TRANSPORTATION IMPACT ANALYSIS

Downtown Watsonville Specific Plan

PREPARED FOR:

THE CITY OF WATSONVILLE

MARCH 2023 | FINAL REPORT

Prepared By:

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EXECUTIVE SUMMARY

The following transportation impact analysis has been prepared to determine potential Vehicle Miles Traveled (VMT) impacts and/or Level of Service (LOS) deficiencies associated with the Downtown Watsonville Specific Plan (DWSP, "Project"), a mixed-use proposed land use plan with road diet and roadway modifications. The specific plan area generally extends slightly north of Union Street, south to Walker Street, east to Riverside Drive (SR 129) and west to about Freedom Boulevard. The project will include development of multi-story mixed use buildings through both new construction and adaptive reuse of historic buildings. Along with land use development, the project will also include a road diet on Main Street, roadway network changes at Alexander Street, Brennan Street, Union Street, decoupling the one-way couplet of East Beach Street and East Lake Avenue, and a roundabout intersection at Main Street and Freedom Boulevard.

This analysis addresses the Project's VMT and LOS effects in order to assist the City of Watsonville ("City") with planning and the identification of conditions of approval, and to mitigate the Project's VMT impacts or improve identified LOS deficiencies, if necessary.

PROJECT LAND USE AND ROADWAY IMPROVEMENTS

The Project's projected housing and employment estimates to determine the With Project traffic conditions were developed from plan specific information provided by the City and Raimi + Associates, projected land uses, households, and number of employees for each parcel within the Specific Plan area.

Based on the proposed land use plan, the Project is estimated to develop 3,886 multi-family new residential units and generate a total of 1,416 new jobs (796 restaurants/cafes/bars jobs, 63 retail jobs, 184 R&D jobs, 198 office jobs, 175 industrial jobs) in the project area.

A road diet is proposed along Main Street to reduce the roadway between Freedom Boulevard and Riverside Drive from four lanes to three lanes. Main Street would consist of one lane in each direction with a two-way left-turn lane. A roundabout is also considered as an alternative traffic control at the intersection of Main Street and Freedom Boulevard. The one-way couplet in the westbound direction along East Lake Avenue between Lincoln Street and Rodriguez Street will be converted to a three-lane roadway with one lane in the eastbound direction, one lane in the westbound direction, and a two-way left-turn lane. The one-way couplet in the eastbound direction along East Beach Street between Main Street and Lincoln Street will be converted to a three-lane roadway with one lane in the eastbound direction, one lane in the westbound direction, and a two-way left-turn lane. Class II Bicycle Lanes and traffic calming measures along 5th Street between Rodriguez Street and Brennan Street are proposed. Shared bike lanes and traffic calming measures along Union Street between Front Street and East Beach Street are also proposed. Union Street between Alexander Street and East Beach Street is vacated and Union Street realigned with Alexander Street as a straight roadway.

Since the project includes new mixed-use development as well as significant roadway modifications, traffic forecasts were developed using the Santa Cruz County (SCC) Travel Demand Model in order to account for interactions between the land uses within the specific plan area and travel pattern changes resulted due to the proposed roadway modifications.

PROJECT IMPACTS AND DEFICIENCIES

The following summarizes the transportation impacts, project deficiencies, and intersection deficiencies related to the proposed project and the study area. Transportation impacts are based on vehicle miles traveled and not intersection level of service. Intersection level of service deficiencies under project conditions were also identified and summarized.

VEHICLE MILES TRAVELED (VMT)

Per the City of Watsonville Draft VMT analysis guidelines, the threshold for residential VMT and employment-based VMT is set at 15 percent below the regional average. Note that for the purposes of this analysis, the region is defined as Santa Cruz County. Therefore, if the project VMT were to exceed the 15 percent below the regional average VMT, this would be considered a significant transportation impact.

VMT Impact Analysis and Results

For Existing Plus Project and Future Plus Project scenarios, the residential land uses result in a VMT per Capita below the City's established threshold. The Existing No Project scenario shows VMT per Capita above the City's established threshold, and with the projected residential growth the project area VMT per Capita reduces to below threshold level. Anticipated development in the DWSP area would result in a reduction of VMT per employee (office and industrial), as expected from more infill development. However, the amount of reduction would not reduce VMT below the City's threshold of 15 percent below the regional average VMT. The VMT per Employee (office and industrial) for Existing No Project, Existing Plus Project and Future Plus Project is above the City's established threshold.

VMT Mitigations

Many aspects of the DWSP will result in people driving less or driving shorter distances. In this sense, implementation of the DWSP is self-mitigating with respect to reducing VMT on a per capita and per employee basis. However, given the programmatic level data available for this downtown level plan, a detailed TDM plan typically required for each individual project cannot be developed at this stage. However, the VMT reducing design principles and policies included in the City's VMT policies provides and adequate toolbox of measures to mitigate the VMT impacts.

INTERSECTION LEVEL OF SERVICE

Traffic operations were evaluated at the study intersections under existing, existing plus project and future plus project conditions. The development of the proposed project and resulting traffic generation would result in the following LOS operations deficiencies. It should be noted that few LOS and several queuing deficiencies were identified which are mainly resulting due to the proposed roadway modifications.

Intersection LOS Deficiencies

As shown in **Table E-1**, the intersection of Main Street / Riverside Drive will have an LOS deficiency in the Future Plus Project for both the AM and PM peak hours. Rest of the study intersections function within acceptable LOS standards under the Existing, Existing Plus Project and Future Plus Project scenarios.

Table E-1: Intersection LOS Deficiencies

#	Intersection	Scenario
3	Riverside Drive / Main Street	Future Plus Project Weekday AM Peak Hour (LOS E), Weekday PM peak hour (LOS F)

This intersection is significantly impacted by regional traffic that originates from outside of Watsonville. It includes traffic from San Benito and Santa Clara counties that is traveling west on State Route 129/Riverside Drive and from Monterey County that is traveling north on Salinas Road/Porter Street/Main Street. This is confirmed in the queuing analysis done in Section 6, which shows long queues in the west and north directions. The number of motorists is expected to increase in the future. There are local and regional projects that will have a positive impact on traffic volumes at this intersection. The City is currently working on a project to convert one of the two northbound through lanes to a left turn lane and lengthen the storage length to 300 feet for the two left turn lanes. The G12: Pajaro to Prunedale Corridor Study published by the Transportation Agency of Monterey County (TAMC) in 2019 proposes improvements along the Porter Street/Salinas Road/County Road G12 that will positively impact the subject intersection. One is to reduce the number of northbound travel lanes from two to one on the portions of Salinas Road and Porter Street that lead to the Pajaro River crossing. Another improves the intersection of Salinas Road, Werner Road and G12 which would encourage motorists using G12 to access State Route 1 via Salinas Road and not Main Street and State Route 129 as is currently done.

Intersection Queuing Deficiencies

Vehicle queuing analysis was conducted at all study intersections for the project scenarios to analyze whether the storage capacity of a roadway segment would be exceeded. This analysis modeled the queuing of vehicles at left-turn and right-turn pockets as well as through lanes to determine whether vehicles might affect an intersection's operation from extending beyond a street's available storage and into adjacent through lanes.

Locations where the 95th percentile queues exceed the available storage are summarized in **Table E-2** for Future Plus Project Conditions. As the Future Plus Project Conditions represents the worse-case scenario only the Future Plus Project Queue lengths are reported in this table.

Table E-2: Intersection Queuing Deficiencies

#	Intersection	Control	Movement	Storage Length (ft)	Peak Hour	95th Percentile Queue Future Plus Project ft (# of Cars Spillover)
1	Lake Avenue / Main Street	Signal	NBR	150	AM	231 (3)
					PM	235 (3)
			SBL	350	**PM**	**458 (4)**
			SBR	100	AM	151 (2)
					PM	**188 (4)**
2	Beach Street / Main Street	Signal	NBR	75	AM	151 (3)
					PM	150 (3)
			SBR	100	AM	180 (3)
					PM	164 (3)
			WBT	260	AM	323 (3)
3	Riverside Drive / Main Street	Signal	WBL	140	AM	196 (2)
					PM	212 (3)

#	Intersection	Control	Movement	Storage Length (ft)	Peak Hour	95th Percentile Queue Future Plus Project ft (# of Cars Spillover)
			NBR	165	**AM**	**290 (5)**
					PM	**295 (5)**
			WBT	245	**PM**	**882 (25)**
			NBT	1170	**AM**	**1433 (11)**
					PM	**1289 (5)**
			SBT	520	**PM**	**718 (8)**
5	Beach Street / Union Street	Signal	EBT	260	AM	329 (3)
					PM	321 (2)

As shown in the table, intersections of Main Street and East Lake Avenue, Main Street and West Beach Street and East Beach Street and Union Street show queues exceeding the storage capacity by about 3 cars and therefore might extend into the adjacent intersections of Main Street and 5th Street, Main Street and East Lake Avenue, Beach Street and Rodriguez Street, 2nd Street and Maple Avenue, and Beach Street and Alexander Street.

The closely spaced intersections of East Beach Street and Union Street and East Beach Street and Alexander Street requires a synchronized signal operations system which results in no queuing occurring on the short block along East Beach Street and between these two intersections. In addition, this short block will be reconfigured to consist of two westbound and one eastbound lane. The two westbound lanes will continue to Main Street and provide a dedicated westbound left turn and a shared through-right turn lane at the intersection.

Management of traffic through the corridor will also be extremely important. This can be done through the implementation of an adaptive traffic signal system. An adaptive traffic signal system adjusts signal timing to accommodate changing traffic patterns and ease traffic congestion. It progressively moves vehicles through green lights, creating smoother flow and reducing congestion. The system can use existing traffic signals with minor modifications to the hardware and installation of new signal software.

The intersection of Riverside Drive/State Route 129 and Main Street is built out at its ultimate capacity and adding lanes would mean acquiring private property to widen the road. The existing queuing deficiencies at this intersection are from regional traffic traveling between Highway 1, Highway 129 and Monterey County which is across the Pajaro River. There are several projects in design or under consideration that will affect the regional traffic flowing into this intersection.

1. INTRODUCTION

The following Transportation Impact Analysis has been prepared to determine potential Vehicle Miles Traveled (VMT) impacts and Level of Service (LOS) deficiencies associated with the Downtown Watsonville Specific Plan (DWSP, "Project"). The DWSP provides a comprehensive land use and mobility plan to guide development and public improvements over the next 20-30 years. The DWSP area constitutes about 195.5 acres with about 55.5 acres dedicated to streets and rights-of-way. As shown in **Figure 1**, this area generally extends slightly east of Union Street, west to Walker Street, south to Riverside Drive (SR 129) and north to near Freedom Boulevard. Downtown is centered on Main Street and extends west to the edge of existing neighborhoods and the industrial district, south to Pajaro, and several blocks east to the existing neighborhoods.

The DWSP area is mostly developed with historic commercial buildings and established residential neighborhoods. Hence, future potential growth is likely to be directed to identified opportunity sites, vacant City-owned parcels, and a limited number of vacant or under-utilized sites that could be redeveloped. As discussed in Section 3.4 of the DWSP, this approach allowed the development of growth projections that can cover all anticipated development in the next 25 years but not over-estimate what could be built. In short, anticipated development consists of multi-story, mixed-use buildings through new construction and the adaptive reuse of historic buildings. A detailed breakdown of anticipated growth is provided in Table 4 under the Project Description section.

The downtown roadway network accommodates regional traffic movement and local access. State Route (SR) 152 and SR 129 pass through downtown east to west serving as conduits of regional travel. SR 152 continues as Main Street serving as the north-south spine of the network, distributing traffic beyond the DWSP area throughout the city and connecting to Highway 1. The existing roadway network in downtown is not developed in a uniform grid but features a multitude of varying block lengths, several curvilinear streets, and some one-way streets.

The DWSP includes several key roadway improvements to support multimodal travel, increase safety, and improve access to local amenities and businesses. The future improvements are also designed to reduce potential conflict points between motorists, people who walk, and people who bike. Key improvements would change the existing roadway network and are included in this study for analysis. As further described in Table 5 in the Project Description section, the following roadway network changes have been assumed under Project conditions:

- Implementing a road diet on Main Street,
- Decoupling the one-way couplets at East Beach Street and East Lake Avenue,
- Realigning Union Street near Brennan Street and Alexander Street, and
- Installing a roundabout at Freedom Boulevard and Main Street.

In summary, this Transportation Impact Analysis addresses the Project's VMT and LOS effects in order to assist the City of Watsonville ("City") with project planning and to mitigate the Project's VMT impacts or improve identified LOS deficiencies, if necessary.

STUDY METHODOLOGY

With the passage of SB 743 (Steinberg, 2013), automotive delay, typically measures as "level of service" or LOS, can no longer be used when evaluating transportation impacts under the California Environmental Quality Act (CEQA) for new land use development and transportation infrastructure projects. In accordance

with SB 743, the City has adopted a VMT Policy, which established formally VMT as the appropriate metric for evaluating transportation-related impacts under CEQA, VMT thresholds of significance, screening criteria, Transportation Demand Management (TDM) strategies, and a VMT Mitigation Banking Program (Resolution No. 205-22 CM). This report summarizes VMT as well as the local transportation analysis and resultant findings for the DWSP.

VEHICLE MILES TRAVELED

This analysis includes a determination of whether projected growth for the DWSP area would result in significant transportation-related impacts. The following growth projections by land use serve as the basis for traffic forecasts and associated VMT:

- Residential – 3,886 dwelling units
- Restaurant – 157,785 sq. ft.
- Retail – 57,788 sq. ft.
- Office – 60,798 sq. ft.
- Research and Development (R&D) – 56,524 sq. ft.
- Industrial – 275,084 sq. ft.

For residential, restaurant, office, and industrial land uses, the SCC Travel Demand Model was used as the principal tool to determine VMT. The SCC Travel Demand Model contains a base year of 2019 and future year of 2040, both of which were used to determine the VMT impact of projected residential, restaurant, office and industrial development. Retail land-uses typically are considered local-serving and therefore redistribute shopping trips rather than create new trips. Because of this fact, adding retail opportunities will often shorten the distance people drive to shop and, thereby, reduce VMT. For this reason, a qualitative analysis is included in this study for projected retail development.

The City's adopted VMT thresholds and analysis guidelines were used as the basis of the analysis contained herein. Per the City's VMT analysis guidelines, the threshold for residential and employment-based VMT uses is set at 15 percent below the regional average. For the purposes of this analysis, the region is defined as Santa Cruz County.

As the DWSP strives to create walkable and complete neighborhoods and foster higher-intensity, mixed-use development that provide a mix of retail, services, amenities, employment and housing, implementation of the DWSP should result in lower per capita and per employee miles driven. The DWSP also encourages development near transit to decrease automobile dependency and increase multimodal access to and from the downtown area. In addition, a key component of the mobility framework of the DWSP is to reduce vehicle trips and accommodate future demands through implementing parking and other TDM strategies. TDM strategies aim to reduce single-occupant travel, minimize peak period vehicle trips, and shift trips to transit, biking, walking, or shared rides. By working to reduce single-occupant vehicle trips within the DWSP area, impacts from future development can be reduced. However, if the Project VMT were to exceed the 15 percent below the regional average VMT, this would be considered a significant transportation-related impact under CEQA.

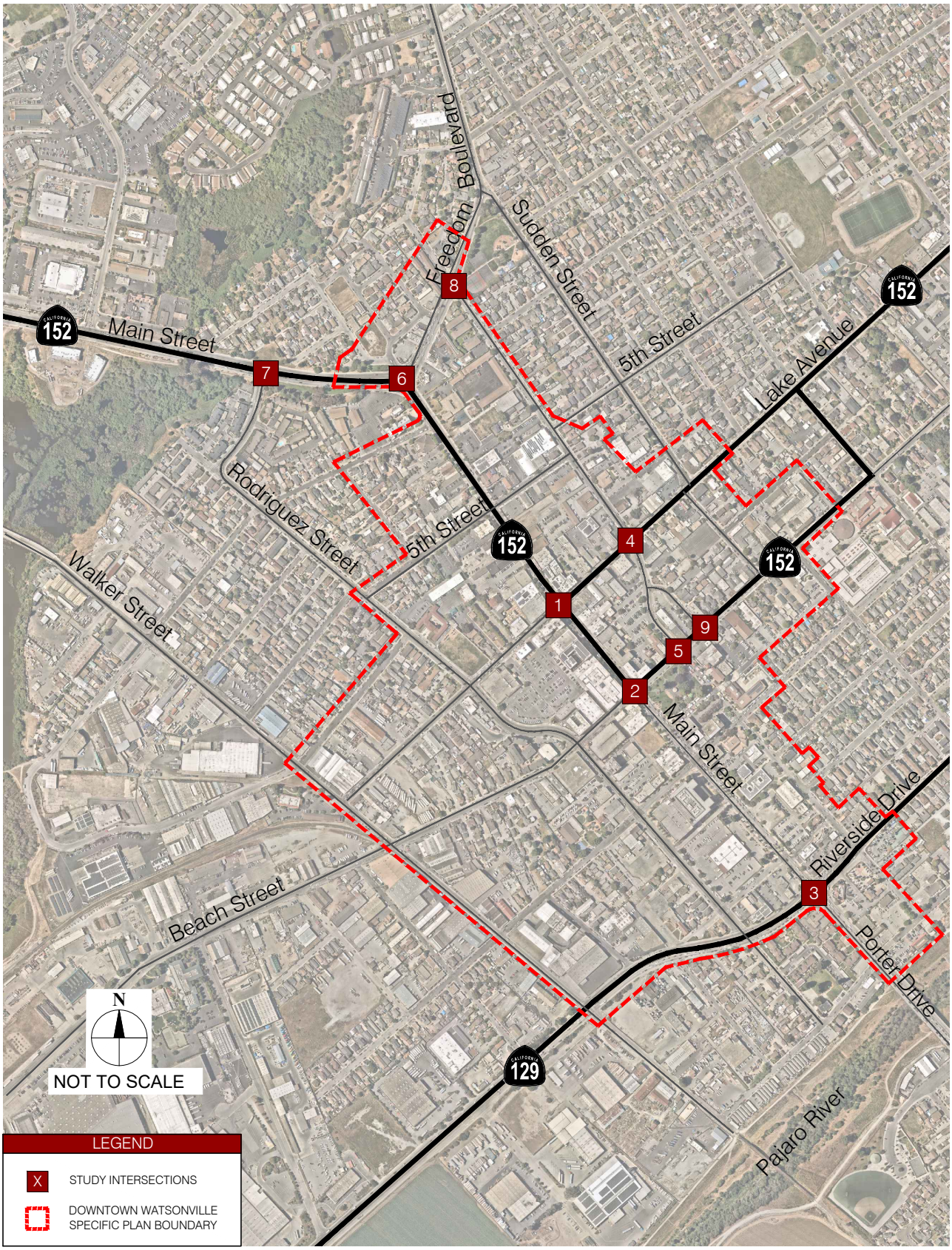

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FIGURE 1
STUDY INTERSECTIONS

LOCAL TRANSPORTATION ANALYSIS

A supplemental traffic operations analysis was conducted to evaluate the Project's effect on LOS operations within the study area. Please note that this analysis is not for the purpose of determining transportation-related impacts under CEQA, in accordance with SB 743 and section 15064.3 of the CEQA Guidelines. Rather, it is intended to provide information on existing roadway conditions and determine whether the projected growth and recommended roadway improvements in the DWSP would create significant congestion and/or contribute to existing operational deficiencies, such as at Main Street and Riverside Drive during the PM peak period. In all, nine (9) study intersections were evaluated during weekday AM and PM peak hour conditions and four (4) study intersections were evaluated during Saturday Midday peak hour conditions.

Study Area

The Project would generate new vehicular trips that would increase traffic volumes on downtown's street network. The proposed roadway improvements would also result in a change in driving behavior and patterns. To assess changes in traffic conditions associated with the proposed Project, including diverting existing vehicle trips as a result of the proposed "road diet" and other improvements, the intersections in **Table 1** were evaluated. **Figure 1** illustrates the location of each intersection relative to the DWSP area.

Table 1: Study Intersections

#	Intersection	Existing Control	Analysis Period
1	Main Street (SR 152) / East Lake Avenue	Signal	Weekday AM and PM Saturday Midday
2	Main Street (SR 152) / East Beach Street	Signal	Weekday AM and PM Saturday Midday
3	Main Street / Riverside Drive (SR 129)	Signal	Weekday AM and PM Saturday Midday
4	East Lake Avenue / Union Street	Signal	Weekday AM and PM
5	East Beach Street / Union Street	Signal	Weekday AM and PM
6	Main Street (State Route 152) / Freedom Boulevard	Signal (Future Roundabout)	Weekday AM and PM Saturday Midday
7	Rodriguez Street / Main Street	Signal	Weekday AM and PM
8	Freedom Boulevard / Brennan Street	Signal	Weekday AM and PM
9	East Beach Street / Alexander Street	Side-Street Stop-Control (Future Signal)	Weekday AM and PM

Analysis Scenarios

Three (3) scenarios were analyzed as part of the supplemental traffic operations analysis, listed below:

- Existing conditions – Based on traffic counts collected in October 2018 and May 2022 and existing lane geometry and traffic control.
- Existing plus project traffic conditions – Based on Existing conditions plus the traffic generated by the Project. This scenario assumes the roadway improvements to be constructed by the project including the road diet, one-way couplet elimination, roadway realignment, and roundabout implementation. Any redistribution of existing volumes as a result of these roadway improvements are assumed under this scenario.
- Future plus project traffic conditions – Based on Future conditions plus the traffic generated by the Project. Future conditions are based on traffic forecasts in the SCC Travel Demand Model for the

future year of 2040. This scenario assumes the roadway improvements to be constructed by the project including the road diet, one-way couplet elimination, roadway realignment, and roundabout implementation. Any redistribution of existing volumes as a result of these roadway improvements are assumed under this scenario.

Intersection Level of Service

The LOS of an intersection is a qualitative measure of vehicular roadway congestion used to describe operational conditions in terms of delay. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of service for signalized and unsignalized intersections were determined using methods defined in the latest *Highway Capacity Manual, 6th Edition* (HCM 6th) within the *Synchro 11* traffic analysis software. However, due to the lane configurations and signal timing phasing at Intersection #6 under Existing Conditions and Intersections #5 and #9 under Existing Plus Project Conditions, and subsequent software limitations HCM 6th was not capable of analyzing these intersections and therefore was analyzed using the previous HCM 2000 methodology instead. HCM 6th methodology does not support signal phasing for the combination of shared and exclusive lanes as in the case for Intersection #6, as well as it does not support synchronized intersections with one signal control as in the case of proposed signal control for Intersections #5 and #9. Intersection LOS under Future Plus Project Conditions were analyzed using the SimTraffic simulation software within Synchro to analyze the effects of upstream and downstream intersections. SimTraffic simulations were conducted for 12 runs and results are based on an average of all runs. As the project involves installation of a roundabout at Intersection#6, level of service for the new roundabout at this location was determined using the *SIDRA 9* software. The HCM includes procedures for analyzing side-street stop-controlled (SSSC), all-way stop-controlled (AWSC), and signalized intersections. The SSSC procedure defines LOS as the highest delay of each minor street movement or major street left turns. Conversely, the AWSC and signalized intersection procedures define LOS as a function of average control delay for the entire intersection. **Table 2** relates the operational characteristics associated with each LOS category for signalized and unsignalized intersections.

According to Watsonville General Plan 2005 policies, the City shall maintain a minimum LOS D on signalized intersections on arterial and collector streets serving the City. Caltrans' Guide for the Preparation of Traffic Impact Studies no longer establishes a threshold for facility LOS. However, Caltrans will work with local agencies to determine an acceptable LOS standard on a case-by-case basis when the study roadway or intersection facility is constrained, and the LOS D objective is infeasible; therefore, deficiencies were considered project deficiencies if the addition of project traffic causes an intersection to:

- Operate at LOS E or F overall for a signalized or AWSC intersection or the worst-case movement for a SSSC intersection, or
- Adds five seconds of delay to an intersection already operating at LOS E or F under the comparable No Project scenario.

As suggested in *National Cooperative Highway Research Program (NCHRP) Report 672, Roundabouts: An Informational Guide*, an approximate threshold for satisfactory operation of the roundabout is the volume-to-capacity (V/C) ratios in the range of 0.85 to 0.90. It should be noted that this threshold is not defined in the HCM but it is a standard that is suggested based on international and domestic experience. Where an operational analysis finds the volume-to-capacity ratio above 0.85, it is encouraged to conduct additional sensitivity analysis to evaluate whether relatively small increments of additional volume have dramatic impacts on delay or queues. Therefore, for the purpose of this study a standard of V/C > 0.85 was used for the roundabout analysis.

Table 2: Intersection Level of Service Definitions

Level of Service	Description	Signalized (Avg. control delay per vehicle sec/veh.)	Unsignalized (Avg. control delay per vehicle sec/veh.)
A	Free flow with no delays. Users are virtually unaffected by others in the traffic stream	≤ 10	≤ 10
B	Stable traffic. Traffic flows smoothly with few delays.	> 10 – 20	> 10 – 15
C	Stable flow but the operation of individual users becomes affected by other vehicles. Modest delays.	> 20 – 35	> 15 – 25
D	Approaching unstable flow. Operation of individual users becomes significantly affected by other vehicles. Delays July be more than one cycle during peak hours.	> 35 – 55	> 25 – 35
E	Unstable flow with operating conditions at or near the capacity level. Long delays and vehicle queuing.	> 55 – 80	> 35 – 50
F	Forced or breakdown flow that causes reduced capacity. Stop and go traffic conditions. Excessive long delays and vehicle queuing.	> 80	> 50

Sources: Transportation Research Board, Highway Capacity Manual 2016, National Research Council, 2016.

2. EXISTING CONDITIONS

This chapter describes the existing conditions of the roadway network, traffic volumes, transit service, pedestrian facilities, and bicycle facilities within the DWSP area and its vicinity.

ROADWAY NETWORK

Roadways within the DWSP area include major arterials, minor arterials, collectors, and local streets. See Figure 4-2 in the DWSP for a map showing roadway designations in the area. This section provides a description of the specific roadways included in this study.

MAJOR ARTERIALS

Main Street (SR 152) is a north-south major arterial that runs through the center of downtown Watsonville providing access to commercial and restaurant uses as well as connections to the minor arterials and collectors located to the west of east of Main Street. The roadway connects to Highway 1 to the northeast and transitions to Porter Drive to the south at San Juan Road. As shown in **Figure 1**, most of Main Street through downtown Watsonville is part of the state highway system as SR 152. Main Street is a four-lane roadway with two lanes in each direction north of East Beach Street and a five-lane roadway with two lanes in each direction and a two-way left-turn lane south of East Beach Street. On-street parking is allowed on various portions of the roadway. The posted speed limit for Main Street through downtown is 25 miles per hour.

Freedom Boulevard is an east-west major arterial that provides access to residential land uses to the north of downtown Watsonville. The roadway extends north of the City of Watsonville and connects to Highway 1 in the unincorporated town of Aptos Hills-Larkin Valley. Within the study area, Freedom Boulevard is one lane in each direction with a two-way left-turn lane. The posted speed limit is 25 miles per hour within the study area.

Lake Avenue is an east-west major arterial east of Main Street and a minor arterial west of Main Street. West Lake Avenue connects to Walker Street to the west and transitions into Hecker Pass Road to the north at Carlton Road. The roadway provides access to retail, residential, and school uses within the study area. Lake Avenue has two lanes in each direction with the exception of the segment between Rodriguez Street and Lincoln Street which is two lanes in the westbound direction (eastbound travel is not allowed). The posted speed limit is 25 miles per hour within the study area.

Beach Street is an east-west major arterial providing access to industrial and residential uses within the study area. The roadway connects to Palm Beach State Park to the west and Hushbeck Avenue to the east. Beach Street has four lanes west of Harvest Drive and two lanes east of Harvest Drive. Between Main Street and Lincoln Street, East Beach Street is two lanes in the eastbound direction. The posted speed limit on West Beach Street from Walker Street to Hushbeck Avenue is 25 mph.

Riverside Drive (SR 129) is an east-west major arterial providing access to industrial, commercial, and residential uses within the study area. Riverside Drive is part of the state highway system as SR 129 and spans from Highway 1 to the west and Highway 101 to the east. Riverside Drive is a four-lane roadway east of the Highway 1 northbound ramp intersection and two-lane roadway west of the Highway 1 southbound ramp intersection. Within the urbanized portion of Watsonville between Sakata Lane and Blackburn Street, the posted speed limit is 25 mph.

MINOR ARTERIALS

Union Street is a north-south minor arterial providing access to residential uses, commercial uses and public building uses including the Watsonville Police Department. Union Street is one lane in each direction and spans from Front Street to the south and transitions into Brennan Street to the north at East Lake Avenue. Brennan Street then terminates at Gonzales Street just north of Freedom Boulevard. While there is no posted speed limit on Union Street, it is a prima facie 25 miles per hour based on California Vehicle Code 22352(b)(1).

Rodriguez Street is a north-south minor arterial providing access to residential uses to the north and commercial as well as building uses to the south including United States Postal Service, and the Superior Court of California County of Santa Cruz. The roadway connects to Front Street to the south and Main Street to the north. Within the study area, Rodriguez Street has a posted speed limit of 25 mph and is one lane in each direction, except between West Beach Street and West Lake Avenue where there are two lanes in each direction.

COLLECTORS

Brennan Street is a north-south collector providing access to residential uses to the east and commercial uses to the west. The roadway connects to Gonzales Street to the north and transitions into Union Street to the south. Within the study area, Brennan Street is one lane in each direction with a posted speed limit of 25 mph.

LOCAL STREETS

5th Street is a discontinuous east-west local street providing access to mainly residential land uses with some commercial uses near Main Street. 5th Street is a two-lane roadway that connects to Walker Street to the west and extends just past Brewington Avenue to the east. There is no posted speed limit within the study area but is assumed to be 25 mph due to the adjacent residential land uses.

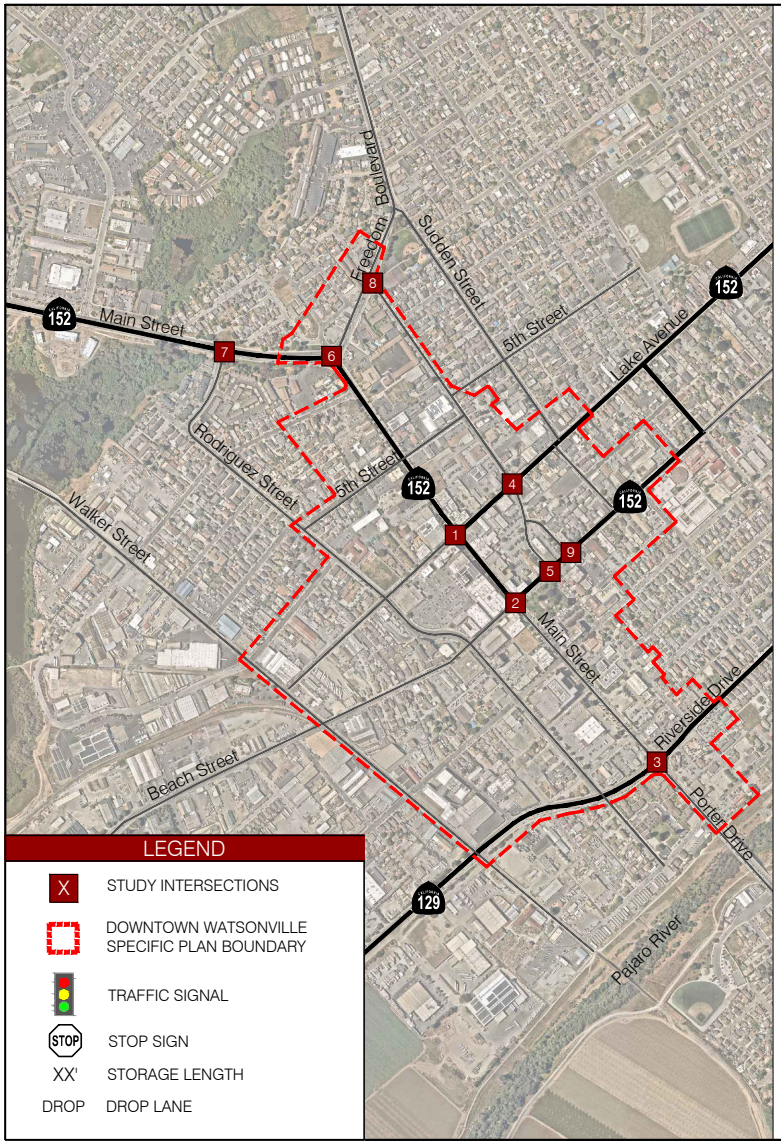
STUDY INTERSECTION LANE CONFIGURATION AND TRAFFIC CONTROL

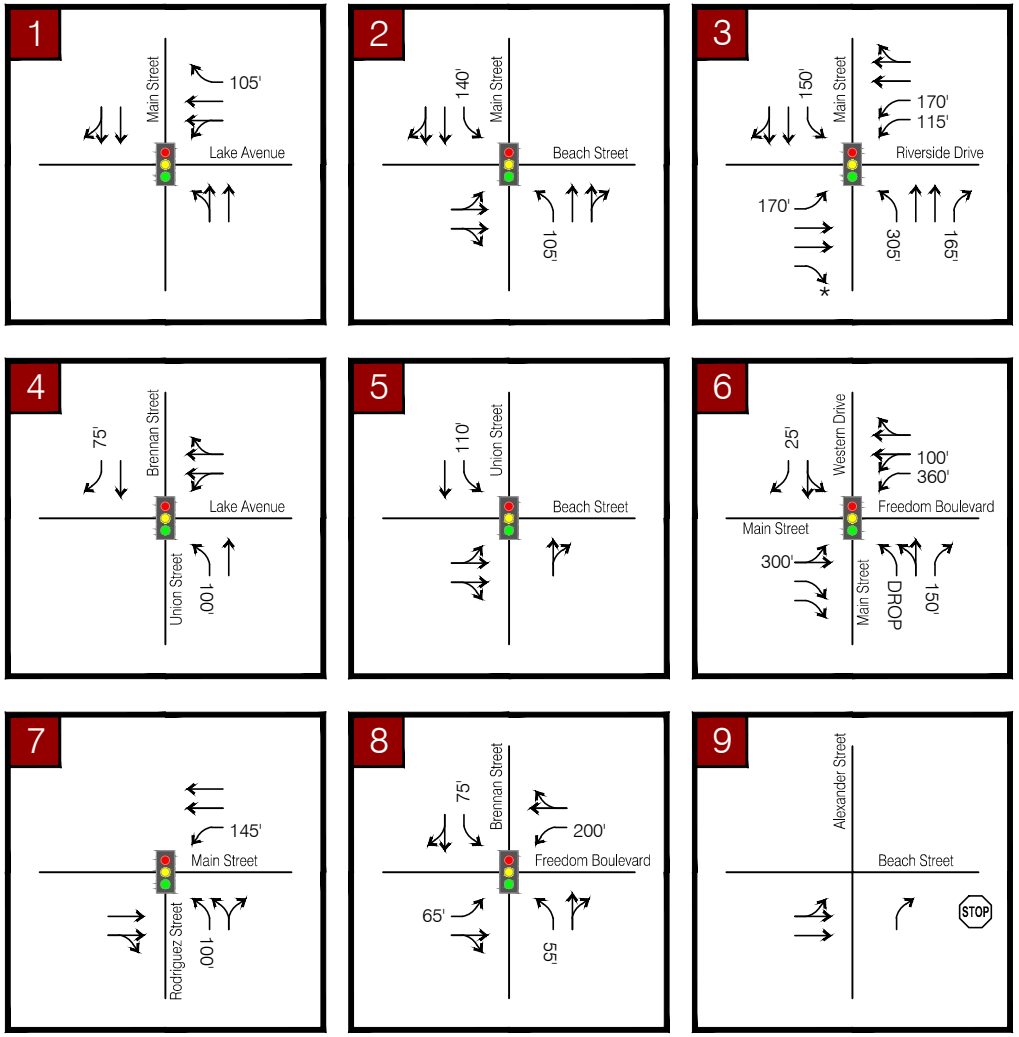
The existing intersection lane configuration and traffic controls, as of September 2022, are illustrated in **Figure 2**.

PEAK-HOUR TURNING MOVEMENT VOLUMES

Weekday intersection turning movement volumes for eight (8) study intersections were collected on Thursday, May 19, 2022 between 7:00 AM – 7:00 PM to capture the AM and PM peak periods. Since weekday AM and PM peak period volumes were not collected at Intersection #3 (Riverside Drive and Main Street), historical volumes collected in October 2018 were used for the analysis. In addition, weekend intersection turning movement volumes for four (4) study intersections were collected on Saturday July 23, 2022 during the AM peak period between 7:00 AM – 9:00 AM, the midday peak period between 11:00 AM – 1:00 PM, and the PM peak period between 4:00 PM – 6:00 PM. Traffic volumes were collected outside of holiday breaks and when local schools were in session. Intersection volume data sheets are provided in **Appendix A**.

To determine whether 2022 counts collected were impacted by COVID-19, the 2022 counts were compared to historical counts from January 2018 at certain intersections where historical data was available. In general, the May 2022 volumes were comparable to the January 2018 volumes and therefore, May 2022 volumes were used without any adjustments to account for COVID-19. Existing (2022) peak hour turning movement volumes are shown in **Figure 3**.





* STRIPED AS A SHARED THROUGH/RIGHT TURN LANE, ANALYZED AS A SEPARATE DE FACTOR RIGHT TURN LANE

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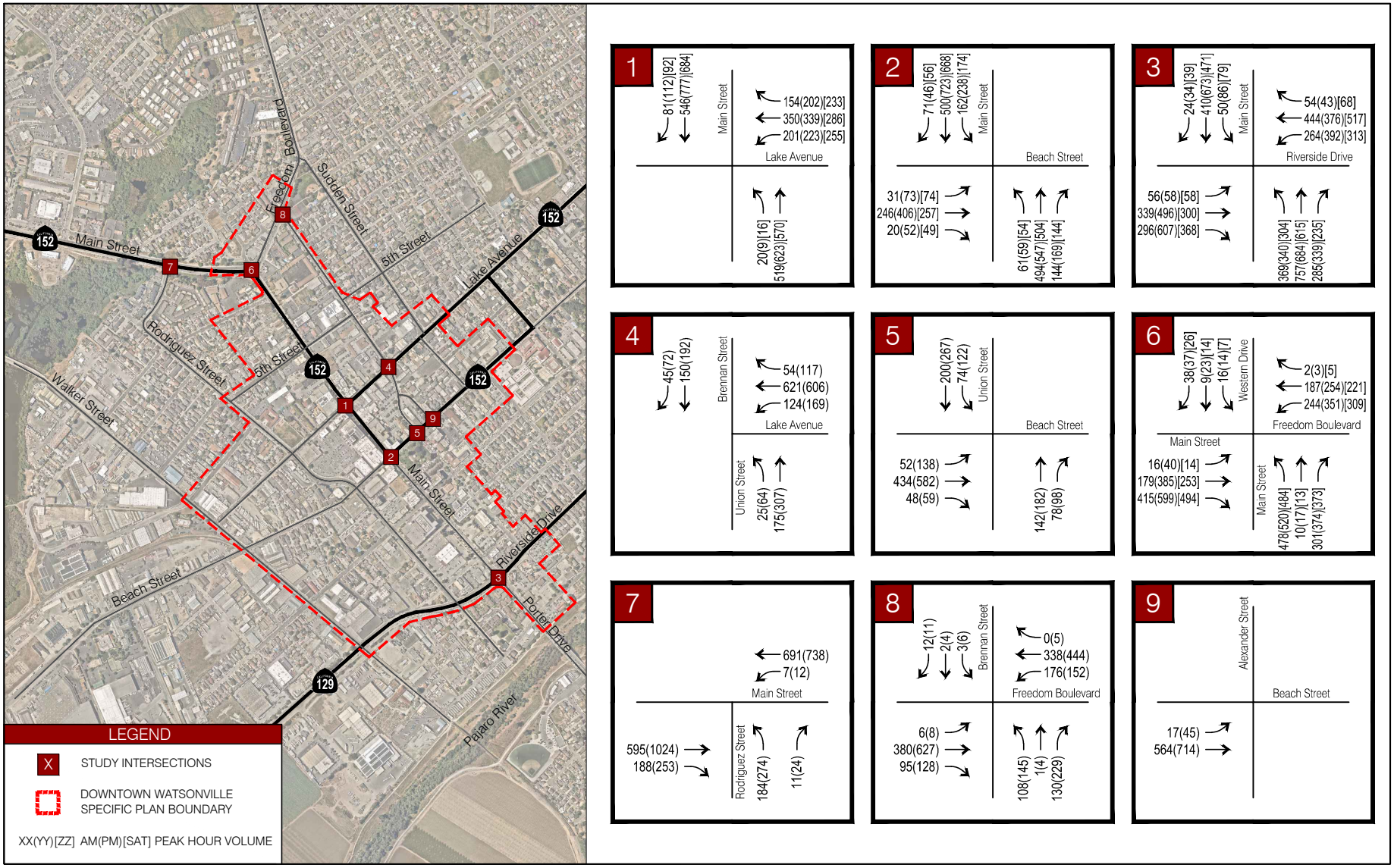
N

NOT TO SCALE

FIGURE 2

EXISTING CONDITIONS LANE GEOMETRY AND TRAFFIC CONTROL



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NOT TO SCALE

FIGURE 3

EXISTING CONDITIONS PEAK HOUR TURNING MOVEMENT VOLUMES

BICYCLE FACILITIES

Figure 4 illustrates existing and proposed bicycle facilities in the study area. Class I bicycle facilities are bike paths/trails, Class II bicycle facilities are defined as bike lanes, Class III bicycle facilities are bike routes, and Class IV bicycle facilities are separated bikeways or cycle tracks.

Within the project study area and its vicinity, there are Class I, II, and III bicycle facilities along the following corridors:

- Class I bike paths:
  - Main Street from Pennsylvania Drive to Freedom Boulevard (outside the study area)
- Class II bike lanes:
  - W Beach Street from Highway 1 to Walker Street (outside the study area)
  - Walker Street from Harkins Slough Road to Riverside Drive
  - Rodriguez Street from Main Street to Riverside Drive
  - Freedom Boulevard from Main Street to High Street
- Class III bike routes:
  - Main Street from Freedom Boulevard to Riverside Drive (removed as part of the Project)
  - W Beach Street from Walker Street to Lincoln Street (removed as part of the Project)
  - Riverside Drive from Walker Street to Bronte Avenue (removed as part of the Project)
  - Lincoln Street from Riverside Drive to Freedom Boulevard (outside the study area)

The DWSP includes several future bicycle facilities. The new bicycle facilities include Class I, II and II bike lanes along the following corridors:

- Class I bike paths:
  - Along Rodriquez Street from West Front Street to the Levee Trail
  - At Pajaro River Park, from East Front Street to the Levee Trail
  - Monterey Bay Sanctuary Scenic Trail, along rail line to Walker Street
- Class II bike lanes:
  - Walker Street from West Riverside Drive to the Pajaro River.
  - 5th Street between Rodriguez Street and Brennan Street.
  - Improved wider bicycle lanes, with an enhanced buffer between adjacent vehicular travel lanes and the bicycle lane, on Rodriguez Street between West Lake Avenue and West Beach Street.
- Class III bike routes:
  - Marchant Street between East Beach Street and the Levee Trail.
  - Sudden Street between Freedom Boulevard and East Beach Street.
  - Brennan Street/Union Street between Freedom Boulevard and the Levee Trail.
  - Ford Street between Walker Street and Main Street.
  - West 5th Street between Walker Street and Rodriguez Street.
  - 2nd Street/Maple Avenue between Walker Street to Lincoln Street.
  - East Front Street between Main Street and Marchant Street.

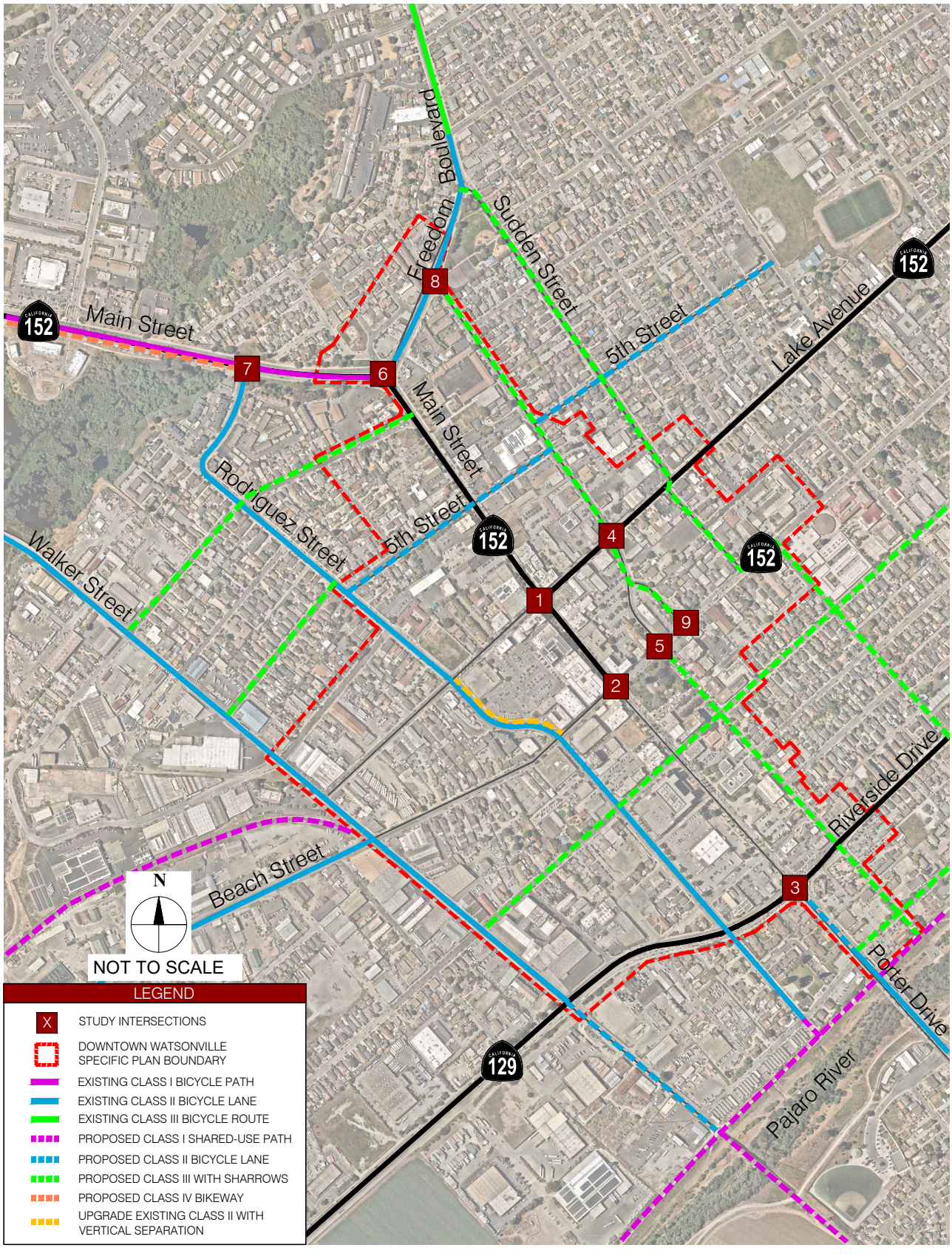

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FIGURE 4
EXISTING AND PROPOSED BICYCLE FACILITIES

TRANSIT FACILITIES

Santa Cruz Metro provides transit services in the study area. In addition, the Monterey-Salinas Transit operates bus lines between Salinas and Watsonville. **Figure 5** illustrates the existing transit services within the study area and are described in this section. **Table 3** provides a summary of the existing transit service in the study area followed by detailed description of each route. It should be noted that these routes are not considered as high-quality transit service. High-quality transit areas are considered for screening for non-significant VMT impacts, which includes transit services with fixed service intervals no longer than 15 minutes during peak commute hours. Combined transit service is not considered as high-quality transit.

Santa Cruz County Regional Transportation Commission (SCCRTC) is moving forward with plans for reactivating the rail line for passenger rail service. The SCCRTC has recently initiated the preliminary engineering and environmental documentation (PAED) phase for the proposed Santa Cruz Branch Line (SCBRL) Electric Passenger Rail Transit & Trail Project between Pajaro Junction and Santa Cruz.

Table 3: Existing Transit Service

Route	Description	Weekdays		Weekends	
		Operating Hours	Headway[1] (minutes)	Operating Hours	Headway[1] (minutes)
Santa Cruz METRO					
69W	Capitola/Cabrillo	6:37 AM – 10:28 PM	60	7:50 AM – 7:40 PM	60
69A	Capitola/Airport	6:20 AM – 6:56 PM	60	8:07 AM – 7:52 PM	60
71	Soquel/Freedom	5:40 AM – 12:40 AM	30	5:58 AM – 12:40 AM	30-60
91X	Cabrillo Express	5:55 AM – 5:22 PM	60-120	-	-
72	Green Valley - Hospital	6:45 AM – 6:40 PM	60	-	-
72W	Green Valley- Corralitos	-	-	9:25 AM – 6:27 PM	120
74S	PVHS/Hospital	7:00 AM – 8:02 AM 3:05 PM – 4:00 PM	-	-	-
75	Green Valley - Wheelock	5:15 AM – 7:15 PM	60	6:05 AM – 6:45 PM	70
79	East Lake/Crestview	7:25 AM – 6:00 PM	60	8:30 AM – 5:14 PM	120
WC	Watsonville Circular	8:44 AM – 4:17 PM	60	8:44 AM – 4:14 PM	60
Monterey-Salinas Transit (MST)					
27	Watsonville – Marina	6:53 AM – 7:48 PM	60	-	-
28	Watsonville – Salinas[2]	6:45 AM – 7:30 PM	120	6:45 AM – 7:30 PM	120
29	Watsonville – Salinas[3]	5:45 AM – 6:50 PM	120	7:34 AM – 8:00 PM	120

Notes:
[1] Headways are defined as the time between transit vehicles on the same route.
[2] Via Castroville
[3] Via Prunedale

Route 69W (Capitola/Cabrillo) operates between the Santa Cruz Metro Center to the Watsonville Transit Center. Route 69W operates on weekdays between 6:37 AM and 10:28 PM on 60-minute headways and on weekends between 7:50 AM and 7:40 PM on 60-minute headways. The route runs along Main Street and Rodriguez Street. Bus stops are located at the intersection of Rodriguez Street and Main Street and at the Watsonville Transit Center.

Route 69A (Capitola/Airport) operates between the Santa Cruz Metro Center to the Watsonville Transit Center. Route 69A operates on weekdays between 6:20 AM – 6:56 PM on 60-minute headways and on

weekends between 8:07 AM – 7:52 PM on 60- minute headways. The route runs along Lake Avenue, Beach Street, Rodriguez Street, Lincoln Street, and Freedom Boulevard with various bus stops located along its route.

Route 71 (Soquel/Freedom) operates between Santa Cruz Metro Center to the Watsonville Transit Center. Route 71 operates on weekdays between 5:40 AM and 12:40 AM of the next day on 30-minutes headways, and on weekends between 5:58 AM and 12:40 AM of the next day on 30- to 60-minute headways. The route runs along Freedom Boulevard, Main Street, 5th Street, Rodriguez Street, and Lake Avenue in Watsonville. Bus stops are located along Main Street at Lake Avenue, 5th Street, and Ford Street and at the Watsonville Transit Center.

Route 91X (Cabrillo Express) operates between Santa Cruz Metro Center to the Watsonville Transit Center. On weekdays, Route 91X operates between 5:55 AM and 5:22 PM on 60- to 120-minute headways. There is no weekend service. The route runs along Main Street and Rodriguez Street in Watsonville. Bus stops are located at the intersection of Rodriguez Street and Main Street and at the Watsonville Transit Center.

Route 72 (Green Valley - Hospital) operates on a loop to and from the Watsonville Transit Center. This route services the Watsonville Community Hospital. On weekdays, Route 72 operates between 6:45 AM and 6:40 PM on 60-minute headways. There is no weekend service. The route runs along Main Street and Rodriguez Street in Watsonville. Bus stops are located along Rodriguez Street at Main Street, Ford Street, 5th Street, and Kearney Street and at the Watsonville Transit Center.

Route 72W (Green Valley- Corralitos) operates between the intersection of Browns Valley Road and Corralitos Road to the Watsonville Transit Center. There is no weekday service. On weekends, Route 72W operates between 9:25 AM and 6:27 PM on 120-minute headways. The route runs along Main Street and Rodriguez Street in Watsonville. Bus stops are located along Rodriguez Street at Main Street, Ford Street, 5th Street, and Kearney Street and at the Watsonville Transit Center.

Route 74S (PVHS/Hospital) operates on a loop to and from the Watsonville Transit Center. This route services Pajaro High School and the Watsonville Community Hospital. On weekdays, Route 74S operates twice, one loop from 7:00 AM to 8:02 AM and one loop from 3:05 PM to 3:00 PM. The route runs along Main Street and Rodriguez Street in Watsonville. Bus stops are located along Rodriguez Street at Main Street, Ford Street, 5th Street, and Kearney Street and at the Watsonville Transit Center.

Route 75 (Green Valley - Wheelock) operates between the Watsonville Transit Center and Wheelock and Monte Vista Schools. On weekdays, Route 75 operates between 5:15 AM and 7:15 PM on 60-minute headways. On weekends, the route operates between 6:05 AM to 6:45 PM on 70-minute headways. The route runs along Main Street, 5th Street, Rodriguez Street, and Lake Avenue. Bus stops are located along Main Street at Ford Street, 5th Street, and Lake Avenue and at the Watsonville Transit Center.

Route 79 (East Lake/Crestview) operates on a loop to and from the Watsonville Transit Center. This route services Watsonville High School, East Lake Shopping Center, and Crestview Center. On weekdays, Route 79 operates between 7:25 AM and 6:00 PM on 60-minute headways. On weekends, the route operates between 8:30 AM and 5:15 PM on 120-minute headways. The route runs along Freedom Boulevard, Main Street, Lake Avenue, Beach Street, and Rodriguez Street. Bus stops are located along Main Street at 5th Street and Lake Avenue and at the Watsonville Transit Center.

Route WC (Watsonville Circular) connects the downtown transit center with primary retail and medical destinations in Watsonville. This route operates in a counterclockwise loop from Watsonville Transit Center, serving Freedom Boulevard and Lincoln Street, Freedom Centre, Green Valley Road, and Main Street. On weekdays, the route operates between 8:44 AM and 4:17 PM on 60-minute headways. On weekends, the route operates between 8:44 AM and 4:14 PM on 60-minute headways.

Route 27 (Watsonville - Marina) is a north-south route connecting Downtown Watsonville to Moss Landing, Castroville, and Marina. Key destinations include the Marina Transit Exchange, the Moro Cojo neighborhood, and the Watsonville Transit Center. Route 27 travels north on Del Monte Avenue from the Marina Transit Exchange onto State Route 1 where it continues north towards the Watsonville Transit Center. Outbound weekday service to Watsonville runs from 6:53 a.m. to 7:48 p.m. with 60-minute headways while inbound weekday service to Marina operates from 5:50 a.m. o 6:44 p.m. with 120-minute headways.

Route 28 (Watsonville – Salinas via Castroville) provides connections between Watsonville and Moss Landing, Castroville, Prunedale, and Salinas. Major destinations include the Salinas Amtrak/Greyhound Station, the Salinas Transit Center, the Watsonville Transit Center and several park and ride sites along State Route 1. Route 28 travels northwest on W Market Street from the Salinas Transit Center to Highway 183, then continues north on State Route 1 towards the Watsonville Transit Center. Select trips detour to Prunedale via Highway 156. Weekday service operates between 6:45 a.m. to 7:30 p.m. with 120-minute headways while weekend service operates between 6:45 a.m. to 7:30 p.m. with 120-minute headways.

Route 29 (Watsonville – Salinas via Prunedale) connects downtown Watsonville to Las Lomas, Prunedale, and Salinas. Key destinations include the Salinas Transit Center, Northridge Mall in Salinas, the Prunetree Center, and the Watsonville Transit Center. Route 29 provides limited local service along N Main Street and Prunedale Road before continuing north on San Miguel Canyon Road and Salinas Road towards the Watsonville Transit Center. Service operates between 5:45 a.m. to 6:50 p.m. on weekdays with 120-minute headways and between 7:34 a.m. to 8:00 p.m. on weekends with 120-minute headways.

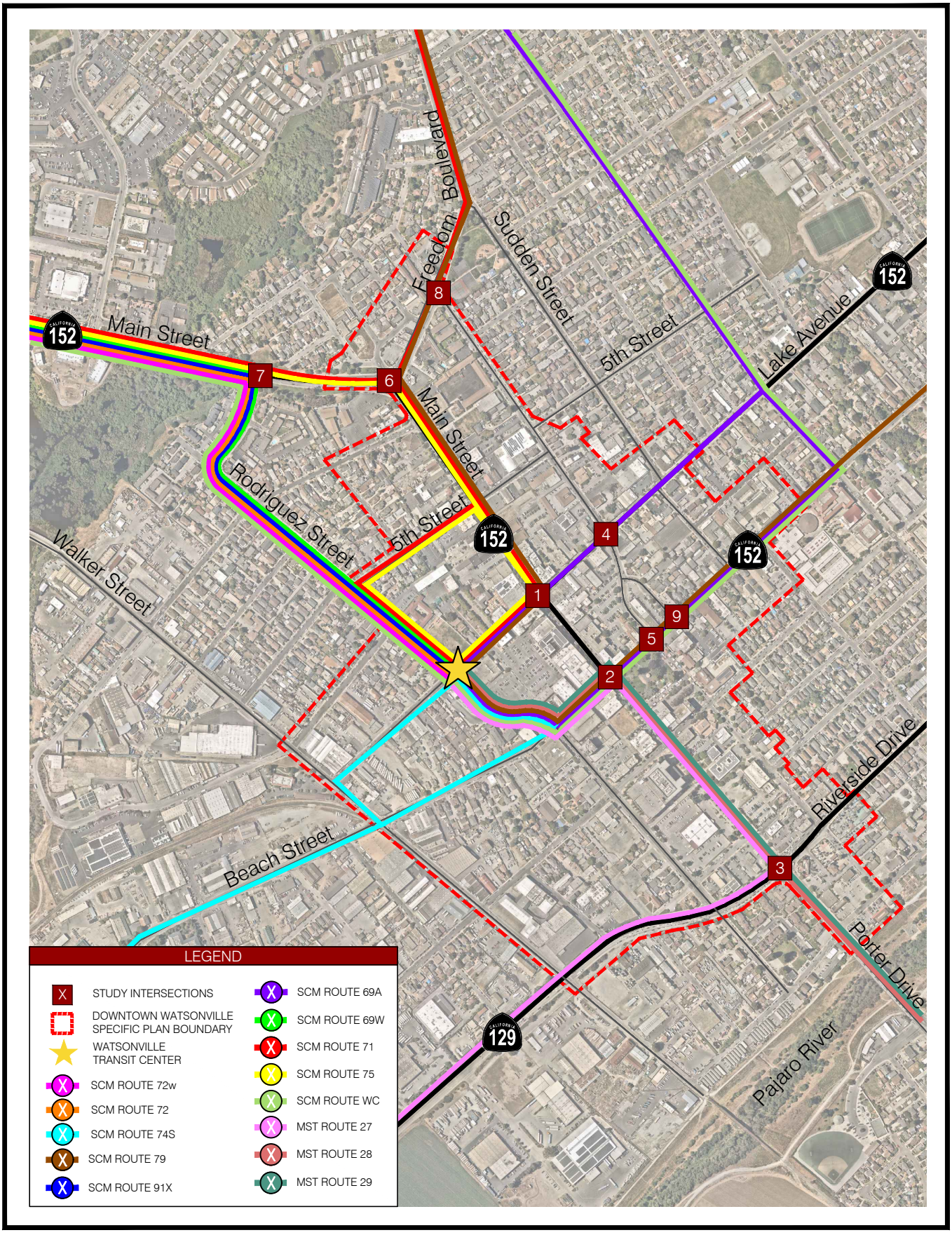

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FIGURE 5
TRANSIT FACILITIES

3. PROJECT DESCRIPTION

This chapter presents a description of anticipated growth and recommended roadway improvement in the DWSP.

PROPOSED GROWTH AND ROADWAY IMPROVEMENTS

The DWSP growth projections are intended to cover all anticipated development in the next 25 years. **Table 4** provides a detailed breakdown of anticipated development by land use. As shown in this table, the projected growth in the DWSP area consists of 3,886 residential units, 157,785 square feet of restaurants, 57,788 square feet of retail, 56,524 square feet of R&D, 60,798 square feet of office, 114,572 square feet of civic use, and 275,084 square feet of industrial use. For non-residential uses, the equivalent in employment jobs as a result of the projected land development is 796 restaurant jobs, 63 retail jobs, 184 R&D jobs, 198 office jobs, and 175 industrial jobs. As the DWSP includes plans for redeveloping the Old City Hall building and consolidating City essential services—Police and Fire—at the Fire station site on Rodriguez Street, existing City employees would have new homes downtown. Therefore, the number of Civic jobs remain the same and have been redistributed to future sites.

Table 4: DWSP Growth Projections by Land Use

Proposed Use	Type	Size (Square Feet)	Total	Size (Jobs)	Total
Residential	Residential	3,886 DU	3,886 DU	3,886 DU	3,886 DU
Restaurants, Cafes, Bars	Commercial Industrial	150,248 SF 7,537 SF	157,785 SF	758 jobs 38 jobs	796 jobs
Retail	Commercial	57,788 SF	57,788 SF	63 jobs	63 jobs
R&D	Industrial	56,524 SF	56,524 SF	184 jobs	184 jobs
Office	Commercial Industrial	23,115 SF 37,683 SF	60,798 SF	75 jobs 123 jobs	198 jobs
Civic	Civic	114,572 SF	114,572 SF	N/A[1]	N/A[1]
Industrial	Industrial	275,084 SF	275,084 SF	175 jobs	175 jobs
Total	**Residential Commercial Industrial Civic**	**3,886 DU 231,151 SF 376,827 SF 114,572 SF**	**722,550 SF**	**3,886 DU 896 jobs 520 jobs –**	**1,416 jobs**

[1] Civic jobs remain the same and are redistributed within the DWSP boundary. Therefore, no growth is shown for the Civic land use.

As discussed in the Introduction, the DWSP includes several key recommended roadway improvements, which are further described in detail in **Table 5**:

Table 5: Proposed Roadway Improvements

Roadway	Proposed Improvement
Main Street	A road diet is proposed along Main Street to reduce the roadway between Freedom Boulevard and Riverside Drive from four lanes to three lanes. Main Street would consist of one lane in each direction with a two-way left-turn lane. A roundabout is also considered as an alternative traffic control at the intersection of Main Street and Freedom Boulevard (Intersection #6).
East and West Lake Avenue	The one-way couplet in the westbound direction along Lake Avenue between Lincoln Street and Rodriguez Street will be converted to a three-way roadway with one lane in the eastbound direction, one lane in the westbound direction, and a two-way left-turn lane.
East Beach Street	The one-way couplet in the eastbound direction along Beach Street between Main Street and Lincoln Street will be converted to a three-lane roadway with one lane in the eastbound direction, one lane in the westbound direction, and a two-way left-turn lane.
5th Street	Proposed shared bike lanes and traffic calming measures along 5th Street between Harkins Sough Road and Brennan Street
Union Street	Proposed shared bike lanes and traffic calming measures along Union Street between Front Street and Beach Street. Remove Union Street between Alexander Street and Beach Street and to realign Union Street with Alexander Street as a straight roadway

4. CALIFORNIA ENVIRONMENTAL QUALTIY ACT (CEQA) ANALYSIS

This chapter presents an analysis of the project impacts under CEQA as it relates to VMT and facilities for alternative modes of transportation including pedestrian, bicycle, and transit facilities.

VMT ANALYSIS

The VMT analysis was conducted based on the City's adopted VMT Policy. In accordance with the City's SB 743 implementation guidelines for analyzing VMT for CEQA compliance, the SCC Travel Demand Model was used to determine the Project's VMT impacts.

In order to evaluate the Specific Plan's VMT, the zoning for the Specific Plan needed to be first entered in the SCC Travel Demand Model. This dataset relied on land use growth projections developed as part of the Specific Plan update.

To determine the amount of VMT associated with the projected land use growth, first the number of households and jobs for the Project needed to be determined. While the SCC Travel Demand Model uses dwelling units as its input, there is no differentiation between single-family and multi-family residential in terms of trip generation and distribution. Therefore, the trip generation and travel characteristics are not sensitive to the type of residential units. The SCC Travel Demand Model also only represents non-residential land uses as number of jobs. Therefore, the projected non-residential growth was converted into number of jobs from building square feet using the rates from ITE Trip Generation Manual 11th Edition. Note that the growth between the model base year (2019) and future year (2040) was replaced by the growth projected as part of the DWSP. The land use totals for the projected Specific Plan input into the model are summarized in **Table 6** below.

Table 6: SCC Travel Demand Model Land Use Inputs for Proposed Growth

Land Use Type	Household	Non-residential Development (Square Feet)	Adjustment Factor (ITE Rates)	Employment
Multi-Family Residential	3,886	-	-	-
Restaurant	-	157,785	5.04	776
Retail	-	57,788	1.44	83
Office	-	117,32	3.26	382
Industrial	-	275,084	1.00	175
Total	**3,886**	**607,978**		**1,416**

The VMT for the residential land uses was computed by combining the production VMT for all Home-Based trip purposes. VMT for non-residential land uses was computed from the attraction Home-Based Work VMT. The external VMT for residential land uses was determined by multiplying the calibrated external trip distance by TAZ determined using big data (Teralytics) by the total internal-external (I-X) Home-Based trips for that TAZ. The external VMT for non-residential land uses was determined by multiplying the calibrated external trip distance by TAZ determined previously by the total internal-external (I-X) Home-Based Work trips for that TAZ.

To determine the share of the non-residential VMT for the office and industrial land uses, the total number of trips attracted to each TAZ were calculated by multiplying the model's underlying trip generation rate for

the Home-Based Work trip purpose by employment type. The office land use share of the total VMT was then calculated by dividing the number of trips generated from office employment by the total number of Home-Based Work Trips calculated using the trip generation rates. The VMT for the office land uses was calculated by multiplying the office land use share by the total Home-Based Work VMT (including External VMT). Similarly, the VMT for the industrial land uses was calculated by multiplying the industrial land use share by the total Home-Based Work VMT (including External VMT).

Residential VMT per Capita, and office/industrial VMT per Employee, for each TAZ were computed by dividing the residential and office/industrial VMT by TAZ by the total population or total office/industrial employees, respectively. A VMT per Capita and VMT per Employee weighted average was calculated for the TAZs comprising proposed Specific Plan based on population and employment, respectively.

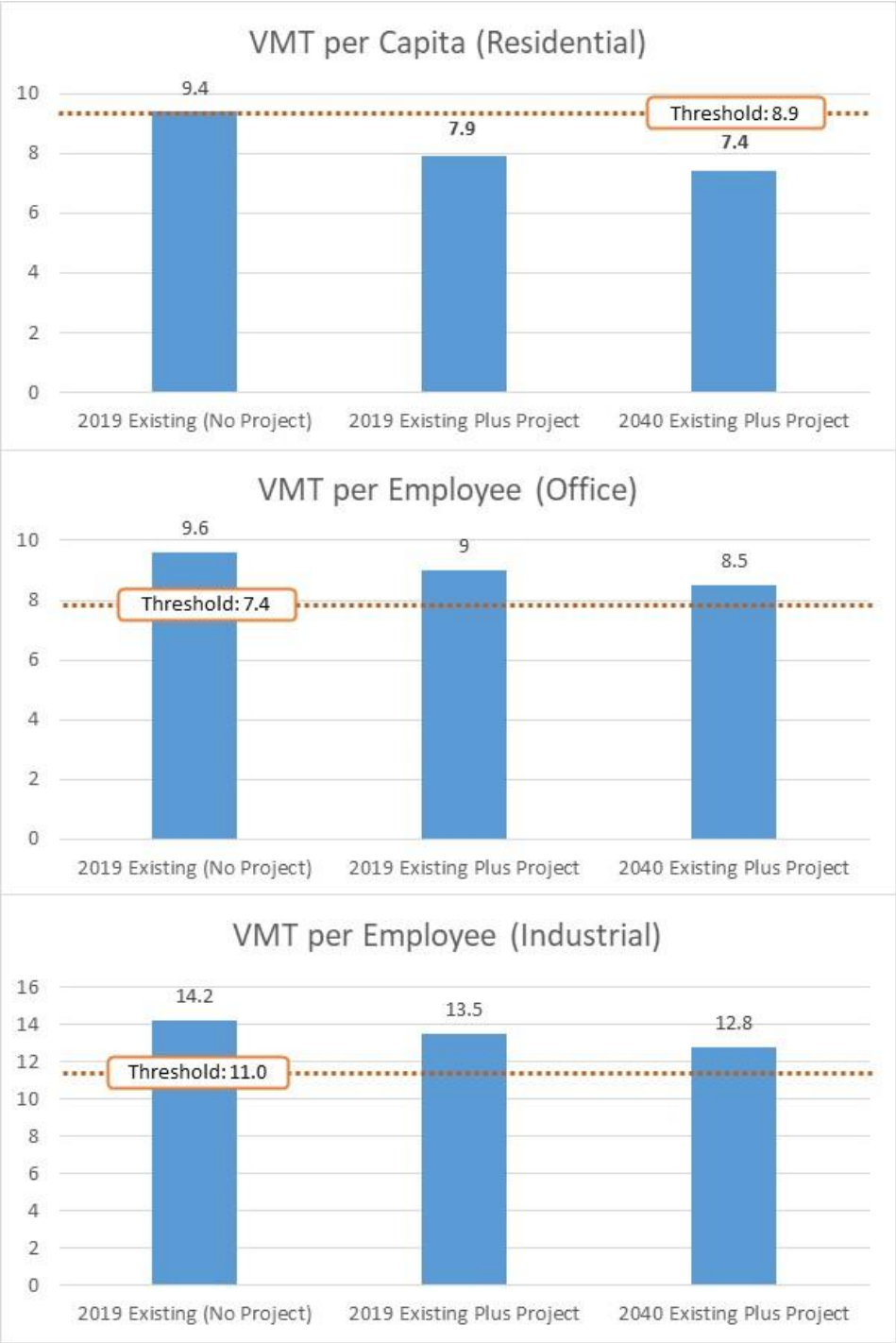
Table 7 summarizes the VMT per Capita and VMT per Employee for the proposed Specific Plan by scenario. As shown in **Table 7**, For Existing Plus Project and Future Plus Project scenarios, the residential land uses result in a VMT per Capita below the City's established threshold. Note that the Existing No Project scenario shows VMT per Capita above the City's established threshold, and with the projected residential growth the project area VMT per Capita reduces to below threshold level. The results are also illustrated in **Figure 6**. As shown in **Figure 6**, anticipated development in the DWSP area would result in a reduction of VMT per employee (office and industrial), as expected from more infill development. However, the amount of reduction would not reduce VMT below the City's threshold of 15 percent below the regional average VMT. As shown in Table 7, the VMT per Employee (office and industrial) for Existing No Project, Existing Plus Project and Future Plus Project is above the this threshold.

Table 7: Project Vehicle Miles Traveled (VMT) by Land Use

Scenario	VMT Per Capita (Residential)	VMT Per Employee (Office)	VMT Per Employee (Industrial)
Project VMT per Capita or VMT per Employee by Scenario			
Threshold	**8.9**	**7.4**	**11.0**
2019 Existing (No Project)	9.4	9.6	14.2
2019 Existing Plus Project	7.9	9.0	13.5
2040 Existing Plus Project	7.4	8.5	12.8
Over Threshold?			
2019 Existing (No Project)	**Yes**	**Yes**	**Yes**
2019 Existing Plus Project	No	**Yes**	**Yes**
2040 Existing Plus Project	No	**Yes**	**Yes**

Note: Project VMT represents weighted average VMT of Downtown Watsonville Specific Plan TAZs

Figure 6: Project Vehicle Miles Traveled (VMT) by Land Use - Graph

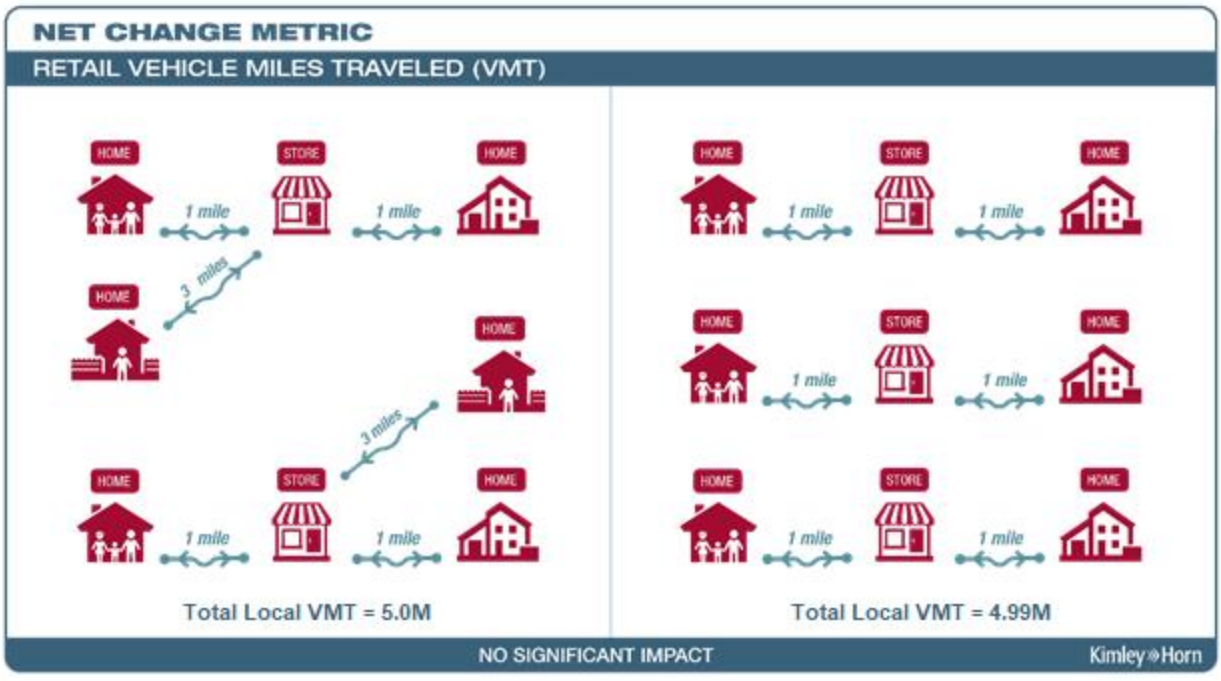


As previously noted, the retail land uses were analyzed qualitatively. The City of Watsonville SB 743 Implementation Guidelines specifically addresses some of the key issues surrounding how a local serving retail store should be evaluated in terms of its VMT impact. As described, the threshold for significance is "a net increase." This means that if a proposed retail use results in additional VMT, it would result in a finding of significance.

Local serving retail primarily serves pre-existing shopping needs in the community (i.e., they do not generate new trips because they meet existing demand). Because of this, local-serving retail uses can be presumed to reduce trip lengths when a new store is proposed. Essentially, the assumption is that someone will travel to a newly constructed local serving store, such as a coffee shop, restaurant, clothing store, or other type of commercial business because it is nearby. Proximity is the main factor, rather than a proposed retail store fulfilling an unmet need (i.e., the person has an existing need that was met by the retail located further away and is now traveling to the new retail use because it is closer to the person's origin location). This results in a trip on the roadway network becoming shorter, rather than a new trip being added to the roadway network, which would result in an impact to the overall transportation system. Conversely, residential and office land uses often drive new trips given that they introduce new participants to the transportation system. The City of Watsonville SB 743 Implementation Guidelines provides for a general threshold of 50,000 square-feet as an indicator as to whether a retail store can be considered local serving or not. Based on the understanding that no single store within the estimated 875,000 square feet of retail uses will exceed 50,000 square feet, it is presumed that the proposed retail uses will not result in a net increase in VMT and would therefore not result in a significant impact. Retail stores exceeding 50,000 square feet are generally categorized as big-box retail shops which are not envisioned for the proposed downtown specific plan.

Figure 7 has been provided to visually demonstrate the basis of this finding. Note that the numbers provided are for illustrative purposes as the analysis technique used is qualitative.

Figure 7: Illustration of the VMT Reducing Effect of Local Serving Retail



Regional serving retail is not considered for the proposed downtown specific plan, as mentioned above.

Summary of VMT Findings

Based on the results of this analysis, the following findings are made:

- The residential land uses do not exceed the threshold of significance for the Project scenarios. **The project is determined to not have a significant transportation impact for residential development**.
- The office and industrial land uses do exceed the threshold for the Existing Plus Project scenario and the Future Plus Project scenario. As a result, **the project is determined for office and industrial land uses to have a significant transportation impact.**
- The proposed project's retail stores are assumed to be smaller than 50,000 square feet per store, per the City of Watsonville SB 743 Implementation Guidelines, **they are presumed to not have a significant impact**.

VMT Reducing Design Principles, Policies, and Improvements

The DWSP does not involve individual development projects and therefore is evaluated at a programmatic level. Given that the DWSP is not evaluated on a project level, the effect of specific design principles, policies, and improvements that will reduce VMT cannot be accounted for fully as part of this analysis. However, these approaches are still important considerations in evaluating the results of this VMT analysis and as appropriate they should be accounted for in subsequent VMT evaluations of future individual development projects within the DWSP area.

VMT Reducing Design Principles

Certain design elements of a project may reduce VMT. The following elements of the DWSP are considered VMT reducing yet difficult to evaluate at a programmatic level:

- Compact development near transit
- A walkable environment with a mix of uses
- A range of housing options
- A variety of transportation options
- Preservation of open space

Mixed-Use Specific Principles

Mixed-use development combines two or more types of land uses into a building or set of buildings that are physically or functionally integrated. Mixed-use, as planned for downtown Watsonville, seeks to promote smart growth principles that can result in less driving than compared with suburb and other forms of urban development patterns and includes the following:

- Diversity and appropriate mix of uses
- Pedestrian orientation
- Community focal point
- Excellence in design
- Coordination of development strategies
- Sustainability

The DWSP includes a mix of land use types (e.g., retail, restaurants, industrial, residential, etc.) within and near to Watsonville's historic downtown. This is intended to help foster favorable conditions for creating an active, vibrant pedestrian-oriented environment. The SCC Travel Demand Model does not, however, have the functionality to analyze many of the design principles. In addition, as development will occur over time, the exact nature, location, and timing of VMT reducing considerations cannot be known at present. The additional effect of these design features will need to be evaluated at the individual project-level—rather than at the programmatic level However, it should be noted that consideration of the project features will have a noticeable impact on analyzing development projects, but the impact will vary on the location and design features selected. Project features may include addition of live/work units, designated pickup zone for carpooling and vanpooling programs, secured bike storage etc.

Transportation Demand Management Measures

VMT mitigation often relies heavily on TDM measures. These measures generally represent two basic approaches: policy and infrastructure. The California Air Pollution Control Officers Association (CAPCOA) guide for Quantifying Greenhouse Gas Mitigation Measures, recently updated in December 2021, is one of

the primary bases for estimating mitigation effects in California. Although this resource is invaluable, care needs to be taken in terms of its application given that some TDMs have limited sample sizes and many of the measures are based on experiences in highly urbanized areas. Depending on the selected TDMs, it can also be challenging from the standpoint of mitigation monitoring and are often unpopular with project applicants because they may need to be managed and paid for in perpetuity. These limitations have led jurisdictions to increasingly consider programmatic approaches to VMT mitigation.

As part of the City's adopted VMT Policy are a range of TDM measures which were selected for their appropriateness for Watsonville's setting and include reasonable maximums for their expected VMT reductions. Future project level analyses for individual development projects will rely on the City's TDM options.

Although many of the TDM measures may be appropriate to individual project implementation, many of the identified TDMs may be better suited to a programmatic approach where they are implemented across the entire DWSP area. VMT reductions from these TDM measures will be evaluated based on methodology from the most recent version of the CAPCOA guidelines[1]. The following TDMs (included in the City's VMT policy) have been identified as the potential basis for a programmatic approach to TDM implementation within the DWSP area:

Each individual project will have to provide a TDM plan and monitoring program. This plan will identify the TDM reductions. The monitoring program will establish goals and policies to ensure the efficient implementation of the TDM plan.

- Reduce parking supply (TDM measure #27)
- Transit stops (TDM measure #1)
- Mandatory travel behavior change program (TDM measure #5)
- Promotions and marketing (TDM measure #6)
- Emergency Ride Home (ERH) program (TDM measure #11)
- Bike share (TDM measure #12)
- Implement on-street and on-site pedestrian facilities (TDM measure #24)
- Implement/Improve on-street and on-site bicycle facilities (TDM measure #19)
- Traffic calming improvements (TDM measure #23)

Multimodal Improvements

In terms of transit, the Watsonville Transit Center provides transit service within and beyond the DWSP area. The DWSP includes a number of recommendations for improving the transit network and access to transit, including by working with local agencies to expand the speed and frequencies of fixed-route bus service and by connecting pedestrian and bicycle improvements to bus stops and requiring new developments near transit to improve stop amenities (e.g., real-time information, enhanced lighting, upgraded shelters). It is reasonable to assume that at a minimum 4% VMT reduction will result from these transit improvements in the DWSP area. It is likely that higher transit use may occur given that additional capacities are not planned for SR 152 and SR 129 in the future.

[1] Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, December 2021

Participation in a VMT Bank

Programmatic approaches that rely on collectively funding larger infrastructure projects hold great promise for VMT mitigation as they allow a project to obtain an amount of mitigation commensurate with their impact, include only a single payment without the complexity of ongoing management, and do not require on-going mitigation monitoring. Programmatic approaches can also provide a public benefit in terms of funding transportation improvements that would not otherwise be constructed, resulting in improvements to congestion, GHG emissions, increased transportation choices, and additional opportunities for active transportation.

Under a VMT Banking framework, unfunded projects that would reduce VMT if constructed, such as new trail and other active transportation projects, are grouped together and their associated VMT reductions are monetized in the form of credits. These credits are then purchased for the purposes of mitigating VMT in excess of determined impact thresholds. The underlying projects may be either regionally or locally beneficial to the area in which the project is located. The City has an established VMT Banking program as part of its recently adopted VMT Policy; however, it is early in its development and implementation so the impact on VMT mitigation of such a program is still being determined. The purpose of a VMT Bank is to provide another option for development projects to mitigate VMT impacts to a less than significant level that might otherwise not have the ability to reduce VMT using TDM and other onsite measures.

VMT Mitigation

Many aspects of the DWSP will result in people driving less or driving shorter distances. In this sense, implementation of the DWSP is self-mitigating with respects to reducing VMT on a per capita and per employee basis. However, given the programmatic level data that is available for this downtown level plan, a detailed TDM plan typically required for each individual project cannot be developed at this stage. However, the VMT reducing design principles and policies included in the City's VMT policies provides an adequate tool box of measures to mitigate the VMT impacts.

TRANSIT, ROADWAY, BICYCLE, AND PEDESTRIAN CIRCULATION SYSTEM

The following describes the project's potential impact on transit, roadway, bicycle, and pedestrian circulation as it relates to City programs, plans, ordinances, or policies.

Transit Access and Circulation

The Watsonville Transit Center, located on the corner of Rodriguez Street and West Lake Avenue, provides inter- and intra-city transit connections for the DWSP area. The Transit Center is served by Santa Cruz METRO's fixed-route and paratransit services, in addition to a limited number of Monterey-Salinas Transit fixed-route and Greyhound bus services. The Project would not result in a disruption of existing transit; rather, it would likely result in residents utilizing nearby transit facilities and thereby increase ridership. In addition, transit is expected to be improved in the future by expanding the speed and frequency of fixed-bus routes and enhancing access from connecting pedestrian and bicycle improvements to bus stops, encouraging new developments near transit, and improving amenities at bus stops. The DWSP includes specific goals (Goal #12) and General Plan Policies (Policy #10.F) related to transit that calls for leveraging and supporting existing transit service to help realize downtown's potential to become a multi-modal mixed-use district.

Therefore, the Project would not conflict with the City's adopted plans and policies as it relates to transit facilities.

Bicycle Access and Circulation

Class I bicycle facility currently exist on Main St, Class II bicycle facility currently exist on Rodriguez Street, Walker Street and Freedom Boulevard. These facilities are proposed to expand as part of the project as well as additional bicycle facilities are proposed on Brennan Street, Union Street, Sudden Street, Marchant Street, and Maple Avenue. The project is not proposing any features that would disrupt the existing and future bicycle facilities adjacent and near the project site. The DWSP includes specific goals (Goal #10) and General Plan Policies (Policy #10.5) that calls for providing convenient access and circulation for all modes of transportation and enhancing the walkability and bikeability in downtown.

Therefore, the project would not conflict with the City's adopted plans and policies as it relates to bicycle facilities.

Pedestrian Access and Circulation

There are currently sidewalks along most of the roadways within the Specific Plan area. The DWSP identifies opportunities to expand the pedestrian realm with parklets and curb extensions, and to increase the permeability of the Downtown street network with paseos. The project is recommending pedestrian network improvements to address the need for safer, more visible crossings on high-speed, high-volume arterial streets and comfortable off-street facilities that provide alternative access routes to local amenities. Underutilized alleyways and spaces between buildings are recommended to be repurposed to create a paseo network, which will provide pedestrians alternative paths to travel around Downtown. Upgrades at major intersections such as Main Street and East Lake Avenue may include curb extensions, crosswalk visibility enhancements, and leading pedestrian intervals are recommended. The future pedestrian facilities improvements are not expected to conflict with the existing or planned pedestrian facilities. The DWSP includes specific goals (Goal #10) and General Plan Policies (Policy #10.7) that calls for improving pedestrian facilities to improve safe and efficient pedestrian circulation in downtown.

Therefore, the project would not conflict with the City's adopted plans and policies as it relates to pedestrian facilities.

5. LOCAL TRANSPORTATION ANALYSIS

This chapter discusses the local transportation analysis to determine the operational effects of the proposed project on the transportation system, including LOS and vehicle queuing analyses.

EXISTING CONDITIONS ANALYSIS

Existing conditions analysis is based on traffic counts shown in **Figure 3** as well as existing roadway geometry, and traffic controls, shown in **Figure 2**, as of September 2022. **Table 8** displays the intersection LOS analysis results under Existing Conditions. All study intersections function within acceptable LOS standards under this analysis scenario.

Intersection LOS calculation worksheets are provided in **Appendix B.**

EXISTING PLUS PROJECT CONDITIONS ANALYSIS

LANE GEOMETRY AND CONTROL

Existing Plus Project conditions lane geometry and traffic control is illustrated in **Figure 8**. The figure depicts the change in geometry and traffic control as a result of the roadway improvements which include implementing a road diet on Main Street, decoupling the one-way couplet at Beach Street and Lake Avenue, realigning Union Street near Brennan Street and Alexander Street, and installing a roundabout at Freedom Boulevard and Main Street. It should be noted that a roundabout is being considered as an alternative traffic control at Intersection #6 (Main Street / Freedom Boulevard). Therefore, both a roundabout and signal control are included in the figure and were analyzed under plus project conditions. The roundabout alternative was analyzed considering two alternatives at the intersection of Main Street / Ford Street, one with a traffic signal as existing and one with right-in/right-out movement only at Ford Street approach.

TRAFFIC VOLUMES

Existing Plus Project volumes were determined using a two-step approach to account for anticipated growth and the proposed roadway network modifications. The first step was to enter the proposed roadway network modifications into the SCC Travel Demand Model and determine the shift in travel pattern as a result of the change in the roadway network. As previously discussed, these roadway improvements include implementing a road diet on Main Street, decoupling the one-way couplet at Beach Street and Lake Avenue, realigning Union Street near Brennan Street and Alexander Street and implementing traffic calming measures on Union St and 5th Street. Based on the changes observed from the shift in traffic within the model, existing volumes were manually reassigned from intersection of Beach St and Main St to Lake St and Main St via Rodriguez. The second step was to apply the increase in traffic volumes as a result of the projected growth in the DWSP area. For this step separate model runs were conducted, one with only the roadway modifications and a second with both the roadway modifications and the projected growth. The projected growth in household and jobs were applied to the relevant traffic analysis zones (TAZs) within the SCC Travel Demand Model. The difference in traffic volumes between the two model runs were added to the reassigned existing volumes developed in the previous step to determine Existing Plus Project volumes. Project generated peak hour volumes associated with the projected growth is shown in **Figure 9**. Redistribution of baseline volumes as a result of roadway improvements are not reflected in **Figure 9**. Volumes generated from the projected growth and redistribution of existing volumes were added to the existing volumes to develop Existing Plus Project peak hour volumes and are shown in **Figure 10**.

INTERSECTION LEVEL OF SERVICE

Traffic operations were evaluated at the study intersections under existing conditions plus traffic generated by the Project and the redistribution of volumes as a result of the roadway changes. **Table 8** displays the intersection LOS analysis results under Existing Plus Project Conditions. As shown in the table, all study intersections operate at acceptable LOS D or better.

Intersection LOS calculation worksheets are provided in **Appendix C.**

The proposed roundabout at Intersection #6 (Main Street / Freedom Boulevard) was analyzed using SIDRA software and results of the analysis are shown in **Table 9**. The roundabout was analyzed along with the adjacent intersection of Main Street / Ford Street in order to assess queues between the two closely spaced intersections. The intersection of Main Street / Ford Street is signalized, therefore the southbound and northbound traffic coming in and out of the roundabout is affected by the signal control at Main Street / Ford Street. As shown in the table, the roundabout will operate at a V/C less than 0.85 and the signal operates at acceptable LOS B or better in the AM, PM, and Saturday peak hours.

Table 8: Existing and Existing Plus Project Level of Service Summary

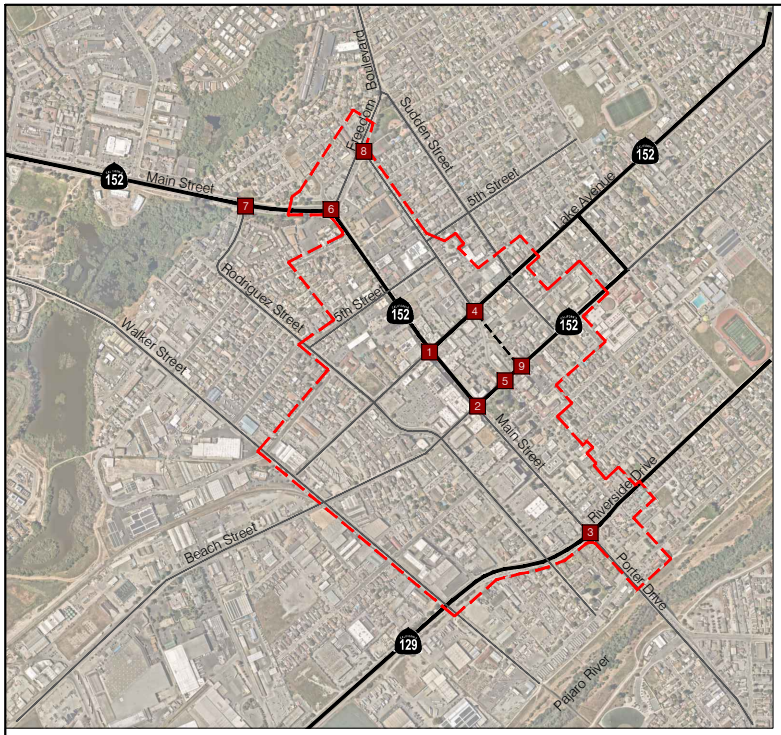
#	Intersection	LOS Criteria	Jurisdiction	Control	Existing						Existing Plus Project								
					AM Peak		PM Peak		Saturday		AM Peak			PM Peak			Saturday		
					LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	Var	LOS	Delay (sec)	Var	LOS	Delay (sec)	Var
1	Lake Avenue / Main Street	D	Caltrans	Signal	A	8.3	B	12.0	B	12.5	C	28.5	20.2	D	44.5	32.5	C	26.8	14.3
2	Beach Street / Main Street	D	Caltrans	Signal	B	13.3	C	22.3	B	18.9	D	53.9	40.6	D	45.9	23.6	C	29.4	10.5
3	Riverside Drive / Main Street	D	Caltrans	Signal	D	40.3	D	41.6	D	38.7	D	39.6	-0.7	D	46.2	4.6	D	44.0	5.3
4	Lake Avenue / Union Street	D	Caltrans	Signal	A	7.8	C	24.5	-	-	C	33.8	26.0	C	29.2	4.7	-	-	-
5	Beach Street / Union Street	D	Caltrans	Signal	A	7.4	B	16.2	-	-	C	27.3	19.9	C	30.9	14.7	-	-	-
6	Main Street / Freedom Boulevard	D	Caltrans	Signal	C	33.7	D	39.8	C	26.5	D	41.2	7.5	C	34.3	-5.5	C	30.0	3.5
7	Main Street / Rodriguez Street	D	Caltrans	Signal	C	23.0	C	22.4	-	-	D	40.3	17.3	D	36.2	13.8	-	-	-
8	Freedom Boulevard / Brennan Street	D	City	Signal	B	12.4	C	27.6	-	-	B	13.6	1.2	C	30.6	3.0	-	-	-
9	Beach Street / Alexander Street *Worst Approach*	D	Caltrans	SSSC/ Signal	A	0.3	A	0.6	-	-	C	24.5	24.2	C	24.0	23.4	-	-	-

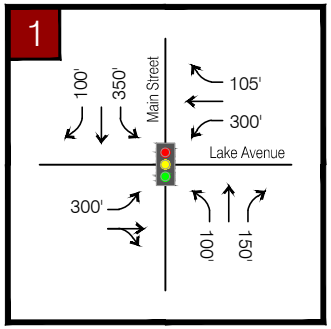
Note: Intersections that are operating below acceptable levels are shown in **BOLD**. Project caused deficiencies are shaded.
[1] SSSC = Side Street Stop Control
[2] The average control delay is reported for signalized intersections. The average control delay and the delay for the worst movement is reported for SSSC intersections.
[3] Intersection #6 in Existing Conditions and Intersections #5 and 9 in Existing Plus Project Conditions were analyzed using HCM 2000 methodology. All other intersections were analyzed using HCM 6th methodology.
[4] Intersection #9 will be signalized under plus project conditions.

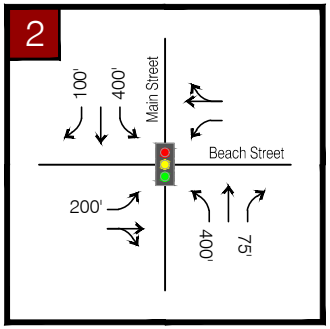
Table 9: Existing Plus Project Roundabout V/C Summary

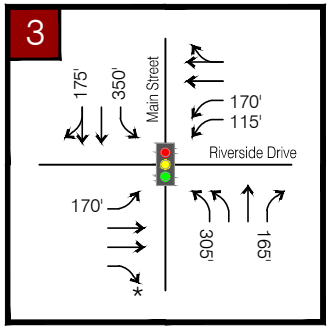
#	Intersection	RAB V/C Criteria Signal LOS Criteria	Jurisdiction	Control	Existing Plus Project		
					AM Peak	PM Peak	Saturday
					RAB V/C Signal LOS/Delay	RAB V/C Signal LOS/Delay	RAB V/C Signal LOS/Delay
6	Main Street / Freedom Boulevard[1]	0.85	Caltrans	RAB	0.433	0.690	0.567
10	Main Street / Ford Street	D	Caltrans	Signal	LOS A - 9.9 secs	LOS B - 13.4 secs	LOS B - 14.0 secs

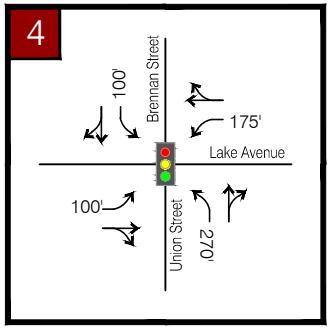
Note:
[1] RAB = Roundabout Intersection
[2] Intersection V/C and LOS was analyzed using HCM 6th Edition methodology

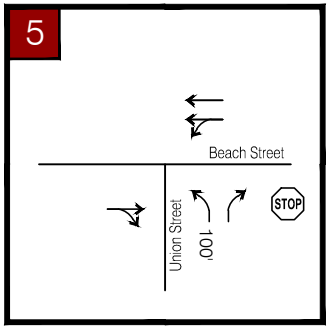


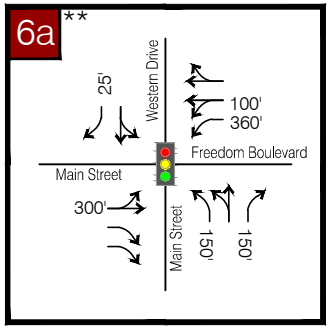


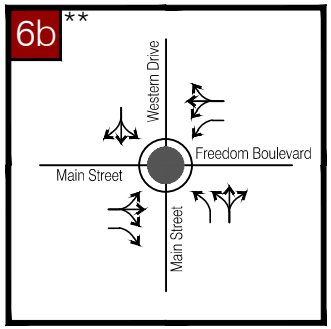


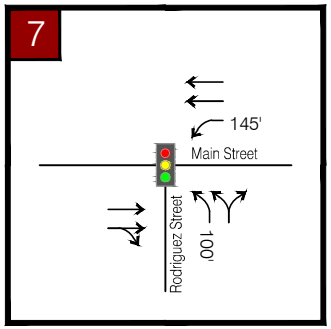


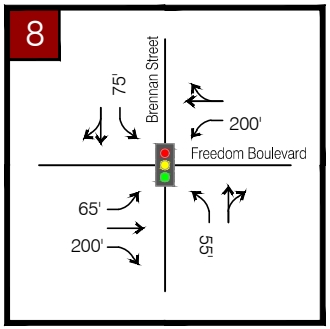


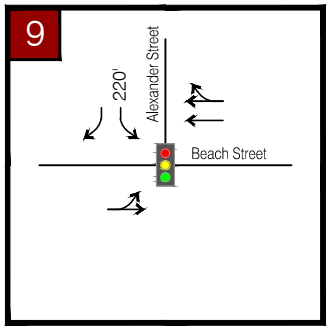












LEGEND

- X — STUDY INTERSECTIONS
- DOWNTOWN WATSONVILLE SPECIFIC PLAN BOUNDARY
- FUTURE ROADWAY
- TRAFFIC SIGNAL
- ONE-LANE ROUNDABOUT
- STOP — STOP SIGN
- XX' — STORAGE LENGTH
- DROP — DROP LANE

* STRIPED AS A SHARED THROUGH/RIGHT TURN LANE, ANALYZED AS A SEPARATE DE FACTOR RIGHT TURN LANE.

**A TRAFFIC SIGNAL AND ROUNDABOUT ARE CONSIDERED AT INTERSECTION #6 AND THEREFORE BOTH TYPES OF CONTROLS WERE ANALYZED IN PLUS PROJECT CONDITIONS.

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NOT TO SCALE

FIGURE 8

EXISTING PLUS PROJECT CONDITIONS LANE GEOMETRY AND TRAFFIC CONTROL

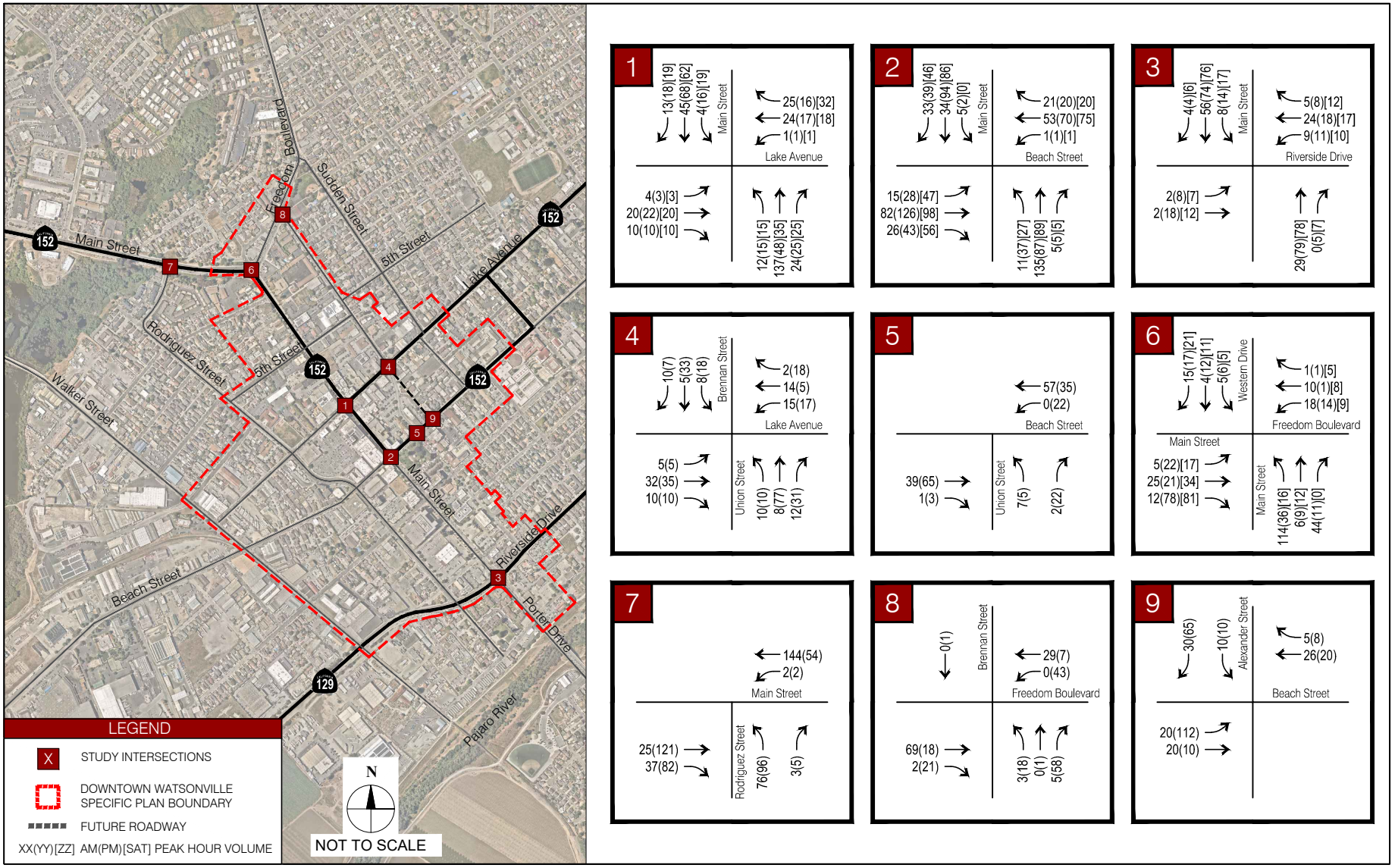

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FIGURE 9

LAND USE GROWTH TRIP ASSIGNMENT - PEAK HOUR TURNING MOVEMENT VOLUMES

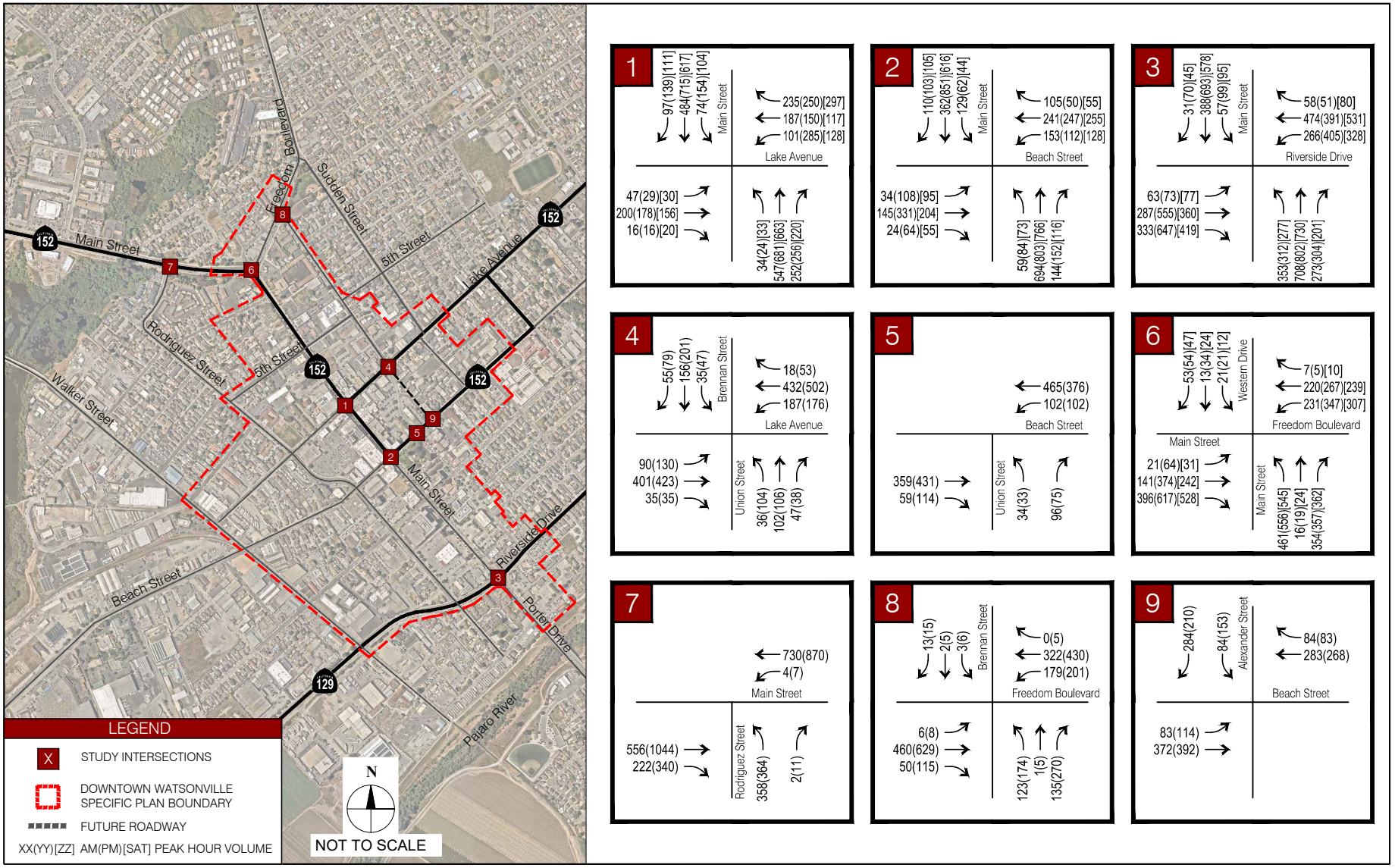

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FIGURE 10

EXISTING PLUS PROJECT CONDITIONS PEAK HOUR TURNING MOVEMENT VOLUMES

FUTURE PLUS PROJECT CONDITIONS ANALYSIS

LANE GEOMETRY AND CONTROL

Future Plus Project conditions are assumed to be the same as Existing Plus Project conditions since no further roadway improvements were identified. **Figure 8** illustrates the intersection geometry and traffic control assumed for the Future Plus Project analysis.

TRAFFIC VOLUMES

Similar to the Existing Plus Project volume development, Future Plus Project volumes were determined using a two-step approach to account for anticipated growth and the proposed roadway network modifications. The first step was to enter the proposed roadway network modifications into the SCC Travel Demand Model and determine the shift in travel pattern as a result of the change in the roadway network, and manually reassign volumes where needed. The second step was to apply the increase in traffic volumes as a result of the projected growth in the DWSP area. For this step separate model runs were conducted, one with only the roadway modifications in the future and a second with both the roadway modifications and the projected growth in the Year 2040. The projected growth in household and jobs were applied to the relevant TAZs within the SCC Travel Demand Model. The difference in traffic volumes between the two model runs were added to the reassigned future volumes developed in the previous step to determine Future Plus Project volumes. Since the travel demand model is not sensitive to the intersection traffic operations, additional traffic volume adjustments were made based on the congestion observed during the intersection operations analysis to account for travel pattern changes that are expected due to the road diet and the proposed roadway modifications. Based on the queuing analysis, northbound and southbound queues might exceed the storage capacity along Main Street and traffic would be expected to reroute to other streets with more capacity. To reflect this shift in traffic, about 150 peak hour vehicles traveling northbound and using East Beach Street were reassigned to use instead East Lake Avenue. Additional 150 vehicles in the northbound and southbound through directions along Main Street were reassigned to other side streets. Future Plus Project peak hour volumes are shown in **Figure 11**.

INTERSECTION LEVEL OF SERVICE

Intersection LOS under Future Plus Project Conditions were analyzed using SimTraffic simulation within Synchro software and are based on an average result of 12 runs. **Table 10** displays the intersection LOS analysis results under Future Plus Project Conditions. All intersection operates at an acceptable LOS with the exception of the following:

- #3 – Riverside Drive / Main Street (Weekday AM and PM Peak Hours)

This intersection is significantly impacted by regional traffic that originates from outside of Watsonville. It includes traffic from San Benito and Santa Clara counties that is traveling west on State Route 129/Riverside Drive and from Monterey County that is traveling north on Salinas Road/Porter Street/Main Street. This is confirmed in the queuing analysis done in Section 6, which shows large queues in the west and north directions. The number of motorists is expected to increase in the future. There are local and regional projects that will have a positive impact on traffic volumes at this intersection. The City is currently working on a project to convert one of the two northbound through lanes to a left turn lane and lengthen the storage length to 300 feet for the two left turn lanes. The G12: Pajaro to Prunedale Corridor Study published by the Transportation Agency of Monterey County (TAMC) in 2019 proposes improvements along Porter Street/Salinas Road/County Road G12 that will positively impact the subject intersection. One is to reduce

the number of northbound travel lanes from two to one on the portions of Salinas Road and Porter Street that lead to the Pajaro River crossing. Another improves the intersection of Salinas Road, Werner Road and G12 which would encourage motorists using G12 to access State Route 1 via Salinas Road and not Main Street and State Route 129 as is currently done.

Intersection LOS calculation worksheets are provided in **Appendix D.**

The proposed roundabout at Intersection #6 (Main Street / Freedom Boulevard) was analyzed using SIDRA software and results of the analysis are shown in **Table 11**. The roundabout was analyzed along with the adjacent intersection of Main Street / Ford Street in order to assess queues between the two closely spaced intersections. The intersection of Main Street / Ford Street is signalized, therefore the southbound and northbound traffic coming in and out of the roundabout is affected by the signal control at Main Street / Ford Street. As shown in the table, the roundabout will operate at a V/C less than 0.85 and the signal operates at acceptable LOS B or better in the AM, PM, and Saturday peak hours.

Table 10: Future Plus Project Level of Service Summary

#	Intersection	LOS Criteria	Jurisdiction	Control	Future + Project					
					AM Peak		PM Peak		Saturday	
					LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
1	Lake Avenue / Main Street	D	Caltrans	Signal	C	23.3	D	50.3	C	23.3
2	Beach Street / Main Street	D	Caltrans	Signal	D	40.5	D	38.9	D	40.1
3	Riverside Drive / Main Street	D	Caltrans	Signal	**E**	**68.3**	**F**	**88.0**	D	42.0
4	Lake Avenue / Union Street	D	Caltrans	Signal	C	21.1	D	37.0	-	-
5	Beach Street / Union Street	D	Caltrans	Signal	B	18.2	B	17.3	-	-
6	Main Street / Freedom Boulevard	D	Caltrans	Signal	C	24.9	D	38.8	C	23.6
7	Main Street / Rodriguez Street	D	Caltrans	Signal	B	11.8	C	29.3	-	-
8	Freedom Boulevard / Brennan Street	D	City	Signal	B	13.4	C	26.7	-	-
9	Beach Street / Alexander Street *Worst Approach*	D	Caltrans	SSSC/ Signal	C	24.3	C	21.6	-	-

Note: Intersections that are operating below acceptable levels are shown in **BOLD**. Project caused deficiencies are shaded.
[1] SSSC = Side Street Stop Control
[2] The average control delay is reported for signalized intersections.
[3] Intersection LOS was analyzed using SimTraffic simulation for an average of 12 runs.

Table 11: Future Plus Project Roundabout V/C Summary

#	Intersection	RAB V/C Criteria Signal LOS Criteria	Jurisdiction	Control	Future Plus Project		
					AM Peak	PM Peak	Saturday
					RAB V/C Signal LOS/Delay	RAB V/C Signal LOS/Delay	RAB V/C Signal LOS/Delay
6	Main Street / Freedom Boulevard[1]	0.85	Caltrans	RAB	0.494	0.590	0.601
10	Main Street / Ford Street	D	Caltrans	Signal	LOS B - 11 secs	LOS B - 11.8 secs	LOS B - 12.1 secs

Note:
[1] RAB = Roundabout Intersection
[2] Intersection V/C and LOS was analyzed using HCM 6th Edition methodology

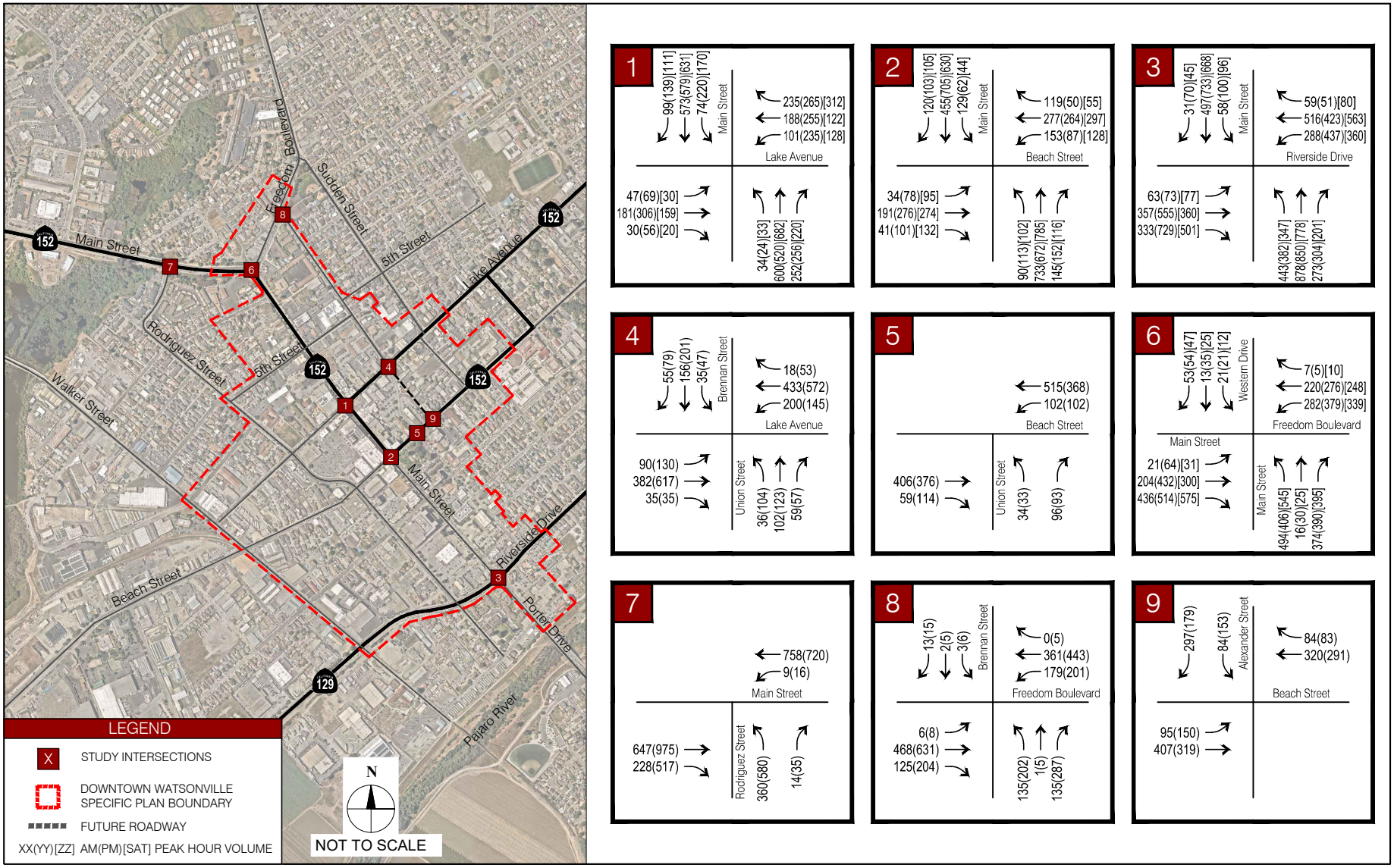

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FIGURE 11

FUTURE PLUS PROJECT CONDITIONS PEAK HOUR TURNING MOVEMENT VOLUMES

6. VEHICLE QUEUING ANALYSIS

This chapter presents the results of the vehicle queuing analysis completed at all study intersections to analyze whether the storage capacity of a roadway segment would be exceeded. This analysis modeled the queuing of vehicles at left-turn and right-turn pockets as well as through lanes to determine whether vehicles might affect an intersection's operation from extending beyond a street's available storage and into adjacent through lanes. In addition, a qualitative analysis was conducted if the Project results in queuing along the study roadways that extend into parallel roadways.

VEHICLE QUEUING

The implementation of a road diet along Main Street improves pedestrian safety through reduced crosswalk distances and lower vehicle speeds. It is also important to accommodate the vehicle progression in a manner that will not result in a gridlock. This project also proposes improved access through the elimination of the one-way couplet of East Beach Street and East Lake Avenue. Vehicles traveling through downtown will change their travel patterns based on the reconfiguration of the roadways and some spill over will occur on parallel routes (i.e., Rodriguez Street and Brennan Street between Freedom Boulevard and SR 129 and also to and from local destinations) as discussed in previous sections.

As traffic flows increase and shift, it is common for traffic at intersections to experience lower travel speeds and increased delay, which, in part is the purpose of implementing a road diet. Queue lengths were determined for all approach lanes at each study intersection. Synchro software calculates the 95th percentile queues based on Synchro methodology. The 95th percentile queue is used to account for fluctuations in traffic and is defined to be the queue length (in vehicles) that has only a 5-percent probability of being exceeded during the analysis time period. It is used as a benchmark for determining deficiencies as a standard transportation engineering practice. A typical vehicle length of 25 feet was used in the queuing analysis. An operational deficiency was assumed to occur if the 95th percentile queue exceeds the movement storage by more than two vehicles. This criteria was determined using the Caltrans' Traffic Safety Bulletin 20-02-R1, which is also adopted by some local jurisdictions with urban areas. A summary of the queuing results is included in **Appendix E**. It should be noted that 95th percentile queues were determined using Synchro for Existing and Existing Plus Project Conditions while SimTraffic was used for Future Plus Project Conditions.

Locations where the 95th percentile queues exceed the available storage are summarized in **Table 12** for Existing Conditions and **Table 13** for Future Plus Project Conditions. As the Future Plus Project Conditions represents the worse-case scenario only the Future Plus Project Queue lengths are reported in this table which are based on a detailed SimTraffic analysis. It can thus be concluded that the Existing Plus Project queues will be less than the Future Plus Project conditions since the Existing traffic volumes are less than the Future traffic volumes. The Existing Plus Project queues are included in **Appendix E**. These queues are reported considering the signalized intersection of Main Street and Freedom Boulevard. As shown in the table, intersections of Main Street and East Lake Avenue, Main Street and West Beach Street and East Beach Street and Union Street show queues exceeding the storage capacity by about 3 cars and therefore might extend into the adjacent intersections of Main Street and 5th Street, Main Street and East Lake Avenue, Beach Street and Rodriguez Street, 2nd Street and Maple Avenue, and Beach Street and Alexander Street.

The closely spaced intersections of East Beach Street and Union Street and East Beach Street and Alexander Street requires a synchronized signal operations system which results in no queuing occurring on the short block along East Beach Street and between these two intersections. In addition, this short

block will be reconfigured to consist of two westbound and one eastbound lane. The two westbound lanes will continue to Main Street and provide a dedicated westbound left turn and a shared through-right turn lane at the intersection.

Management of traffic through the corridor is going to be extremely important. This can be done through the implementation of an adaptive traffic signal system. An adaptive traffic signal system adjusts signal timing to accommodate changing traffic patterns and ease traffic congestion. It progressively moves vehicles through green lights, creating smoother flow and reducing congestion. The system can use existing traffic signals with minor modifications to the hardware and installation of new signal software.

The intersection of Riverside Drive/State Route 129 and Main Street is built out at its ultimate capacity and adding lanes would mean acquiring private property to widen the road. As shown in **Table 12**, there is not enough storage length for the westbound left (WBL) lane in the morning and the evening. The existing queuing deficiencies at this intersection are from regional traffic traveling between Highway 1, Highway 129 and Monterey County which is across the Pajaro River. As noted in Section 5 and Section 7, there are several projects in design or under consideration that will affect the regional traffic flowing into this intersection.

Table 12 – Summary of Intersection Queuing Deficiencies – Existing Conditions

#	Intersection	Control	Movement	Storage Length (ft)	Peak Hour	95th Percentile Queue
						Existing Conditions
3	Riverside Drive / Main Street	Signal	WBL	140	AM	173 (2)
					PM	268 (7)

Table 13 – Summary of Intersection Queuing Deficiencies – Future Plus Project

#	Intersection	Control	Movement	Storage Length (ft)	Peak Hour	95th Percentile Queue
						Future Plus Project ft (# of Cars Spillover)
1	Lake Avenue / Main Street	Signal	NBR	150	AM	231 (3)
					PM	235 (3)
			SBL	350	PM	458 (4)
			SBR	100	AM	151 (2)
					PM	188 (4)
2	Beach Street / Main Street	Signal	NBR	75	AM	151 (3)
					PM	150 (3)
			SBR	100	AM	180 (3)
					PM	164 (3)
			WBT	260	AM	323 (3)
3	Riverside Drive / Main Street	Signal	WBL	140	AM	196 (2)
					PM	212 (3)
			NBR	165	AM	290 (5)
					PM	295 (5)
			WBT	245	PM	882 (25)
			NBT	1170	AM	1433 (11)
					PM	1289 (5)
			SBT	520	PM	718 (8)
5	Beach Street / Union Street	Signal	EBT	260	AM	329 (3)
					PM	321 (2)

A queuing analysis for the closely spaced intersections of Main Street and Freedom Boulevard (roundabout) and Main Street and Ford Street (signal) was conducted separately to determine whether northbound and southbound queues for one intersection would extend into the other. 95th percentile queues for the northbound and southbound approach are summarized in **Table 14** for the Future Plus Project Conditions. These queues are reported for the worse lane of the approach. As shown in the table, due to the closely spaced intersection of Main Street and Freedom Boulevard and Main Street and Ford Street, the southbound queues at the Main Street and Ford Street intersection is at capacity and may spillover onto the eastbound approach at the Main Street and Freedom Boulevard intersection. If the turning movements on the Ford Street approach are limited to right-in and right-out only during the peak hours, the queueing concerns at the intersection on Main Street is resolved. The queues at the roundabout intersection of Main Street and Freedom Boulevard have adequate storage at all approach lanes.

Table 14 – Summary of Roundabout Queuing Deficiencies – Future Plus Project

#	Intersection	Control	Approach	Storage Length (ft)	Peak Hour	95th Percentile Queue
						Future Plus Project
6	Main Street / Freedom Boulevard	Roundabout	NB	210	AM	30
					PM	43
10	Main Street / Ford Street	Signal	SB	210	AM	175
					PM	200

7. REGIONAL TRAFFIC PATTERNS AND PROJECTS

Regional Traffic has a tremendous impact on the project area as there are two State Routes that pass through the downtown area. Many of these travelers are passing through Watsonville as they use State Routes 129 and 152 to travel between Santa Cruz, Santa Clara, San Benito and Monterey Counties. The improvements proposed with this traffic plan will likely alter some of these regional travel patterns, but not in a way that can be accounted for in this study.

One of the goals of the proposed improvements is to slow traffic and make the downtown Watsonville area safer for bicyclists and pedestrians. While the study shows that almost all of the intersections will maintain an acceptable LOS of D or less, it also shows that traffic will slow down as the LOS goes from B to C or C to D at many locations. As this occurs, some regional travelers may seek alternative routes and reduce congestion within these parts of the project.

Listed below are transportation projects that have or will take place in and outside of Watsonville that will also impact regional travel patterns.

Caltrans recently installed a roundabout on State Route 129 at Lakeview Road, as shown in **Figure 8**. This may regulate the flow of vehicles traveling west and entering Watsonville and impact congestion on this corridor.

Figure 12: Roundabout at the State Route 129 and Lakeview Road

As noted earlier, the City is working with Caltrans to make a modification at the intersection of State Route 129/Riverside Drive and Main Street. The modification would remove one of the two northbound through lanes and make it a second left turn lane. This may improve the LOS at this intersection.

The TAMC G12: Pajaro to Prunedale Corridor Study proposes a project to reduce the number of travel lanes from two to one on northbound Salinas Road from G12 to Porter Street and on northbound Porter Street from Salinas Road to San Juan Road[2]. This improvement would align with the City plans to reduce the number of through lanes on this portion of northbound Main Street at the intersection with State Route 129/Riverside Drive from two to one and improve traffic flow.

Another transportation project included in the TAMC G12: Pajaro to Prunedale Corridor Study involves improvements to the Salinas Road/Werner Road/County Road G-12 intersection. The current alignment limits turning movements between Werner Road and G12. The Study considers two improvements that would improve this turning movement. One includes installation of traffic signals to regulate flow. Another proposes to reconfigure the intersection and install a roundabout where the three roads would come together. These improvements would encourage travelers to access State Route 1 at the Salinas Road interchange and avoid using Main Street and State Route 129/Riverside Drive.

[2] The Pajaro to Prunedale G12 Study is available online at https://www.tamcmonterey.org/pajaro-to-prunedale-g12-study.

APPENDIX

A – EXISTING TRAFFIC VOLUME DATA SHEETS

B – EXISTING TRAFFIC CONDITIONS

C – EXISTING PLUS PROJECT TRAFFIC CONDITIONS

D – FUTURE PLUS PROJECT TRAFFIC CONDITIONS

E – QUEUING SUMMARY

F – SIDRA OUTPUTS

A – Existing Traffic Volume Data Sheets

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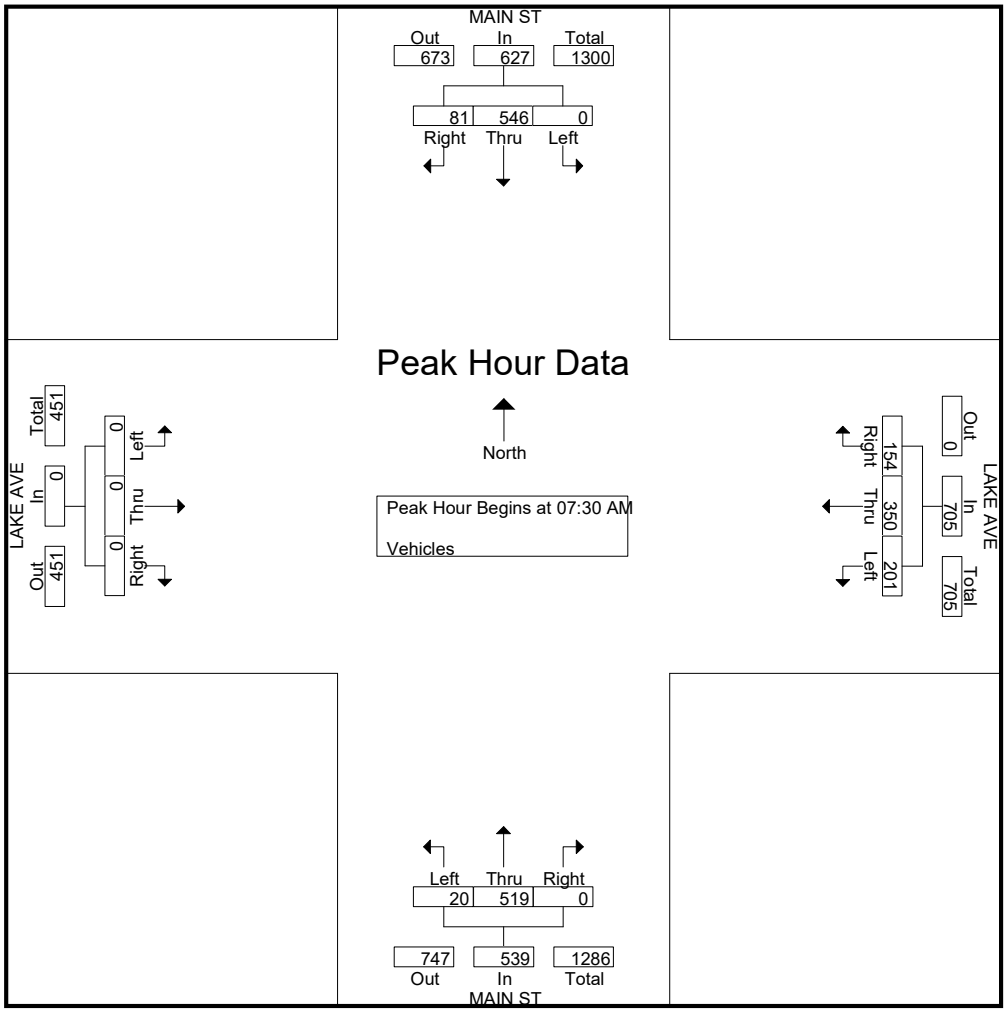

Peak Hour Analysis From 11:00 AM to 02:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 01:00 PM

01:00 PM	23	**192**	0	**215**	**44**	57	42	143	0	137	3	140	0	0	0	0	**498**
01:15 PM	21	178	0	199	34	58	34	126	0	126	**5**	131	0	0	0	0	456
01:30 PM	18	147	0	165	39	72	**50**	**161**	0	119	3	122	0	0	0	0	448
01:45 PM	**32**	156	0	188	31	**77**	49	157	0	**140**	4	**144**	0	0	0	0	489
Total Volume	94	673	0	767	148	264	175	587	0	522	15	537	0	0	0	0	1891
% App. Total	12.3	87.7	0		25.2	45	29.8		0	97.2	2.8		0	0	0		
PHF	.734	.876	.000	.892	.841	.857	.875	.911	.000	.932	.750	.932	.000	.000	.000	.000	.949

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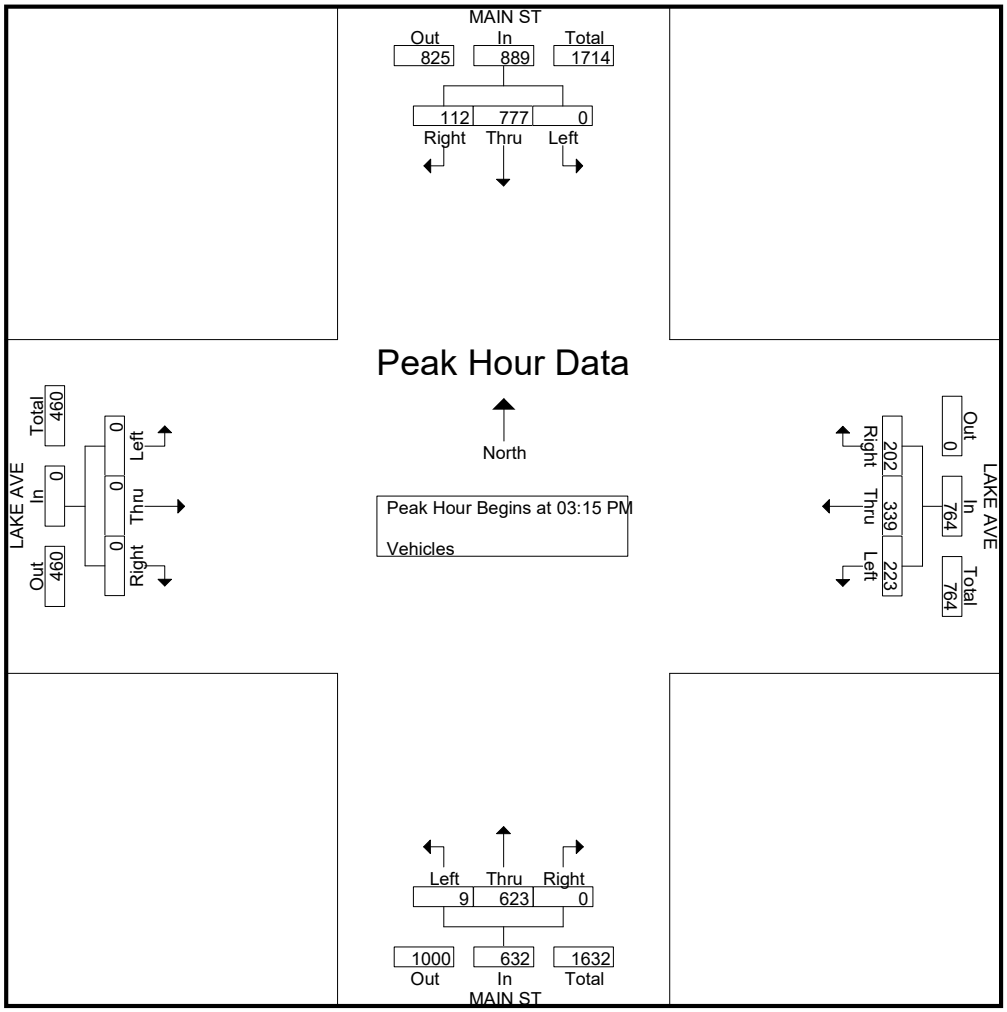

Peak Hour Analysis From 07:00 AM to 06:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:15 PM

03:15 PM	28	194	0	222	**58**	**95**	47	200	0	151	**3**	154	0	0	0	0	576
03:30 PM	27	176	0	203	46	94	61	**201**	0	135	3	138	0	0	0	0	542
03:45 PM	**29**	194	0	223	40	76	**65**	181	0	**179**	1	**180**	0	0	0	0	**584**
04:00 PM	28	**213**	0	**241**	58	74	50	182	0	158	2	160	0	0	0	0	583
Total Volume	112	777	0	889	202	339	223	764	0	623	9	632	0	0	0	0	2285
% App. Total	12.6	87.4	0		26.4	44.4	29.2		0	98.6	1.4		0	0	0		
PHF	.966	.912	.000	.922	.871	.892	.858	.950	.000	.870	.750	.878	.000	.000	.000	.000	.978

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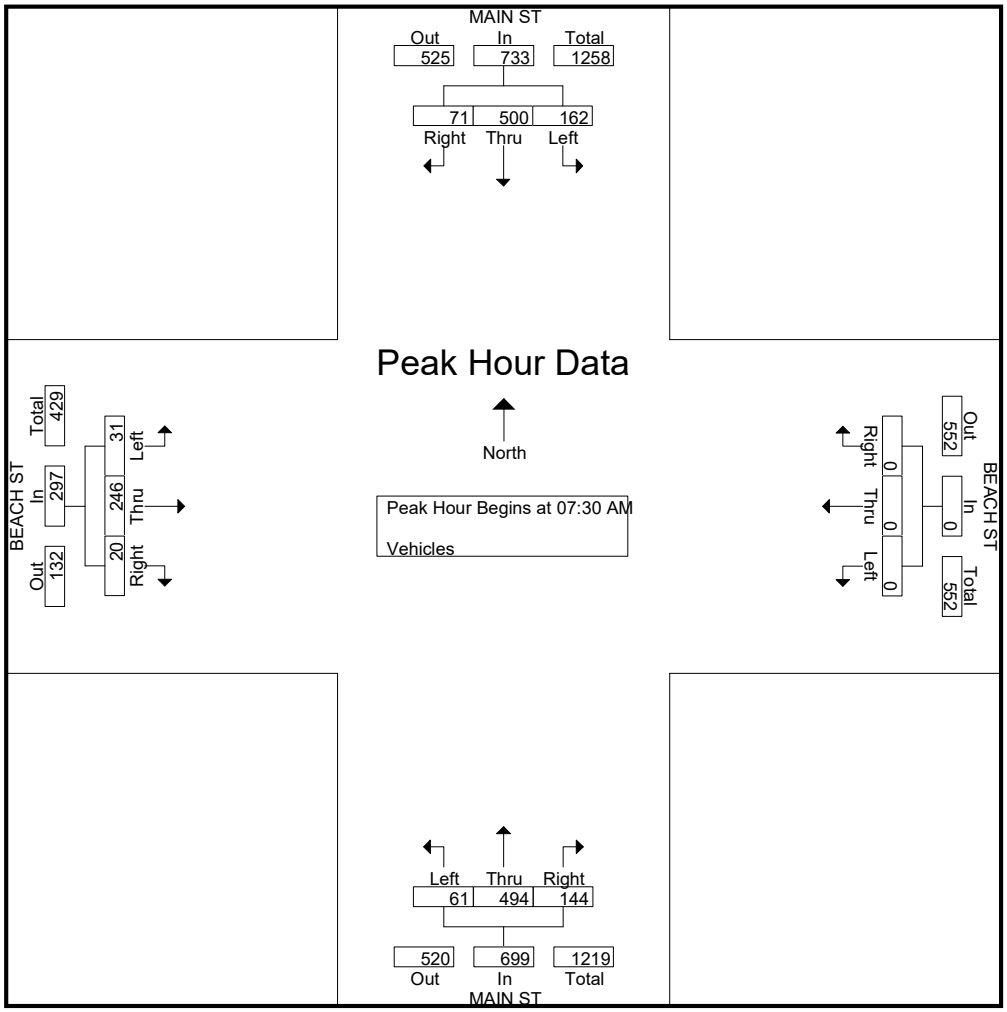

Peak Hour Analysis From 11:00 AM to 02:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 01:00 PM

01:00 PM	17	**142**	**71**	**230**	0	0	0	0	31	**125**	8	**164**	10	53	17	80	474
01:15 PM	16	137	71	224	0	0	0	0	**40**	114	10	164	9	**77**	19	**105**	**493**
01:30 PM	13	128	54	195	0	0	0	0	23	106	**11**	140	10	69	15	94	429
01:45 PM	**18**	137	49	204	0	0	0	0	28	123	10	161	**11**	62	**24**	97	462
Total Volume	64	544	245	853	0	0	0	0	122	468	39	629	40	261	75	376	1858
% App. Total	7.5	63.8	28.7		0	0	0		19.4	74.4	6.2		10.6	69.4	19.9		
PHF	.889	.958	.863	.927	.000	.000	.000	.000	.763	.936	.886	.959	.909	.847	.781	.895	.942

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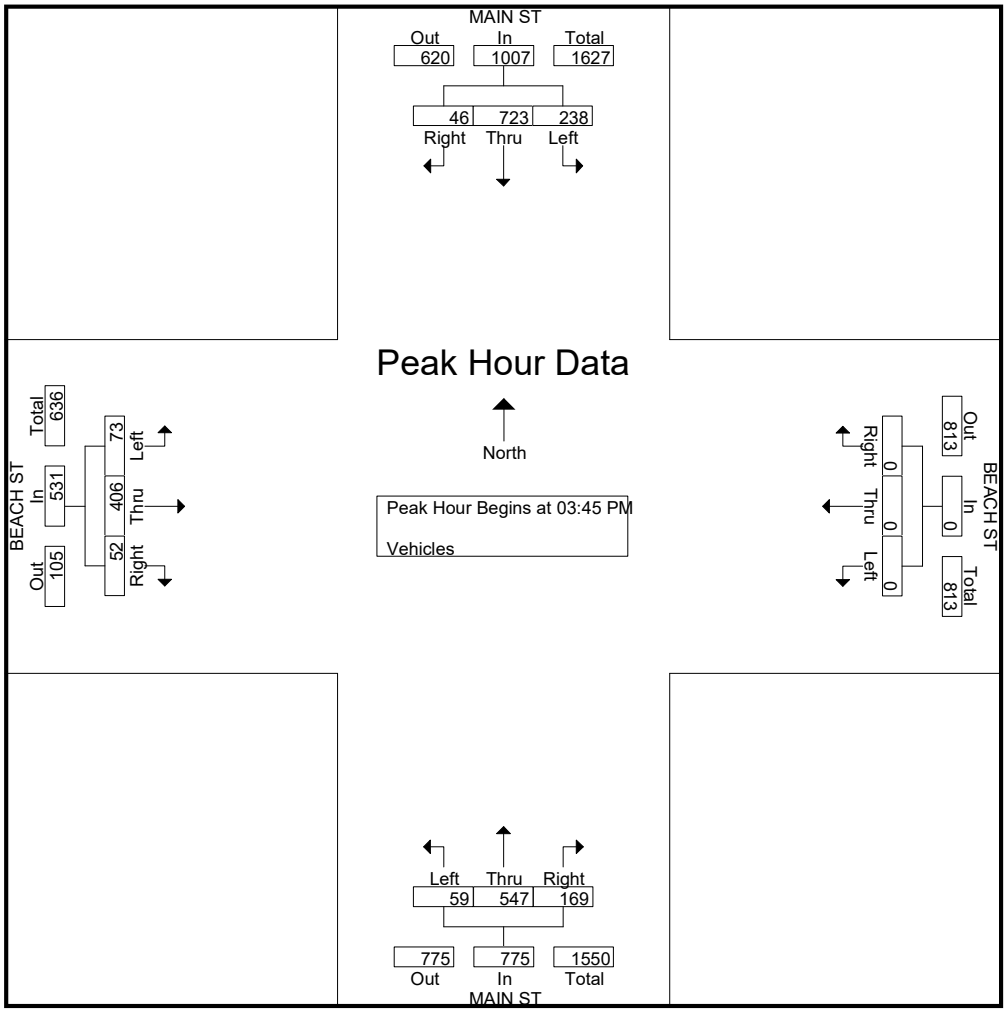
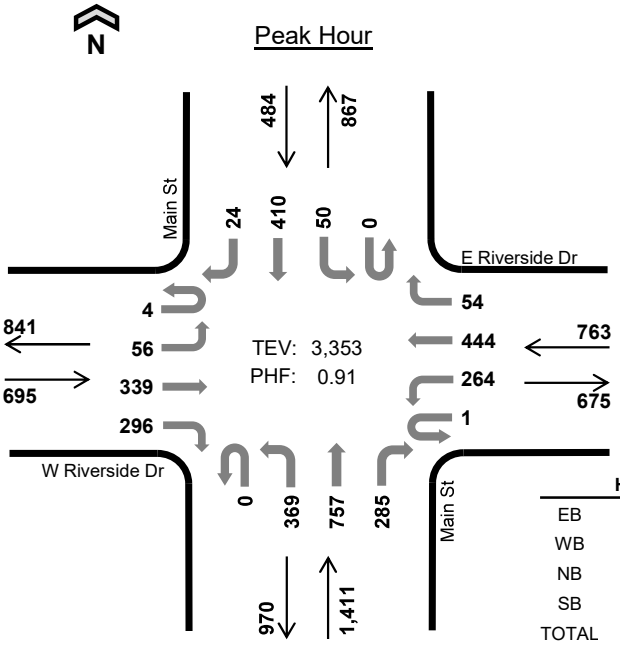


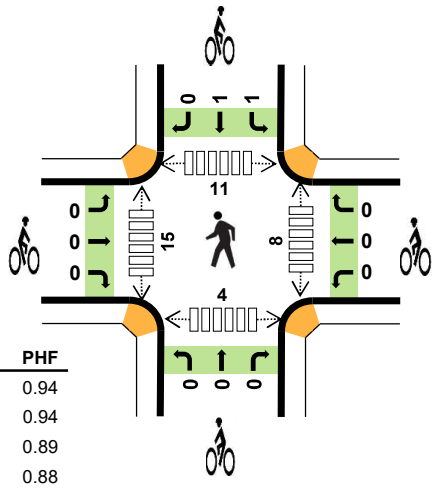
Peak Hour Analysis From 07:00 AM to 06:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:45 PM

03:45 PM	12	182	57	251	0	0	0	0	44	**165**	14	**223**	11	**114**	14	139	**613**
04:00 PM	**14**	**187**	57	**258**	0	0	0	0	**55**	136	11	202	9	111	**25**	**145**	605
04:15 PM	10	176	58	244	0	0	0	0	36	119	15	170	**16**	93	13	122	536
04:30 PM	10	178	**66**	254	0	0	0	0	34	127	**19**	180	16	88	21	125	559
Total Volume	46	723	238	1007	0	0	0	0	169	547	59	775	52	406	73	531	2313
% App. Total	4.6	71.8	23.6		0	0	0		21.8	70.6	7.6		9.8	76.5	13.7		
PHF	.821	.967	.902	.976	.000	.000	.000	.000	.768	.829	.776	.869	.813	.890	.730	.916	.943

Main St
Riverside Dr

Date: 10-04-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM





	HV %:	PHF
EB	9.1%	0.94
WB	8.0%	0.94
NB	5.5%	0.89
SB	1.9%	0.88
TOTAL	6.3%	0.91

Two-Hour Count Summaries

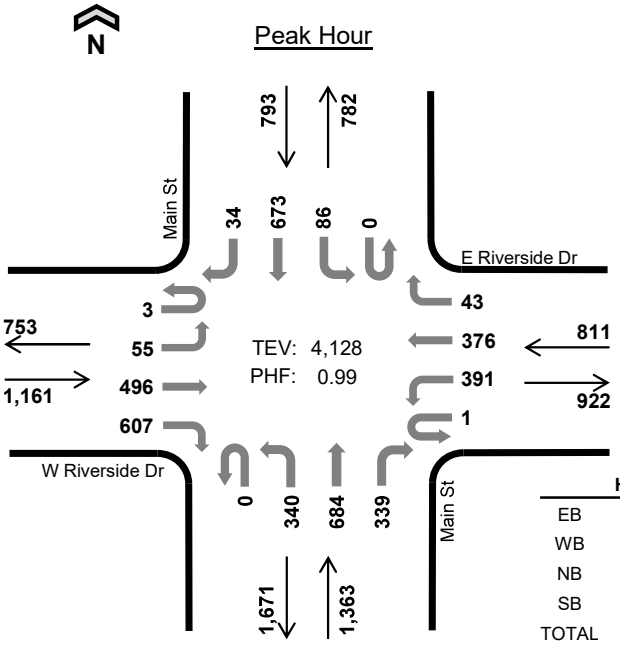
Interval Start	W Riverside Dr (Eastbound)				E Riverside Dr (Westbound)				Main St (Northbound)				Main St (Southbound)				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	7	74	73	2	63	121	10	0	99	157	80	0	16	82	7	791	0
7:15 AM	0	9	76	59	0	77	118	9	0	106	156	75	0	9	80	10	784	0
7:30 AM	**1**	**10**	**91**	**82**	**0**	**48**	**107**	**15**	**0**	**103**	**187**	**83**	**0**	**11**	**81**	**5**	**824**	0
7:45 AM	**2**	**16**	**78**	**89**	**0**	**71**	**118**	**13**	**0**	**94**	**219**	**82**	**0**	**14**	**118**	**5**	**919**	3,318
8:00 AM	**1**	**17**	**75**	**59**	**1**	**71**	**118**	**10**	**0**	**93**	**185**	**63**	**0**	**11**	**108**	**7**	**819**	3,346
8:15 AM	**0**	**13**	**95**	**66**	**0**	**74**	**101**	**16**	**0**	**79**	**166**	**57**	**0**	**14**	**103**	**7**	**791**	**3,353**
8:30 AM	1	14	68	70	0	72	86	13	0	83	136	47	0	6	98	5	699	3,228
8:45 AM	2	17	60	72	2	45	69	14	0	94	121	39	0	18	79	6	638	2,947
Count Total	7	103	617	570	5	521	838	100	0	751	1,327	526	0	99	749	52	6,265	0
Peak Hour All	**4**	**56**	**339**	**296**	**1**	**264**	**444**	**54**	**0**	**369**	**757**	**285**	**0**	**50**	**410**	**24**	**3,353**	**0**
Peak Hour HV	**0**	**2**	**33**	**28**	**0**	**15**	**43**	**3**	**0**	**48**	**21**	**8**	**0**	**1**	**7**	**1**	**210**	**0**
Peak Hour HV%	**0%**	**4%**	**10%**	**9%**	**0%**	**6%**	**10%**	**6%**	**-**	**13%**	**3%**	**3%**	**-**	**2%**	**2%**	**4%**	**6%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

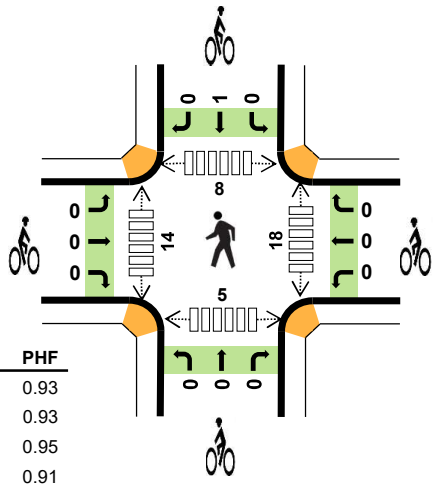
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	16	16	14	1	*47*	0	0	0	0	*0*	0	2	1	0	*3*
7:15 AM	15	8	16	1	*40*	0	0	0	0	*0*	2	1	0	4	*7*
7:30 AM	**17**	**17**	**26**	**2**	***62***	**0**	**0**	**0**	**1**	***1***	**1**	**3**	**4**	**3**	*11*
7:45 AM	**15**	**9**	**14**	**1**	***39***	**0**	**0**	**0**	**1**	***1***	**2**	**6**	**5**	**1**	*14*
8:00 AM	**8**	**22**	**19**	**2**	***51***	**0**	**0**	**0**	**0**	***0***	**2**	**1**	**0**	**0**	*3*
8:15 AM	**23**	**13**	**18**	**4**	***58***	**0**	**0**	**0**	**0**	***0***	**3**	**5**	**2**	**0**	***10***
8:30 AM	18	9	14	2	*43*	0	0	0	0	*0*	3	0	1	0	*4*
8:45 AM	23	5	12	3	*43*	0	0	0	0	*0*	2	0	1	0	*3*
Count Total	135	99	133	16	*383*	0	0	0	2	2	15	18	14	8	*55*
Peak Hour	**63**	**61**	**77**	**9**	***210***	**0**	**0**	**0**	**2**	***2***	**8**	**15**	**11**	**4**	***38***

Main St
Riverside Dr

Date: 10-04-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	3.6%	0.93
WB	4.1%	0.93
NB	2.3%	0.95
SB	0.0%	0.91
TOTAL	2.6%	0.99



Two-Hour Count Summaries

Interval Start	W Riverside Dr Eastbound				E Riverside Dr Westbound				Main St Northbound				Main St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	1	16	108	126	0	82	80	22	0	72	171	66	0	13	168	8	933	0
4:15 PM	0	16	123	133	1	80	90	9	0	86	160	77	0	18	148	5	946	0
4:30 PM	1	17	105	142	0	78	85	14	0	86	162	76	0	11	175	9	961	0
4:45 PM	1	19	125	129	0	89	93	17	0	81	145	76	0	16	147	3	941	3,781
5:00 PM	**1**	**11**	**124**	**146**	**0**	**107**	**82**	**13**	**0**	**82**	**181**	**95**	**0**	**21**	**168**	**14**	**1,045**	3,893
5:15 PM	**1**	**17**	**109**	**177**	**0**	**95**	**98**	**9**	**0**	**90**	**152**	**81**	**0**	**17**	**158**	**6**	**1,010**	3,957
5:30 PM	**0**	**12**	**122**	**128**	**0**	**111**	**95**	**11**	**0**	**80**	**182**	**86**	**0**	**29**	**183**	**7**	**1,046**	4,042
5:45 PM	**1**	**15**	**141**	**156**	**1**	**78**	**101**	**10**	**0**	**88**	**169**	**77**	**0**	**19**	**164**	**7**	**1,027**	**4,128**
Count Total	6	123	957	1,137	2	720	724	105	0	665	1,322	634	0	144	1,311	59	7,909	0
Peak Hour All	**3**	**55**	**496**	**607**	**1**	**391**	**376**	**43**	**0**	**340**	**684**	**339**	**0**	**86**	**673**	**34**	**4,128**	**0**
Peak Hour HV	**0**	**0**	**20**	**22**	**0**	**4**	**29**	**0**	**0**	**22**	**3**	**7**	**0**	**0**	**0**	**0**	**107**	**0**
Peak Hour HV%	**0%**	**0%**	**4%**	**4%**	**0%**	**1%**	**8%**	**0%**	**-**	**6%**	**0%**	**2%**	**-**	**0%**	**0%**	**0%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	24	10	8	0	*42*	0	0	0	0	*0*	1	5	0	2	*8*
4:15 PM	21	11	8	2	*42*	0	1	0	0	*1*	5	5	2	5	*17*
4:30 PM	10	8	6	2	*26*	1	0	0	0	*1*	4	3	2	2	*11*
4:45 PM	12	8	7	2	*29*	0	0	0	0	*0*	3	2	1	0	*6*
5:00 PM	**11**	**10**	**6**	**0**	***27***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**0**	**2**	*4*
5:15 PM	**13**	**6**	**8**	**0**	***27***	**0**	**0**	**0**	**0**	***0***	**6**	**6**	**0**	**0**	*12*
5:30 PM	**11**	**7**	**9**	**0**	***27***	**0**	**0**	**0**	**1**	***1***	**5**	**2**	**3**	**2**	*12*
5:45 PM	**7**	**10**	**9**	**0**	***26***	**0**	**0**	**0**	**0**	***0***	**6**	**5**	**5**	**1**	***17***
Count Total	109	70	61	6	*246*	1	1	0	1	*3*	31	29	13	14	*87*
Peak Hour	**42**	**33**	**32**	**0**	***107***	**0**	**0**	**0**	**1**	***1***	**18**	**14**	**8**	**5**	***45***

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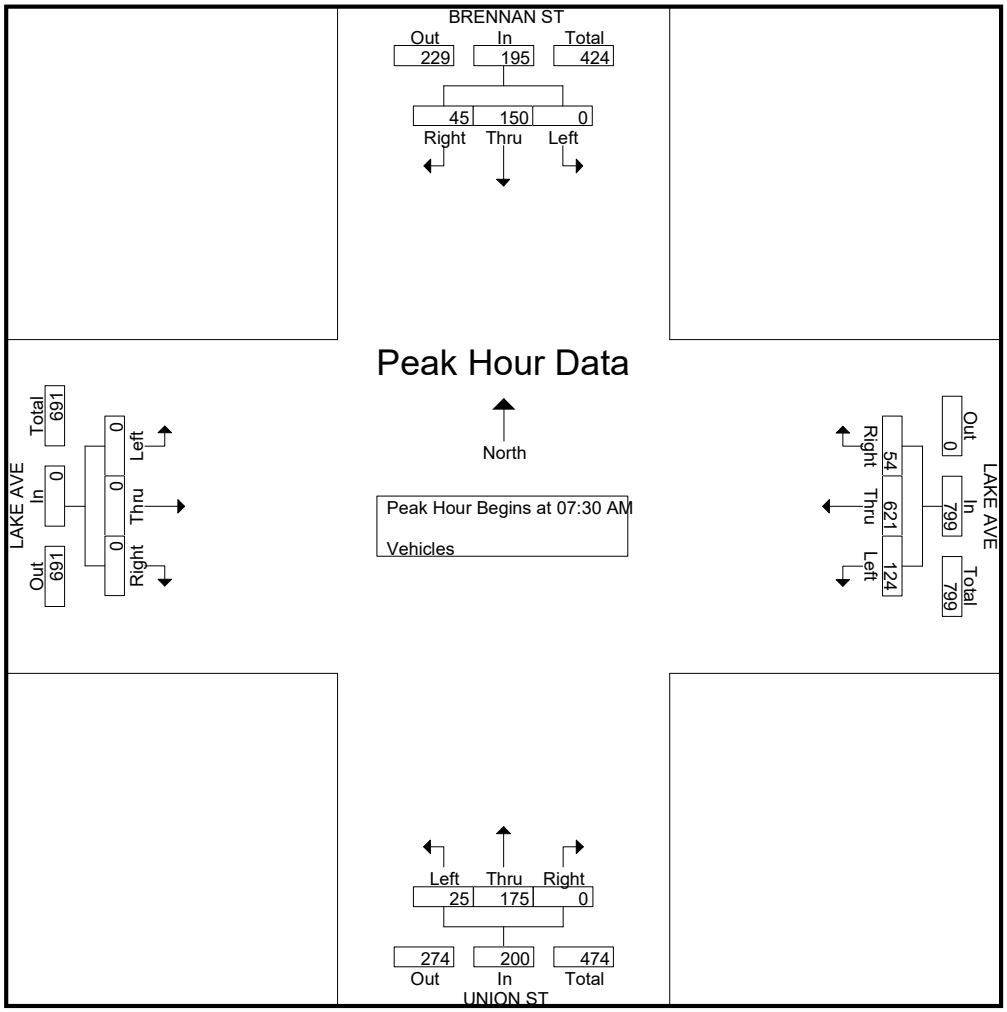

Peak Hour Analysis From 11:00 AM to 02:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 02:00 PM

02:00 PM	10	31	0	41	12	117	**26**	155	0	46	16	62	0	0	0	0	258
02:15 PM	12	38	0	50	16	122	26	164	0	59	15	74	0	0	0	0	288
02:30 PM	8	39	0	47	**23**	**152**	25	**200**	0	53	**21**	74	0	0	0	0	**321**
02:45 PM	**19**	**48**	0	**67**	17	139	20	176	0	**65**	10	**75**	0	0	0	0	318
Total Volume	49	156	0	205	68	530	97	695	0	223	62	285	0	0	0	0	1185
% App. Total	23.9	76.1	0		9.8	76.3	14		0	78.2	21.8		0	0	0		
PHF	.645	.813	.000	.765	.739	.872	.933	.869	.000	.858	.738	.950	.000	.000	.000	.000	.923

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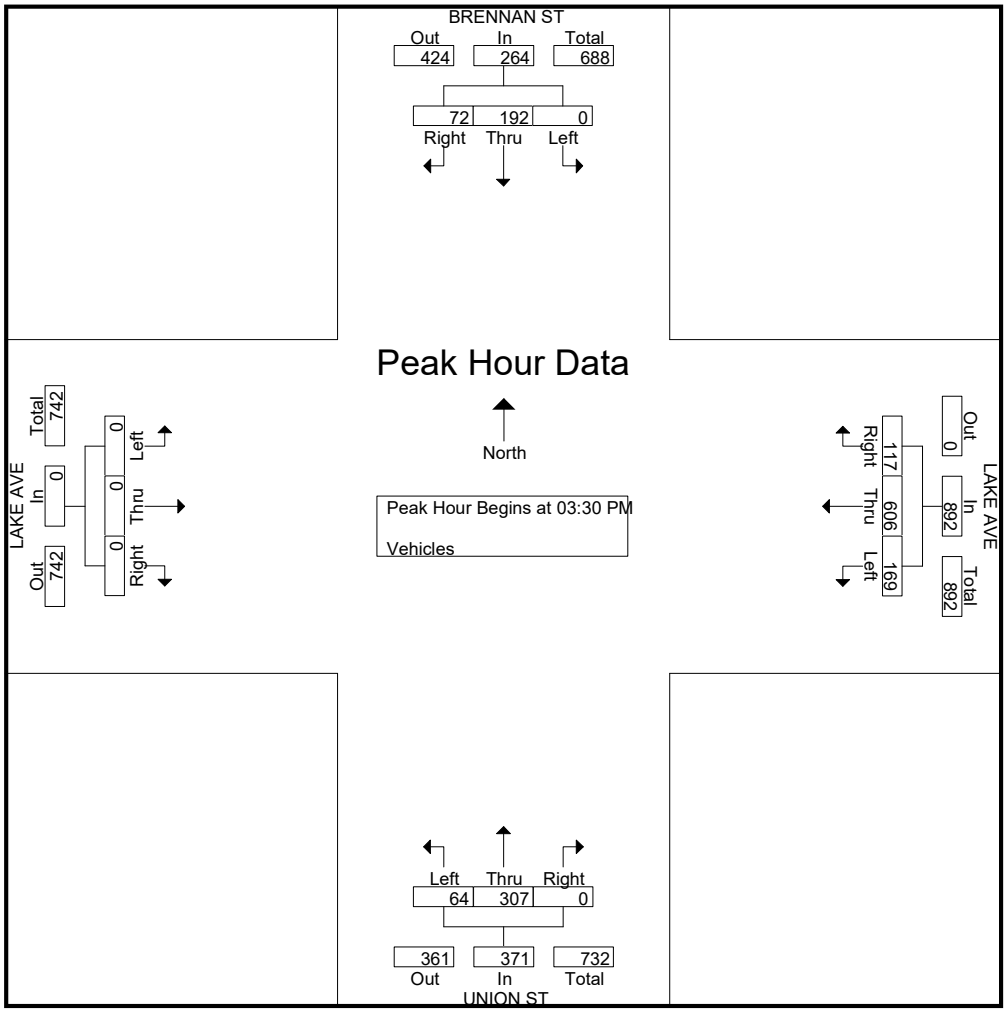

Peak Hour Analysis From 07:00 AM to 06:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:30 PM

03:30 PM	**21**	57	0	78	20	**165**	44	229	0	61	12	73	0	0	0	0	380
03:45 PM	18	33	0	51	23	143	41	207	0	**90**	**18**	**108**	0	0	0	0	366
04:00 PM	15	41	0	56	33	149	39	221	0	84	17	101	0	0	0	0	378
04:15 PM	18	**61**	0	**79**	**41**	149	**45**	**235**	0	72	17	89	0	0	0	0	**403**
Total Volume	72	192	0	264	117	606	169	892	0	307	64	371	0	0	0	0	1527
% App. Total	27.3	72.7	0		13.1	67.9	18.9		0	82.7	17.3		0	0	0		
PHF	.857	.787	.000	.835	.713	.918	.939	.949	.000	.853	.889	.859	.000	.000	.000	.000	.947

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File Name : 4 FINAL
Site Code : 00000004
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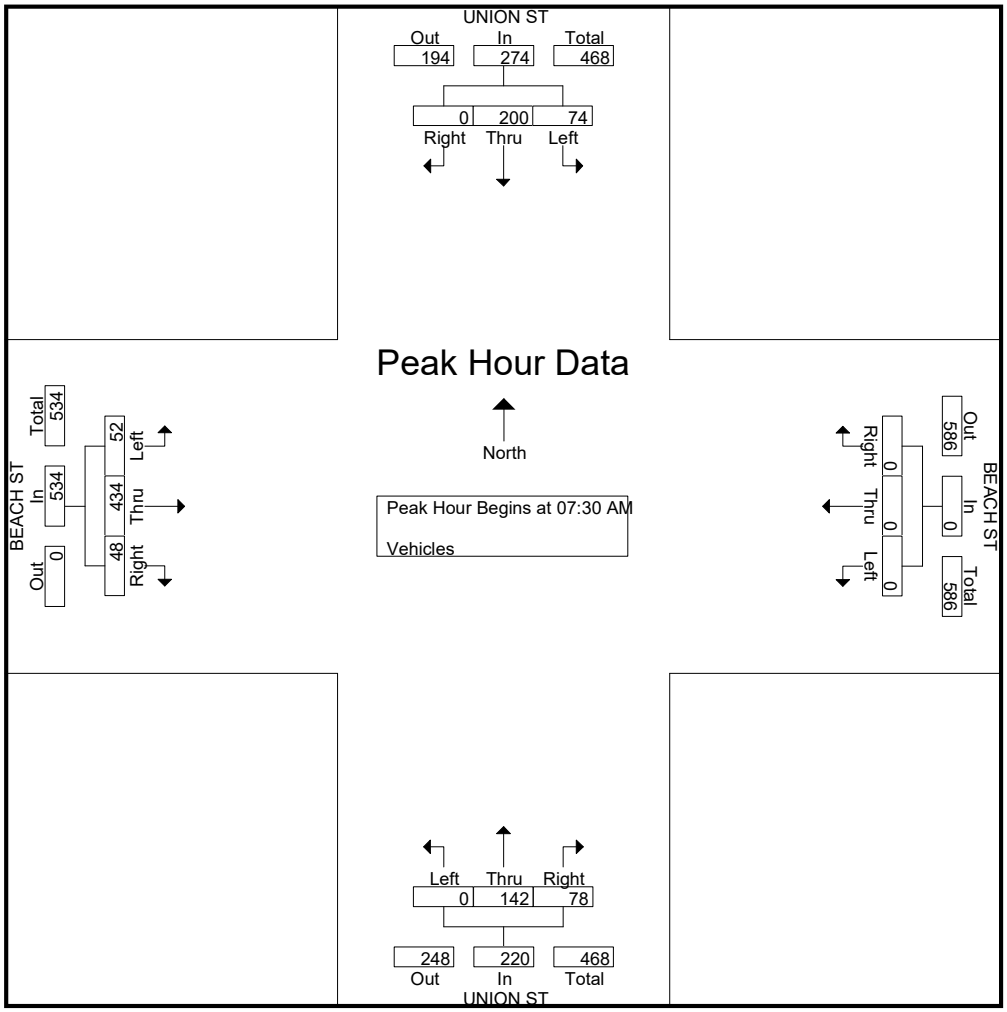

Peak Hour Analysis From 11:00 AM to 02:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 12:45 PM

12:45 PM	0	54	22	**76**	0	0	0	0	11	**38**	0	49	14	111	25	150	275
01:00 PM	0	49	**24**	73	0	0	0	0	**19**	33	0	**52**	7	116	24	147	272
01:15 PM	0	42	20	62	0	0	0	0	15	34	0	49	12	**148**	31	**191**	**302**
01:30 PM	0	**56**	16	72	0	0	0	0	11	29	0	40	**16**	97	**32**	145	257
Total Volume	0	201	82	283	0	0	0	0	56	134	0	190	49	472	112	633	1106
% App. Total	0	71	29		0	0	0		29.5	70.5	0		7.7	74.6	17.7		
PHF	.000	.897	.854	.931	.000	.000	.000	.000	.737	.882	.000	.913	.766	.797	.875	.829	.916

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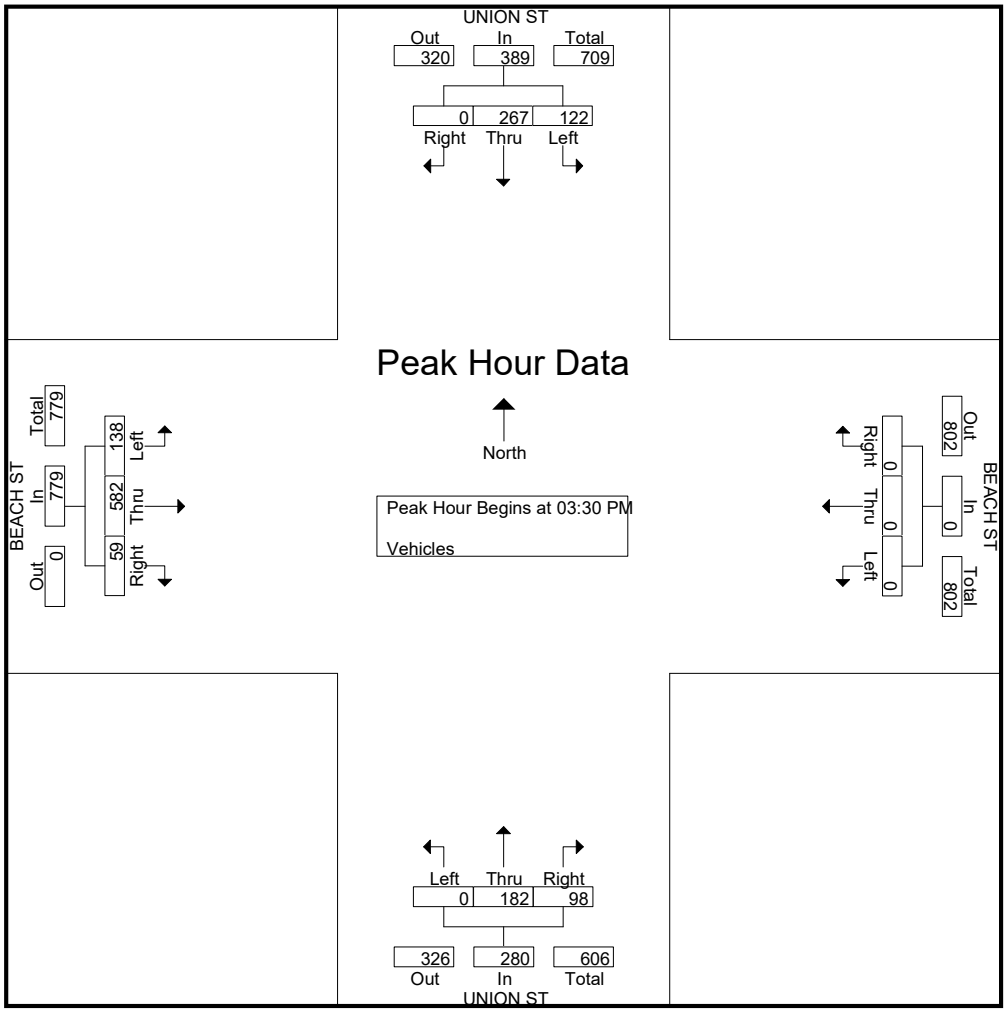

Peak Hour Analysis From 07:00 AM to 06:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:30 PM

03:30 PM	0	71	29	100	0	0	0	0	19	39	0	58	15	121	32	168	326
03:45 PM	0	59	33	92	0	0	0	0	29	**57**	0	**86**	13	145	**44**	202	380
04:00 PM	0	63	25	88	0	0	0	0	**31**	52	0	83	**17**	**180**	26	**223**	**394**
04:15 PM	0	**74**	**35**	**109**	0	0	0	0	19	34	0	53	14	136	36	186	348
Total Volume	0	267	122	389	0	0	0	0	98	182	0	280	59	582	138	779	1448
% App. Total	0	68.6	31.4		0	0	0		35	65	0		7.6	74.7	17.7		
PHF	.000	.902	.871	.892	.000	.000	.000	.000	.790	.798	.000	.814	.868	.808	.784	.873	.919

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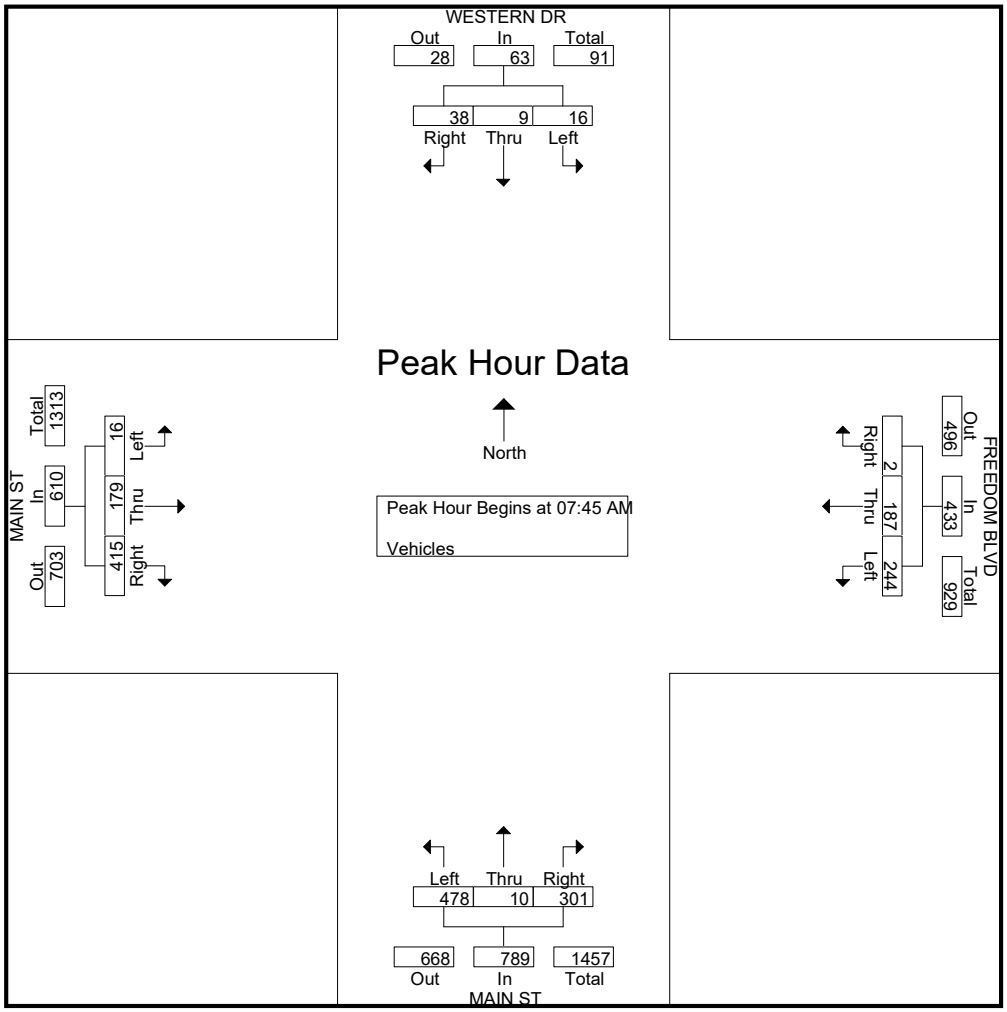

Peak Hour Analysis From 11:00 AM to 02:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 01:00 PM

01:00 PM	**7**	4	**4**	**15**	0	56	58	114	**108**	2	106	**216**	**155**	77	2	**234**	**579**
01:15 PM	7	1	4	12	**3**	**65**	58	**126**	95	**3**	96	194	155	68	4	227	559
01:30 PM	4	5	2	11	0	49	54	103	67	1	89	157	117	82	5	204	475
01:45 PM	4	**6**	3	13	0	42	**66**	108	70	0	**110**	180	131	**86**	**7**	224	525
Total Volume	22	16	13	51	3	212	236	451	340	6	401	747	558	313	18	889	2138
% App. Total	43.1	31.4	25.5		0.7	47	52.3		45.5	0.8	53.7		62.8	35.2	2		
PHF	.786	.667	.813	.850	.250	.815	.894	.895	.787	.500	.911	.865	.900	.910	.643	.950	.923

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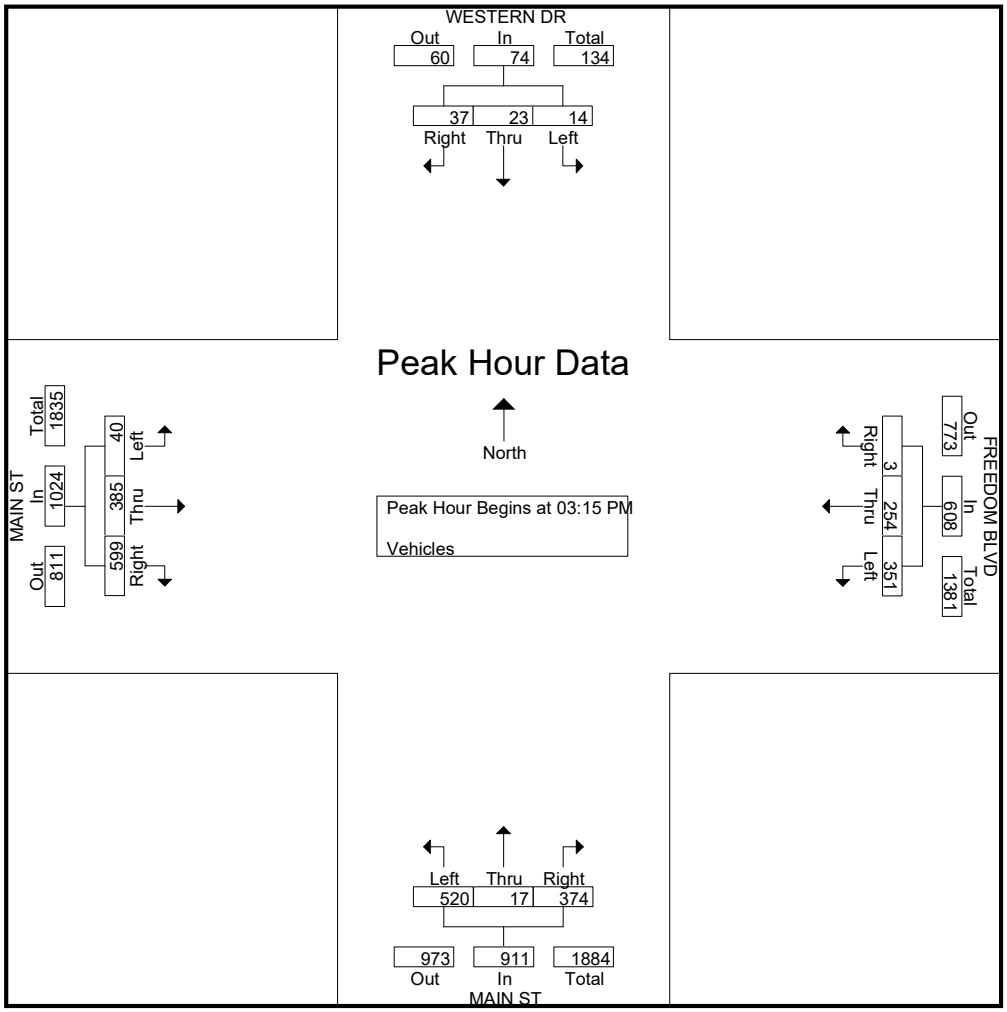

Peak Hour Analysis From 07:00 AM to 06:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:15 PM

03:15 PM	8	6	**4**	18	0	68	**99**	**167**	85	1	**149**	235	145	**100**	**12**	257	**677**
03:30 PM	8	3	4	15	**1**	**71**	66	138	80	4	118	202	150	94	8	252	607
03:45 PM	9	**7**	2	18	1	57	90	148	**108**	5	123	236	**156**	96	12	**264**	666
04:00 PM	**12**	7	4	**23**	1	58	96	155	101	**7**	130	**238**	148	95	8	251	667
Total Volume	37	23	14	74	3	254	351	608	374	17	520	911	599	385	40	1024	2617
% App. Total	50	31.1	18.9		0.5	41.8	57.7		41.1	1.9	57.1		58.5	37.6	3.9		
PHF	.771	.821	.875	.804	.750	.894	.886	.910	.866	.607	.872	.957	.960	.963	.833	.970	.966

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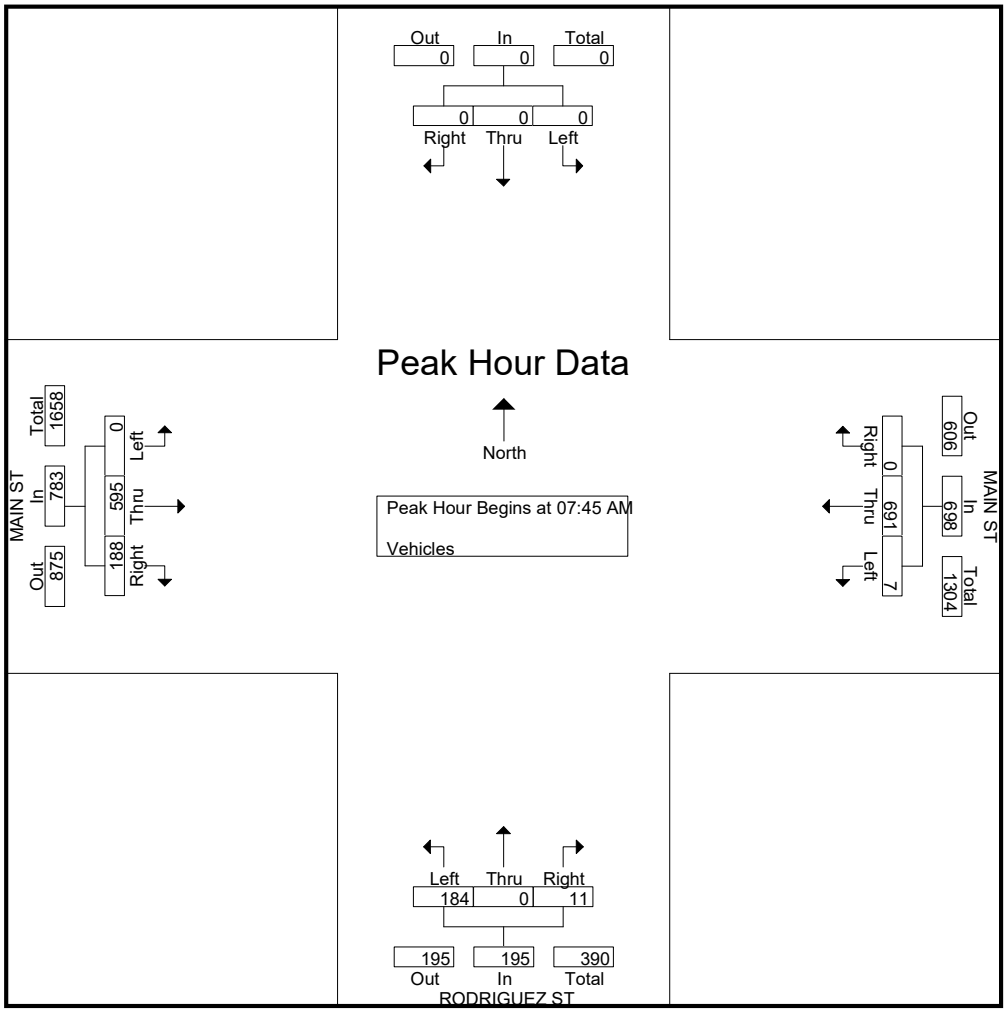

Peak Hour Analysis From 11:00 AM to 02:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 02:00 PM

02:00 PM	0	0	0	0	0	171	1	172	2	0	47	49	48	171	0	219	440
02:15 PM	0	0	0	0	0	166	**2**	168	3	0	61	64	42	211	0	253	485
02:30 PM	0	0	0	0	0	138	2	140	2	0	38	40	**55**	199	0	254	434
02:45 PM	0	0	0	0	0	**181**	2	**183**	**6**	0	**67**	**73**	42	**229**	0	**271**	**527**
Total Volume	0	0	0	0	0	656	7	663	13	0	213	226	187	810	0	997	1886
% App. Total	0	0	0		0	98.9	1.1		5.8	0	94.2		18.8	81.2	0		
PHF	.000	.000	.000	.000	.000	.906	.875	.906	.542	.000	.795	.774	.850	.884	.000	.920	.895

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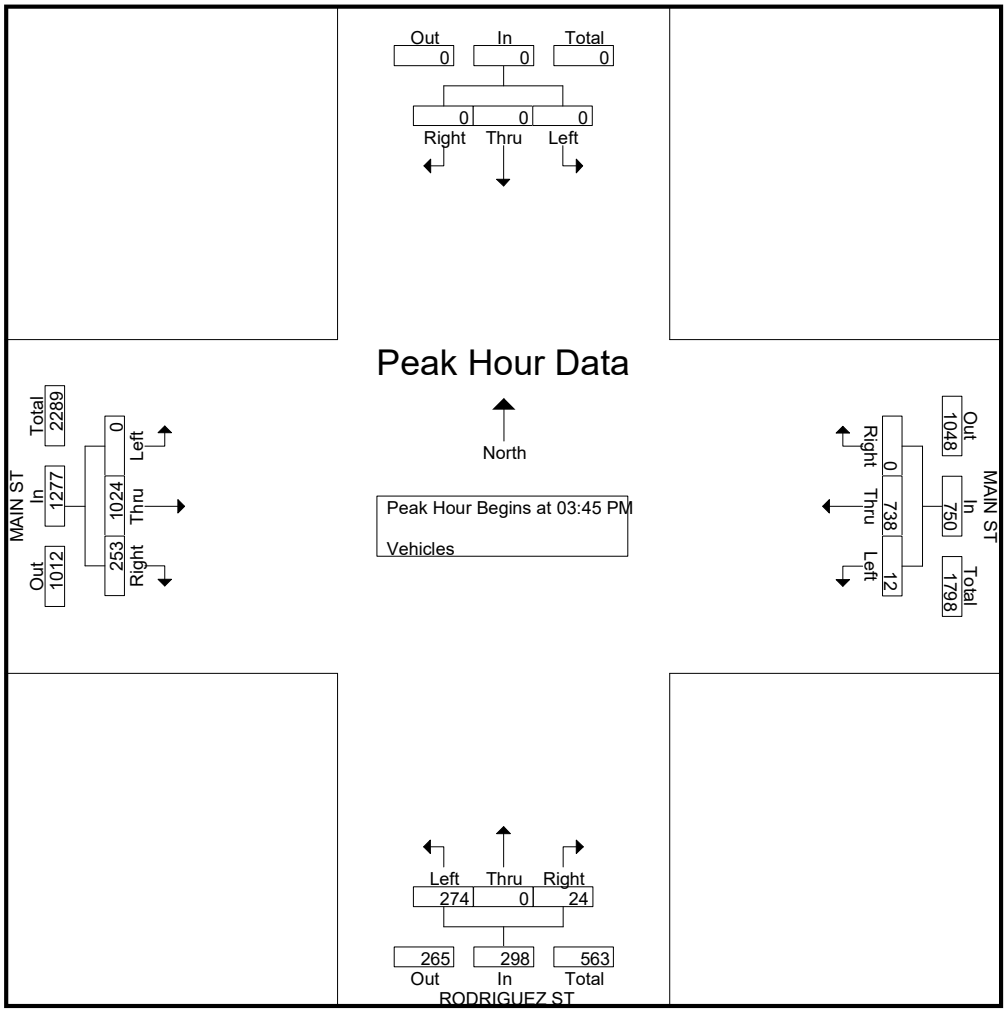

Peak Hour Analysis From 07:00 AM to 06:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:45 PM

03:45 PM	0	0	0	0	0	173	1	174	**9**	0	**76**	**85**	62	254	0	316	575
04:00 PM	0	0	0	0	0	194	**5**	199	5	0	70	75	58	237	0	295	569
04:15 PM	0	0	0	0	0	171	1	172	6	0	73	79	**77**	266	0	**343**	**594**
04:30 PM	0	0	0	0	0	**200**	5	**205**	4	0	55	59	56	**267**	0	323	587
Total Volume	0	0	0	0	0	738	12	750	24	0	274	298	253	1024	0	1277	2325
% App. Total	0	0	0		0	98.4	1.6		8.1	0	91.9		19.8	80.2	0		
PHF	.000	.000	.000	.000	.000	.923	.600	.915	.667	.000	.901	.876	.821	.959	.000	.931	.979

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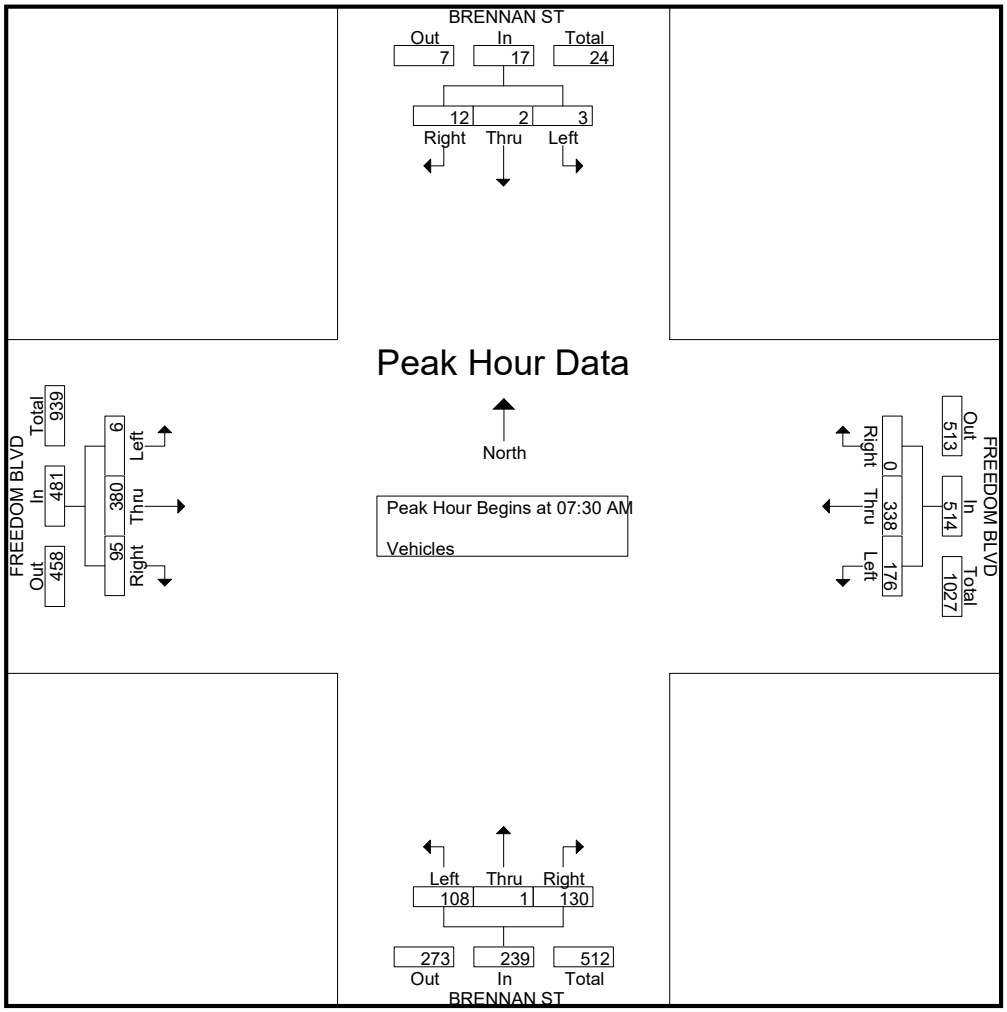

Peak Hour Analysis From 11:00 AM to 02:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 01:00 PM

01:00 PM	0	0	0	0	0	92	32	124	41	1	**36**	**78**	**38**	**152**	1	**191**	**393**
01:15 PM	1	0	**1**	2	0	**95**	29	124	43	**2**	32	77	23	139	1	163	366
01:30 PM	0	0	1	1	0	71	30	101	**53**	0	24	77	29	126	0	155	334
01:45 PM	**5**	**1**	0	**6**	0	91	**37**	**128**	50	1	21	72	29	126	**3**	158	364
Total Volume	6	1	2	9	0	349	128	477	187	4	113	304	119	543	5	667	1457
% App. Total	66.7	11.1	22.2		0	73.2	26.8		61.5	1.3	37.2		17.8	81.4	0.7		
PHF	.300	.250	.500	.375	.000	.918	.865	.932	.882	.500	.785	.974	.783	.893	.417	.873	.927

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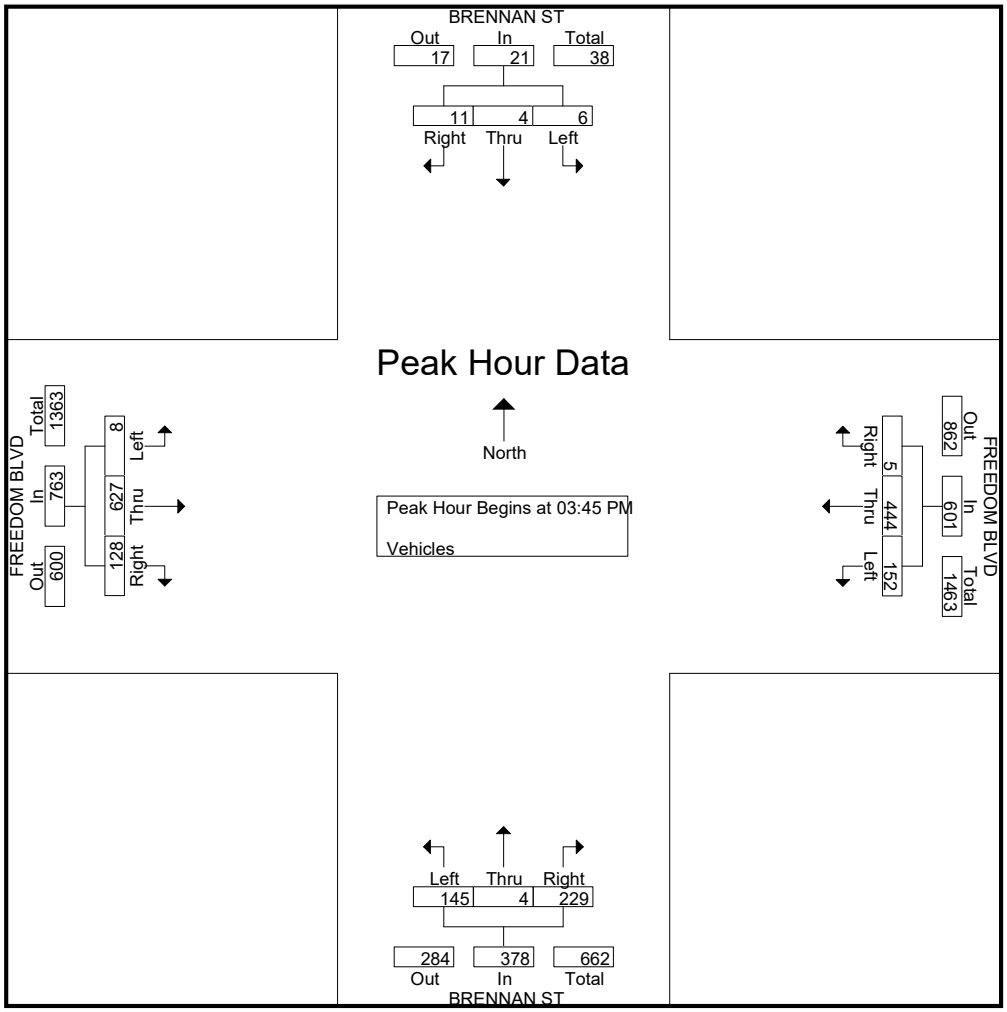

Peak Hour Analysis From 07:00 AM to 06:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:45 PM

03:45 PM	0	0	1	1	**3**	108	39	150	**60**	1	32	93	30	161	**3**	194	438
04:00 PM	**6**	0	**3**	**9**	1	**114**	**41**	**156**	58	**2**	37	97	**35**	166	3	**204**	**466**
04:15 PM	3	**2**	2	7	0	114	40	154	52	0	36	88	30	**170**	1	201	450
04:30 PM	2	2	0	4	1	108	32	141	59	1	**40**	**100**	33	130	1	164	409
Total Volume	11	4	6	21	5	444	152	601	229	4	145	378	128	627	8	763	1763
% App. Total	52.4	19	28.6		0.8	73.9	25.3		60.6	1.1	38.4		16.8	82.2	1		
PHF	.458	.500	.500	.583	.417	.974	.927	.963	.954	.500	.906	.945	.914	.922	.667	.935	.946

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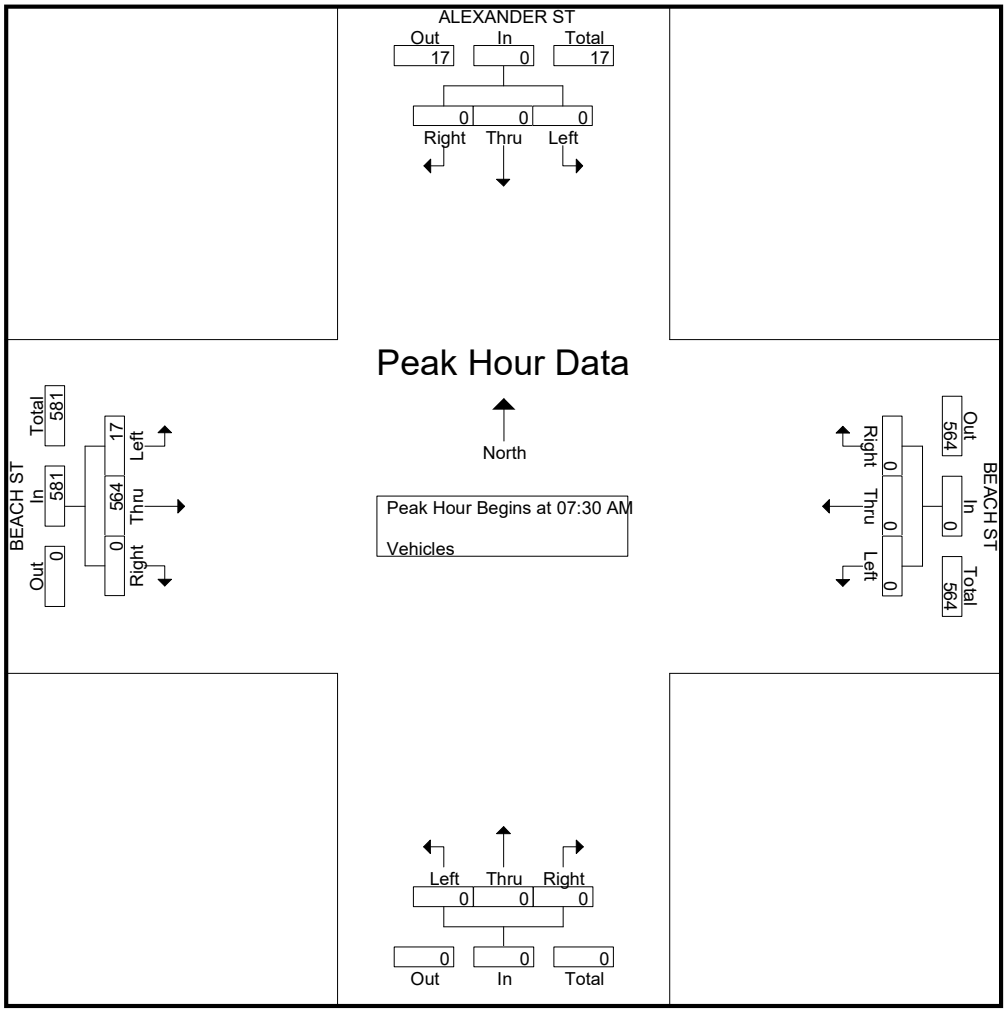

Peak Hour Analysis From 11:00 AM to 02:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 02:00 PM

02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	123	**10**	133	133
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	141	7	148	148
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**159**	10	**169**	**169**
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	150	10	160	160
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	573	37	610	610
% App. Total	0	0	0		0	0	0		0	0	0		0	93.9	6.1		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.901	.925	.902	.902

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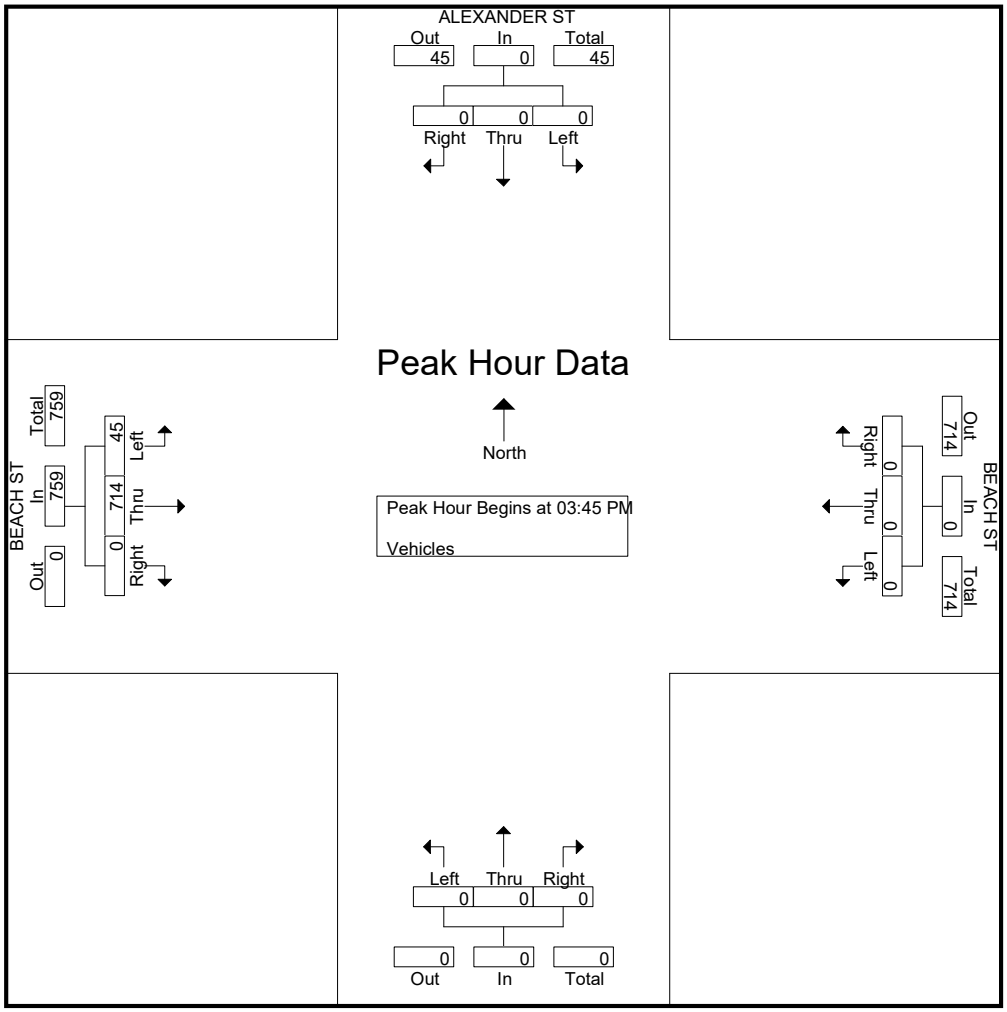

Peak Hour Analysis From 07:00 AM to 06:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:45 PM

03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	187	8	195	195
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**213**	**13**	**226**	**226**
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	161	12	173	173
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	153	12	165	165
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	714	45	759	759
% App. Total	0	0	0		0	0	0		0	0	0		0	94.1	5.9		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.838	.865	.840	.840

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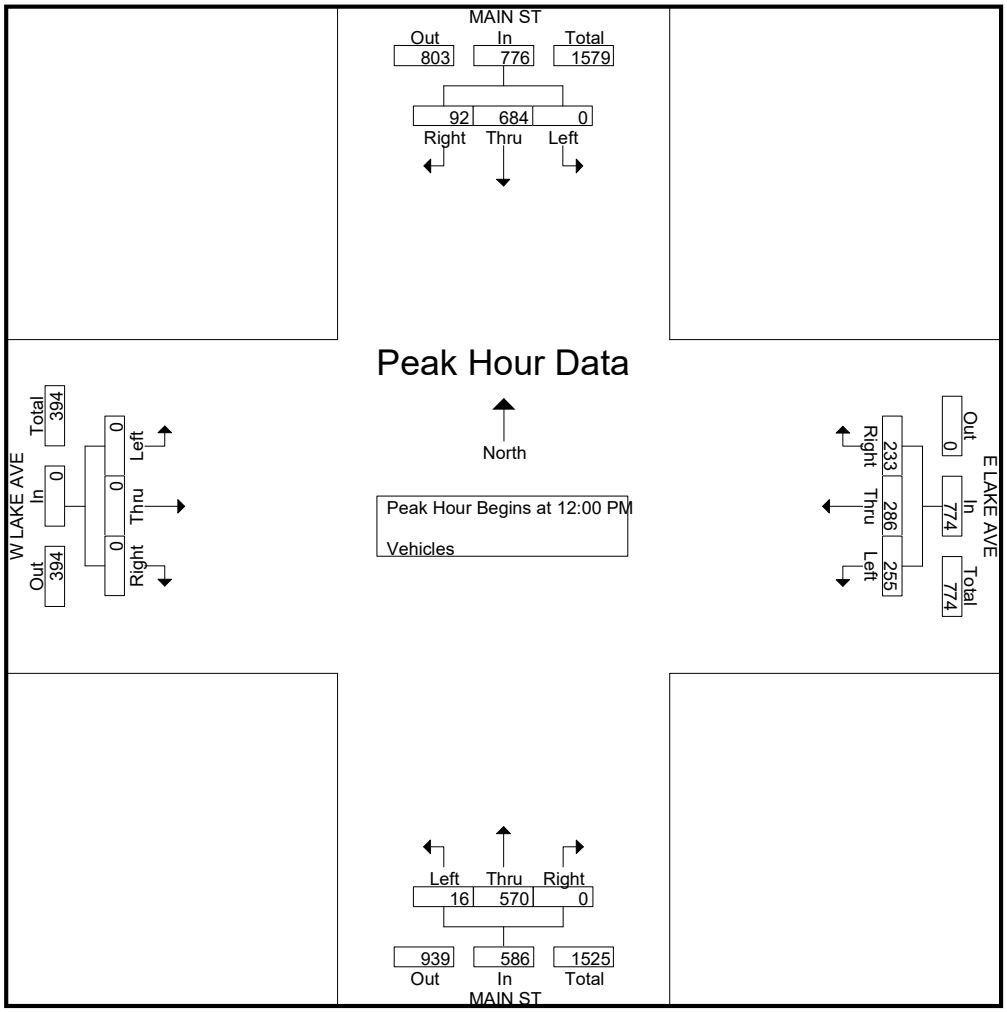

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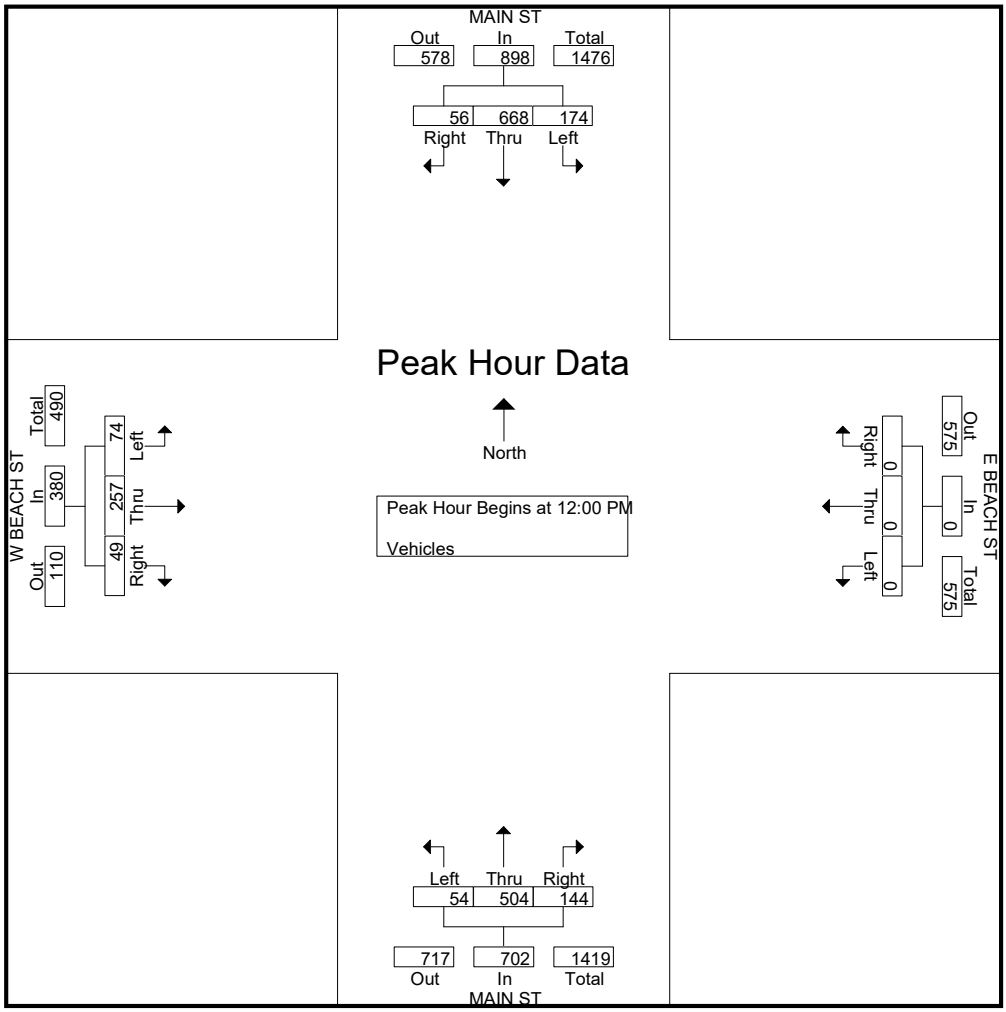
File Name : 2MID FINAL
Site Code : 00000002
Start Date : 7/23/2022
Page No : 2



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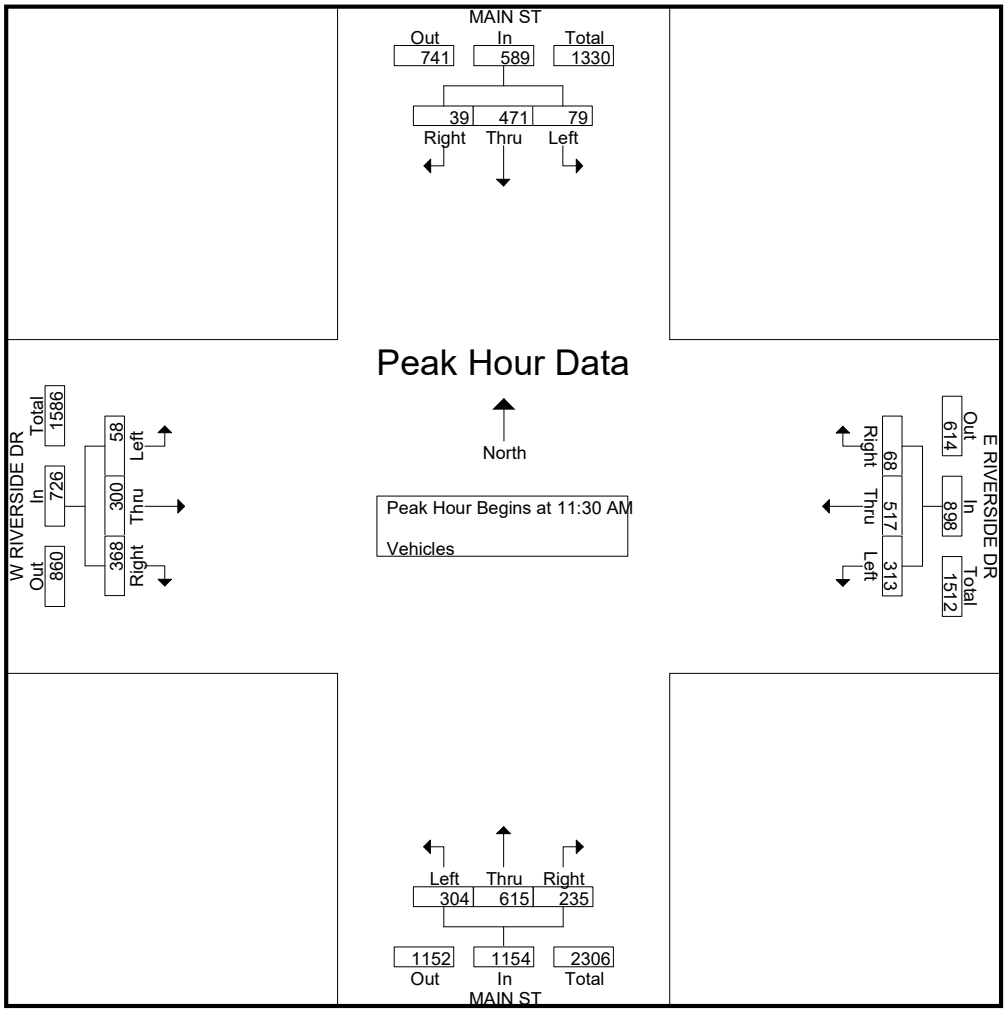
File Name : 3MID FINAL
Site Code : 00000003
Start Date : 7/23/2022
Page No : 2



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Site Code : 00000004
Start Date : 7/23/2022
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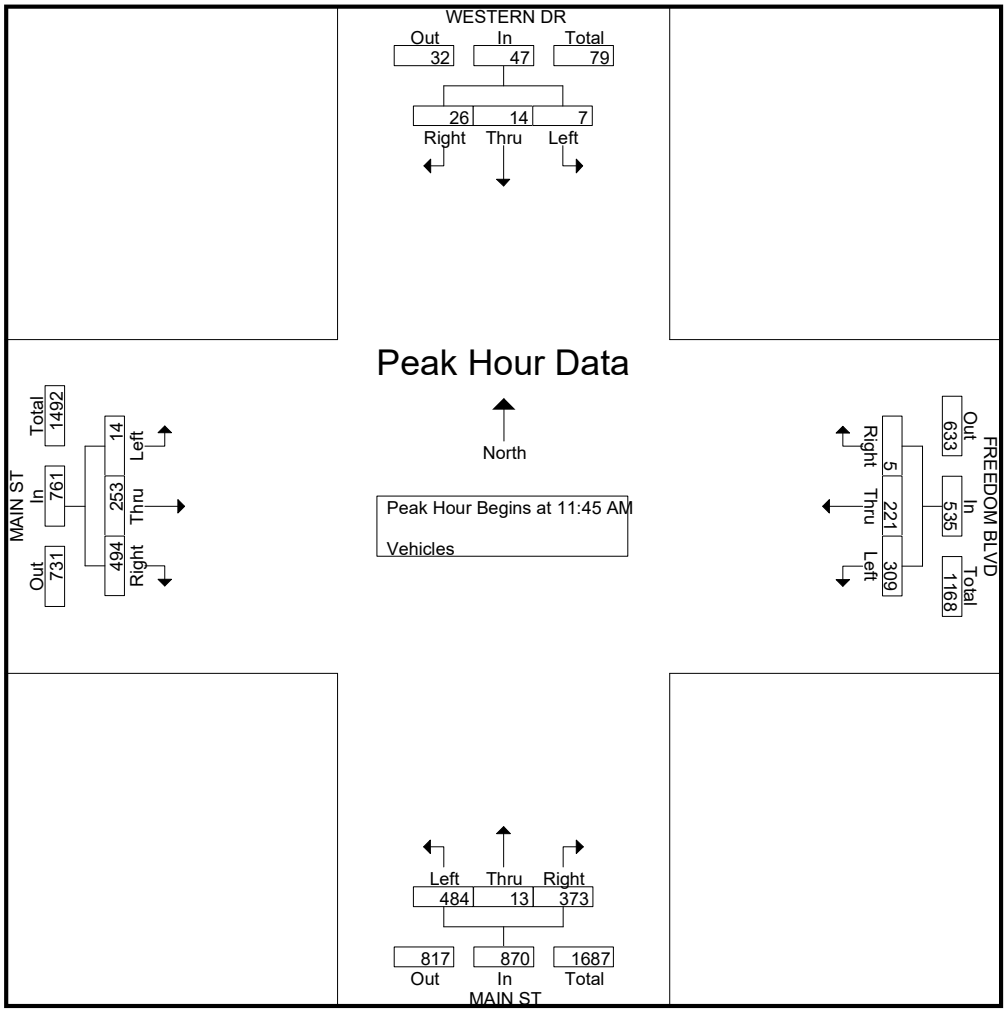


B – Existing Traffic Conditions

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	564	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	17	564	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	17	0	0	0	0	17	0	0	15	15	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	680	0	0	0	0	0	0	0	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	17	0	-	-	-	355
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	-	-	3.32
Pot Cap-1 Maneuver	1599	-	0	0	0	641
Stage 1	-	-	0	0	0	-
Stage 2	-	-	0	0	0	-
Platoon blocked, %		-				
Mov Cap-1 Maneuver	1599	-	-	-	0	641
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s	0.3	0
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT
Capacity (veh/h)	-	1599	-
HCM Lane V/C Ratio	-	0.013	-
HCM Control Delay (s)	0	7.3	0.1
HCM Lane LOS	A	A	A
HCM 95th %tile Q(veh)	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	179	415	244	187	2	478	10	301	16	9	38
Future Volume (vph)	16	179	415	244	187	2	478	10	301	16	9	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	4.6	4.6		5.3	5.3	4.6		4.6	4.6
Lane Util. Factor		1.00	0.88	0.91	0.91		0.95	0.95	1.00		1.00	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt		1.00	0.85	1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected		1.00	1.00	0.95	0.98		0.95	0.95	1.00		0.97	1.00
Satd. Flow (prot)		1855	2787	1610	3328		1681	1688	1583		1805	1583
Flt Permitted		1.00	1.00	0.95	0.98		0.95	0.95	1.00		0.97	1.00
Satd. Flow (perm)		1855	2787	1610	3328		1681	1688	1583		1805	1583
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	18	206	477	280	215	2	549	11	346	18	10	44
RTOR Reduction (vph)	0	0	158	0	0	0	0	0	130	0	0	41
Lane Group Flow (vph)	0	224	319	162	335	0	280	280	216	0	28	3
Confl. Peds. (#/hr)	8					8						
Turn Type	Split	NA	pt+ov	Split	NA		Split	NA	pm+ov	Split	NA	Perm
Protected Phases	5	5	5 6	8	8		6	6	8	7	7	
Permitted Phases									6			7
Actuated Green, G (s)		17.3	80.3	16.4	16.4		58.4	58.4	74.8		8.8	8.8
Effective Green, g (s)		17.3	80.3	16.4	16.4		58.4	58.4	74.8		8.8	8.8
Actuated g/C Ratio		0.14	0.67	0.14	0.14		0.49	0.49	0.62		0.07	0.07
Clearance Time (s)		4.6		4.6	4.6		5.3	5.3	4.6		4.6	4.6
Vehicle Extension (s)		0.2		0.2	0.2		0.2	0.2	0.2		0.2	0.2
Lane Grp Cap (vph)		267	1864	220	454		818	821	986		132	116
v/s Ratio Prot		c0.12	0.11	0.10	c0.10		c0.17	0.17	0.03		c0.02	
v/s Ratio Perm									0.11			0.00
v/c Ratio		0.84	0.17	0.74	0.74		0.34	0.34	0.22		0.21	0.03
Uniform Delay, d1		50.0	7.4	49.7	49.7		19.0	19.0	9.9		52.3	51.6
Progression Factor		1.01	3.17	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		18.6	0.0	10.5	5.3		1.1	1.1	0.0		0.3	0.0
Delay (s)		69.1	23.5	60.2	55.1		20.1	20.1	9.9		52.6	51.7
Level of Service		E	C	E	E		C	C	A		D	D
Approach Delay (s)		38.1			56.8			16.2			52.0	
Approach LOS		D			E			B			D	

Intersection Summary			
HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.1
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

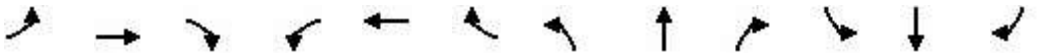
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	223	339	202	9	623	0	0	777	112
Future Volume (veh/h)	0	0	0	223	339	202	9	623	0	0	777	112
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.93	1.00		1.00	1.00		0.98
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				228	346	206	9	636	0	0	793	114
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				310	508	338	58	2256	0	0	2034	292
Arrive On Green				0.23	0.23	0.23	1.00	1.00	0.00	0.00	0.65	0.65
Sat Flow, veh/h				1357	2222	1479	13	3534	0	0	3203	447
Grp Volume(v), veh/h				303	271	206	344	301	0	0	453	454
Grp Sat Flow(s),veh/h/ln				1802	1777	1479	1844	1617	0	0	1777	1780
Q Serve(g_s), s				11.7	10.4	9.4	0.0	0.0	0.0	0.0	8.9	8.9
Cycle Q Clear(g_c), s				11.7	10.4	9.4	0.0	0.0	0.0	0.0	8.9	8.9
Prop In Lane				0.75		1.00	0.03		0.00	0.00		0.25
Lane Grp Cap(c), veh/h				412	406	338	1256	1058	0	0	1162	1164
V/C Ratio(X)				0.73	0.67	0.61	0.27	0.28	0.00	0.00	0.39	0.39
Avail Cap(c_a), veh/h				668	659	548	1256	1058	0	0	1162	1164
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.79	0.79	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				26.8	26.3	25.9	0.0	0.0	0.0	0.0	6.0	6.0
Incr Delay (d2), s/veh				1.0	0.7	0.7	0.4	0.5	0.0	0.0	1.0	1.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.9	4.3	3.2	0.1	0.2	0.0	0.0	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				27.8	27.0	26.6	0.4	0.5	0.0	0.0	7.0	7.0
LnGrp LOS				C	C	C	A	A	A	A	A	A
Approach Vol, veh/h					780			645			907	
Approach Delay, s/veh					27.2			0.5			7.0	
Approach LOS					C			A			A	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	53.7	21.3	53.7
Change Period (Y+Rc), s	4.6	* 4.2	4.6
Max Green Setting (Gmax), s	38.4	* 28	38.4
Max Q Clear Time (g_c+I1), s	10.9	13.7	2.0
Green Ext Time (p_c), s	4.1	2.4	2.8

Intersection Summary	
HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	406	52	0	0	0	59	547	169	238	723	46
Future Volume (veh/h)	73	406	52	0	0	0	59	547	169	238	723	46
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93				1.00		0.94	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	432	55				63	582	180	253	769	49
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	100	577	77				122	857	264	513	1882	120
Arrive On Green	0.21	0.21	0.21				0.07	0.33	0.33	0.29	0.56	0.56
Sat Flow, veh/h	479	2772	369				1781	2633	812	1781	3379	215
Grp Volume(v), veh/h	301	0	264				63	392	370	253	404	414
Grp Sat Flow(s),veh/h/ln	1846	0	1773				1781	1777	1668	1781	1777	1817
Q Serve(g_s), s	11.5	0.0	10.4				2.6	14.3	14.4	8.8	9.8	9.8
Cycle Q Clear(g_c), s	11.5	0.0	10.4				2.6	14.3	14.4	8.8	9.8	9.8
Prop In Lane	0.26		0.21				1.00		0.49	1.00		0.12
Lane Grp Cap(c), veh/h	384	0	369				122	578	543	513	990	1012
V/C Ratio(X)	0.78	0.00	0.72				0.52	0.68	0.68	0.49	0.41	0.41
Avail Cap(c_a), veh/h	512	0	492				435	578	543	513	990	1012
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.85	0.85	0.85	0.92	0.92	0.92
Uniform Delay (d), s/veh	28.1	0.0	27.6				33.8	21.9	21.9	22.2	9.5	9.5
Incr Delay (d2), s/veh	3.9	0.0	1.8				1.1	5.4	5.8	0.3	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
%ile BackOfQ(50%),veh/ln	5.3	0.0	4.4				1.1	6.5	6.2	3.6	3.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	0.0	29.4				34.8	27.3	27.7	22.4	10.7	10.7
LnGrp LOS	C	A	C				C	C	C	C	B	B
Approach Vol, veh/h		565						825			1071	
Approach Delay, s/veh		30.8						28.1			13.4	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	8.8	46.4			26.2	29.0		19.8				
Change Period (Y+Rc), s	3.7	4.6			4.6	* 4.6		4.2				
Max Green Setting (Gmax), s	18.3	23.4			17.3	* 24		20.8				
Max Q Clear Time (g_c+I1), s	4.6	11.8			10.8	16.4		13.5				
Green Ext Time (p_c), s	0.0	2.8			0.1	2.2		1.4				

Intersection Summary			
HCM 6th Ctrl Delay		22.3	
HCM 6th LOS		C	

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	496	607	392	376	43	340	684	339	86	673	34
Future Volume (veh/h)	58	496	607	392	376	43	340	684	339	86	673	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	501	613	396	380	43	343	691	342	87	680	34
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	983	762	480	1137	128	369	1300	571	131	772	39
Arrive On Green	0.07	0.28	0.28	0.14	0.35	0.35	0.21	0.37	0.37	0.07	0.22	0.22
Sat Flow, veh/h	1781	3554	1571	3456	3217	362	1781	3554	1562	1781	3437	172
Grp Volume(v), veh/h	59	501	613	396	209	214	343	691	342	87	351	363
Grp Sat Flow(s),veh/h/ln	1781	1777	1571	1728	1777	1802	1781	1777	1562	1781	1777	1832
Q Serve(g_s), s	3.7	13.7	13.9	12.8	9.9	10.0	21.8	17.6	13.5	5.5	22.0	22.0
Cycle Q Clear(g_c), s	3.7	13.7	13.9	12.8	9.9	10.0	21.8	17.6	13.5	5.5	22.0	22.0
Prop In Lane	1.00		1.00	1.00		0.20	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	118	983	762	480	628	637	369	1300	571	131	399	411
V/C Ratio(X)	0.50	0.51	0.80	0.82	0.33	0.34	0.93	0.53	0.60	0.67	0.88	0.88
Avail Cap(c_a), veh/h	191	983	762	480	628	637	393	1300	571	206	439	452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	51.8	35.0	25.0	48.1	27.2	27.3	44.8	28.7	12.9	51.9	43.1	43.1
Incr Delay (d2), s/veh	1.2	1.9	8.8	10.5	1.4	1.4	26.9	0.2	1.2	2.0	15.1	14.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	6.2	5.0	6.2	4.5	4.6	12.3	7.5	4.8	2.5	11.3	11.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.0	36.9	33.8	58.7	28.7	28.7	71.7	28.9	14.1	53.9	58.2	58.0
LnGrp LOS	D	D	C	E	C	C	E	C	B	D	E	E
Approach Vol, veh/h		1173			819			1376			801	
Approach Delay, s/veh		36.1			43.2			35.9			57.6	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.2	36.0	28.4	30.4	11.3	44.8	12.1	46.7
Change Period (Y+Rc), s	* 4.2	* 4.2	4.6	4.6	3.7	* 4.2	3.7	4.6
Max Green Setting (Gmax), s	* 12	* 32	25.4	28.4	12.3	* 32	13.3	41.4
Max Q Clear Time (g_c+I1), s	14.8	15.9	23.8	24.0	5.7	12.0	7.5	19.6
Green Ext Time (p_c), s	0.0	3.4	0.0	1.1	0.0	1.6	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D

Notes

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

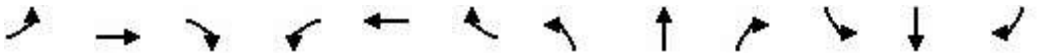
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	169	606	117	64	307	0	0	192	72
Future Volume (veh/h)	0	0	0	169	606	117	64	307	0	0	192	72
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.98	0.99		1.00	1.00		0.98
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				178	638	123	67	323	0	0	202	76
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				268	1008	204	233	412	0	0	412	342
Arrive On Green				0.41	0.41	0.41	0.22	0.22	0.00	0.00	0.22	0.22
Sat Flow, veh/h				653	2455	496	1089	1870	0	0	1870	1553
Grp Volume(v), veh/h				501	0	438	67	323	0	0	202	76
Grp Sat Flow(s),veh/h/ln				1838	0	1766	1089	1870	0	0	1870	1553
Q Serve(g_s), s				16.6	0.0	14.6	4.3	12.2	0.0	0.0	7.1	3.0
Cycle Q Clear(g_c), s				16.6	0.0	14.6	11.4	12.2	0.0	0.0	7.1	3.0
Prop In Lane				0.36		0.28	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				755	0	725	233	412	0	0	412	342
V/C Ratio(X)				0.66	0.00	0.60	0.29	0.78	0.00	0.00	0.49	0.22
Avail Cap(c_a), veh/h				755	0	725	513	893	0	0	893	741
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				17.9	0.0	17.3	30.5	27.6	0.0	0.0	25.6	24.0
Incr Delay (d2), s/veh				4.6	0.0	3.7	0.5	2.5	0.0	0.0	0.7	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(50%),veh/ln				7.4	0.0	6.2	1.1	5.5	0.0	0.0	3.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				22.5	0.0	21.0	31.0	30.0	0.0	0.0	26.2	24.2
LnGrp LOS				C	A	C	C	C	A	A	C	C
Approach Vol, veh/h					939			390			278	
Approach Delay, s/veh					21.8			30.2			25.7	
Approach LOS					C			C			C	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				20.7		35.0		20.7				
Change Period (Y+Rc), s				* 4.2		4.2		* 4.2				
Max Green Setting (Gmax), s				* 36		30.8		* 36				
Max Q Clear Time (g_c+I1), s				9.1		18.6		14.2				
Green Ext Time (p_c), s				1.1		4.2		1.8				

Intersection Summary		
HCM 6th Ctrl Delay	24.5	
HCM 6th LOS	C	

Notes

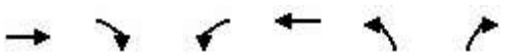
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	582	59	0	0	0	0	182	98	122	267	0
Future Volume (veh/h)	138	582	59	0	0	0	0	182	98	122	267	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94				1.00		0.96	0.99		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1945	1945	1870	1870	0
Adj Flow Rate, veh/h	150	633	64				0	198	107	133	290	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	359	1594	168				0	343	186	256	550	0
Arrive On Green	0.58	0.58	0.58				0.00	0.29	0.29	0.29	0.29	0.00
Sat Flow, veh/h	616	2733	288				0	1168	631	1068	1870	0
Grp Volume(v), veh/h	448	0	399				0	0	305	133	290	0
Grp Sat Flow(s),veh/h/ln	1840	0	1797				0	0	1800	1068	1870	0
Q Serve(g_s), s	10.1	0.0	8.9				0.0	0.0	10.8	9.1	9.7	0.0
Cycle Q Clear(g_c), s	10.1	0.0	8.9				0.0	0.0	10.8	19.9	9.7	0.0
Prop In Lane	0.33		0.16				0.00		0.35	1.00		0.00
Lane Grp Cap(c), veh/h	1073	0	1049				0	0	529	256	550	0
V/C Ratio(X)	0.42	0.00	0.38				0.00	0.00	0.58	0.52	0.53	0.00
Avail Cap(c_a), veh/h	1073	0	1049				0	0	610	304	633	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)	0.65	0.00	0.65				0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.6	0.0	8.4				0.0	0.0	22.5	31.0	22.1	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.7				0.0	0.0	0.4	0.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	3.2				0.0	0.0	4.4	2.3	4.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.4	0.0	9.0				0.0	0.0	22.9	31.6	22.4	0.0
LnGrp LOS	A	A	A				A	A	C	C	C	A
Approach Vol, veh/h		847						305			423	
Approach Delay, s/veh		9.2						22.9			25.3	
Approach LOS		A						C			C	

Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		48.4		26.6				26.6				
Change Period (Y+Rc), s		4.6		4.6				4.6				
Max Green Setting (Gmax), s		40.4		25.4				25.4				
Max Q Clear Time (g_c+I1), s		12.1		21.9				12.8				
Green Ext Time (p_c), s		0.9		0.2				0.3				

Intersection Summary												
HCM 6th Ctrl Delay			16.2									
HCM 6th LOS			B									



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1024	253	12	738	274	24
Future Volume (veh/h)	1024	253	12	738	274	24
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1945	1870	1870
Adj Flow Rate, veh/h	1045	258	12	753	302	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1487	365	398	2977	369	164
Arrive On Green	0.53	0.53	0.07	0.27	0.10	0.00
Sat Flow, veh/h	2904	690	1781	3793	3563	1585
Grp Volume(v), veh/h	659	644	12	753	302	0
Grp Sat Flow(s),veh/h/ln	1777	1723	1781	1848	1781	1585
Q Serve(g_s), s	27.7	28.1	0.6	16.0	8.3	0.0
Cycle Q Clear(g_c), s	27.7	28.1	0.6	16.0	8.3	0.0
Prop In Lane		0.40	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	940	912	398	2977	369	164
V/C Ratio(X)	0.70	0.71	0.03	0.25	0.82	0.00
Avail Cap(c_a), veh/h	940	912	398	2977	873	388
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.70	0.70	1.00	0.00
Uniform Delay (d), s/veh	17.6	17.7	36.3	13.0	43.9	0.0
Incr Delay (d2), s/veh	4.3	4.6	0.0	0.1	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	11.7	0.3	7.9	3.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.0	22.3	36.3	13.2	45.6	0.0
LnGrp LOS	C	C	D	B	D	A
Approach Vol, veh/h	1303			765	302	
Approach Delay, s/veh	22.1			13.5	45.6	
Approach LOS	C			B	D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	27.0	58.2		14.8		85.2
Change Period (Y+Rc), s	4.6	5.3		4.5		* 4.6
Max Green Setting (Gmax), s	8.2	52.9		24.5		* 67
Max Q Clear Time (g_c+I1), s	2.6	30.1		10.3		18.0
Green Ext Time (p_c), s	0.0	1.6		0.0		1.1

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 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	627	128	152	444	5	145	4	229	6	4	11
Future Volume (veh/h)	8	627	128	152	444	5	145	4	229	6	4	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	0.94		0.94	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	660	135	160	467	5	153	4	241	6	4	12
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	1182	954	190	1226	13	293	5	272	89	71	214
Arrive On Green	0.05	0.61	0.61	0.11	0.66	0.66	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1781	1945	1569	1781	1846	20	1313	24	1464	1135	384	1152
Grp Volume(v), veh/h	8	660	135	160	0	472	153	0	245	6	0	16
Grp Sat Flow(s),veh/h/ln	1781	1945	1569	1781	0	1866	1313	0	1488	1135	0	1536
Q Serve(g_s), s	0.5	24.2	4.4	10.6	0.0	13.6	13.0	0.0	19.3	0.6	0.0	1.0
Cycle Q Clear(g_c), s	0.5	24.2	4.4	10.6	0.0	13.6	14.1	0.0	19.3	19.9	0.0	1.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.98	1.00		0.75
Lane Grp Cap(c), veh/h	89	1182	954	190	0	1239	293	0	277	89	0	286
V/C Ratio(X)	0.09	0.56	0.14	0.84	0.00	0.38	0.52	0.00	0.89	0.07	0.00	0.06
Avail Cap(c_a), veh/h	89	1182	954	312	0	1239	344	0	335	133	0	346
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.4	14.0	10.1	52.6	0.0	9.1	46.0	0.0	47.6	57.3	0.0	40.2
Incr Delay (d2), s/veh	1.3	0.4	0.0	10.6	0.0	0.9	1.4	0.0	20.8	0.3	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(50%),veh/ln	0.3	10.3	1.5	5.3	0.0	5.6	4.4	0.0	8.7	0.2	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	14.4	10.2	63.2	0.0	10.0	47.4	0.0	68.4	57.6	0.0	40.3
LnGrp LOS	E	B	B	E	A	A	D	A	E	E	A	D
Approach Vol, veh/h		803			632			398			22	
Approach Delay, s/veh		14.1			23.4			60.3			45.0	
Approach LOS		B			C			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	83.7		26.3	16.8	76.9		26.3				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	75.0		27.0	21.0	60.0		27.0				
Max Q Clear Time (g_c+I1), s	2.5	15.6		21.3	12.6	26.2		21.9				
Green Ext Time (p_c), s	0.0	3.4		1.1	0.3	5.8		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		27.6	
HCM 6th LOS		C	

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	714	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	45	714	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	58	0	0	0	0	58	0	0	15	15	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	1080	303	616	-	-	0	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	850	0	0	0	0	0	0	0	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	58	0	-	-	-	440
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	-	-	3.32
Pot Cap-1 Maneuver	1544	-	0	0	0	565
Stage 1	-	-	0	0	0	-
Stage 2	-	-	0	0	0	-
Platoon blocked, %		-				
Mov Cap-1 Maneuver	1544	-	-	-	0	565
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s	0.6	0
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT
Capacity (veh/h)	-	1544	-
HCM Lane V/C Ratio	-	0.035	-
HCM Control Delay (s)	0	7.4	0.2
HCM Lane LOS	A	A	A
HCM 95th %tile Q(veh)	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	385	599	351	254	3	520	17	374	14	23	37
Future Volume (vph)	40	385	599	351	254	3	520	17	374	14	23	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	4.6	4.6		5.3	5.3	4.6		4.6	4.6
Lane Util. Factor		1.00	0.88	0.91	0.91		0.95	0.95	1.00		1.00	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	0.95		1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt		1.00	0.85	1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected		1.00	1.00	0.95	0.98		0.95	0.96	1.00		0.98	1.00
Satd. Flow (prot)		1854	2787	1610	3324		1681	1691	1503		1829	1583
Flt Permitted		1.00	1.00	0.95	0.98		0.95	0.96	1.00		0.98	1.00
Satd. Flow (perm)		1854	2787	1610	3324		1681	1691	1503		1829	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	41	397	618	362	262	3	536	18	386	14	24	38
RTOR Reduction (vph)	0	0	242	0	1	0	0	0	201	0	0	35
Lane Group Flow (vph)	0	438	376	206	420	0	279	275	185	0	38	3
Confl. Peds. (#/hr)	11		1	1		11			21	21		
Turn Type	Split	NA	pt+ov	Split	NA		Split	NA	pm+ov	Split	NA	Perm
Protected Phases	5	5	5 6	8	8		6	6	8	7	7	
Permitted Phases									6			7
Actuated Green, G (s)		25.7	60.9	15.8	15.8		30.6	30.6	46.4		8.8	8.8
Effective Green, g (s)		25.7	60.9	15.8	15.8		30.6	30.6	46.4		8.8	8.8
Actuated g/C Ratio		0.26	0.61	0.16	0.16		0.31	0.31	0.46		0.09	0.09
Clearance Time (s)		4.6		4.6	4.6		5.3	5.3	4.6		4.6	4.6
Vehicle Extension (s)		0.2		0.2	0.2		0.2	0.2	0.2		0.2	0.2
Lane Grp Cap (vph)		476	1697	254	525		514	517	697		160	139
v/s Ratio Prot		c0.24	0.14	c0.13	0.13		c0.17	0.16	0.04		c0.02	
v/s Ratio Perm									0.08			0.00
v/c Ratio		0.92	0.22	0.81	0.80		0.54	0.53	0.27		0.24	0.02
Uniform Delay, d1		36.2	8.8	40.7	40.6		28.9	28.8	16.4		42.5	41.7
Progression Factor		1.30	3.23	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		20.7	0.0	16.7	8.1		4.1	3.9	0.1		0.3	0.0
Delay (s)		67.8	28.5	57.4	48.6		33.0	32.6	16.5		42.8	41.7
Level of Service		E	C	E	D		C	C	B		D	D
Approach Delay (s)		44.8			51.5			26.1			42.2	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	39.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.1
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

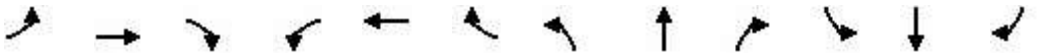
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	255	286	233	16	570	0	0	684	92
Future Volume (veh/h)	0	0	0	255	286	233	16	570	0	0	684	92
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.94	1.00		1.00	1.00		0.97
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				263	295	240	16	588	0	0	705	95
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				360	440	334	76	2227	0	0	2065	278
Arrive On Green				0.22	0.22	0.22	1.00	1.00	0.00	0.00	0.66	0.66
Sat Flow, veh/h				1605	1962	1490	39	3466	0	0	3229	422
Grp Volume(v), veh/h				293	265	240	319	285	0	0	399	401
Grp Sat Flow(s),veh/h/ln				1790	1777	1490	1803	1617	0	0	1777	1780
Q Serve(g_s), s				11.4	10.2	11.2	0.0	0.0	0.0	0.0	7.4	7.4
Cycle Q Clear(g_c), s				11.4	10.2	11.2	0.0	0.0	0.0	0.0	7.4	7.4
Prop In Lane				0.90		1.00	0.05		0.00	0.00		0.24
Lane Grp Cap(c), veh/h				401	398	334	1238	1065	0	0	1170	1173
V/C Ratio(X)				0.73	0.66	0.72	0.26	0.27	0.00	0.00	0.34	0.34
Avail Cap(c_a), veh/h				664	659	552	1238	1065	0	0	1170	1173
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.88	0.88	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				27.0	26.5	26.9	0.0	0.0	0.0	0.0	5.6	5.6
Incr Delay (d2), s/veh				1.0	0.7	1.1	0.4	0.5	0.0	0.0	0.8	0.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.8	4.2	3.9	0.2	0.2	0.0	0.0	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.0	27.2	28.0	0.4	0.5	0.0	0.0	6.4	6.4
LnGrp LOS				C	C	C	A	A	A	A	A	A
Approach Vol, veh/h					798			604			800	
Approach Delay, s/veh					27.7			0.5			6.4	
Approach LOS					C			A			A	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	54.0	21.0	54.0
Change Period (Y+Rc), s	4.6	* 4.2	4.6
Max Green Setting (Gmax), s	38.4	* 28	38.4
Max Q Clear Time (g_c+I1), s	9.4	13.4	2.0
Green Ext Time (p_c), s	3.5	2.4	2.6

Intersection Summary	
HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	257	49	0	0	0	54	504	144	174	668	56
Future Volume (veh/h)	74	257	49	0	0	0	54	504	144	174	668	56
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91				1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	262	50				55	514	147	178	682	57
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	119	425	84				113	952	271	522	1964	164
Arrive On Green	0.18	0.18	0.18				0.06	0.35	0.35	0.29	0.59	0.59
Sat Flow, veh/h	675	2414	478				1781	2705	769	1781	3309	276
Grp Volume(v), veh/h	207	0	181				55	336	325	178	366	373
Grp Sat Flow(s),veh/h/ln	1837	0	1730				1781	1777	1697	1781	1777	1808
Q Serve(g_s), s	7.8	0.0	7.2				2.2	11.4	11.5	5.9	7.9	7.9
Cycle Q Clear(g_c), s	7.8	0.0	7.2				2.2	11.4	11.5	5.9	7.9	7.9
Prop In Lane	0.37		0.28				1.00		0.45	1.00		0.15
Lane Grp Cap(c), veh/h	323	0	305				113	625	598	522	1055	1073
V/C Ratio(X)	0.64	0.00	0.59				0.49	0.54	0.54	0.34	0.35	0.35
Avail Cap(c_a), veh/h	460	0	434				197	625	598	522	1055	1073
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.83	0.83	0.83	0.94	0.94	0.94
Uniform Delay (d), s/veh	28.7	0.0	28.4				33.9	19.4	19.5	20.8	7.8	7.8
Incr Delay (d2), s/veh	0.8	0.0	0.7				1.0	2.7	2.9	0.1	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	2.9				1.0	4.9	4.7	2.4	2.8	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.5	0.0	29.1				34.9	22.2	22.4	20.9	8.7	8.6
LnGrp LOS	C	A	C				C	C	C	C	A	A
Approach Vol, veh/h		388						716			917	
Approach Delay, s/veh		29.3						23.3			11.0	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	8.5	49.1			26.6	31.0		17.4				
Change Period (Y+Rc), s	3.7	4.6			4.6	* 4.6		4.2				
Max Green Setting (Gmax), s	8.3	35.4			17.3	* 26		18.8				
Max Q Clear Time (g_c+I1), s	4.2	9.9			7.9	13.5		9.8				
Green Ext Time (p_c), s	0.0	3.1			0.1	2.3		1.0				

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

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	300	368	313	517	68	304	615	235	79	471	39
Future Volume (veh/h)	58	300	368	313	517	68	304	615	235	79	471	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	312	383	326	539	71	317	641	245	82	491	41
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	942	720	742	1322	174	342	1105	487	125	601	50
Arrive On Green	0.06	0.27	0.27	0.21	0.42	0.42	0.19	0.31	0.31	0.07	0.18	0.18
Sat Flow, veh/h	1781	3554	1569	3456	3155	414	1781	3554	1567	1781	3311	276
Grp Volume(v), veh/h	60	312	383	326	303	307	317	641	245	82	263	269
Grp Sat Flow(s),veh/h/ln	1781	1777	1569	1728	1777	1793	1781	1777	1567	1781	1777	1810
Q Serve(g_s), s	3.9	8.5	0.0	9.8	14.3	14.4	21.0	18.2	8.9	5.4	17.0	17.2
Cycle Q Clear(g_c), s	3.9	8.5	0.0	9.8	14.3	14.4	21.0	18.2	8.9	5.4	17.0	17.2
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	116	942	720	742	745	751	342	1105	487	125	322	328
V/C Ratio(X)	0.52	0.33	0.53	0.44	0.41	0.41	0.93	0.58	0.50	0.66	0.81	0.82
Avail Cap(c_a), veh/h	212	942	720	742	745	751	392	1105	487	257	421	428
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	54.3	35.5	23.3	40.8	24.4	24.4	47.6	34.8	11.4	54.4	47.2	47.2
Incr Delay (d2), s/veh	1.3	0.9	2.8	0.2	1.6	1.6	24.6	0.5	0.3	2.0	6.6	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.8	8.2	4.2	6.4	6.5	11.6	7.9	3.1	2.5	8.1	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	36.5	26.1	41.0	26.1	26.1	72.3	35.3	11.8	56.4	53.8	54.1
LnGrp LOS	E	D	C	D	C	C	E	D	B	E	D	D
Approach Vol, veh/h		755			936			1203			614	
Approach Delay, s/veh		32.7			31.3			40.2			54.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.0	36.0	27.7	26.4	11.5	54.5	12.1	41.9
Change Period (Y+Rc), s	* 4.2	* 4.2	4.6	4.6	3.7	* 4.2	3.7	4.6
Max Green Setting (Gmax), s	* 16	* 32	26.4	28.4	14.3	* 34	17.3	34.4
Max Q Clear Time (g_c+I1), s	11.8	10.5	23.0	19.2	5.9	16.4	7.4	20.2
Green Ext Time (p_c), s	0.1	2.0	0.1	1.2	0.0	2.3	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	38.7
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	253	494	309	221	5	484	13	373	7	14	26
Future Volume (vph)	14	253	494	309	221	5	484	13	373	7	14	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	4.6	4.6		5.3	5.3	4.6		4.6	4.6
Lane Util. Factor		1.00	0.88	0.91	0.91		0.95	0.95	1.00		1.00	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	0.97		1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt		1.00	0.85	1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected		1.00	1.00	0.95	0.98		0.95	0.95	1.00		0.98	1.00
Satd. Flow (prot)		1858	2787	1610	3320		1681	1689	1542		1827	1583
Flt Permitted		1.00	1.00	0.95	0.98		0.95	0.95	1.00		0.79	1.00
Satd. Flow (perm)		1858	2787	1610	3320		1681	1689	1542		1474	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	14	258	504	315	226	5	494	13	381	7	14	27
RTOR Reduction (vph)	0	0	184	0	1	0	0	0	170	0	0	25
Lane Group Flow (vph)	0	272	320	180	365	0	252	255	211	0	21	2
Confl. Peds. (#/hr)	11					11			6	6		
Confl. Bikes (#/hr)						1						
Turn Type	Split	NA	pt+ov	Split	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases	5	5	5 6	8	8		6	6	8		7	
Permitted Phases									6	7		7
Actuated Green, G (s)		18.8	63.4	15.5	15.5		40.0	40.0	55.5		6.6	6.6
Effective Green, g (s)		18.8	63.4	15.5	15.5		40.0	40.0	55.5		6.6	6.6
Actuated g/C Ratio		0.19	0.63	0.16	0.16		0.40	0.40	0.56		0.07	0.07
Clearance Time (s)		4.6		4.6	4.6		5.3	5.3	4.6		4.6	4.6
Vehicle Extension (s)		0.2		0.2	0.2		0.2	0.2	0.2		0.2	0.2
Lane Grp Cap (vph)		349	1766	249	514		672	675	855		97	104
v/s Ratio Prot		c0.15	0.11	c0.11	0.11		0.15	c0.15	0.04			
v/s Ratio Perm									0.10		c0.01	0.00
v/c Ratio		0.78	0.18	0.72	0.71		0.38	0.38	0.25		0.22	0.02
Uniform Delay, d1		38.6	7.6	40.2	40.1		21.2	21.2	11.5		44.3	43.7
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		9.6	0.0	8.5	3.8		1.6	1.6	0.1		0.4	0.0
Delay (s)		48.3	7.6	48.7	44.0		22.8	22.8	11.5		44.7	43.7
Level of Service		D	A	D	D		C	C	B		D	D
Approach Delay (s)		21.8			45.5			18.0			44.1	
Approach LOS		C			D			B			D	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.1
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

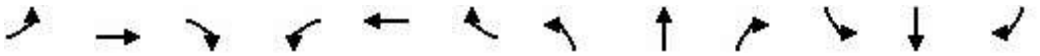
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	201	350	154	20	519	0	0	546	81
Future Volume (veh/h)	0	0	0	201	350	154	20	519	0	0	546	81
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				254	443	195	25	657	0	0	691	103
Peak Hour Factor				0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				444	831	557	139	1236	0	0	1143	170
Arrive On Green				0.36	0.36	0.36	0.37	0.37	0.00	0.00	0.37	0.37
Sat Flow, veh/h				1248	2337	1566	50	3436	0	0	3191	461
Grp Volume(v), veh/h				368	329	195	361	321	0	0	396	398
Grp Sat Flow(s),veh/h/ln				1808	1777	1566	1784	1617	0	0	1777	1782
Q Serve(g_s), s				5.3	4.7	2.9	0.0	5.0	0.0	0.0	5.8	5.8
Cycle Q Clear(g_c), s				5.3	4.7	2.9	4.8	5.0	0.0	0.0	5.8	5.8
Prop In Lane				0.69		1.00	0.07		0.00	0.00		0.26
Lane Grp Cap(c), veh/h				643	632	557	779	597	0	0	656	657
V/C Ratio(X)				0.57	0.52	0.35	0.46	0.54	0.00	0.00	0.60	0.61
Avail Cap(c_a), veh/h				2197	2159	1903	2379	2147	0	0	2360	2366
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				8.3	8.1	7.6	7.9	7.9	0.0	0.0	8.2	8.2
Incr Delay (d2), s/veh				0.3	0.2	0.1	0.2	0.3	0.0	0.0	0.3	0.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.5	1.3	0.7	1.3	1.2	0.0	0.0	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				8.6	8.4	7.7	8.0	8.2	0.0	0.0	8.5	8.5
LnGrp LOS				A	A	A	A	A	A	A	A	A
Approach Vol, veh/h					892			682			794	
Approach Delay, s/veh					8.3			8.1			8.5	
Approach LOS					A			A			A	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	16.4	15.5	16.4
Change Period (Y+Rc), s	4.6	* 4.2	4.6
Max Green Setting (Gmax), s	42.4	* 39	42.4
Max Q Clear Time (g_c+I1), s	7.8	7.3	7.0
Green Ext Time (p_c), s	3.8	3.6	3.3

Intersection Summary	
HCM 6th Ctrl Delay	8.3
HCM 6th LOS	A

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	246	20	0	0	0	61	494	144	162	500	71
Future Volume (veh/h)	31	246	20	0	0	0	61	494	144	162	500	71
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94				1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	304	25				75	610	178	200	617	88
Peak Hour Factor	0.81	0.81	0.81				0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	79	661	57				171	889	259	261	1245	177
Arrive On Green	0.22	0.22	0.22				0.10	0.33	0.33	0.15	0.40	0.40
Sat Flow, veh/h	364	3034	260				1781	2704	788	1781	3114	443
Grp Volume(v), veh/h	194	0	173				75	400	388	200	352	353
Grp Sat Flow(s),veh/h/ln	1852	0	1805				1781	1777	1715	1781	1777	1780
Q Serve(g_s), s	4.0	0.0	3.6				1.7	8.5	8.5	4.7	6.5	6.5
Cycle Q Clear(g_c), s	4.0	0.0	3.6				1.7	8.5	8.5	4.7	6.5	6.5
Prop In Lane	0.20		0.14				1.00		0.46	1.00		0.25
Lane Grp Cap(c), veh/h	403	0	393				171	584	564	261	710	711
V/C Ratio(X)	0.48	0.00	0.44				0.44	0.69	0.69	0.77	0.49	0.50
Avail Cap(c_a), veh/h	1138	0	1109				788	1524	1471	993	1728	1731
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.9	0.0	14.8				18.6	12.7	12.7	17.9	9.8	9.8
Incr Delay (d2), s/veh	0.3	0.0	0.3				0.7	0.5	0.6	1.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	1.3				0.7	2.9	2.8	1.9	2.1	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	0.0	15.0				19.3	13.2	13.3	19.7	10.0	10.0
LnGrp LOS	B	A	B				B	B	B	B	A	B
Approach Vol, veh/h		367						863			905	
Approach Delay, s/veh		15.1						13.8			12.1	
Approach LOS		B						B			B	

Timer - Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	7.9	22.0			11.0	18.9		13.7				
Change Period (Y+Rc), s	3.7	4.6			4.6	* 4.6		4.2				
Max Green Setting (Gmax), s	19.3	42.4			24.3	* 37		26.8				
Max Q Clear Time (g_c+I1), s	3.7	8.5			6.7	10.5		6.0				
Green Ext Time (p_c), s	0.0	3.3			0.1	3.8		1.4				

Intersection Summary			
HCM 6th Ctrl Delay			13.3
HCM 6th LOS			B

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	339	296	264	444	54	369	757	285	50	410	24
Future Volume (veh/h)	56	339	296	264	444	54	369	757	285	50	410	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	373	325	290	488	59	405	832	313	55	451	26
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	983	783	612	1246	150	393	1196	526	115	588	34
Arrive On Green	0.07	0.28	0.28	0.18	0.39	0.39	0.22	0.34	0.34	0.06	0.17	0.17
Sat Flow, veh/h	1781	3554	1566	3456	3190	384	1781	3554	1564	1781	3407	196
Grp Volume(v), veh/h	62	373	325	290	271	276	405	832	313	55	235	242
Grp Sat Flow(s),veh/h/ln	1781	1777	1566	1728	1777	1797	1781	1777	1564	1781	1777	1825
Q Serve(g_s), s	3.9	9.8	0.0	8.7	12.6	12.7	25.4	23.3	11.8	3.4	14.5	14.6
Cycle Q Clear(g_c), s	3.9	9.8	0.0	8.7	12.6	12.7	25.4	23.3	11.8	3.4	14.5	14.6
Prop In Lane	1.00		1.00	1.00		0.21	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	120	983	783	612	694	702	393	1196	526	115	307	315
V/C Ratio(X)	0.52	0.38	0.41	0.47	0.39	0.39	1.03	0.70	0.59	0.48	0.76	0.77
Avail Cap(c_a), veh/h	191	983	783	612	694	702	393	1196	526	206	439	451
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	51.8	33.6	18.3	42.5	25.2	25.2	44.8	33.1	12.1	51.9	45.4	45.4
Incr Delay (d2), s/veh	1.3	1.1	1.6	0.2	1.7	1.7	53.1	1.5	1.3	1.0	2.5	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	4.4	5.6	3.8	5.7	5.8	16.7	10.0	4.0	1.5	6.5	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.1	34.7	19.9	42.7	26.9	26.9	97.9	34.6	13.4	52.9	47.8	48.0
LnGrp LOS	D	C	B	D	C	C	F	C	B	D	D	D
Approach Vol, veh/h		760			837			1550			532	
Approach Delay, s/veh		29.9			32.4			46.8			48.4	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.6	36.0	30.0	24.4	11.5	49.1	11.1	43.3
Change Period (Y+Rc), s	* 4.2	* 4.2	4.6	4.6	3.7	* 4.2	3.7	4.6
Max Green Setting (Gmax), s	* 12	* 32	25.4	28.4	12.3	* 32	13.3	34.4
Max Q Clear Time (g_c+I1), s	10.7	11.8	27.4	16.6	5.9	14.7	5.4	25.3
Green Ext Time (p_c), s	0.1	2.3	0.0	1.0	0.0	2.2	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	40.3
HCM 6th LOS	D

Notes

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

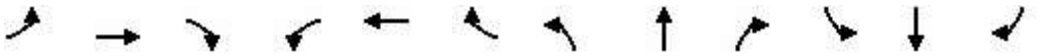
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	124	621	54	25	175	0	0	150	45
Future Volume (veh/h)	0	0	0	124	621	54	25	175	0	0	150	45
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.97	0.99		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				159	796	69	32	224	0	0	192	58
Peak Hour Factor				0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				265	1397	127	408	472	0	0	472	394
Arrive On Green				0.49	0.49	0.49	0.25	0.25	0.00	0.00	0.25	0.25
Sat Flow, veh/h				542	2856	259	1121	1870	0	0	1870	1564
Grp Volume(v), veh/h				540	0	484	32	224	0	0	192	58
Grp Sat Flow(s),veh/h/ln				1843	0	1813	1121	1870	0	0	1870	1564
Q Serve(g_s), s				6.9	0.0	6.0	0.8	3.3	0.0	0.0	2.8	0.9
Cycle Q Clear(g_c), s				6.9	0.0	6.0	3.6	3.3	0.0	0.0	2.8	0.9
Prop In Lane				0.29		0.14	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				902	0	887	408	472	0	0	472	394
V/C Ratio(X)				0.60	0.00	0.55	0.08	0.48	0.00	0.00	0.41	0.15
Avail Cap(c_a), veh/h				2089	0	2055	1293	1947	0	0	1947	1628
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				6.0	0.0	5.8	11.6	10.3	0.0	0.0	10.1	9.4
Incr Delay (d2), s/veh				0.5	0.0	0.4	0.1	0.6	0.0	0.0	0.4	0.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.6	0.0	1.4	0.2	1.1	0.0	0.0	0.9	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				6.5	0.0	6.2	11.7	10.9	0.0	0.0	10.5	9.6
LnGrp LOS				A	A	A	B	B	A	A	B	A
Approach Vol, veh/h					1024			256			250	
Approach Delay, s/veh					6.3			11.0			10.3	
Approach LOS					A			B			B	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				12.4		20.1		12.4				
Change Period (Y+Rc), s				* 4.2		4.2		* 4.2				
Max Green Setting (Gmax), s				* 34		36.8		* 34				
Max Q Clear Time (g_c+I1), s				4.8		8.9		5.6				
Green Ext Time (p_c), s				1.1		6.7		1.2				

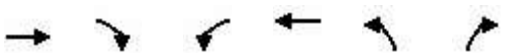
Intersection Summary		
HCM 6th Ctrl Delay	7.8	
HCM 6th LOS	A	

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	434	48	0	0	0	0	142	78	74	200	0
Future Volume (veh/h)	52	434	48	0	0	0	0	142	78	74	200	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1945	1945	1870	1870	0
Adj Flow Rate, veh/h	67	556	62				0	182	100	95	256	0
Peak Hour Factor	0.78	0.78	0.78				0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	105	909	106				0	369	203	502	586	0
Arrive On Green	0.31	0.31	0.31				0.00	0.31	0.31	0.31	0.31	0.00
Sat Flow, veh/h	341	2954	346				0	1177	647	1093	1870	0
Grp Volume(v), veh/h	364	0	321				0	0	282	95	256	0
Grp Sat Flow(s),veh/h/ln	1853	0	1787				0	0	1824	1093	1870	0
Q Serve(g_s), s	4.1	0.0	3.7				0.0	0.0	3.0	1.9	2.6	0.0
Cycle Q Clear(g_c), s	4.1	0.0	3.7				0.0	0.0	3.0	4.9	2.6	0.0
Prop In Lane	0.18		0.19				0.00		0.35	1.00		0.00
Lane Grp Cap(c), veh/h	570	0	550				0	0	571	502	586	0
V/C Ratio(X)	0.64	0.00	0.58				0.00	0.00	0.49	0.19	0.44	0.00
Avail Cap(c_a), veh/h	2628	0	2534				0	0	2586	1710	2652	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.2	0.0	7.1				0.0	0.0	6.8	8.8	6.6	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.4				0.0	0.0	0.2	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.8				0.0	0.0	0.7	0.3	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	0.0	7.5				0.0	0.0	7.0	8.8	6.8	0.0
LnGrp LOS	A	A	A				A	A	A	A	A	A
Approach Vol, veh/h		685						282			351	
Approach Delay, s/veh		7.6						7.0			7.4	
Approach LOS		A						A			A	
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		12.1		12.2				12.2				
Change Period (Y+Rc), s		4.6		4.6				4.6				
Max Green Setting (Gmax), s		34.4		34.4				34.4				
Max Q Clear Time (g_c+I1), s		6.1		6.9				5.0				
Green Ext Time (p_c), s		0.9		0.3				0.4				
Intersection Summary												
HCM 6th Ctrl Delay			7.4									
HCM 6th LOS			A									



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	595	188	7	691	184	11
Future Volume (veh/h)	595	188	7	691	184	11
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1945	1870	1870
Adj Flow Rate, veh/h	676	214	8	785	220	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1334	422	508	3086	294	131
Arrive On Green	0.51	0.51	0.09	0.28	0.08	0.00
Sat Flow, veh/h	2730	834	1781	3793	3563	1585
Grp Volume(v), veh/h	455	435	8	785	220	0
Grp Sat Flow(s),veh/h/ln	1777	1694	1781	1848	1781	1585
Q Serve(g_s), s	20.4	20.5	0.5	19.9	7.2	0.0
Cycle Q Clear(g_c), s	20.4	20.5	0.5	19.9	7.2	0.0
Prop In Lane		0.49	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	899	857	508	3086	294	131
V/C Ratio(X)	0.51	0.51	0.02	0.25	0.75	0.00
Avail Cap(c_a), veh/h	899	857	508	3086	813	362
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.83	0.83	1.00	0.00
Uniform Delay (d), s/veh	19.7	19.7	39.1	14.4	53.8	0.0
Incr Delay (d2), s/veh	2.0	2.1	0.0	0.2	3.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	8.2	0.2	9.8	3.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.7	21.8	39.1	14.5	57.6	0.0
LnGrp LOS	C	C	D	B	E	A
Approach Vol, veh/h	890			793	220	
Approach Delay, s/veh	21.8			14.8	57.6	
Approach LOS	C			B	E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	39.5	66.0		14.5		105.5
Change Period (Y+Rc), s	5.3	* 5.3		4.6		5.3
Max Green Setting (Gmax), s	17.4	* 61		27.4		82.7
Max Q Clear Time (g_c+I1), s	2.5	22.5		9.2		21.9
Green Ext Time (p_c), s	0.0	0.8		0.7		0.9

Intersection Summary		
HCM 6th Ctrl Delay		23.0
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	380	95	176	338	0	108	1	130	3	2	12
Future Volume (veh/h)	6	380	95	176	338	0	108	1	130	3	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	0.98		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	452	113	210	402	0	129	1	155	4	2	14
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	13	722	581	283	977	0	407	2	276	280	35	248
Arrive On Green	0.01	0.37	0.37	0.16	0.52	0.00	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1781	1945	1564	1781	1870	0	1364	10	1537	1212	197	1382
Grp Volume(v), veh/h	7	452	113	210	402	0	129	0	156	4	0	16
Grp Sat Flow(s),veh/h/ln	1781	1945	1564	1781	1870	0	1364	0	1547	1212	0	1580
Q Serve(g_s), s	0.2	7.9	2.0	4.6	5.4	0.0	3.6	0.0	3.8	0.1	0.0	0.3
Cycle Q Clear(g_c), s	0.2	7.9	2.0	4.6	5.4	0.0	3.9	0.0	3.8	3.9	0.0	0.3
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.99	1.00		0.88
Lane Grp Cap(c), veh/h	13	722	581	283	977	0	407	0	277	280	0	283
V/C Ratio(X)	0.53	0.63	0.19	0.74	0.41	0.00	0.32	0.00	0.56	0.01	0.00	0.06
Avail Cap(c_a), veh/h	173	2262	1818	1251	3307	0	989	0	937	797	0	957
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.4	10.6	8.8	16.6	6.0	0.0	15.7	0.0	15.5	17.3	0.0	14.0
Incr Delay (d2), s/veh	28.6	0.9	0.2	3.8	0.3	0.0	0.4	0.0	1.8	0.0	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(50%),veh/ln	0.2	2.6	0.5	1.9	1.3	0.0	0.9	0.0	1.2	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.0	11.5	9.0	20.4	6.3	0.0	16.1	0.0	17.3	17.3	0.0	14.1
LnGrp LOS	D	B	A	C	A	A	B	A	B	B	A	B
Approach Vol, veh/h		572			612			285			20	
Approach Delay, s/veh		11.5			11.1			16.7			14.8	
Approach LOS		B			B			B			B	

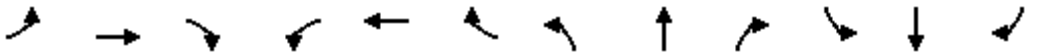
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.3	25.6		11.4	10.6	19.3		11.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	73.0		25.0	29.0	48.0		25.0				
Max Q Clear Time (g_c+I1), s	2.2	7.4		5.9	6.6	9.9		5.9				
Green Ext Time (p_c), s	0.0	2.7		1.2	0.6	3.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		12.4	
HCM 6th LOS		B	

C – Existing Plus Project Traffic Conditions

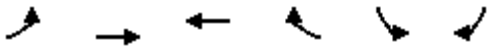
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	359	59	102	465	34	96
Future Volume (vph)	359	59	102	465	34	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7			3.7	3.7	3.7
Lane Util. Factor	1.00			0.95	1.00	1.00
Frpb, ped/bikes	0.98			1.00	1.00	0.96
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.98			1.00	1.00	0.85
Flt Protected	1.00			0.99	0.95	1.00
Satd. Flow (prot)	1793			3508	1770	1522
Flt Permitted	1.00			0.99	0.95	1.00
Satd. Flow (perm)	1793			3508	1770	1522
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	443	73	126	574	42	119
RTOR Reduction (vph)	5	0	0	0	0	97
Lane Group Flow (vph)	511	0	0	700	42	22
Confl. Peds. (#/hr)		30	30		21	7
Turn Type	NA		Split	NA	Prot	Perm
Protected Phases	4		3 6	3 6	5	
Permitted Phases						5
Actuated Green, G (s)	28.7			34.9	17.0	17.0
Effective Green, g (s)	28.7			34.9	17.0	17.0
Actuated g/C Ratio	0.31			0.38	0.19	0.19
Clearance Time (s)	3.7				3.7	3.7
Vehicle Extension (s)	2.0				3.0	3.0
Lane Grp Cap (vph)	561			1335	328	282
v/s Ratio Prot	c0.28			c0.20	c0.02	
v/s Ratio Perm						0.01
v/c Ratio	0.91			0.52	0.13	0.08
Uniform Delay, d1	30.3			22.0	31.2	30.9
Progression Factor	1.00			0.48	1.00	1.00
Incremental Delay, d2	18.3			0.3	0.2	0.1
Delay (s)	48.6			10.8	31.3	31.0
Level of Service	D			B	C	C
Approach Delay (s)	48.6			10.8	31.1	
Approach LOS	D			B	C	

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	91.7	Sum of lost time (s)	14.8
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	141	396	231	220	7	461	16	354	21	13	53
Future Volume (vph)	21	141	396	231	220	7	461	16	354	21	13	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	5.3	5.3		5.3	5.3	5.3		5.3	5.3
Lane Util. Factor		1.00	0.88	0.91	0.91		0.95	0.95	1.00		1.00	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt		1.00	0.85	1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected		0.99	1.00	0.95	0.99		0.95	0.96	1.00		0.97	1.00
Satd. Flow (prot)		1851	2787	1610	3332		1681	1691	1583		1807	1583
Flt Permitted		0.99	1.00	0.95	0.99		0.95	0.96	1.00		0.97	1.00
Satd. Flow (perm)		1851	2787	1610	3332		1681	1691	1583		1807	1583
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	24	162	455	266	253	8	530	18	407	24	15	61
RTOR Reduction (vph)	0	0	394	0	2	0	0	0	176	0	0	56
Lane Group Flow (vph)	0	186	61	173	352	0	276	272	231	0	39	5
Confl. Peds. (#/hr)	8					8						
Turn Type	Split	NA	Perm	Split	NA		Split	NA	pm+ov	Split	NA	Perm
Protected Phases	5	5		8	8		6	6	8	7	7	
Permitted Phases			5						6			7
Actuated Green, G (s)		13.3	13.3	15.0	15.0		41.7	41.7	56.7		8.8	8.8
Effective Green, g (s)		13.3	13.3	15.0	15.0		41.7	41.7	56.7		8.8	8.8
Actuated g/C Ratio		0.13	0.13	0.15	0.15		0.42	0.42	0.57		0.09	0.09
Clearance Time (s)		5.3	5.3	5.3	5.3		5.3	5.3	5.3		5.3	5.3
Vehicle Extension (s)		0.2	0.2	0.2	0.2		0.2	0.2	0.2		0.2	0.2
Lane Grp Cap (vph)		246	370	241	499		700	705	897		159	139
v/s Ratio Prot		c0.10		c0.11	0.11		c0.16	0.16	0.04		c0.02	
v/s Ratio Perm			0.02						0.11			0.00
v/c Ratio		0.76	0.16	0.72	0.71		0.39	0.39	0.26		0.25	0.04
Uniform Delay, d1		41.8	38.4	40.5	40.4		20.3	20.3	11.0		42.5	41.7
Progression Factor		1.07	2.09	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		10.6	0.1	8.2	3.7		1.7	1.6	0.1		0.3	0.0
Delay (s)		55.2	80.4	48.7	44.1		22.0	21.8	11.0		42.8	41.8
Level of Service		E	F	D	D		C	C	B		D	D
Approach Delay (s)		73.1			45.6			17.3			42.2	
Approach LOS		E			D			B			D	

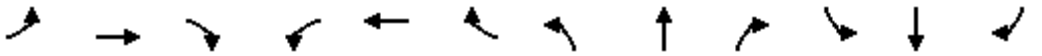
Intersection Summary			
HCM 2000 Control Delay	41.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.2
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	83	372	283	84	84	284
Future Volume (vph)	83	372	283	84	84	284
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.7	3.7		3.7	3.7
Lane Util. Factor		1.00	0.95		1.00	1.00
Frpb, ped/bikes		1.00	0.98		1.00	0.99
Flpb, ped/bikes		1.00	1.00		1.00	1.00
Frt		1.00	0.97		1.00	0.85
Flt Protected		0.99	1.00		0.95	1.00
Satd. Flow (prot)		1846	3353		1770	1562
Flt Permitted		0.99	1.00		0.95	1.00
Satd. Flow (perm)		1846	3353		1770	1562
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	100	448	341	101	101	342
RTOR Reduction (vph)	0	0	27	0	0	294
Lane Group Flow (vph)	0	548	415	0	101	48
Confl. Peds. (#/hr)	17			17	15	
Confl. Bikes (#/hr)						1
Turn Type	Split	NA	NA		Prot	Perm
Protected Phases	4 5	4 5	3		6	
Permitted Phases						6
Actuated Green, G (s)		49.4	18.2		13.0	13.0
Effective Green, g (s)		49.4	18.2		13.0	13.0
Actuated g/C Ratio		0.54	0.20		0.14	0.14
Clearance Time (s)			3.7		3.7	3.7
Vehicle Extension (s)			3.0		2.0	2.0
Lane Grp Cap (vph)		994	665		250	221
v/s Ratio Prot		c0.30	c0.12		c0.06	
v/s Ratio Perm						0.03
v/c Ratio		0.55	0.62		0.40	0.22
Uniform Delay, d1		13.9	33.6		35.8	34.9
Progression Factor		0.48	1.00		1.00	1.00
Incremental Delay, d2		0.2	1.8		0.4	0.2
Delay (s)		6.9	35.4		36.2	35.0
Level of Service		A	D		D	D
Approach Delay (s)		6.9	35.4		35.3	
Approach LOS		A	D		D	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	91.7	Sum of lost time (s)	14.8
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



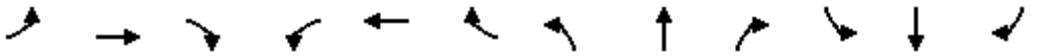
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	178	16	285	150	250	24	681	256	154	715	139
Future Volume (veh/h)	29	178	16	285	150	250	24	681	256	154	715	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.87	1.00		0.91	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	182	16	291	153	255	24	695	261	157	730	142
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	50	275	24	281	559	431	161	734	590	160	724	581
Arrive On Green	0.03	0.16	0.16	0.16	0.30	0.30	0.18	0.79	0.79	0.09	0.39	0.39
Sat Flow, veh/h	1781	1672	147	1781	1870	1442	1781	1870	1502	1781	1870	1501
Grp Volume(v), veh/h	30	0	198	291	153	255	24	695	261	157	730	142
Grp Sat Flow(s),veh/h/ln	1781	0	1819	1781	1870	1442	1781	1870	1502	1781	1870	1501
Q Serve(g_s), s	1.7	0.0	10.2	15.8	6.2	15.1	1.1	31.1	3.3	8.8	38.7	5.1
Cycle Q Clear(g_c), s	1.7	0.0	10.2	15.8	6.2	15.1	1.1	31.1	3.3	8.8	38.7	5.1
Prop In Lane	1.00		0.08	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	50	0	299	281	559	431	161	734	590	160	724	581
V/C Ratio(X)	0.60	0.00	0.66	1.03	0.27	0.59	0.15	0.95	0.44	0.98	1.01	0.24
Avail Cap(c_a), veh/h	107	0	391	281	585	451	161	734	590	160	724	581
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)	0.61	0.00	0.61	0.49	0.49	0.49	0.33	0.33	0.33	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	0.0	39.2	42.1	26.8	29.8	37.7	9.9	2.4	45.4	30.6	13.2
Incr Delay (d2), s/veh	6.7	0.0	1.2	46.6	0.1	0.9	0.1	10.1	0.8	64.7	35.6	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(50%),veh/ln	0.8	0.0	4.6	10.5	2.8	5.2	0.5	6.0	1.5	6.7	23.8	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.7	0.0	40.4	88.7	26.9	30.8	37.8	19.9	3.2	110.1	66.2	14.2
LnGrp LOS	D	A	D	F	C	C	D	B	A	F	F	B
Approach Vol, veh/h		228			699			980			1029	
Approach Delay, s/veh		42.3			54.0			15.9			65.7	
Approach LOS		D			D			B			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	44.3	20.8	21.4	14.1	43.7	7.3	34.9
Change Period (Y+Rc), s	4.5	5.0	5.0	* 5	5.0	* 5	4.5	5.0
Max Green Setting (Gmax), s	9.0	34.7	15.8	* 22	5.0	* 39	6.0	31.3
Max Q Clear Time (g_c+I1), s	10.8	33.1	17.8	12.2	3.1	40.7	3.7	17.1
Green Ext Time (p_c), s	0.0	0.8	0.0	0.6	0.0	0.0	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	44.5
HCM 6th LOS	D

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	331	64	112	247	50	84	803	152	62	851	103
Future Volume (veh/h)	108	331	64	112	247	50	84	803	152	62	851	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.92	1.00		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	352	68	119	263	53	89	854	162	66	905	110
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	343	66	125	327	66	89	888	705	116	916	729
Arrive On Green	0.08	0.23	0.23	0.07	0.22	0.22	0.05	0.48	0.48	0.09	0.65	0.65
Sat Flow, veh/h	1781	1492	288	1781	1486	299	1781	1870	1485	1781	1870	1488
Grp Volume(v), veh/h	115	0	420	119	0	316	89	854	162	66	905	110
Grp Sat Flow(s),veh/h/ln	1781	0	1780	1781	0	1785	1781	1870	1485	1781	1870	1488
Q Serve(g_s), s	6.3	0.0	23.0	6.7	0.0	16.8	5.0	44.1	6.4	3.6	47.3	2.9
Cycle Q Clear(g_c), s	6.3	0.0	23.0	6.7	0.0	16.8	5.0	44.1	6.4	3.6	47.3	2.9
Prop In Lane	1.00		0.16	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	143	0	409	125	0	393	89	888	705	116	916	729
V/C Ratio(X)	0.81	0.00	1.03	0.95	0.00	0.80	1.00	0.96	0.23	0.57	0.99	0.15
Avail Cap(c_a), veh/h	143	0	409	125	0	393	89	916	728	116	916	729
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	0.69	0.00	0.69	0.90	0.00	0.90	0.28	0.28	0.28	0.41	0.41	0.41
Uniform Delay (d), s/veh	45.2	0.0	38.5	46.3	0.0	37.0	47.5	25.4	15.5	44.3	17.1	9.4
Incr Delay (d2), s/veh	20.6	0.0	43.7	62.4	0.0	9.8	50.3	9.2	0.2	2.7	16.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	14.8	5.1	0.0	8.3	3.4	20.6	2.2	1.6	19.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.8	0.0	82.2	108.8	0.0	46.8	97.7	34.6	15.7	47.1	33.4	9.6
LnGrp LOS	E	A	F	F	A	D	F	C	B	D	C	A
Approach Vol, veh/h		535			435			1105			1081	
Approach Delay, s/veh		78.6			63.7			36.9			31.8	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.5	51.5	11.0	27.0	9.0	53.0	12.0	26.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	49.0	7.0	23.0	5.0	49.0	8.0	22.0
Max Q Clear Time (g_c+I1), s	5.6	46.1	8.7	25.0	7.0	49.3	8.3	18.8
Green Ext Time (p_c), s	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	45.9
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	555	647	405	391	51	312	802	304	99	693	70
Future Volume (veh/h)	73	555	647	405	391	51	312	802	304	99	693	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	561	654	409	395	52	315	810	307	100	700	71
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	115	801	805	449	918	120	985	831	696	123	767	78
Arrive On Green	0.06	0.23	0.23	0.13	0.29	0.29	0.29	0.44	0.44	0.07	0.24	0.24
Sat Flow, veh/h	1781	3554	1568	3456	3154	412	3456	1870	1566	1781	3245	329
Grp Volume(v), veh/h	74	561	654	409	221	226	315	810	307	100	383	388
Grp Sat Flow(s),veh/h/ln	1781	1777	1568	1728	1777	1789	1728	1870	1566	1781	1777	1797
Q Serve(g_s), s	5.3	18.9	14.7	15.2	13.1	13.3	9.3	55.2	11.5	7.2	27.3	27.3
Cycle Q Clear(g_c), s	5.3	18.9	14.7	15.2	13.1	13.3	9.3	55.2	11.5	7.2	27.3	27.3
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	115	801	805	449	517	521	985	831	696	123	420	425
V/C Ratio(X)	0.64	0.70	0.81	0.91	0.43	0.43	0.32	0.97	0.44	0.82	0.91	0.91
Avail Cap(c_a), veh/h	163	806	808	449	517	521	985	840	703	123	478	484
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.12	0.12	0.12
Uniform Delay (d), s/veh	59.4	46.3	10.5	55.8	37.3	37.4	36.6	35.4	10.6	59.7	48.3	48.3
Incr Delay (d2), s/veh	2.2	5.1	8.8	22.0	2.6	2.6	0.1	24.7	0.2	4.8	3.1	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	8.9	9.3	8.0	6.1	6.2	4.0	30.2	3.9	3.4	12.4	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.6	51.4	19.2	77.8	39.9	40.0	36.6	60.1	10.8	64.5	51.4	51.5
LnGrp LOS	E	D	B	E	D	D	D	E	B	E	D	D
Approach Vol, veh/h		1289			856			1432			871	
Approach Delay, s/veh		35.7			58.0			44.4			52.9	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.6	33.5	41.7	34.2	12.1	42.0	13.6	62.3
Change Period (Y+Rc), s	3.7	* 4.2	4.6	3.5	3.7	* 4.2	4.6	* 4.6
Max Green Setting (Gmax), s	16.9	* 30	32.6	35.0	11.9	* 35	9.0	* 58
Max Q Clear Time (g_c+I1), s	17.2	20.9	11.3	29.3	7.3	15.3	9.2	57.2
Green Ext Time (p_c), s	0.0	2.9	0.2	1.4	0.0	1.7	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	46.2
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	423	35	176	502	53	104	106	38	47	201	79
Future Volume (veh/h)	130	423	35	176	502	53	104	106	38	47	201	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	445	37	185	528	56	109	112	40	49	212	83
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	535	44	256	610	65	140	339	121	77	287	112
Arrive On Green	0.10	0.32	0.32	0.14	0.37	0.37	0.08	0.26	0.26	0.04	0.23	0.23
Sat Flow, veh/h	1781	1698	141	1781	1657	176	1781	1286	459	1781	1256	492
Grp Volume(v), veh/h	137	0	482	185	0	584	109	0	152	49	0	295
Grp Sat Flow(s),veh/h/ln	1781	0	1839	1781	0	1833	1781	0	1746	1781	0	1748
Q Serve(g_s), s	5.4	0.0	17.5	7.2	0.0	21.3	4.3	0.0	5.1	2.0	0.0	11.3
Cycle Q Clear(g_c), s	5.4	0.0	17.5	7.2	0.0	21.3	4.3	0.0	5.1	2.0	0.0	11.3
Prop In Lane	1.00		0.08	1.00		0.10	1.00		0.26	1.00		0.28
Lane Grp Cap(c), veh/h	173	0	580	256	0	675	140	0	460	77	0	399
V/C Ratio(X)	0.79	0.00	0.83	0.72	0.00	0.87	0.78	0.00	0.33	0.63	0.00	0.74
Avail Cap(c_a), veh/h	247	0	1084	282	0	1124	222	0	591	124	0	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.8	0.0	22.9	29.5	0.0	21.1	32.6	0.0	21.4	33.9	0.0	25.8
Incr Delay (d2), s/veh	10.6	0.0	3.2	8.0	0.0	3.2	9.0	0.0	0.3	8.3	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	7.6	3.5	0.0	9.0	2.2	0.0	2.0	1.0	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.4	0.0	26.1	37.5	0.0	24.3	41.6	0.0	21.7	42.2	0.0	29.8
LnGrp LOS	D	A	C	D	A	C	D	A	C	D	A	C
Approach Vol, veh/h		619			769			261			344	
Approach Delay, s/veh		29.7			27.5			30.0			31.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.5	27.2	9.7	20.7	11.0	30.7	7.1	23.2
Change Period (Y+Rc), s	4.2	* 4.5	4.0	* 4.2	4.0	* 4.2	4.0	* 4.2
Max Green Setting (Gmax), s	11.4	* 43	9.0	* 20	10.0	* 44	5.0	* 24
Max Q Clear Time (g_c+I1), s	9.2	19.5	6.3	13.3	7.4	23.3	4.0	7.1
Green Ext Time (p_c), s	0.1	3.2	0.1	0.8	0.1	3.2	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	29.2
HCM 6th LOS	C

Notes

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1044	340	7	870	364	11
Future Volume (veh/h)	1044	340	7	870	364	11
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1945	1870	1870
Adj Flow Rate, veh/h	1065	347	7	888	381	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1146	369	507	2862	479	213
Arrive On Green	0.44	0.44	0.09	0.26	0.13	0.00
Sat Flow, veh/h	2716	843	1781	3793	3563	1585
Grp Volume(v), veh/h	717	695	7	888	381	0
Grp Sat Flow(s),veh/h/ln	1777	1689	1781	1848	1781	1585
Q Serve(g_s), s	38.1	39.4	0.4	19.4	10.4	0.0
Cycle Q Clear(g_c), s	38.1	39.4	0.4	19.4	10.4	0.0
Prop In Lane		0.50	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	777	738	507	2862	479	213
V/C Ratio(X)	0.92	0.94	0.01	0.31	0.79	0.00
Avail Cap(c_a), veh/h	944	897	507	2862	866	385
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.68	0.68	1.00	0.00
Uniform Delay (d), s/veh	26.6	26.9	32.6	15.6	41.9	0.0
Incr Delay (d2), s/veh	18.2	21.6	0.0	0.2	3.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.2	19.5	0.2	9.6	4.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.8	48.5	32.6	15.8	45.0	0.0
LnGrp LOS	D	D	C	B	D	A
Approach Vol, veh/h	1412			895	381	
Approach Delay, s/veh	46.6			15.9	45.0	
Approach LOS	D			B	D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	33.0	49.0		18.0		82.0
Change Period (Y+Rc), s	4.6	5.3		4.5		* 4.6
Max Green Setting (Gmax), s	8.2	53.1		24.3		* 67
Max Q Clear Time (g_c+I1), s	2.4	41.4		12.4		21.4
Green Ext Time (p_c), s	0.0	2.3		1.1		1.8

Intersection Summary	
HCM 6th Ctrl Delay	36.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	629	115	201	430	5	174	5	270	6	5	15
Future Volume (veh/h)	8	629	115	201	430	5	174	5	270	6	5	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	0.95		0.94	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	662	121	212	453	5	183	5	284	6	5	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	1046	842	244	1082	12	336	6	319	98	79	254
Arrive On Green	0.09	0.54	0.54	0.14	0.59	0.59	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	1945	1567	1781	1846	20	1320	26	1476	1090	368	1177
Grp Volume(v), veh/h	8	662	121	212	0	458	183	0	289	6	0	21
Grp Sat Flow(s),veh/h/ln	1781	1945	1567	1781	0	1866	1320	0	1502	1090	0	1544
Q Serve(g_s), s	0.5	26.2	4.3	12.8	0.0	14.8	14.1	0.0	20.5	0.6	0.0	1.2
Cycle Q Clear(g_c), s	0.5	26.2	4.3	12.8	0.0	14.8	15.3	0.0	20.5	21.1	0.0	1.2
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.98	1.00		0.76
Lane Grp Cap(c), veh/h	157	1046	842	244	0	1094	336	0	325	98	0	334
V/C Ratio(X)	0.05	0.63	0.14	0.87	0.00	0.42	0.54	0.00	0.89	0.06	0.00	0.06
Avail Cap(c_a), veh/h	157	1046	842	340	0	1094	387	0	382	139	0	393
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	0.66	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.9	17.8	12.7	46.5	0.0	12.5	40.3	0.0	41.8	52.1	0.0	34.3
Incr Delay (d2), s/veh	0.4	0.6	0.0	15.6	0.0	1.2	1.4	0.0	19.8	0.3	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(50%),veh/ln	0.2	11.5	1.5	6.7	0.0	6.3	4.7	0.0	9.3	0.2	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.3	18.5	12.8	62.1	0.0	13.7	41.7	0.0	61.6	52.4	0.0	34.3
LnGrp LOS	D	B	B	E	A	B	D	A	E	D	A	C
Approach Vol, veh/h		791			670			472			27	
Approach Delay, s/veh		17.9			29.0			53.9			38.3	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.7	68.5		27.8	19.1	63.1		27.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.5	64.5		28.0	21.0	49.0		28.0				
Max Q Clear Time (g_c+I1), s	2.5	16.8		22.5	14.8	28.2		23.1				
Green Ext Time (p_c), s	0.0	3.3		1.2	0.3	3.2		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			30.6									
HCM 6th LOS			C									

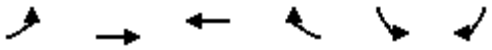
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	431	114	102	376	33	75
Future Volume (vph)	431	114	102	376	33	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5			3.5	3.5	3.5
Lane Util. Factor	1.00			0.95	1.00	1.00
Frpb, ped/bikes	0.96			1.00	1.00	0.90
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.97			1.00	1.00	0.85
Flt Protected	1.00			0.99	0.95	1.00
Satd. Flow (prot)	1742			3502	1770	1422
Flt Permitted	1.00			0.99	0.95	1.00
Satd. Flow (perm)	1742			3502	1770	1422
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	468	124	111	409	36	82
RTOR Reduction (vph)	10	0	0	0	0	69
Lane Group Flow (vph)	582	0	0	520	36	13
Confl. Peds. (#/hr)		45	45		44	25
Confl. Bikes (#/hr)		1				
Turn Type	NA		Split	NA	Prot	Perm
Protected Phases	4		3 6	3 6	5	
Permitted Phases						5
Actuated Green, G (s)	31.1			28.4	13.4	13.4
Effective Green, g (s)	31.1			28.4	13.4	13.4
Actuated g/C Ratio	0.36			0.33	0.15	0.15
Clearance Time (s)	3.5				3.5	3.5
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	623			1144	272	219
v/s Ratio Prot	c0.33			c0.15	c0.02	
v/s Ratio Perm						0.01
v/c Ratio	0.93			0.45	0.13	0.06
Uniform Delay, d1	26.9			23.1	31.7	31.4
Progression Factor	1.00			0.47	1.00	1.00
Incremental Delay, d2	21.2			0.2	0.2	0.1
Delay (s)	48.1			11.1	32.0	31.5
Level of Service	D			B	C	C
Approach Delay (s)	48.1			11.1	31.6	
Approach LOS	D			B	C	

Intersection Summary			
HCM 2000 Control Delay	30.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	86.9	Sum of lost time (s)	14.0
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	374	617	347	267	5	556	19	357	21	34	54
Future Volume (vph)	64	374	617	347	267	5	556	19	357	21	34	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	5.3	5.3		5.3	5.3	5.3		5.3	5.3
Lane Util. Factor		1.00	0.88	0.91	0.91		0.95	0.95	1.00		1.00	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	0.95		1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt		1.00	0.85	1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected		0.99	1.00	0.95	0.98		0.95	0.96	1.00		0.98	1.00
Satd. Flow (prot)		1849	2787	1610	3324		1681	1691	1504		1827	1583
Flt Permitted		0.99	1.00	0.95	0.98		0.95	0.96	1.00		0.98	1.00
Satd. Flow (perm)		1849	2787	1610	3324		1681	1691	1504		1827	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	66	386	636	358	275	5	573	20	368	22	35	56
RTOR Reduction (vph)	0	0	143	0	1	0	0	0	150	0	0	53
Lane Group Flow (vph)	0	452	493	208	429	0	298	295	218	0	57	3
Confl. Peds. (#/hr)	11		1	1		11			21	21		
Turn Type	Split	NA	pt+ov	Split	NA		Split	NA	pm+ov	Split	NA	Prot
Protected Phases	5	5	5 6	8	8		6	6	8	7	7	7
Permitted Phases									6			
Actuated Green, G (s)		26.8	62.4	16.1	16.1		30.3	30.3	46.4		5.6	5.6
Effective Green, g (s)		26.8	62.4	16.1	16.1		30.3	30.3	46.4		5.6	5.6
Actuated g/C Ratio		0.27	0.62	0.16	0.16		0.30	0.30	0.46		0.06	0.06
Clearance Time (s)		5.3		5.3	5.3		5.3	5.3	5.3		5.3	5.3
Vehicle Extension (s)		1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Lane Grp Cap (vph)		495	1739	259	535		509	512	777		102	88
v/s Ratio Prot		c0.24	0.18	c0.13	0.13		c0.18	0.17	0.05		c0.03	0.00
v/s Ratio Perm									0.10			
v/c Ratio		0.91	0.28	0.80	0.80		0.59	0.58	0.28		0.56	0.04
Uniform Delay, d1		35.5	8.6	40.4	40.4		29.5	29.4	16.5		46.0	44.6
Progression Factor		0.99	1.43	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		18.0	0.0	15.4	8.0		4.9	4.7	0.1		3.7	0.1
Delay (s)		53.0	12.3	55.9	48.4		34.4	34.1	16.6		49.7	44.7
Level of Service		D	B	E	D		C	C	B		D	D
Approach Delay (s)		29.2			50.9			27.5			47.2	
Approach LOS		C			D			C			D	

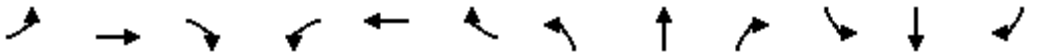
Intersection Summary			
HCM 2000 Control Delay	34.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.2
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	114	392	268	83	153	210
Future Volume (vph)	114	392	268	83	153	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	3.5
Lane Util. Factor		1.00	0.95		1.00	1.00
Frpb, ped/bikes		1.00	0.95		1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00
Frt		1.00	0.96		1.00	0.85
Flt Protected		0.99	1.00		0.95	1.00
Satd. Flow (prot)		1842	3244		1770	1583
Flt Permitted		0.99	1.00		0.95	1.00
Satd. Flow (perm)		1842	3244		1770	1583
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	136	467	319	99	182	250
RTOR Reduction (vph)	0	0	33	0	0	212
Lane Group Flow (vph)	0	603	385	0	182	38
Confl. Peds. (#/hr)	58			58	15	
Turn Type	Split	NA	NA		Prot	Perm
Protected Phases	4 5	4 5	3		6	
Permitted Phases						6
Actuated Green, G (s)		44.5	15.1		13.3	13.3
Effective Green, g (s)		44.5	15.1		13.3	13.3
Actuated g/C Ratio		0.51	0.17		0.15	0.15
Clearance Time (s)			3.5		3.5	3.5
Vehicle Extension (s)			3.0		3.0	3.0
Lane Grp Cap (vph)		943	563		270	242
v/s Ratio Prot		c0.33	c0.12		c0.10	
v/s Ratio Perm						0.02
v/c Ratio		0.64	0.68		0.67	0.16
Uniform Delay, d1		15.4	33.7		34.8	31.9
Progression Factor		0.35	1.00		1.00	1.00
Incremental Delay, d2		0.9	3.4		6.5	0.3
Delay (s)		6.3	37.1		41.2	32.2
Level of Service		A	D		D	C
Approach Delay (s)		6.3	37.1		36.0	
Approach LOS		A	D		D	

Intersection Summary			
HCM 2000 Control Delay	24.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	86.9	Sum of lost time (s)	14.0
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

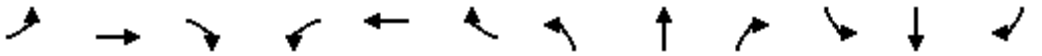
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	156	20	128	117	297	33	663	220	104	617	111
Future Volume (veh/h)	30	156	20	128	117	297	33	663	220	104	617	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.90	1.00		0.96	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	161	21	132	121	306	34	684	227	107	636	114
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	283	37	151	437	334	54	898	728	135	982	783
Arrive On Green	0.03	0.18	0.18	0.09	0.23	0.23	0.06	0.96	0.96	0.08	0.53	0.53
Sat Flow, veh/h	1781	1598	208	1781	1870	1431	1781	1870	1516	1781	1870	1490
Grp Volume(v), veh/h	31	0	182	132	121	306	34	684	227	107	636	114
Grp Sat Flow(s),veh/h/ln	1781	0	1807	1781	1870	1431	1781	1870	1516	1781	1870	1490
Q Serve(g_s), s	1.7	0.0	9.2	7.3	5.3	20.9	1.9	5.4	0.9	5.9	24.5	3.9
Cycle Q Clear(g_c), s	1.7	0.0	9.2	7.3	5.3	20.9	1.9	5.4	0.9	5.9	24.5	3.9
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	51	0	320	151	437	334	54	898	728	135	982	783
V/C Ratio(X)	0.60	0.00	0.57	0.87	0.28	0.92	0.62	0.76	0.31	0.79	0.65	0.15
Avail Cap(c_a), veh/h	91	0	396	151	473	362	89	898	728	194	982	783
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)	0.93	0.00	0.93	1.00	1.00	1.00	0.49	0.49	0.49	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	0.0	37.6	45.2	31.4	37.4	46.4	1.1	1.1	45.5	17.1	12.2
Incr Delay (d2), s/veh	10.1	0.0	1.1	38.7	0.3	26.3	5.6	3.1	0.5	13.4	3.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	4.1	4.8	2.4	9.6	0.9	1.4	0.3	3.1	10.8	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	0.0	38.7	83.9	31.8	63.6	52.0	4.2	1.6	58.8	20.4	12.6
LnGrp LOS	E	A	D	F	C	E	D	A	A	E	C	B
Approach Vol, veh/h		213			559			945			857	
Approach Delay, s/veh		41.5			61.5			5.3			24.1	
Approach LOS		D			E			A			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	57.1	13.0	22.3	12.1	52.6	7.4	27.9
Change Period (Y+Rc), s	4.5	4.6	4.5	4.6	4.5	4.6	4.5	4.6
Max Green Setting (Gmax), s	5.0	46.4	8.5	21.9	10.9	40.5	5.1	25.3
Max Q Clear Time (g_c+I1), s	3.9	26.5	9.3	11.2	7.9	7.4	3.7	22.9
Green Ext Time (p_c), s	0.0	3.9	0.0	0.6	0.1	5.1	0.0	0.5

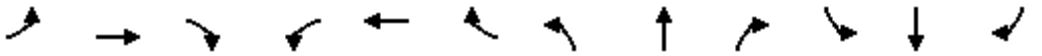
Intersection Summary	
HCM 6th Ctrl Delay	26.8
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	204	55	128	255	55	73	766	116	44	616	105
Future Volume (veh/h)	95	204	55	128	255	55	73	766	116	44	616	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.86	1.00		0.89	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	208	56	131	260	56	74	782	118	45	629	107
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	253	68	144	291	63	95	965	784	64	932	756
Arrive On Green	0.07	0.19	0.19	0.08	0.20	0.20	0.05	0.52	0.52	0.07	1.00	1.00
Sat Flow, veh/h	1781	1365	368	1781	1454	313	1781	1870	1519	1781	1870	1517
Grp Volume(v), veh/h	97	0	264	131	0	316	74	782	118	45	629	107
Grp Sat Flow(s),veh/h/ln	1781	0	1733	1781	0	1767	1781	1870	1519	1781	1870	1517
Q Serve(g_s), s	5.4	0.0	14.6	7.3	0.0	17.4	4.1	34.8	4.1	2.5	0.3	0.0
Cycle Q Clear(g_c), s	5.4	0.0	14.6	7.3	0.0	17.4	4.1	34.8	4.1	2.5	0.3	0.0
Prop In Lane	1.00		0.21	1.00		0.18	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	118	0	321	144	0	354	95	965	784	64	932	756
V/C Ratio(X)	0.83	0.00	0.82	0.91	0.00	0.89	0.78	0.81	0.15	0.71	0.67	0.14
Avail Cap(c_a), veh/h	118	0	406	144	0	440	125	965	784	89	932	756
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)	0.58	0.00	0.58	1.00	0.00	1.00	0.30	0.30	0.30	0.70	0.70	0.70
Uniform Delay (d), s/veh	46.1	0.0	39.2	45.6	0.0	38.9	46.8	20.1	12.7	45.9	0.1	0.1
Incr Delay (d2), s/veh	23.4	0.0	5.1	48.5	0.0	15.5	6.8	2.3	0.1	10.0	2.8	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(50%),veh/ln	3.1	0.0	6.6	5.1	0.0	9.0	2.0	14.8	1.4	1.2	0.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.6	0.0	44.2	94.1	0.0	54.4	53.6	22.4	12.8	55.9	2.8	0.4
LnGrp LOS	E	A	D	F	A	D	D	C	B	E	A	A
Approach Vol, veh/h		361			447			974			781	
Approach Delay, s/veh		51.0			66.0			23.6			5.6	
Approach LOS		D			E			C			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	56.2	12.6	23.1	9.8	54.4	11.1	24.6
Change Period (Y+Rc), s	4.5	4.6	4.5	4.6	4.5	4.6	4.5	4.6
Max Green Setting (Gmax), s	5.0	45.3	8.1	23.4	7.0	43.3	6.6	24.9
Max Q Clear Time (g_c+I1), s	4.5	36.8	9.3	16.6	6.1	2.3	7.4	19.4
Green Ext Time (p_c), s	0.0	2.7	0.0	0.6	0.0	3.2	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	29.4
HCM 6th LOS	C



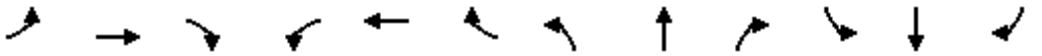
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	360	419	328	531	80	277	730	201	95	578	45
Future Volume (veh/h)	77	360	419	328	531	80	277	730	201	95	578	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	375	436	342	553	83	289	760	209	99	602	47
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	579	686	712	938	140	941	785	659	129	706	55
Arrive On Green	0.07	0.16	0.16	0.21	0.30	0.30	0.27	0.42	0.42	0.07	0.21	0.21
Sat Flow, veh/h	1781	3554	1559	3456	3093	463	3456	1870	1571	1781	3331	260
Grp Volume(v), veh/h	80	375	436	342	317	319	289	760	209	99	321	328
Grp Sat Flow(s),veh/h/ln	1781	1777	1559	1728	1777	1779	1728	1870	1571	1781	1777	1814
Q Serve(g_s), s	5.2	11.8	0.0	10.5	18.1	18.3	8.0	47.7	5.5	6.6	20.8	20.9
Cycle Q Clear(g_c), s	5.2	11.8	0.0	10.5	18.1	18.3	8.0	47.7	5.5	6.6	20.8	20.9
Prop In Lane	1.00		1.00	1.00		0.26	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	124	579	686	712	539	540	941	785	659	129	377	385
V/C Ratio(X)	0.64	0.65	0.64	0.48	0.59	0.59	0.31	0.97	0.32	0.77	0.85	0.85
Avail Cap(c_a), veh/h	135	885	820	712	539	540	941	801	673	134	674	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.61	0.61	0.61
Uniform Delay (d), s/veh	54.4	47.0	26.4	42.0	35.4	35.5	34.7	34.0	6.3	54.7	45.5	45.5
Incr Delay (d2), s/veh	6.3	5.5	4.5	0.2	4.6	4.7	0.1	23.8	0.1	13.2	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	5.7	10.4	4.5	8.5	8.6	3.4	26.3	3.7	3.4	9.3	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.6	52.5	30.9	42.2	40.1	40.2	34.7	57.9	6.4	67.9	46.8	46.8
LnGrp LOS	E	D	C	D	D	D	C	E	A	E	D	D
Approach Vol, veh/h		891			978			1258			748	
Approach Delay, s/veh		42.6			40.8			44.0			49.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.9	23.8	37.3	30.0	12.1	40.6	12.4	54.9
Change Period (Y+Rc), s	* 4.2	* 4.2	4.6	4.6	3.7	* 4.2	3.7	4.6
Max Green Setting (Gmax), s	* 14	* 30	14.0	45.5	9.1	* 34	9.0	51.4
Max Q Clear Time (g_c+I1), s	12.5	13.8	10.0	22.9	7.2	20.3	8.6	49.7
Green Ext Time (p_c), s	0.0	2.3	0.1	2.0	0.0	2.3	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D

Notes

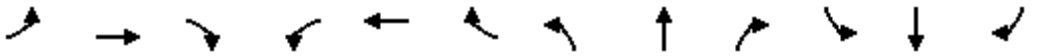
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	242	528	307	239	10	545	24	362	12	24	47
Future Volume (vph)	31	242	528	307	239	10	545	24	362	12	24	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	4.6	4.6		5.3	5.3	4.6		4.6	4.6
Lane Util. Factor		1.00	0.88	0.91	0.91		0.95	0.95	1.00		1.00	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	0.97		1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt		1.00	0.85	1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected		0.99	1.00	0.95	0.98		0.95	0.96	1.00		0.98	1.00
Satd. Flow (prot)		1852	2787	1610	3317		1681	1692	1543		1828	1583
Flt Permitted		0.99	1.00	0.95	0.98		0.95	0.96	1.00		0.80	1.00
Satd. Flow (perm)		1852	2787	1610	3317		1681	1692	1543		1486	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	32	247	539	313	244	10	556	24	369	12	24	48
RTOR Reduction (vph)	0	0	210	0	2	0	0	0	171	0	0	44
Lane Group Flow (vph)	0	279	329	185	380	0	289	291	198	0	36	4
Confl. Peds. (#/hr)	11					11			6	6		
Confl. Bikes (#/hr)						1						
Turn Type	Split	NA	pt+ov	Split	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases	5	5	5 6	8	8		6	6	8		7	
Permitted Phases									6	7		7
Actuated Green, G (s)		18.4	61.0	15.7	15.7		38.0	38.0	53.7		8.8	8.8
Effective Green, g (s)		18.4	61.0	15.7	15.7		38.0	38.0	53.7		8.8	8.8
Actuated g/C Ratio		0.18	0.61	0.16	0.16		0.38	0.38	0.54		0.09	0.09
Clearance Time (s)		4.6		4.6	4.6		5.3	5.3	4.6		4.6	4.6
Vehicle Extension (s)		1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Lane Grp Cap (vph)		340	1700	252	520		638	642	828		130	139
v/s Ratio Prot		c0.15	0.12	c0.11	0.11		0.17	c0.17	0.04			
v/s Ratio Perm									0.09		c0.02	0.00
v/c Ratio		0.82	0.19	0.73	0.73		0.45	0.45	0.24		0.28	0.03
Uniform Delay, d1		39.2	8.6	40.2	40.1		23.2	23.2	12.3		42.6	41.7
Progression Factor		1.00	1.00	1.00	1.00		0.96	0.96	2.02		1.00	1.00
Incremental Delay, d2		14.0	0.0	9.2	4.5		1.9	1.9	0.0		0.4	0.0
Delay (s)		53.2	8.6	49.3	44.7		24.1	24.2	24.9		43.0	41.7
Level of Service		D	A	D	D		C	C	C		D	D
Approach Delay (s)		23.8			46.2			24.5			42.3	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.1
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	200	16	101	187	235	34	547	252	74	484	97
Future Volume (veh/h)	47	200	16	101	187	235	34	547	252	74	484	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	253	20	128	237	297	43	692	319	94	613	123
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	322	25	160	436	358	69	795	661	120	849	707
Arrive On Green	0.05	0.19	0.19	0.09	0.23	0.23	0.04	0.43	0.43	0.07	0.45	0.45
Sat Flow, veh/h	1781	1705	135	1781	1870	1537	1781	1870	1555	1781	1870	1557
Grp Volume(v), veh/h	59	0	273	128	237	297	43	692	319	94	613	123
Grp Sat Flow(s),veh/h/ln	1781	0	1840	1781	1870	1537	1781	1870	1555	1781	1870	1557
Q Serve(g_s), s	2.6	0.0	11.3	5.6	8.9	14.6	1.9	26.9	11.8	4.1	21.2	3.7
Cycle Q Clear(g_c), s	2.6	0.0	11.3	5.6	8.9	14.6	1.9	26.9	11.8	4.1	21.2	3.7
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	81	0	347	160	436	358	69	795	661	120	849	707
V/C Ratio(X)	0.72	0.00	0.79	0.80	0.54	0.83	0.63	0.87	0.48	0.78	0.72	0.17
Avail Cap(c_a), veh/h	134	0	485	177	538	442	112	1101	915	134	1124	936
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.5	0.0	30.8	35.5	26.8	29.0	37.7	20.9	16.6	36.6	17.7	12.9
Incr Delay (d2), s/veh	11.5	0.0	4.8	20.6	0.8	9.7	9.0	5.2	0.4	23.2	1.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	5.4	3.3	4.0	6.2	1.0	12.2	4.1	2.6	8.9	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.0	0.0	35.6	56.1	27.6	38.7	46.8	26.1	17.0	59.7	18.9	13.0
LnGrp LOS	D	A	D	E	C	D	D	C	B	E	B	B
Approach Vol, veh/h		332			662			1054			830	
Approach Delay, s/veh		38.0			38.1			24.2			22.7	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	40.8	11.7	19.6	9.9	38.5	8.1	23.2
Change Period (Y+Rc), s	4.5	4.6	4.5	4.6	4.5	4.6	4.5	4.6
Max Green Setting (Gmax), s	5.0	47.9	7.9	21.0	6.0	46.9	6.0	22.9
Max Q Clear Time (g_c+I1), s	3.9	23.2	7.6	13.3	6.1	28.9	4.6	16.6
Green Ext Time (p_c), s	0.0	4.1	0.0	0.8	0.0	5.0	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	28.5
HCM 6th LOS	C

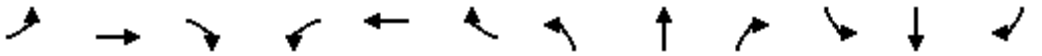
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	145	24	153	241	105	59	694	144	129	362	110
Future Volume (veh/h)	34	145	24	153	241	105	59	694	144	129	362	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.85	1.00		0.92	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	179	30	189	298	130	73	857	178	159	447	136
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	205	34	245	290	126	94	885	738	174	970	810
Arrive On Green	0.03	0.14	0.14	0.14	0.24	0.24	0.05	0.47	0.47	0.10	0.52	0.52
Sat Flow, veh/h	1781	1517	254	1781	1197	522	1781	1870	1558	1781	1870	1561
Grp Volume(v), veh/h	42	0	209	189	0	428	73	857	178	159	447	136
Grp Sat Flow(s),veh/h/ln	1781	0	1771	1781	0	1719	1781	1870	1558	1781	1870	1561
Q Serve(g_s), s	2.7	0.0	13.6	12.0	0.0	28.4	4.8	52.3	4.7	10.4	17.7	5.4
Cycle Q Clear(g_c), s	2.7	0.0	13.6	12.0	0.0	28.4	4.8	52.3	4.7	10.4	17.7	5.4
Prop In Lane	1.00		0.14	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	57	0	239	245	0	416	94	885	738	174	970	810
V/C Ratio(X)	0.74	0.00	0.87	0.77	0.00	1.03	0.78	0.97	0.24	0.91	0.46	0.17
Avail Cap(c_a), veh/h	77	0	296	245	0	416	159	905	754	174	970	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.4	0.0	49.8	48.8	0.0	44.5	55.0	30.0	6.4	52.4	17.9	14.9
Incr Delay (d2), s/veh	21.8	0.0	18.1	13.9	0.0	51.8	13.0	22.0	0.1	43.6	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	7.3	6.3	0.0	18.1	2.5	28.4	2.8	6.8	7.7	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.2	0.0	67.9	62.8	0.0	96.3	68.0	52.0	6.5	96.1	18.0	14.9
LnGrp LOS	E	A	E	E	A	F	E	D	A	F	B	B
Approach Vol, veh/h		251			617			1108			742	
Approach Delay, s/veh		69.6			86.0			45.7			34.2	
Approach LOS		E			F			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	60.2	20.8	20.5	10.7	65.5	8.2	33.0
Change Period (Y+Rc), s	4.5	4.6	4.6	* 4.6	4.5	4.6	4.5	4.6
Max Green Setting (Gmax), s	11.5	56.8	13.9	* 20	10.5	57.8	5.1	28.4
Max Q Clear Time (g_c+I1), s	12.4	54.3	14.0	15.6	6.8	19.7	4.7	30.4
Green Ext Time (p_c), s	0.0	1.3	0.0	0.3	0.0	2.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	53.9
HCM 6th LOS	D

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	287	333	266	474	58	353	708	273	57	388	31
Future Volume (veh/h)	63	287	333	266	474	58	353	708	273	57	388	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	315	366	292	521	64	388	778	300	63	426	34
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	562	751	689	929	114	1103	803	674	121	566	45
Arrive On Green	0.07	0.16	0.16	0.20	0.29	0.29	0.32	0.43	0.43	0.07	0.17	0.17
Sat Flow, veh/h	1781	3554	1552	3456	3179	389	3456	1870	1568	1781	3323	264
Grp Volume(v), veh/h	69	315	366	292	290	295	388	778	300	63	227	233
Grp Sat Flow(s),veh/h/ln	1781	1777	1552	1728	1777	1792	1728	1870	1568	1781	1777	1810
Q Serve(g_s), s	4.3	9.4	0.0	8.5	15.9	16.0	9.9	46.7	8.0	3.9	14.0	14.1
Cycle Q Clear(g_c), s	4.3	9.4	0.0	8.5	15.9	16.0	9.9	46.7	8.0	3.9	14.0	14.1
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	124	562	751	689	519	524	1103	803	674	121	303	308
V/C Ratio(X)	0.56	0.56	0.49	0.42	0.56	0.56	0.35	0.97	0.45	0.52	0.75	0.76
Avail Cap(c_a), veh/h	141	930	912	689	519	524	1103	820	687	139	637	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	51.8	44.7	20.4	40.2	34.4	34.5	30.0	32.1	6.2	51.8	45.4	45.4
Incr Delay (d2), s/veh	1.4	4.0	2.3	0.2	4.3	4.3	0.1	23.5	0.2	1.0	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	4.5	6.8	3.7	7.5	7.7	4.0	25.1	4.9	1.8	6.1	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.2	48.7	22.7	40.4	38.7	38.8	30.1	55.6	6.3	52.8	46.5	46.6
LnGrp LOS	D	D	C	D	D	D	C	E	A	D	D	D
Approach Vol, veh/h		750			877			1466			523	
Approach Delay, s/veh		36.4			39.3			38.8			47.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.1	22.4	41.3	24.2	11.7	37.8	11.5	54.0
Change Period (Y+Rc), s	* 4.2	* 4.2	4.6	4.6	3.7	* 4.2	3.7	4.6
Max Green Setting (Gmax), s	* 9.3	* 30	17.3	41.2	9.1	* 30	9.0	50.4
Max Q Clear Time (g_c+I1), s	10.5	11.4	11.9	16.1	6.3	18.0	5.9	48.7
Green Ext Time (p_c), s	0.0	2.1	0.2	1.2	0.0	2.1	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	401	35	187	432	18	36	102	47	35	156	55
Future Volume (veh/h)	90	401	35	187	432	18	36	102	47	35	156	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	514	45	240	554	23	46	131	60	45	200	71
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	549	48	286	717	30	76	258	118	75	282	100
Arrive On Green	0.08	0.32	0.32	0.16	0.40	0.40	0.04	0.22	0.22	0.04	0.22	0.22
Sat Flow, veh/h	1781	1692	148	1781	1780	74	1781	1184	543	1781	1300	461
Grp Volume(v), veh/h	115	0	559	240	0	577	46	0	191	45	0	271
Grp Sat Flow(s),veh/h/ln	1781	0	1840	1781	0	1854	1781	0	1727	1781	0	1761
Q Serve(g_s), s	4.4	0.0	20.4	9.0	0.0	18.7	1.8	0.0	6.7	1.7	0.0	9.9
Cycle Q Clear(g_c), s	4.4	0.0	20.4	9.0	0.0	18.7	1.8	0.0	6.7	1.7	0.0	9.9
Prop In Lane	1.00		0.08	1.00		0.04	1.00		0.31	1.00		0.26
Lane Grp Cap(c), veh/h	146	0	597	286	0	746	76	0	376	75	0	382
V/C Ratio(X)	0.79	0.00	0.94	0.84	0.00	0.77	0.61	0.00	0.51	0.60	0.00	0.71
Avail Cap(c_a), veh/h	167	0	598	348	0	798	131	0	499	162	0	540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.2	0.0	22.7	28.2	0.0	17.9	32.6	0.0	23.8	32.6	0.0	25.1
Incr Delay (d2), s/veh	19.2	0.0	22.4	14.2	0.0	3.9	7.7	0.0	0.4	7.6	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(50%),veh/ln	2.6	0.0	12.0	4.9	0.0	8.2	0.9	0.0	2.7	0.9	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	0.0	45.1	42.3	0.0	21.8	40.2	0.0	24.2	40.2	0.0	26.0
LnGrp LOS	D	A	D	D	A	C	D	A	C	D	A	C
Approach Vol, veh/h		674			817			237			316	
Approach Delay, s/veh		46.0			27.8			27.3			28.1	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.6	26.9	7.4	19.2	10.2	32.4	7.4	19.3
Change Period (Y+Rc), s	4.5	4.5	4.5	* 4.2	4.5	* 4.5	4.5	* 4.2
Max Green Setting (Gmax), s	13.5	22.5	5.1	* 21	6.5	* 30	6.3	* 20
Max Q Clear Time (g_c+I1), s	11.0	22.4	3.8	11.9	6.4	20.7	3.7	8.7
Green Ext Time (p_c), s	0.2	0.0	0.0	0.8	0.0	1.9	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

Notes

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	556	222	4	730	358	2
Future Volume (veh/h)	556	222	4	730	358	2
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1945	1870	1870
Adj Flow Rate, veh/h	632	252	5	830	409	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	684	272	759	2798	512	228
Arrive On Green	0.28	0.28	0.14	0.25	0.14	0.00
Sat Flow, veh/h	2549	978	1781	3793	3563	1585
Grp Volume(v), veh/h	457	427	5	830	409	0
Grp Sat Flow(s),veh/h/ln	1777	1657	1781	1848	1781	1585
Q Serve(g_s), s	25.0	25.0	0.2	18.2	11.1	0.0
Cycle Q Clear(g_c), s	25.0	25.0	0.2	18.2	11.1	0.0
Prop In Lane		0.59	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	495	461	759	2798	512	228
V/C Ratio(X)	0.92	0.93	0.01	0.30	0.80	0.00
Avail Cap(c_a), veh/h	883	824	759	2798	976	434
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.83	0.83	1.00	0.00
Uniform Delay (d), s/veh	35.1	35.1	24.8	15.9	41.4	0.0
Incr Delay (d2), s/veh	25.4	26.8	0.0	0.2	2.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.8	13.0	0.1	8.9	5.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	60.5	61.9	24.8	16.2	44.3	0.0
LnGrp LOS	E	E	C	B	D	A
Approach Vol, veh/h	884			835	409	
Approach Delay, s/veh	61.2			16.2	44.3	
Approach LOS	E			B	D	

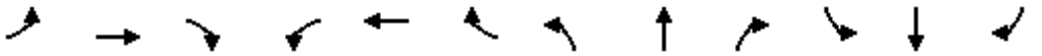
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	47.9	33.1		19.0		81.0
Change Period (Y+Rc), s	5.3	* 5.3		4.6		5.3
Max Green Setting (Gmax), s	8.4	* 50		27.4		62.7
Max Q Clear Time (g_c+I1), s	2.2	27.0		13.1		20.2
Green Ext Time (p_c), s	0.0	0.8		1.3		1.0

Intersection Summary		
HCM 6th Ctrl Delay		40.3
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	460	50	179	322	0	123	1	135	3	2	13
Future Volume (veh/h)	6	460	50	179	322	0	123	1	135	3	2	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	0.98		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	548	60	213	383	0	146	1	161	4	2	15
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	13	743	598	283	998	0	408	2	291	276	35	264
Arrive On Green	0.01	0.38	0.38	0.16	0.53	0.00	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1781	1945	1564	1781	1870	0	1364	10	1539	1207	186	1394
Grp Volume(v), veh/h	7	548	60	213	383	0	146	0	162	4	0	17
Grp Sat Flow(s),veh/h/ln	1781	1945	1564	1781	1870	0	1364	0	1549	1207	0	1579
Q Serve(g_s), s	0.2	10.8	1.1	5.1	5.3	0.0	4.4	0.0	4.2	0.1	0.0	0.4
Cycle Q Clear(g_c), s	0.2	10.8	1.1	5.1	5.3	0.0	4.8	0.0	4.2	4.3	0.0	0.4
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.99	1.00		0.88
Lane Grp Cap(c), veh/h	13	743	598	283	998	0	408	0	293	276	0	299
V/C Ratio(X)	0.53	0.74	0.10	0.75	0.38	0.00	0.36	0.00	0.55	0.01	0.00	0.06
Avail Cap(c_a), veh/h	160	2232	1795	1002	3029	0	948	0	906	753	0	924
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	11.8	8.8	17.9	6.1	0.0	16.7	0.0	16.3	18.3	0.0	14.8
Incr Delay (d2), s/veh	28.8	1.5	0.1	4.0	0.2	0.0	0.5	0.0	1.6	0.0	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(50%),veh/ln	0.2	3.7	0.3	2.1	1.3	0.0	1.2	0.0	1.3	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	13.3	8.9	21.9	6.3	0.0	17.3	0.0	18.0	18.3	0.0	14.9
LnGrp LOS	D	B	A	C	A	A	B	A	B	B	A	B
Approach Vol, veh/h		615			596			308			21	
Approach Delay, s/veh		13.3			11.9			17.6			15.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.3	27.7		12.4	11.1	21.0		12.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	72.0		26.0	25.0	51.0		26.0				
Max Q Clear Time (g_c+I1), s	2.2	7.3		6.8	7.1	12.8		6.3				
Green Ext Time (p_c), s	0.0	2.5		1.3	0.5	4.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			13.6									
HCM 6th LOS			B									

D – Future Plus Project Traffic Conditions

1: Main St & W Lake Ave/E Lake Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Total Del/Veh (s)	58.9	68.4	58.8	88.4	30.7	18.8	65.0	33.3	21.2	117.2	47.6	32.5

1: Main St & W Lake Ave/E Lake Ave Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	50.3

2: Main St & W Beach St/E Beach St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	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 Del/Veh (s)	57.0	48.1	38.7	58.7	35.2	31.2	83.4	37.0	28.1	49.1	32.4	19.4

2: Main St & W Beach St/E Beach St Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	38.9

3: W Riverside Dr/E Riverside Dr & Main St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.7	0.2	0.3	1.6	0.2	0.3	513.6	513.6	508.1	0.1	0.0	0.1
Total Del/Veh (s)	62.2	49.0	64.5	135.8	42.6	36.8	71.7	164.8	158.9	62.7	62.6	56.5

3: W Riverside Dr/E Riverside Dr & Main St Performance by movement

Movement	All
Denied Del/Veh (s)	173.0
Total Del/Veh (s)	88.0

4: Union St/Brennan St & E Lake Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.4	7.6	5.9	5.8	0.7	0.1	0.1	3.9	1.1	1.1
Total Del/Veh (s)	78.1	34.8	30.4	43.9	24.9	21.3	51.5	31.3	22.2	54.5	48.2	37.2

4: Union St/Brennan St & E Lake Ave Performance by movement

Movement	All
Denied Del/Veh (s)	2.5
Total Del/Veh (s)	37.0

5: Union St & E Beach St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	4.0	0.3	0.2
Total Del/Veh (s)	29.4	25.0	5.8	7.0	32.1	9.2	17.3

7: Rodriguez St & Main St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.6	0.6	0.0	0.0	2.1	1.9	0.7
Total Del/Veh (s)	38.6	30.1	50.7	13.0	31.7	33.1	29.3

8: Brennan St & Freedom Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.3	1.0	1.1	9.9	14.4	8.2	4.0	0.1	0.1
Total Del/Veh (s)	48.1	24.0	10.4	47.4	12.2	8.9	56.3	43.9	29.7	70.1	42.6	7.6

8: Brennan St & Freedom Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	2.8
Total Del/Veh (s)	26.7

9: E Beach St & Alexander St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	2.2	1.1	0.0	0.0	0.0	0.6
Total Del/Veh (s)	4.9	5.8	45.5	38.0	35.0	1.7	8.8	21.6

Total Zone Performance

Denied Del/Veh (s)	94.9
Total Del/Veh (s)	1913.2

Intersection: 1: Main St & W Lake Ave/E Lake Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	B36
Directions Served	L	TR	L	T	R	L	T	R	L	T	R	T
Maximum Queue (ft)	349	546	341	427	155	134	556	200	400	798	150	269
Average Queue (ft)	85	265	208	182	98	27	244	119	258	433	83	78
95th Queue (ft)	246	485	354	404	178	90	487	235	458	928	188	295
Link Distance (ft)		626		467			587			811		328
Upstream Blk Time (%)		1		2			0			11		6
Queuing Penalty (veh)		2		13			3			107		29
Storage Bay Dist (ft)	300		300		105	100		150	350		100	
Storage Blk Time (%)		14	8	14	5	0	32	1	12	37	0	
Queuing Penalty (veh)		10	43	72	26	0	90	5	83	132	1	

Intersection: 1: Main St & W Lake Ave/E Lake Ave

Movement	B36
Directions Served	
Maximum Queue (ft)	210
Average Queue (ft)	54
95th Queue (ft)	245
Link Distance (ft)	328
Upstream Blk Time (%)	3
Queuing Penalty (veh)	14
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Main St & W Beach St/E Beach St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	250	403	177	273	449	665	125	277	546	150
Average Queue (ft)	84	225	73	156	128	354	65	71	303	63
95th Queue (ft)	211	366	144	254	331	632	150	241	578	164
Link Distance (ft)		385	267	267		1438			587	
Upstream Blk Time (%)		2	0	0					1	
Queuing Penalty (veh)		7	0	1					8	
Storage Bay Dist (ft)	200				400		75	400		100
Storage Blk Time (%)	0	18				40	1		40	0
Queuing Penalty (veh)	0	14				106	8		65	0

Intersection: 3: W Riverside Dr/E Riverside Dr & Main St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	L	T	TR	L	L	T	R
Maximum Queue (ft)	220	350	555	841	164	190	756	706	165	1290	1304	215
Average Queue (ft)	85	201	209	491	157	181	441	374	64	1267	1270	158
95th Queue (ft)	189	295	385	885	184	212	882	798	135	1281	1289	295
Link Distance (ft)		1444	1444	1444			1793	1793		1249	1249	
Upstream Blk Time (%)										53	77	
Queuing Penalty (veh)										0	0	
Storage Bay Dist (ft)	170				140	140			305			165
Storage Blk Time (%)	0	16			29	54	4				53	0
Queuing Penalty (veh)	1	12			61	114	18				162	2

Intersection: 3: W Riverside Dr/E Riverside Dr & Main St

Movement	SB	SB	SB
Directions Served	L	T	TR
Maximum Queue (ft)	399	790	225
Average Queue (ft)	122	421	218
95th Queue (ft)	303	718	246
Link Distance (ft)		1438	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	350		175
Storage Blk Time (%)		37	33
Queuing Penalty (veh)		199	154

Intersection: 4: Union St/Brennan St & E Lake Ave

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	150	498	225	295	166	202	149	318
Average Queue (ft)	111	341	131	243	79	91	56	172
95th Queue (ft)	178	518	249	333	145	169	136	306
Link Distance (ft)		467		262		568		390
Upstream Blk Time (%)		4		15				1
Queuing Penalty (veh)		30		0				0
Storage Bay Dist (ft)	100		175		270		100	
Storage Blk Time (%)	18	42	1	24		0	0	32
Queuing Penalty (veh)	117	55	6	35		0	1	15

Intersection: 5: Union St & E Beach St

Movement	EB	WB	WB	NB	NB
Directions Served	TR	LT	T	L	R
Maximum Queue (ft)	300	93	101	72	89
Average Queue (ft)	202	42	55	25	38
95th Queue (ft)	321	78	94	59	69
Link Distance (ft)	267	98	98		497
Upstream Blk Time (%)	6	0	0		
Queuing Penalty (veh)	29	0	1		
Storage Bay Dist (ft)				100	
Storage Blk Time (%)				0	0
Queuing Penalty (veh)				0	0

Intersection: 7: Rodriguez St & Main St

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	LR
Maximum Queue (ft)	690	688	110	254	261	150	375
Average Queue (ft)	376	362	19	115	118	120	277
95th Queue (ft)	667	668	67	230	239	209	406
Link Distance (ft)	1000	1000		691	691		346
Upstream Blk Time (%)	0	0					8
Queuing Penalty (veh)	0	0					0
Storage Bay Dist (ft)			145			100	
Storage Blk Time (%)				4		2	44
Queuing Penalty (veh)				1		8	129

Intersection: 8: Brennan St & Freedom Blvd

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	TR
Maximum Queue (ft)	91	518	250	241	317	105	290	27	26
Average Queue (ft)	5	254	101	122	138	93	192	3	2
95th Queue (ft)	41	449	257	211	253	126	330	15	13
Link Distance (ft)		506			393		267		373
Upstream Blk Time (%)		1			0		13		
Queuing Penalty (veh)		6			0		0		
Storage Bay Dist (ft)	65		200	200		55		75	
Storage Blk Time (%)	0	32	0	1	2	48	28		
Queuing Penalty (veh)	0	68	0	6	4	139	56		

Intersection: 9: E Beach St & Alexander St

Movement	EB	WB	WB	SB	SB
Directions Served	LT	T	TR	L	R
Maximum Queue (ft)	107	150	366	173	109
Average Queue (ft)	62	99	167	87	54
95th Queue (ft)	111	175	316	153	91
Link Distance (ft)	98		390		568
Upstream Blk Time (%)	3		2		
Queuing Penalty (veh)	13		0		
Storage Bay Dist (ft)		100		220	
Storage Blk Time (%)		6	34		
Queuing Penalty (veh)		14	49		

Zone Summary

Zone wide Queuing Penalty: 2343

6: Main St & Freedom Blvd & Western Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	4.0
Total Del/Veh (s)	67.7	68.3	8.2	41.9	40.4	21.4	17.5	21.9	4.9	41.9	40.5	9.5

6: Main St & Freedom Blvd & Western Dr Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	24.9

Intersection: 6: Main St & Freedom Blvd & Western Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	R	L	LT	TR	L	LT	R	LT	R
Maximum Queue (ft)	260	127	97	196	248	170	174	200	192	88	70
Average Queue (ft)	133	29	18	115	143	107	76	99	62	23	29
95th Queue (ft)	235	102	76	173	212	181	145	165	138	60	62
Link Distance (ft)		691	691		506			216		286	
Upstream Blk Time (%)							0	0	0		
Queuing Penalty (veh)							0	1	0		
Storage Bay Dist (ft)	300			360		120	150		150		25
Storage Blk Time (%)	1				16	3	0	2	0	28	11
Queuing Penalty (veh)	2				41	11	2	10	1	15	4

6: Main St & Freedom Blvd & Western Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	4.0
Total Del/Veh (s)	90.1	89.1	15.4	43.6	42.9	26.6	22.1	23.2	9.9	48.0	48.0	47.6

6: Main St & Freedom Blvd & Western Dr Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	38.8

Intersection: 6: Main St & Freedom Blvd & Western Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	R	L	LT	TR	L	LT	R	LT	R
Maximum Queue (ft)	350	684	626	273	329	170	171	200	186	143	75
Average Queue (ft)	298	321	187	146	173	127	82	108	76	51	42
95th Queue (ft)	430	764	582	227	269	194	149	173	156	115	81
Link Distance (ft)		691	691		506			216		286	
Upstream Blk Time (%)		4	0		0		0	0	0		
Queuing Penalty (veh)		18	1		0		0	3	0		
Storage Bay Dist (ft)	300			360		120	150		150		25
Storage Blk Time (%)	36	0			25	6	0	1	1	43	42
Queuing Penalty (veh)	92	0			84	33	2	8	5	23	23

6: Main St & Freedom Blvd & Western Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	4.1
Total Del/Veh (s)	30.2	31.7	17.7	37.7	35.7	17.0	19.3	14.3	7.3	42.0	44.8	7.7

6: Main St & Freedom Blvd & Western Dr Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	23.6

Intersection: 6: Main St & Freedom Blvd & Western Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	R	L	LT	TR	L	LT	R	LT	R
Maximum Queue (ft)	229	174	158	190	218	162	144	165	148	54	56
Average Queue (ft)	154	102	97	138	153	104	91	114	79	26	31
95th Queue (ft)	280	206	192	214	245	186	167	192	160	60	63
Link Distance (ft)		691	691		506			216		286	
Upstream Blk Time (%)								0	0		
Queuing Penalty (veh)								1	0		
Storage Bay Dist (ft)	300			360		120	150		150		25
Storage Blk Time (%)	1				16	3	1	3	1	32	9
Queuing Penalty (veh)	2				47	13	5	19	3	15	3

1: Main St & W Lake Ave/E Lake Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	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 Del/Veh (s)	50.1	31.4	24.3	43.9	23.6	15.8	57.2	22.8	9.8	51.7	16.9	9.8

1: Main St & W Lake Ave/E Lake Ave Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	23.3

2: Main St & W Beach St/E Beach St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.4	0.1	0.0	0.0	0.0	0.6	0.2	0.3	0.0	0.0	0.0
Total Del/Veh (s)	75.3	92.1	81.4	55.9	38.9	34.8	59.1	27.4	21.5	68.4	19.2	10.4

2: Main St & W Beach St/E Beach St Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	40.1

3: W Riverside Dr/E Riverside Dr & Main St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.9	0.1	0.2	1.6	0.2	0.3	3.1	3.8	3.7	0.0	0.0	0.0
Total Del/Veh (s)	56.2	41.3	17.5	44.7	33.0	26.7	39.6	65.8	48.2	59.7	37.2	36.6

3: W Riverside Dr/E Riverside Dr & Main St Performance by movement

Movement	All
Denied Del/Veh (s)	1.4
Total Del/Veh (s)	42.0

4: Union St/Brennan St & E Lake Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	3.3	0.5	0.7	0.0	0.0	0.0	3.8	0.4	0.4
Total Del/Veh (s)	14.2	10.3	8.7	13.7	8.1	4.9	19.9	11.6	5.4	18.5	14.1	7.2

4: Union St/Brennan St & E Lake Ave Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	10.9

5: Union St & E Beach St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	3.8	0.2	0.3
Total Del/Veh (s)	34.5	28.9	7.2	12.1	25.1	7.8	21.7

7: Rodriguez St & Main St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.3	0.2	0.0	0.0	0.4	0.3	0.2
Total Del/Veh (s)	18.3	12.3	31.1	3.6	38.8	35.0	17.7

8: Brennan St & Freedom Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.2	0.8	0.6	3.8	0.4	0.5	3.9	0.5	0.3
Total Del/Veh (s)	37.3	16.8	6.6	40.2	18.5	10.0	38.4	29.5	12.5	34.0	28.0	18.1

8: Brennan St & Freedom Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	21.6

9: E Beach St & Alexander St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	2.8	3.6	0.0	0.0	1.4
Total Del/Veh (s)	2.7	3.1	46.1	40.5	32.4	6.1	24.6

Total Zone Performance

Denied Del/Veh (s)	1.5
Total Del/Veh (s)	293.3

Intersection: 1: Main St & W Lake Ave/E Lake Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	B36
Directions Served	L	TR	L	T	R	L	T	R	L	T	R	T
Maximum Queue (ft)	50	131	114	122	134	107	253	162	180	344	129	93
Average Queue (ft)	24	88	78	67	90	51	173	77	116	244	63	24
95th Queue (ft)	59	155	126	140	153	120	282	194	208	389	165	133
Link Distance (ft)		626		467			587			811		328
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	300		300		105	100		150	350		100	
Storage Blk Time (%)				3	5	1	38			20	0	
Queuing Penalty (veh)				12	13	7	97			57	0	

Intersection: 1: Main St & W Lake Ave/E Lake Ave

Movement	B36
Directions Served	
Maximum Queue (ft)	9
Average Queue (ft)	2
95th Queue (ft)	17
Link Distance (ft)	328
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Main St & W Beach St/E Beach St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	249	412	162	246	331	568	122	62	273	134
Average Queue (ft)	189	369	100	173	132	326	51	39	167	48
95th Queue (ft)	341	478	196	272	371	664	138	79	293	138
Link Distance (ft)		385	267	267		1438			587	
Upstream Blk Time (%)		23	0	1						
Queuing Penalty (veh)		116	0	3						
Storage Bay Dist (ft)	200				400		75	400		100
Storage Blk Time (%)	0	64			0	34	1		30	0
Queuing Penalty (veh)	2	61			0	74	5		44	0

Intersection: 3: W Riverside Dr/E Riverside Dr & Main St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	L	T	TR	L	L	T	R
Maximum Queue (ft)	106	185	171	249	156	186	265	243	146	730	895	215
Average Queue (ft)	64	145	123	169	121	149	185	188	88	406	697	141
95th Queue (ft)	133	218	207	283	183	211	286	270	171	1139	1267	295
Link Distance (ft)		1444	1444	1444			1793	1793		1249	1249	
Upstream Blk Time (%)										6	8	
Queuing Penalty (veh)										0	0	
Storage Bay Dist (ft)	170				140	140			305			165
Storage Blk Time (%)		3			1	6	12				46	
Queuing Penalty (veh)		2			3	18	43				92	

Intersection: 3: W Riverside Dr/E Riverside Dr & Main St

Movement	SB	SB	SB
Directions Served	L	T	TR
Maximum Queue (ft)	143	326	225
Average Queue (ft)	77	219	186
95th Queue (ft)	174	353	270
Link Distance (ft)		1438	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	350		175
Storage Blk Time (%)		18	17
Queuing Penalty (veh)		87	72

Intersection: 4: Union St/Brennan St & E Lake Ave

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	88	198	42	126	85	67	71	89
Average Queue (ft)	40	115	21	80	58	40	39	59
95th Queue (ft)	100	222	51	143	100	82	84	105
Link Distance (ft)		467		262		568		390
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100		175		270		100	
Storage Blk Time (%)	0	8		0			0	1
Queuing Penalty (veh)	0	6		0			1	1

Intersection: 5: Union St & E Beach St

Movement	EB	WB	WB	NB	NB
Directions Served	TR	LT	T	L	R
Maximum Queue (ft)	283	73	84	73	40
Average Queue (ft)	203	42	59	43	24
95th Queue (ft)	320	82	94	85	52
Link Distance (ft)	267	98	98		497
Upstream Blk Time (%)	6	0	1		
Queuing Penalty (veh)	25	0	3		
Storage Bay Dist (ft)				100	
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Intersection: 7: Rodriguez St & Main St

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	LR
Maximum Queue (ft)	269	227	123	81	91	149	256
Average Queue (ft)	204	163	79	31	39	76	191
95th Queue (ft)	296	252	138	93	102	190	283
Link Distance (ft)	1000	1000		691	691		346
Upstream Blk Time (%)							0
Queuing Penalty (veh)							0
Storage Bay Dist (ft)			145			100	
Storage Blk Time (%)			2	0		0	39
Queuing Penalty (veh)			5	0		0	49

Intersection: 8: Brennan St & Freedom Blvd

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	TR
Maximum Queue (ft)	90	290	101	93	273	74	121	58	94
Average Queue (ft)	48	166	43	43	172	41	60	32	50
95th Queue (ft)	118	331	137	110	317	91	143	67	110
Link Distance (ft)		506			393		267		373
Upstream Blk Time (%)					1		0		
Queuing Penalty (veh)					0		0		
Storage Bay Dist (ft)	65		200	200		55		75	
Storage Blk Time (%)	2	21			6	10	12	0	5
Queuing Penalty (veh)	13	42			5	16	9	1	4

Intersection: 9: E Beach St & Alexander St

Movement	EB	WB	WB	SB	SB
Directions Served	LT	T	TR	L	R
Maximum Queue (ft)	40	149	313	87	58
Average Queue (ft)	18	113	217	47	38
95th Queue (ft)	50	191	388	98	62
Link Distance (ft)	98		390		568
Upstream Blk Time (%)			7		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)		100		220	
Storage Blk Time (%)		9	47		
Queuing Penalty (veh)		28	78		

Zone Summary

Zone wide Queuing Penalty: 1093

1: Main St & W Lake Ave/E Lake Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	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 Del/Veh (s)	44.9	34.5	25.8	49.8	29.2	17.5	56.2	20.6	11.6	46.8	18.5	9.7

1: Main St & W Lake Ave/E Lake Ave Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	23.3

2: Main St & W Beach St/E Beach St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	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 Del/Veh (s)	51.9	52.0	43.6	55.1	47.9	41.5	43.7	35.0	27.3	93.1	28.5	14.8

2: Main St & W Beach St/E Beach St Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	40.5

3: W Riverside Dr/E Riverside Dr & Main St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.8	0.1	0.2	1.4	0.2	0.2	268.7	268.6	274.3	0.0	0.0	0.0
Total Del/Veh (s)	55.9	39.4	10.8	49.3	35.5	32.8	63.4	143.0	137.8	55.6	39.2	34.5

3: W Riverside Dr/E Riverside Dr & Main St Performance by movement

Movement	All
Denied Del/Veh (s)	112.7
Total Del/Veh (s)	68.3

4: Union St/Brennan St & E Lake Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.4	1.1	1.1	0.3	0.0	0.0	3.7	0.4	0.4
Total Del/Veh (s)	35.3	23.1	18.9	27.6	14.7	11.3	31.0	20.6	12.2	31.8	21.1	12.8

4: Union St/Brennan St & E Lake Ave Performance by movement

Movement	All
Denied Del/Veh (s)	0.9
Total Del/Veh (s)	21.1

5: Union St & E Beach St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	3.9	0.3	0.1
Total Del/Veh (s)	30.7	26.0	8.5	9.3	45.1	11.1	18.2

7: Rodriguez St & Main St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	0.3	0.0	0.0	0.4	0.4	0.2
Total Del/Veh (s)	12.6	6.5	33.2	8.6	19.6	15.9	11.8

8: Brennan St & Freedom Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	3.4	0.8	3.7	0.6	0.6	4.7	0.1	0.1	1.1
Total Del/Veh (s)	38.7	15.4	6.4	24.3	5.9	22.5	15.2	9.0	29.1	37.8	4.4	13.4

9: E Beach St & Alexander St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	5.3	3.6	0.0	0.0	0.0	1.6
Total Del/Veh (s)	8.0	8.0	49.5	39.5	33.0	1.3	16.5	24.3

Total Zone Performance

Denied Del/Veh (s)	65.4
Total Del/Veh (s)	1621.8

Intersection: 1: Main St & W Lake Ave/E Lake Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	B36
Directions Served	L	TR	L	T	R	L	T	R	L	T	R	T
Maximum Queue (ft)	95	223	199	266	155	149	482	200	257	480	150	61
Average Queue (ft)	37	110	77	104	88	39	238	104	58	222	56	2
95th Queue (ft)	78	191	152	197	156	108	462	231	146	409	151	31
Link Distance (ft)		626		467			587			811		328
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (ft)	300		300		105	100		150	350		100	
Storage Blk Time (%)		0		8	5	0	22	0		21	0	
Queuing Penalty (veh)		0		28	15	2	64	0		37	0	

Intersection: 1: Main St & W Lake Ave/E Lake Ave

Movement	B36
Directions Served	
Maximum Queue (ft)	44
Average Queue (ft)	2
95th Queue (ft)	23
Link Distance (ft)	328
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Main St & W Beach St/E Beach St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	183	312	287	300	449	749	125	342	514	150
Average Queue (ft)	33	148	149	221	113	392	67	130	261	80
95th Queue (ft)	106	270	279	323	344	700	151	280	465	180
Link Distance (ft)		385	267	267		1438			587	
Upstream Blk Time (%)		0	2	9					0	
Queuing Penalty (veh)		0	6	26					2	
Storage Bay Dist (ft)	200				400		75	400		100
Storage Blk Time (%)		6				40	1	2	30	0
Queuing Penalty (veh)		2				93	8	9	75	0

Intersection: 3: W Riverside Dr/E Riverside Dr & Main St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	L	T	TR	L	L	T	R
Maximum Queue (ft)	144	198	193	225	164	190	268	268	204	1296	1301	215
Average Queue (ft)	53	119	109	95	89	123	154	166	90	1230	1251	162
95th Queue (ft)	110	176	175	175	162	196	248	249	174	1561	1433	290
Link Distance (ft)		1444	1444	1444			1793	1793		1249	1249	
Upstream Blk Time (%)										48	68	
Queuing Penalty (veh)										0	0	
Storage Bay Dist (ft)	170				140	140			305			165
Storage Blk Time (%)	0	1			1	3	9				48	0
Queuing Penalty (veh)	0	1			2	8	27				132	1

Intersection: 3: W Riverside Dr/E Riverside Dr & Main St

Movement	SB	SB	SB
Directions Served	L	T	TR
Maximum Queue (ft)	176	355	225
Average Queue (ft)	54	172	154
95th Queue (ft)	119	289	240
Link Distance (ft)		1438	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	350		175
Storage Blk Time (%)		8	6
Queuing Penalty (veh)		28	20

Intersection: 4: Union St/Brennan St & E Lake Ave

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	150	357	224	278	72	141	111	186
Average Queue (ft)	75	169	105	145	28	67	30	85
95th Queue (ft)	152	296	187	246	62	119	74	151
Link Distance (ft)		467		262		568		390
Upstream Blk Time (%)		0		1				
Queuing Penalty (veh)		0		0				
Storage Bay Dist (ft)	100		175		270		100	
Storage Blk Time (%)	2	24	1	4			0	5
Queuing Penalty (veh)	7	22	3	7			0	2

Intersection: 5: Union St & E Beach St

Movement	EB	WB	WB	NB	NB
Directions Served	TR	LT	T	L	R
Maximum Queue (ft)	300	105	116	87	100
Average Queue (ft)	209	57	67	28	38
95th Queue (ft)	329	106	118	67	73
Link Distance (ft)	267	98	98		497
Upstream Blk Time (%)	6	3	6		
Queuing Penalty (veh)	28	8	20		
Storage Bay Dist (ft)				100	
Storage Blk Time (%)				1	0
Queuing Penalty (veh)				1	0

Intersection: 7: Rodriguez St & Main St

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	LR
Maximum Queue (ft)	237	203	38	174	177	149	283
Average Queue (ft)	116	81	9	77	70	42	141
95th Queue (ft)	195	161	31	142	136	146	232
Link Distance (ft)	1000	1000		691	691		346
Upstream Blk Time (%)							0
Queuing Penalty (veh)							0
Storage Bay Dist (ft)			145			100	
Storage Blk Time (%)				1		0	17
Queuing Penalty (veh)				0		0	31

Intersection: 8: Brennan St & Freedom Blvd

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	TR
Maximum Queue (ft)	37	285	178	156	152	96	139	11	8
Average Queue (ft)	2	124	37	69	58	47	36	1	0
95th Queue (ft)	20	231	106	130	118	87	96	6	5
Link Distance (ft)		506			393		267		373
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	65		200	200		55		75	
Storage Blk Time (%)		18			0	8	2		
Queuing Penalty (veh)		23			0	12	3		

Intersection: 9: E Beach St & Alexander St

Movement	EB	WB	WB	SB	SB
Directions Served	LT	T	TR	L	R
Maximum Queue (ft)	107	150	381	150	239
Average Queue (ft)	69	106	192	56	97
95th Queue (ft)	117	182	352	125	213
Link Distance (ft)	98		390		568
Upstream Blk Time (%)	8		5		0
Queuing Penalty (veh)	41		0		2
Storage Bay Dist (ft)		100		220	
Storage Blk Time (%)		9	39		2
Queuing Penalty (veh)		23	62		2

Zone Summary

Zone wide Queuing Penalty: 880

E – Queuing Summary

Lane Group	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	697	195	682	794
v/c Ratio	0.53	0.28	0.54	0.58
Control Delay	12.0	4.4	11.9	11.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.0	4.4	11.9	11.9
Queue Length 50th (ft)	59	5	58	66
Queue Length 95th (ft)	108	29	105	117
Internal Link Dist (ft)	140		577	679
Turn Bay Length (ft)		105		
Base Capacity (vph)	3080	1393	2993	3207
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.23	0.14	0.23	0.25

Intersection Summary

Lane Group	EBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	367	75	788	200	705
v/c Ratio	0.46	0.30	0.68	0.58	0.41
Control Delay	21.8	30.2	19.2	30.3	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	30.2	19.2	30.3	11.6
Queue Length 50th (ft)	54	26	120	67	95
Queue Length 95th (ft)	103	63	173	127	126
Internal Link Dist (ft)	380		1445		577
Turn Bay Length (ft)		105		140	
Base Capacity (vph)	1746	643	2394	809	2687
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.21	0.12	0.33	0.25	0.26

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	62	373	325	290	547	405	832	313	55	477
v/c Ratio	0.43	0.36	0.35	0.79	0.46	0.83	0.59	0.40	0.39	0.77
Control Delay	59.6	33.9	9.8	66.3	32.1	55.4	29.5	6.4	58.3	53.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.6	33.9	9.8	66.3	32.1	55.4	29.5	6.4	58.3	53.1
Queue Length 50th (ft)	45	117	75	109	171	273	252	21	39	178
Queue Length 95th (ft)	88	162	155	#173	233	#513	323	85	81	216
Internal Link Dist (ft)		412			555		462			1445
Turn Bay Length (ft)	170			140		305		165	150	
Base Capacity (vph)	189	1036	923	367	1189	488	1418	776	204	869
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.36	0.35	0.79	0.46	0.83	0.59	0.40	0.27	0.55

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	1024	32	224	192	58
v/c Ratio	0.59	0.10	0.43	0.37	0.12
Control Delay	9.1	13.2	15.8	15.1	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.1	13.2	15.8	15.1	5.3
Queue Length 50th (ft)	66	5	38	32	0
Queue Length 95th (ft)	133	20	92	80	15
Internal Link Dist (ft)	220		196	348	
Turn Bay Length (ft)		100			75
Base Capacity (vph)	3064	1020	1617	1617	1348
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.33	0.03	0.14	0.12	0.04

Intersection Summary

Lane Group	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	685	282	95	256
v/c Ratio	0.61	0.43	0.28	0.44
Control Delay	10.5	8.5	9.6	10.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.5	8.5	9.6	10.1
Queue Length 50th (ft)	30	21	8	23
Queue Length 95th (ft)	81	56	28	59
Internal Link Dist (ft)	271	352		238
Turn Bay Length (ft)			110	
Base Capacity (vph)	3323	1938	1055	1810
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.21	0.15	0.09	0.14

Intersection Summary

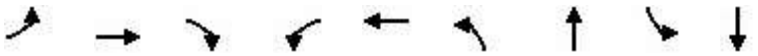
Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	224	477	162	335	280	280	346	28	44
v/c Ratio	0.84	0.23	0.74	0.74	0.34	0.34	0.30	0.17	0.18
Control Delay	75.0	3.1	68.8	59.3	23.6	23.5	1.4	53.0	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.0	3.1	68.8	59.3	23.6	23.5	1.4	53.0	1.7
Queue Length 50th (ft)	172	0	136	141	137	137	0	20	0
Queue Length 95th (ft)	260	63	195	171	253	253	20	49	0
Internal Link Dist (ft)	722			546		740		295	
Turn Bay Length (ft)			360				150		25
Base Capacity (vph)	408	2046	327	676	831	835	1226	171	245
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.23	0.50	0.50	0.34	0.34	0.28	0.16	0.18

Intersection Summary

Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	890	8	785	222
v/c Ratio	0.34	0.05	0.25	0.53
Control Delay	6.8	45.3	1.3	52.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.8	45.3	1.3	52.3
Queue Length 50th (ft)	68	5	2	84
Queue Length 95th (ft)	251	m13	6	109
Internal Link Dist (ft)	958		722	320
Turn Bay Length (ft)		145		100
Base Capacity (vph)	2584	256	3196	782
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.34	0.03	0.25	0.28

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	7	452	113	210	402	129	156	4	16
v/c Ratio	0.05	0.61	0.19	0.52	0.34	0.47	0.36	0.02	0.06
Control Delay	34.5	20.8	6.2	27.2	6.9	29.6	7.8	23.7	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.5	20.8	6.2	27.2	6.9	29.6	7.8	23.7	14.1
Queue Length 50th (ft)	2	121	4	61	48	38	0	1	1
Queue Length 95th (ft)	15	251	33	147	145	103	39	9	15
Internal Link Dist (ft)		546			380		266		359
Turn Bay Length (ft)	65		150	200		55		75	
Base Capacity (vph)	128	1762	1270	929	1814	612	770	512	709
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.26	0.09	0.23	0.22	0.21	0.20	0.01	0.02

Intersection Summary

Lane Group	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	574	206	645	907
v/c Ratio	0.69	0.41	0.30	0.41
Control Delay	25.4	6.0	2.4	7.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	25.4	6.0	2.4	7.7
Queue Length 50th (ft)	131	32	23	89
Queue Length 95th (ft)	164	31	31	158
Internal Link Dist (ft)	140		577	679
Turn Bay Length (ft)		105		
Base Capacity (vph)	1261	676	2133	2208
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.46	0.30	0.30	0.41

Intersection Summary

Lane Group	EBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	565	63	762	253	818
v/c Ratio	0.74	0.36	0.58	0.62	0.41
Control Delay	32.4	37.3	19.8	27.6	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	37.3	19.8	27.6	8.4
Queue Length 50th (ft)	126	28	132	111	85
Queue Length 95th (ft)	165	62	207	129	136
Internal Link Dist (ft)	380		1445		577
Turn Bay Length (ft)		105		140	
Base Capacity (vph)	960	431	1309	408	1991
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.59	0.15	0.58	0.62	0.41

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	59	501	613	396	423	343	691	342	87	714
v/c Ratio	0.41	0.46	0.72	1.08	0.34	0.92	0.52	0.43	0.55	0.89
Control Delay	59.0	34.9	22.6	118.2	29.6	76.0	29.5	4.5	63.4	56.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	34.9	22.6	118.2	29.6	76.0	29.5	4.5	63.4	56.9
Queue Length 50th (ft)	42	164	275	~169	126	246	198	0	63	263
Queue Length 95th (ft)	85	218	416	#268	177	#411	272	61	114	336
Internal Link Dist (ft)		412			555		462			1445
Turn Bay Length (ft)	170			140		305		165	150	
Base Capacity (vph)	189	1085	858	367	1238	391	1339	796	204	869
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.46	0.71	1.08	0.34	0.88	0.52	0.43	0.43	0.82

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	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	939	67	323	202	76
v/c Ratio	0.43	0.28	0.70	0.44	0.17
Control Delay	8.1	23.8	33.6	25.7	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	23.8	33.6	25.7	6.0
Queue Length 50th (ft)	94	25	138	80	0
Queue Length 95th (ft)	176	51	191	119	26
Internal Link Dist (ft)	220		196	348	
Turn Bay Length (ft)		100			75
Base Capacity (vph)	2185	466	889	889	773
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.43	0.14	0.36	0.23	0.10

Intersection Summary

Lane Group	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	847	305	133	290
v/c Ratio	0.38	0.67	1.10	0.72
Control Delay	5.6	29.8	139.2	37.0
Queue Delay	0.5	0.0	0.0	0.0
Total Delay	6.1	29.8	139.2	37.0
Queue Length 50th (ft)	70	112	~68	124
Queue Length 95th (ft)	176	165	#144	177
Internal Link Dist (ft)	271	352		238
Turn Bay Length (ft)			110	
Base Capacity (vph)	2241	694	191	630
Starvation Cap Reductn	881	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.62	0.44	0.70	0.46

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	438	618	206	421	279	275	386	38	38
v/c Ratio	0.92	0.31	0.81	0.80	0.53	0.52	0.42	0.19	0.13
Control Delay	71.0	3.3	64.5	52.3	33.9	33.7	2.4	43.1	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.0	3.3	64.5	52.3	33.9	33.7	2.4	43.1	1.0
Queue Length 50th (ft)	301	0	139	142	160	156	2	22	0
Queue Length 95th (ft)	#517	90	#235	193	251	247	29	54	0
Internal Link Dist (ft)	722			546		740		295	
Turn Bay Length (ft)			360				150		25
Base Capacity (vph)	477	1974	305	632	529	532	954	201	285
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.31	0.68	0.67	0.53	0.52	0.40	0.19	0.13

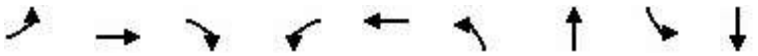
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	1303	12	753	304
v/c Ratio	0.51	0.08	0.24	0.67
Control Delay	7.9	42.5	3.7	46.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.9	42.5	3.7	46.6
Queue Length 50th (ft)	112	9	85	95
Queue Length 95th (ft)	381	m16	111	120
Internal Link Dist (ft)	958		722	320
Turn Bay Length (ft)		145		100
Base Capacity (vph)	2550	145	3130	840
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.51	0.08	0.24	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	8	660	135	160	472	153	245	6	16
v/c Ratio	0.04	0.52	0.14	0.68	0.41	0.73	0.55	0.10	0.07
Control Delay	53.1	17.4	6.0	64.0	12.6	66.9	10.1	42.5	22.1
Queue Delay	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.1	18.7	6.0	64.0	12.6	66.9	10.1	42.5	22.1
Queue Length 50th (ft)	6	278	15	120	171	114	3	4	3
Queue Length 95th (ft)	23	485	53	185	240	177	70	16	22
Internal Link Dist (ft)		546			380		266		359
Turn Bay Length (ft)	65		150	200		55		75	
Base Capacity (vph)	198	1275	934	309	1161	288	528	99	353
Starvation Cap Reductn	0	380	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.74	0.14	0.52	0.41	0.53	0.46	0.06	0.05

Intersection Summary

Lane Group	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	558	240	604	800
v/c Ratio	0.68	0.46	0.29	0.36
Control Delay	29.5	8.6	3.1	7.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	29.5	8.6	3.1	7.3
Queue Length 50th (ft)	123	16	23	77
Queue Length 95th (ft)	155	63	33	137
Internal Link Dist (ft)	140		577	679
Turn Bay Length (ft)		105		
Base Capacity (vph)	1257	685	2102	2213
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.44	0.35	0.29	0.36

Intersection Summary

Lane Group	EBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	388	55	661	178	739
v/c Ratio	0.60	0.32	0.46	0.44	0.35
Control Delay	29.7	36.7	16.5	23.7	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	29.7	36.7	16.5	23.7	6.8
Queue Length 50th (ft)	78	24	111	76	85
Queue Length 95th (ft)	120	57	160	94	108
Internal Link Dist (ft)	380		1445		577
Turn Bay Length (ft)		105		140	
Base Capacity (vph)	861	196	1424	408	2102
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.45	0.28	0.46	0.44	0.35

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	60	313	383	326	610	317	641	245	82	532
v/c Ratio	0.43	0.26	0.44	0.70	0.42	0.89	0.55	0.36	0.55	0.82
Control Delay	62.7	31.7	13.3	58.4	28.2	72.7	34.7	5.0	66.3	57.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	31.7	13.3	58.4	28.2	72.7	34.7	5.0	66.3	57.1
Queue Length 50th (ft)	45	94	118	125	179	237	212	1	63	207
Queue Length 95th (ft)	90	145	213	176	264	#374	262	55	113	255
Internal Link Dist (ft)		412			555		462			1445
Turn Bay Length (ft)	170			140		305		165	150	
Base Capacity (vph)	210	1187	897	466	1443	397	1192	682	255	831
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.26	0.43	0.70	0.42	0.80	0.54	0.36	0.32	0.64

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	272	504	180	366	252	255	381	21	27
v/c Ratio	0.78	0.25	0.72	0.71	0.36	0.36	0.36	0.13	0.09
Control Delay	56.1	1.4	55.9	47.3	25.0	25.0	1.6	42.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	1.4	55.9	47.3	25.0	25.0	1.6	42.4	0.7
Queue Length 50th (ft)	163	0	124	125	126	128	0	12	0
Queue Length 95th (ft)	#330	25	185	159	214	216	19	35	0
Internal Link Dist (ft)	722			546		740		295	
Turn Bay Length (ft)			360				150		25
Base Capacity (vph)	348	2008	335	693	702	706	1118	212	334
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.25	0.54	0.53	0.36	0.36	0.34	0.10	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	59	273	128	237	297	43	692	319	94	613	123
v/c Ratio	0.48	0.77	0.79	0.52	0.54	0.42	0.86	0.42	0.76	0.66	0.15
Control Delay	58.0	49.8	75.6	36.3	11.9	57.3	34.5	7.3	81.4	22.3	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	49.8	75.6	36.3	11.9	57.3	34.6	7.3	81.4	22.3	3.8
Queue Length 50th (ft)	34	148	75	123	26	25	341	33	55	276	2
Queue Length 95th (ft)	#70	212	#160	182	70	55	413	64	#129	341	22
Internal Link Dist (ft)		625		469			577			809	
Turn Bay Length (ft)	300		300		105	100		150	350		100
Base Capacity (vph)	124	454	163	499	582	103	1022	907	124	1044	888
Starvation Cap Reductn	0	0	0	0	0	0	8	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.60	0.79	0.47	0.51	0.42	0.68	0.35	0.76	0.59	0.14

Intersection Summary

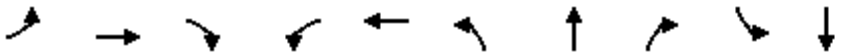
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	42	209	189	428	73	857	178	159	447	136
v/c Ratio	0.54	0.81	0.83	0.98	0.53	0.97	0.23	0.91	0.47	0.16
Control Delay	81.5	71.1	79.5	81.9	66.7	55.7	5.9	101.4	21.7	3.2
Queue Delay	0.0	0.0	0.0	38.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.5	71.1	79.5	120.2	66.7	55.7	5.9	101.4	21.7	3.2
Queue Length 50th (ft)	33	153	145	~332	55	631	16	124	229	0
Queue Length 95th (ft)	#70	209	#244	#453	94	#753	44	#220	279	23
Internal Link Dist (ft)		386		269		1445			577	
Turn Bay Length (ft)	200				400		75	400		100
Base Capacity (vph)	78	304	228	436	159	912	781	175	957	857
Starvation Cap Reductn	0	0	0	78	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.69	0.83	1.20	0.46	0.94	0.23	0.91	0.47	0.16

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

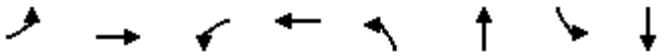
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	69	315	366	292	585	388	778	300	63	460
v/c Ratio	0.50	0.37	0.39	0.69	0.55	0.36	0.95	0.39	0.46	0.75
Control Delay	63.7	39.0	7.6	58.2	37.2	31.7	52.9	10.9	61.9	52.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	39.0	7.6	58.2	37.2	31.7	52.9	10.9	61.9	52.2
Queue Length 50th (ft)	50	117	66	103	209	102	502	57	45	170
Queue Length 95th (ft)	98	143	130	#197	260	169	#808	130	91	207
Internal Link Dist (ft)		1419			1765		1236			1445
Turn Bay Length (ft)	170			140		305		165	350	
Base Capacity (vph)	140	997	943	425	1104	1082	835	780	138	1256
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.32	0.39	0.69	0.53	0.36	0.93	0.38	0.46	0.37

Intersection Summary

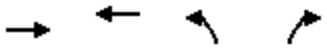
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	115	559	240	577	46	191	45	271
v/c Ratio	0.67	0.90	0.74	0.73	0.34	0.53	0.28	0.72
Control Delay	55.2	45.3	44.2	25.5	41.4	27.7	37.8	35.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	45.3	44.2	25.5	41.4	27.7	37.8	35.1
Queue Length 50th (ft)	52	248	104	218	20	68	20	107
Queue Length 95th (ft)	#116	#403	#181	311	48	106	46	151
Internal Link Dist (ft)		469		220		559		348
Turn Bay Length (ft)	100		175		270		100	
Base Capacity (vph)	172	622	358	828	135	541	167	578
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.90	0.67	0.70	0.34	0.35	0.27	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



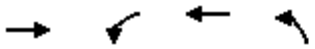
Lane Group	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	516	700	42	119
v/c Ratio	0.91	0.52	0.13	0.32
Control Delay	54.1	11.8	34.4	9.3
Queue Delay	48.8	0.6	0.0	0.1
Total Delay	102.8	12.3	34.4	9.4
Queue Length 50th (ft)	290	82	21	0
Queue Length 95th (ft)	#443	66	48	36
Internal Link Dist (ft)	269	84	454	
Turn Bay Length (ft)			100	
Base Capacity (vph)	580	1573	345	392
Starvation Cap Reductn	116	463	0	0
Spillback Cap Reductn	10	0	0	26
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.11	0.63	0.12	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	186	455	173	354	276	272	407	39	61
v/c Ratio	0.76	0.59	0.72	0.71	0.38	0.38	0.37	0.20	0.20
Control Delay	62.5	10.9	56.8	47.8	25.3	25.1	1.7	43.3	1.5
Queue Delay	0.0	0.0	0.0	0.0	1.3	1.3	0.2	0.0	0.0
Total Delay	62.5	10.9	56.8	47.8	26.6	26.4	1.9	43.3	1.5
Queue Length 50th (ft)	103	0	117	119	128	126	0	23	0
Queue Length 95th (ft)	151	86	175	151	237	233	21	53	0
Internal Link Dist (ft)	727			547		224		295	
Turn Bay Length (ft)			360		150		150		25
Base Capacity (vph)	346	891	314	652	724	728	1152	198	299
Starvation Cap Reductn	0	0	0	0	268	272	221	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.51	0.55	0.54	0.61	0.60	0.44	0.20	0.20

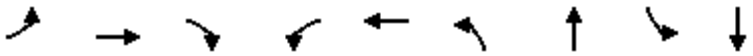
Intersection Summary



Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	884	5	830	409
v/c Ratio	0.37	0.04	0.29	0.67
Control Delay	7.2	31.2	2.9	43.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.2	31.2	2.9	43.8
Queue Length 50th (ft)	81	3	36	127
Queue Length 95th (ft)	201	m7	83	159
Internal Link Dist (ft)	958		727	320
Turn Bay Length (ft)		145		100
Base Capacity (vph)	2371	148	2906	942
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.37	0.03	0.29	0.43

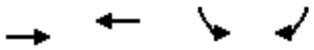
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	7	548	60	213	383	146	162	4	17
v/c Ratio	0.06	0.68	0.10	0.55	0.32	0.53	0.37	0.02	0.07
Control Delay	40.3	23.2	2.4	32.1	6.9	34.6	8.1	27.3	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.3	23.2	2.4	32.1	6.9	34.6	8.1	27.3	15.4
Queue Length 50th (ft)	3	168	0	72	50	49	0	1	1
Queue Length 95th (ft)	17	339	10	173	147	129	42	10	17
Internal Link Dist (ft)		547			380		266		359
Turn Bay Length (ft)	65		200	200		55		75	
Base Capacity (vph)	115	1683	1216	725	1749	575	737	454	668
Starvation Cap Reductn	0	21	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.33	0.05	0.29	0.22	0.25	0.22	0.01	0.03

Intersection Summary



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	548	442	101	342
v/c Ratio	0.55	0.64	0.40	0.66
Control Delay	8.7	37.0	40.9	10.9
Queue Delay	2.1	0.9	0.0	0.2
Total Delay	10.7	37.9	40.9	11.1
Queue Length 50th (ft)	55	118	55	0
Queue Length 95th (ft)	m79	165	95	52
Internal Link Dist (ft)	84	346	559	
Turn Bay Length (ft)			220	
Base Capacity (vph)	1008	706	380	604
Starvation Cap Reductn	308	0	0	0
Spillback Cap Reductn	0	88	0	26
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.78	0.72	0.27	0.59

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	30	198	291	153	255	24	695	261	157	730	142
v/c Ratio	0.29	0.67	0.80	0.24	0.38	0.27	1.08	0.44	0.92	0.87	0.20
Control Delay	52.3	49.2	57.4	25.6	5.1	38.0	70.1	3.9	97.3	39.5	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.7	0.0
Total Delay	52.3	49.2	57.4	25.6	5.1	38.0	70.1	3.9	97.3	48.2	2.1
Queue Length 50th (ft)	19	119	174	73	0	14	~482	6	102	382	0
Queue Length 95th (ft)	49	181	#361	125	55	m16	m#606	m8	#231	#716	22
Internal Link Dist (ft)		625		469			577			809	
Turn Bay Length (ft)	300		300		105	100		150	350		100
Base Capacity (vph)	106	395	363	648	674	88	646	587	171	839	708
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	89	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.50	0.80	0.24	0.38	0.27	1.08	0.44	0.92	0.97	0.20

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

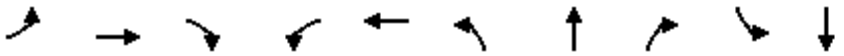
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	115	420	119	316	89	854	162	66	905	110
v/c Ratio	0.82	1.00	0.97	0.79	1.01	0.90	0.23	0.71	0.99	0.14
Control Delay	85.5	84.3	121.5	51.9	148.8	37.9	4.2	57.5	34.1	0.5
Queue Delay	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	3.1	0.0
Total Delay	85.5	84.3	121.5	54.3	148.8	37.9	4.2	57.5	37.3	0.5
Queue Length 50th (ft)	73	~266	77	186	~58	493	6	41	260	2
Queue Length 95th (ft)	#171	#467	#190	#320	#160	#763	40	m48	m#781	m1
Internal Link Dist (ft)		386		269		1445			577	
Turn Bay Length (ft)	200				400		75	400		100
Base Capacity (vph)	141	418	123	398	88	946	718	93	912	777
Starvation Cap Reductn	0	0	0	26	0	0	0	0	12	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	1.00	0.97	0.85	1.01	0.90	0.23	0.71	1.01	0.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

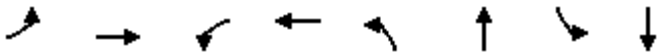
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	74	561	654	409	447	315	810	307	100	771
v/c Ratio	0.55	0.73	0.81	0.92	0.44	0.33	0.95	0.39	0.81	0.89
Control Delay	73.3	53.8	23.2	82.4	39.4	38.7	55.4	13.2	100.3	60.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.3	53.8	23.2	82.4	39.4	38.7	55.4	13.2	100.3	60.0
Queue Length 50th (ft)	62	241	242	177	166	105	607	78	85	324
Queue Length 95th (ft)	112	295	#383	#273	217	157	#931	159	#187	397
Internal Link Dist (ft)		1419			1765		1236			1445
Turn Bay Length (ft)	170			140		305		165	350	
Base Capacity (vph)	162	830	812	453	1027	968	860	789	124	946
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.68	0.81	0.90	0.44	0.33	0.94	0.39	0.81	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	137	482	185	584	109	152	49	295
v/c Ratio	0.67	0.79	0.67	0.85	0.60	0.29	0.45	0.80
Control Delay	57.0	35.3	50.7	36.2	55.1	25.6	57.7	48.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	35.3	50.7	36.2	55.1	25.6	57.7	48.5
Queue Length 50th (ft)	74	237	98	287	59	59	27	143
Queue Length 95th (ft)	#186	346	#236	427	#149	129	#82	#302
Internal Link Dist (ft)		469		220		559		348
Turn Bay Length (ft)	100		175		270		100	
Base Capacity (vph)	216	954	278	991	194	551	108	452
Starvation Cap Reductn	0	24	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.52	0.67	0.59	0.56	0.28	0.45	0.65

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	592	520	36	82
v/c Ratio	0.94	0.46	0.13	0.29
Control Delay	51.9	7.1	34.2	11.0
Queue Delay	46.6	0.4	0.0	0.1
Total Delay	98.5	7.5	34.2	11.1
Queue Length 50th (ft)	318	32	18	0
Queue Length 95th (ft)	#537	36	45	39
Internal Link Dist (ft)	269	84	454	
Turn Bay Length (ft)			100	
Base Capacity (vph)	643	1229	288	299
Starvation Cap Reductn	130	302	0	0
Spillback Cap Reductn	0	0	0	11
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.15	0.56	0.13	0.28

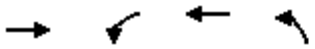
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	452	636	208	430	298	295	368	57	56
v/c Ratio	0.91	0.33	0.81	0.81	0.57	0.56	0.43	0.45	0.23
Control Delay	56.2	5.7	63.7	52.4	36.2	35.9	5.6	56.4	2.2
Queue Delay	0.0	0.0	0.0	0.0	1.2	1.2	0.1	0.0	0.0
Total Delay	56.2	5.7	63.7	52.4	37.4	37.1	5.7	56.4	2.2
Queue Length 50th (ft)	263	9	139	143	187	185	31	36	0
Queue Length 95th (ft)	#454	183	#249	200	274	272	82	77	0
Internal Link Dist (ft)	727			547		224		295	
Turn Bay Length (ft)			360		150		150		25
Base Capacity (vph)	513	1899	289	599	540	543	881	127	241
Starvation Cap Reductn	0	0	0	0	97	99	48	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.33	0.72	0.72	0.67	0.66	0.44	0.45	0.23

Intersection Summary

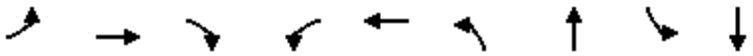
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	1412	7	888	382
v/c Ratio	0.59	0.05	0.30	0.65
Control Delay	9.8	55.7	5.2	43.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.8	55.7	5.2	43.4
Queue Length 50th (ft)	167	4	4	118
Queue Length 95th (ft)	430	m9	356	152
Internal Link Dist (ft)	958		727	320
Turn Bay Length (ft)		145		100
Base Capacity (vph)	2407	145	2977	835
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.59	0.05	0.30	0.46

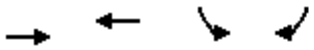
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	8	662	121	212	458	183	289	6	21
v/c Ratio	0.09	0.58	0.14	0.75	0.38	0.75	0.56	0.10	0.08
Control Delay	52.2	21.6	5.5	60.7	10.9	60.0	8.8	36.5	17.9
Queue Delay	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.2	22.6	5.5	60.7	10.9	60.0	8.8	36.5	17.9
Queue Length 50th (ft)	6	308	8	143	140	122	3	4	3
Queue Length 95th (ft)	22	506	44	220	238	188	70	15	23
Internal Link Dist (ft)		547			380		266		359
Turn Bay Length (ft)	65		200	200		55		75	
Base Capacity (vph)	88	1142	851	337	1209	327	599	102	402
Starvation Cap Reductn	0	245	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.74	0.14	0.63	0.38	0.56	0.48	0.06	0.05

Intersection Summary



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	603	418	182	250
v/c Ratio	0.64	0.70	0.67	0.55
Control Delay	5.2	38.0	48.8	9.8
Queue Delay	1.5	0.0	0.0	0.0
Total Delay	6.7	38.0	48.8	9.8
Queue Length 50th (ft)	42	106	98	0
Queue Length 95th (ft)	m55	144	154	51
Internal Link Dist (ft)	84	346	559	
Turn Bay Length (ft)			220	
Base Capacity (vph)	970	634	292	469
Starvation Cap Reductn	199	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.78	0.66	0.62	0.53

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	31	182	132	121	306	34	684	227	107	636	114
v/c Ratio	0.34	0.64	0.88	0.29	0.59	0.31	0.77	0.31	0.59	0.61	0.14
Control Delay	56.6	47.6	94.1	33.8	12.6	52.8	23.5	6.5	43.5	23.0	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	47.6	94.1	33.8	12.6	52.8	23.5	6.5	43.5	23.0	5.4
Queue Length 50th (ft)	20	108	85	68	30	22	176	16	55	360	13
Queue Length 95th (ft)	50	167	#194	113	110	m29	m#610	m27	101	510	48
Internal Link Dist (ft)		625		469			577			809	
Turn Bay Length (ft)	300		300		105	100		150	350		100
Base Capacity (vph)	90	401	150	471	550	109	884	726	200	1038	823
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.45	0.88	0.26	0.56	0.31	0.77	0.31	0.54	0.61	0.14

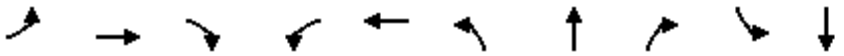
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	97	264	131	316	74	782	118	45	629	107
v/c Ratio	0.84	0.76	0.92	0.84	0.55	0.80	0.16	0.42	0.69	0.14
Control Delay	96.1	50.5	103.2	56.4	60.7	29.8	3.8	60.6	19.1	4.0
Queue Delay	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.1	50.5	103.2	57.5	60.7	29.8	3.8	60.6	19.1	4.0
Queue Length 50th (ft)	62	151	84	186	45	454	1	31	121	1
Queue Length 95th (ft)	#156	231	#198	276	#108	#707	32	m49	m243	m11
Internal Link Dist (ft)		386		269		1445			577	
Turn Bay Length (ft)	200				400		75	400		100
Base Capacity (vph)	116	416	143	447	138	979	753	108	910	757
Starvation Cap Reductn	0	0	0	32	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.63	0.92	0.76	0.54	0.80	0.16	0.42	0.69	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	80	375	436	342	636	289	760	209	99	649
v/c Ratio	0.60	0.51	0.53	0.73	0.62	0.29	0.94	0.28	0.67	0.82
Control Delay	73.0	45.5	17.3	59.1	40.4	35.3	53.1	10.4	75.1	52.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.0	45.5	17.3	59.1	40.4	35.3	53.1	10.4	75.1	52.4
Queue Length 50th (ft)	61	148	163	128	242	83	509	39	75	251
Queue Length 95th (ft)	#126	178	267	#209	286	142	#819	96	#167	296
Internal Link Dist (ft)		1419			1765		1236			1445
Turn Bay Length (ft)	170			140		305		165	350	
Base Capacity (vph)	134	911	822	475	1094	980	822	746	148	1330
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.41	0.53	0.72	0.58	0.29	0.92	0.28	0.67	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	279	539	185	382	289	291	369	36	48
v/c Ratio	0.82	0.28	0.73	0.73	0.44	0.44	0.36	0.22	0.17
Control Delay	57.9	1.3	57.2	48.5	27.6	27.6	2.7	44.3	1.3
Queue Delay	0.0	0.0	0.0	0.0	1.0	1.0	0.1	0.0	0.0
Total Delay	57.9	1.3	57.2	48.5	28.6	28.6	2.8	44.3	1.3
Queue Length 50th (ft)	170	0	125	128	187	188	32	21	0
Queue Length 95th (ft)	250	23	201	176	235	236	20	53	0
Internal Link Dist (ft)	727			547		224		295	
Turn Bay Length (ft)			360		150		150		25
Base Capacity (vph)	433	1930	299	617	654	658	1053	163	285
Starvation Cap Reductn	0	0	0	0	169	172	151	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.28	0.62	0.62	0.60	0.60	0.41	0.22	0.17

Intersection Summary

F – SIDRA Outputs

MOVEMENT SUMMARY

Site: 101 [WDSP_RAB_AM_2022WP_HCM6_1Ln_V6_Net2 (Site Folder: General)]

Network: N101 [2022_AM_NetworkV2 (Network Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
SouthEast: (NB) Main St														
3x	L2	501	2.0	501	2.0	0.433	7.6	LOS A	1.0	25.3	0.45	0.32	0.45	22.9
8x	T1	17	2.0	17	2.0	0.347	6.5	LOS A	0.7	18.3	0.41	0.28	0.41	14.6
18x	R2	385	2.0	385	2.0	0.347	6.5	LOS A	0.7	18.3	0.41	0.28	0.41	22.7
Approach		903	2.0	903	2.0	0.433	7.1	LOS A	1.0	25.3	0.44	0.30	0.44	22.7
NorthEast: (WB) Freedom St														
1x	L2	251	2.0	251	2.0	0.304	7.8	LOS A	0.4	11.4	0.50	0.50	0.50	16.9
6x	T1	239	2.0	239	2.0	0.304	7.1	LOS A	0.4	11.4	0.50	0.49	0.50	27.3
16x	R2	8	2.0	8	2.0	0.304	7.1	LOS A	0.4	11.4	0.50	0.49	0.50	20.4
Approach		498	2.0	498	2.0	0.304	7.5	LOS A	0.4	11.4	0.50	0.49	0.50	22.3
NorthWest: (SB) Western Dr														
7x	L2	23	2.0	23	2.0	0.150	7.4	LOS A	0.2	5.0	0.59	0.59	0.59	19.9
4x	T1	14	2.0	14	2.0	0.150	7.4	LOS A	0.2	5.0	0.59	0.59	0.59	11.8
14x	R2	58	2.0	58	2.0	0.150	7.4	LOS A	0.2	5.0	0.59	0.59	0.59	23.1
Approach		95	2.0	95	2.0	0.150	7.4	LOS A	0.2	5.0	0.59	0.59	0.59	21.3
SouthWest: (EB) Main St														
5x	L2	23	2.0	23	2.0	0.305	6.4	LOS A	0.5	12.6	0.43	0.34	0.43	21.5
2x	T1	153	2.0	153	2.0	0.305	6.4	LOS A	0.5	12.6	0.43	0.34	0.43	28.3
12x	R2	430	2.0	430	2.0	0.305	6.6	LOS A	0.5	13.5	0.48	0.41	0.48	22.2
Approach		607	2.0	607	2.0	0.305	6.6	LOS A	0.5	13.5	0.46	0.39	0.46	24.0
All Vehicles		2102	2.0	2102	2.0	0.433	7.1	LOS A	1.0	25.3	0.47	0.39	0.47	22.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [WDSP_RAB_PM_2022WP_HCM6_1Ln_V6_Net2 (Site Folder: General)]

Network: N101 [2022_PM_NetworkV2 (Network Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
SouthEast: (NB) Main St														
3x	L2	604	2.0	604	2.0	0.690	16.2	LOS C	3.2	81.8	0.81	1.07	1.51	18.3
8x	T1	21	2.0	21	2.0	0.466	10.0	LOS A	1.2	29.9	0.65	0.72	0.85	12.4
18x	R2	388	2.0	388	2.0	0.466	10.0	LOS A	1.2	29.9	0.65	0.72	0.85	19.7
Approach		1013	2.0	1013	2.0	0.690	13.7	LOS B	3.2	81.8	0.75	0.93	1.24	18.6
NorthEast: (WB) Freedom St														
1x	L2	377	2.0	377	2.0	0.593	18.4	LOS C	4.0	100.4	0.66	0.84	1.20	12.5
6x	T1	290	2.0	290	2.0	0.593	14.1	LOS B	1.8	44.6	0.73	0.91	1.27	22.1
16x	R2	5	2.0	5	2.0	0.593	14.1	LOS B	1.8	44.6	0.73	0.91	1.27	15.9
Approach		673	2.0	673	2.0	0.593	16.5	LOS C	4.0	100.4	0.69	0.87	1.23	16.9
NorthWest: (SB) Western Dr														
7x	L2	23	2.0	23	2.0	0.249	11.3	LOS B	0.3	8.7	0.72	0.73	0.75	17.5
4x	T1	37	2.0	37	2.0	0.249	11.3	LOS B	0.3	8.7	0.72	0.73	0.75	9.7
14x	R2	59	2.0	59	2.0	0.249	11.3	LOS B	0.3	8.7	0.72	0.73	0.75	20.6
Approach		118	2.0	118	2.0	0.249	11.3	LOS B	0.3	8.7	0.72	0.73	0.75	17.6
SouthWest: (EB) Main St														
5x	L2	70	2.0	70	2.0	0.654	14.7	LOS B	2.4	60.5	0.68	0.88	1.23	17.1
2x	T1	407	2.0	407	2.0	0.654	14.7	LOS B	2.4	60.5	0.68	0.88	1.23	22.5
12x	R2	671	2.0	671	2.0	0.654	14.4	LOS B	2.7	69.7	0.74	0.97	1.33	16.7
Approach		1147	2.0	1147	2.0	0.654	14.5	LOS B	2.7	69.7	0.72	0.93	1.29	19.1
All Vehicles		2951	2.0	2951	2.0	0.690	14.6	LOS B	4.0	100.4	0.72	0.91	1.24	18.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [WDSP_RAB_SAT_2022WP_HCM6_1Ln_V6_Net2 (Site Folder: General)]

Network: N101 [2022_SAT_NetworkV2 (Network Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
SouthEast: (NB) Main St														
3x	L2	592	2.0	592	2.0	0.567	10.7	LOS B	2.0	51.0	0.64	0.63	0.84	21.0
8x	T1	26	2.0	26	2.0	0.402	7.8	LOS A	0.8	21.3	0.53	0.43	0.53	13.7
18x	R2	393	2.0	393	2.0	0.402	7.8	LOS A	0.8	21.3	0.53	0.43	0.53	21.6
Approach		1012	2.0	1012	2.0	0.567	9.5	LOS A	2.0	51.0	0.59	0.55	0.71	21.0
NorthEast: (WB) Freedom St														
1x	L2	334	2.0	334	2.0	0.497	14.0	LOS B	1.3	32.5	0.59	0.71	0.93	14.1
6x	T1	260	2.0	260	2.0	0.497	11.0	LOS B	1.2	30.2	0.65	0.76	0.98	23.8
16x	R2	11	2.0	11	2.0	0.497	11.0	LOS B	1.2	30.2	0.65	0.76	0.98	17.4
Approach		604	2.0	604	2.0	0.497	12.6	LOS B	1.3	32.5	0.62	0.73	0.95	18.7
NorthWest: (SB) Western Dr														
7x	L2	13	2.0	13	2.0	0.171	9.1	LOS A	0.2	5.7	0.66	0.66	0.66	19.0
4x	T1	26	2.0	26	2.0	0.171	9.1	LOS A	0.2	5.7	0.66	0.66	0.66	10.9
14x	R2	51	2.0	51	2.0	0.171	9.1	LOS A	0.2	5.7	0.66	0.66	0.66	22.2
Approach		90	2.0	90	2.0	0.171	9.1	LOS A	0.2	5.7	0.66	0.66	0.66	19.5
SouthWest: (EB) Main St														
5x	L2	34	2.0	34	2.0	0.503	10.6	LOS B	1.0	25.0	0.54	0.55	0.69	19.1
2x	T1	263	2.0	263	2.0	0.503	10.6	LOS B	1.0	25.0	0.54	0.55	0.69	25.1
12x	R2	574	2.0	574	2.0	0.503	10.3	LOS B	1.4	35.1	0.62	0.68	0.84	19.3
Approach		871	2.0	871	2.0	0.503	10.4	LOS B	1.4	35.1	0.59	0.64	0.79	21.4
All Vehicles		2577	2.0	2577	2.0	0.567	10.5	LOS B	2.0	51.0	0.60	0.63	0.79	20.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [WDSP_RAB_AM_2040WP_HCM6_1Ln_V6_Net2 (Site Folder: General)]

Network: N101 [2040_AM_NetworkV2 (Network Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
SouthEast: (NB) Main St														
3x	L2	537	2.0	537	2.0	0.494	9.0	LOS A	1.2	29.8	0.55	0.44	0.55	22.0
8x	T1	17	2.0	17	2.0	0.390	7.4	LOS A	0.8	20.8	0.49	0.38	0.49	14.0
18x	R2	407	2.0	407	2.0	0.390	7.4	LOS A	0.8	20.8	0.49	0.38	0.49	21.9
Approach		961	2.0	961	2.0	0.494	8.3	LOS A	1.2	29.8	0.53	0.42	0.53	21.9
NorthEast: (WB) Freedom St														
1x	L2	307	2.0	307	2.0	0.394	10.1	LOS B	0.7	18.3	0.54	0.58	0.65	15.9
6x	T1	239	2.0	239	2.0	0.394	8.6	LOS A	0.7	18.3	0.56	0.60	0.67	25.5
16x	R2	8	2.0	8	2.0	0.394	8.6	LOS A	0.7	18.3	0.56	0.60	0.67	18.9
Approach		553	2.0	553	2.0	0.394	9.4	LOS A	0.7	18.3	0.55	0.59	0.66	20.5
NorthWest: (SB) Western Dr														
7x	L2	23	2.0	23	2.0	0.163	8.2	LOS A	0.2	5.4	0.63	0.63	0.63	19.3
4x	T1	14	2.0	14	2.0	0.163	8.2	LOS A	0.2	5.4	0.63	0.63	0.63	11.2
14x	R2	58	2.0	58	2.0	0.163	8.2	LOS A	0.2	5.4	0.63	0.63	0.63	22.5
Approach		95	2.0	95	2.0	0.163	8.2	LOS A	0.2	5.4	0.63	0.63	0.63	20.7
SouthWest: (EB) Main St														
5x	L2	23	2.0	23	2.0	0.388	8.0	LOS A	0.6	15.3	0.49	0.41	0.49	20.6
2x	T1	222	2.0	222	2.0	0.388	8.0	LOS A	0.6	15.3	0.49	0.41	0.49	27.0
12x	R2	474	2.0	474	2.0	0.388	8.0	LOS A	0.7	18.4	0.54	0.49	0.54	21.0
Approach		718	2.0	718	2.0	0.388	8.0	LOS A	0.7	18.4	0.52	0.46	0.52	23.2
All Vehicles		2327	2.0	2327	2.0	0.494	8.5	LOS A	1.2	29.8	0.53	0.48	0.56	21.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [WDSP_RAB_PM_2040WP_HCM6_1Ln_V6_Net2 (Site Folder: General)]

Network: N101 [2040_PM_NetworkV2 (Network Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
SouthEast: (NB) Main St														
3x	L2	441	2.0	441	2.0	0.534	11.9	LOS B	1.6	39.7	0.71	0.84	1.07	20.3
8x	T1	33	2.0	33	2.0	0.552	12.4	LOS B	1.7	43.0	0.72	0.87	1.12	11.3
18x	R2	424	2.0	424	2.0	0.552	12.4	LOS B	1.7	43.0	0.72	0.87	1.12	18.1
Approach		898	2.0	898	2.0	0.552	12.1	LOS B	1.7	43.0	0.72	0.85	1.09	19.2
NorthEast: (WB) Freedom St														
1x	L2	412	2.0	412	2.0	0.554	14.9	LOS B	3.2	80.6	0.60	0.75	1.00	13.7
6x	T1	300	2.0	300	2.0	0.554	11.7	LOS B	1.6	41.7	0.67	0.81	1.06	23.3
16x	R2	5	2.0	5	2.0	0.554	11.7	LOS B	1.6	41.7	0.67	0.81	1.06	17.0
Approach		717	2.0	717	2.0	0.554	13.6	LOS B	3.2	80.6	0.63	0.77	1.02	18.1
NorthWest: (SB) Western Dr														
7x	L2	23	2.0	23	2.0	0.227	10.0	LOS A	0.3	7.8	0.68	0.68	0.68	18.4
4x	T1	38	2.0	38	2.0	0.227	10.0	LOS A	0.3	7.8	0.68	0.68	0.68	10.5
14x	R2	59	2.0	59	2.0	0.227	10.0	LOS A	0.3	7.8	0.68	0.68	0.68	21.5
Approach		120	2.0	120	2.0	0.227	10.0	LOS A	0.3	7.8	0.68	0.68	0.68	18.4
SouthWest: (EB) Main St														
5x	L2	70	2.0	70	2.0	0.590	12.3	LOS B	2.1	52.7	0.70	0.86	1.12	18.3
2x	T1	470	2.0	470	2.0	0.590	12.3	LOS B	2.1	52.7	0.70	0.86	1.12	23.9
12x	R2	559	2.0	559	2.0	0.590	12.1	LOS B	2.1	53.9	0.69	0.84	1.10	17.9
Approach		1098	2.0	1098	2.0	0.590	12.2	LOS B	2.1	53.9	0.69	0.85	1.11	20.9
All Vehicles		2833	2.0	2833	2.0	0.590	12.4	LOS B	3.2	80.6	0.68	0.82	1.07	19.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [WDSP_RAB_SAT_2040WP_HCM6_1Ln_V6_Net2 (Site Folder: General)]

Network: N101 [2040_SAT_NetworkV2 (Network Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
SouthEast: (NB) Main St														
3x	L2	592	2.0	592	2.0	0.601	12.0	LOS B	2.4	61.3	0.70	0.79	1.06	20.3
8x	T1	27	2.0	27	2.0	0.464	9.1	LOS A	1.1	28.5	0.60	0.57	0.67	12.9
18x	R2	429	2.0	429	2.0	0.464	9.1	LOS A	1.1	28.5	0.60	0.57	0.67	20.4
Approach		1049	2.0	1049	2.0	0.601	10.7	LOS B	2.4	61.3	0.65	0.69	0.89	20.2
NorthEast: (WB) Freedom St														
1x	L2	368	2.0	368	2.0	0.543	15.6	LOS C	2.3	59.5	0.62	0.77	1.05	13.5
6x	T1	270	2.0	270	2.0	0.543	12.2	LOS B	1.5	37.1	0.68	0.82	1.10	23.1
16x	R2	11	2.0	11	2.0	0.543	12.2	LOS B	1.5	37.1	0.68	0.82	1.10	16.7
Approach		649	2.0	649	2.0	0.543	14.1	LOS B	2.3	59.5	0.65	0.79	1.07	17.8
NorthWest: (SB) Western Dr														
7x	L2	13	2.0	13	2.0	0.183	9.7	LOS A	0.2	6.1	0.68	0.68	0.68	18.6
4x	T1	27	2.0	27	2.0	0.183	9.7	LOS A	0.2	6.1	0.68	0.68	0.68	10.5
14x	R2	51	2.0	51	2.0	0.183	9.7	LOS A	0.2	6.1	0.68	0.68	0.68	21.7
Approach		91	2.0	91	2.0	0.183	9.7	LOS A	0.2	6.1	0.68	0.68	0.68	19.0
SouthWest: (EB) Main St														
5x	L2	34	2.0	34	2.0	0.577	12.5	LOS B	1.5	38.6	0.60	0.70	0.94	18.2
2x	T1	326	2.0	326	2.0	0.577	12.5	LOS B	1.5	38.6	0.60	0.70	0.94	23.9
12x	R2	625	2.0	625	2.0	0.577	12.2	LOS B	1.9	49.2	0.68	0.83	1.08	18.0
Approach		985	2.0	985	2.0	0.577	12.3	LOS B	1.9	49.2	0.65	0.78	1.03	20.3
All Vehicles		2774	2.0	2774	2.0	0.601	12.1	LOS B	2.4	61.3	0.65	0.75	0.97	19.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 102 [WDSP_Ford_AM_2022WP_HCM6_1Ln_V6_Net2 (Site Folder: General)]

Network: N101 [2022_AM_NetworkV2 (Network Folder: General)]

New Site
Site Category: (None)
Signals - EQUISAT (Pretimed) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
SouthEast: (NB) Main St														
3x	L2	24	2.0	24	2.0	* 0.090	14.8	LOS B	0.3	6.5	0.89	0.63	0.89	28.4
8x	T1	877	2.0	877	2.0	0.554	9.4	LOS A	4.3	110.2	0.80	0.69	0.80	30.0
Approach		901	2.0	901	2.0	0.554	9.5	LOS A	4.3	110.2	0.80	0.69	0.80	29.9
NorthWest: (SB) Main St														
4x	T1	676	2.0	676	2.0	* 0.646	10.6	LOS B	5.5	139.2	0.80	0.70	0.82	30.5
14x	R2	20	2.0	20	2.0	0.234	6.2	LOS A	1.3	34.1	0.67	0.55	0.67	31.2
Approach		696	2.0	696	2.0	0.646	10.5	LOS B	5.5	139.2	0.80	0.70	0.82	30.5
SouthWest: (EB) Ford St														
5x	L2	26	2.0	26	2.0	* 0.074	13.1	LOS B	0.3	6.6	0.84	0.60	0.84	23.9
12x	R2	36	2.0	36	2.0	0.036	5.6	LOS A	0.1	3.5	0.37	0.28	0.37	33.8
Approach		62	2.0	62	2.0	0.074	8.7	LOS A	0.3	6.6	0.57	0.41	0.57	30.4
All Vehicles		1659	2.0	1659	2.0	0.646	9.9	LOS A	5.5	139.2	0.79	0.68	0.80	30.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] ft	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. ft	Aver. Speed ft/sec
SouthEast: (NB) Main St											
9P	Full	54	12.0	LOS B	0.0	0.1	0.78	0.78	166.9	666.0	0.76
SouthWest: (EB) Ford St											
3P	Full	54	12.0	LOS B	0.0	0.1	0.78	0.78	161.3	642.0	0.75
All Pedestrians		109	12.0	LOS B	0.0	0.1	0.78	0.78	164.1	654.0	0.75

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [WDSP_Ford_PM_2022WP_HCM6_1Ln_V6_Net2 (Site Folder: General)]

Network: N101 [2022_PM_NetworkV2 (Network Folder: General)]

New Site
Site Category: (None)
Signals - EQUISAT (Pretimed) Isolated Cycle Time = 50 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
SouthEast: (NB) Main St														
3x	L2	50	2.0	50	2.0	* 0.235	20.3	LOS C	0.7	18.0	0.94	0.70	0.94	26.5
8x	T1	993	2.0	993	2.0	0.546	9.1	LOS A	5.7	145.1	0.73	0.64	0.73	30.2
Approach		1043	2.0	1043	2.0	0.546	9.6	LOS A	5.7	145.1	0.74	0.64	0.74	29.8
NorthWest: (SB) Main St														
4x	T1	1071	2.0	1071	2.0	* 0.856	17.2	LOS B	7.9	200.0	0.86	0.89	1.04	26.6
14x	R2	14	2.0	14	2.0	0.310	7.2	LOS A	2.6	66.6	0.63	0.54	0.63	30.6
Approach		1085	2.0	1085	2.0	0.856	17.1	LOS B	7.9	200.0	0.86	0.88	1.03	26.7
SouthWest: (EB) Ford St														
5x	L2	20	2.0	20	2.0	* 0.058	16.2	LOS B	0.2	6.1	0.84	0.59	0.84	22.4
12x	R2	25	2.0	25	2.0	0.031	10.2	LOS B	0.2	4.3	0.51	0.36	0.51	32.4
Approach		45	2.0	45	2.0	0.058	12.8	LOS B	0.2	6.1	0.65	0.47	0.65	28.8
All Vehicles		2173	2.0	2173	2.0	0.856	13.4	LOS B	7.9	200.0	0.80	0.76	0.88	28.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] ft	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. ft	Aver. Speed ft/sec
SouthEast: (NB) Main St											
9P	Full	54	16.8	LOS B	0.1	0.2	0.82	0.82	171.7	666.0	0.73
SouthWest: (EB) Ford St											
3P	Full	54	16.8	LOS B	0.1	0.2	0.82	0.82	166.2	642.0	0.73
All Pedestrians		109	16.8	LOS B	0.1	0.2	0.82	0.82	168.9	654.0	0.73

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [WDSP_Ford_SAT_2022WP_HCM6_1Ln_V6_Net2 (Site Folder: General)]

Network: N101 [2022_SAT_NetworkV2 (Network Folder: General)]

New Site
Site Category: (None)
Signals - EQUISAT (Pretimed) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
SouthEast: (NB) Main St														
3x	L2	37	2.0	37	2.0	* 0.139	14.9	LOS B	0.4	10.1	0.90	0.66	0.90	28.3
8x	T1	989	2.0	989	2.0	0.625	10.4	LOS B	5.2	132.0	0.84	0.73	0.84	29.2
Approach		1026	2.0	1026	2.0	0.625	10.6	LOS B	5.2	132.0	0.84	0.73	0.84	29.1
NorthWest: (SB) Main St														
4x	T1	917	2.0	917	2.0	* 0.867	18.3	LOS B	7.9	200.0	0.91	0.95	1.18	25.9
14x	R2	16	2.0	16	2.0	0.314	7.2	LOS A	2.0	50.7	0.70	0.59	0.70	30.5
Approach		934	2.0	934	2.0	0.867	18.1	LOS B	7.9	200.0	0.90	0.94	1.17	26.0
SouthWest: (EB) Ford St														
5x	L2	23	2.0	23	2.0	* 0.064	13.0	LOS B	0.2	5.8	0.84	0.60	0.84	23.9
12x	R2	30	2.0	30	2.0	0.033	8.2	LOS A	0.2	4.0	0.50	0.35	0.50	33.0
Approach		53	2.0	53	2.0	0.064	10.3	LOS B	0.2	5.8	0.64	0.46	0.64	29.9
All Vehicles		2013	2.0	2013	2.0	0.867	14.0	LOS B	7.9	200.0	0.86	0.82	0.99	27.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] ft	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. ft	Aver. Speed ft/sec
SouthEast: (NB) Main St											
9P	Full	54	12.0	LOS B	0.0	0.1	0.78	0.78	166.9	666.0	0.76
SouthWest: (EB) Ford St											
3P	Full	54	12.0	LOS B	0.0	0.1	0.78	0.78	161.3	642.0	0.75
All Pedestrians		109	12.0	LOS B	0.0	0.1	0.78	0.78	164.1	654.0	0.75

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [WDSP_Ford_AM_2040WP_HCM6_1Ln_V6_Net2 (Site Folder: General)]

Network: N101 [2040_AM_NetworkV2 (Network Folder: General)]

New Site
Site Category: (None)
Signals - EQUISAT (Pretimed) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
SouthEast: (NB) Main St														
3x	L2	24	2.0	24	2.0	* 0.090	14.8	LOS B	0.3	6.5	0.89	0.63	0.89	28.4
8x	T1	935	2.0	935	2.0	0.590	9.8	LOS A	4.8	121.0	0.82	0.71	0.82	29.6
Approach		959	2.0	959	2.0	0.590	10.0	LOS A	4.8	121.0	0.82	0.71	0.82	29.6
NorthWest: (SB) Main St														
4x	T1	775	2.0	775	2.0	* 0.738	12.6	LOS B	6.9	175.3	0.84	0.78	0.93	29.2
14x	R2	20	2.0	20	2.0	0.267	6.6	LOS A	1.6	40.7	0.68	0.57	0.68	30.9
Approach		795	2.0	795	2.0	0.738	12.4	LOS B	6.9	175.3	0.84	0.78	0.93	29.3
SouthWest: (EB) Ford St														
5x	L2	26	2.0	26	2.0	* 0.074	13.1	LOS B	0.3	6.6	0.84	0.60	0.84	23.9
12x	R2	36	2.0	36	2.0	0.038	6.6	LOS A	0.2	4.0	0.42	0.31	0.42	33.5
Approach		62	2.0	62	2.0	0.074	9.3	LOS A	0.3	6.6	0.60	0.43	0.60	30.2
All Vehicles		1815	2.0	1815	2.0	0.738	11.0	LOS B	6.9	175.3	0.82	0.73	0.86	29.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] ft	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. ft	Aver. Speed ft/sec
SouthEast: (NB) Main St											
9P	Full	54	12.0	LOS B	0.0	0.1	0.78	0.78	166.9	666.0	0.76
SouthWest: (EB) Ford St											
3P	Full	54	12.0	LOS B	0.0	0.1	0.78	0.78	161.3	642.0	0.75
All Pedestrians		109	12.0	LOS B	0.0	0.1	0.78	0.78	164.1	654.0	0.75

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [WDSP_Ford_PM_2040WP_HCM6_1Ln_V6_Net2 (Site Folder: General)]

Network: N101 [2040_PM_NetworkV2 (Network Folder: General)]

New Site
Site Category: (None)
Signals - EQUISAT (Pretimed) Isolated Cycle Time = 50 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
SouthEast: (NB) Main St														
3x	L2	50	2.0	50	2.0	* 0.235	20.3	LOS C	0.7	18.0	0.94	0.70	0.94	26.5
8x	T1	878	2.0	878	2.0	0.471	8.5	LOS A	4.6	117.5	0.70	0.61	0.70	30.7
Approach		928	2.0	928	2.0	0.471	9.1	LOS A	4.6	117.5	0.71	0.61	0.71	30.3
NorthWest: (SB) Main St														
4x	T1	995	2.0	995	2.0	* 0.796	14.4	LOS B	7.9	200.0	0.82	0.80	0.92	28.2
14x	R2	14	2.0	14	2.0	0.288	7.1	LOS A	2.4	60.8	0.62	0.53	0.62	30.7
Approach		1009	2.0	1009	2.0	0.796	14.3	LOS B	7.9	200.0	0.82	0.79	0.92	28.3
SouthWest: (EB) Ford St														
5x	L2	20	2.0	20	2.0	* 0.055	16.2	LOS B	0.2	6.1	0.84	0.59	0.84	22.4
12x	R2	25	2.0	25	2.0	0.030	9.0	LOS A	0.2	3.9	0.46	0.34	0.46	32.8
Approach		45	2.0	45	2.0	0.055	12.2	LOS B	0.2	6.1	0.63	0.45	0.63	29.0
All Vehicles		1982	2.0	1982	2.0	0.796	11.8	LOS B	7.9	200.0	0.77	0.70	0.82	29.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] ft	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. ft	Aver. Speed ft/sec
SouthEast: (NB) Main St											
9P	Full	54	16.8	LOS B	0.1	0.2	0.82	0.82	171.7	666.0	0.73
SouthWest: (EB) Ford St											
3P	Full	54	16.8	LOS B	0.1	0.2	0.82	0.82	166.2	642.0	0.73
All Pedestrians		109	16.8	LOS B	0.1	0.2	0.82	0.82	168.9	654.0	0.73

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [WDSP_Ford_SAT_2040WP_HCM6_1Ln_V6_Net2 (Site Folder: General)]

Network: N101 [2040_SAT_NetworkV2 (Network Folder: General)]

New Site
Site Category: (None)
Signals - EQUISAT (Pretimed) Isolated Cycle Time = 50 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
SouthEast: (NB) Main St														
3x	L2	37	2.0	37	2.0	* 0.174	20.1	LOS C	0.5	13.1	0.93	0.68	0.93	26.6
8x	T1	1026	2.0	1026	2.0	0.564	9.3	LOS A	6.0	152.3	0.74	0.65	0.74	30.0
Approach		1063	2.0	1063	2.0	0.564	9.7	LOS A	6.0	152.3	0.75	0.65	0.75	29.8
NorthWest: (SB) Main St														
4x	T1	1004	2.0	1004	2.0	* 0.806	14.7	LOS B	7.9	200.0	0.83	0.81	0.94	28.0
14x	R2	16	2.0	16	2.0	0.292	7.0	LOS A	2.4	61.4	0.62	0.53	0.62	30.7
Approach		1021	2.0	1021	2.0	0.806	14.6	LOS B	7.9	200.0	0.83	0.81	0.94	28.1
SouthWest: (EB) Ford St														
5x	L2	23	2.0	23	2.0	* 0.064	16.3	LOS B	0.3	7.2	0.84	0.60	0.84	22.4
12x	R2	30	2.0	30	2.0	0.037	9.1	LOS A	0.2	4.8	0.47	0.34	0.47	32.8
Approach		53	2.0	53	2.0	0.064	12.2	LOS B	0.3	7.2	0.63	0.45	0.63	29.1
All Vehicles		2137	2.0	2137	2.0	0.806	12.1	LOS B	7.9	200.0	0.78	0.72	0.83	28.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] ft	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. ft	Aver. Speed ft/sec
SouthEast: (NB) Main St											
9P	Full	54	16.8	LOS B	0.1	0.2	0.82	0.82	171.7	666.0	0.73
SouthWest: (EB) Ford St											
3P	Full	54	16.8	LOS B	0.1	0.2	0.82	0.82	166.2	642.0	0.73
All Pedestrians		109	16.8	LOS B	0.1	0.2	0.82	0.82	168.9	654.0	0.73

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.