31.1	31.1	10.7	0.0	0.0	10.8	0.0	0.0
LnGrp LOS	C	C	A	A	C	C	B	A	A	B	A	A
Approach Vol, veh/h	922				680		4				19	
Approach Delay, s/veh	22.2				31.1		10.7				10.8	
Approach LOS	C				C		B				B	
Timer - Assigned Phs	2		4		6		7	8				
Phs Duration (G+Y+Rc), s	50.7		39.3		50.7		13.1	26.1				
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5	4.5				
Max Green Setting (Gmax), s	21.5		59.5		21.5		18.5	36.5				
Max Q Clear Time (g_c+I1), s	2.1		16.8		2.5		8.4	17.5				
Green Ext Time (p_c), s	0.0		6.2		0.0		0.3	4.1				
Intersection Summary												
HCM 6th Ctrl Delay			25.8									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

14: Civic Center Dr & Avenida Manuel Salinas

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	543	34	11	426	26	60	9	24	20	9	64
Future Volume (veh/h)	46	543	34	11	426	26	60	9	24	20	9	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	55	646	40	14	546	33	72	11	29	26	12	70
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.83	0.83	0.83	0.77	0.77	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	200	759	47	150	676	41	639	163	430	258	119	331
Arrive On Green	0.08	0.45	0.45	0.03	0.40	0.40	0.35	0.35	0.35	0.21	0.21	0.21
Sat Flow, veh/h	1767	3372	209	1767	3378	204	1810	462	1218	1257	580	1610
Grp Volume(v), veh/h	55	337	349	14	284	295	72	0	40	38	0	70
Grp Sat Flow(s),veh/h/ln	1767	1763	1818	1767	1763	1819	1810	0	1681	1837	0	1610
Q Serve(g_s), s	2.2	15.3	15.4	0.6	12.9	12.9	2.4	0.0	1.4	1.5	0.0	3.2
Cycle Q Clear(g_c), s	2.2	15.3	15.4	0.6	12.9	12.9	2.4	0.0	1.4	1.5	0.0	3.2
Prop In Lane	1.00		0.11	1.00		0.11	1.00		0.73	0.68		1.00
Lane Grp Cap(c), veh/h	200	397	409	150	353	364	639	0	593	378	0	331
V/C Ratio(X)	0.27	0.85	0.85	0.09	0.81	0.81	0.11	0.00	0.07	0.10	0.00	0.21
Avail Cap(c_a), veh/h	254	519	535	229	499	515	639	0	593	378	0	331
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	0.83	0.83	0.83	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.5	23.4	23.4	28.3	25.5	25.5	19.6	0.0	19.3	29.0	0.0	29.7
Incr Delay (d2), s/veh	0.7	9.1	9.0	0.2	5.4	5.4	0.4	0.0	0.2	0.5	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	9.2	9.4	0.4	7.9	8.1	1.9	0.0	1.0	1.3	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	32.5	32.4	28.6	30.9	30.9	20.0	0.0	19.5	29.5	0.0	31.1
LnGrp LOS	C	C	C	C	C	C	B	A	B	C	A	C
Approach Vol, veh/h	741		593			112			108			
Approach Delay, s/veh	32.0		30.8			19.8			30.6			
Approach LOS	C		C			B			C			
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	36.3		6.0		24.8		23.0		8.2		22.5	
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5		4.5	
Max Green Setting (Gmax), s	21.5		5.5		26.5		18.5		6.5		25.5	
Max Q Clear Time (g_c+I1), s	4.4		2.6		17.4		5.2		4.2		14.9	
Green Ext Time (p_c), s	0.3		0.0		2.9		0.3		0.0		2.6	
Intersection Summary												
HCM 6th Ctrl Delay			30.6									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

15: Civic Center Dr & Volunteer Ave

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	443	40	6	333	22	46	18	12	36	31	74
Future Volume (veh/h)	110	443	40	6	333	22	46	18	12	36	31	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	134	540	49	7	387	26	77	30	20	55	47	112
Peak Hour Factor	0.82	0.82	0.82	0.86	0.86	0.86	0.60	0.60	0.60	0.66	0.66	0.66
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	271	813	363	171	528	35	568	219	135	568	469	983
Arrive On Green	0.08	0.23	0.23	0.01	0.16	0.16	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	1767	3526	1572	1767	3353	224	825	358	221	829	768	1610
Grp Volume(v), veh/h	134	540	49	7	203	210	127	0	0	102	0	112
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1815	1404	0	0	1597	0	1610
Q Serve(g_s), s	5.5	12.5	2.2	0.3	9.9	9.9	1.8	0.0	0.0	0.0	0.0	2.6
Cycle Q Clear(g_c), s	5.5	12.5	2.2	0.3	9.9	9.9	3.8	0.0	0.0	2.0	0.0	2.6
Prop In Lane	1.00		1.00	1.00		0.12	0.61		0.16	0.54		1.00
Lane Grp Cap(c), veh/h	271	813	363	171	278	286	921	0	0	1036	0	983
V/C Ratio(X)	0.50	0.66	0.14	0.04	0.73	0.74	0.14	0.00	0.00	0.10	0.00	0.11
Avail Cap(c_a), veh/h	449	1469	655	322	578	595	921	0	0	1036	0	983
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	0.89	0.89	0.89	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.5	31.5	27.5	31.6	36.1	36.1	7.5	0.0	0.0	7.2	0.0	7.3
Incr Delay (d2), s/veh	1.0	0.7	0.1	0.1	3.3	3.3	0.3	0.0	0.0	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	8.5	1.5	0.2	7.7	7.9	1.9	0.0	0.0	1.4	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	32.1	27.6	31.7	39.4	39.4	7.8	0.0	0.0	7.4	0.0	7.6
LnGrp LOS	C	C	C	C	D	D	A	A	A	A	A	A
Approach Vol, veh/h	723		420			127			214			
Approach Delay, s/veh	31.2		39.3			7.8			7.5			
Approach LOS	C		D			A			A			
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	59.4		5.3	25.3		59.4		11.9	18.7			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	30.5		8.5	37.5		30.5		16.5	29.5			
Max Q Clear Time (g_c+I1), s	5.8		2.3	14.5		4.6		7.5	11.9			
Green Ext Time (p_c), s	0.7		0.0	3.9		0.9		0.2	2.2			
Intersection Summary												
HCM 6th Ctrl Delay			28.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

16: Civic Center Dr & Bloomfield Ave

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	311	13	116	39	35	8	207	1059	19	2	712	196
Future Volume (veh/h)	311	13	116	39	35	8	207	1059	19	2	712	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	362	15	135	44	39	9	272	1393	25	2	791	218
Peak Hour Factor	0.86	0.86	0.86	0.89	0.89	0.89	0.76	0.76	0.76	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	448	570	483	430	448	103	335	2047	37	5	1702	759
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.10	0.58	0.58	0.01	0.97	0.97
Sat Flow, veh/h	1347	1856	1572	1228	1458	337	3428	3543	64	1767	3526	1572
Grp Volume(v), veh/h	362	15	135	44	0	48	272	693	725	2	791	218
Grp Sat Flow(s),veh/h/ln	1347	1856	1572	1228	0	1795	1714	1763	1844	1767	1763	1572
Q Serve(g_s), s	31.4	0.7	7.8	3.1	0.0	2.3	9.3	32.8	32.9	0.1	1.7	0.8
Cycle Q Clear(g_c), s	33.7	0.7	7.8	3.8	0.0	2.3	9.3	32.8	32.9	0.1	1.7	0.8
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	448	570	483	430	0	551	335	1018	1065	5	1702	759
V/C Ratio(X)	0.81	0.03	0.28	0.10	0.00	0.09	0.81	0.68	0.68	0.42	0.46	0.29
Avail Cap(c_a), veh/h	523	673	570	498	0	651	454	1018	1065	75	1702	759
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)	0.88	0.88	0.88	1.00	0.00	1.00	1.00	1.00	1.00	0.53	0.53	0.53
Uniform Delay (d), s/veh	41.6	29.0	31.5	30.4	0.0	29.6	53.1	17.6	17.6	59.6	1.1	1.1
Incr Delay (d2), s/veh	7.1	0.0	0.3	0.1	0.0	0.1	7.9	3.7	3.5	28.5	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.4	0.6	5.4	1.7	0.0	1.8	7.8	19.9	20.7	0.2	0.9	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.7	29.1	31.8	30.5	0.0	29.7	61.0	21.3	21.2	88.1	1.6	1.6
LnGrp LOS	D	C	C	C	A	C	E	C	C	F	A	A
Approach Vol, veh/h	512					92		1690		1011		
Approach Delay, s/veh	43.7					30.0		27.6		1.8		
Approach LOS	D					C		C		A		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	4.8	73.8	41.4		16.2	62.4	41.4					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.1	57.9	43.5		15.9	47.1	43.5					
Max Q Clear Time (g_c+I2), s	12.1	34.9	35.7		11.3	3.7	5.8					
Green Ext Time (p_c), s	0.0	11.2	1.2		0.4	7.7	0.4					
Intersection Summary												
HCM 6th Ctrl Delay			22.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 17: Adoree St/I-5 NB Off-Ramp & Norwalk Bl

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	0	114	121	89	597	93	909	0	0	1020	83
Future Volume (veh/h)	71	0	114	121	89	597	93	909	0	0	1020	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	1856	0	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	92	0	148	146	107	719	116	1136	0	0	1308	106
Peak Hour Factor	0.77	0.77	0.77	0.83	0.83	0.83	0.80	0.80	0.80	0.78	0.78	0.78
Percent Heavy Veh, %	3	0	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	0	0	0	448	1088	677	157	2503	0	0	1962	159
Arrive On Green	0.00	0.00	0.00	0.43	0.43	0.43	0.02	0.16	0.00	0.00	0.82	0.82
Sat Flow, veh/h	0			1041	2526	1572	3428	5233	0	0	4943	387
Grp Volume(v), veh/h	0.0			253	0	719	116	1136	0	0	925	489
Grp Sat Flow(s),veh/h/ln				1804	1763	1572	1714	1689	0	0	1689	1786
Q Serve(g_s), s				11.1	0.0	51.7	4.0	24.3	0.0	0.0	13.0	13.0
Cycle Q Clear(g_c), s				11.1	0.0	51.7	4.0	24.3	0.0	0.0	13.0	13.0
Prop In Lane				0.58		1.00	1.00		0.00	0.00		0.22
Lane Grp Cap(c), veh/h				777	759	677	157	2503	0	0	1387	734
V/C Ratio(X)				0.33	0.00	1.06	0.74	0.45	0.00	0.00	0.67	0.67
Avail Cap(c_a), veh/h				777	759	677	157	2503	0	0	1387	734
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.88	0.88	0.00	0.00	0.96	0.96
Uniform Delay (d), s/veh				22.6	0.0	34.1	58.4	35.6	0.0	0.0	7.5	7.5
Incr Delay (d2), s/veh				0.2	0.0	52.0	14.9	0.5	0.0	0.0	2.5	4.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				8.4	0.0	39.4	3.8	16.3	0.0	0.0	5.4	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				22.9	0.0	86.1	73.3	36.1	0.0	0.0	9.9	12.0
LnGrp LOS				C	A	F	E	D	A	A	A	B
Approach Vol, veh/h				972			1252			1414		
Approach Delay, s/veh				69.7			39.5			10.6		
Approach LOS				E			D			B		
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	63.8			10.0			53.8			56.2		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	46.9			5.5			36.9			51.7		
Max Q Clear Time (g_c+I1), s	26.3			6.0			15.0			53.7		
Green Ext Time (p_c), s	8.4			0.0			10.6			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	36.4											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary 18: San Antonio Dr & Frontage Rd/I-5 SB On-Ramp

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	256	98	0	0	0	0	945	249	289	965	0
Future Volume (veh/h)	67	256	98	0	0	0	0	945	249	289	965	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	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	71	272	104				0	1125	296	352	1177	0
Peak Hour Factor	0.94	0.94	0.94				0.84	0.84	0.84	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	182	383	162				0	2633	693	428	4163	0
Arrive On Green	0.10	0.10	0.10				0.00	0.66	0.66	0.12	0.82	0.00
Sat Flow, veh/h	1767	3711	1572				0	4160	1051	3428	5233	0
Grp Volume(v), veh/h	71	272	104				0	951	470	352	1177	0
Grp Sat Flow(s),veh/h/ln	1767	3711	1572				0	1689	1666	1714	1689	0
Q Serve(g_s), s	4.5	8.5	7.6				0.0	16.0	16.0	12.0	6.5	0.0
Cycle Q Clear(g_c), s	4.5	8.5	7.6				0.0	16.0	16.0	12.0	6.5	0.0
Prop In Lane	1.00		1.00				0.00		0.63	1.00		0.00
Lane Grp Cap(c), veh/h	182	383	162				0	2227	1099	428	4163	0
V/C Ratio(X)	0.39	0.71	0.64				0.00	0.43	0.43	0.82	0.28	0.00
Avail Cap(c_a), veh/h	346	727	308				0	2227	1099	729	4163	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)	0.89	0.89	0.89				0.00	0.73	0.73	0.33	0.33	0.00
Uniform Delay (d), s/veh	50.3	52.1	51.7				0.0	9.7	9.7	51.2	2.5	0.0
Incr Delay (d2), s/veh	1.2	2.2	3.7				0.0	0.4	0.9	1.4	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	8.7	7.2	5.7				0.0	9.1	9.2	7.4	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.5	54.3	55.4				0.0	10.1	10.6	52.6	2.5	0.0
LnGrp LOS	D	D	E				A	B	B	D	A	A
Approach Vol, veh/h	447						1421			1529		
Approach Delay, s/veh	54.1						10.3			14.1		
Approach LOS	D						B			B		
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	19.5	83.6	16.9	103.1								
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	25.5	57.5	23.5	87.5								
Max Q Clear Time (g_c+14.0), s	14.0	18.0	10.5	8.5								
Green Ext Time (p_c), s	1.0	13.9	1.9	12.1								

Intersection Summary

HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

19: San Antonio Dr & Firestone Bl

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	348	44	38	335	51	62	842	80	79	674	171
Future Volume (veh/h)	194	348	44	38	335	51	62	842	80	79	674	171
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	220	395	50	42	368	56	74	1002	95	96	822	209
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.84	0.84	0.84	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	251	840	375	55	451	201	94	1809	807	119	2124	536
Arrive On Green	0.14	0.24	0.24	0.03	0.13	0.13	0.05	0.51	0.51	0.13	1.00	1.00
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	4032	1018
Grp Volume(v), veh/h	220	395	50	42	368	56	74	1002	95	96	688	343
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1689	1672
Q Serve(g_s), s	14.6	11.5	3.0	2.8	12.2	3.9	5.0	23.2	3.8	6.3	0.0	0.0
Cycle Q Clear(g_c), s	14.6	11.5	3.0	2.8	12.2	3.9	5.0	23.2	3.8	6.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.61
Lane Grp Cap(c), veh/h	251	840	375	55	451	201	94	1809	807	119	1779	881
V/C Ratio(X)	0.88	0.47	0.13	0.76	0.82	0.28	0.78	0.55	0.12	0.81	0.39	0.39
Avail Cap(c_a), veh/h	362	1081	482	106	570	254	158	1809	807	194	1779	881
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)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.96	0.96	0.96
Uniform Delay (d), s/veh	50.5	39.2	36.0	57.7	50.9	47.3	56.1	19.9	15.1	51.2	0.0	0.0
Incr Delay (d2), s/veh	15.5	0.4	0.2	18.7	7.2	0.7	1.3	0.1	0.0	11.7	0.6	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	12.0	8.7	2.1	2.8	9.8	2.8	3.0	10.9	1.9	5.5	0.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.0	39.6	36.1	76.3	58.2	48.1	57.4	20.0	15.2	62.9	0.6	1.2
LnGrp LOS	E	D	D	E	E	D	E	B	B	E	A	A
Approach Vol, veh/h	665			466			1171			1127		
Approach Delay, s/veh	48.1			58.6			22.0			6.1		
Approach LOS	D			E			C			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	66.1	8.3	33.1	10.9	67.7	21.5	19.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.2	44.8	7.2	36.8	10.7	47.3	24.6	19.4				
Max Q Clear Time (g_c+I), s	19.3	25.2	4.8	13.5	7.0	2.0	16.6	14.2				
Green Ext Time (p_c), s	0.1	7.6	0.0	2.8	0.0	9.0	0.4	1.2				

Intersection Summary

HCM 6th Ctrl Delay	26.8
HCM 6th LOS	C

HCM 6th Edition methodology does not support more than 4 approaches.

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022

													
Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	
Lane Configurations													
Traffic Volume (vph)	65	320	554	132	33	551	45	23	98	358	267	29	
Future Volume (vph)	65	320	554	132	33	551	45	23	98	358	267	29	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5		
Lane Util. Factor		1.00	0.95	1.00	1.00	0.91			1.00	0.91	0.91		
Frt		1.00	1.00	0.85	1.00	0.98			1.00	0.97	0.85		
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00		
Satd. Flow (prot)		1752	3505	1568	1752	4953			1752	3251	1427		
Flt Permitted		0.36	1.00	1.00	0.95	1.00			0.95	1.00	1.00		
Satd. Flow (perm)		658	3505	1568	1752	4953			1752	3251	1427		
Peak-hour factor, PHF	0.85	0.85	0.85	1.00	0.83	0.83	0.83	0.83	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	76	376	652	132	40	664	54	28	102	373	278	30	
RTOR Reduction (vph)	0	0	0	62	0	0	0	0	0	0	88	0	
Lane Group Flow (vph)	0	452	652	70	40	746	0	0	102	473	120	0	
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	
Turn Type	Prot	Perm	NA	Perm	Prot	NA			Prot	NA	Perm		
Protected Phases	7		4		3	8			5	2			
Permitted Phases		4		4							2		
Actuated Green, G (s)		65.4	65.4	65.4	4.0	73.9			6.5	34.6	34.6		
Effective Green, g (s)		65.4	65.4	65.4	4.0	73.9			6.5	34.6	34.6		
Actuated g/C Ratio		0.47	0.47	0.47	0.03	0.53			0.05	0.25	0.25		
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5		
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0		
Lane Grp Cap (vph)		307	1637	732	50	2614			81	803	352		
v/s Ratio Prot			0.19		c0.02	0.15			c0.06	c0.15			
v/s Ratio Perm		c0.69		0.04							0.08		
v/c Ratio		1.47	0.40	0.10	0.80	0.29			1.26	0.59	0.34		
Uniform Delay, d1		37.3	24.4	20.8	67.6	18.4			66.8	46.4	43.3		
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00		
Incremental Delay, d2		229.5	0.2	0.1	59.1	0.1			184.8	3.2	2.6		
Delay (s)		266.8	24.6	20.9	126.7	18.4			251.6	49.6	45.9		
Level of Service		F	C	C	F	B			F	D	D		
Approach Delay (s)			112.7			23.9				74.9			
Approach LOS			F			C				E			
Intersection Summary													
HCM 2000 Control Delay			75.0		HCM 2000 Level of Service				E				
HCM 2000 Volume to Capacity ratio			1.17										
Actuated Cycle Length (s)			140.0		Sum of lost time (s)				22.5				
Intersection Capacity Utilization			77.6%		ICU Level of Service				D				
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022

								
Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	7	63	327	108	24	209	147	1
Future Volume (vph)	7	63	327	108	24	209	147	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00		0.97	0.91	
Frt		1.00	1.00	0.85		0.98	0.85	
Flt Protected		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1752	3505	1568		3369	1427	
Flt Permitted		0.43	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		785	3505	1568		3369	1427	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.78	0.78	0.78	0.78
Adj. Flow (vph)	8	71	367	121	31	268	188	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	79	367	121	0	337	151	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	Prot	Perm	
Protected Phases	1		6		12	12		
Permitted Phases		6		6			12	
Actuated Green, G (s)		23.6	23.6	23.6		18.0	18.0	
Effective Green, g (s)		23.6	23.6	23.6		18.0	18.0	
Actuated g/C Ratio		0.17	0.17	0.17		0.13	0.13	
Clearance Time (s)		4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		132	590	264		433	183	
v/s Ratio Prot			0.10			0.10		
v/s Ratio Perm		0.10		0.08			c0.11	
v/c Ratio		0.60	0.62	0.46		0.78	0.83	
Uniform Delay, d1		53.8	54.1	52.4		59.1	59.5	
Progression Factor		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		18.4	4.9	5.6		12.9	32.8	
Delay (s)		72.3	58.9	58.1		72.0	92.2	
Level of Service		E	E	E		E	F	
Approach Delay (s)			60.6			78.3		
Approach LOS			E			E		
Intersection Summary								

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘				↗ ↘ ↘ ↘
Traffic Vol, veh/h	0	54	1039	40	0	805
Future Vol, veh/h	0	54	1039	40	0	805
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, %	0	0	3	3	3	3
Mvmt Flow	0	59	1129	43	0	875
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	586	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	393	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	393	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	15.8	0	0			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT			
Capacity (veh/h)	-	-	393	-		
HCM Lane V/C Ratio	-	-	0.149	-		
HCM Control Delay (s)	-	-	15.8	-		
HCM Lane LOS	-	-	C	-		
HCM 95th %tile Q(veh)	-	-	0.5	-		

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	0	153	20	0	11
Future Vol, veh/h	2	0	153	20	0	11
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	2	0	166	22	0	12

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	189	177	0
Stage 1	177	-	-
Stage 2	12	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	800	866	-
Stage 1	854	-	-
Stage 2	1011	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	800	866	-
Mov Cap-2 Maneuver	800	-	-
Stage 1	854	-	-
Stage 2	1011	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	800	1386
HCM Lane V/C Ratio	-	-	0.003	-
HCM Control Delay (s)	-	-	9.5	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	14	12	70	82	0
Future Vol, veh/h	8	14	12	70	82	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	15	13	76	89	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	191	89	89	0	-	0
Stage 1	89	-	-	-	-	-
Stage 2	102	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	798	969	1506	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	922	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	791	969	1506	-	-	-
Mov Cap-2 Maneuver	791	-	-	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	922	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.1	1.1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1506	-	896	-	-	
HCM Lane V/C Ratio	0.009	-	0.027	-	-	
HCM Control Delay (s)	7.4	0	9.1	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Intersection

Int Delay, s/veh 5.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	0	0	65	98	0
Future Vol, veh/h	16	0	0	65	98	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	0	0	71	107	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	71	0	0 70 36
Stage 1	-	-	- 36 -
Stage 2	-	-	- 34 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1529	-	- 934 1037
Stage 1	-	-	- 986 -
Stage 2	-	-	- 988 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1529	-	- 924 1037
Mov Cap-2 Maneuver	-	-	- 924 -
Stage 1	-	-	- 975 -
Stage 2	-	-	- 988 -

Approach	EB	WB	SB
HCM Control Delay, s	7.4	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1529	-	-	-	924
HCM Lane V/C Ratio	0.011	-	-	-	0.115
HCM Control Delay (s)	7.4	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4

HCM 6th Signalized Intersection Summary

1: Norwalk BI & Lakeland Rd

05/11/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	145	25	188	245	196	42	639	200	102	817	63
Future Volume (veh/h)	20	145	25	188	245	196	42	639	200	102	817	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	1900	1900	1900	1900	1900	1900	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	22	163	28	258	336	268	51	770	241	111	888	68
Peak Hour Factor	0.89	0.89	0.89	0.73	0.73	0.73	0.83	0.83	0.83	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	3	3	3	3	3	3
Cap, veh/h	74	473	76	417	631	535	320	1500	470	297	1884	144
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	90	1423	229	1211	1900	1610	583	2642	827	553	3318	254
Grp Volume(v), veh/h	213	0	0	258	336	268	51	514	497	111	472	484
Grp Sat Flow(s),veh/h/ln	1742	0	0	1211	1900	1610	583	1763	1707	553	1763	1810
Q Serve(g_s), s	0.0	0.0	0.0	11.3	12.9	12.0	5.1	16.0	16.0	13.7	14.2	14.2
Cycle Q Clear(g_c), s	7.8	0.0	0.0	22.4	12.9	12.0	19.0	16.0	16.0	29.5	14.2	14.2
Prop In Lane	0.10		0.13	1.00		1.00	1.00		0.48	1.00		0.14
Lane Grp Cap(c), veh/h	623	0	0	417	631	535	320	1001	969	297	1001	1028
V/C Ratio(X)	0.34	0.00	0.00	0.62	0.53	0.50	0.16	0.51	0.51	0.37	0.47	0.47
Avail Cap(c_a), veh/h	652	0	0	439	665	564	320	1001	969	297	1001	1028
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	0.0	29.0	24.4	24.1	17.0	11.9	11.9	20.8	11.5	11.5
Incr Delay (d2), s/veh	0.3	0.0	0.0	2.4	0.7	0.7	1.0	1.8	1.8	3.6	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	6.1	0.0	0.0	9.0	9.7	8.1	1.3	10.2	10.0	3.6	9.4	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.0	0.0	0.0	31.4	25.1	24.8	18.0	13.6	13.7	24.3	13.1	13.0
LnGrp LOS	C	A	A	C	C	C	B	B	B	C	B	B
Approach Vol, veh/h		213			862			1062			1067	
Approach Delay, s/veh		23.0			26.9			13.9			14.2	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.1		32.9		57.1		32.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		49.5		31.5		49.5		31.5				
Max Q Clear Time (g_c+I1), s		21.0		9.8		31.5		24.4				
Green Ext Time (p_c), s		8.6		1.2		7.3		2.4				
Intersection Summary												
HCM 6th Ctrl Delay				18.1								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Norwalk Bl & Crewe St

05/11/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	85	71	69	844	1085	25
Future Volume (veh/h)	85	71	69	844	1085	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1856	1856	1856	1856
Adj Flow Rate, veh/h	108	90	78	948	1154	27
Peak Hour Factor	0.79	0.79	0.89	0.89	0.94	0.94
Percent Heavy Veh, %	0	0	3	3	3	3
Cap, veh/h	154	137	421	2874	2870	67
Arrive On Green	0.08	0.08	0.82	0.82	0.82	0.82
Sat Flow, veh/h	1810	1610	471	3618	3614	82
Grp Volume(v), veh/h	108	90	78	948	578	603
Grp Sat Flow(s), veh/h/ln	1810	1610	471	1763	1763	1841
Q Serve(g_s), s	5.2	4.9	4.9	6.1	8.1	8.1
Cycle Q Clear(g_c), s	5.2	4.9	13.0	6.1	8.1	8.1
Prop In Lane	1.00	1.00	1.00			0.04
Lane Grp Cap(c), veh/h	154	137	421	2874	1437	1500
V/C Ratio(X)	0.70	0.66	0.19	0.33	0.40	0.40
Avail Cap(c_a), veh/h	432	385	421	2874	1437	1500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.54	0.54	0.82	0.82
Uniform Delay (d), s/veh	40.1	39.9	4.1	2.1	2.3	2.3
Incr Delay (d2), s/veh	5.7	5.3	0.5	0.2	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	3.8	0.8	2.2	3.2	3.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.8	45.2	4.6	2.3	3.0	2.9
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	198			1026	1181	
Approach Delay, s/veh	45.5			2.4	3.0	
Approach LOS	D			A	A	
Timer - Assigned Phs	2			4		6
Phs Duration (G+Y+Rc), s	77.9			12.1		77.9
Change Period (Y+Rc), s	4.5			4.5		4.5
Max Green Setting (Gmax), s	59.5			21.5		59.5
Max Q Clear Time (g_c+I1), s	15.0			7.2		10.1
Green Ext Time (p_c), s	10.4			0.5		10.8
Intersection Summary						
HCM 6th Ctrl Delay			6.2			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

3: Firestone Bl & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↖ ↑↑↑	↖	↖	↖	↑↑		↖ ↖ ↑↑↑		
Traffic Volume (veh/h)	0	1357	316	6	1192	359	340	474	16	392	445	1
Future Volume (veh/h)	0	1357	316	6	1192	359	340	474	16	392	445	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	1459	340	7	1324	399	370	515	0	431	489	1
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	0	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	1747	405	88	2154	669	439	1111		504	1745	4
Arrive On Green	0.00	0.43	0.43	0.14	0.14	0.14	0.13	0.32	0.00	0.15	0.33	0.33
Sat Flow, veh/h	0	4275	953	260	5066	1572	3428	3618	0	3428	5220	11
Grp Volume(v), veh/h	0	1198	601	7	1324	399	370	515	0	431	316	174
Grp Sat Flow(s),veh/h/ln	0	1689	1684	260	1689	1572	1714	1763	0	1714	1689	1854
Q Serve(g_s), s	0.0	37.9	38.2	3.1	29.5	28.6	12.7	14.1	0.0	14.7	8.3	8.3
Cycle Q Clear(g_c), s	0.0	37.9	38.2	41.4	29.5	28.6	12.7	14.1	0.0	14.7	8.3	8.3
Prop In Lane	0.00		0.57	1.00		1.00	1.00		0.00	1.00		0.01
Lane Grp Cap(c), veh/h	0	1436	716	88	2154	669	439	1111		504	1129	620
V/C Ratio(X)	0.00	0.83	0.84	0.08	0.61	0.60	0.84	0.46		0.85	0.28	0.28
Avail Cap(c_a), veh/h	0	1534	765	95	2301	714	586	1111		671	1129	620
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.46	0.46	0.46	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	30.7	30.8	66.1	42.3	41.9	51.1	32.9	0.0	49.9	29.3	29.3
Incr Delay (d2), s/veh	0.0	3.9	7.8	0.2	0.2	0.6	8.3	1.4	0.0	8.2	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	22.4	23.4	0.4	17.5	16.0	9.9	10.3	0.0	11.2	6.2	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	34.7	38.6	66.2	42.5	42.5	59.5	34.3	0.0	58.1	30.0	30.5
LnGrp LOS	A	C	D	E	D	D	E	C		E	C	C
Approach Vol, veh/h	1799			1730			885			921		
Approach Delay, s/veh	36.0			42.6			44.9			43.2		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.1	42.3		55.5	19.9	44.6		55.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	23.5	28.5		54.5	20.5	31.5		54.5				
Max Q Clear Time (g_c+10), s	16.1	16.1		40.2	14.7	10.3		43.4				
Green Ext Time (p_c), s	0.9	2.7		10.2	0.7	3.1		7.6				

Intersection Summary

HCM 6th Ctrl Delay 40.9

HCM 6th LOS D

Notes

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

HCM 6th Signalized Intersection Summary

4: Pioneer Bl & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	326	1271	65	209	1201	135	51	575	293	172	485	437
Future Volume (veh/h)	326	1271	65	209	1201	135	51	575	293	172	485	437
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	398	1550	79	243	1397	157	53	599	305	177	500	451
Peak Hour Factor	0.82	0.82	0.82	0.86	0.86	0.86	0.96	0.96	0.96	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	426	1963	609	271	1520	472	68	852	380	231	954	426
Arrive On Green	0.24	0.39	0.39	0.15	0.30	0.30	0.04	0.24	0.24	0.07	0.27	0.27
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	398	1550	79	243	1397	157	53	599	305	177	500	451
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1714	1763	1572
Q Serve(g_s), s	26.5	32.4	3.9	16.2	32.0	9.3	3.6	18.6	21.9	6.1	14.5	32.5
Cycle Q Clear(g_c), s	26.5	32.4	3.9	16.2	32.0	9.3	3.6	18.6	21.9	6.1	14.5	32.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	426	1963	609	271	1520	472	68	852	380	231	954	426
V/C Ratio(X)	0.94	0.79	0.13	0.90	0.92	0.33	0.78	0.70	0.80	0.77	0.52	1.06
Avail Cap(c_a), veh/h	464	1980	615	311	1541	478	93	852	380	243	954	426
HCM Platoon Ratio	1.00	1.00	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	0.82	0.82	0.82	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	32.4	23.7	49.9	40.6	32.7	57.2	41.6	42.8	55.0	37.2	43.8
Incr Delay (d2), s/veh	15.5	1.1	0.0	21.4	7.8	0.3	24.5	4.8	16.2	13.0	2.1	60.2
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	17.6	17.5	2.6	13.1	19.9	6.4	3.7	13.5	15.4	5.5	10.7	27.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.1	33.6	23.7	71.3	48.4	33.0	81.7	46.4	59.0	68.0	39.2	104.0
LnGrp LOS	E	C	C	E	D	C	F	D	E	E	D	F
Approach Vol, veh/h	2027		1797				957		1128			
Approach Delay, s/veh	38.4		50.1				52.4		69.6			
Approach LOS	D		D				D		E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	33.5	22.9	51.0	9.1	37.0	33.4	40.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	3.5	25.5	21.1	46.9	6.3	27.7	31.5	36.5				
Max Q Clear Time (g_c+1.1), s	19.1	23.9	18.2	34.4	5.6	34.5	28.5	34.0				
Green Ext Time (p_c), s	0.0	0.9	0.2	8.5	0.0	0.0	0.4	2.0				

Intersection Summary

HCM 6th Ctrl Delay	50.2
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

5: Frontage Rd/I-5 SB Off-Ramp & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↑	↑↑	↑↑↑↑					↑	↑↑	
Traffic Volume (veh/h)	0	1676	224	14	1438	0	0	0	0	335	169	164
Future Volume (veh/h)	0	1676	224	14	1438	0	0	0	0	335	169	164
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	1856	1856	1856	1856	0				1856	1856	1856
Adj Flow Rate, veh/h	0	1883	252	15	1580	0				250	366	184
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91				0.89	0.89	0.89
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	2542	789	58	2842	0				626	830	410
Arrive On Green	0.00	0.50	0.50	0.02	0.56	0.00				0.35	0.35	0.35
Sat Flow, veh/h	0	5233	1572	3428	5233	0				1767	2344	1159
Grp Volume(v), veh/h	0	1883	252	15	1580	0				250	288	262
Grp Sat Flow(s),veh/h/ln	0	1689	1572	1714	1689	0				1767	1856	1647
Q Serve(g_s), s	0.0	31.2	10.1	0.5	21.1	0.0				11.3	12.6	12.9
Cycle Q Clear(g_c), s	0.0	31.2	10.1	0.5	21.1	0.0				11.3	12.6	12.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.70
Lane Grp Cap(c), veh/h	0	2542	789	58	2842	0				626	657	583
V/C Ratio(X)	0.00	0.74	0.32	0.26	0.56	0.00				0.40	0.44	0.45
Avail Cap(c_a), veh/h	0	3037	943	178	3515	0				626	657	583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.9	15.7	51.4	14.8	0.0				25.7	26.2	26.3
Incr Delay (d2), s/veh	0.0	0.8	0.2	2.3	0.2	0.0				1.9	2.1	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	17.6	6.4	0.4	12.3	0.0				8.7	9.9	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.7	15.9	53.8	15.0	0.0				27.6	28.3	28.8
LnGrp LOS	A	C	B	D	B	A				C	C	C
Approach Vol, veh/h	2135				1595						800	
Approach Delay, s/veh	21.1				15.4						28.2	
Approach LOS	C				B						C	
Timer - Assigned Phs	3		4		6		8					
Phs Duration (G+Y+Rc), s	6.3		57.6		42.0		63.9					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	5.5		63.5		37.5		73.5					
Max Q Clear Time (g_c+I1), s	2.5		33.2		14.9		23.1					
Green Ext Time (p_c), s	0.0		19.9		4.3		18.5					
Intersection Summary												
HCM 6th Ctrl Delay			20.3									
HCM 6th LOS			C									
Notes												

HCM 6th Signalized Intersection Summary

6: Adoree St/I-5 NB On-Ramp & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	1749	110	4	1327	734	132	147	12	0	0	0
Future Volume (veh/h)	160	1749	110	4	1327	734	132	147	12	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	176	1922	121	5	1508	834	157	175	14			
Peak Hour Factor	0.91	0.91	0.91	0.88	0.88	0.88	0.84	0.84	0.84			
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3			
Cap, veh/h	233	2208	138	11	3006	933	400	399	356			
Arrive On Green	0.07	0.66	0.66	0.01	0.59	0.59	0.23	0.23	0.23			
Sat Flow, veh/h	3428	3371	210	1767	5066	1572	1767	1763	1572			
Grp Volume(v), veh/h	176	995	1048	5	1508	834	157	175	14			
Grp Sat Flow(s),veh/h/ln	1714	1763	1818	1767	1689	1572	1767	1763	1572			
Q Serve(g_s), s	6.1	53.7	56.3	0.3	20.7	55.1	9.1	10.2	0.8			
Cycle Q Clear(g_c), s	6.1	53.7	56.3	0.3	20.7	55.1	9.1	10.2	0.8			
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	233	1155	1191	11	3006	933	400	399	356			
V/C Ratio(X)	0.76	0.86	0.88	0.44	0.50	0.89	0.39	0.44	0.04			
Avail Cap(c_a), veh/h	300	1197	1235	75	3212	997	400	399	356			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.69	0.69	0.69	0.34	0.34	0.34	1.00	1.00	1.00			
Uniform Delay (d), s/veh	54.9	16.4	16.9	59.4	14.1	21.1	39.4	39.9	36.3			
Incr Delay (d2), s/veh	5.5	4.6	5.3	9.0	0.0	3.8	2.9	3.5	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	5.0	27.4	29.6	0.3	10.3	24.2	7.7	8.4	0.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.5	21.0	22.2	68.4	14.2	24.9	42.3	43.4	36.5			
LnGrp LOS	E	C	C	E	B	C	D	D	D			
Approach Vol, veh/h	2219		2347				346					
Approach Delay, s/veh	24.7		18.1				42.6					
Approach LOS	C		B				D					
Timer - Assigned Phs	2		3		4		7		8			
Phs Duration (G+Y+Rc), s	31.6		5.3		83.1		12.7		75.7			
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5			
Max Green Setting (Gmax), s	19.9		5.1		81.5		10.5		76.1			
Max Q Clear Time (g_c+I1), s	12.2		2.3		58.3		8.1		57.1			
Green Ext Time (p_c), s	1.2		0.0		17.7		0.1		14.1			
Intersection Summary												
HCM 6th Ctrl Delay			22.8									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

7: Kalnor Ave & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↱ ↲ ↳	↰ ↱ ↲ ↳		↰ ↱ ↲ ↳	↰ ↱ ↲ ↳	↰ ↱ ↲ ↳		↰ ↱ ↲ ↳	↰ ↱ ↲ ↳	↰ ↱ ↲ ↳	↰ ↱ ↲ ↳	
Traffic Volume (veh/h)	81	1343	25	27	1849	109	13	18	24	85	22	69
Future Volume (veh/h)	81	1343	25	27	1849	109	13	18	24	85	22	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	91	1509	28	29	1967	116	18	25	33	91	24	75
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.73	0.73	0.73	0.93	0.93	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	115	3459	64	47	2246	1002	129	163	283	234	71	223
Arrive On Green	0.07	0.68	0.68	0.03	0.64	0.64	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1767	5121	95	1767	3526	1572	473	927	1610	1366	405	1267
Grp Volume(v), veh/h	91	995	542	29	1967	116	43	0	33	91	0	99
Grp Sat Flow(s),veh/h/ln	1767	1689	1838	1767	1763	1572	1400	0	1610	1366	0	1672
Q Serve(g_s), s	5.6	15.0	15.0	1.8	50.7	3.2	0.1	0.0	1.9	6.9	0.0	5.7
Cycle Q Clear(g_c), s	5.6	15.0	15.0	1.8	50.7	3.2	5.8	0.0	1.9	12.8	0.0	5.7
Prop In Lane	1.00		0.05	1.00		1.00	0.42		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	115	2281	1242	47	2246	1002	292	0	283	234	0	294
V/C Ratio(X)	0.79	0.44	0.44	0.62	0.88	0.12	0.15	0.00	0.12	0.39	0.00	0.34
Avail Cap(c_a), veh/h	167	2460	1339	100	2434	1086	292	0	283	234	0	294
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.1	8.3	8.3	53.4	16.5	7.9	38.5	0.0	38.4	45.6	0.0	40.0
Incr Delay (d2), s/veh	14.7	0.1	0.2	12.4	3.7	0.1	1.1	0.0	0.8	4.8	0.0	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	5.3	8.7	9.4	1.7	26.9	1.9	1.9	0.0	1.5	4.8	0.0	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.7	8.4	8.5	65.7	20.2	7.9	39.6	0.0	39.2	50.4	0.0	43.0
LnGrp LOS	E	A	A	E	C	A	D	A	D	D	A	D
Approach Vol, veh/h	1628			2112			76			190		
Approach Delay, s/veh	11.6			20.2			39.4			46.6		
Approach LOS	B			C			D			D		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	24.0			7.5			79.3			24.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	19.5			6.3			80.7			19.5		
Max Q Clear Time (g_c+I1), s	7.8			3.8			17.0			14.8		
Green Ext Time (p_c), s	0.2			0.0			17.2			0.3		

Intersection Summary

HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

8: Imperial Highway & Norwalk BI

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	1242	79	258	1619	100	223	635	154	153	775	178
Future Volume (veh/h)	169	1242	79	258	1619	100	223	635	154	153	775	178
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	176	1294	82	280	1760	109	272	774	188	172	871	200
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.82	0.82	0.82	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	199	1528	474	304	1831	568	293	931	415	198	1065	331
Arrive On Green	0.11	0.30	0.30	0.23	0.48	0.48	0.33	0.53	0.53	0.11	0.21	0.21
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	3526	1572	1767	5066	1572
Grp Volume(v), veh/h	176	1294	82	280	1760	109	272	774	188	172	871	200
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1763	1572	1767	1689	1572
Q Serve(g_s), s	11.8	28.7	4.6	18.6	40.3	4.8	17.8	22.2	8.9	11.5	19.7	13.8
Cycle Q Clear(g_c), s	11.8	28.7	4.6	18.6	40.3	4.8	17.8	22.2	8.9	11.5	19.7	13.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	199	1528	474	304	1831	568	293	931	415	198	1065	331
V/C Ratio(X)	0.89	0.85	0.17	0.92	0.96	0.19	0.93	0.83	0.45	0.87	0.82	0.60
Avail Cap(c_a), veh/h	199	1528	474	317	1836	570	302	931	415	199	1065	331
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	0.40	0.40	0.40	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	52.5	39.3	30.9	45.5	30.4	21.1	39.4	26.1	22.9	52.4	45.2	42.9
Incr Delay (d2), s/veh	32.1	4.2	0.2	15.6	6.6	0.1	33.2	8.6	3.5	29.0	6.4	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.1	17.9	3.2	12.2	19.9	3.1	14.2	12.6	5.8	10.7	13.5	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.6	43.5	31.0	61.0	37.0	21.2	72.6	34.6	26.5	81.4	51.6	50.2
LnGrp LOS	F	D	C	E	D	C	E	C	C	F	D	D
Approach Vol, veh/h	1552		2149			1234			1243			
Approach Delay, s/veh	47.5		39.3			41.8			55.5			
Approach LOS	D		D			D			E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.9	36.2	25.2	40.7	24.4	29.7	18.0	47.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	13.5	31.5	21.5	35.5	20.5	24.5	13.5	43.5				
Max Q Clear Time (g_c+1.5), s	13.5	24.2	20.6	30.7	19.8	21.7	13.8	42.3				
Green Ext Time (p_c), s	0.0	3.4	0.1	3.4	0.1	1.7	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	45.1
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

9: Avenida Manuel Salinas & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	1326	77	76	1728	79	167	18	50	44	15	50
Future Volume (veh/h)	72	1326	77	76	1728	79	167	18	50	44	15	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	82	1507	88	84	1920	88	418	45	125	50	17	57
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.40	0.40	0.40	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	103	2119	658	106	2130	661	589	150	417	369	77	258
Arrive On Green	0.12	0.84	0.84	0.06	0.42	0.42	0.17	0.34	0.34	0.03	0.20	0.20
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1810	444	1234	1810	383	1285
Grp Volume(v), veh/h	82	1507	88	84	1920	88	418	0	170	50	0	74
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1810	0	1678	1810	0	1669
Q Serve(g_s), s	5.4	14.4	1.2	5.6	42.4	4.1	20.5	0.0	9.0	2.6	0.0	4.5
Cycle Q Clear(g_c), s	5.4	14.4	1.2	5.6	42.4	4.1	20.5	0.0	9.0	2.6	0.0	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		0.77
Lane Grp Cap(c), veh/h	103	2119	658	106	2130	661	589	0	567	369	0	335
V/C Ratio(X)	0.80	0.71	0.13	0.79	0.90	0.13	0.71	0.00	0.30	0.14	0.00	0.22
Avail Cap(c_a), veh/h	140	2119	658	183	2174	675	589	0	567	385	0	335
HCM Platoon Ratio	2.00	2.00	2.00	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	0.71	0.71	0.71	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.3	6.9	5.8	55.6	32.5	21.3	29.9	0.0	29.3	36.2	0.0	40.1
Incr Delay (d2), s/veh	10.9	0.6	0.0	8.9	4.1	0.1	7.1	0.0	1.4	0.2	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	4.5	0.8	5.0	23.6	2.8	16.0	0.0	6.9	2.1	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.3	7.4	5.8	64.5	36.6	21.4	36.9	0.0	30.6	36.3	0.0	41.6
LnGrp LOS	E	A	A	E	D	C	D	A	C	D	A	D
Approach Vol, veh/h	1677					2092		588		124		
Approach Delay, s/veh	10.1					37.0		35.1		39.5		
Approach LOS	B					D		D		D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	45.0	11.7	54.7	25.0	28.6	11.5	55.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	35.9	12.4	48.6	20.5	20.5	9.5	51.5				
Max Q Clear Time (g_c+14.6)	14.6	11.0	7.6	16.4	22.5	6.5	7.4	44.4				
Green Ext Time (p_c), s	0.0	1.0	0.1	15.0	0.0	0.2	0.0	6.0				
Intersection Summary												
HCM 6th Ctrl Delay			26.8									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

10: Imperial Highway & Volunteer Ave

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑↑			↰ ↑↑↑			↰	↱			↱	↰
Traffic Volume (veh/h)	19	1349	37	204	1756	82	121	47	72	53	12	23
Future Volume (veh/h)	19	1349	37	204	1756	82	121	47	72	53	12	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	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	22	1587	44	229	1973	92	224	87	133	60	14	26
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.54	0.54	0.54	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	130	2184	61	290	2826	131	354	230	351	315	67	546
Arrive On Green	0.43	0.43	0.43	0.09	0.57	0.57	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	200	5067	140	1767	4960	231	1389	678	1036	734	198	1610
Grp Volume(v), veh/h	22	1058	573	229	1342	723	224	0	220	74	0	26
Grp Sat Flow(s),veh/h/ln	200	1689	1830	1767	1689	1814	1389	0	1714	932	0	1610
Q Serve(g_s), s	8.7	25.6	25.6	6.7	28.0	28.2	15.2	0.0	9.6	3.9	0.0	1.1
Cycle Q Clear(g_c), s	23.2	25.6	25.6	6.7	28.0	28.2	28.7	0.0	9.6	13.5	0.0	1.1
Prop In Lane	1.00		0.08	1.00		0.13	1.00		0.60	0.81		1.00
Lane Grp Cap(c), veh/h	130	1456	789	290	1924	1034	354	0	581	382	0	546
V/C Ratio(X)	0.17	0.73	0.73	0.79	0.70	0.70	0.63	0.00	0.38	0.19	0.00	0.05
Avail Cap(c_a), veh/h	148	1760	954	510	2649	1423	354	0	581	382	0	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.4	23.3	23.3	19.9	15.2	15.2	37.5	0.0	24.8	28.5	0.0	21.9
Incr Delay (d2), s/veh	0.6	1.2	2.2	4.8	0.5	0.9	8.3	0.0	1.9	1.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	15.3	16.6	5.2	15.3	16.5	9.9	0.0	7.5	2.7	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	24.5	25.5	24.7	15.7	16.1	45.8	0.0	26.6	29.6	0.0	22.1
LnGrp LOS	C	C	C	C	B	B	D	A	C	C	A	C
Approach Vol, veh/h												
1653												
Approach Delay, s/veh												
24.9												
Approach LOS												
C												
Timer - Assigned Phs												
2 3 4 6 8												
Phs Duration (G+Y+Rc), s												
38.0 13.7 47.1 38.0 60.8												
Change Period (Y+Rc), s												
4.5 4.5 4.5 4.5 4.5												
Max Green Setting (Gmax), s												
33.5 21.5 51.5 33.5 77.5												
Max Q Clear Time (g_c+I1), s												
30.7 8.7 27.6 15.5 30.2												
Green Ext Time (p_c), s												
0.6 0.5 13.9 0.4 26.1												
Intersection Summary												
HCM 6th Ctrl Delay												
21.9												
HCM 6th LOS												
C												

HCM 6th Signalized Intersection Summary

11: Bloomfield Ave & Imperial Highway

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑	↱	↰	↑↑↑		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	206	1352	172	293	1074	137	161	520	385	228	715	323
Future Volume (veh/h)	206	1352	172	293	1074	137	161	520	385	228	715	323
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	226	1486	189	305	1119	143	187	605	448	278	872	394
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.86	0.86	0.86	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	254	1499	465	317	1506	192	199	734	328	295	925	413
Arrive On Green	0.14	0.30	0.30	0.18	0.33	0.33	0.11	0.21	0.21	0.17	0.26	0.26
Sat Flow, veh/h	1767	5066	1572	1767	4547	581	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	226	1486	189	305	831	431	187	605	448	278	872	394
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1751	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	15.1	35.1	11.5	20.5	26.2	26.2	12.6	19.7	25.0	18.7	29.1	29.6
Cycle Q Clear(g_c), s	15.1	35.1	11.5	20.5	26.2	26.2	12.6	19.7	25.0	18.7	29.1	29.6
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	254	1499	465	317	1118	580	199	734	328	295	925	413
V/C Ratio(X)	0.89	0.99	0.41	0.96	0.74	0.74	0.94	0.82	1.37	0.94	0.94	0.95
Avail Cap(c_a), veh/h	299	1499	465	317	1118	580	199	734	328	295	925	413
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.57	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.4	42.1	33.8	48.9	35.6	35.6	52.9	45.4	47.5	49.4	43.4	43.5
Incr Delay (d2), s/veh	15.3	15.6	0.3	40.6	2.7	5.2	41.0	8.3	180.4	37.6	18.5	34.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.2	21.6	7.1	18.4	16.6	17.6	12.0	13.9	39.1	16.8	21.3	21.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.8	57.7	34.1	89.5	38.3	40.8	93.9	53.7	227.9	87.1	61.9	77.8
LnGrp LOS	E	E	C	F	D	D	F	D	F	F	E	E
Approach Vol, veh/h	1901		1567			1240			1544			
Approach Delay, s/veh	56.3		48.9			122.7			70.5			
Approach LOS	E		D			F			E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.5	29.5	26.0	40.0	18.0	36.0	21.8	44.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.0	25.0	21.5	35.5	13.5	31.5	20.3	36.7				
Max Q Clear Time (g_c+20.0), s	20.0	27.0	22.5	37.1	14.6	31.6	17.1	28.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.2	5.1				
Intersection Summary												
HCM 6th Ctrl Delay			71.1									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

12: Norwalk Bl & Civic Center Dr

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Traffic Volume (veh/h)	3	2	13	587	0	163	0	909	523	167	1029	0
Future Volume (veh/h)	3	2	13	587	0	163	0	909	523	167	1029	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	1856	1856	1856	1856	1856	1856	0	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	5	3	21	962	0	267	0	947	545	188	1156	0
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.96	0.96	0.96	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	0	3	3	3	3	3
Cap, veh/h	7	4	30	1073	0	477	0	2029	1107	212	2827	0
Arrive On Green	0.03	0.03	0.03	0.30	0.00	0.30	0.00	0.80	0.80	0.24	1.00	0.00
Sat Flow, veh/h	281	169	1180	3534	0	1572	0	5233	1572	1767	5233	0
Grp Volume(v), veh/h	29	0	0	962	0	267	0	947	545	188	1156	0
Grp Sat Flow(s),veh/h/ln	1629	0	0	1767	0	1572	0	1689	1572	1767	1689	0
Q Serve(g_s), s	2.1	0.0	0.0	31.3	0.0	17.1	0.0	7.1	13.3	12.3	0.0	0.0
Cycle Q Clear(g_c), s	2.1	0.0	0.0	31.3	0.0	17.1	0.0	7.1	13.3	12.3	0.0	0.0
Prop In Lane	0.17		0.72	1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	42	0	0	1073	0	477	0	2029	1107	212	2827	0
V/C Ratio(X)	0.69	0.00	0.00	0.90	0.00	0.56	0.00	0.47	0.49	0.89	0.41	0.00
Avail Cap(c_a), veh/h	244	0	0	1205	0	536	0	2029	1107	247	2827	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	0.58	0.00	0.58	0.00	0.83	0.83	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.0	0.0	0.0	40.0	0.0	35.1	0.0	7.9	2.4	44.8	0.0	0.0
Incr Delay (d2), s/veh	18.2	0.0	0.0	5.2	0.0	0.6	0.0	0.6	1.3	26.9	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	0.0	0.0	18.9	0.0	9.8	0.0	3.7	6.8	10.4	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.1	0.0	0.0	45.2	0.0	35.7	0.0	8.5	3.7	71.7	0.4	0.0
LnGrp LOS	E	A	A	D	A	D	A	A	A	E	A	A
Approach Vol, veh/h	29			1229			1492			1344		
Approach Delay, s/veh	76.1			43.1			6.8			10.4		
Approach LOS	E			D			A			B		
Timer - Assigned Phs	1	2	4			6		8				
Phs Duration (G+Y+Rc), s	18.9	52.6	7.6			71.5		40.9				
Change Period (Y+Rc), s	4.5	4.5	4.5			4.5		4.5				
Max Green Setting (Gmax), s	10.8	26.3	18.0			47.6		40.9				
Max Q Clear Time (g_c+1), s	14.3	15.3	4.1			2.0		33.3				
Green Ext Time (p_c), s	0.1	6.4	0.1			11.1		3.2				

Intersection Summary

HCM 6th Ctrl Delay 19.4

HCM 6th LOS B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

13: Civic Center Dr & Courthouse-AMC Theater

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	567	0	0	745	3	5	0	5	8	0	65
Future Volume (veh/h)	89	567	0	0	745	3	5	0	5	8	0	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	1856	1856	0	0	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	100	637	0	0	1064	4	8	0	5	18	0	144
Peak Hour Factor	0.89	0.89	0.89	0.70	0.70	0.70	0.62	0.62	1.00	0.45	0.45	0.45
Percent Heavy Veh, %	3	3	0	0	3	3	0	0	0	0	0	0
Cap, veh/h	229	1555	0	0	1216	5	453	15	252	97	30	655
Arrive On Green	0.05	0.44	0.00	0.00	0.68	0.68	0.46	0.00	0.46	0.46	0.00	0.46
Sat Flow, veh/h	1767	3618	0	0	3695	14	846	33	549	114	64	1427
Grp Volume(v), veh/h	100	637	0	0	521	547	13	0	0	162	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1853	1428	0	0	1606	0	0
Q Serve(g_s), s	3.2	11.1	0.0	0.0	21.1	21.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.2	11.1	0.0	0.0	21.1	21.1	0.4	0.0	0.0	5.3	0.0	0.0
Prop In Lane	1.00		0.00	0.00		0.01	0.62		0.38	0.11		0.89
Lane Grp Cap(c), veh/h	229	1555	0	0	595	626	720	0	0	782	0	0
V/C Ratio(X)	0.44	0.41	0.00	0.00	0.88	0.88	0.02	0.00	0.00	0.21	0.00	0.00
Avail Cap(c_a), veh/h	321	2252	0	0	852	896	720	0	0	782	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.00	0.00	0.68	0.68	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.1	17.2	0.0	0.0	13.1	13.1	13.3	0.0	0.0	14.6	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.1	0.0	0.0	5.1	4.9	0.0	0.0	0.0	0.6	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	2.4	7.5	0.0	0.0	7.9	8.2	0.3	0.0	0.0	3.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	17.3	0.0	0.0	18.3	18.0	13.3	0.0	0.0	15.2	0.0	0.0
LnGrp LOS	C	B	A	A	B	B	B	A	A	B	A	A
Approach Vol, veh/h	737			1068			13			162		
Approach Delay, s/veh	17.8			18.1			13.3			15.2		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			7		
Phs Duration (G+Y+Rc), s	45.8			44.2			45.8			9.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	23.5			57.5			23.5			9.5		
Max Q Clear Time (g_c+I1), s	2.4			13.1			7.3			5.2		
Green Ext Time (p_c), s	0.0			5.1			0.8			0.1		

Intersection Summary

HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

14: Civic Center Dr & Avenida Manuel Salinas

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	501	51	40	545	27	53	11	29	33	14	111
Future Volume (veh/h)	58	501	51	40	545	27	53	11	29	33	14	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	62	539	55	53	727	36	68	14	37	62	26	121
Peak Hour Factor	0.93	0.93	0.93	0.75	0.75	0.75	0.78	0.78	0.78	0.53	0.53	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	197	803	82	237	839	42	556	142	375	263	110	327
Arrive On Green	0.06	0.33	0.33	0.08	0.49	0.49	0.31	0.31	0.31	0.20	0.20	0.20
Sat Flow, veh/h	1767	3230	329	1767	3419	169	1810	461	1219	1293	542	1610
Grp Volume(v), veh/h	62	293	301	53	375	388	68	0	51	88	0	121
Grp Sat Flow(s),veh/h/ln	1767	1763	1796	1767	1763	1825	1810	0	1681	1835	0	1610
Q Serve(g_s), s	2.3	12.9	13.0	2.0	16.9	17.0	2.4	0.0	2.0	3.6	0.0	5.8
Cycle Q Clear(g_c), s	2.3	12.9	13.0	2.0	16.9	17.0	2.4	0.0	2.0	3.6	0.0	5.8
Prop In Lane	1.00		0.18	1.00		0.09	1.00		0.73	0.70		1.00
Lane Grp Cap(c), veh/h	197	438	446	237	433	448	556	0	517	373	0	327
V/C Ratio(X)	0.31	0.67	0.67	0.22	0.87	0.87	0.12	0.00	0.10	0.24	0.00	0.37
Avail Cap(c_a), veh/h	240	554	565	273	543	562	556	0	517	373	0	327
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	0.88	0.88	0.88	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	27.0	27.0	23.5	21.6	21.6	22.4	0.0	22.3	30.0	0.0	30.9
Incr Delay (d2), s/veh	0.9	2.0	2.1	0.4	10.4	10.1	0.5	0.0	0.4	1.5	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	1.8	8.8	8.9	1.4	9.7	10.0	2.0	0.0	1.5	3.1	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.8	29.0	29.0	23.9	32.0	31.7	22.9	0.0	22.6	31.5	0.0	34.1
LnGrp LOS	C	C	C	C	C	C	C	A	C	C	A	C
Approach Vol, veh/h	656		816			119			209			
Approach Delay, s/veh	28.7		31.3			22.8			33.0			
Approach LOS	C		C			C			C			
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	32.2		8.2		26.9		22.8		8.4		26.6	
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5		4.5	
Max Green Setting (Gmax), s	19.9		5.5		28.3		18.3		6.1		27.7	
Max Q Clear Time (g_c+I1), s	4.4		4.0		15.0		7.8		4.3		19.0	
Green Ext Time (p_c), s	0.3		0.0		3.0		0.6		0.0		3.1	
Intersection Summary												
HCM 6th Ctrl Delay			30.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

15: Civic Center Dr & Volunteer Ave

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	496	40	9	402	16	21	13	3	39	20	165
Future Volume (veh/h)	27	496	40	9	402	16	21	13	3	39	20	165
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	31	577	47	10	428	17	27	17	4	65	33	179
Peak Hour Factor	0.86	0.86	0.86	0.94	0.94	0.94	0.77	0.77	0.77	0.60	0.60	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	0	0	0	0	0	0
Cap, veh/h	217	778	347	156	702	28	534	326	72	690	338	994
Arrive On Green	0.03	0.22	0.22	0.01	0.20	0.20	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	1767	3526	1572	1767	3457	137	763	529	117	1010	548	1610
Grp Volume(v), veh/h	31	577	47	10	218	227	48	0	0	98	0	179
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1831	1410	0	0	1558	0	1610
Q Serve(g_s), s	1.2	13.7	2.2	0.4	10.1	10.2	0.0	0.0	0.0	0.0	0.0	4.3
Cycle Q Clear(g_c), s	1.2	13.7	2.2	0.4	10.1	10.2	1.9	0.0	0.0	1.9	0.0	4.3
Prop In Lane	1.00		1.00	1.00		0.07	0.56		0.08	0.66		1.00
Lane Grp Cap(c), veh/h	217	778	347	156	358	372	932	0	0	1028	0	994
V/C Ratio(X)	0.14	0.74	0.14	0.06	0.61	0.61	0.05	0.00	0.00	0.10	0.00	0.18
Avail Cap(c_a), veh/h	331	1469	655	301	734	763	932	0	0	1028	0	994
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.81	0.81	0.81	0.95	0.95	0.95	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.5	32.7	28.2	28.7	32.6	32.6	6.8	0.0	0.0	7.0	0.0	7.4
Incr Delay (d2), s/veh	0.2	1.2	0.1	0.2	1.6	1.6	0.1	0.0	0.0	0.2	0.0	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	0.9	9.4	1.5	0.3	7.7	8.0	0.6	0.0	0.0	1.3	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.8	33.8	28.3	28.9	34.2	34.2	6.9	0.0	0.0	7.1	0.0	7.8
LnGrp LOS	C	C	C	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h	655		455			48			277			
Approach Delay, s/veh	33.2		34.1			6.9			7.6			
Approach LOS	C		C			A			A			
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	60.0		5.6	24.4		60.0		7.2	22.8			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	30.5		8.5	37.5		30.5		8.5	37.5			
Max Q Clear Time (g_c+I1), s	3.9		2.4	15.7		6.3		3.2	12.2			
Green Ext Time (p_c), s	0.2		0.0	4.1		1.1		0.0	2.7			
Intersection Summary												
HCM 6th Ctrl Delay			27.6									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

16: Civic Center Dr & Bloomfield Ave

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	281	22	233	27	13	4	145	1026	22	4	639	88
Future Volume (veh/h)	281	22	233	27	13	4	145	1026	22	4	639	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	309	24	256	41	20	6	153	1080	23	4	710	98
Peak Hour Factor	0.91	0.91	0.91	0.66	0.66	0.66	0.95	0.95	0.95	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	403	484	410	334	357	107	211	2194	47	9	1993	889
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.06	0.62	0.62	0.01	1.00	1.00
Sat Flow, veh/h	1374	1856	1572	1090	1370	411	3428	3530	75	1767	3526	1572
Grp Volume(v), veh/h	309	24	256	41	0	26	153	539	564	4	710	98
Grp Sat Flow(s),veh/h/ln	1374	1856	1572	1090	0	1782	1714	1763	1842	1767	1763	1572
Q Serve(g_s), s	26.1	1.2	17.2	3.5	0.0	1.3	5.3	20.0	20.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	27.4	1.2	17.2	4.7	0.0	1.3	5.3	20.0	20.0	0.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	403	484	410	334	0	465	211	1096	1145	9	1993	889
V/C Ratio(X)	0.77	0.05	0.62	0.12	0.00	0.06	0.73	0.49	0.49	0.44	0.36	0.11
Avail Cap(c_a), veh/h	566	704	596	463	0	675	329	1096	1145	81	1993	889
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)	0.76	0.76	0.76	1.00	0.00	1.00	1.00	1.00	1.00	0.37	0.37	0.37
Uniform Delay (d), s/veh	43.6	33.2	39.2	35.0	0.0	33.3	55.3	12.4	12.4	59.2	0.0	0.0
Incr Delay (d2), s/veh	3.1	0.0	1.2	0.2	0.0	0.0	4.7	1.6	1.5	11.5	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.5	1.0	10.5	1.7	0.0	1.0	4.3	12.7	13.1	0.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	33.3	40.4	35.1	0.0	33.3	60.0	14.0	13.9	70.7	0.2	0.1
LnGrp LOS	D	C	D	D	A	C	E	B	B	E	A	A
Approach Vol, veh/h	589		67			1256			812			
Approach Delay, s/veh	43.4		34.4			19.5			0.5			
Approach LOS	D		C			B			A			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	5.1	79.1	35.8		11.9	72.3	35.8					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.5	55.5	45.5		11.5	49.5	45.5					
Max Q Clear Time (g_c+I), s	12.3	22.0	29.4		7.3	2.0	6.7					
Green Ext Time (p_c), s	0.0	9.0	1.8		0.2	6.3	0.3					
Intersection Summary												
HCM 6th Ctrl Delay			19.4									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

17: Adoree St/I-5 NB Off-Ramp & Norwalk Bl

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	0	72	161	131	366	104	1010	0	0	1524	120
Future Volume (veh/h)	85	0	72	161	131	366	104	1010	0	0	1524	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	0	1856	1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h	113	0	96	177	144	402	109	1063	0	0	1881	148
Peak Hour Factor	0.75	0.75	0.75	0.91	0.91	0.91	0.95	0.95	0.95	0.81	0.81	0.81
Percent Heavy Veh, %	3	0	3	3	3	3	3	3	0	0	3	3
Cap, veh/h	0	0	0	455	454	405	162	3381	0	0	2792	219
Arrive On Green	0.00	0.00	0.00	0.26	0.26	0.26	0.02	0.22	0.00	0.00	1.00	1.00
Sat Flow, veh/h		0		1767	1763	1572	3428	5233	0	0	4957	375
Grp Volume(v), veh/h		0.0		177	144	402	109	1063	0	0	1324	705
Grp Sat Flow(s),veh/h/ln				1767	1763	1572	1714	1689	0	0	1689	1788
Q Serve(g_s), s				9.9	7.9	30.6	3.8	21.1	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				9.9	7.9	30.6	3.8	21.1	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.21
Lane Grp Cap(c), veh/h				455	454	405	162	3381	0	0	1968	1042
V/C Ratio(X)				0.39	0.32	0.99	0.67	0.31	0.00	0.00	0.67	0.68
Avail Cap(c_a), veh/h				455	454	405	183	3381	0	0	1968	1042
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.88	0.88	0.00	0.00	0.80	0.80
Uniform Delay (d), s/veh				36.8	36.0	44.4	58.1	23.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.5	0.4	42.7	7.1	0.2	0.0	0.0	1.5	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				7.8	6.3	23.3	3.3	14.4	0.0	0.0	0.7	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				37.3	36.4	87.2	65.2	24.0	0.0	0.0	1.5	2.8
LnGrp LOS				D	D	F	E	C	A	A	A	A
Approach Vol, veh/h					723			1172			2029	
Approach Delay, s/veh					64.8			27.8			2.0	
Approach LOS					E			C			A	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		84.6			10.2	74.4		35.4				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		63.9			6.4	53.0		30.9				
Max Q Clear Time (g_c+I1), s		23.1			5.8	2.0		32.6				
Green Ext Time (p_c), s		9.7			0.0	26.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			21.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary 18: San Antonio Dr & Frontage Rd/I-5 SB On-Ramp

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	237	132	0	0	0	0	1051	165	438	1297	0
Future Volume (veh/h)	73	237	132	0	0	0	0	1051	165	438	1297	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	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	76	261	128				0	1142	179	515	1526	0
Peak Hour Factor	0.96	0.96	0.96				0.92	0.92	0.92	0.85	0.85	0.82
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	195	409	173				0	2656	416	603	4128	0
Arrive On Green	0.11	0.11	0.11				0.00	0.60	0.60	0.18	0.81	0.00
Sat Flow, veh/h	1767	3711	1572				0	4583	692	3428	5233	0
Grp Volume(v), veh/h	76	261	128				0	873	448	515	1526	0
Grp Sat Flow(s),veh/h/ln	1767	1856	1572				0	1689	1731	1714	1689	0
Q Serve(g_s), s	4.8	8.1	9.5				0.0	16.7	16.7	17.5	9.6	0.0
Cycle Q Clear(g_c), s	4.8	8.1	9.5				0.0	16.7	16.7	17.5	9.6	0.0
Prop In Lane	1.00		1.00				0.00		0.40	1.00		0.00
Lane Grp Cap(c), veh/h	195	409	173				0	2031	1041	603	4128	0
V/C Ratio(X)	0.39	0.64	0.74				0.00	0.43	0.43	0.85	0.37	0.00
Avail Cap(c_a), veh/h	331	696	295				0	2031	1041	929	4128	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)	0.93	0.93	0.93				0.00	0.67	0.67	0.42	0.42	0.00
Uniform Delay (d), s/veh	49.6	51.1	51.7				0.0	12.9	12.9	48.0	2.9	0.0
Incr Delay (d2), s/veh	1.2	1.5	5.6				0.0	0.4	0.9	2.1	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	3.9	6.9	7.2				0.0	9.6	10.0	10.6	4.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	52.6	57.4				0.0	13.3	13.7	50.1	3.1	0.0
LnGrp LOS	D	D	E				A	B	B	D	A	A
Approach Vol, veh/h	465						1321			2041		
Approach Delay, s/veh	53.6						13.4			14.9		
Approach LOS	D						B			B		
Timer - Assigned Phs	1	2	4		6							
Phs Duration (G+Y+Rc), s	25.6	76.7	17.7		102.3							
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5							
Max Green Setting (Gmax), s	32.5	51.5	22.5		88.5							
Max Q Clear Time (g_c+I1), s	19.5	18.7	11.5		11.6							
Green Ext Time (p_c), s	1.6	11.7	1.8		18.9							
Intersection Summary												
HCM 6th Ctrl Delay			19.1									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Summary

19: San Antonio Dr & Firestone Bl

05/11/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	342	58	64	388	78	95	884	60	78	968	203
Future Volume (veh/h)	211	342	58	64	388	78	95	884	60	78	968	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	240	389	66	80	485	98	112	1040	71	88	1088	228
Peak Hour Factor	0.88	0.88	0.88	0.80	0.80	0.80	0.85	0.85	0.85	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	270	907	405	102	572	255	138	1668	744	110	1919	402
Arrive On Green	0.15	0.26	0.26	0.06	0.16	0.16	0.08	0.47	0.47	0.12	0.91	0.91
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	4196	879
Grp Volume(v), veh/h	240	389	66	80	485	98	112	1040	71	88	876	440
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1689	1697
Q Serve(g_s), s	16.0	11.1	3.9	5.4	16.0	6.7	7.5	26.5	3.0	5.8	5.5	5.5
Cycle Q Clear(g_c), s	16.0	11.1	3.9	5.4	16.0	6.7	7.5	26.5	3.0	5.8	5.5	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	270	907	405	102	572	255	138	1668	744	110	1544	776
V/C Ratio(X)	0.89	0.43	0.16	0.79	0.85	0.38	0.81	0.62	0.10	0.80	0.57	0.57
Avail Cap(c_a), veh/h	346	996	444	178	661	295	199	1668	744	155	1544	776
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)	1.00	1.00	1.00	1.00	1.00	1.00	0.17	0.17	0.17	0.93	0.93	0.93
Uniform Delay (d), s/veh	49.9	37.2	34.5	55.8	48.8	44.9	54.5	23.6	17.4	51.9	3.0	3.0
Incr Delay (d2), s/veh	20.0	0.3	0.2	12.5	9.0	0.9	3.0	0.3	0.0	17.0	1.4	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.3	8.4	2.7	4.9	12.3	4.8	4.7	13.1	1.8	5.3	2.5	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.9	37.5	34.7	68.3	57.8	45.8	57.4	23.9	17.5	68.9	4.4	5.8
LnGrp LOS	E	D	C	E	E	D	E	C	B	E	A	A
Approach Vol, veh/h	695					663		1223		1404		
Approach Delay, s/veh	48.4					57.3		26.6		8.9		
Approach LOS	D					E		C		A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.9	61.3	11.4	35.4	13.8	59.4	22.8	24.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	45.5	12.1	33.9	13.5	42.5	23.5	22.5				
Max Q Clear Time (g_c+I), s	17.8	28.5	7.4	13.1	9.5	7.5	18.0	18.0				
Green Ext Time (p_c), s	0.0	7.3	0.1	2.7	0.1	12.0	0.3	1.4				
Intersection Summary												
HCM 6th Ctrl Delay	29.3											
HCM 6th LOS	C											

HCM 6th Edition methodology does not support more than 4 approaches.

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022

												
Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	121	218	609	123	50	591	64	32	123	404	238	37
Future Volume (vph)	121	218	609	123	50	591	64	32	123	404	238	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00	1.00	0.91			1.00	0.91	0.91	
Frt		1.00	1.00	0.85	1.00	0.98			1.00	0.98	0.85	
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (prot)		1752	3505	1568	1752	4930			1752	3284	1427	
Flt Permitted		0.35	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (perm)		641	3505	1568	1752	4930			1752	3284	1427	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.89	0.89	0.89	0.89	0.92	0.92	0.92	0.92
Adj. Flow (vph)	123	222	621	126	56	664	72	36	134	439	259	40
RTOR Reduction (vph)	0	0	0	68	0	0	0	0	0	0	84	0
Lane Group Flow (vph)	0	345	621	58	56	772	0	0	134	514	140	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	NA			Prot	NA	Perm	
Protected Phases	7		4		3	8			5	2		
Permitted Phases		4		4							2	
Actuated Green, G (s)		58.5	58.5	58.5	5.0	68.0			7.5	39.0	39.0	
Effective Green, g (s)		58.5	58.5	58.5	5.0	68.0			7.5	39.0	39.0	
Actuated g/C Ratio		0.42	0.42	0.42	0.04	0.49			0.05	0.28	0.28	
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		267	1464	655	62	2394			93	914	397	
v/s Ratio Prot			0.18		c0.03	0.16			c0.08	0.16		
v/s Ratio Perm		c0.54		0.04							0.10	
v/c Ratio		1.29	0.42	0.09	0.90	0.32			1.44	0.56	0.35	
Uniform Delay, d1		40.8	28.8	24.6	67.3	22.0			66.2	43.2	40.4	
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2		156.5	0.2	0.1	80.1	0.1			248.8	2.5	2.4	
Delay (s)		197.3	29.0	24.7	147.4	22.0			315.1	45.7	42.8	
Level of Service		F	C	C	F	C			F	D	D	
Approach Delay (s)			81.7			30.5				86.4		
Approach LOS			F			C				F		
Intersection Summary												
HCM 2000 Control Delay			78.3			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.13									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			84.3%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Pioneer Bl & Rosecrans Ave & San Antonio Dr

05/11/2022



Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	11	79	493	199	21	309	302	7
Future Volume (vph)	11	79	493	199	21	309	302	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.95	1.00		0.97	0.91	
Frt		1.00	1.00	0.85		0.96	0.85	
Flt Protected		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1752	3505	1568		3321	1427	
Flt Permitted		0.41	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		763	3505	1568		3321	1427	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.89	0.89	0.89	0.89
Adj. Flow (vph)	12	83	519	209	24	347	339	8
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	95	519	209	0	493	225	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA	Perm	Prot	Prot	Perm	
Protected Phases	1		6		12	12		
Permitted Phases		6		6			12	
Actuated Green, G (s)		27.0	27.0	27.0		19.5	19.5	
Effective Green, g (s)		27.0	27.0	27.0		19.5	19.5	
Actuated g/C Ratio		0.19	0.19	0.19		0.14	0.14	
Clearance Time (s)		4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		147	675	302		462	198	
v/s Ratio Prot			c0.15			0.15		
v/s Ratio Perm		0.12		0.13			c0.16	
v/c Ratio		0.65	0.77	0.69		1.07	1.14	
Uniform Delay, d1		52.1	53.5	52.6		60.2	60.2	
Progression Factor		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		19.9	8.2	12.3		60.9	105.4	
Delay (s)		72.0	61.8	64.9		121.2	165.7	
Level of Service		E	E	E		F	F	
Approach Delay (s)			63.7			135.1		
Approach LOS			E			F		
Intersection Summary								

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	86	1009	94	0	1204
Future Vol, veh/h	0	86	1009	94	0	1204
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, %	0	0	3	3	3	3
Mvmt Flow	0	93	1097	102	0	1309
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	600	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-	-
Pot Cap-1 Maneuver	0	384	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	384	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	17.4	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	384		-		
HCM Lane V/C Ratio	-	0.243		-		
HCM Control Delay (s)	-	17.4		-		
HCM Lane LOS	-	C		-		
HCM 95th %tile Q(veh)	-	0.9		-		

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	53	43	0	68
Future Vol, veh/h	5	0	53	43	0	68
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	0	58	47	0	74
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	156	82	0	0	105	0
Stage 1	82	-	-	-	-	-
Stage 2	74	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	835	978	-	-	1486	-
Stage 1	941	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	835	978	-	-	1486	-
Mov Cap-2 Maneuver	835	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.3	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	835	1486	-	
HCM Lane V/C Ratio	-	-	0.007	-	-	
HCM Control Delay (s)	-	-	9.3	0	-	
HCM Lane LOS	-	-	A	A	-	
HCM 95th %tile Q(veh)	-	-	0	0	-	

HCM 6th TWSC
69: Avenida Manuel Salinas & Project Dwy

05/11/2022

Intersection

Int Delay, s/veh 2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	35	26	74	127	0
Future Vol, veh/h	20	35	26	74	127	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	38	28	80	138	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	274	138	138
Stage 1	138	-	-
Stage 2	136	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	716	910	1446
Stage 1	889	-	-
Stage 2	890	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	702	910	1446
Mov Cap-2 Maneuver	702	-	-
Stage 1	871	-	-
Stage 2	890	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	821	-	-
HCM Lane V/C Ratio	0.02	-	0.073	-	-
HCM Control Delay (s)	7.5	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

HCM 6th TWSC
72: Alley to Avenida Manuel Salinas & Project Dwy

05/11/2022

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	37	0	0	151	140	0
Future Vol, veh/h	37	0	0	151	140	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	0	0	164	152	0

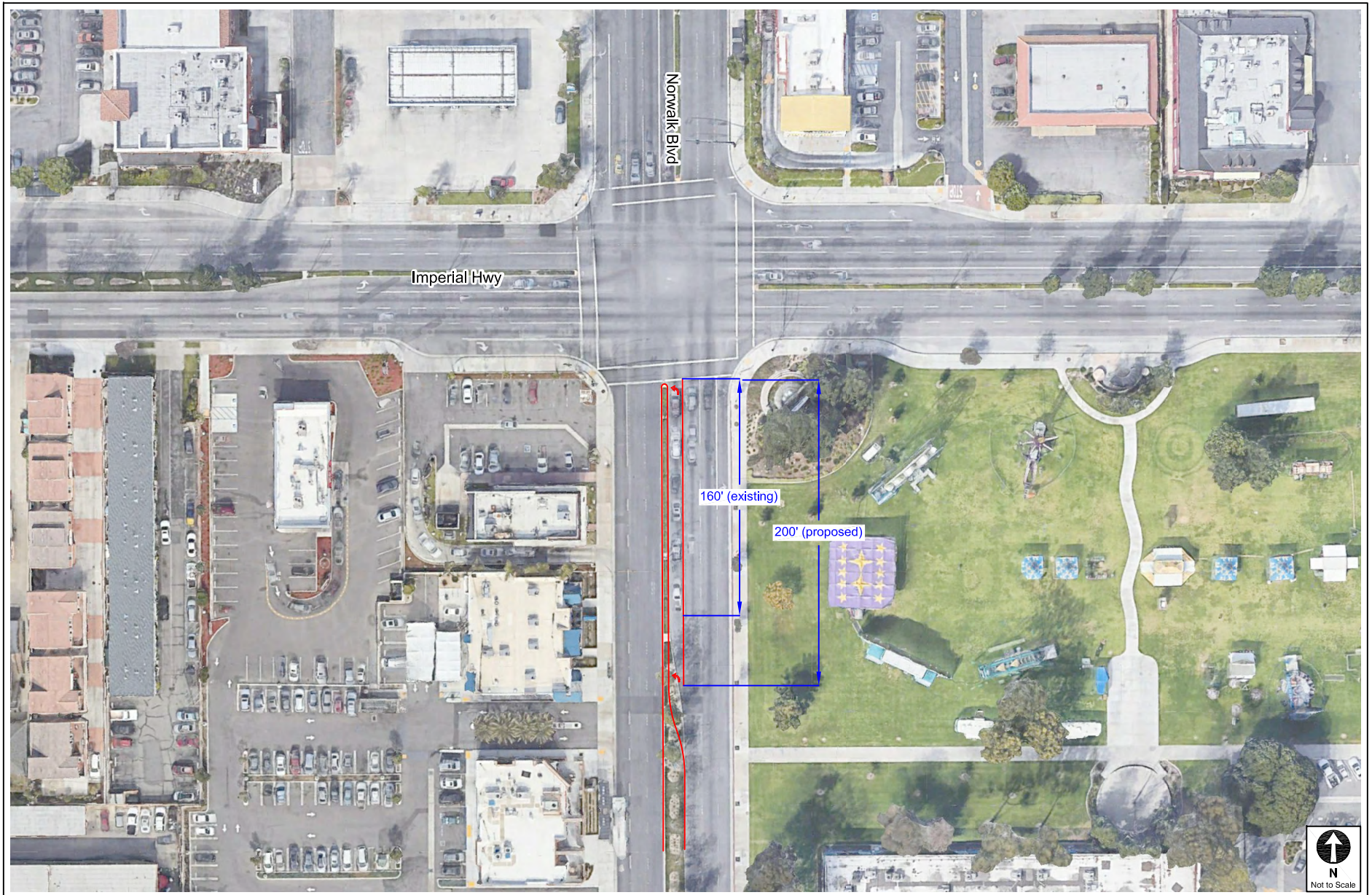
Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	164	0	0 162 82
Stage 1	-	-	- 82 -
Stage 2	-	-	- 80 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1414	-	- 829 978
Stage 1	-	-	- 941 -
Stage 2	-	-	- 943 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1414	-	- 806 978
Mov Cap-2 Maneuver	-	-	- 806 -
Stage 1	-	-	- 915 -
Stage 2	-	-	- 943 -

Approach	EB	WB	SB
HCM Control Delay, s	7.6	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1414	-	-	-	806
HCM Lane V/C Ratio	0.028	-	-	-	0.189
HCM Control Delay (s)	7.6	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

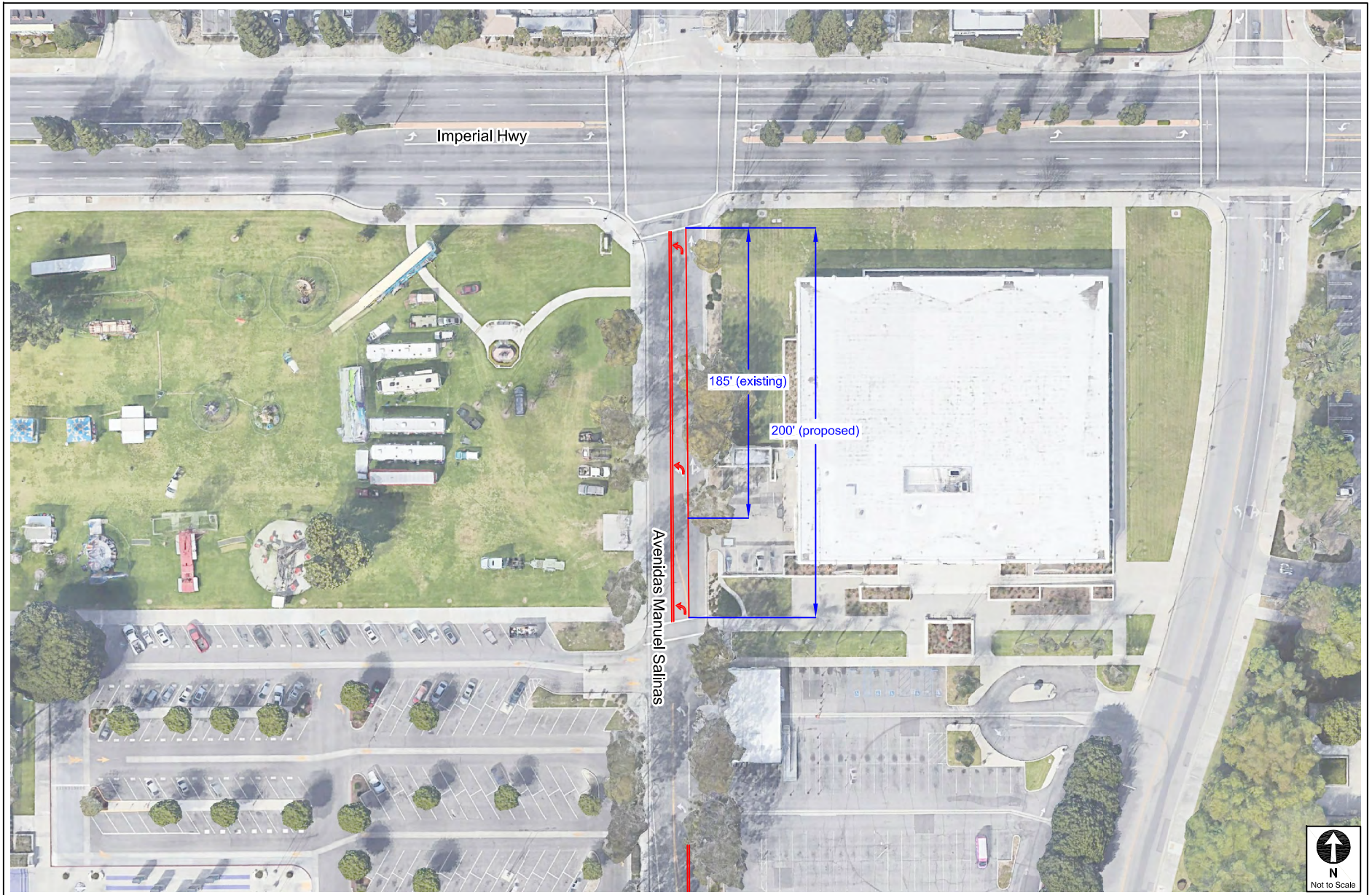
Appendix E

Conceptual Intersection Improvement Plans



CONCEPTUAL IMPROVEMENT
NORWALK BOULEVARD & IMPERIAL HIGHWAY (INTERSECTION #8)

FIGURE
E-1



CONCEPTUAL IMPROVEMENT
AVENIDAS MANUEL SALINAS & IMPERIAL HIGHWAY (INTERSECTION #9)

FIGURE
E-2

Appendices

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Appendices

Appendix M.2 Parking Study



MEMORANDUM

TO: Ryan Aubry, Primestor

FROM: Sarah Drobis, P.E.
Emily Wong, P.E.
Richard Gibson, LEED Green Associate

DATE: June 20, 2022

RE: Shared Parking Analysis for the
Norwalk Entertainment District
Civic Center Specific Plan
Norwalk, California

Ref: J1962

Gibson Transportation Consulting, Inc. (GTC) was asked to conduct a parking analysis for the proposed Norwalk Entertainment District – Civic Center Specific Plan (Specific Plan) to ensure that sufficient parking would be available to meet the parking demands of the Specific Plan area.

PROJECT DESCRIPTION

The Specific Plan area encompasses the southeast corner of Imperial Highway & Norwalk Boulevard (Project Site) in the City of Norwalk (City) and is composed of Los Angeles County (County) Assessor Parcel Numbers 8047-006-922, 8047-006-924, 8047-006-925, and a portion of 8047-006-927. The Specific Plan area currently contains City Hall, the City Hall Lawn, a portion of a building associated with the County Superior Court, a surface parking lot associated with City Hall (Existing Lot), and a parking garage (Existing Garage). The Specific Plan would authorize new development on the existing City Hall Lawn and the Existing Lot.

The Existing Garage contains a total of 1,050 parking spaces and serves City Hall, the County Superior Court, and a nearby theater south of the Project Site. The Existing Lot contains a total of 269 parking spaces, which serve City Hall uses (including staff, visitors, and City vehicle storage).

The Specific Plan would authorize the construction of a mixed-use development to include up to 350 residential units (a minimum of 15% of which would be covenanted affordable units) and 110,000 square feet (sf) of commercial uses consisting of a mix of retail, supermarket, and restaurant tenants (Project). To account for the potential range in commercial land uses, the shared parking analysis assumed that the commercial uses would be composed of 35,000 sf of retail, 40,000 sf of supermarket, and 35,000 sf of fine dining and high-turnover restaurant

uses. The existing City Hall and portion of the County accessory building would remain and no changes are proposed. The Existing Lot and the City Hall Lawn would be removed and replaced with the Project's new development.

The Specific Plan would provide standards for new development, including parking requirements developed specifically for the new uses on the Project Site. Market rate residential units would require 1.5 parking spaces per unit, plus 0.1 guest parking spaces per unit. Covenanted affordable residential units would require 0.5 parking spaces per unit. Commercial uses would require four parking spaces per 1,000 gross sf (or one parking space per 250 gross sf). The parking requirements proposed for the Specific Plan are reflected in Table 1. Parking for the Project would be accommodated within the Project Site. Assuming development of 350 residential units and 110,000 sf of commercial uses, the new development would construct a total of 651 spaces located within new buildings constructed as part of the Project's new development. The remainder of the spaces required for the new development would be provided within the existing 1,050-space parking garage in the southeastern portion of the Project Site.

All 269 parking spaces within the Existing Lot would be removed with development of the Project. Thus, with the addition of 651 parking spaces in the new development, the removal of the 269 parking spaces in the Existing Lot, and the 1,050 parking spaces in the Existing Garage to remain, a total of 1,701 parking spaces would be provided on-site within the Project Site following Project buildout.

The Project would be completed and operational in Year 2025.

SHARED PARKING ANALYSIS METHODOLOGY

Project Development and Parking Supply

As previously detailed, the Project would remove all 269 parking spaces of the Existing Lot and construct 651 parking spaces within the new development. The 1,050-space Existing Garage would remain. Therefore, a total of 1,701 parking spaces would be provided within the Project Site following Project buildout. Parking required by the Specific Plan for the Project (i.e., the new land uses to be developed) would be satisfied by the 651 parking spaces in the new development, and by use of a portion of the 1,050-space Existing Garage. The Existing Garage would also continue to be utilized for parking for City Hall, the County Superior Court, and the nearby theater and would absorb the existing utilization from the 269-space Existing Lot, which would be removed.

It is important to note the both the County Superior Court and theater have additional parking supplies, including other existing surface parking lots that are not included in the parking supply discussed above nor in the parking demands discussed throughout this memorandum.

Existing Parking Demand for Project Site Parking Supply

In order to establish the hourly parking demand patterns for the Existing Garage, the results of the parking demand surveys contained in *Parking Study – DoubleTree by Hilton Los Angeles, Norwalk 13111 Sycamore Dr, Norwalk* (K2 Traffic Engineering, Inc., November 14, 2019) were

reviewed. In addition, supplemental parking utilization surveys were conducted in April 2022¹ to identify the parking demand patterns of the Existing Garage and Existing Lot. Due to the on-going effects of COVID-19 on typical business operations, the results of the Year 2019 and Year 2022 existing parking garage surveys were compared to develop a conservative baseline reflective of more typical (non-COVID-19) conditions of the parking demand patterns of the Existing Garage and Existing Lot.

The peak results used in the parking model discussed below are provided in Table 2. The results of the April 2022 survey are provided in the Attachment.

Proposed Project Parking Requirements

As discussed above, the Specific Plan establishes parking rates developed specifically for the proposed uses within the Project that deviate from the parking requirements established in Norwalk Municipal Code (Municipal Code) Section 17.03.040. In order to provide context for understanding the Project's proposed parking requirements, Table 1 provides a comparison of the parking requirements for the Project land uses (as proposed by the Specific Plan) with the following three sources: (1) parking rates set forth in the Municipal Code; (2) parking rates found in *Shared Parking, 3rd Edition* (Urban Land Institute, International Council of Shopping Centers and National Parking Association [ULI/ICSC/NPA], February 2020) and (3) the maximum allowable residential parking rates for eligible projects under the California State Density Bonus Law contained in Assembly Bill (AB) 2334. These comparisons are further discussed below.

As shown in Table 1, the Specific Plan would require more parking for commercial uses than required by the Municipal Code. Because the combined commercial uses at the Project total more than 100,000 sf, the Municipal Code would require one parking space per 350 sf of gross floor area (GFA) for the Project's total commercial component. The Specific Plan would require parking at a rate of one parking space per 250 sf of GFA for the commercial land uses (i.e., retail, restaurant, supermarket), consistent with the Municipal Code requirement for commercial uses less than 30,000 sf, and, therefore, would establish a higher total commercial parking requirement for the Project than would be required under the Municipal Code.

As detailed in Table 1, the Specific Plan parking requirement for market rate multi-family residential uses would be lower than the Municipal Code requirement, which requires two spaces located within a garage plus a minimum of one additional uncovered parking space for every bedroom in excess of two bedrooms for each dwelling unit and one uncovered space for every three units or fraction thereof designated for the exclusive use of guests. The Specific Plan would require 1.5 spaces per dwelling unit plus one guest space for every 10 dwelling units, resulting in a total parking rate of 1.6 parking spaces per dwelling unit, regardless of unit size/number of bedrooms. The Project does not anticipate providing any units larger than three-bedroom units. The Specific Plan would also establish a parking rate of 0.5 spaces per unit for each affordable housing unit.² However, as discussed below, for the purposes of providing a more conservative evaluation, the parking demand analysis assumes that all residential units in the Project would be

¹ Parking utilization surveys were conducted on Thursday, April 21, 2022, between 6:00 AM and 9:00 PM and Saturday, April 23, 2022, between 9:00 AM and 9:00 PM.

² Unlike the State Density Bonus Law (AB 2334), the Project's proposed parking rate for affordable units applies only to the affordable units, not to all units in the Project.

market rate units and, thus, does not utilize the proposed parking rate of 0.5 spaces per unit for affordable units.

Also shown in Table 1, the proposed Specific Plan residential parking rates fall within the *Shared Parking, 3rd Edition* range of parking demand rates, which are based on empirical surveys of similar sites nationwide. Empirical parking demand studies contained in *Future Parking Demand Study for Station Square Monrovia, California* (GTC, January 23, 2019), which surveyed three multi-family residential developments in the City of Monrovia with similar unit-profiles to the Project, were also reviewed. It should be noted that the surveyed developments were located at least 1.0 miles of the Metro Monrovia L (Gold) Line Station and in areas with limited bus service. Thus, parking demand at the surveyed developments was not influenced by transit usage, and the comparison to the Specific Plan residential parking rates would be conservative, as transit bus service is readily available adjacent to or within 0.25 miles of the Project Site. As summarized in Table 1, the average peak parking demand for all three developments is 1.33 spaces per occupied unit, including guest demand, and the highest measured peak demand of all three locations was 1.46 spaces per unit, which are below the 1.6 per unit requirement proposed by the Specific Plan. Further, the Specific Plan multi-family residential rates are higher than the maximum allowed parking requirement for developments seeking a density bonus under AB 2334, which is applied to all units in a development.

Thus, because the proposed Specific Plan parking rates are comparable to or higher than commonly accepted and utilized parking rates, the proposed Specific Plan parking rates would be appropriate for the Project's proposed land uses.

Parking Demand Analysis

A parking demand analysis was conducted in order to assess whether the 1,701 parking spaces provided on-site following Specific Plan buildout would be sufficient to accommodate both the Project's parking demand (based on the Specific Plan parking rates) and the existing utilization of the Existing Garage and Existing Lot.

Parking Demand Model

To develop peak parking demand projections for the Project (new land uses) and to account for the existing utilization of the Existing Garage and Existing Lot, the *Shared Parking, 3rd Edition* parking model was calibrated based on the existing parking demand patterns at the Project Site (i.e., the Existing Garage and Existing Lot) as well as the Specific Plan parking rates for new land uses. The calibrated model was then applied to the Project's proposed land uses to develop estimates of the Project Site's future parking demand levels and patterns including both existing parking demand and demand from new land uses. For the proposed land uses, the parking model utilizes the Specific Plan's parking rates to generate peak demand projections.

Parking Demand Model Calibration

Methodology. *Shared Parking, 3rd Edition* defines national averages to be used for parking demand rates for various land uses and suggests ranges of assumptions to be used for transit and internal

capture. The recommended methodology, however, states that the best way to measure the parking demand at a particular project is to use local data to modify the national averages so that they reflect local conditions. Accordingly, a parking model was prepared and calibrated to reflect the actual existing utilization of the Existing Garage and Existing Lot.

Parking Utilization Data. As discussed above, the data from the parking demand surveys was reviewed to determine the peak hourly parking utilization patterns of the Existing Garage and Existing Lot.

Existing Occupied Floor Area. The shared parking model typically utilizes floor area as the metric to generate parking demand for each land use. However, since none of the existing users of these parking facilities will be modified, it was assumed that the parking demand for these users would remain stable. Therefore, an accurate inventory of usable floor area at the time of the utilization survey for those existing users is not required for this calibration process.

As described above, the model was calibrated using the observed parking utilization patterns from the Existing Garage and Existing Lot.

The next steps involve adjustments to the model factors, in order to ensure the model reflects the actual parking occupancy utilization. The model adjustment factors are described below.

Parking Demand Ratio. The parking demand ratio is utilized by the model to generate parking demand estimates for the selected land uses of the Project's new development and to account for the peak utilization of the existing parking facilities. The base rates were developed through ULI/ICSC/NPA's extensive nationwide research efforts. The *Shared Parking, 3rd Edition* methodology requires that a specific parking ratio be utilized for each individual land use or existing parking demand dataset. While the base rate does represent the typical average use, adjustments to the demand rates may be necessary to achieve calibration to local conditions.

Adjustments to base *Shared Parking, 3rd Edition* demand rates were made for residential, retail, grocery, and restaurant land uses to reflect the application of Specific Plan parking rates to the Project's new development and to reflect the peak utilization of the existing parking facilities based on the empirical utilization surveys.

Time of Day. Time of day is one of the key assumptions of the shared parking model. This factor reveals the hourly parking pattern of the analyzed land use; essentially, the peak demands are indicated by this factor. The *Shared Parking, 3rd Edition* research efforts have yielded a comprehensive data set of time of day factors for multiple land uses. As the demand for each land use fluctuates over the course of the day, the ability to implement shared parking emerges. The time of day factors for the utilization of the Existing Garage and Existing Lot were calibrated to reflect the observed parking occupancy patterns of the parking demand surveys. *Shared Parking, 3rd Edition* time of day patterns were utilized for the Project's proposed land uses.

Weekday vs. Weekend. The shared parking analysis measured the parking demand on a weekday as well as on a weekend day (i.e., Saturday) because different land uses within a mixed-use development have different weekday and weekend parking demand patterns.

Mode Split. A factor that affects the overall parking demand at a particular site is the number of visitors and employees who arrive by automobile versus those who walk, bike, or take transit to a

site. Mode split accounts for the number of visitors and employees who arrive by means other than the automobile. Based on the available transit service in the Project area, as well as the nearby office, retail, and hotel uses, a nominal 5% mode split was applied to the Project's commercial retail uses to account for any transit, biking, or walking.

Seasonal Variation. Seasonal variations used in the model were derived from published *Shared Parking, 3rd Edition* average rates. The shared parking analysis projected parking demand over the course of the year (i.e., each month), including the late December holiday season. The analysis shows that the December holiday season represents the busiest month of the year for the Project.

Auto Occupancy. The shared parking analysis used the national averages for auto occupancy, (i.e., the typical number of passengers in each vehicle parking at the site), for all land uses. In order to remain conservative and consistent with national averages for auto occupancy, no changes were made to the *Shared Parking, 3rd Edition* average rates. The shared parking model applied these assumptions/inputs and considers each land use separately in order to identify the peak parking demands of each component, as well as for the overall Project.

Internal Capture. The shared parking model could be modified to account for patrons who park then utilize more than one land use component within the Project during the same trip. However, the proposed Specific Plan parking rates were developed to account for the synergy of uses within the Project. Thus, for the purposes of providing a more conservative analysis, no additional refinements were applied to the calibration to account for internal capture.

PROJECT ONLY PARKING DEMAND

The proposed Specific Plan parking rates were applied to the shared parking demand model. In addition, it was assumed that 100% of non-guest residential spaces would be reserved and would not be shared with other uses. The results of the analysis are shown in Tables 3 and 4 and Figures 1A through 1D. As shown in Tables 3 and 4, the following peak parking demand for the Project only is projected to occur in late December:

<u>Day</u>	<u>Time</u>	<u>Projected Demand</u>
Weekday	6:00 PM	937 spaces
Weekend	1:00 PM	922 spaces

The projected peak weekday parking demand of 937 spaces is composed of 350 customer/visitor spaces, 62 employee spaces, and 525 reserved residential spaces, as shown in Table 3. Given a parking supply of 651 parking spaces constructed within the Project's new development, the remaining demand to be accommodated within the Existing Garage, during the busiest hour of the busiest weekday of the year would be 286 parking spaces.

The projected peak weekend parking demand of 922 spaces is composed of 332 customer/visitor spaces, 64 employee spaces, and 525 reserved residential spaces, as shown in Table 3. Given a parking supply of 651 parking spaces within the Project's new development, the remaining demand to be accommodated within the Existing Garage during the busiest hour of the busiest weekend day of the year would be 271 parking spaces.

Figures 1A and 1B provide hourly breakdowns of parking demand for the Project by land use during a peak weekday and weekend day, respectively. Figures 1C and 1D depict the peak monthly parking demand for the Project on weekdays and weekend days, respectively. As shown in the figures, the peak parking demand for the Project can be accommodated within the total on-site supply of 1,701 spaces at all hours of the day during both weekdays and weekends.

PROJECT WITH EXISTING USES PARKING DEMAND

This analysis scenario assumes the proposed Specific Plan parking rates with 100% of non-guest residential spaces reserved and includes the existing utilization of the Existing Lot and Existing Garage. The results of the analysis are shown in Tables 5 and 6 and Figures 2A through 2D. As shown in Table 5, under this scenario, the following peak parking demand is projected to occur in late December:

<u>Day</u>	<u>Time</u>	<u>Projected Demand</u>
Weekday	2:00 PM	1,329 spaces
Weekend	7:00 PM	1,131 spaces

The projected peak weekday parking demand of 1,329 spaces is composed of 413 spaces from the existing utilization of the Existing Garage and Existing Lot (as detailed above), 326 Project customer/visitor spaces, 65 Project employee spaces, and 525 Project reserved residential spaces, as shown in Table 5. Given a proposed parking supply of 651 parking spaces within the Project's new development, the remaining demand to be accommodated within the Existing Garage during the busiest hour of the busiest weekday of the year would be 678 parking spaces. Given the 1,050 parking spaces in the Existing Garage, a surplus of 372 parking spaces within the Existing Garage would be available during the busiest hour of the busiest weekday of the year. In other words, given a combined parking supply of 1,701 spaces (1,050 spaces in the Existing Garage and 651 spaces in the Project's new development) the total demand of 1,329 spaces would leave a surplus of 372 parking spaces.

The projected peak weekend parking demand of 1,131 spaces composed of 317 spaces from the existing utilization of the Existing Garage and Existing Lot, 241 Project customer/visitor spaces, 48 Project employee spaces, and 525 Project reserved residential spaces, as shown in Table 5. Given a parking supply of 651 parking spaces within the Project's new development, the remaining demand to be accommodated within the Existing Garage during the busiest hour of the busiest weekend day of the year would be 480 parking spaces. Given the 1,050 spaces in the Existing Garage, a surplus of 570 parking spaces within the Existing Garage would be available during the busiest hour of the busiest weekend day of the year. In other words, given the combined parking supply of 1,701 spaces, a total demand of 1,131 parking spaces would leave a surplus of 570 parking spaces.

Figures 3A and 3B provide hourly breakdowns of parking demand by land use for the Project and existing uses during a peak December weekday and weekend day, respectively. Figures 2C and 2D depict the peak monthly parking demand for the Project on weekdays and weekend days, respectively. As shown in the figures, the peak parking demand for the Project can be accommodated within the on-site supply during all weekdays and weekends.

SUMMARY

- The proposed Specific Plan would authorize the construction of up to 350 residential units and 110,000 sf of commercial uses consisting of a mix of retail, supermarket, and restaurant tenants. The Project would add a total of 651 parking spaces within the new development. The 1,050-space Existing Garage in the southeastern portion of the Project Site would remain. The existing 269-space Existing Lot would be removed.
- The Specific Plan would establish standards for new development, including parking requirement rates developed specifically for the Specific Plan. The Specific Plan's parking rates for each of the proposed land use components of the Project are comparable to other commonly used and acceptable parking rates for these land uses. The residential parking rate is supported by empirical data collected in the City of Monrovia.
- All parking for the Project would be provided on site. Following buildout of the development authorized by the Specific Plan, 651 new parking spaces would be constructed and the 1,050-space Existing Garage would remain. Thus, a total of 1,701 parking spaces would be provided.
- The existing hourly parking demands for the Existing Garage and Existing Lot were obtained from parking demand surveys conducted in Year 2019 (prior to COVID-19) and April 2022 (refined to reflect typical [non-COVID] conditions).
- A shared parking analysis was conducted to analyze demand from the Project's new land uses as well as the existing parking utilization of the Existing Garage and Existing Lot.
- Based on the results of the shared parking analysis, the peak parking demand for the Project, as well as the existing utilization of the Existing Garage and Existing Lot, can be accommodated within the total on-site parking supply after Project buildout of 1,701 parking spaces during all weekdays and weekends.

**TABLE 1
COMPARISON OF PARKING RATES**

Land Use	Specific Plan [a]	City Code [b]	ULI [c]	State Density Bonus [d]	City of Monrovia Empirical Studies [e]
Multi-Family Residential	1.5 sp / market rate DU 0.5 sp / affordable DU + 1 sp / 10 DU for guests	2 sp / DU + 1 sp / 3 DU for guests	Studio: 1 sp / DU 1 Bed: 1.05 sp / DU 2 Bed: 1.80 sp / DU 3+ Bed: 2.65 sp / DU + 1 sp / 10 DU for guests	0-1 Bed: 1 sp / DU 2-3 Beds: 1.5 sp / DU	Colorado Commons - 1.46 sp / DU Paragon - 1.40 sp / DU Aruem - 1.21 sp / DU <i>Average - 1.33 sp / DU</i>
Retail	1 sp / 250 sf GFA	1 sp / 350 sf GFA	1 sp / 250 sf GFA	-	-
Grocery	1 sp / 250 sf GFA	1 sp / 350 sf GFA	1 sp / 222 sf GFA	-	-
Fine/Casual Dining	1 sp / 250 sf GFA	1 sp / 350 sf GFA	1 sp / 56 sf GFA	-	-
Fast Casual/Fast Food	1 sp / 250 sf GFA	1 sp / 350 sf GFA	1 sp / 68 sf GFA	-	-

Notes:

sf - square feet, GFA - gross floor area, DU - Dwelling Unit

[a] Proposed rates for the Project as part of the Specific Plan.

[b] Based on Section 17.03.040 of the City of Norwalk Municipal Code, all commercial rates based on Commerical Center greater than 100,00 sf

[c] Source: *Shared Parking, 3rd Edition* (Urban Land Institute, International Council of Shopping Centers and National Parking Association, February 2020)

[d] Maximum parking requirement allowed per California Assembly Bill 2334

[e] Source: *Future Parking Demand Study for Station Square, Monrovia, California* (Gibson Transportation Consulting, Inc., January 2019)

TABLE 2
SUMMARY OF EXISTING PARKING DEMAND

Survey Results	Day	Time of Day															
		6:00	7:00	8:00	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00
Parking Garage Demand from 2019 Study [a]	Weekday	71	170	200									188	102	189	232	220
	Saturday							145	157	146					286	297	297
Parking Garage Demand from April 2022 Survey [b]	Weekday	66	91	251	350	333	326	276	292	302	276	245	146	108	126	159	
	Saturday							89	119	126	138	127	157	158	166	212	
Surface Parking Lot Demand from April 2022 Survey [b]	Weekday	36	42	90	138	137	120	96	96	111	86	90	83	71	36	36	
	Saturday									35	43	39	35	34	31	31	
Max Demand Used in Parking Models	Day	Time of Day															
		6:00	7:00	8:00	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00
Max Parking Garage Demand	Weekday	71	170	251	350	333	326	276	292	302	276	245	188	108	189	232	220
	Saturday							145	157	146	138	127	157	158	286	297	297
Surface Parking Lot Demand	Weekday	36	42	90	138	137	120	96	96	111	86	90	83	71	36	36	
	Saturday									35	43	39	35	34	31	31	

Notes

 No survey data available.

[a] Source: *Parking Study - Doubletree by Hilton Los Angeles, Norwalk, 13111 Sycamore Drive, Norwalk* (K2 Traffic Engineers, Inc., November 2019). Parking demand survey data on Thursday, October 10, 201 and Saturday, October 12, 2019.

[b] Parking demand surveys conducted on Thursday, April 21, 2022, and Saturday, April 23, 2022.

**TABLE 3
PARKING DEMAND SUMMARY FOR
PROJECT ONLY WITH 100% RESERVED RESIDENTIAL SPACES**

Shared Parking Demand Summary																		
Peak Month: DECEMBER -- Peak Period: 6 PM, WEEKDAY																		
Land Use	Project Data		Weekday					Weekend					Weekday			Weekend		
			Base Ratio	Driving Adj	Non-Captive Ratio	Project Ratio	Unit For Ratio	Base Ratio	Driving Adj	Non-Captive Ratio	Project Ratio	Unit For Ratio	Peak Hr Adj 6 PM	Peak Mo Adj December	Estimated Parking Demand	Peak Hr Adj 1 PM	Peak Mo Adj December	Estimated Parking Demand
	Quantity	Unit																
Retail																		
Retail (<400 ksf)	35,000	sf GLA	3.10	95%	100%	2.95	ksf GLA	3.10	95%	100%	2.95	ksf GLA	90%	100%	93	100%	100%	104
Employee			0.90	95%	100%	0.86		0.90	95%	100%	0.86		100%	100%	30	100%	100%	30
Supermarket/Grocery	40,000	sf GLA	3.50	95%	100%	3.33	ksf GLA	3.50	95%	100%	3.33	ksf GLA	100%	100%	133	100%	100%	133
Employee			0.50	95%	100%	0.48		0.50	95%	100%	0.48		80%	100%	15	100%	100%	19
Food and Beverage																		
Fine/Casual Dining	17,500	sf GLA	3.50	95%	100%	3.33	ksf GLA	3.50	95%	100%	3.33	ksf GLA	95%	100%	56	55%	100%	32
Employee			0.50	95%	100%	0.48		0.50	95%	100%	0.48		100%	100%	9	75%	100%	6
Fast Casual/Fast Food	17,500	sf GLA	3.50	95%	100%	3.33	ksf GLA	3.50	95%	100%	3.33	ksf GLA	85%	96%	48	100%	96%	57
Employee			0.50	95%	100%	0.48		0.50	95%	100%	0.48		90%	100%	8	100%	100%	9
Residential																		
Residential, Suburban																0%		
Studio Efficiency	92	units	0.00	95%	100%	0.00	unit	0.00	95%	100%	0.00	unit	60%	100%	-	65%	100%	-
1 Bedroom	204	units	0.00	95%	100%	0.00	unit	0.00	95%	100%	0.00	unit	60%	100%	-	65%	100%	-
2 Bedrooms	40	units	0.00	95%	100%	0.00	unit	0.00	95%	100%	0.00	unit	60%	100%	-	65%	100%	-
3+ Bedrooms	14	units	0.00	95%	100%	0.00	unit	0.00	95%	100%	0.00	unit	60%	100%	-	65%	100%	-
Reserved	100%	res spaces	1.50	100%	100%	1.50	unit	1.50	100%	100%	1.50	unit	100%	100%	525	100%	100%	525
Visitor	350	units	0.10	95%	100%	0.10	unit	0.10	95%	100%	0.10	unit	60%	100%	20	20%	100%	7
													Customer/Visitor		350	Customer		332
													Employee/Resident		62	Employee/Resident		64
													Reserved		525	Reserved		525
													Total		937	Total		922

TABLE 4
PEAK MONTH PARKING DEMAND SUMMARY FOR
PROJECT ONLY WITH 100% RESERVED RESIDENTIAL SPACES

December																									
Weekday Estimated Peak-Hour Parking Demand																									
Land Use	Monthly Adjustment	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	Overall Pk 6 PM	AM Peak Hr 11 AM	PM Peak Hr 1 PM	Eve Peak Hr 6 PM	
Retail																									
Retail (<400 ksf)	100%	1	5	16	31	57	78	93	104	104	98	83	88	93	93	88	52	31	10	0	93	78	104	93	
Employee	100%	3	5	8	14	23	29	30	30	30	30	30	30	30	30	27	18	12	6	0	30	29	30	30	
Supermarket/Grocery	100%	7	27	40	67	80	89	113	120	126	129	133	133	133	113	73	47	27	7	7	133	89	120	133	
Employee	100%	4	6	8	15	17	19	19	19	19	19	19	19	15	10	7	4	4	4	4	15	19	19	15	
Food and Beverage																									
Fine/Casual Dining	100%	0	0	0	0	9	24	44	44	38	24	29	44	56	59	59	59	56	44	15	56	24	44	56	
Employee	100%	0	2	4	6	8	8	8	8	8	6	6	9	9	9	9	9	9	7	3	9	8	8	9	
Fast Casual/Fast Food	96%	3	6	11	17	31	48	57	57	51	34	31	34	48	45	28	17	11	6	3	48	48	57	48	
Employee	100%	2	2	3	3	6	9	9	9	8	6	5	6	8	8	5	3	3	2	2	8	9	9	8	
Residential																									
Residential, Suburban																					-	-	-	-	
Studio Efficiency	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	
1 Bedroom	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	
2 Bedrooms	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	
3+ Bedrooms	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	
Reserved	100%	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	
Visitor	100%	0	3	7	7	7	7	7	7	7	7	7	13	20	33	33	33	33	27	17	20	7	7	20	
	Customer/Visitor	11	41	73	121	183	245	314	331	326	292	283	312	350	344	282	207	158	93	41	350	245	331	350	
	Employee/Resident	9	14	22	39	54	64	66	66	65	62	61	64	62	56	48	34	27	19	9	62	64	66	62	
	Reserved	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	
	Total	544	579	620	685	762	834	904	921	916	878	869	901	937	925	854	766	710	637	574	937	834	921	937	

December																								
Weekend Estimated Peak-Hour Parking Demand																								
Land Use	Monthly Adjustment	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	Overall Pk 1 PM	AM Peak Hr 11 AM	PM Peak Hr 1 PM	Eve Peak Hr 6 PM
Retail																								
Retail (<400 ksf)	100%	1	5	10	36	62	88	104	104	104	104	93	83	67	62	57	52	36	16	1	104	88	104	67
Employee	100%	3	5	12	23	26	29	30	30	30	30	30	29	26	24	23	20	14	5	0	30	29	30	26
Supermarket/Grocery	100%	11	33	67	100	126	133	133	133	133	133	120	67	44	33	20	7	5	4	133	133	133	67	
Employee	100%	3	7	13	16	19	19	19	19	16	14	11	10	9	8	6	4	2	2	1	19	19	19	9
Food and Beverage																								
Fine/Casual Dining	100%	0	0	0	0	0	9	29	32	27	27	27	35	53	56	59	53	53	53	29	32	9	32	53
Employee	100%	0	2	3	5	6	6	6	6	6	6	6	9	9	9	9	9	7	4	6	6	6	9	
Fast Casual/Fast Food	96%	3	6	11	17	31	48	57	57	51	34	31	34	48	45	28	17	11	6	3	57	48	57	48
Employee	100%	1	2	3	3	6	9	9	9	8	6	5	6	8	8	5	3	3	2	2	9	9	9	8
Residential																								
Residential, Suburban																								
Studio Efficiency	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	
1 Bedroom	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	
2 Bedrooms	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	
3+ Bedrooms	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	
Reserved	100%	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525
Visitor	100%	0	7	7	7	7	7	7	7	7	7	7	13	20	33	33	33	33	27	17	7	7	7	20
	Customer/Visitor	15	51	95	160	226	285	329	332	321	304	290	285	255	241	211	175	140	106	54	332	285	332	255
	Employee/Resident	7	15	31	48	58	63	64	64	61	57	53	54	51	48	42	36	27	15	7	64	63	64	51
	Reserved	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525
	Total	547	590	650	732	809	872	919	922	907	886	869	864	831	814	778	735	692	647	586	922	872	922	831

FIGURE 1A
PEAK PARKING DEMAND BY HOUR (WEEKDAY)
PROJECT ONLY WITH 100% RESERVED RESIDENTIAL SPACES

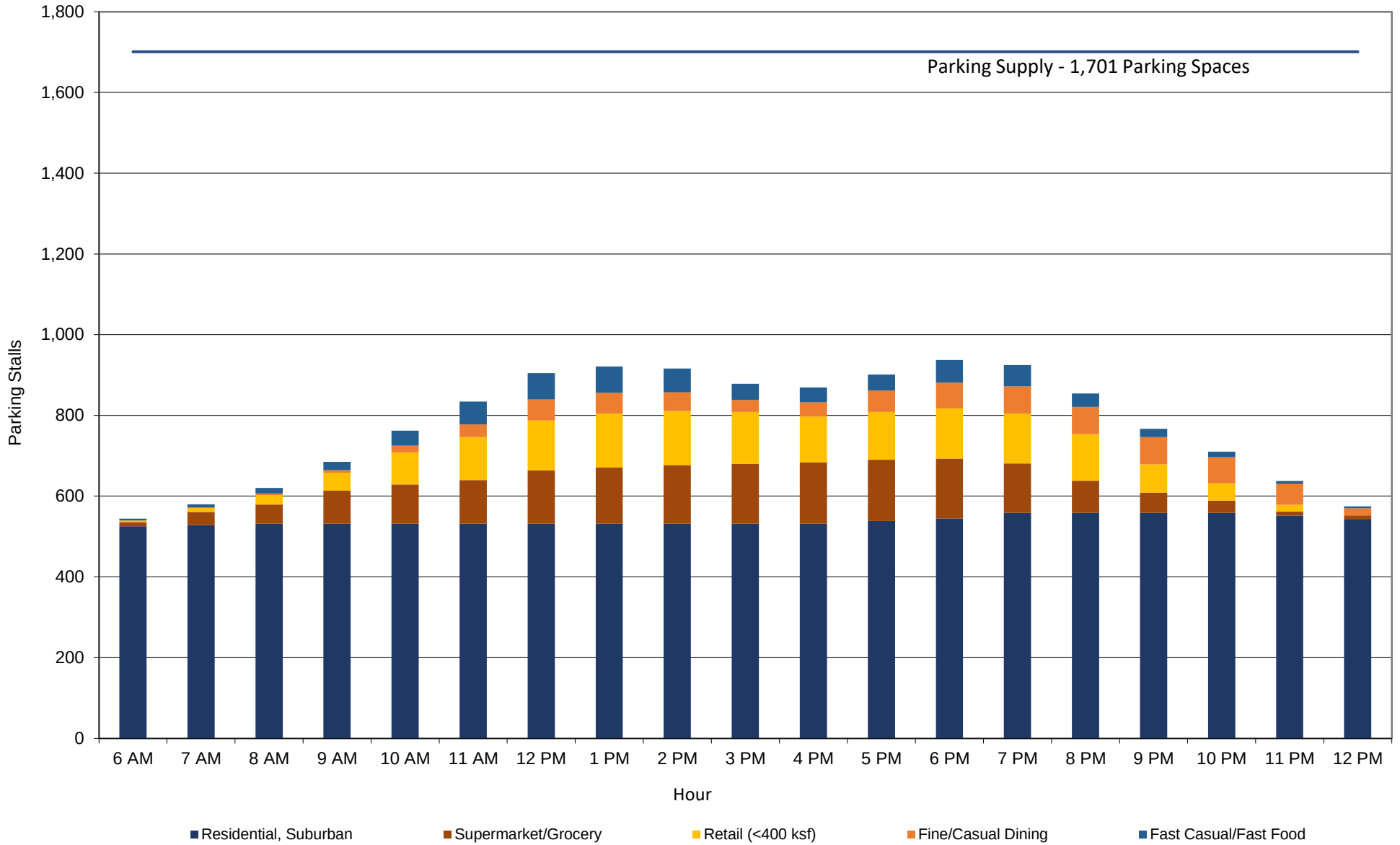


FIGURE 1B
PEAK PARKING DEMAND BY HOUR (WEEKEND)
PROJECT ONLY WITH 100% RESERVED RESIDENTIAL SPACES

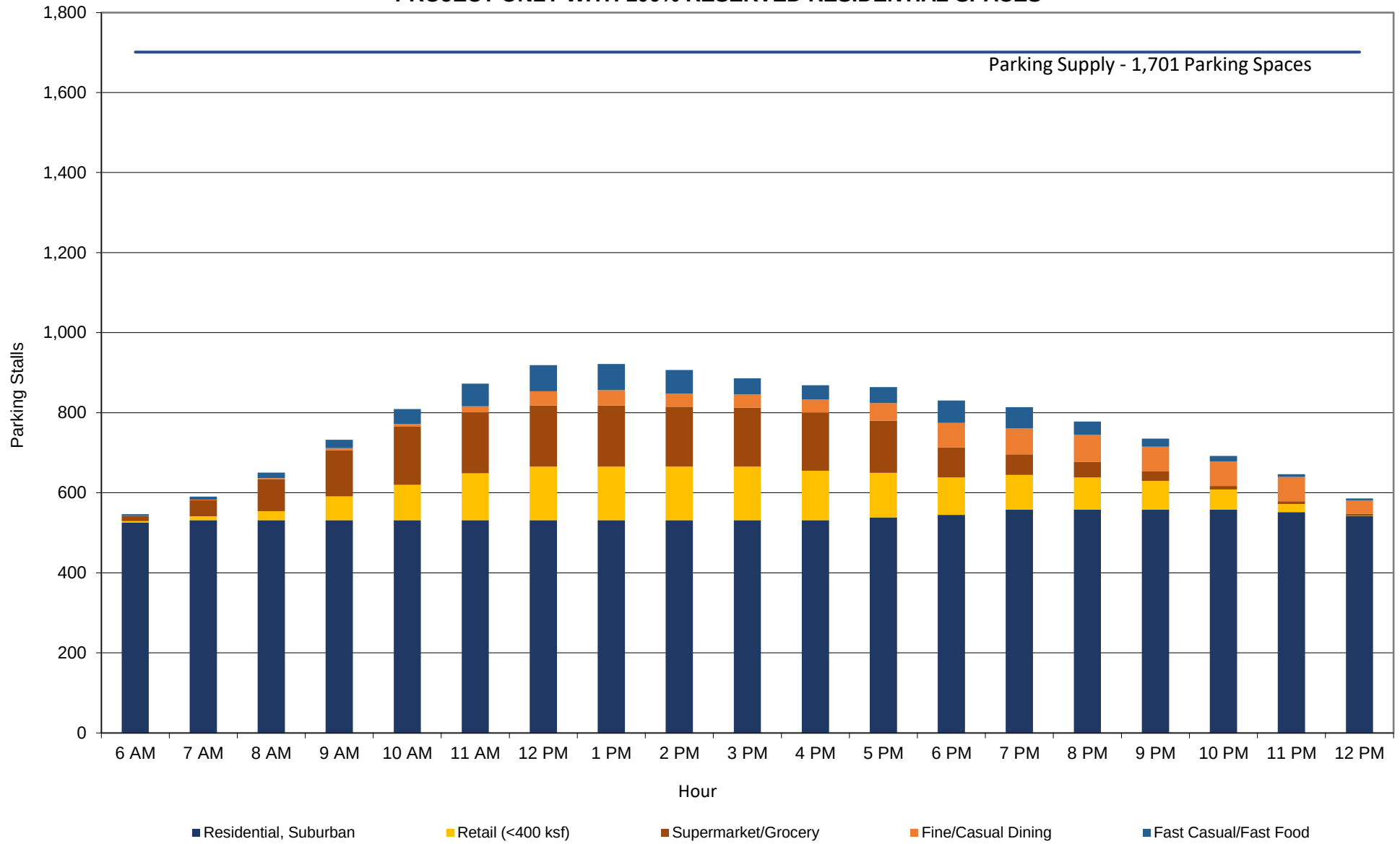


FIGURE 1C
WEEKDAY MONTH-BY-MONTH ESTIMATED PARKING DEMAND
PROJECT ONLY WITH 100% RESERVED RESIDENTIAL SPACES

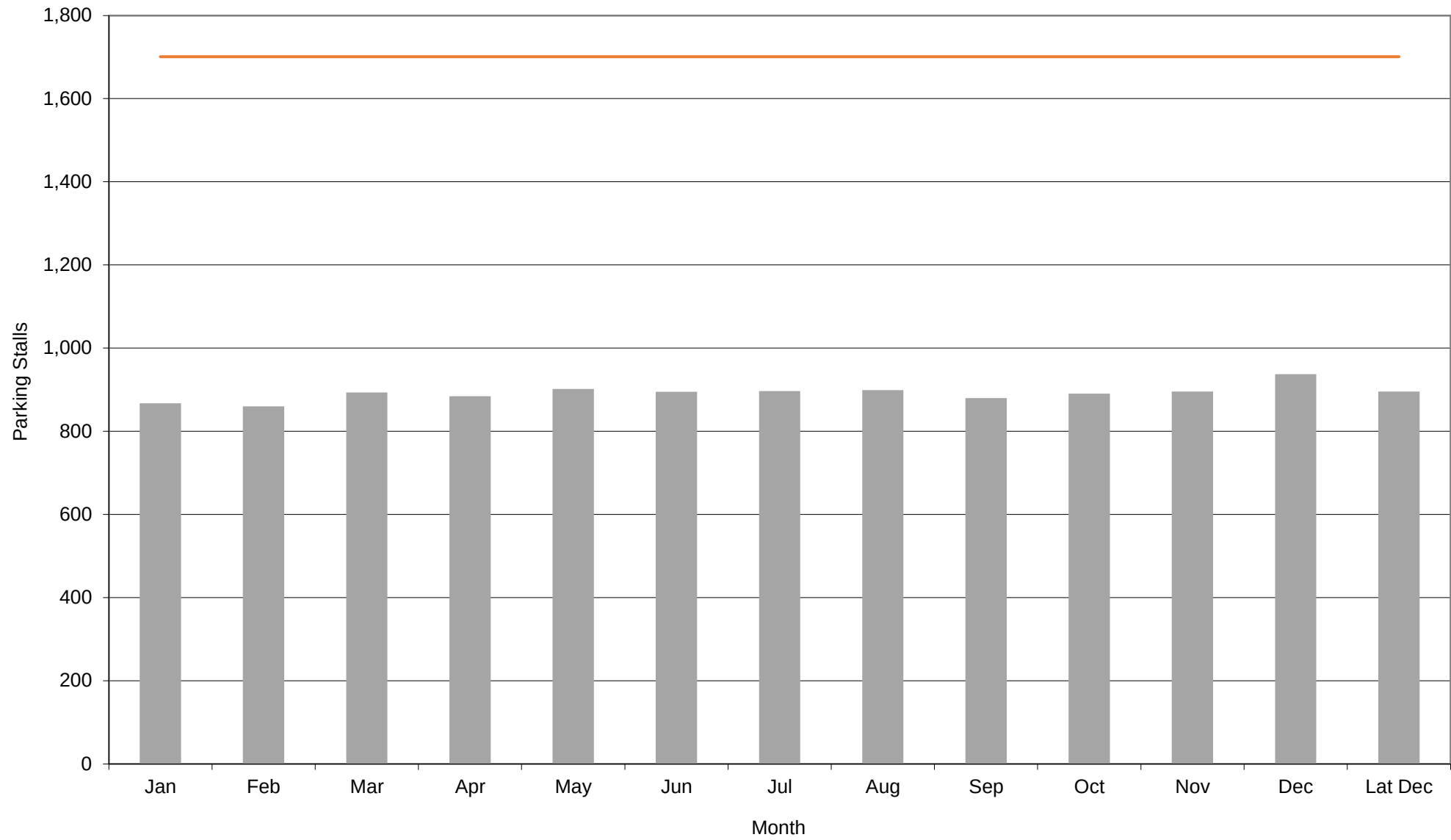


FIGURE 1D
WEEKEND MONTH-BY-MONTH ESTIMATED PARKING DEMAND
PROJECT ONLY WITH 100% RESERVED RESIDENTIAL SPACES

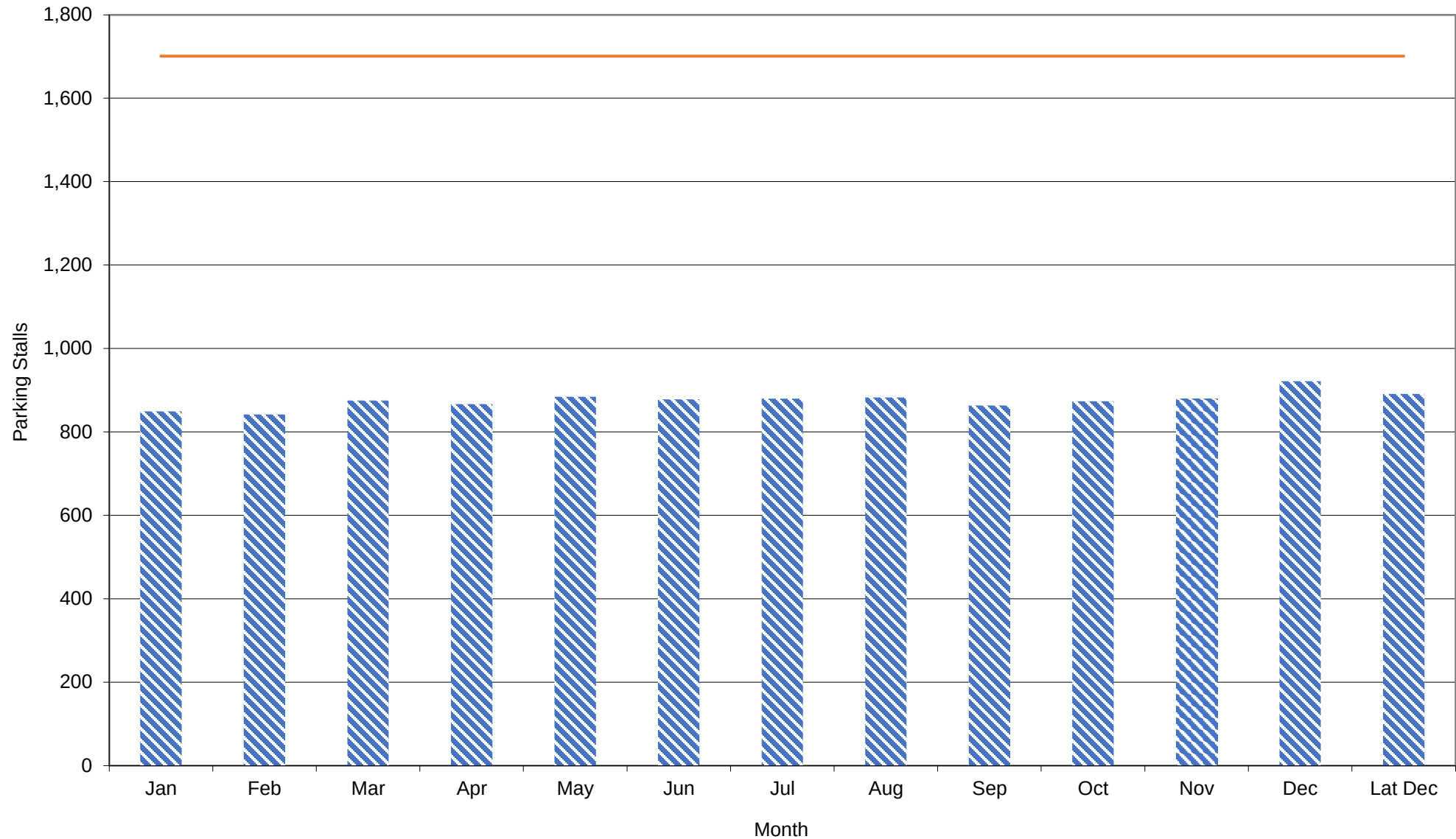


**TABLE 5
PARKING DEMAND SUMMARY FOR
PROJECT WITH 100% RESERVED RESIDENTIAL AND EXISTING DEMAND**

Shared Parking Demand Summary																		
Peak Month: DECEMBER -- Peak Period: 2 PM, WEEKDAY																		
Land Use	Project Data		Weekday					Weekend					Weekday			Weekend		
			Base Ratio	Driving Adj	Non-Captive Ratio	Project Ratio	Unit For Ratio	Base Ratio	Driving Adj	Non-Captive Ratio	Project Ratio	Unit For Ratio	Peak Hr Adj 2 PM	Peak Mo Adj December	Estimated Parking Demand	Peak Hr Adj 7 PM	Peak Mo Adj December	Estimated Parking Demand
	Quantity	Unit																
Retail																		
Retail (<400 ksf)	35,000	sf GLA	3.10	95%	100%	2.95	ksf GLA	3.10	95%	100%	2.95	ksf GLA	100%	100%	104	60%	100%	62
Employee			0.90	95%	100%	0.86		0.90	95%	100%	0.86		100%	100%	30	80%	100%	24
Supermarket/Grocery	40,000	sf GLA	3.50	95%	100%	3.33	ksf GLA	3.50	95%	100%	3.33	ksf GLA	95%	100%	126	33%	100%	44
Employee			0.50	95%	100%	0.48		0.50	95%	100%	0.48		100%	100%	19	40%	100%	8
Food and Beverage																		
Fine/Casual Dining	17,500	sf GLA	3.50	95%	100%	3.33	ksf GLA	3.50	95%	100%	3.33	ksf GLA	65%	100%	38	95%	100%	56
Employee			0.50	95%	100%	0.48		0.50	95%	100%	0.48		90%	100%	8	100%	100%	9
Fast Casual/Fast Food	17,500	sf GLA	3.50	95%	100%	3.33	ksf GLA	3.50	95%	100%	3.33	ksf GLA	90%	96%	51	80%	96%	45
Employee			0.50	95%	100%	0.48		0.50	95%	100%	0.48		95%	100%	8	90%	100%	8
Residential																		
Residential, Suburban																0%		
Studio Efficiency	92	units	0.00	95%	100%	0.00	unit	0.00	95%	100%	0.00	unit	40%	100%	-	80%	100%	-
1 Bedroom	204	units	0.00	95%	100%	0.00	unit	0.00	95%	100%	0.00	unit	40%	100%	-	80%	100%	-
2 Bedrooms	40	units	0.00	95%	100%	0.00	unit	0.00	95%	100%	0.00	unit	40%	100%	-	80%	100%	-
3+ Bedrooms	14	units	0.00	95%	100%	0.00	unit	0.00	95%	100%	0.00	unit	40%	100%	-	80%	100%	-
Reserved	100%	res spaces	1.50	100%	100%	1.50	unit	1.50	100%	100%	1.50	unit	100%	100%	525	100%	100%	525
Visitor	350	units	0.10	95%	100%	0.10	unit	0.10	95%	100%	0.10	unit	20%	100%	7	100%	100%	33
Additional Land Uses																		
Existing Garage Demand	1,000	sf GFA	350.00	100%	100%	350.00	sf GFA	297.00	100%	100%	297.00	sf GFA	86%	100%	302	96%	100%	286
Employee			0.00	100%	100%	0.00		0.00	100%	100%	0.00		86%	100%	-	96%	100%	-
Existing Surface Lot Demand	1,000	sf GFA	138.00	100%	100%	138.00	sf GFA	43.00	100%	100%	43.00	sf GFA	80%	100%	111	72%	100%	31
Employee			0.00	100%	100%	0.00		0.00	100%	100%	0.00		80%	100%	-	72%	100%	-
Additional Land Use 3			0.00	100%	100%	0.00		0.00	100%	100%	0.00		0%	0%	-	0%	0%	-
Employee			0.00	100%	100%	0.00		0.00	100%	100%	0.00		0%	0%	-	0%	0%	-
Additional Land Use 4			0.00	100%	100%	0.00		0.00	100%	100%	0.00		0%	0%	-	0%	0%	-
Employee			0.00	100%	100%	0.00		0.00	100%	100%	0.00		0%	0%	-	0%	0%	-
													Existing Demand		413	Existing Demand		317
													Customer/Visitor		326	Customer		241
													Employee/Resident		65	Employee/Resident		48
													Reserved		525	Reserved		525
													Total		1,329	Total		1,131

**TABLE 6
PEAK MONTH PARKING DEMAND SUMMARY FOR
PROJECT WITH 100% RESERVED RESIDENTIAL AND EXISTING DEMAND**

December																								
Weekday Estimated Peak-Hour Parking Demand																								
Land Use	Monthly Adjustment	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	Overall Pk 2 PM	AM Peak Hr 11 AM	PM Peak Hr 2 PM	Eve Peak Hr 7 PM
Retail																								
Retail (<400 ksf)	100%	1	5	16	31	57	78	93	104	104	98	83	88	93	93	88	52	31	10	0	104	78	104	93
Employee	100%	3	5	8	14	23	29	30	30	30	30	30	30	30	30	27	18	12	6	0	30	29	30	30
Supermarket/Grocery	100%	7	27	40	67	80	89	113	120	126	129	133	133	133	113	73	47	27	7	7	126	89	126	113
Employee	100%	4	6	8	15	17	19	19	19	19	19	19	19	15	10	7	4	4	4	4	19	19	19	10
Food and Beverage																								
Fine/Casual Dining	100%	0	0	0	0	9	24	44	44	38	24	29	44	56	59	59	59	56	44	15	38	24	38	59
Employee	100%	0	2	4	6	8	8	8	8	8	6	6	9	9	9	9	9	9	7	3	8	8	8	9
Fast Casual/Fast Food	96%	3	6	11	17	31	48	57	57	51	34	31	34	48	45	28	17	11	6	3	51	48	51	45
Employee	100%	2	2	3	3	6	9	9	9	8	6	5	6	8	8	5	3	3	2	2	8	9	8	8
Residential																								
Residential, Suburban																					-	-	-	-
Studio Efficiency	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-
1 Bedroom	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-
2 Bedrooms	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-
3+ Bedrooms	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-
Reserved	100%	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525
Visitor	100%	0	3	7	7	7	7	7	7	7	7	7	13	20	33	33	33	33	27	17	7	7	7	33
Additional Land Uses																								
Existing Garage Demand	100%	71	170	251	350	333	326	276	292	302	276	245	188	108	189	232	220	210	175	140	302	326	302	189
Employee	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-
Existing Surface Lot Demand	100%	36	42	90	138	137	120	96	96	111	86	90	83	71	36	36	28	21	7	7	111	120	111	36
Employee	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-
Customer/Visitor		118	253	414	609	653	691	686	719	739	654	618	583	529	569	550	455	389	275	188	739	691	739	569
Employee/Resident		9	14	22	39	54	64	66	66	65	62	61	64	62	56	48	34	27	19	9	65	64	65	56
Reserved		525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525
Total		651	791	961	1,173	1,232	1,280	1,276	1,309	1,329	1,240	1,204	1,172	1,116	1,150	1,122	1,014	941	819	721	1,329	1,280	1,329	1,150

December																								
Weekend Estimated Peak-Hour Parking Demand																								
Land Use	Monthly Adjustment	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 AM	Overall Pk 7 PM	AM Peak Hr 11 AM	PM Peak Hr 1 PM	Eve Peak Hr 7 PM
Retail																								
Retail (<400 ksf)	100%	1	5	10	36	62	88	104	104	104	104	93	83	67	62	57	52	36	16	1	62	88	104	62
Employee	100%	3	5	12	23	26	29	30	30	30	30	30	29	26	24	23	20	14	5	0	24	29	30	24
Supermarket/Grocery	100%	11	33	67	100	126	133	133	133	133	133	120	67	44	33	20	7	5	4	4	44	133	133	44
Employee	100%	3	7	13	16	19	19	19	19	16	14	11	10	9	8	6	4	2	2	1	8	19	19	8
Food and Beverage																								
Fine/Casual Dining	100%	0	0	0	0	9	29	32	27	27	27	35	53	56	59	53	53	53	29	56	9	32	56	
Employee	100%	0	2	3	5	6	6	6	6	6	6	6	9	9	9	9	9	7	4	9	6	6	9	
Fast Casual/Fast Food	96%	3	6	11	17	31	48	57	57	51	34	31	34	48	45	28	17	11	6	3	45	48	57	45
Employee	100%	1	2	3	3	6	9	9	9	8	6	5	6	8	8	5	3	3	2	2	8	9	9	8
Residential																								
Residential, Suburban																								
Studio Efficiency	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	
1 Bedroom	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	
2 Bedrooms	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	
3+ Bedrooms	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	
Reserved	100%	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525
Visitor	100%	0	7	7	7	7	7	7	7	7	7	13	20	33	33	33	33	33	27	17	33	7	7	33
Additional Land Uses																								
Existing Garage Demand	100%	15	24	30	74	89	104	145	157	146	163	178	188	102	286	297	297	282	238	178	286	104	157	286
Employee	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	
Existing Surface Lot Demand	100%	2	3	4	11	13	15	21	23	35	43	39	35	34	31	31	0	0	0	0	31	15	23	31
Employee	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	
	Customer/Visitor	32	78	129	245	328	404	495	512	502	510	508	508	391	558	539	472	423	344	232	558	404	512	558
	Employee/Resident	7	15	31	48	58	63	64	64	61	57	53	54	51	48	42	36	27	15	7	48	63	64	48
	Reserved	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525
	Total	564	618	684	817	911	991	1,085	1,101	1,088	1,092	1,086	1,087	967	1,131	1,106	1,032	974	884	764	1,131	991	1,101	1,131

FIGURE 2A
PEAK PARKING DEMAND BY HOUR (WEEKDAY)
PROJECT WITH 100% RESERVED RESIDENTIAL AND EXISTING DEMAND

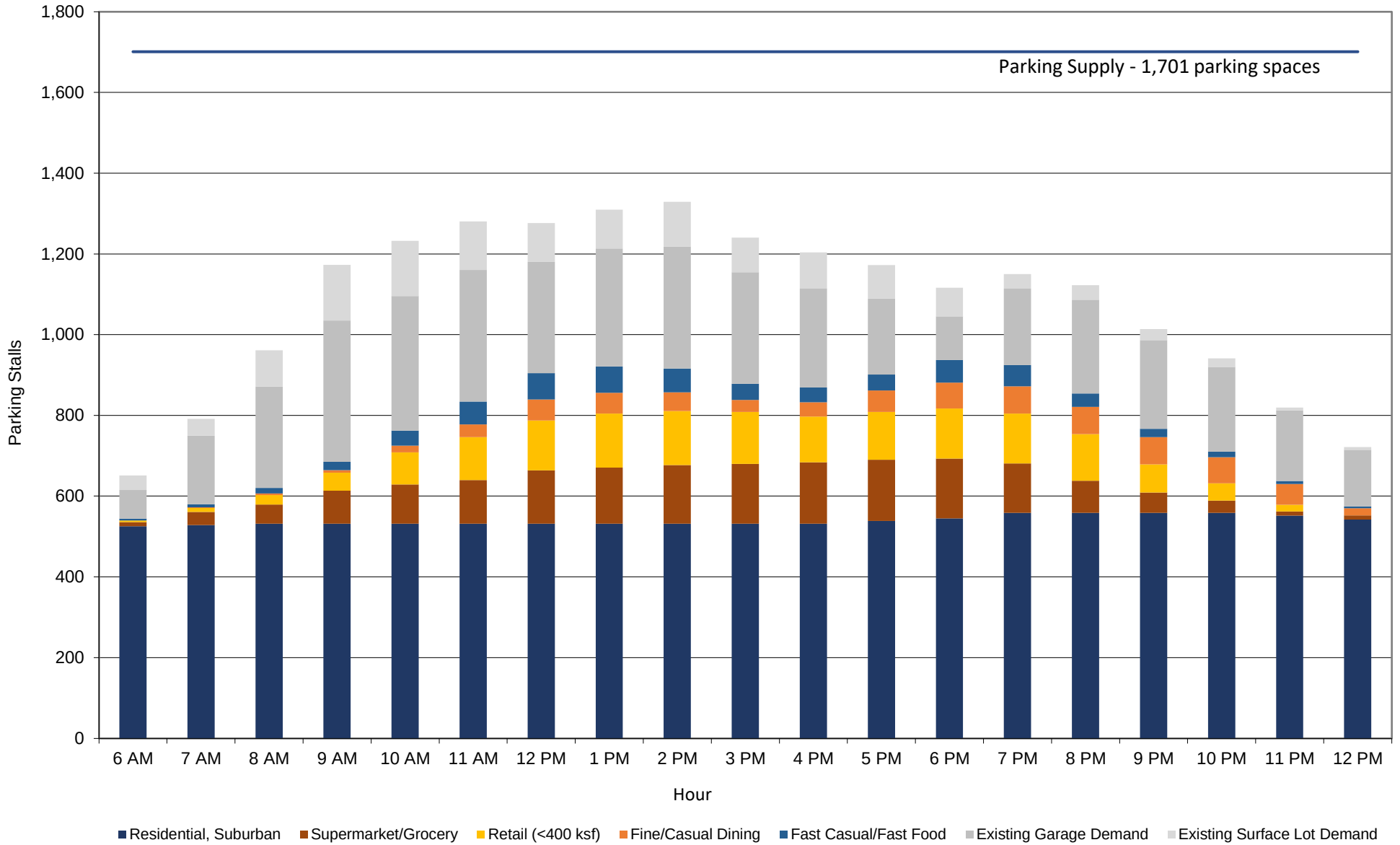


FIGURE 2B
PEAK PARKING DEMAND BY HOUR (WEEKEND)
PROJECT WITH 100% RESERVED RESIDENTIAL AND EXISTING DEMAND

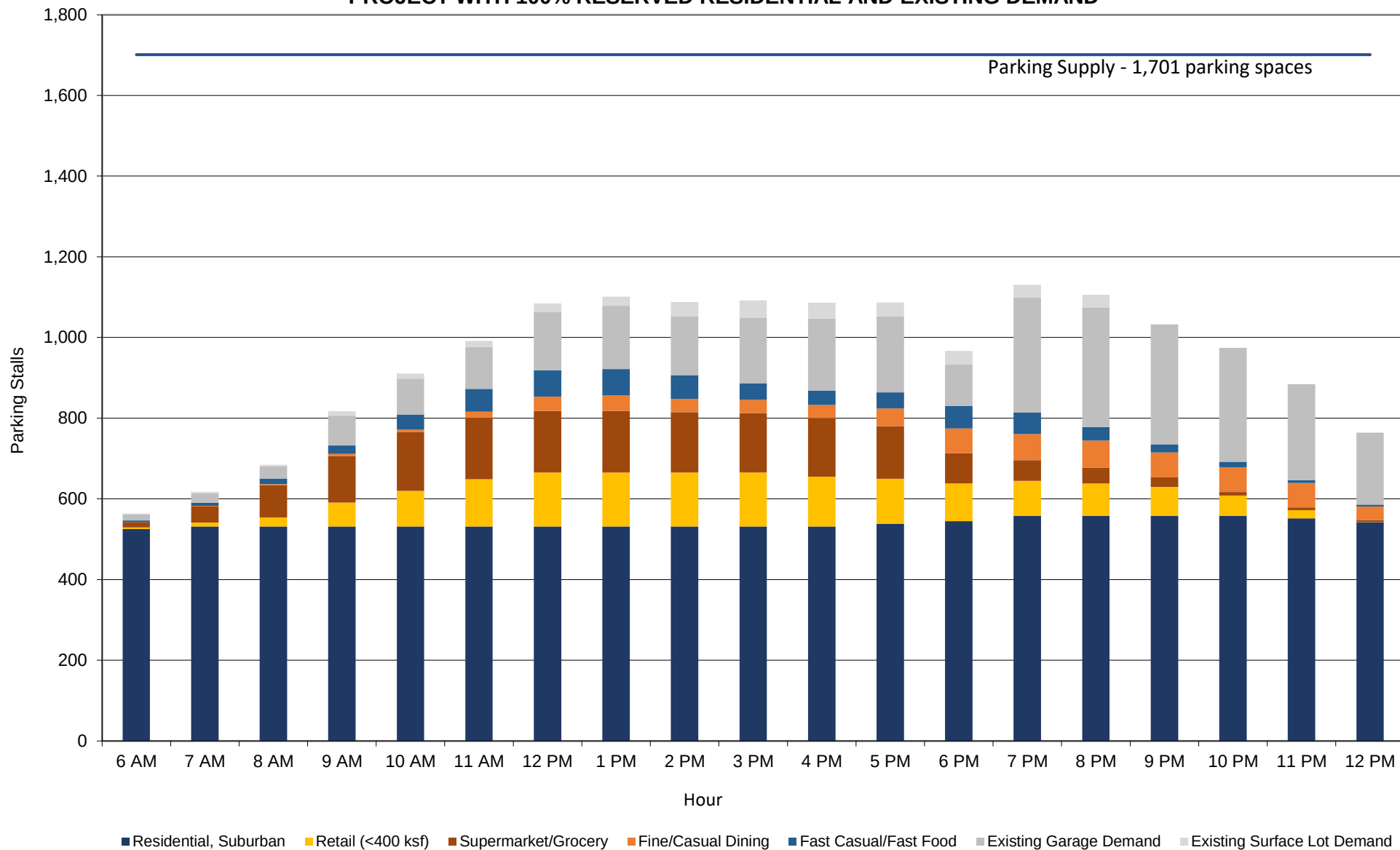


FIGURE 2C
WEEKDAY MONTH-BY-MONTH ESTIMATED PARKING DEMAND
PROJECT WITH 100% RESERVED RESIDENTIAL AND EXISTING DEMAND

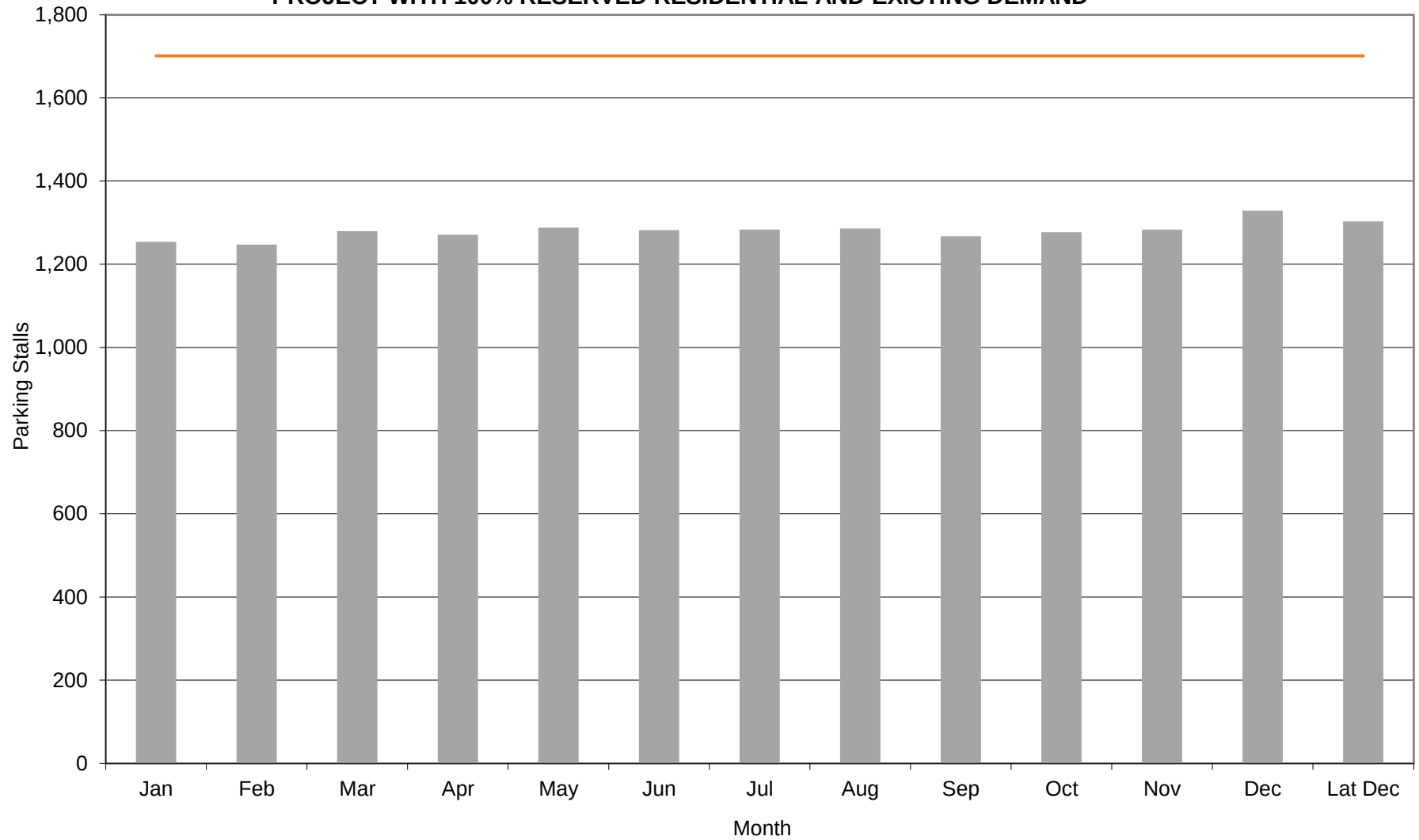
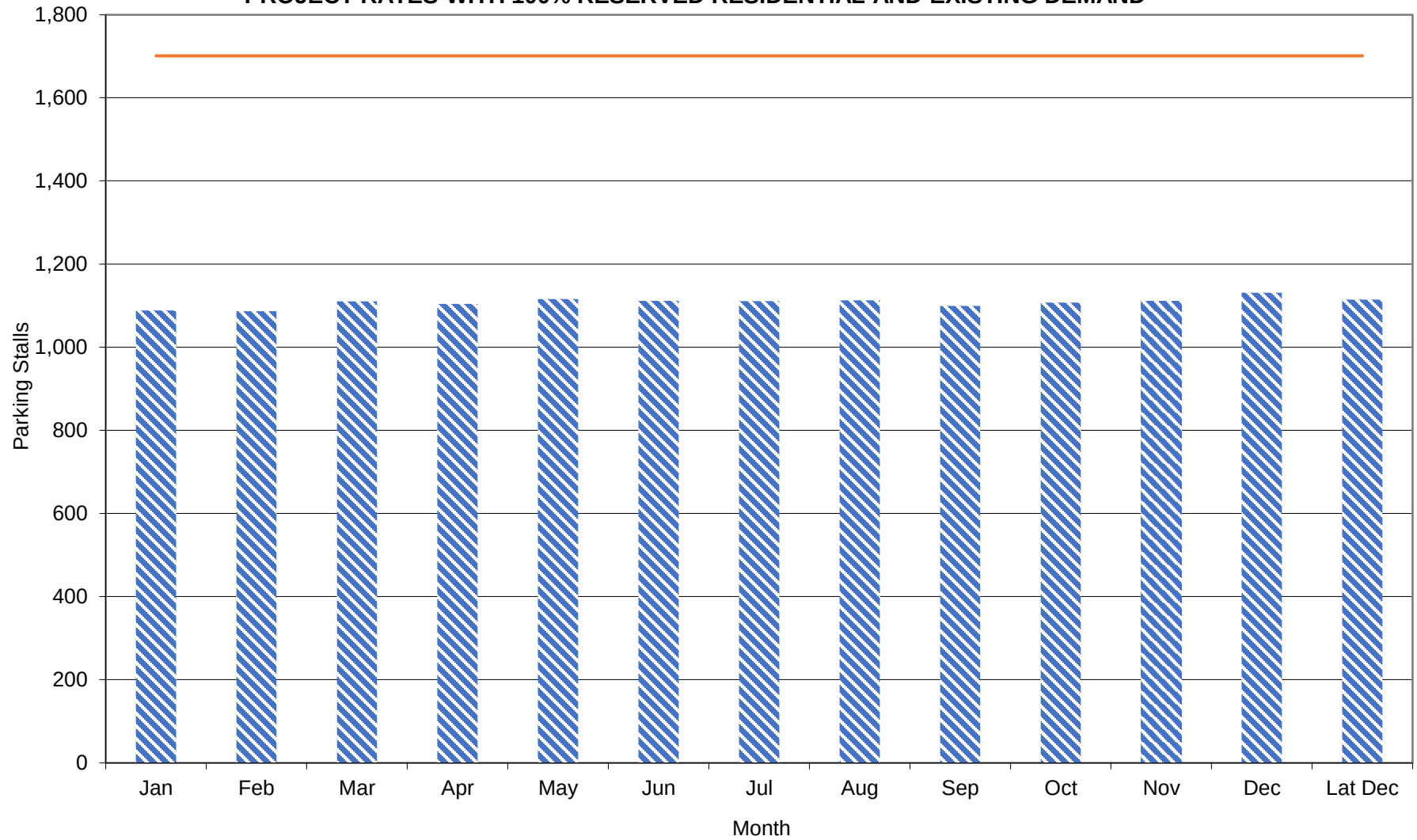


FIGURE 2D
WEEKEND MONTH-BY-MONTH ESTIMATED PARKING DEMAND
PROJECT RATES WITH 100% RESERVED RESIDENTIAL AND EXISTING DEMAND



Attachment

April 2022 Parking Occupancy Surveys

Thursday Parking Utilization (4-21-22)																	
Parking Garage		Spaces	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM
Level 1	Standard	255	43	61	130	191	191	186	168	163	179	171	152	88	65	89	124
		17%	24%	51%	75%	75%	73%	66%	64%	70%	67%	60%	35%	25%	35%	49%	
	ADA	22	0	0	3	4	6	6	3	5	4	6	4	1	0	0	1
		0%	0%	14%	18%	27%	27%	14%	23%	18%	27%	18%	5%	0%	0%	5%	
	Carpool	6	0	1	4	6	5	5	4	4	4	5	4	5	5	5	6
		0%	17%	67%	100%	83%	83%	67%	67%	67%	83%	67%	83%	83%	83%	83%	100%
	Staff	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Level 2	Standard	332	22	28	107	142	124	122	95	114	108	88	79	50	32	24	21
		7%	8%	32%	43%	37%	37%	29%	34%	33%	27%	24%	15%	10%	7%	6%	
Level 3	Standard	360	1	1	7	7	7	7	6	6	7	6	6	2	6	8	7
		0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	2%	2%	2%
Total		977	66	91	251	350	333	326	276	292	302	276	245	146	108	126	159
		7%	9%	26%	36%	34%	33%	28%	30%	31%	28%	25%	15%	11%	13%	16%	
Surface Lot		Spaces	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM
	Visitor	119	0	2	12	40	44	31	13	14	25	9	10	5	3	1	1
		0%	2%	10%	34%	37%	26%	11%	12%	21%	8%	8%	4%	3%	1%	1%	
	City Vehicles	40	22	22	18	23	17	17	17	15	20	19	20	19	19	19	19
		55%	55%	45%	58%	43%	43%	43%	38%	50%	48%	50%	48%	48%	48%	48%	48%
	Employee	74	10	13	46	55	58	55	53	53	49	44	43	47	38	8	7
		14%	18%	62%	74%	78%	74%	72%	72%	66%	59%	58%	64%	51%	11%	9%	
	City Hall Visitor	22	0	1	8	13	12	11	7	10	10	11	13	8	6	4	5
		0%	5%	36%	59%	55%	50%	32%	45%	45%	50%	59%	36%	27%	18%	23%	
	ADA	7	0	0	4	5	4	4	4	2	5	1	2	2	1	0	0
		0%	0%	57%	71%	57%	57%	57%	29%	71%	14%	29%	29%	14%	0%	0%	
	City Trailor	7	4	4	2	2	2	2	2	2	2	2	2	2	4	4	4
		57%	57%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	57%	57%	57%
Total		269	36	42	90	138	137	120	96	96	111	86	90	83	71	36	36
		13%	16%	33%	51%	51%	45%	36%	36%	41%	32%	33%	31%	26%	13%	13%	

Saturday Parking Utilization (4-23-22)

Parking Garage		Spaces	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	
Level 1	Standard	255	71	92	99	104	94	125	118	130	164	
			28%	36%	39%	41%	37%	49%	46%	51%	64%	
	ADA	22	2	8	9	8	2	1	2	4	8	
			9%	36%	41%	36%	9%	5%	9%	18%	36%	
	Carpool	6	4	6	4	6	6	6	6	6	6	
			67%	100%	67%	100%	100%	100%	100%	100%	100%	
	Staff	2	0	0	0	0	0	0	0	0	0	
			0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Level 2	Standard	332	11	13	13	18	24	24	30	22	24
				3%	4%	4%	5%	7%	7%	9%	7%	7%
Level 3	Standard	360	1	0	1	2	1	1	2	4	10	
			0%	0%	0%	1%	0%	0%	1%	1%	3%	
Total		977	89	119	126	138	127	157	158	166	212	
			9%	12%	13%	14%	13%	16%	16%	17%	22%	
Surface Lot		Spaces	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	
	Visitor	119			2	6	1	1	1	0	1	
			0%	0%	2%	5%	1%	1%	1%	0%	1%	
	City Vehicles	40			20	23	21	21	20	22	21	
			0%	0%	50%	58%	53%	53%	50%	55%	53%	
	Employee	74			8	8	12	8	8	4	4	
			0%	0%	11%	11%	16%	11%	11%	5%	5%	
	City Hall Visitor	22			1	2	1	1	1	1	1	
			0%	0%	5%	9%	5%	5%	5%	5%	5%	
	ADA	7			0	0	0	0	0	0	0	
			0%	0%	0%	0%	0%	0%	0%	0%	0%	
	City Trailor	7			4	4	4	4	4	4	4	
			0%	0%	57%	57%	57%	57%	57%	57%	57%	
Total		269			35	43	39	35	34	31	31	
			0%	0%	13%	16%	14%	13%	13%	12%	12%	

* Surface Lot - Farmers Market during the 12:00 PM - 2:00 PM hours

Appendices

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