Appendix K

Traffic Study

Draft Traffic Study for the Valley's Edge Specific Plan

Prepared for:
City of Chico

September 13, 2021

RS19-3793

FEHR PEERS

Table of Contents

Table of Contents

Appendices

List of Figures

List of Tables

I. INTRODUCTION

PURPOSE

This study analyzes the transportation impacts associated with the proposed Valley's Edge Specific Plan project (VESP or proposed project) located in Chico, CA.

Beginning on July 1, 2020, the provisions of SB 743 were applicable statewide. Consistent with the provision of SB 743, vehicle miles traveled (VMT) is the primary travel-related metric used to identify the project's significant transportation impacts under CEQA. Impacts to the bicycle, pedestrian, and transit network, as well emergency access and design features are also evaluated. Senate Bill (SB) 743 is described in greater detail under the "Policy Background" section of this report

This study also analyzes traffic operations under Existing, Near term Future (2025) and Cumulative Plus Project Conditions. Level of service (LOS) and delay are provided to help evaluate the project's consistency with General Plan policies and to understand how project trips would affect intersection operations. Therefore, this report does not identify significant intersection LOS impacts and mitigation measures. Instead, it identifies each intersections performance target and then determines whether the intersection meets the performance target for all analysis scenarios.

The project's analysis of VMT is presented in Section II followed by the LOS analysis in Sections III through VI.

OVERVIEW OF PROPOSED PROJECT

The VESP is proposed on approximately 1,448 acres located east of the Steve Harrison Bike Path, north of Skyway and Honey Run Road, and south of E 20th Street. The VESP proposes a mix of land uses including residential, commercial, public and open space. Proposed residential land uses include a mix of very-low, low, medium and medium-high density and incorporate single family, adult senior housing and multi-family units. Proposed commercial land uses include retail, office and medical office. Public land uses include an elementary school anticipated to accommodate up to 500 students. Lastly, the VESP includes over 680 acres of land for parks, recreation, and conservation. **Table 1** summarizes the Valley's Edge Specific Plan land use.

Vehicular project access is provided by Skyway and E. 20th Street with the project's primary vehicular access from Skyway. In addition, Honey Run Road is proposed as the primary access for 25 single family dwelling units in the southern portion of the project area. The internal roadway network is comprised of collector, local and typical residential streets. Bike and pedestrian pathways would extend along the entire western planning area edge, approximately 1.3 miles from Skyway to Stilson Canyon, connecting directly to the VESP internal trail system and accessing a variety of land uses. **Figure 1** shows the location of the VESP, the study area, and existing study intersections.

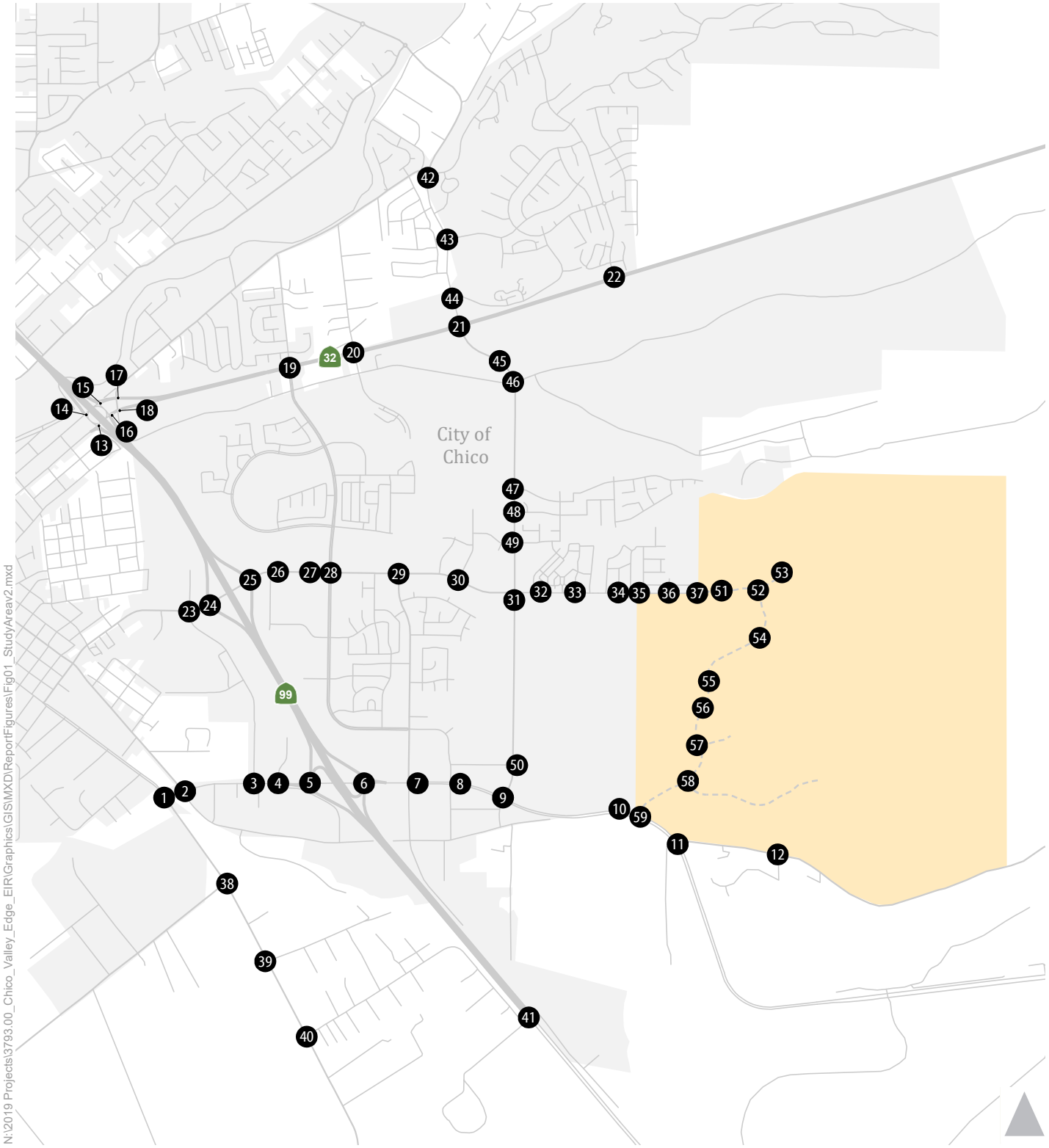


Figure 1

Study Area

Table 1: Valley's Edge Specific Plan Land Use

Land Use	Type	Description	Applied Zoning District	Acres	Land Use Detail[1]							
					Residential (Dwelling Units)			Employment (Square Feet)			Institutional (Students)	Open Space (Fields)
					Single Family		Multi-Family	Retail	Office		Elementary School	Community Park
					Market	Senior Adult			General	Medical		
Residential	VLDR	Very Low Density Residential	RS-VE	234.7	328	40						
	LDR	Low Density Residential	R1-VE	333.6	546	825						
		Low Density Residential	R1-SF-VE									
	MDR	Medium Density Residential	R2-VE	91.2	356	520						
	MHDR	Medium-High Density Residential	R3-VE	9.0			162					
Employment	V-COMM	Village Commercial	CN-VE, CC-VE	56.3				39,000	272,155	136,000		
Institutional	V-PQ	Public Quasi Public	PQ-VE	18.8							500	
Open Space	V-OS1	Primary Open Space	OS1-VE	46.3								
	V-OS2	Valley Open Space	OS2-VE	246.7								12
	R-OS	Regional Open Space	OS2-VE	371.2								
Infrastructure		Project Roadways	-	40.4								
Total				**1,448.3**	**1,230**	**1,385**	**162**	**39,000**	**272,155**	**136,000**	**500**	**12**
					2,777			**447,155**				

Notes:
[1]Detailed land use provided by applicant team (Transmitted via email on February 7, 2020 by Mike Sawley at City of Chico)
Source: Fehr & Peers, 2019

POLICY BACKGROUND

SENATE BILL 743

Senate Bill (SB) 743 was signed into law in 2013 and is leading to substantial changes in the way transportation impact analyses are being prepared. Notably, it precludes the use of LOS to identify significant transportation impacts in CEQA documents for land use projects, recommending instead that VMT be used as the preferred metric. On December 28, 2018, the CEQA Guidelines were amended to add Section 15064.3, Determining the Significance of Transportation Impacts, which states that generally, vehicle miles traveled is the most appropriate measure of transportation impacts. According to 15064.3(a), "*Except as provided in subdivision (b)(2) (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact*." Beginning on July 1, 2020, the provisions of 15064.3 shall apply statewide.

On December 18, 2019, the Third Appellate District Court of Appeal in the State of California issued a ruling on the *Citizens for Positive Growth & Preservation v. City of Sacramento* lawsuit. The plaintiff had challenged the City's adoption of its General Plan based on LOS instead of VMT for transportation impact identification. The court sided with the City stating that "Under Section 21099[1], subdivision (b)(2), existing law is that "automobile delay, as described solely by level of service, or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment under CEQA, except for roadway capacity projects". On this basis, the Court concluded that the General Plan's LOS determinations could not constitute a significant environmental impact.

For this report, both VMT and LOS are reported. LOS results are reported to provide decision-makers and the general public a better understanding of the effects the proposed project may have on the surrounding roadway network and the types of operational enhancements that could be considered to improve operations and safety. Presentation of LOS information also helps evaluate the project's consistency with the City, Butte County and Caltrans established level of service performance targets. VMT is used to identify the project's potentially significant transportation impacts in the EIR and is reported for use as inputs into other technical areas (e.g., greenhouse gas emissions, air quality, etc.).

[1] Public Resources Code section 21099 was promulgated and certified by the Secretary of the Natural Resources Agency and approved by the Office of Administrative Law on December 28, 2018, thereby enacting CEQA Guidelines section 15064.3.

CAMP FIRE

On November 8, 2018, the Camp Fire devastated the Town of Paradise and surrounding unincorporated areas of Butte County. As a result, traffic in the City of Chico changed overnight as Chico served displaced residents and functioned as a base for emergency services and disaster relief efforts. In a memorandum dated January 11, 2019, the City of Chico documented the change in traffic conditions due to the Camp Fire. The analysis of pre- and post-Camp fire traffic identified the following changes:

- Daily traffic volumes increased between 4% to 77%.
- On average, daily traffic volumes in the City of Chico increased 25%
- The growth in daily traffic was equivalent to the growth that would otherwise be expected to occur in 15 to 20 years, based on historic population growth
- Average PM peak hour travel speed on northbound SR 99 at Skyway decreased from about 56 miles per hour to about 29 miles per hour and the duration of peak travel conditions increased from about two to five hours
- Reported traffic collisions increased about 50%. By the fourth week in December 2018, reported collisions were similar to pre-Camp Fire conditions.

In the VESP study area, the analysis identified the following percent change in daily traffic volumes:

Roadway	**Segment**	**Percent Increase**
Bruce Road	North of Lakewest Drive	35%
Bruce Road	South of Humboldt Road	28%
E 20th Street	West of Whitman Avenue	77%
E 20th Street	West of Bruce Road	9%
E 20th Street	West of Forest Avenue	7%
Forest Avenue	South of Humboldt Road	45%
Notre Dame Boulevard	North of Skyway	55%
Skyway	West of Notre Dame Boulevard	39%

The impact of the Camp Fire on traffic in the City of Chico is diminishing with time as cleanup activities wrap up and the rebuilding of Paradise continues. However, it will be many years before traffic returns to what might be considered pre-Camp Fire levels.

Traffic counts for the transportation analysis of the VESP were collected in early May 2019 (May 7, 2019), about six months after the Camp Fire. Compared to traffic counts collected immediately following the Camp Fire (December 13, 2018), PM peak hour traffic volumes at the Skyway/Notre Dame Boulevard intersection (i.e., collected in May 2019) were about 7% higher, with the eastbound approach experiencing the largest increase (about 283 vehicles).

In addition to the changes noted above, the share of heavy vehicles (i.e., trucks) traveling in the study area, like Skyway, increased significantly as cleanup activities began. In May 2019, heavy vehicles represented between 11% and 16% during the AM peak hour and about 3% to 13% during the PM peak hour. The highest share of trucks occurred near Honey Run Road.

The conditions from May 2019, as represented by the traffic counts, which include cars and light trucks, heavy vehicles, pedestrian flows, and bicycle flows form the basis of the operations analysis presented in Sections II through V. Consequently, as traffic conditions change with the rebuilding of Paradise, the timing of the infrastructure modifications needed to accommodate the proposed project will also change and will depend on the level of development in the project and changes in background traffic. This is typical of development projects that occur over many years but made more acute with the significant changes occurring in Paradise. Therefore, ongoing monitoring of conditions will be needed to confirm the timing of identified modifications.

COVID-19

Transportation and mobility are being transformed through a number of forces ranging from new technologies, different personal preferences, and the unique effects of the current coronavirus disease 2019 (COVID-19) pandemic, the combination of which could alter traditional travel demand relationships in the near- and long-term future.

Furthermore, the current COVID-19 pandemic and subsequent actions by federal, state, and local governments to curtail mobility and encourage physical distancing (i.e., limit in-person economic and social interactions) has temporarily but profoundly changed travel conditions. While travel activity will likely return to some form of normality after government shelter-in-place orders are lifted and the pandemic has concluded, it is possible that some of these temporary changes will influence people's travel choices into the future, including either accelerating or diminishing some of the emerging trends in transportation that were already underway prior to the pandemic.

The traffic counts collected for the transportation analysis pre-date any response to the pandemic. In addition, the travel demand forecasts developed for the transportation of the proposed project do not account for the potential short-term or long-term behavioral changes that may be instituted to reduce the general public's exposure level to the virus moving forward. Although such measures (e.g. shifting to more telecommuting and virtual meetings) would tend to result in fewer average daily trips for most land uses, the degree that the changes would be implemented and their resilience over time is not known and cannot be predicted with a high degree of confidence.

REGULATORY SETTING

The City of Chico maintains jurisdiction over local roadways, intersections, and active transportation facilities surrounding the project site.

City of Chico General Plan (Adopted: April 2011, Amended: March 2017)

The City of Chico General Plan provides long-range direction and policies for the use of land within Chico. The Circulation Element of the General Plan provides the framework for achieving the City's transportation system goals. The Circulation Element outlines the goals and policies necessary for the City to achieve its vision of a multimodal transportation network that accommodates vehicles, transit, bicycles, and pedestrians. For the purposes of this EIR, the goals and policies of this document were used in developing the impact significance criteria.

The City of Chico General Plan includes the following policies and actions related to transportation that are applicable to the proposed project:

- Policy CIRC-1.1 (Transportation Improvements) – Safely and efficiently accommodate traffic generated by development and redevelopment associated with build-out of the General Plan Land Use Diagram.
    - Action CIRC-1.1.1 (Road Network) – Enhance existing roadways and intersections and develop the roadway system shown in Figure CIRC-1 (Roadway System Map) over the life of the General Plan as needed to accommodate development.
- Policy CIRC-1.2 (Project-Level Circulation Improvements) – Require new development to finance and construct internal and adjacent roadway circulation improvements as necessary to mitigate project impacts, including roadway, transit, pedestrian, and bicycle facilities.
- Policy CIRC-1.3 (Citywide Circulation Improvements) – Collect the fair share cost of circulation improvements necessary to address cumulative transportation impacts, including those to state highways, local roadways, and transit, pedestrian and bicycle facilities, through the City's development impact fee program.
- Policy CIRC-1.5 (Vehicle Miles Travelled Analysis) – Consistent with State law, implement Vehicle Miles Travelled (VMT) assessments as part of the environmental review process under CEQA.
    - Action CIRC-1.5.1 (VMT CEQA Analysis) – For projects that require a full traffic analysis as part of the CEQA review process, perform a VMT analysis consistent with the California Office of Planning and Research CEQA Guidelines.
- Policy CIRC-2.1 (Complete Streets) – Develop an integrated, multimodal circulation system that accommodates transit, bicycles, pedestrians, and vehicles; provides opportunities to reduce air pollution and greenhouse gas emissions; and reinforces the role of the street as a public space that unites the City.

  - Action CIRC-2.1.3 (Multimodal Connections) – Provide connections between and within existing and new neighborhoods for bicycles, pedestrians, and automobiles.
- Policy CIRC-2.2 (Circulation Connectivity and Efficiency) – Provide greater street connectivity and efficiency for all transportation modes.
  - Action CIRC-2.2.1 (Connectivity in Project Review) – New development shall include the following internal circulation features:
    - A grid or modified grid-based primary street system. Cul-de-sacs are discouraged, but may be approved in situations where difficult site planning issues, such as odd lot size, topography, or physical constraints exist or where their use results in a more efficient use of land, however in all cases the overall grid pattern of streets should be maintained;
    - Traffic-calming measures, where appropriate;
    - Roundabouts as alternative intersection controls, where appropriate;
    - Bicycle and pedestrian connections to adjacent streets, trails, public-spaces, and bicycle paths; and
    - Short block lengths consistent with City design standards.
  - Action CIRC-2.2.2 (Traffic Management) – Perform routine, ongoing evaluation of the street traffic control system, with emphasis on traffic management, such as signal timing and coordination or the use of roundabouts, to optimize traffic flow along arterial corridors and reduce vehicle emissions.
- Policy CIRC-3.3 (New Development and Bikeway Connections) – Ensure that new residential and non-residential development projects provide connections to the nearest bikeways.
  - Action CIRC-3.3.1 (Bikeway Requirements) – Require pedestrian and bicycle connections to the Citywide bikeway system every 500 feet, where feasible, as part of project approval and as identified in the Bicycle Master Plan.
- Policy CIRC-4.2 (Continuous Network) – Provide a pedestrian network in existing and new neighborhoods that facilitates convenient and continuous pedestrian travel free from major impediments and obstacles.
- Policy CIRC-5.3 (Transit Connectivity in Projects) – Ensure that new development supports public transit.
  - Action CIRC-5.3.2 (Transit Improvements for New Development) – During project review, consult with BCAG to determine appropriate requirements for the installation of stops and streetscape improvements, if needed to accommodate transit.

Draft Valley's Edge Specific Plan, Admin Draft: March 2020

The Valley's Edge Specific Plan includes Guiding Principles, Goals, and Actions to support implementation of the Specific Plan. For the purposes of this EIR, the goals actions of this document were used in evaluating the project against the identified thresholds of significance.

The Valley's Edge Specific Plan includes the following goals and actions related to transportation:

- Goal PTOS-3: Promote Outdoor Recreation & Complement Bid – Promote outdoor recreation by creating space and facilities which foster play, exercise, adventure, and social interaction. Strive to complement Bidwell Park by emulating cherished elements, such as Horseshoe Lake, hiking trails, biking trails, and space for equestrians, disc golfers, bird watchers, and outdoor enthusiasts.
    - Action PTOS-3.1 – Create a network of bike and pedestrian trails that connects the community, that enables safe and convenient access between land uses and places of interest, that fosters healthy outdoor experiences, and that reduces automobile reliance.
    - Action PTOS-3.5 – Design neighborhoods, trails, and parks to ensure that 100% of the homes in the project are within 350 yards of a park, trail, or open space element.
    - Action PTOS-3.9 – Create and maintain no less than 15 miles of open space biking, hiking, and multi-use trails for recreation, plan, and exercise.
- Goal C-1: Multimodal Circulation and Minimize Greenhouse Gas (GHG) Impacts – Minimize GHG impacts by providing a variety of transportation choices and incorporating features that result in vehicular trip reduction.
    - Action C-1.1 – Develop an integrated, multimodal circulation system that accommodates transit, bicycles, pedestrians, and vehicles: provides opportunities to reduce air pollution and greenhouse gas emissions; and reinforces the role of the street as a public space that unites the community.
    - Action C-1.2 – Promote non-vehicular travel by creating a network of Class I trails and improved surface trails that cater to residents' and children daily travel trips, safe and efficient routes of travel between residential areas and school, parks, shopping areas, service and employment areas.
    - Action C-1.3 – Promote increased trail usage by ensuring that 100% of the homes are within 350 yards of a connection to the overall trail network.
    - Action C-1.4 – Promote and encourage neighborhood electric vehicles (NEV's) by designing all roadways to accommodate their use.
    - Action C-1.5 – Minimize travel distance and transit efficiency by locating land uses serving the broader Chico community at the westerly edge of the project, directly accessible from the main collector roadway and the Class I trail system facilitating on and off-site connectivity.

  - Action C-1.6 – Promote electric vehicle usage by providing EV charging stations in public parking lots and in all multi-family projects, by providing 240V outlet in no less than 50% of all residential units, and by supporting electric bike and scooter rental services.
  - Action C-1.7 – Promote the use of bicycles as modal transportation by designing streetscapes and rest areas to provide shade, and by designing bike lanes, intersections, and roundabouts to enable safe passage.
  - Action C-1.8 – Create an intermodal park and ride lot along the western boundary of the project, served by both the major collector roadway and the Class I trail system.
  - Action C-1.9 – Ensure that sheltered transit stops are located as directed by BCAG and the City of Chico.
  - Action C-1.10 – Create enhanced trail with 6'-8' width for fire break on northern boundary of site.
- Goal DES-3: Plan, design, and create a fire-wise and resilient community – Integrate fire wise design, evacuation, and shelter elements to ensure preparedness for emergencies and natural disasters and minimize risk to people and infrastructure.
  - Action C-1.1 – Place and site homes in locations with adequate access and maneuverability for emergency vehicles.

The Caltrans maintains jurisdiction over the state highway system.

Caltrans Vehicle Miles Traveled-Focused Traffic Impact Study Guide, May 20, 2020

The Transportation Impact Study Guide provides guidance to Caltrans Districts, lead agencies, tribal governments, developers, and consultants regarding Caltrans review of a land use project or plan's transportation analysis using a VMT metric. As acknowledged, the guidance is not binding on public agencies, and it is intended to be a reference and informational document. Caltrans suggest use of OPR's recommended thresholds of significance for land use projects and may request mitigation from projects and plans that do not meet those thresholds. For the State Highway System, Caltrans may request targeted operational and safety analysis to address a specific geometric or operational issue.

STUDY AREA AND PERIODS

The study area includes 50 existing off-site intersections and 9 proposed on-site intersections. Existing intersections are operated and maintained by either the City of Chico (City), Butte County, or Caltrans. Intersections were analyzed for weekday AM and PM peak hour conditions under the following scenarios:

- Existing Conditions
- Near term Future (2025) Conditions
- Near term (2025) Future (2025) Plus Project Conditions
- Cumulative Plus Project Conditions

Due to the number of recently approved projects within the City, the effects of the project were only analyzed under a Near term Future (2025) scenario rather than the more traditional "Existing Plus Project" scenario. Therefore, the Existing Conditions analysis is provided for informational purposes only.

Freeway facilities were analyzed for weekday AM and PM peak hour conditions under Existing Conditions and Cumulative Plus Project Conditions.

EXISTING TRANSPORTATION NETWORK

This chapter describes the existing transportation network, including roadways, and bicycle, pedestrian and transit facilities, within the study area.

EXISTING ROADWAY SYSTEM

A network of local roadways and freeway facilities form the roadway system within the study area. Key roadways within the study area are described below.

- Bruce Road is a north-south arterial connecting residential areas north of State Route (SR) 32 and near E. 20th Street to the industrial and retail land use along Skyway. Bruce Road is currently a two-lane facility with a posted speed limit of 45 miles per hour (mph) in the project site area between E. 20th Street and Skyway. It becomes three lanes wide (two northbound lanes) between E. 20th Street and Picholine Way, and it is four lanes through some of the residential areas north of SR 32. However, the Bruce Road widening project is anticipated to be completed within the next few years and therefore, is analyzed as a four-lane roadway between Skyway and SR 32 under the Near term Future 2025 Scenarios.
- E. 20th Street is a major east-west arterial that begins to the west of Park Avenue, and continues east through SR 99 interchange to Bruce Road, where the roadway continues as a collector through residential development. E. 20th Street is a divided four lane roadway with channelized left turn pockets at major streets, a posted Class II bike lane, and a posted speed limit of 35 mph until Notre Dame Boulevard. East of Notre Dame Boulevard, E. 20th Street is primarily a two-lane roadway with a Class II bike lane and posted speeds between 25 mph and 35 mph.
- Skyway is a generally east-west arterial that provides access to SR 99 on the south end of Chico. On the east side of SR 99, Skyway connects Chico to smaller communities such as Paradise and Stirling City. Within the study area, Skyway is a four lane-facility with posted speed limits in the range of 35 to 45 mph. Skyway becomes E. Park Avenue west of SR 99.
- Notre Dame Boulevard is a north-south arterial through residential neighborhoods. It begins south of Skyway and currently terminates south of Little Chico Creek. Notre Dame Boulevard begins again north of Little Chico Creek and then transitions to El Monte Avenue. The roadway is primarily two lanes with a posted speed limit of 25 mph, except for a section between Forest Avenue and Skyway where it is four lanes and 35 mph.
- Raley Boulevard is currently a short east-west street segment between Forest Avenue and Bruce Road just north of Skyway. Raley Boulevard is two lanes wide and provides access to the Skyway Professional Center.

- State Route 32 (SR 32) is a California state highway connecting the City to Orland to the west and into the Sierra Nevada to the east. In the study area, SR 32 is a two-lane arterial with a posted speed limit between 45 mph and 55 mph.
- State Route 99 (SR 99) is a California state highway connecting the City to other cities in the region such as Red Bluff, Yuba City, and Sacramento. SR 99 also connects to the Interstate-5 freeway near Red Bluff and North Natomas. Within the study area, SR 99 is a four-lane freeway facility that connects to the City roadway network via interchanges at Skyway and at E. 20th Street.
- Midway is primarily a two-lane arterial that begins south of E. Park Avenue and provides a connection from the City to Durham and Richvale and ultimately dead ends at SR 162.

EXISTING BICYCLE SYSTEM

The following types of bicycle facilities exist within the study area:

- Class I – A Class I facility, commonly referred to as a Bikeway or Bike Path, is a facility separated from automobile traffic for the exclusive use of bicyclists. Class I facilities can be designed to accommodate other modes of transportation, including pedestrians and equestrians, in which case they are referred to as shared use paths.
- Class II – Class II facilities, commonly referred to as Bike Lanes, are dedicated facilities for bicyclists immediately adjacent to automobile traffic. Class II facilities are identified with striping, pavement markings and signage.
- Class III – Class III facilities, commonly referred to as Bike Routes, are on-street routes where bicyclists and automobiles share the road. They are identified with pavement markings and signage, and are typically assigned to low-volume and/or low-speed streets.

The proposed project site is currently served by a variety of bicycle facilities. Class II bike lanes exist on E. 20th Street and on segments of Bruce Road, Notre Dame Boulevard and Skyway. A Class I Bike Path (the Steve Harrison Memorial Bike Path) is adjacent to the proposed project site providing a connection from E. 20th Street to Skyway. **Figure 2** displays the bicycle facilities in the study area.

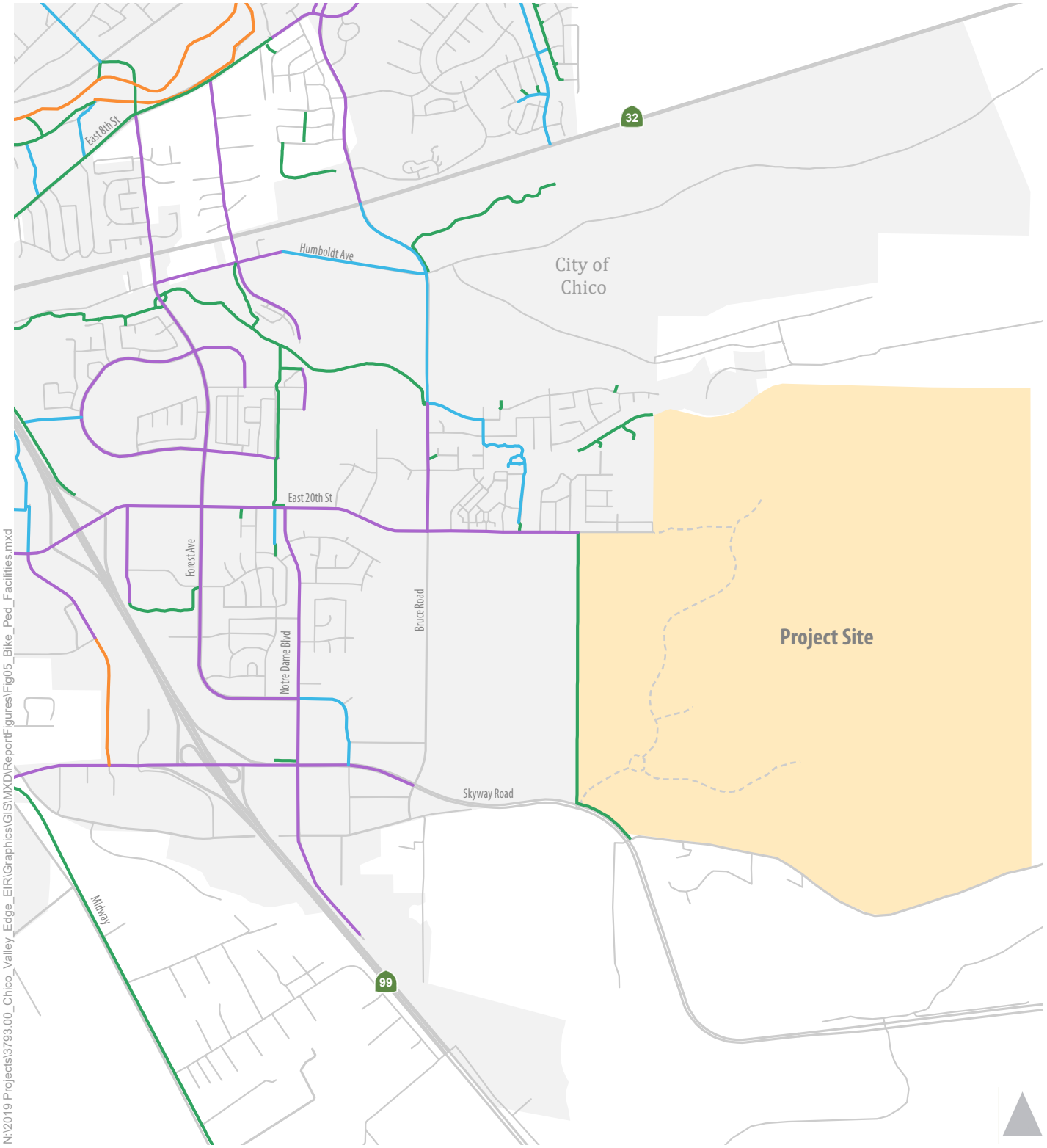


Figure 2

Existing Bicycle Facilities

EXISTING PEDESTRIAN SYSTEM

Crosswalks are present at local signalized intersections in the study area. Sidewalks are present along E. 20th Street west of Concord Avenue and east of Bruce Road and along most of Skyway. Sidewalks do not exist along most of Bruce Road between SR 32 and Raley Boulevard. **Figure 3** displays the existing pedestrian facilities and areas of missing sidewalks along key roadways within the study area.

EXISTING TRANSIT SYSTEM

Local Butte Regional Transit (B-Line) provides bus service in Chico and throughout Butte County. Seven B-Line Routes serve the study area, as displayed on **Figure 4** and described in **Table 2**.

Table 2: Existing Transit Service Schedule Summary

Route	Weekday		Saturday		Sunday	
	Freq. (min)	Span	Freq. (min)	Span	Freq. (min)	Span
5 - E. 8th Street	30 – 60	6:15 AM – 8:30 PM	60	8:15 AM – 7:00 PM	-	-
7 - Manzanita/Bruce	30 -180	6:45 AM – 5:30 PM	-	-	-	-
14 - Park/Forest/MLK	20 - 60	6:24 AM – 9:45 PM	60	7:50 AM – 6:45 PM	-	-
17 – Park/MLK/Forest	60	7:30 AM – 6:05 PM	60	8:30 AM – 6:05 PM	-	-
20 – Chico – Oroville	60 – 120	5:50 AM – 8:00 PM	120 - 150	7:50 AM – 6:00 PM	120 - 150	7:50 AM – 6:00 PM
40/41 – Chico/Paradise/Magalia[1]	30 - 150	6:35 AM – 7:20 AM	Varies	9:45 AM – 6:00 PM	-	-

[1] Reflects special Post Campfire Schedule.
Source: Butte Regional Transit, 2020

II. IMPACTS AND MITIGATION MEASURES

This chapter evaluates the significance of project impacts using the thresholds of significance described in the Introduction chapter. Refer to Appendix B for technical calculations.

PROJECT-SPECIFIC IMPACTS

THRESHOLDS OF SIGNIFICANCE

With respect to non-auto travel modes, a significant impact would occur if the project would:

1. Adversely affect existing or planned bicycle facilities or fail to adequately provide for access by bicycle.
2. Adversely affect existing or planned pedestrian facilities or fail to adequately provide for access by pedestrians.
3. Adversely affect public transit operations or fail to adequately provide for access by transit.
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
5. Result in inadequate emergency access.

With respect to the transportation system, a significant impact would occur if the project would:

6. Generate an average total VMT per service population[2] that is 85% or more of the existing average total VMT per service population for the Region.

The City has not yet adopted thresholds for VMT impacts. Therefore, this analysis applies a threshold based on guidance provided in OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018), which identifies that a reduction in vehicle travel that is 15% or more below existing baseline conditions may indicate a less than significant transportation impact. A 15% reduction in VMT is shown in the Technical Advisory to both be achievable and supported by evidence connecting this level of reduction to the State's long-term emissions goals. The use of VMT is a proxy for carbon dioxide equivalents (CO2e). Therefore, the utility of VMT for transportation analysis depends on the relationship between vehicle emissions of CO2e and VMT.

[2] Service population is defined as the sum of all residents, employees, and students within the designated area.

EVALUATION OF TRANSPORTATION SYSTEM IMPACTS (VMT)

***Impact TR-1*: The project would generate average total VMT per service population that is 88 % of the average total VMT per service population for the City of Chico.**

Table 3 illustrates how total average VMT per service population of the proposed project would compare to 85% of the total average VMT per service population for the Region. As shown, the proposed project would generate a total average VMT per service population lower than the Region.

Table 3: VMT Thresholds

Land Use	*Total Average Daily VMT*[1]	*Service Population*[2]	*Total Average VMT Per Service Population*	*VMT Threshold – 85% of Total Average VMT Per Service Population*	*VMT Threshold Exceeded?*
Region	10,450,229	342,511	30.5	25.9	Yes (101% of Threshold)
Valley's Edge Specific Plan	195,538	7,487	26.1		

Notes:
[1]Total Average Daily VMT – VMT forecasts were developed using a modified version of the Butte County Association of Governments (BCAG) travel demand forecasting (TDF) model that was developed for the preparation and analysis of the 2016 Regional Transportation Plan/Sustainable Communities Strategies. VMT occurring outside of the model area (i.e., outside Butte County) was estimated using data from the California Household Travel Survey (CHTS) to provide full accounting of VMT.
[2]Service Population – Service population includes total population, employees, and students.
Source: Fehr & Peers, 2020

The project's lower VMT per service population, relative to the Regional average, is due to many factors including the following:

- **Location** – The VESP is located adjacent to the City of Chico, which is VMT efficient relative to other communities in the region. A diverse land use mix that places jobs, goods, and service located close to where people live reduces VMT.
- **Land Use Diversity** – The VESP includes a mix of land use, including local-service commercial (Village Commercial) and an elementary school. Having a good housing-jobs balance within a relatively small area reduces VMT.
- **Senior Adult Residential** – The VESP includes 1,385 senior adult housing units (i.e., about 50% of total dwelling units). Senior adult housing generates about half of the daily trip generation of general market single family residential dwellings.
- **Medium-High Density Residential (Multi-Family)** – The VESP includes higher density residential land use, with an approximate density of 18 dwelling units per acre, that is located within walking distance to the Village Core and Village Commercial land use.

The results present in **Table 3** are based on VMT analysis using the modified version of BCAG's countywide travel demand forecasting model. The project's total average VMT per service population would exceed the VMT threshold by 1%. Therefore, this impact is considered **significant**.

Mitigation Measure TR-1

Mitigation measure TR-1 would reduce project-generated VMT per service population by instituting a Transportation Demand Management **(**TDM) program to reduce external vehicle trips generated by the proposed project. Requiring a TDM program to achieve a modest reduction in project VMT is feasible because it is within the applicant's purview to implement one or more VMT-reduction measures that have been shown to be effective in academic studies. Implementation of the following TDM strategies would reduce VMT by 1.4%:

- **TRT-3 Provide Ridesharing Program** – Implement ride match programs that assist potential carpoolers in finding other individuals with similar travel routes.
- **TRT-5 Provide End-of-Trip Bicycle Facilities** – Install and maintain end-of-trip facilities for employee and visitor use. End-of-trip facilities include bike parking, bike lockers, showers, and personal lockers.
- **TRT-7 Implement Commute Trip Reduction Marketing** – Implement a marketing strategy to promote project employers commute trip reduction program. The marketing strategy must include and on-site or online commuter information services, employee transportation coordinators, on-site or online transit pass sales, and guaranteed ride home services.

Existing evidence indicates that the effectiveness of TDM strategies with regard to vehicle trip reduction can vary based on a variety of factors, including the context of the surrounding built environment (e.g., urban versus suburban and rural) and the aggregated effect of multiple TDM strategies deployed together. Moreover, many TDM strategies are not just site-specific, but also rely on implementation and/or adoption by private entities (e.g., elective use of carpool program by office building tenants) and by residents to use non-automobile modes to travel outside the project. Therefore, effective mitigation will include development and implementation of a Transportation Demand Management (TDM) Plan to guide and monitor TDM Strategy implementation. Implementation of TDM strategies is available to reduce project generated VMT. With implementation, VMT impacts would be considered **less than significant**.

TR-1 The project applicant shall prepare and implement a Transportation Demand Management (TDM) Plan to guide implementation of TDM strategies for residential and commercial development, as outlined below, to achieve a reduction in total VMT per service population of at least 1%.

a) ***Travel Demand Management (TDM) Plan*** – Prior to approval of the first Tentative Map or Use Permit, the project applicant shall develop a TDM program for the entire specific plan and

shall submit the TDM program to the City of Chico Department of Public Works for review and approval. The TDM program shall be designed to reduce project generated VMT such that the project achieves a VMT/Service Population of 25.9 and to guide implementation of TDM strategies by individual residential and commercial development. The TDM may include off-site VMT reduction measures that would reduce VMT for other service population within the City to achieve a portion of the 1,288 miles per day, or other regional strategies like an impact fee program or a VMT mitigation bank/exchange.

b) ***TDM Plan Implementation (Residential)*** – Prior to approval of each Tentative Map, developers of individual residential projects shall demonstrate compliance with the TDM Plan by submitting an implementation strategy report to the City of Chico Department of Public Works for review and approval that implements the strategies outlined above (TRT-3, TRT-5, and TRT-7), or other strategy in the table below from the California Air Pollution Control Officers Association (CAPCOA) strategies, or other quantifiable strategies that are supported by substantial evidence to be implemented to reduce project generated VMT.

CAPCOA Strategy		
Category	***Measure/Grouping[1]***	***Strategy Description***
Land Use/Location	LUT-5	Increase Transit Accessibility
	LUT-7	Orient Project Toward Non-Auto Corridor
	LUT-8	Locate Project near Bike Path/Bike Lane
	LUT-9	Improve Design of Development
Neighborhood Site Enhancements	SDT-1	Provide Pedestrian Network Improvements
	SDT-2	Provide Traffic Calming Measures
	SDT-5/LUT-9	Incorporate Bike Lane Street Design (on-site)
	SDT-7/LUT-9	Provide Bike Parking in Multi-Unit Residential Projects
	SDT-9/LUT-9	Dedicate Land for Bike Trails
Parking Policy/Pricing	PDT-1	Limit Parking Supply
	PDT-2	Unbundle Parking Cost from Property Cost
	PDT-4/PDT-1-3	Require Residential Area Parking Permits
Commute Trip Reduction	TRT-3	Provide Ride Sharing Programs
	TRT-4	Implement Subsidized or Discounted Transit program
	TRT-5/TRT-1-2	Provide End of Trip Facilities
	TRT-7	Implement Commute Trip Reduction Marketing
	TRT-8/TRT-1-2	Implement Preferential Parking Permit Program
	TRT-9	Implement Car-Sharing Program
	TRT-10	Implement School Pool Program
	TRT-13	Implement School Bus Program
Transit System	TST-5/TST-3-4	Provide Bike Parking Near Transit
Road Pricing/Management	RPT-4	Install Park-and-Ride Lots Near Transit Stops
Source: *Quantifying Greenhouse Gas Mitigation Measures*, CAPCOA 2010 Fehr & Peers, 2020		

c) ***TDM Plan Implementation (Non-Residential)*** – Prior to approval of each Use Permit, developers of individual non-residential projects shall demonstrate compliance with the TDM Plan by submitting an implementation strategy report to the City of Chico Department of Public Works for review and approval that implements the strategies outlined above (TRT-3, TRT-5, and TRT-7), or other strategy in the table below from the California Air Pollution Control Officers Association (CAPCOA) strategies, or other quantifiable strategies that are supported by substantial evidence to be implemented to reduce project-generated VMT.

CAPCOA Strategy		
Category	***Measure/Grouping[1]***	***Strategy Description***
Land Use/Location	LUT-5	Increase Transit Accessibility
	LUT-7	Orient Project Toward Non-Auto Corridor
	LUT-8	Locate Project near Bike Path/Bike Lane
	LUT-9	Improve Design of Development
Neighborhood Site Enhancements	SDT-1	Provide Pedestrian Network Improvements
	SDT-2	Provide Traffic Calming Measures
	SDT-5/LUT-9	Incorporate Bike Lane Street Design (on-site)
	SDT-6/LUT-9	Provide Bike Parking in Non-Residential Projects
	SDT-9/LUT-9	Dedicate Land for Bike Trails
Parking Policy/Pricing	PDT-1	Limit Parking Supply
	PDT-2	Unbundle Parking Cost from Property Cost
	PDT-4/PDT-1-3	Require Residential Area Parking Permits
Commute Trip Reduction	TRT-3	Provide Ride Sharing Programs
	TRT-4	Implement Subsidized or Discounted Transit program
	TRT-5/TRT-1-2	Provide End of Trip Facilities
	TRT-7	Implement Commute Trip Reduction Marketing
	TRT-8/TRT-1-2	Implement Preferential Parking Permit Program
	TRT-9	Implement Car-Sharing Program
	TRT-10	Implement School Pool Program
	TRT-13	Implement School Bus Program
Transit System	TST-5/TST-3-4	Provide Bike Parking Near Transit
Road Pricing/Management	RPT-4	Install Park-and-Ride Lots Near Transit Stops

Source:
Quantifying Greenhouse Gas Mitigation Measures, CAPCOA 2010
Fehr & Peers, 2020

EVALUATION OF BICYCLE IMPACTS

Impact TR-2: The proposed project would generate demand for bicycle facilities.

The proposed project includes a comprehensive network of on-site bicycle facilities that would generate substantial travel by bicycle within the plan area for recreation as well as provide bicycle access to all land uses within the plan area. Further, the project would not adversely affect existing or planned bicycle facilities identified in the Chico Bicycle Plan 2019 Update (Bicycle Plan). Therefore, the project is consistent with the following goals identified in the Bicycle Plan.

- Goal 1: Design and implement a complete bikeway network that connects people with the places they want to go, and supports bicyclists of all ages, ethnicities, incomes and abilities.
- Goal 2: Improve safety, efficiency, and comfort for bicyclists on the bikeway network.
- Goal 4: Provide and plan for bicycle facilities during land development review.
- Goal 5: Promote bicycling as a part of the multimodal transportation system.
- Goal 7: Encourage and support both recreational and utilitarian use of the bikeway network.

The City of Chico General Plan Circulation Element identifies numerous policies aimed at expanding and maintaining a comprehensive, safe, and integrated bicycle system throughout the City that encourages bicycling Policy CIRC-3.1, which supports implementation of the City's Bicycle Master Plan including Action CIRC-3.1.1 the targets incorporation of bicycle facilities into private development projects; Policy CIRC-3.3 ensure new residential projects provide connections to the nearest bikeways; Policy CIRC-3.4, which includes actions to improve safety, efficiency, and maintenance of bicycle facilities.

The VESP includes numerous actions that support recreation and trip making by non-auto modes, including walking. Specifically, Action PTOS 3.1 would create a network of bike and pedestrian trails, Action C-1.1 would develop an integrated, multimodal circulation system, Action C-1.2 would promote the creation of non-vehicle trails between complementary land uses (e.g., homes, schools, and services), Action C-17 would promote the bicycle travel through supportive design concepts, and Action C-1.3 supports increased trail use by placing homes close to trail connections.

The project proposes adequate bicycle access by incorporating a robust bicycle network consisting of the following:

- Class I Paths: Approximately five miles of paved Class I Bike Paths which would connect open space corridors with residential areas, commercial areas, and the Village Core. Multiple trailheads provide direct and convenient access to and from the community park, elementary school, and other gathering places along the western project boundary. These bike paths are intended to be used as year-round transportation and recreational corridors.
- Paseo Trails: Approximately one mile of Paseo Trails is proposed. Paseo trails are transitional corridors which include context appropriate lighting and landscaping and provide connectivity between the respective residential neighborhoods as well as transitions to other land uses.
- Enhanced Trails: Approximately four miles of Enhanced Trails are proposed. Enhanced trails are improved with hardened natural surfaces such as gravel or decomposed granite and promote recreation while providing connectivity to the Class I network.

The Project's bike and pedestrian pathways will extend along the entire western planning area edge (about 1.3 miles from Skyway to Stilson Canyon), that will connect to the Project's trail system and the Steve Harrison Memorial Bike Path. In addition, informational kiosks would be placed at key locations to provide wayfinding and educate trail users on their surroundings and key elements. Bicycle racks would also be placed throughout the VESP, specifically within the Village Core and Village Commercial areas. Overall, the project proposes over 23 miles of trails within the open space framework, excluding sidewalks, paseos and Class II bike lanes which can be used for bicycle use. Future development within the VESP would also be subject to payment of development impact fees per Municipal Code Section 3.85, which would provide additional funding for bicycle facilities in the City. Due to the project's proposed extensive bicycle network and because the project would not adversely affect existing or planned bicycle facilities and is consistent with the Chico Bicycle Plan 2019 Update, this impact is considered **less than significant**.

EVALUATION OF PEDESTRIAN IMPACTS

Impact TR-3: The proposed project would generate demand for pedestrian facilities.

The VESP includes numerous actions that support recreation and trip making by non-auto modes, including walking. Specifically, Action PTOS 3.1 would create a network of bike and pedestrian trails, Action C-1.1 would develop an integrated, multimodal circulation system, and Action C-1.3 supports increased trail use by placing homes close to trail connections.

The City of Chico General Plan Circulation Element identifies numerous policies aimed at creating complete streets and providing a safe, connected pedestrian network including Policy CIRC-1.2, which requires new development to finance and construct internal and adjacent roadway circulation improvements to mitigate project impacts; Policy CIRC-2.1, which includes developing an integrated, multimodal circulation system that accommodates transit, bicycles, pedestrians, and vehicles and Policy CIRC-2.2 and Action CIRC-2.2.1, which encourages greater street connectivity and efficiency for all transportation modes; Policy CIRC-3.3 and Policy CIRC-4.2 ensure new residential projects provide connections to the nearest bikeways and provides a pedestrian network in new neighborhoods.

The project proposes sidewalks along all collector and residential streets within the VESP and the project provides an extensive combination of Class I Paths and Trails, previously described, and provides an extensive and connected pedestrian network consistent with the City's goals. However, Planning Area 19 of the Specific Plan (PA-19) would gain access from Honey Run Road, which lacks sidewalks. The only pedestrian access to the rest of the plan area would be provided by nature trails that are internal to the Specific Plan and are not direct. This is considered a **significant impact**.

***Mitigation Measure TR-2*: The project applicant shall implement the following measures:**

Compliance with this mitigation would ensure pedestrian and bicycle access would be provided throughout the entire plan area. With this mitigation the impact is considered **less than significant**.

The project applicant shall construct a Class I Bike Path/Multi-use Trail on the north side of Honey Run Road between the project access to PA-19 to the existing Class I Bike Path that connects Honey Run Road to the Steve Harrison Memorial Bike Path.

EVALUATION OF TRANSIT IMPACTS

***Impact TR-4*: The proposed project would generate demand for transit facilities.**

B-Line receives funding from state sources (Transit Development Act [TDA] funds), federal sources (Federal Transportation Administration), and through fare collection. State and federal funds are generally allocated based on population, with a portion of TDA funds derived from a ¼-cent general sales tax and a sales tax on diesel fuel. Therefore, development of the proposed project would increase funding for transit, through these sources, because of population growth. Butte Regional Transit's 2019/2020 operating budget identifies proposed non-operating revenue from state and federal sources totaling about $8.6 million.

The need to extend the B-Line to serve more areas accessible to the VESP would be a function of demand and up to Butte Regional Transit as part of an evaluation of the overall transit system. As outlined above, transit routes near the proposed project generally have low demand and productivity. Therefore, excess seating and standing capacity would be available.

In order to accommodate the potential extension of transit service to serve the project, the VESP includes actions that would support and accommodate transit service. Specifically, Action C-1.5 promotes locating commercial land uses at the western edge of the plan area to facilitate public access by transit to the project's commercial land use; Action C-1.8 creates a park-and-ride lot in the western part of the project site to encourage use of transit; and Action C-1.9 addresses the placement of transit stops.

The VESP proposes bus stops that would be included in the Village Core and at the elementary school and community park with final designs and locations to be determined in coordination with BCAG at the time of improvement. In addition, a park and ride lot would also be located at the community park and would act as a hub for commuters and carpooling. The proposed project is designed to encourage and support access to transit, so it would not adversely affect public transit operations or fail to adequately provide access to transit. Therefore, this impact is considered **less than significant**.

EVALUATION OF IMPACTS DUE TO HAZARDOUS DESIGN FEATURES

***Impact TR-5*: The proposed project would construct new roadways to serve planned growth and connect to existing transportation facilities, which could create hazards related to design features (e.g., sharp curves or dangerous intersections).**

As described in Chapter 2, Project Description, the proposed project would create new roadway connections to the City's existing roadway network, including connections to E. 20th Street in the north, and Skyway and Honey Run Road in the south. The City's Code of Ordinances Title 18R – Design Criteria and Improvement Standards includes design criteria to ensure that residential subdivisions and non-subdivision public right-of-way and private street improvements are designed to meet or exceed uniform levels of sound engineering practice. The design criteria address speed, sight distance, minimum and maximum roadway grade, minimum curve radius, and lighting. As part of general engineering practice, all roadway facilities would also be designed to meet applicable industry standards from the Caltrans Highway Design Manual (HDM), the California Manual on Uniform Traffic Control Devices (CAMUTCD), and The American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Streets. Each development application would be subject to review and approval by the City, including the City's Fire Department which would include a review of the project's consistency with the City's design criteria to ensure safe vehicle access is provided, including for emergency vehicles. Therefore, implementation of the proposed project would not substantially increase hazards due to design features or incompatible uses and this impact is considered **less than significant**.

EVALUATION OF IMPACTS DUE TO INADEQUATE EMERGENCY ACCESS

***Impact TR-6*: The proposed project would require emergency access.**

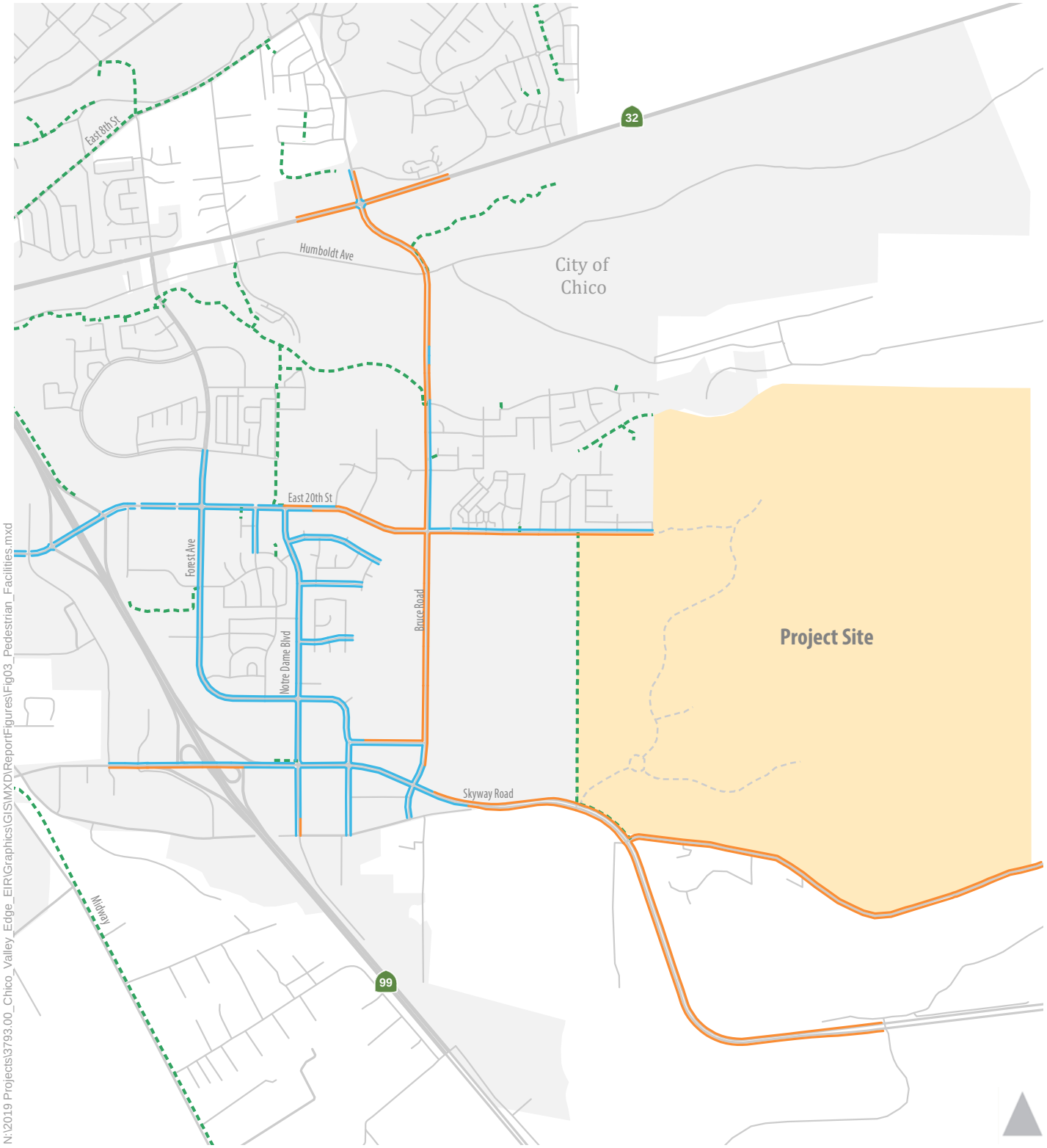
The VESP would include direct roadway connections to E. 20th Street, Skyway, and Honey Run Road as primary emergency access routes. Three potential secondary emergency access locations would be provided in/out of the project site by way of the Steve Harrison Memorial Bike Path (two locations) with vehicle access controlled by bollards to prevent unauthorized access, with the third from Honey Run Road just east of Skyway. Roadways and trailheads along the VESP's Class I and enhanced trail system(s) would create open space access points for emergency equipment. A fire access road is proposed in the eastern portion of the project site that would provide a north/south connection.

The Chico Fire-Rescue Department (CFD) maintains minimum requirements for emergency access, which include minimum roadway width and turning radii for fire apparatus. All roadways would be designed to meet these standards. Each subdivision and building permit application would be subject to review and approval by the City, including CFD to ensure specific roadway design and access

standards are met. The CFD reviewed the project's proposed circulation plan to ensure adequate access is provided throughout the entire plan area.

The City's General Plan Safety Element identifies Action S-4.1.1, which requires the CFD to strive to obtain an initial response time of five and a half minutes or less for at least 90% of fire emergency calls in urbanized areas. The closest CFD fire station (Station 4) to the proposed project is located approximately one mile west of the project site on Notre Dame Boulevard. Emergency response time from this station would be less than five minutes to access the project site.

Therefore, implementation of the proposed project would not result in inadequate emergency access and the impact is **less than significant**.



Note: Sidewalks not shown outside project vicinity and residential roadways.

Figure 3

Existing Pedestrian Facilities

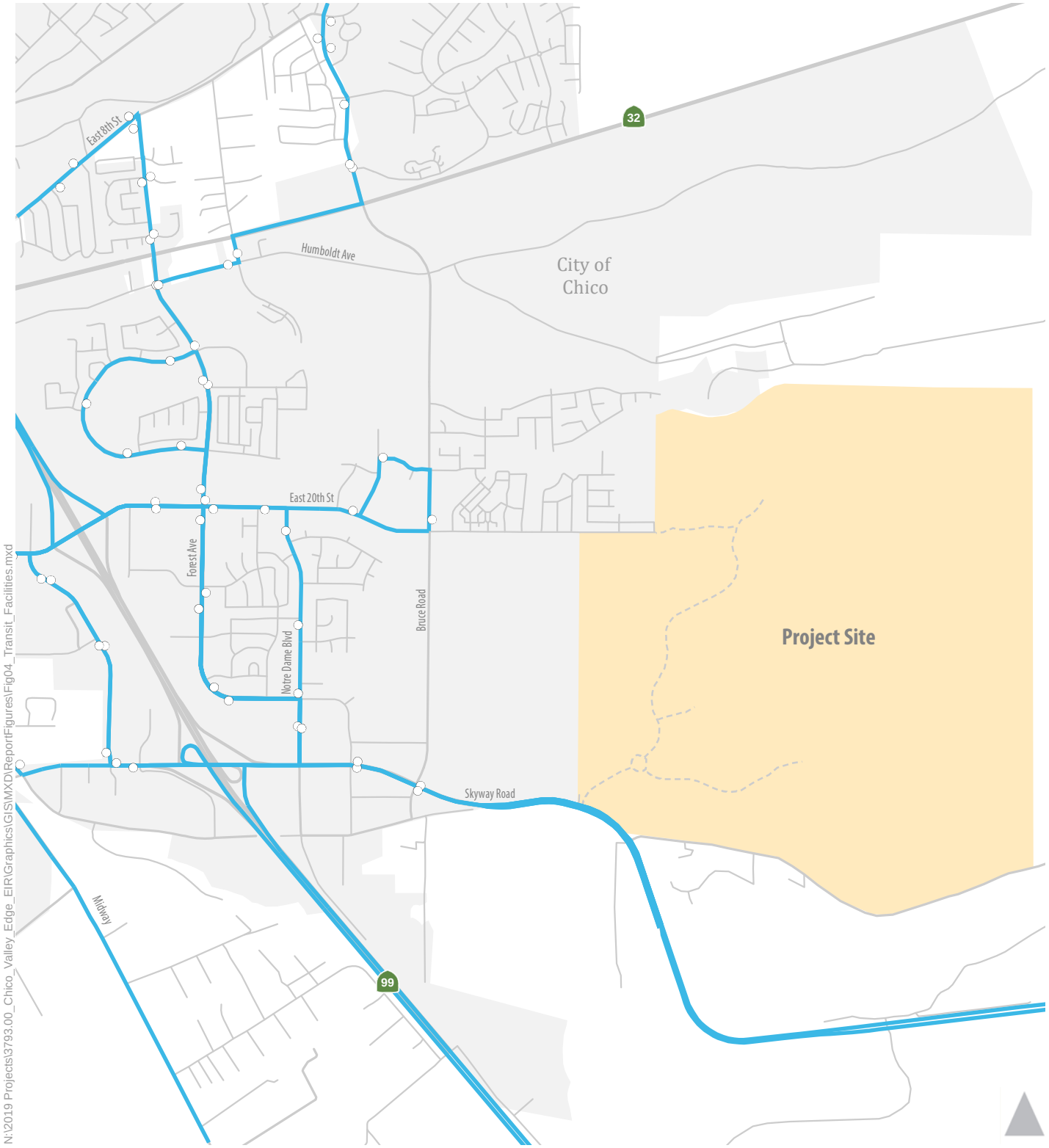


Figure 4

Existing Transit Facilities

III. EXISTING TRAFFIC OPERATIONS

This chapter describes the existing operations of study intersections and freeway facilities. While not needed for CEQA, level of service (LOS) and delay are provided to help evaluate the project's consistency with General Plan policies and to understand how project trips would affect traffic operations.

ANALYSIS METHODOLOGIES (INTERSECTIONS AND FREEWAYS)

INTERSECTION OPERATIONS

The study intersections were analyzed using procedures and methodologies contained in the *Highway Capacity Manual – 6th Edition* (Transportation Research Board, 2016). These methodologies were applied using Synchro 10 software, which considers traffic volumes, lane configurations, signal timings, signal coordination and other pertinent parameters of intersection operations.

The following describes specific inputs, model parameters, and other aspects of the Synchro modeling, based on data provided by the City of Chico and Caltrans, and collected by Fehr & Peers.

- Existing roadway geometrics and intersection lane configurations.
- The peak hour factor (PHF) observed at each intersection during the AM and PM peak hours was used. The PHF, which is a measure of peaking (lower values represent more peaking) during the busiest 15-minutes of the hour, ranges from 0.42 to 0.98 during the AM peak hour and 0.54 to 0.98 during the PM peak hour.
- The heavy vehicle percentage observed at each intersection during each peak hour was used. The heavy vehicle percentage ranges from 0% to 16% during the AM peak hour and 0% to 13% during the PM peak hour.
- Pedestrian and bicycle volumes based on counts (observed at each intersection).
- Signal timing information based on data provided by the City of Chico and Caltrans. Please note, signal timing sheets for intersections 9, 11, 26, 28 and 46 were not provided. Signal timing information collected for the Stonegate project was used for intersections 9, 26 and 28. Synchro optimized cycle lengths and splits was used for intersections 9 and 46.
- Traffic counts for intersection 47 (Bruce Road/Picholine Way) were collected before the west leg was open. Because the west leg is now open, we assumed 5 vehicles per movement (to/from Concord Avenue) during each peak hour.

- Intersections 13-16 are clustered intersections as they share a control box. *HCM 6th Edition* is unable to calculate intersection LOS and delay for clustered intersections; therefore, HCM 2000 intersection delay and level of service is reported.

LEVEL OF SERVICE DEFINITION

Each study intersection was analyzed using the concept of Level of Service (LOS). LOS is a quantitative measure of traffic operating conditions whereby a letter grade from A (the best) to F (the worst) is assigned. In general, LOS A represents free-flow conditions with no congestion and LOS F represents severe congestion and delay under stop-and-go conditions.

A LOS grade is assigned to each intersection based on the methodologies contained in the *Highway Capacity Manual 6th Edition (HCM)*, Transportation Research Board, 2016. The *HCM* methodology determines the LOS at signalized intersections by comparing the weighted average control delay per vehicle at the intersection. At side-street stop-controlled intersections, LOS is calculated for each movement in addition to the intersection as a whole. **Table 4** presents delay ranges for each LOS for stop and signal-controlled intersections.

Table 4: Level of Service Definitions for Study Intersections

Level of Service	Average Control Delay (seconds/vehicle)	
	Unsignalized	Signalized
A	≤ 10	≤ 10
B	> 10 to 15	> 10 to 20
C	> 15 to 25	> 20 to 35
D	> 25 to 35	> 35 to 55
E	> 35 to 50	> 55 to 80
F	> 50	> 80

Source: *Highway Capacity Manual*, Transportation Research Board, 2016

INTERSECTION PERFORMANCE TARGETS

Roadways and intersections within the study area are operated and maintained by either the City, Butte County, or Caltrans. The City of Chico, Butte County, and Caltrans have adopted policy standards for intersection operations, which include LOS. As previously noted, LOS will not be used to describe significant impacts for CEQA purposes. However, LOS is still important for understanding how intersections will operate in the future and to assist in determining General Plan consistency. **Table 5** displays the LOS targets for each intersection, which are based on local policies and/or standards identified in the Caltrans Transportation Corridor Concept Report for SR 99 and SR 32.

Table 5: Study Intersection Performance Targets		
Intersection	**Jurisdiction**	**Level of Service Target**
1. Midway/Park Ave/ E Park Ave	City of Chico	E
2. Fair Street/E Park Ave	City of Chico	E
3. S Whitman Pl/Dr. Martin Luther King Jr Pkwy/E Park Ave	City of Chico	E
4. Skyway/Country Dr/Carmichael Dr	City of Chico	E
5. Skyway /SR 99 SB Ramps	Caltrans	F
6. Skyway/SR 99 NB Ramps	Caltrans	F
7. Skyway/Notre Dame Blvd	City of Chico	E
8. Skyway/Zanella Way/Forest Ave	City of Chico	E
9. Skyway/Dominic Dr/Bruce Rd	City of Chico	E
10. Skyway/Potter Rd	City of Chico	E
11. Skyway/Longest Dr/Honey Run Rd	City of Chico	E
12. Horse Run Ln/Honey Run Rd	City of Chico	D
13. SR 32/SR 99 SB On-Ramp	Caltrans	F
14. SR 32/SR 99 SB Off-Ramp	Caltrans	F
15. SR 32/SR 99 NB On-Ramp	Caltrans	F
16. SR 32/SR 99 NB Off-Ramp	Caltrans	F
17. SR 32/N Fir St	Caltrans	E
18. SR 32/ S Fir St	Caltrans	E
19. SR 32/Forest Ave	Caltrans	E
20. SR 32/El Monte Ave	Caltrans	E
21. SR 32/Bruce Rd	Caltrans	E
22. SR 32/Yosemite DR	Caltrans	E
23. E 20th St/Dr. Martin Luther King Jr Pkwy	City of Chico	E
24. E 20th St/SR 99 SB Ramp	Caltrans	F
25. E 20th St/SR 99 NB Ramp	Caltrans	F
26. E 20th St/Mall Dwy*	City of Chico	E
27. E 20th St/Target Dwy*	City of Chico	E
28. E 20th St/Forest Ave	City of Chico	E
29. E 20th St/Notre Dame Blvd	City of Chico	E
30. E 20th St/Concord Ave	City of Chico	E
31. E 20th St/Bruce Rd	City of Chico	E
32. E 20th St/Belgium Ave	City of Chico	D
33. E 20th St/Roth St	City of Chico	D
34. E 20th St/Poppy View Terrace	City of Chico	D
35. E 20th St/Potter Rd	City of Chico	D
36. E 20th St/Autumnfields Way	City of Chico	D
37. E 20th St/Dawncrest Dr	City of Chico	D
38. Midway/Hegan Ln	City of Chico	E
39. Midway/Speedway Ave	City of Chico	E

Table 5: Study Intersection Performance Targets		
Intersection	**Jurisdiction**	**Level of Service Target**
40. Midway/Entler Ave	City of Chico	E
41. SR 99/Southgate Ave	Caltrans	F
42. Bruce Rd/Chico Canyon Rd/California Park Dr	City of Chico	E
43. Bruce Rd/Sausalito St/Lakewest Dr	City of Chico	E
44. Bruce Rd/Sierra Sunrise Terrace	City of Chico	E
45. Bruce Rd/Native Oak Dr	City of Chico	D
46. Bruce Rd/Humboldt Rd	City of Chico	D
47. Bruce Rd/Picholine Way	City of Chico	D
48. Bruce Rd/Via Mission Dr	City of Chico	D
49. Bruce Rd/Beacon St	City of Chico	E
50. Bruce Rd/Raley Blvd	City of Chico	D
* Pursuant to Chico General Plan Policy CIRC-1.4 there are no LOS standards for private roads, however because this intersection is located on a City arterial roadway the public/private intersection LOS is reported for information purposes.		

FREEWAY LEVEL OF SERVICE

Per Caltrans standards, freeway segment operations were evaluated using methodologies from the *Highway Capacity Manual* (Transportation Research Board, 2016) and the Leisch Method (for weave sections). Specific inputs include freeway segment lengths, length of acceleration and deceleration lanes, lane widths, free flow speed, mainline and ramp volumes, mainline and ramp peak hour factors and mainline and ramp heavy vehicle percentages, among other things.

The LOS for a basic freeway segment is based on the vehicle density (passenger cars/lane/mile) as shown in **Table 6**. The Leisch method is based on service volume and therefore, does not report density. Freeway merge segments are those where two traffic streams combine into one single stream, while freeway diverge segments are those where one traffic stream separates into two separate streams. The performance LOS for merge and diverge sections is computed in one of two ways. If both the ramp and the adjacent freeway mainline segment are under capacity, then LOS is based on the density of the ramp junction. If either the ramp or the adjacent freeway mainline segment have reached (or exceed) capacity, then the merge/diverge segment is considered to operate at LOS F regardless of the computed ramp junction density. The LOS for ramp junctions is based on the vehicle density (passenger cars/lane/mile) as shown in **Table 6**.

Table 6: Freeway Level of Service		
Level of Service	**Mainline (Density)[1]**	**Ramp Junctions (Density)[1]**
A	< 11	< 10
B	> 11 to 18	> 10 to 20
C	> 18 to 26	> 20 to 28
D	> 26 to 35	> 28 to 35
E	> 35 to 45	> 35
F	> 45 or demand exceeds capacity[2]	Demand exceeds capacity[2]

Notes:

[1] Density expressed in passenger car equivalents per hour per mile per lane.

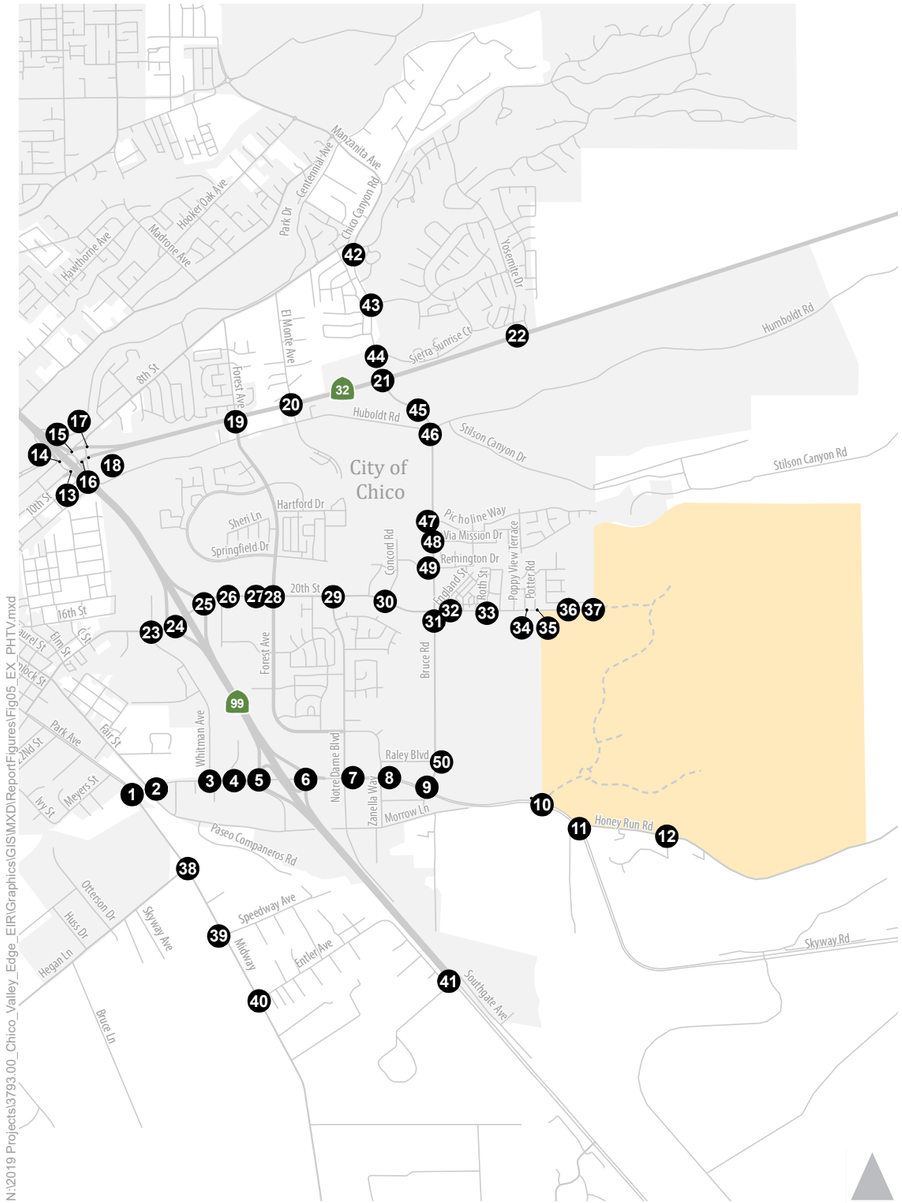
[2] Occurs when freeway demand exceeds upstream (diverge) or downstream (merge) freeway segment capacity, or if off-ramp demand exceeds off-ramp capacity.

Source: Highway Capacity Manual (Transportation Research Board, 2016).

EXISTING INTERSECTION OPERATIONS

Intersection turning movement counts for all intersections except Midway/Hegan Lane were provided by the City and traffic counts were collected between May 7 and May 9, 2019. Intersection turning movement counts at Midway/Hegan Lane were collected on October 17, 2019. Local schools were in session and weather conditions were clear. Weekday AM (7:00 AM to 9:00 AM) and PM (4:00 PM to 6:00 PM) peak period counts were collected. Based on the observed traffic volumes, the AM peak hour at the study intersections is 7:30 AM to 8:30 AM and the PM peak hour is 4:30 PM to 5:30 PM.

Figure 5 displays the existing AM and PM peak hour intersection turning movement volumes, traffic controls, and lane configurations. **Table 7** shows the existing peak hour intersection operations at the study intersection. Technical calculations are provided in **Appendix B.**



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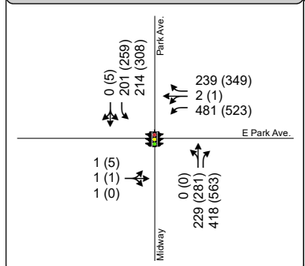
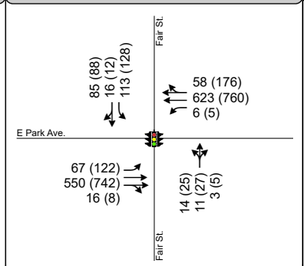
1 Study Intersection
Project Site
Turn Lane
AM (PM) Peak Hour Traffic Volume
Traffic Signal
Stop Sign

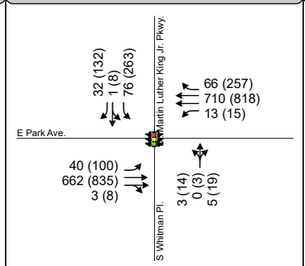
1. Midway/Park Ave/E Park Ave



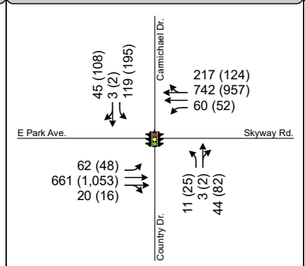
2. Fair St /Fair St/E Park Ave



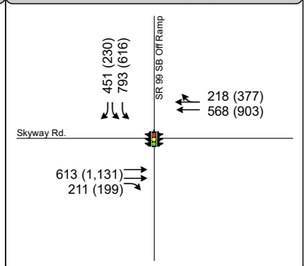
3. Dr Martin Luther King Jr Pkwy/E Park Ave



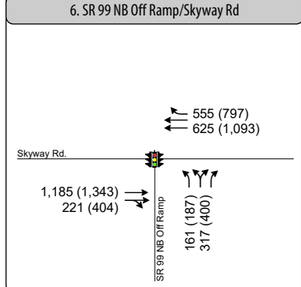
4. Country Dr/E Park Ave /Skyway Rd



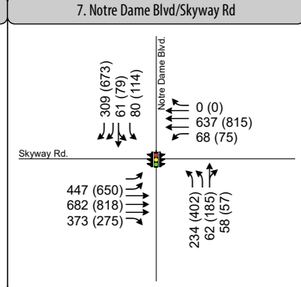
5. SR SB 99 Ramps/Skyway Rd



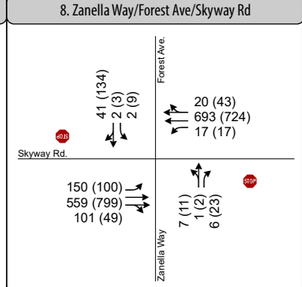
6. SR 99 NB Off Ramp/Skyway Rd



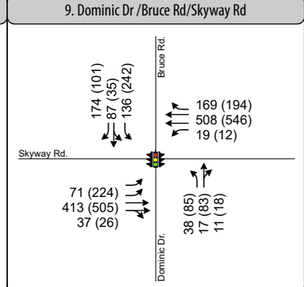
7. Notre Dame Blvd/Skyway Rd



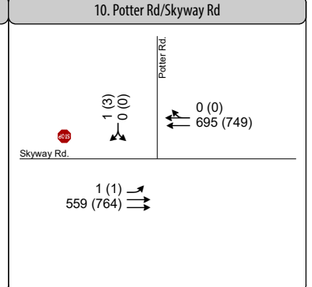
8. Zanella Way/Forest Ave/Skyway Rd



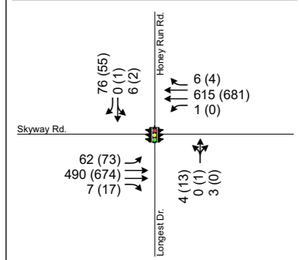
9. Dominic Dr /Bruce Rd/Skyway Rd



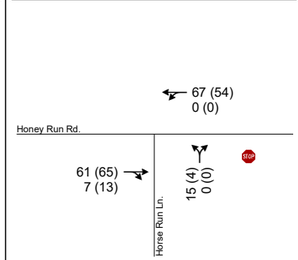
10. Potter Rd/Skyway Rd



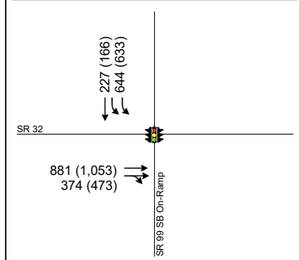
11. Longest Dr/Honey Run Rd/Skyway Rd



12. Horse Run Ln/Honey Run Rd



13. SR 99 SB On Ramp/SR 32



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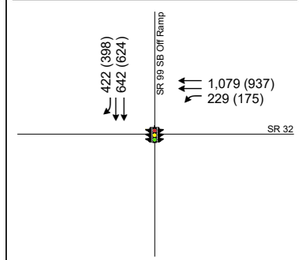
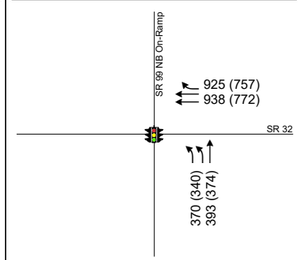
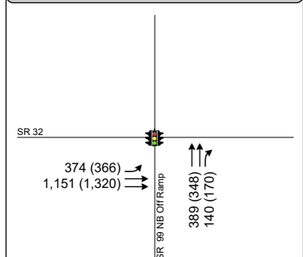


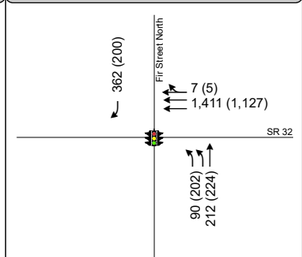
15. SR 99 NB On Ramp/SR 32



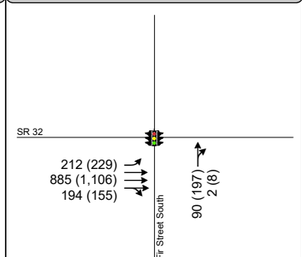
16. SR 99 NB Off Ramp/SR 32



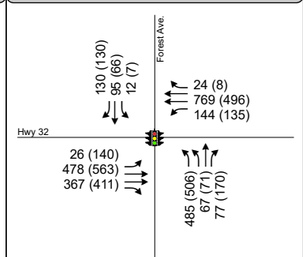
17. Fir Street North /SR 32



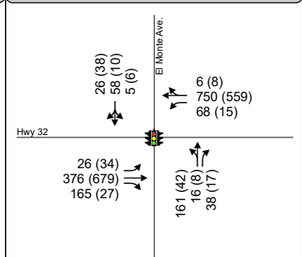
18. Fir Street South /SR 32



19. Forest Ave/Hwy 32



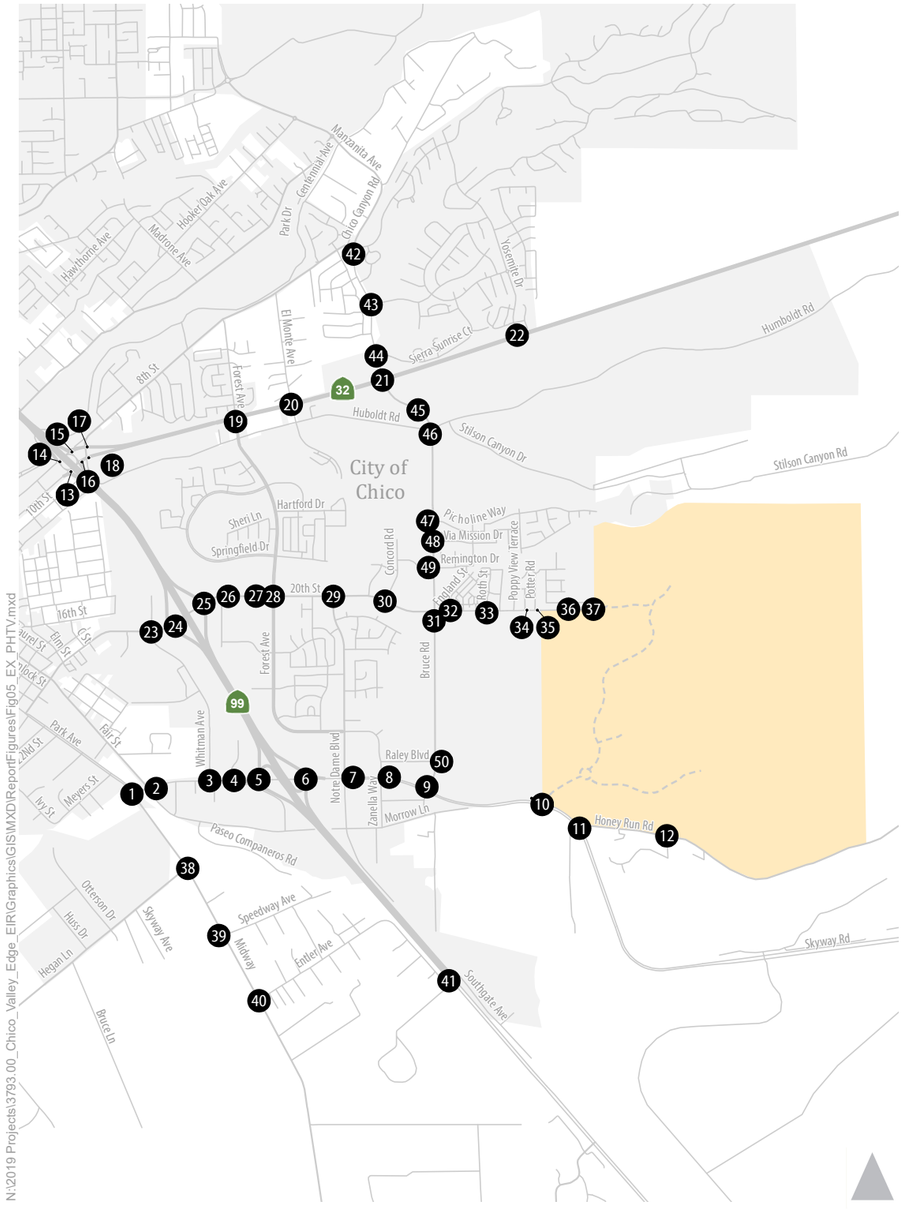
20. El Monte Ave/Hwy 32



Data collection occurred on:
- Tuesday May 7, 2019
- Wednesday May 8, 2019
- Thurday May 9, 2019
- Thursday October 17, 2019 (Midway/Hegan Lane Intersection)

Figure 5A

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions



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1 Study Intersection

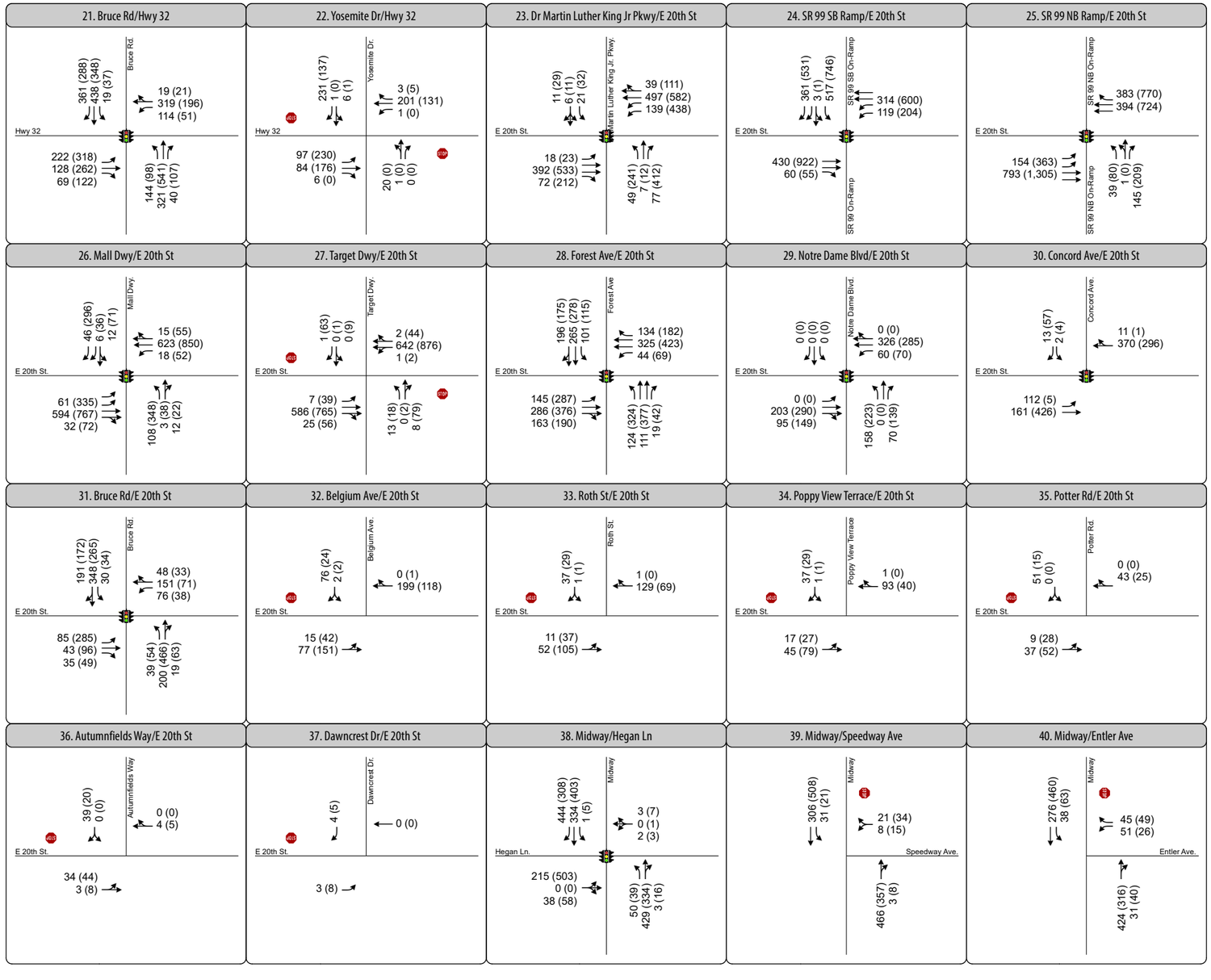
Project Site

Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

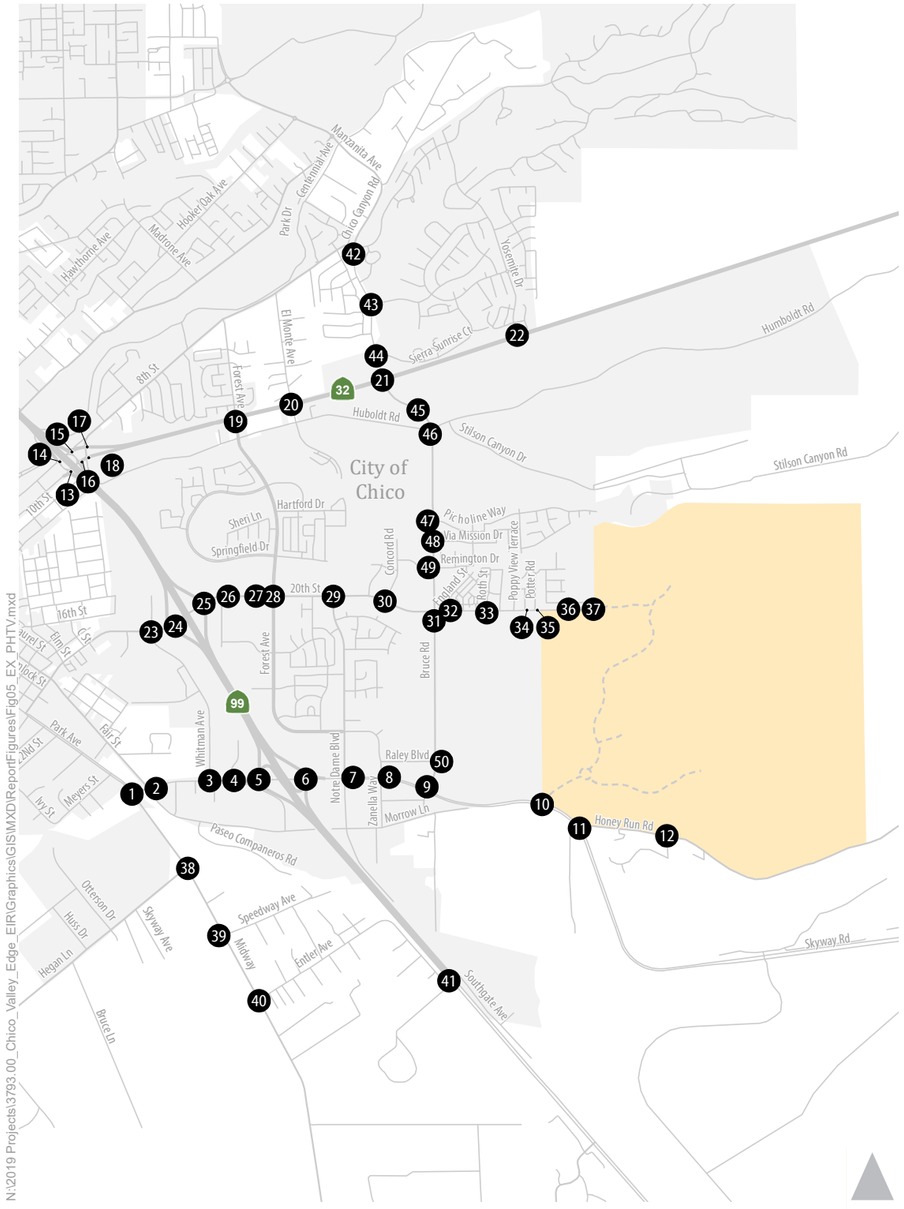
Stop Sign



Data collection occurred on:
- Tuesday May 7, 2019
- Wednesday May 8, 2019
- Thurday May 9, 2019
- Thursday October 17, 2019 (Midway/Hegan Lane Intersection)

Figure 5B

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions



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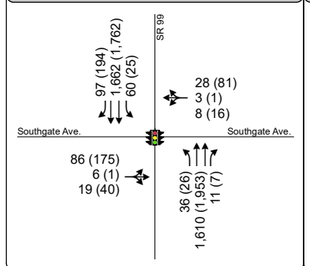
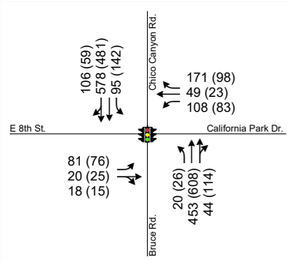
1 Study Intersection
Project Site

Turn Lane
AM (PM) Peak Hour Traffic Volume
Traffic Signal
Stop Sign

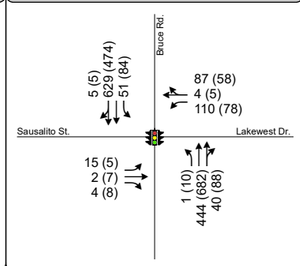
41. SR 99/Southgate Ave/Southgate Ave



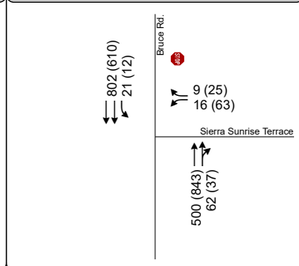
42. Bruce Rd/Chico Canyon Rd/E 8th St



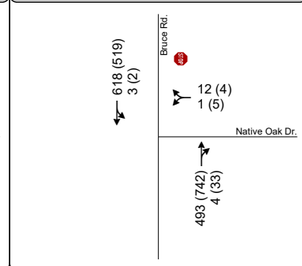
43. Bruce Rd/Sausalito St/Lakewest Dr



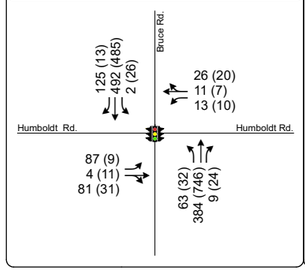
44. Bruce Rd/Sierra Sunrise Terrace



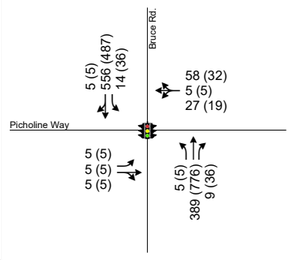
45. Bruce Rd/Native Oak Dr



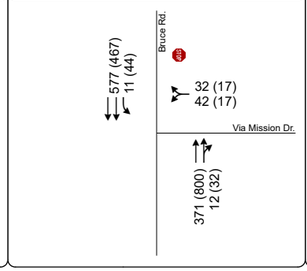
46. Bruce Rd/Humboldt Rd/Humboldt Rd



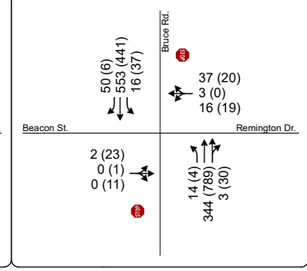
47. Bruce Rd/Picholine Way



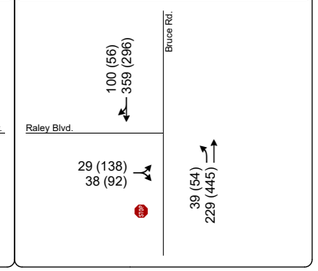
48. Bruce Rd/Via Mission Dr



49. Bruce Rd/Beacon St/Remington Dr



50. Bruce Rd/Raley Blvd



Data collection occurred on:
- Tuesday May 7, 2019
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- Thursday October 17, 2019 (Midway/Hegan Lane Intersection)

Figure 5C

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

Table 7: Intersection Operations - Existing Conditions				
Intersection	**Traffic Control**	**Peak Hour**	**Delay**	**LOS**
1. Midway/Park Ave/ E Park Ave	Signal	AM PM	17 20	B C
2. Fair Street/E Park Ave	Signal	AM PM	10 11	B B
3. S Whitman Pl/Dr. Martin Luther King Jr Pkwy/E Park Ave	Signal	AM PM	10 13	A B
4. Skyway/Country Dr/Carmichael Dr	Signal	AM PM	11 13	B B
5. Skyway /SR 99 SB Ramps	Signal	AM PM	9 9	A A
6. Skyway/SR 99 NB Ramps	Signal	AM PM	7 7	A A
7. Skyway/Notre Dame Blvd	Signal	AM PM	19 38	B D
8. Skyway/Zanella Way/Forest Ave	SSSC	AM PM	**2 (55)** **3 (130)**	**A (F)** **A (F)**
9. Skyway/Dominic Dr/Bruce Rd	Signal	AM PM	14 17	B B
10. Skyway/Potter Rd	SSSC	AM PM	0 (11) 0 (11)	A (B) A (B)
11. Skyway/Longest Dr/Honey Run Rd	Signal	AM PM	3 3	A A
12. Horse Run Ln/Honey Run Rd	SSSC	AM PM	1 (10) 1 (9)	A (A) A (A)
13. SR 32/SR 99 SB On-Ramp	Signal	AM PM	23 23	C C
14. SR 32/SR 99 SB Off-Ramp	Signal	AM PM	35 22	C C
15. SR 32/SR 99 NB On-Ramp	Signal	AM PM	55 19	E B
16. SR 99 NB Off-Ramp/SR 32	Signal	AM PM	12 10	B B
17. SR 32/N Fir St	Signal	AM PM	29 29	C C
18. SR 32/ S Fir St	Signal	AM PM	5 7	A A
19. SR 32/Forest Ave	Signal	AM PM	48 45	D D
20. SR 32/El Monte Ave	Signal	AM PM	75 20	E B
21. SR 32/Bruce Rd	Signal	AM PM	38 29	D C
22. SR 32/Yosemite DR	SSSC	AM PM	6 (21) 5 (20)	A (C) A (C)
23. E 20th St/Dr. Martin Luther King Jr Pkwy	Signal	AM PM	13 21	B C
24. E 20th St/SR 99 SB Ramp	Signal	AM PM	19 25	B C
25. E 20th St/SR 99 NB Ramp	Signal	AM PM	8 14	A B

Table 7: Intersection Operations - Existing Conditions				
Intersection	**Traffic Control**	**Peak Hour**	**Delay**	**LOS**
26. E 20th St/Mall Dwy*	Signal	AM PM	10 23	B C
27. E 20th St/Target Dwy*	SSSC	AM PM	1 (30) **2 (64)**	A (D) **A (F)**
28. E 20th St/Forest Ave	Signal	AM PM	15 42	B D
29. E 20th St/Notre Dame Blvd	Signal	AM PM	7 9	A A
30. E 20th St/Concord Ave	Signal	AM PM	9 6	A A
31. E 20th St/Bruce Rd	Signal	AM PM	22 24	C C
32. E 20th St/Belgium Ave	SSSC	AM PM	3 (10) 2 (9)	A (B) A (A)
33. E 20th St/Roth St	SSSC	AM PM	2 (9) 2 (9)	A (A) A (A)
34. E 20th St/Poppy View Terrace	SSSC	AM PM	3 (9) 3 (9)	A (A) A (A)
35. E 20th St/Potter Rd	SSSC	AM PM	4 (9) 3 (9)	A (A) A (A)
36. E 20th St/Autumnfields Way	SSSC	AM PM	7 (9) 6 (8)	A (A) A (A)
37. E 20th St/Dawncrest Dr	SSSC	AM PM	0 0	A A
38. Midway/Hegan Ln	Signal	AM PM	12 19	B B
39. Midway/Speedway Ave	SSSC	AM PM	1 (14) 1 (14)	A (B) A (B)
40. Midway/Entler Ave	SSSC	AM PM	2 (19) 2 (20)	A (C) A (C)
41. SR 99/Southgate Ave	Signal	AM PM	19 22	B C
42. Bruce Rd/Chico Canyon Rd/California Park Dr	Signal	AM PM	14 13	B B
43. Bruce Rd/Sausalito St/Lakewest Dr	Signal	AM PM	10 11	B B
44. Bruce Rd/Sierra Sunrise Terrace	SSSC	AM PM	1 (26) 2 (39)	A (D) A (E)
45. Bruce Rd/Native Oak Dr	SSSC	AM PM	1 (13) 1 (23)	A (B) A (C)
46. Bruce Rd/Humboldt Rd	Signal	AM PM	10 8	B A
47. Bruce Rd/Picholine Way/ Concord Ave	Signal	AM PM	11 12	B B
48. Bruce Rd/Via Mission Dr	SSSC	AM PM	1 (15) 1 (23)	A (C) A (C)
49. Bruce Rd/Beacon St	SSSC	AM PM	1 (22) 2 (40)	A (C) A (E)
50. Bruce Rd/Raley Blvd	SSSC	AM PM	2 (15) **10 (45)**	A (B) **A (E)**
Notes:				

Table 7: Intersection Operations - Existing Conditions				
Intersection	**Traffic Control**	**Peak Hour**	**Delay**	**LOS**

-LOS = Level of Service; SSSC = Side Street Stop Control
-Intersection LOS and delay for all intersections, except intersections 13-16, was calculated using Synchro 10 and is based on the procedures and methodologies contained in the Highway Capacity Manual 6th Edition (Transportation Research Board, 2016). Intersection LOS and delay for intersections 13-16 is based on the Highway Capacity Manual 2000 because these intersections are clustered.
-For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches. For SSSC intersections, average intersection delay and (worst case) movement delay is reported.
* Pursuant to Chico General Plan Policy CIRC-1.4 there are no LOS standards for private roads, however because this intersection is located on a City arterial roadway the public/private intersection LOS is reported for information purposes.
Calculated delay is due to vehicles using Potter Road to access bike path.

Source: Fehr & Peers, 2020

As shown, all intersections operate at the desired performance target except for three intersections: 8 - Skyway/Zanella Way/Forest Avenue, 27 - E 20th Street/Target Driveway, and 50 - Bruce Road/Raley Boulevard. The minor street worst movement delay for intersection 8 currently operates at LOS F during both peak hours. The minor street worst movement delay for intersection 27 currently operates at LOS F during the PM peak hour. The minor street worst movement delay for Intersection 50 currently operates at LOS E during the PM peak hour. However, the overall delay at all three intersections is LOS A.

EXISTING FREEWAY OPERATIONS

Table 8 displays the existing AM and PM peak hour freeway operations. As shown, all freeway mainline, merge and diverge segments operate at LOS E or better during AM and PM peak hours. Technical calculations are provided in **Appendix B**.

Table 8: Freeway Operations - Existing Conditions

Freeway	Segment	Type	Peak Hour	Density	LOS
SR 99 Northbound	Southgate to Skyway	Basic	AM PM	17.7 20.1	B C
	Skyway Off-Ramp	Diverge	AM PM	22.2 24.7	C C
	Skyway	Basic	AM PM	12.8 14.8	B B
	Skyway Loop On-Ramp	Merge	AM PM	18.3 21.4	B C
	Skyway Slip On-Ramp	Merge	AM PM	24.0 28.7	C D
	E 20th Off-Ramp	Diverge	AM PM	25.3 30.5	C D
	E 20th	Basic	AM PM	18.9 23.1	B C
	E 20th On-Ramp	Merge	AM PM	26.9 34.8	C D
	SR 32 Off-Ramp	Diverge	AM PM	29.1 38.6	D E
SR 99 Southbound	SR 32 On-Ramp	Merge	AM PM	36.3 31.8	E D
	E 20th St Off-Ramp	Diverge	AM PM	39.6 34.8	E D
	E 20th St	Basic	AM PM	25.2 18.1	C C
	E 20th St On-Ramp	Merge	AM PM	29.1 22.7	D C
	Skyway Off-Ramp	Diverge	AM PM	31.6 24.5	D C
	Skyway	Basic	AM PM	14.3 12.8	B B
	Skyway Loop On-Ramp	Merge	AM PM	18.4 18.1	B B
	Skyway Slip On-Ramp	Merge	AM PM	21.1 20.6	C C
	South of Skyway	Basic	AM PM	18.7 18.0	C C

Notes:
[1] Density expressed in passenger car equivalents per hour per mile per lane.

Source: Fehr & Peers, 2020

IV. NEAR TERM FUTURE (2025) NO PROJECT CONDITIONS

This chapter describes the process used to develop forecasts for and the results of the Near Term Future (2025) analysis assuming no contribution from the VESP project. While not needed for CEQA, level of service (LOS) and delay are provided to help evaluate the project's consistency with General Plan policies and to understand how project trips would affect traffic operations.

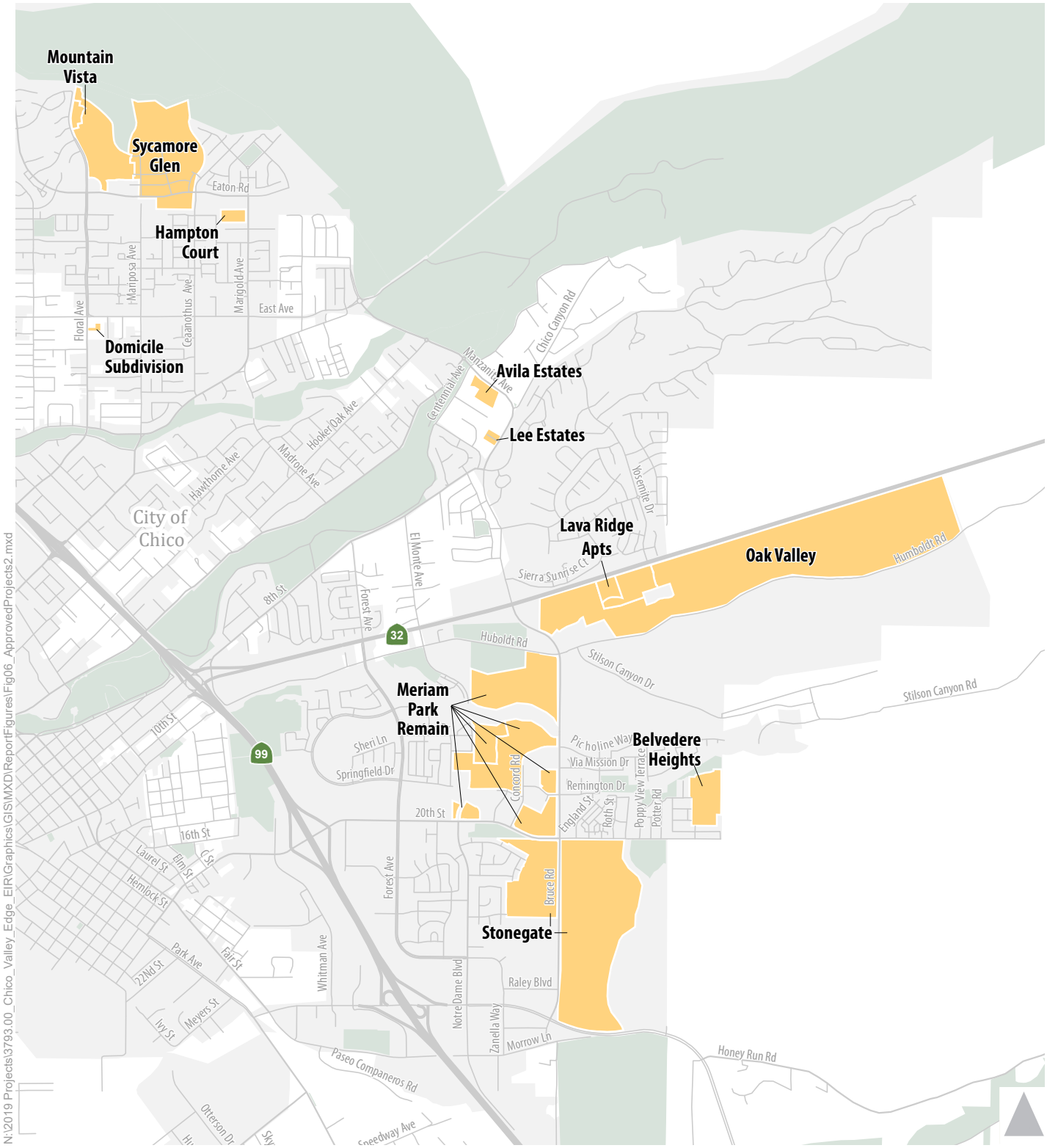
TRAFFIC FORECASTS

Traffic volumes in the Near Term Future (2025) No Project scenario were developed using a modified version of the Butte County Association of Governments (BCAG) travel demand forecasting (TDF) model that was developed for the preparation and analysis of the 2016 Regional Transportation Plan/Sustainable Communities Strategies. **Appendix A** summarizes the model calibration and validation process conducted for this analysis.

Once model validation and calibration were complete, a list of approved land development projects was identified by the City for inclusion in the Near Term Future (2025) scenario. Approved projects are described in **Table 9** and displayed in **Figure 6**. These projects have already been approved by the City but are not yet constructed. While this list does not include all approved projects in the City, it does represent those projects whose trips may have an effect on traffic volumes at the study intersections. Additionally, the land use type/quantity assumed for each referenced project only includes development anticipated to occur by the year 2025, rather than the entire project (e.g. Meriam Park was approved for 1,665 single-family residential (SFR) units but only 394 SFR units are assumed in the Near Term Future (2025) analysis). The Bruce Road widening project and installation of traffic signal control was assumed under the Near Term Future (2025) scenario.

The approved projects were added to the base year version of the BCAG TDF model. The traffic forecasting adjustment procedure known as the "difference method" was used to develop Near Term Future (2025) AM and PM peak hour traffic forecasts. AM and PM peak hour traffic volumes are displayed on **Figure 7**. For a given intersection, this forecasting procedure is calculated as follows for every movement at the study intersection:

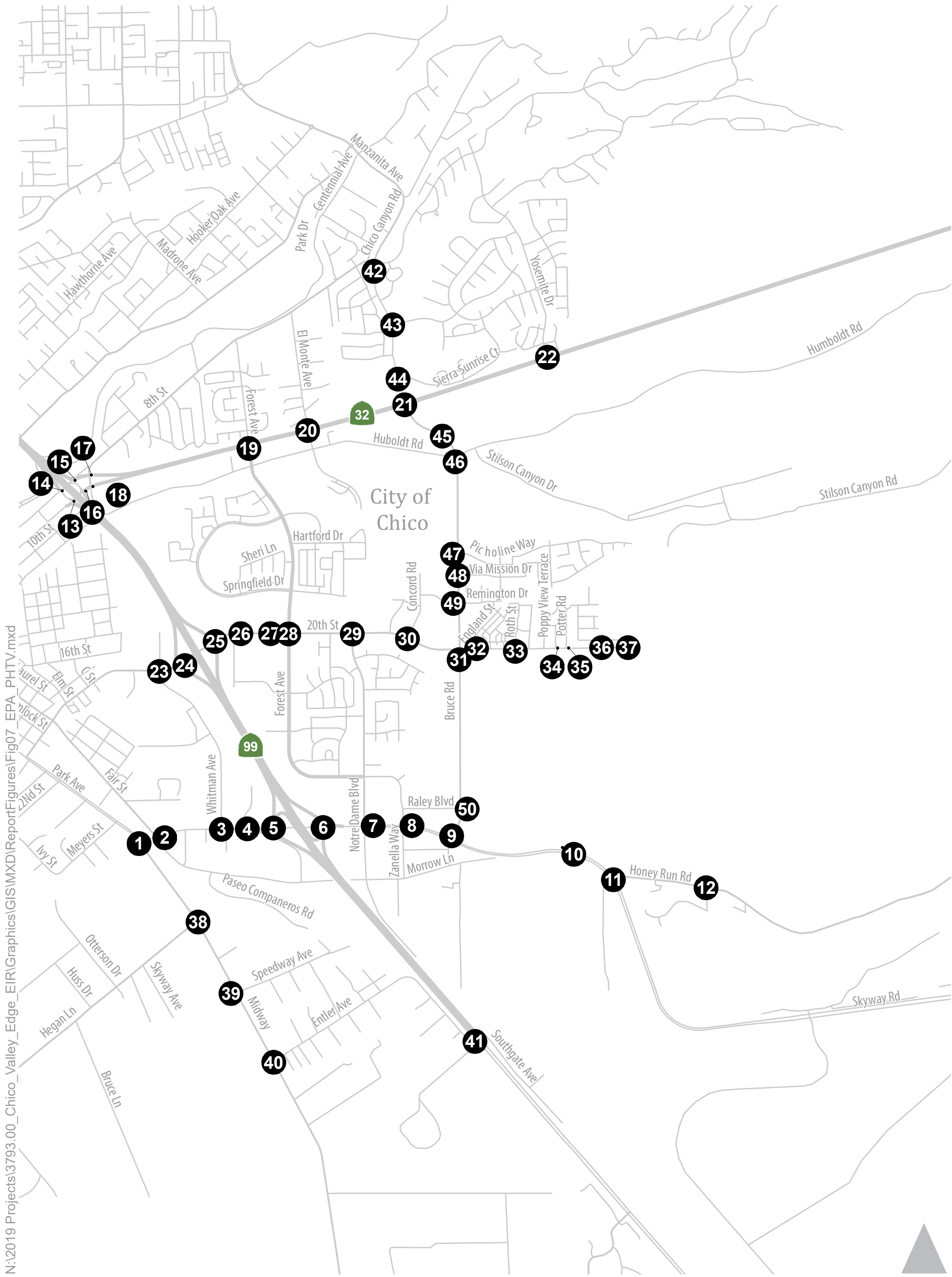
Future Year Forecast = Existing Volume + (Future Year TDF Model Volume – Base Year TDF Model Volume)

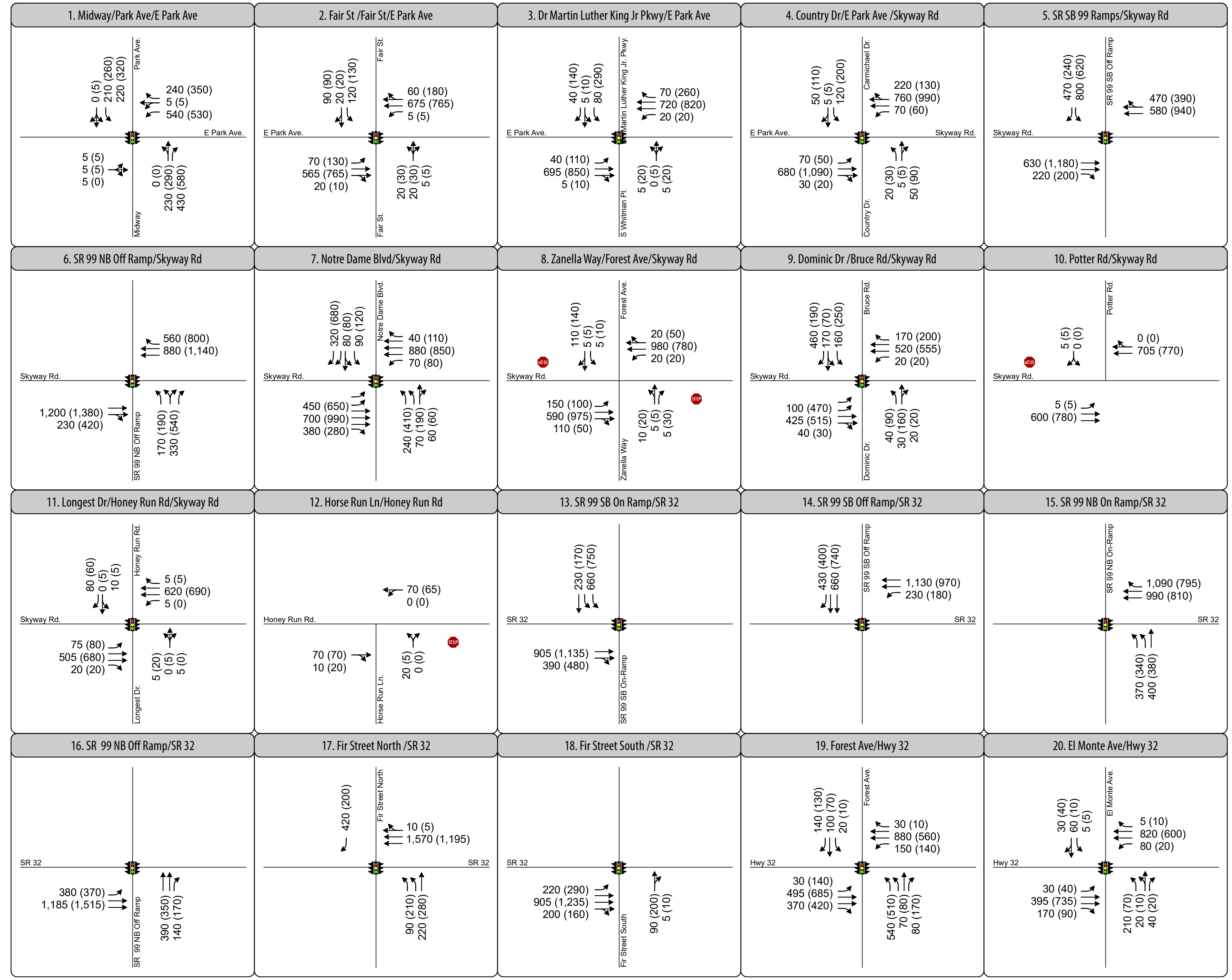


Approved Project Developments

Figure 6

Approved Development Projects





1 Study Intersection

Turn Lane

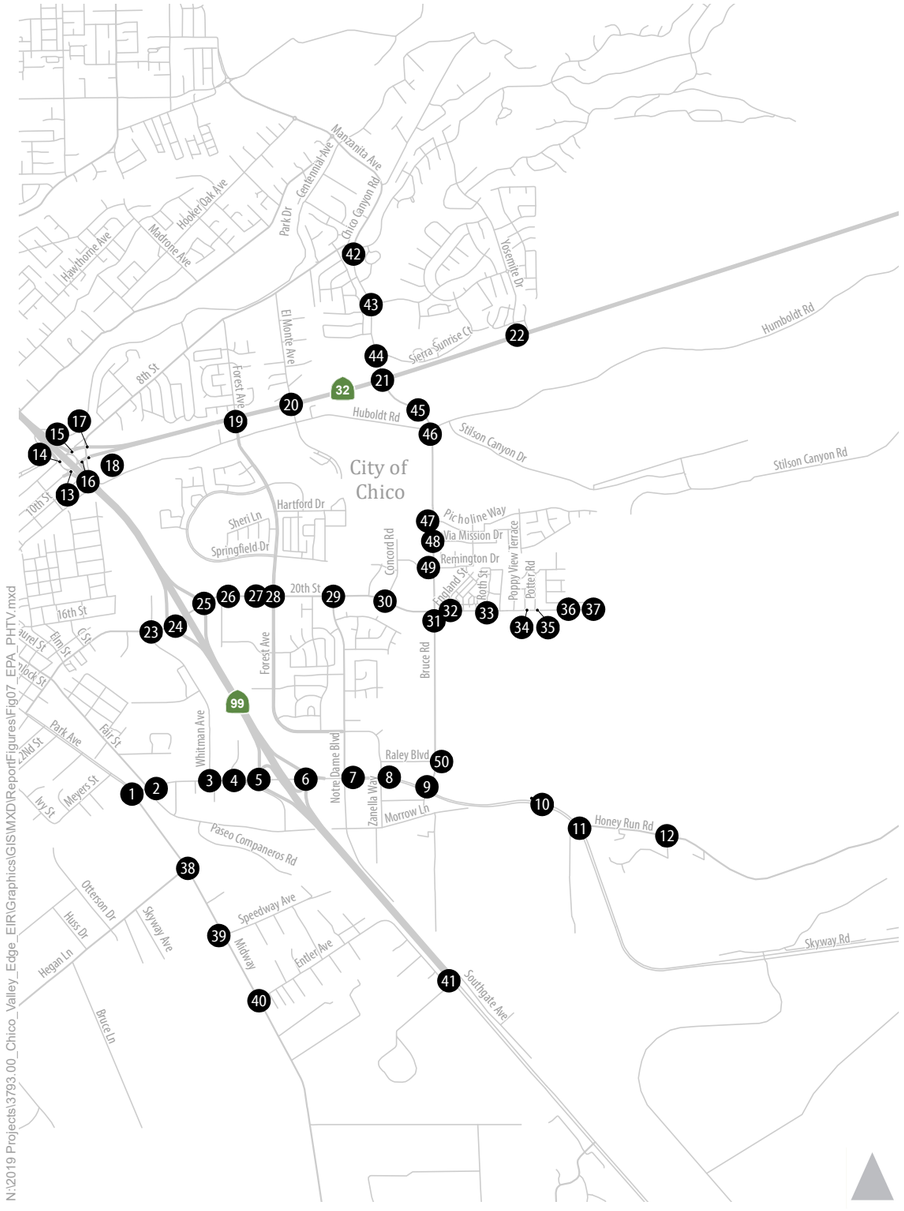
AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

Figure 7A

Peak Hour Traffic Volumes and Lane Configurations - Near Term Future (2025) Conditions



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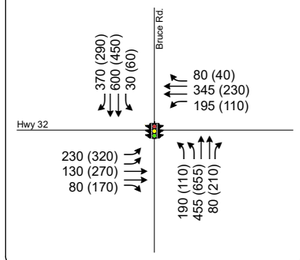
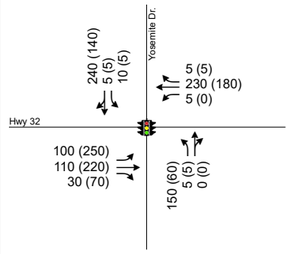
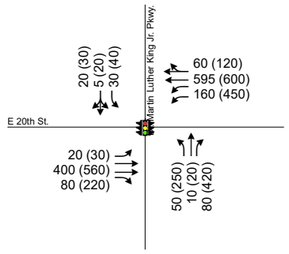
21. Bruce Rd/Hwy 32



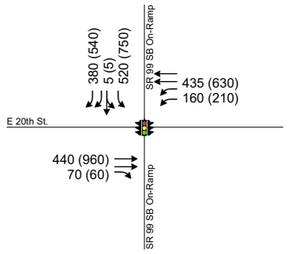
22. Yosemite Dr/Hwy 32



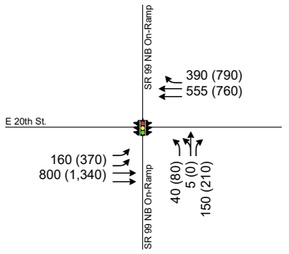
23. Dr Martin Luther King Jr Pkwy/E 20th St



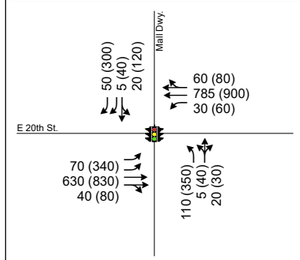
24. SR 99 SB Ramp/E 20th St



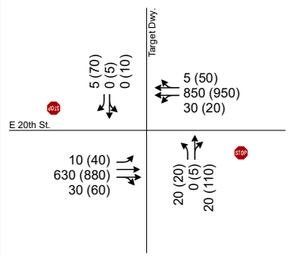
25. SR 99 NB Ramp/E 20th St



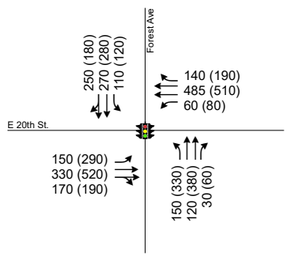
26. Mall Dwy/E 20th St



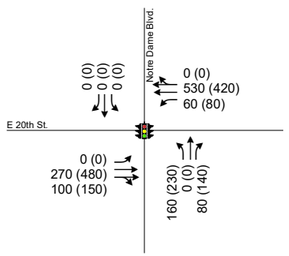
27. Target Dwy/E 20th St



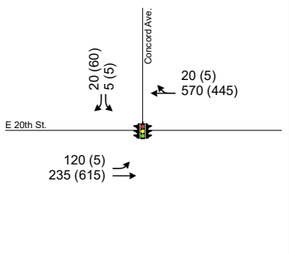
28. Forest Ave/E 20th St



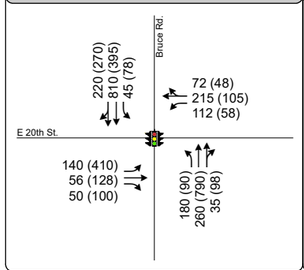
29. Notre Dame Blvd/E 20th St



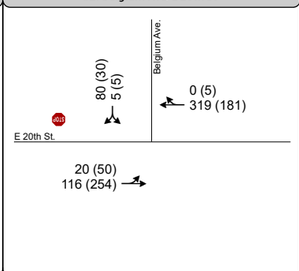
30. Concord Ave/E 20th St



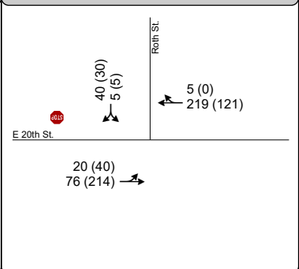
31. Bruce Rd/E 20th St



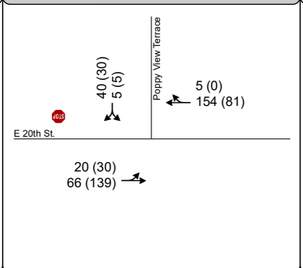
32. Belgium Ave/E 20th St



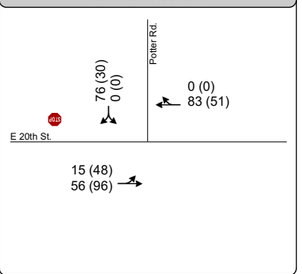
33. Roth St/E 20th St



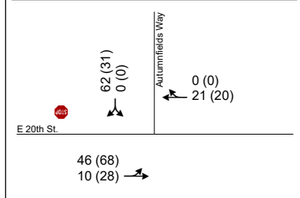
34. Poppy View Terrace/E 20th St



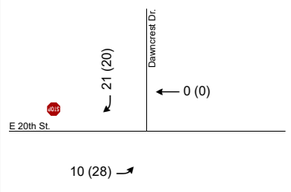
35. Potter Rd/E 20th St



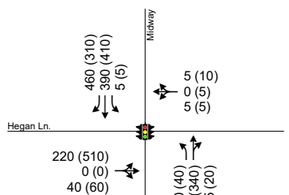
36. Autumnfields Way/E 20th St



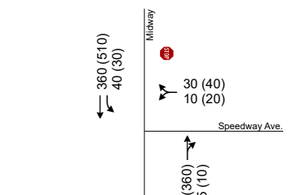
37. Dawncrest Dr/E 20th St



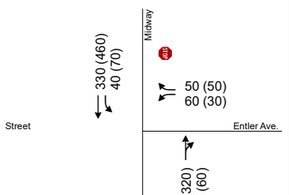
38. Midway/Hegan Ln



39. Midway/Speedway Ave



40. Midway/Entler Ave



1 Study Intersection

Turn Lane

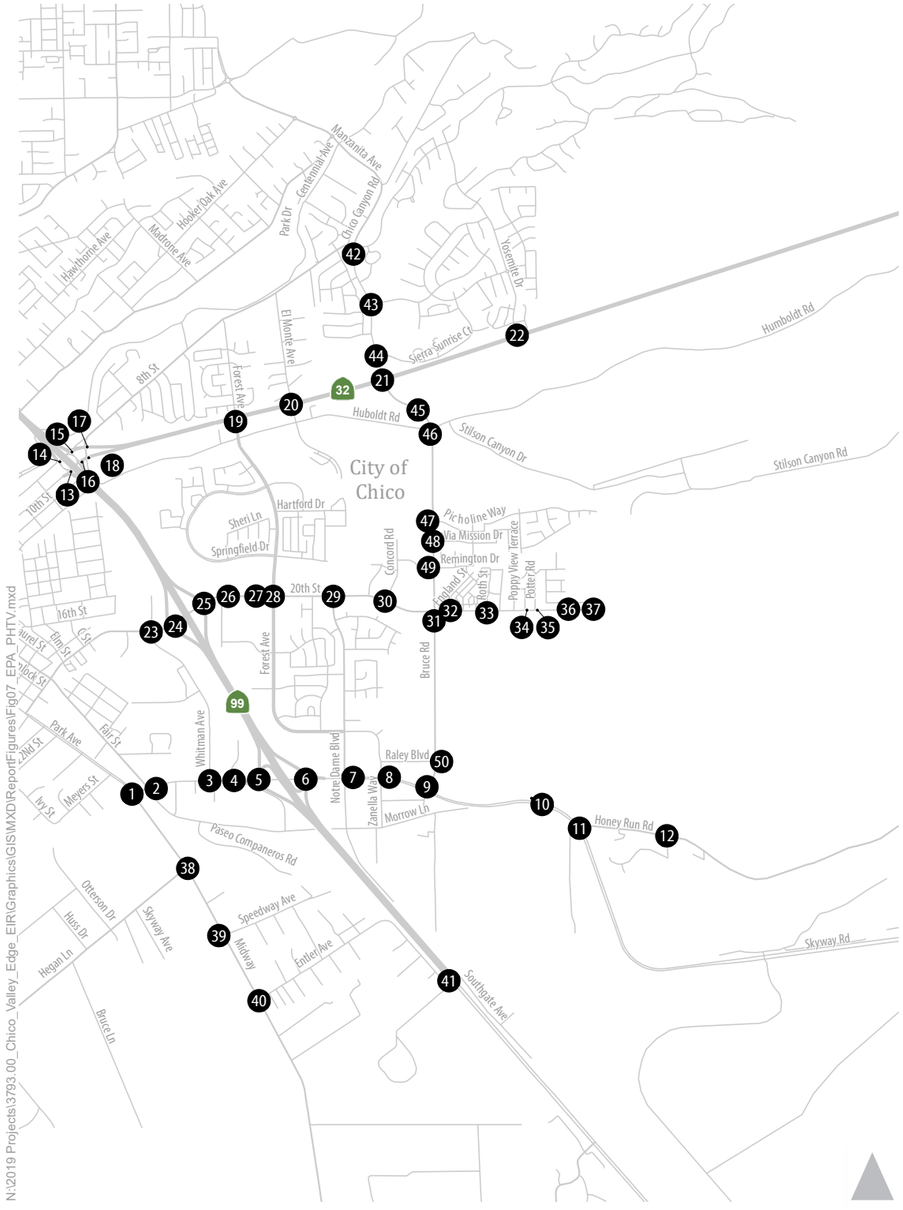
AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

Figure 7B

Peak Hour Traffic Volumes and Lane Configurations - Near Term Future (2025) Conditions



1 Study Intersection

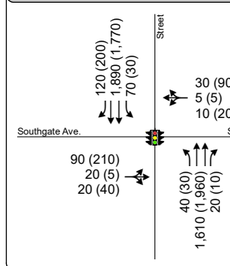
Turn Lane

AM (PM) Peak Hour Traffic Volume

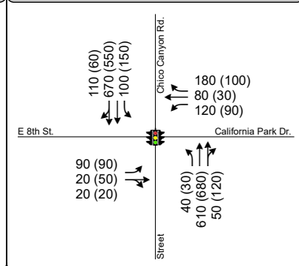
Traffic Signal

Stop Sign

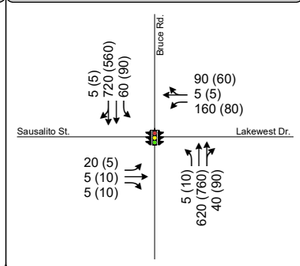
41. SR 99/Southgate Ave/Southgate Ave



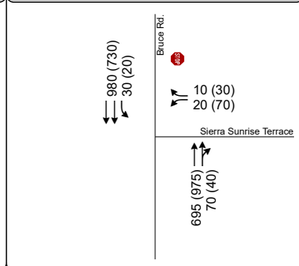
42. Bruce Rd/Chico Canyon Rd/E 8th St



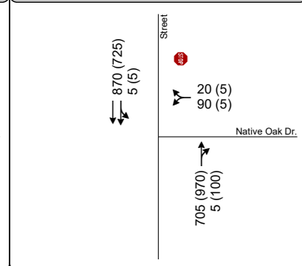
43. Bruce Rd/Sausalito St/Lakewest Dr



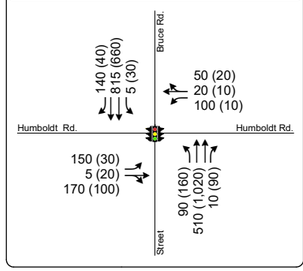
44. Bruce Rd/Sierra Sunrise Terrace



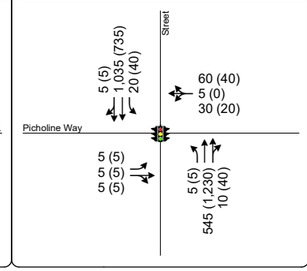
45. Bruce Rd/Native Oak Dr



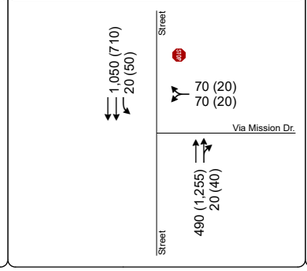
46. Bruce Rd/Humboldt Rd/Humboldt Rd



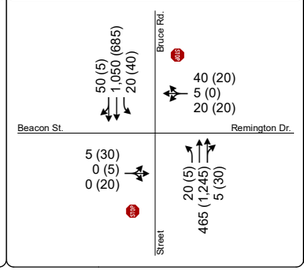
47. Bruce Rd/Picholine Way



48. Bruce Rd/Via Mission Dr



49. Bruce Rd/Beacon St/Remington Dr



50. Bruce Rd/Raley Blvd

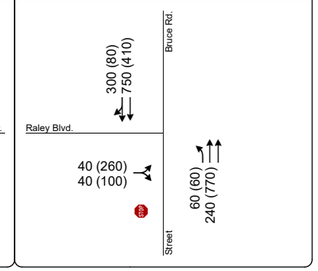


Figure 7C

Peak Hour Traffic Volumes and Lane Configurations - Near Term Future (2025) Conditions

Table 9: Approved Projects List	
Name	**Land Use Type/Quantity**
Belevedere Heights 2	92 SFR units
Meriam Park	394 SFR units
Oak Valley 1	295 SFR units 98 MFR units
Sycamore Glen	100 MFR units
Mountain Vista Subdivision	74 SFR units 133 MFR units
Domicile Subdivision	8 SFR units
Hampton Court	19 SFR units
Lee Estates	3 SFR units
Avila Estates	17 SFR units
Stonegate	400 SFR units
Notes: Land use type/quantity reflects anticipated development by 2025-2030 and is not necessarily representative of the entire land use type/quantity approved for the referenced project. SFR = Single-family residential MFR = Multi-family residential Source: Approved projects list provided by the City of Chico, 2020.	

INTERSECTION OPERATIONS

Table 10 displays the Near Term Future (2025) No Project weekday AM and PM peak hour traffic operations analysis results at the study intersections (refer to **Appendix B** for technical calculations).

Table 10: Intersection Operations - Near Term Future (2025) No Project Conditions				
Intersection	**Traffic Control**	**Peak Hour**	**Delay**	**LOS**
1. Midway/Park Ave/ E Park Ave	Signal	AM PM	18 22	B C
2. Fair Street/E Park Ave	Signal	AM PM	10 11	B B
3. S Whitman Pl/Dr. Martin Luther King Jr Pkwy/E Park Ave	Signal	AM PM	10 15	B B
4. Skyway/Country Dr/Carmichael Dr	Signal	AM PM	11 16	B B
5. Skyway /SR 99 SB Ramps	Signal	AM PM	9 10	A A
6. Skyway/SR 99 NB Ramps	Signal	AM PM	7 9	A A
7. Skyway/Notre Dame Blvd	Signal	AM PM	21 32	C C
8. Skyway/Zanella Way/Forest Ave	SSSC	AM PM	**4 (138)** **5 (240)**	**A (F)** **A (F)**
9. Skyway/Dominic Dr/Bruce Rd	Signal	AM PM	16 62	B E
10. Skyway/Potter Rd	SSSC	AM PM	0 (11) 0 (12)	A (B) A (B)
11. Skyway/Longest Dr/Honey Run Rd	Signal	AM PM	3 4	A A
12. Horse Run Ln/Honey Run Rd	SSSC	AM PM	1 (10) 1 (10)	A (A) A (A)
13. SR 32/SR 99 SB On-Ramp	Signal	AM PM	23 37	C D
14. SR 32/SR 99 SB Off-Ramp	Signal	AM PM	37 43	D D
15. SR 32/SR 99 NB On-Ramp	Signal	AM PM	98 32	F C
16. SR 99 NB Off-Ramp/SR 32	Signal	AM PM	12 11	B B
17. SR 32/N Fir St	Signal	AM PM	29 30	C C
18. SR 32/ S Fir St	Signal	AM PM	5 8	A A
19. SR 32/Forest Ave	Signal	AM PM	56 57	E E
20. SR 32/El Monte Ave	Signal	AM PM	26 16	C B
21. SR 32/Bruce Rd	Signal	AM PM	20 20	C B
22. SR 32/Yosemite DR	Signal	AM PM	21 18	C B
23. E 20th St/Dr. Martin Luther King Jr Pkwy	Signal	AM PM	14 26	B C
24. E 20th St/SR 99 SB Ramp	Signal	AM PM	19 33	B C
25. E 20th St/SR 99 NB Ramp	Signal	AM PM	10 20	B C

Table 10: Intersection Operations - Near Term Future (2025) No Project Conditions				
Intersection	**Traffic Control**	**Peak Hour**	**Delay**	**LOS**
26. E 20th St/Mall Dwy*	Signal	AM PM	11 36	B D
27. E 20th St/Target Dwy*	SSSC	AM PM	**1 (54)** **7 (>300)**	**A (F)** **A (F)**
28. E 20th St/Forest Ave	Signal	AM PM	16 **153**	B **F**
29. E 20th St/Notre Dame Blvd	Signal	AM PM	7 9	A A
30. E 20th St/Concord Ave	Signal	AM PM	10 7	B A
31. E 20th St/Bruce Rd	Signal	AM PM	40 48	D D
32. E 20th St/Belgium Ave	SSSC	AM PM	2 (12) 1 (10)	A (B) A (B)
33. E 20th St/Roth St	SSSC	AM PM	2 (11) 2 (10)	A (B) A (A)
34. E 20th St/Poppy View Terrace	SSSC	AM PM	2 (10) 2 (9)	A (A) A (A)
35. E 20th St/Potter Rd	SSSC	AM PM	4 (10) 3 (9)	A (A) A (A)
36. E 20th St/Autumnfields Way	SSSC	AM PM	7 (9) 5 (9)	A (A) A (A)
37. E 20th St/Dawncrest Dr	SSSC	AM PM	0 0	A A
38. Midway/Hegan Ln	Signal	AM PM	12 21	B C
39. Midway/Speedway Ave	SSSC	AM PM	1 (14) 1 (15)	A (B) A (B)
40. Midway/Entler Ave	SSSC	AM PM	2 (22) 2 (23)	A (C) A (C)
41. SR 99/Southgate Ave	Signal	AM PM	30 65	C E
42. Bruce Rd/Chico Canyon Rd/California Park Dr	Signal	AM PM	16 16	B B
43. Bruce Rd/Sausalito St/Lakewest Dr	Signal	AM PM	12 11	B B
44. Bruce Rd/Sierra Sunrise Terrace	SSSC	AM PM	1 (46) **6 (157)**	A (E) **A (F)**
45. Bruce Rd/Native Oak Dr	SSSC	AM PM	**5 (77)** 1 (32)	**A (F)** A (D)
46. Bruce Rd/Humboldt Rd	Signal	AM PM	13 14	B B
47. Bruce Rd/Picholine Way	Signal	AM PM	10 11	A B
48. Bruce Rd/Via Mission Dr	SSSC	AM PM	**3 (35)** **2 (92)**	**A (E)** **A (F)**
49. Bruce Rd/Beacon St	SSSC	AM PM	**2 (77)** **15 (>300)**	**A (F)** **B (F)**
50. Bruce Rd/Raley Blvd	SSSC	AM PM	2 (33) **67 (>300)**	A (D) **F (F)**
Notes: -LOS = Level of Service; SSSC = Side Street Stop Control				

Table 10: Intersection Operations - Near Term Future (2025) No Project Conditions				
Intersection	**Traffic Control**	**Peak Hour**	**Delay**	**LOS**
-Intersection LOS and delay for all intersections, except intersections 13-16, was calculated using Synchro 10 and is based on the procedures and methodologies contained in the Highway Capacity Manual 6th Edition (Transportation Research Board, 2016). Intersection LOS and delay for intersections 13-16 is based on the Highway Capacity Manual 2000 because these intersections are clustered. -For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches. For SSSC intersections; average intersection delay and (worst case) movement delay is reported. -Near Term Future (2025) analysis assumes construction of the Bruce Road widening project and all three phases of the SR 32 widening project. * Pursuant to Chico General Plan Policy CIRC-1.4 there are no LOS standards for private roads, however because this intersection is located on a City arterial roadway the public/private intersection LOS is reported for information purposes. Source: Fehr & Peers, 2020				

As shown, intersections 8, 27, 28, 44, 45, 48, 49, and 50 do not meet the established performance target. All intersections, except for intersection 28 have side-street stop-control. The high levels of delay are attributed to the heavy through volumes, making it difficult for motorists on the side streets to exit the intersection.

V. NEAR TERM FUTURE (2025) PLUS PROJECT CONDITIONS

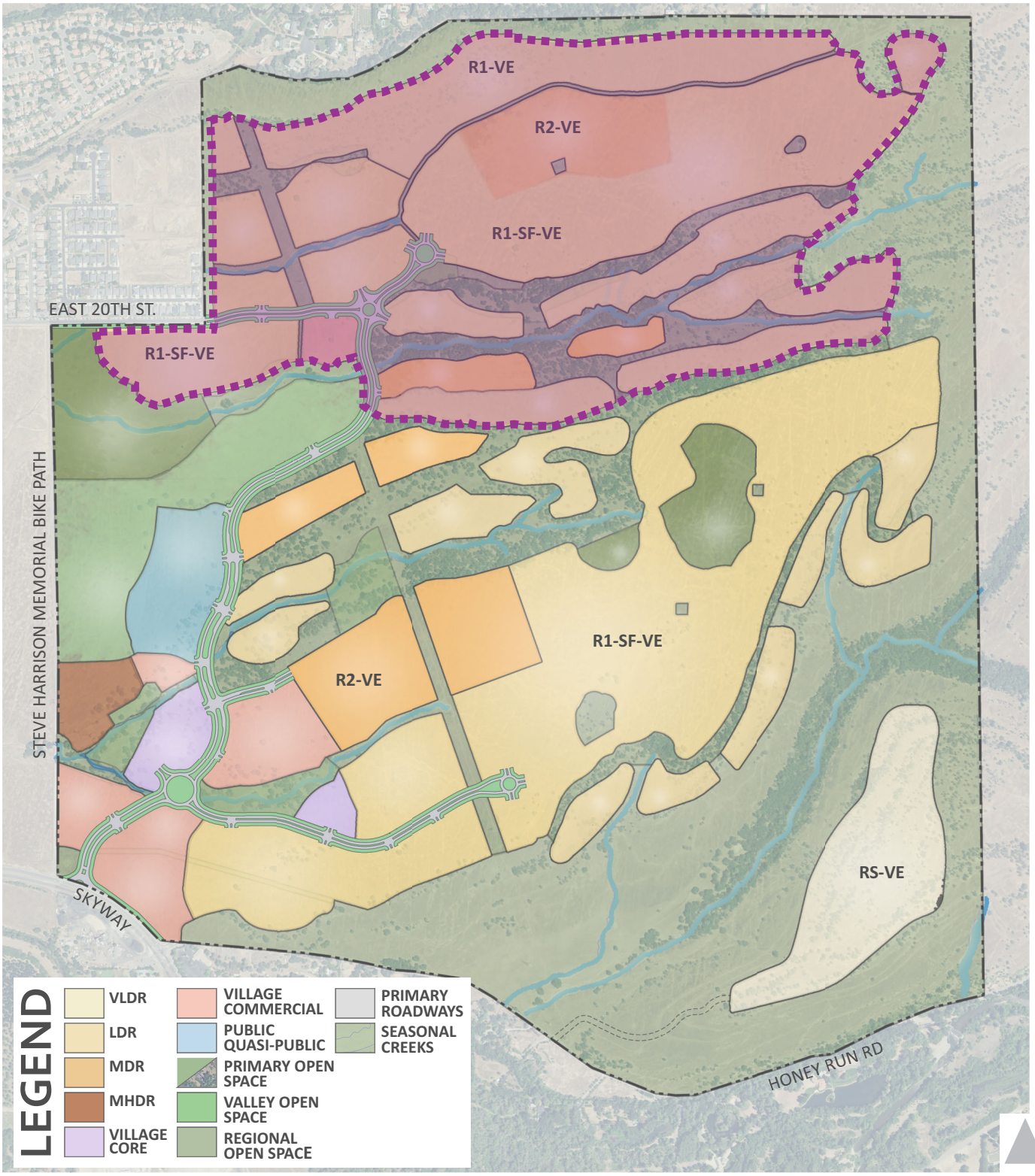
This chapter describes the project's travel characteristics and evaluates its impacts under Near Term Future (2025) Plus Project Conditions. While not needed for CEQA, level of service (LOS) and delay are provided to help evaluate the project's consistency with General Plan policies and to understand how project trips would affect traffic operations.

TRIP GENERATION

Due to the scale of the proposed project and understanding that the entire VESP would not be built out by 2025, completion of only a portion of the proposed project was assumed under this Near Term Future (2025) scenario. In consultation with City staff, we assumed initial build out of the northern portions of the VESP site (Planning Areas 7 and 26 through 42). **Figure 8** shows the portion of the proposed project assumed for the near term (2025) future scenario

Table 11 summarizes the land use categories used for this interim build-out scenario to estimate the project's trip generation, effective trip generation rates, calculated daily, AM peak hour, and PM peak hour trip generation, internal trip capture, and external walk, bike, and transit trips assumed under Near Term Future (2025) Plus Project Conditions. Trip generation was calculated using trip rates presented in the ITE *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers), with adjustments to account for internal trip capture, and external trips made by walk, bike, and transit. We used MXD+ to estimate internal trip capture. The MXD+ method combines the NCHRP 684 and EPA MXD method for analyzing trip generation at mixed-used developments. Additional information regarding trip generation methodology can be found in **Appendix C**.

Internal trips between complementary land uses were estimated to be 6% daily, 8% during the AM peak hour, and 7% during the PM peak hour, After considering internal trips and external walk, bike and transit trips, the proposed project would result in approximately 9,200 daily trips, 880 trips during the AM peak hour and 970 trips during the PM peak hour in this scenario.



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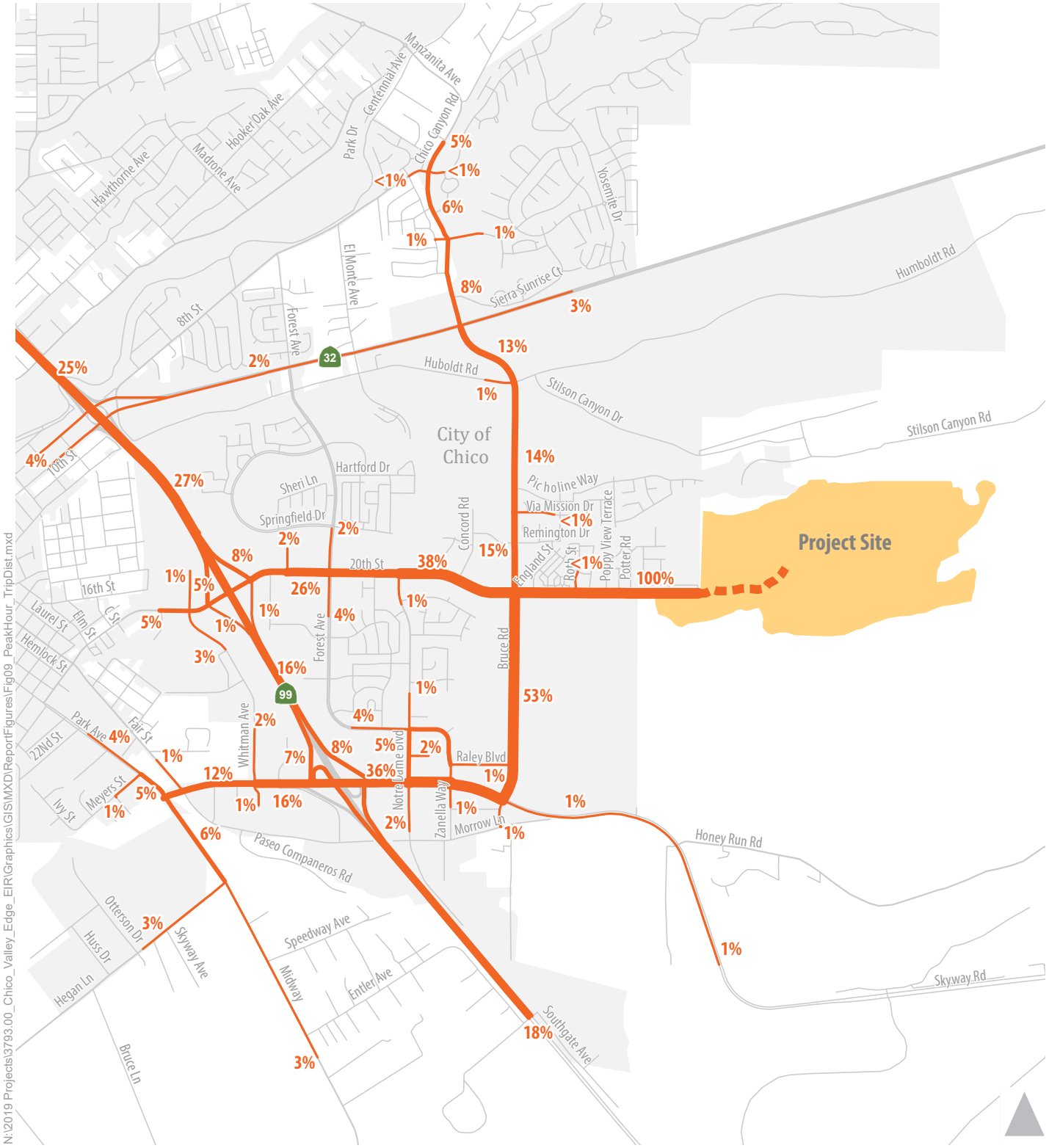
Project land use assumed for Near Term Future (2025) Conditions

Figure 8

Near Term Future (2025) Project Land Use Assumptions



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x% Trip Distribution Percentage

x% Project Site Trip Distribution Percentage

Figure 9

Project Trip Distribution
Near Term Future (2025) Conditions - Peak Hour

Table 11: Valley's Edge Specific Plan Trip Generation - Near Term Future (2025) Plus Project Scenario													
				Rates[3]			Trip Generation						
								AM			PM		
Land Use	Units	ITE Code	Quantity	Daily	AM	PM	Daily	In	Out	Total	In	Out	Total
Single-Family Detached Housing (Adj Streets, 7-9A, 4-6P)	DU	210	1,057	8.61	0.71	0.92	9,101	189	566	755	616	361	977
Shopping Center (Adj Street, 7-9A, 4-6P)	KSF	820	3.1	182.58	49.35	13.55	566	95	58	153	20	22	42
General Office Building (Adj Streets, 7-9A, 4-6P)1	KSF	710	21	8.19	2.19	1.24	172	40	6	46	4	22	26
Total Project Vehicle Trips							**9,839**	**324**	**630**	**954**	**640**	**405**	**1,045**
Reductions													
Internal Capture							-590	-23	-45	-68	-44	-28	-72
External Walk, Bike, Transit Trips							-39	-2	-4	-6	-2	-2	-4
Total Reductions							-629	-25	-49	-74	-46	-30	-76
New Net External Project Vehicle Trips							**9,210**	**299**	**581**	**880**	**594**	**375**	**969**

Sources:
[1]General Office Building - Review of the weekday daily dataset for General Office Building (710) category indicates that 60 percent of data points were collected in the 1980s. Therefore, a weighted average trip generation rate was derived using the ITE 10th Edition Trip Generation Manual WebApp, based on 18 data points from 2000-2016 (i.e., excluding the older data points from the 1980s). The weighted average trip generation rate based on the more recent data is 8.19 daily vehicles trips per 1,000 square feet.
[2]Trip generation rates calculated based on estimated trip generation and quantity of land use, since many of the trip generation estimates were calculated using trip generation equations, consistent with recommended practice.
ITE Trip Generation Manual, 10th Edition
Mainstreet/MXD+
Fehr & Peers, 2020

TRIP DISTRIBUTION/ASSIGNMENT

The distribution of project trips was determined based on a select zone analysis using the modified version of the BCAG TDF model previously described and data from the 2012 California Household Travel Survey. Under this scenario, the north/south internal VESP roadway is not constructed. Therefore, 100% of project trips enter/exit on E 20th Street. Expected distribution of external vehicle trips is shown on **Figure 9**.

Project trips were assigned to the study intersections and driveways in accordance with the trip distribution percentages. Those trips were then added to the Near Term Future (2025) No Project volumes to yield the Near Term Future (2025) Plus Project volumes shown in **Figure 10**.

NEAR TERM FUTURE (2025) PLUS PROJECT INTERSECTION LEVELS OF SERVICE

Table 12 displays the average delay and LOS at the study intersections under Near Term Future (2025) Plus Project conditions. Refer to **Appendix B** for technical calculations. As shown, 10 intersections would operate deficiently under Near Term Future (2025) Plus Project conditions. The following summarizes intersection operations with the addition of project traffic:

- Intersection 9 (Skyway/Dominic Dr/Bruce Rd) – the project would reduce the overall intersection level of service in the PM peak hour from LOS E to LOS F.
- Intersection 31 (E 20th St/Bruce Rd) – the project would reduce the overall intersection level of service in the AM and PM peak hours from LOS D to LOS F.
- Intersections 44 (Bruce Rd/Sierra Sunrise Terrace) – the project would reduce the side street level of service in the AM peak hour from LOS E to LOS F, and would worsen LOS F conditions in the PM peak hour.
- Intersections 45 (Bruce Rd/Native Oak Dr) – the project would reduce the side street level of service in the PM peak hour from LOS D to LOS E and would worsen LOS F conditions in the AM peak hour.
- Intersections 50 (Bruce Rd/Raley Blvd) – the project would reduce the side street level of service in the AM peak hour from LOS D to LOS F and would worsen LOS F conditions in the PM peak hour.
- Intersections 8 (Skyway/Zanella Way/Forest Ave) – the project would worsen side street LOS F conditions in the AM and PM peak hours.
- Intersections 27 (E 20th/Target Dr) – the project would worsen private side street LOS F conditions in the AM and PM peak hours.
- Intersections 28 (E 20th/Forest Ave) – the project would worsen overall intersection LOS F conditions in the PM peak hour.
- Intersections 48 (Bruce Rd/Via Mission Dr) – the project would worsen side street LOS E conditions in the AM peak hour and LOS F conditions in the PM peak hour.
- Intersections 49 (Bruce Rd/Beacon St) – the project would worsen side street LOS F conditions in the AM and PM peak hours.

Table 12: Intersection Operations - Near Term Future (2025) Plus Project Conditions						
Intersection	**Traffic Control**	**Peak Hour**	**Near Term Future (2025)**		**Near Term Future (2025) Plus Project**	
			Delay	**LOS**	**Delay**	**LOS**
1. Midway/Park Ave/ E Park Ave	Signal	AM PM	18 22	B C	18 23	B C
2. Fair Street/E Park Ave	Signal	AM PM	10 11	B B	10 12	B B
3. S Whitman Pl/Dr. Martin Luther King Jr Pkwy/E Park Ave	Signal	AM PM	10 15	B B	11 16	B B
4. Skyway/Country Dr/Carmichael Dr	Signal	AM PM	11 16	B B	12 18	B B
5. Skyway /SR 99 SB Ramps	Signal	AM PM	9 10	A A	9 10	A A
6. Skyway/SR 99 NB Ramps	Signal	AM PM	7 9	A A	7 9	A A
7. Skyway/Notre Dame Blvd	Signal	AM PM	21 32	C C	22 35	C C
8. Skyway/Zanella Way/Forest Ave	SSSC	AM PM	**4 (138)** **5 (240)**	**A (F)** **A (F)**	**6 (296)** **10 (>300)**	**A (F)** **A (F)**
9. Skyway/Dominic Dr/Bruce Rd	Signal	AM PM	16 62	B E	23 **138**	C **F**
10. Skyway/Potter Rd	SSSC	AM PM	0 (11) 0 (12)	A (B) A (B)	1 (11) 1 (12)	A (B) A (B)
11. Skyway/Longest Dr/Honey Run Rd	Signal	AM PM	3 4	A A	3 4	A A
12. Horse Run Ln/Honey Run Rd	SSSC	AM PM	1 (10) 1 (10)	A (A) A (A)	1 (10) 1 (10)	A (A) A (A)
13. SR 32/SR 99 SB On-Ramp	Signal	AM PM	23 37	C D	23 39	C D
14. SR 32/SR 99 SB Off-Ramp	Signal	AM PM	37 43	D D	37 43	D D
15. SR 32/SR 99 NB On-Ramp	Signal	AM PM	98 32	F C	97 32	F C
16. SR 99 NB Off-Ramp/SR 32	Signal	AM PM	12 11	B B	12 11	B B
17. SR 32/N Fir St	Signal	AM PM	29 30	C C	29 30	C C
18. SR 32/ S Fir St	Signal	AM PM	5 8	A A	5 8	A A
19. SR 32/Forest Ave	Signal	AM PM	56 57	E E	56 58	E E
20. SR 32/El Monte Ave	Signal	AM PM	26 16	C B	26 16	C B
21. SR 32/Bruce Rd	Signal	AM PM	20 20	C B	21 20	C B
22. SR 32/Yosemite DR	Signal	AM PM	21 18	C B	20 18	C B
23. E 20th St/Dr. Martin Luther King Jr Pkwy	Signal	AM PM	14 26	B C	15 27	B C
24. E 20th St/SR 99 SB Ramp	Signal	AM PM	19 33	B C	20 43	B D
25. E 20th St/SR 99 NB Ramp	Signal	AM PM	10 20	B C	12 33	B C
26. E 20th St/Mall Dwy*	Signal	AM PM	11 36	B D	11 45	B D
27. E 20th St/Target Dwy*	SSSC	AM	**1 (54)**	**A (F)**	**2 (124)**	**A (F)**

Table 12: Intersection Operations - Near Term Future (2025) Plus Project Conditions						
Intersection	**Traffic Control**	**Peak Hour**	**Near Term Future (2025)**		**Near Term Future (2025) Plus Project**	
			Delay	**LOS**	**Delay**	**LOS**
		PM	**7 (>300)**	**A (F)**	**40 (>300)**	**E (F)**
28. E 20th St/Forest Ave	Signal	AM	16	B	19	B
		PM	**153**	**F**	**173**	**F**
29. E 20th St/Notre Dame Blvd	Signal	AM	7	A	7	A
		PM	9	A	10	A
30. E 20th St/Concord Ave	Signal	AM	10	B	17	B
		PM	7	A	8	A
31. E 20th St/Bruce Rd	Signal	AM	40	D	**117**	**F**
		PM	48	D	**160**	**F**
32. E 20th St/Belgium Ave	SSSC	AM	2 (12)	A (B)	2 (32)	A (D)
		PM	1 (10)	A (B)	1 (26)	A (D)
33. E 20th St/Roth St	SSSC	AM	2 (11)	A (B)	1 (25)	A (C)
		PM	2 (10)	A (A)	1 (21)	A (C)
34. E 20th St/Poppy View Terrace	SSSC	AM	2 (10)	A (A)	1 (21)	A (C)
		PM	2 (9)	A (A)	1 (17)	A (C)
35. E 20th St/Potter Rd	SSSC	AM	4 (10)	A (A)	2 (23)	A (C)
		PM	3 (9)	A (A)	1 (13)	A (B)
36. E 20th St/Autumnfields Way	SSSC	AM	7 (9)	A (A)	2 (16)	A (C)
		PM	5 (9)	A (A)	1 (12)	A (B)
37. E 20th St/Dawncrest Dr	SSSC	AM	0	A	1 (33)	A (D)
		PM	0	A	1 (17)	A (C)
38. Midway/Hegan Ln	Signal	AM	12	B	12	B
		PM	21	C	22	C
39. Midway/Speedway Ave	SSSC	AM	1 (14)	A (B)	1 (15)	A (B)
		PM	1 (15)	A (B)	1 (15)	A (C)
40. Midway/Entler Ave	SSSC	AM	2 (22)	A (C)	2 (23)	A (C)
		PM	2 (23)	A (C)	2 (24)	A (C)
41. SR 99/Southgate Ave	Signal	AM	30	C	39	D
		PM	65	E	82	F
42. Bruce Rd/Chico Canyon Rd/California Park Dr	Signal	AM	16	B	16	B
		PM	16	B	16	B
43. Bruce Rd/Sausalito St/Lakewest Dr	Signal	AM	12	B	12	B
		PM	11	B	11	B
44. Bruce Rd/Sierra Sunrise Terrace	SSSC	AM	1 (46)	A (E)	**1 (52)**	**A (F)**
		PM	**6 (157)**	**A (F)**	**7 (182)**	**A (F)**
45. Bruce Rd/Native Oak Dr	SSSC	AM	**5 (77)**	**A (F)**	**7 (116)**	**A (F)**
		PM	1 (32)	A (D)	**1 (36)**	**A (E)**
46. Bruce Rd/Humboldt Rd	Signal	AM	13	B	13	B
		PM	14	B	14	B
47. Bruce Rd/Picholine Way	Signal	AM	10	A	10	A
		PM	11	B	11	B
48. Bruce Rd/Via Mission Dr	SSSC	AM	**3 (35)**	**A (E)**	**4 (50)**	**A (E)**
		PM	**2 (92)**	**A (F)**	**3 (126)**	**A (F)**
49. Bruce Rd/Beacon St	SSSC	AM	**2 (77)**	**A (F)**	**2 (92)**	**A (F)**
		PM	**15 (>300)**	**B (F)**	**26 (>300)**	**A (F)**
50. Bruce Rd/Raley Blvd	SSSC	AM	2 (33)	A (D)	**4 (65)**	**A (F)**
		PM	**67 (>300)**	**F (F)**	**117 (>300)**	**A (F)**

Notes:
Bold indicates intersection operates unacceptably per the established performance target.
Bold and underlined indicates the intersection operates unacceptable per the established performance target and the project increases delay by five seconds or more.

Table 12: Intersection Operations - Near Term Future (2025) Plus Project Conditions						
Intersection	**Traffic Control**	**Peak Hour**	**Near Term Future (2025)**		**Near Term Future (2025) Plus Project**	
			Delay	**LOS**	**Delay**	**LOS**
-LOS = Level of Service; SSSC = Side Street Stop Control -Intersection LOS and delay for all intersections, except intersections 13-16, was calculated using Synchro 10 and is based on the procedures and methodologies contained in the Highway Capacity Manual 6th Edition (Transportation Research Board, 2016). Intersection LOS and delay for intersections 13-16 is based on the Highway Capacity Manual 2000 because these intersections are clustered. -For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches. For SSSC intersections; average intersection delay and (worst case) movement delay is reported. * Pursuant to Chico General Plan Policy CIRC-1.4 there are no LOS standards for private roads, however because this intersection is located on a City arterial roadway the public/private intersection LOS is reported for information purposes. Source: Fehr & Peers, 2020						

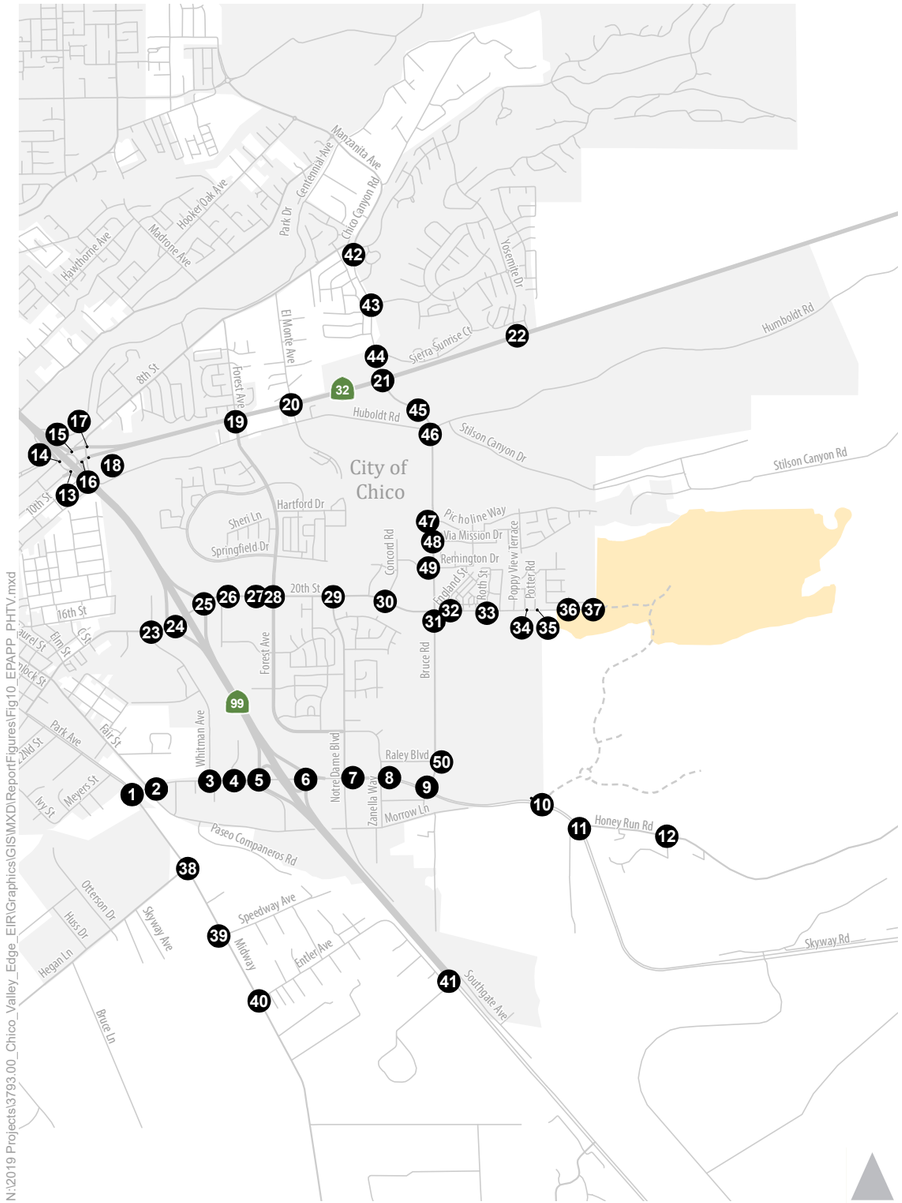
POTENTIAL OPERATIONAL ENHANCEMENTS

Potential operational enhancements are provided for intersections where the proposed project would result in LOS and delay that is worse than the established performance target, or at intersections that were already operating below the established performance target and would experience an increase in delay by five seconds or more as a result of the proposed project. Recommendations are provided below for Near Term Future (2025) Plus Project conditions.

NEAR TERM FUTURE (2025) PLUS PROJECT RECOMMENDATIONS

Under the Near Term Future (2025) Plus Project scenario, 10 intersections operate below the established performance target. With the operational enhancements identified in **Table 13**, the 10 intersections would meet the established performance target. It is important to note, intersections 8, 27, 28, 44, 45 and 48-50 operated below the established performance target without the proposed project. **Table 14** displays the results of the operations analysis with the enhancements.

Table 13: Potential Near Term Future (2025) Enhancements		
Intersection	**Existing Condition**	**Recommendation**
8. Skyway/Zanella Way/Forest Ave	SSSC	Install a Traffic Signal
9. Skyway/Dominic Dr/Bruce Rd	Signal	Modify Signal Timings
27. E 20th St/Target Dwy	SSSC – Full Access	Prohibit Left Outs on the private driveways, Intersection would operate as SSSC – Right In, Left In, Right Out
28. E 20th St/Forest Ave	Signal	Modify Signal Timings
31. E 20th St/Bruce Rd	Signal	Add a Westbound Right Turn Pocket[1]
44. Bruce Rd/Sierra Sunrise Terrace	SSSC	Install a Traffic Signal
45. Bruce Rd/Native Oak Dr	SSSC	Install a Traffic Signal
48. Bruce Rd/Via Mission Dr	SSSC	Install a Traffic Signal or Prohibit Left-turn out movements
49. Bruce Rd/Beacon St	SSSC	Install a Traffic Signal
50. Bruce Rd/Raley Blvd	SSSC	Install a Traffic Signal
Notes: 1Construction of the Bruce Road Widening Project, which is planned to occur by 2025 would alleviate the need for this improvement, since it would include the westbound right turn land and additional turn lanes to accommodate planned growths.		



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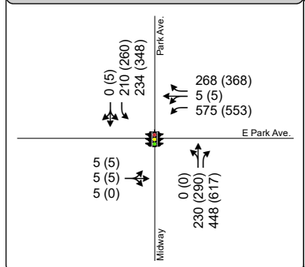
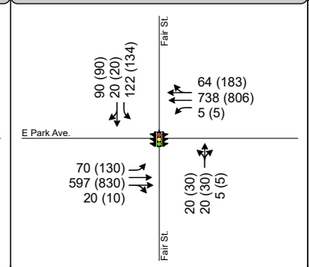
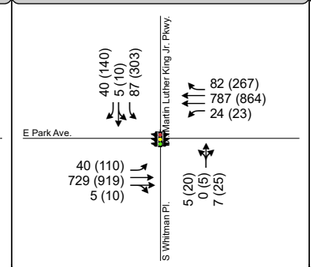
1. Midway/Park Ave/E Park Ave



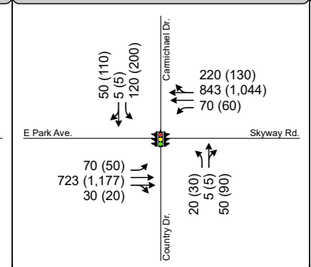
2. Fair St /Fair St/E Park Ave



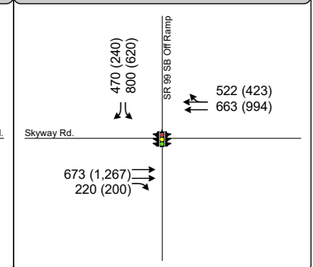
3. Dr Martin Luther King Jr Pkwy/E Park Ave



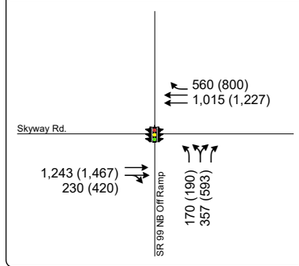
4. Country Dr/E Park Ave /Skyway Rd



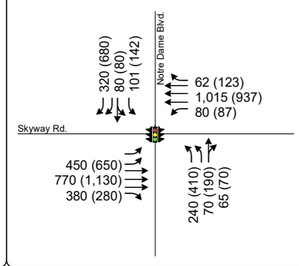
5. SR SB 99 Ramps/Skyway Rd



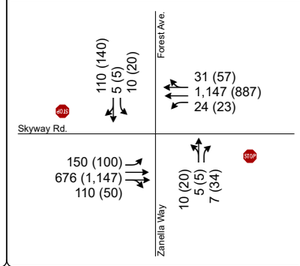
6. SR 99 NB Off Ramp/Skyway Rd



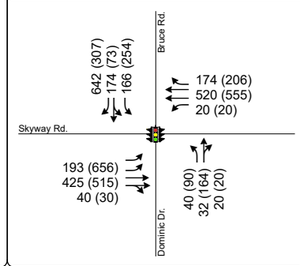
7. Notre Dame Blvd/Skyway Rd



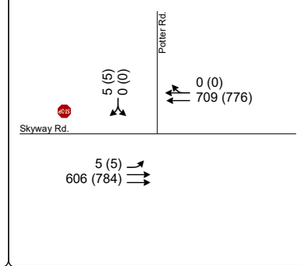
8. Zanella Way/Forest Ave/Skyway Rd



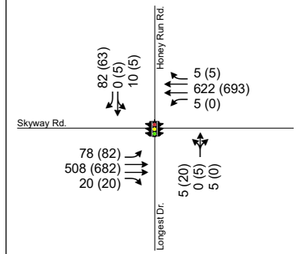
9. Dominic Dr /Bruce Rd/Skyway Rd



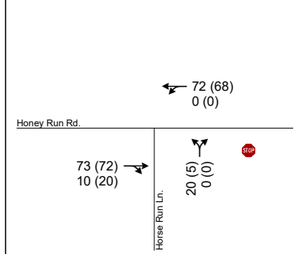
10. Potter Rd/Skyway Rd



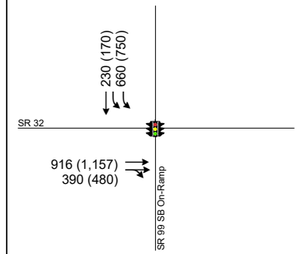
11. Longest Dr/Honey Run Rd/Skyway Rd



12. Horse Run Ln/Honey Run Rd



13. SR 99 SB On Ramp/SR 32



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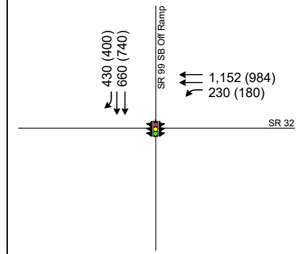
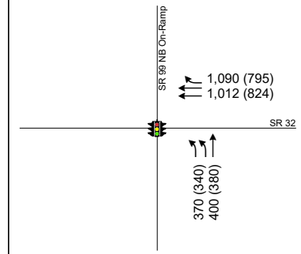
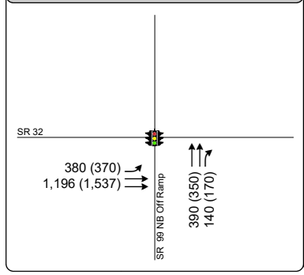


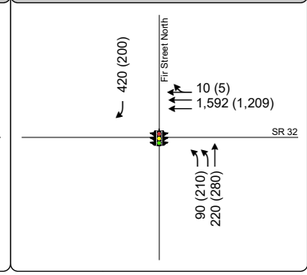
15. SR 99 NB On Ramp/SR 32



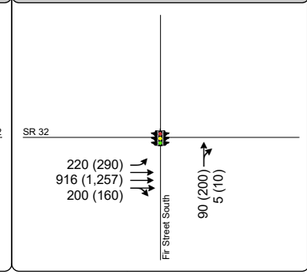
16. SR 99 NB Off Ramp/SR 32



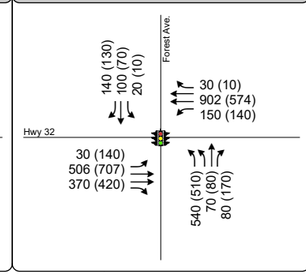
17. Fir Street North /SR 32



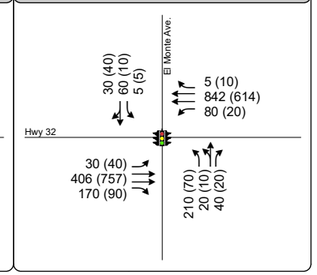
18. Fir Street South /SR 32



19. Forest Ave/Hwy 32



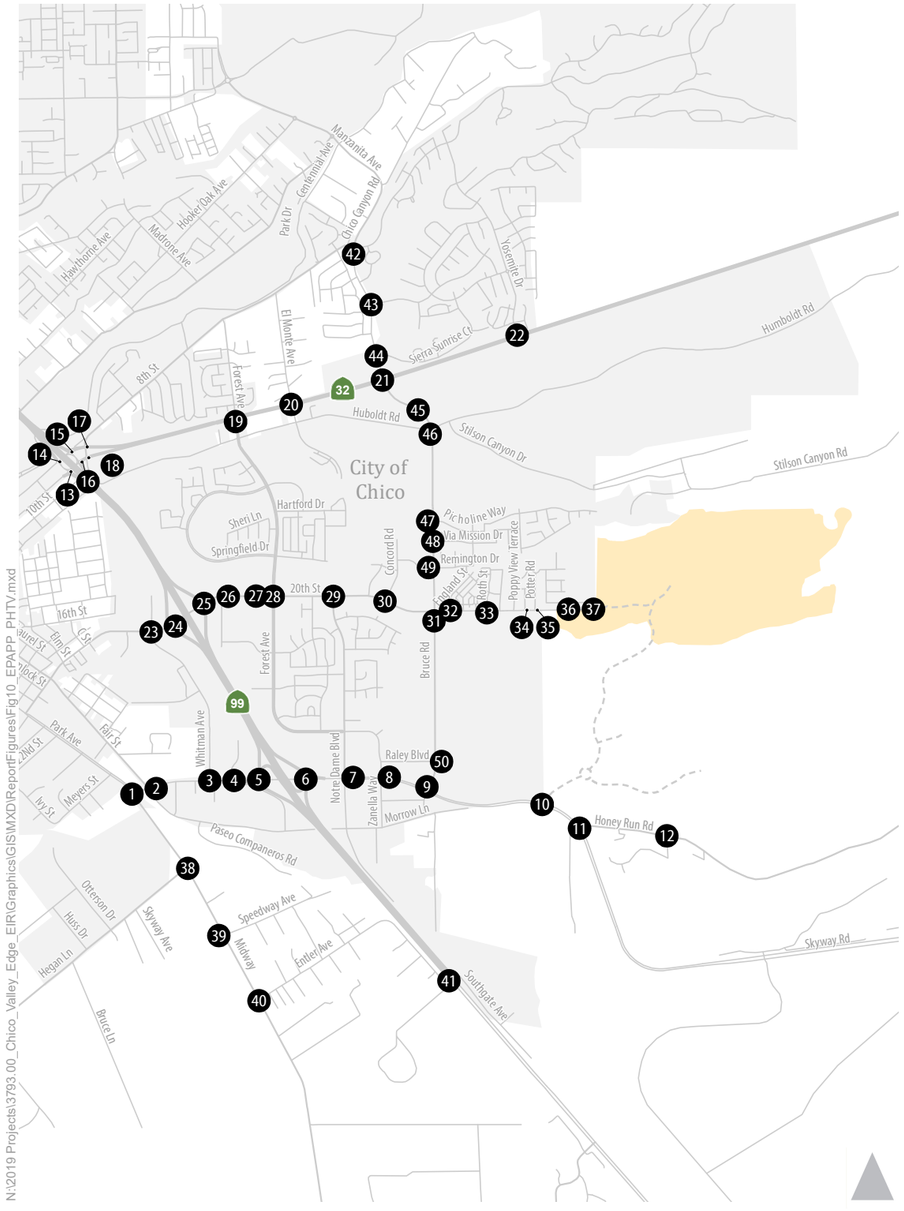
20. El Monte Ave/Hwy 32



1 Study Intersection
Project Site
Turn Lane
AM (PM) Peak Hour Traffic Volume
Traffic Signal
Stop Sign

Figure 10A

Peak Hour Traffic Volumes and Lane Configurations - Near Term Future (2025) Plus Project Conditions



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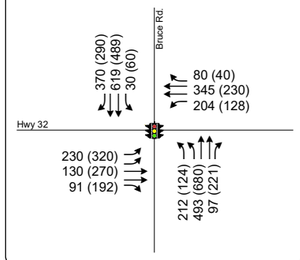
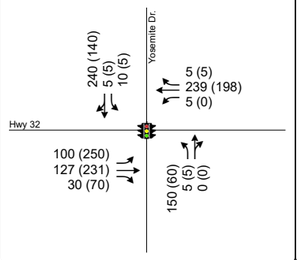
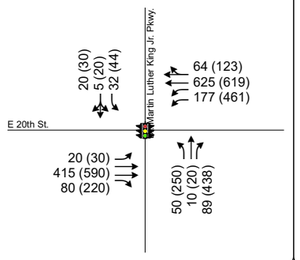
21. Bruce Rd/Hwy 32



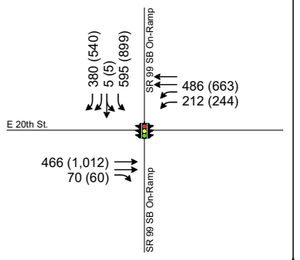
22. Yosemite Dr/Hwy 32



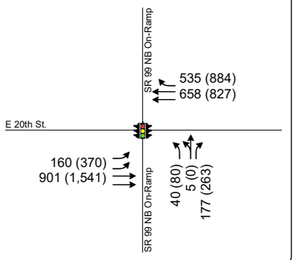
23. Dr Martin Luther King Jr Pkwy/E 20th St



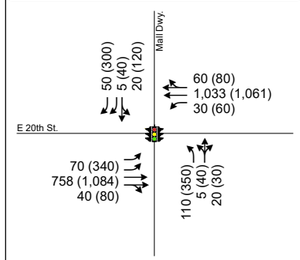
24. SR 99 SB Ramp/E 20th St



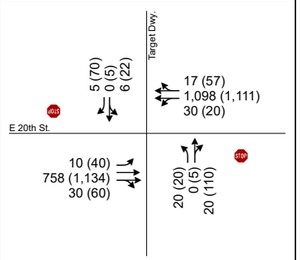
25. SR 99 NB Ramp/E 20th St



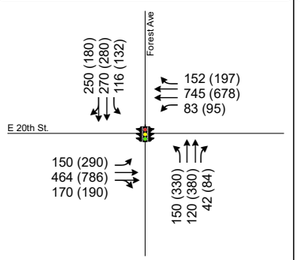
26. Mall Dwy/E 20th St



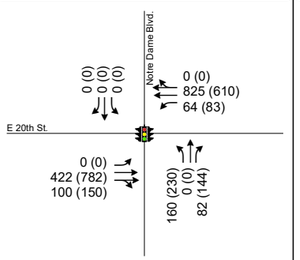
27. Target Dwy/E 20th St



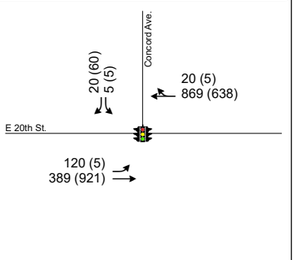
28. Forest Ave/E 20th St



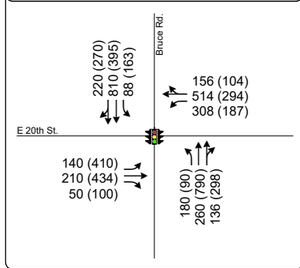
29. Notre Dame Blvd/E 20th St



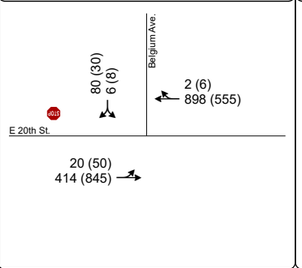
30. Concord Ave/E 20th St



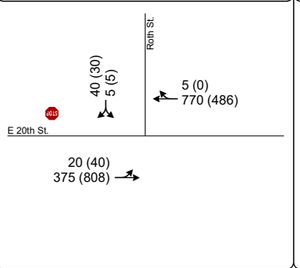
31. Bruce Rd/E 20th St



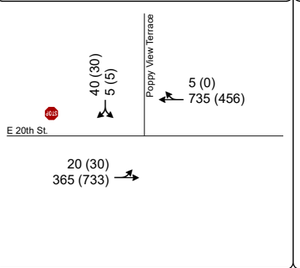
32. Belgium Ave/E 20th St



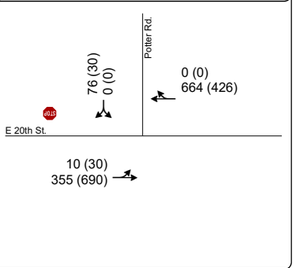
33. Roth St/E 20th St



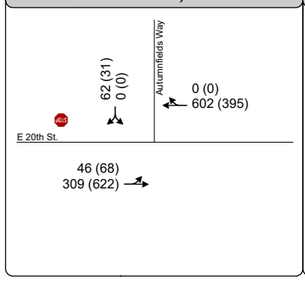
34. Poppy View Terrace/E 20th St



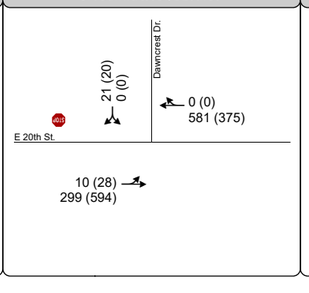
35. Potter Rd/E 20th St



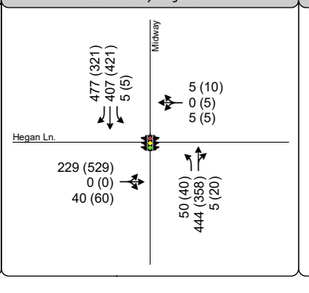
36. Autumnfields Way/E 20th St



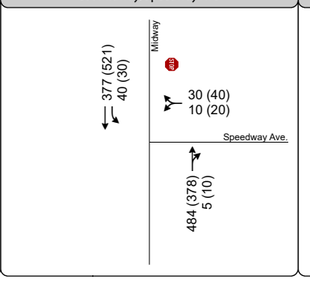
37. Dawncrest Dr/E 20th St



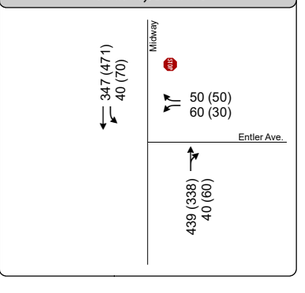
38. Midway/Hegan Ln



39. Midway/Speedway Ave



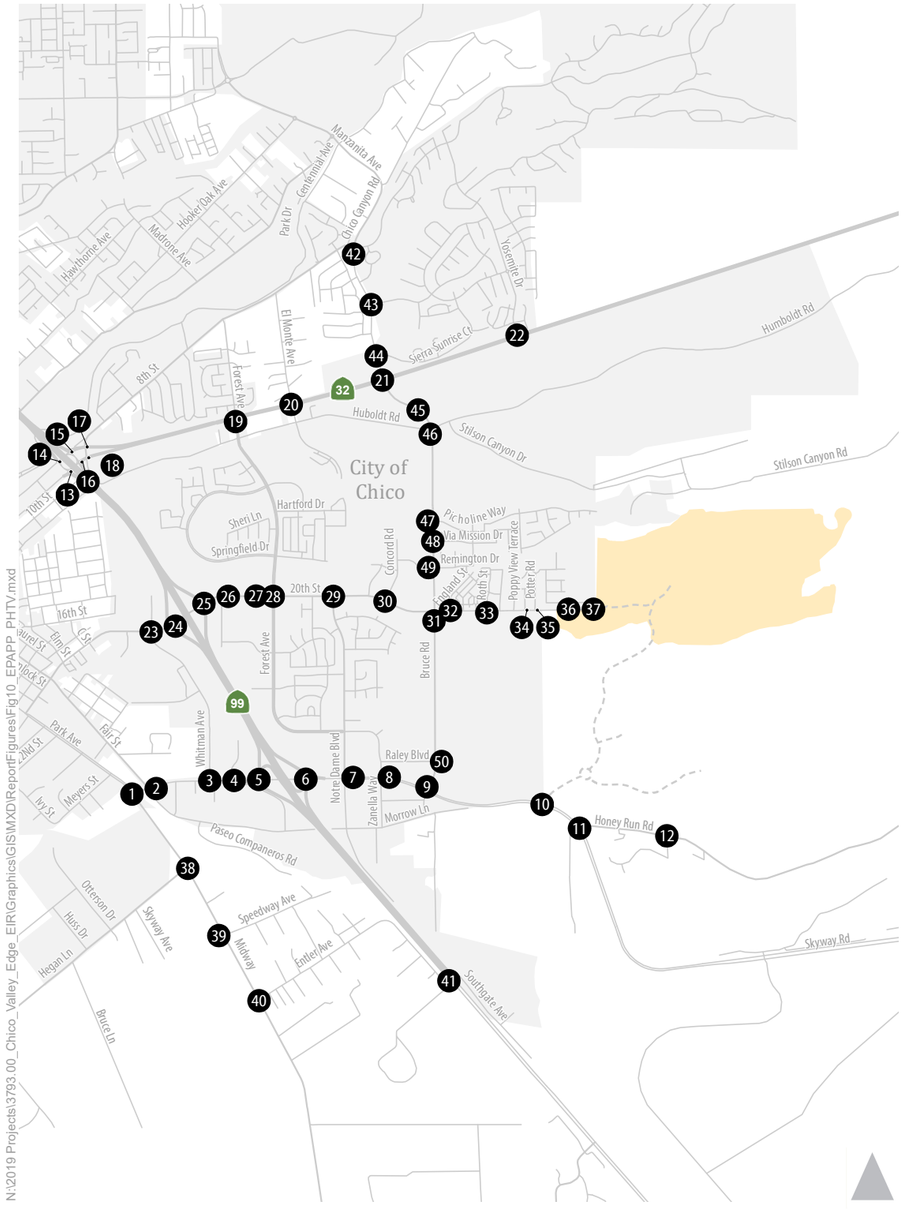
40. Midway/Entler Ave



1 Study Intersection
Project Site
Turn Lane
AM (PM) Peak Hour Traffic Volume
Traffic Signal
Stop Sign

Figure 10B

Peak Hour Traffic Volumes and Lane Configurations - Near Term Future (2025) Plus Project Conditions



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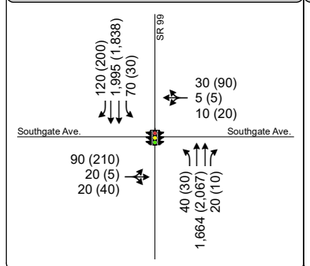
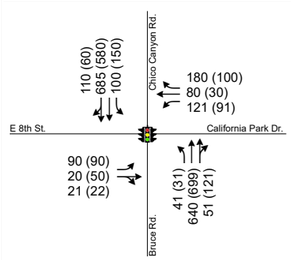
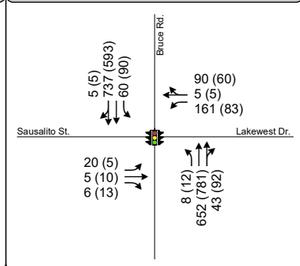
41. SR 99/Southgate Ave/Southgate Ave



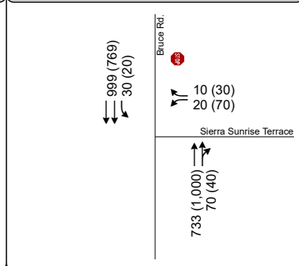
42. Bruce Rd/Chico Canyon Rd/E 8th St



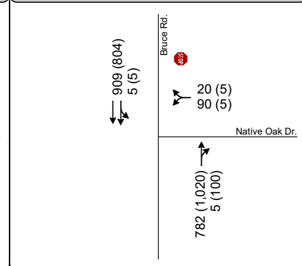
43. Bruce Rd/Sausalito St/Lakewest Dr



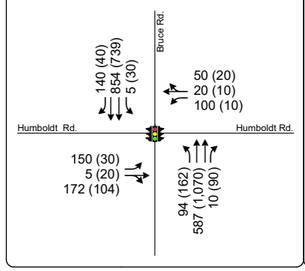
44. Bruce Rd/Sierra Sunrise Terrace



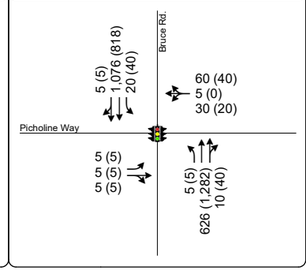
45. Bruce Rd/Native Oak Dr



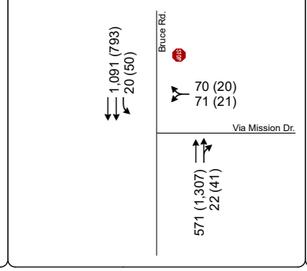
46. Bruce Rd/Humboldt Rd/Humboldt Rd



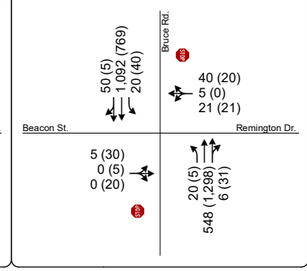
47. Bruce Rd/Picholine Way



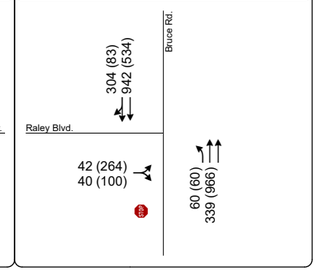
48. Bruce Rd/Via Mission Dr



49. Bruce Rd/Beacon St/Remington Dr



50. Bruce Rd/Raley Blvd



1 Study Intersection
Project Site

Turn Lane
AM (PM) Peak Hour Traffic Volume
Traffic Signal
Stop Sign

Figure 10C

Peak Hour Traffic Volumes and Lane Configurations - Near Term Future (2025) Plus Project Conditions

VI. CUMULATIVE CONDITIONS

This chapter analyzes the cumulative impacts of the proposed project on the transportation system. Results of a Cumulative Plus Project analysis are presented. While not needed for CEQA, level of service (LOS) and delay are provided to help evaluate the project's consistency with General Plan policies and to understand how project trips would affect traffic operations.

LAND USE ASSUMPTIONS

The cumulative analysis is based on a modified version of the 2040 BCAG TDF model. The 2040 land use assumptions include market-level development consistent with the 2016 RTP/SCS outside of the City. In the City, the model includes construction of projects listed in **Table 15**, development of the VESP and 2040 development levels in other areas of the City, consistent with the 2016 RTP/SCS.

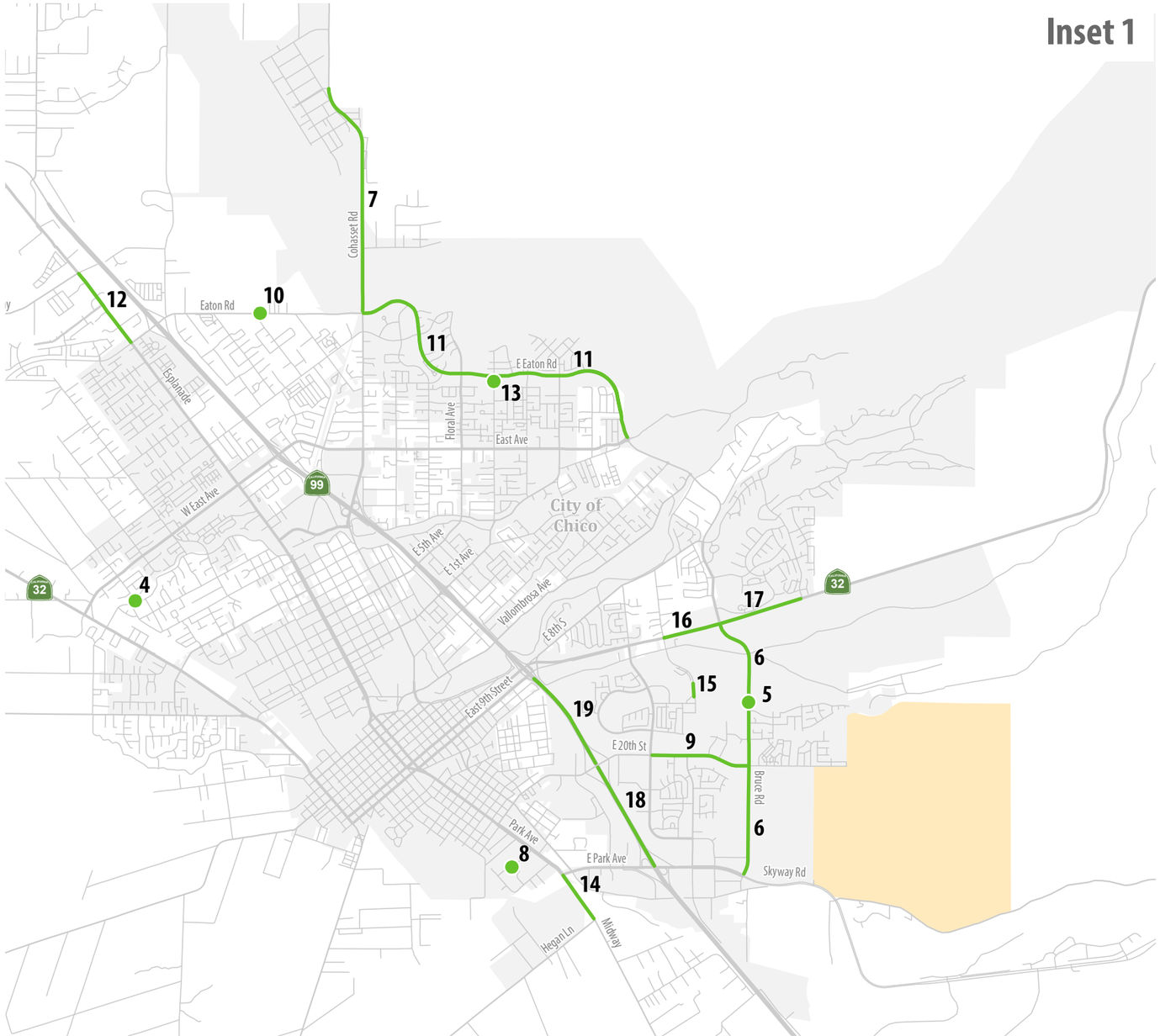
ROADWAY NETWORK ASSUMPTIONS

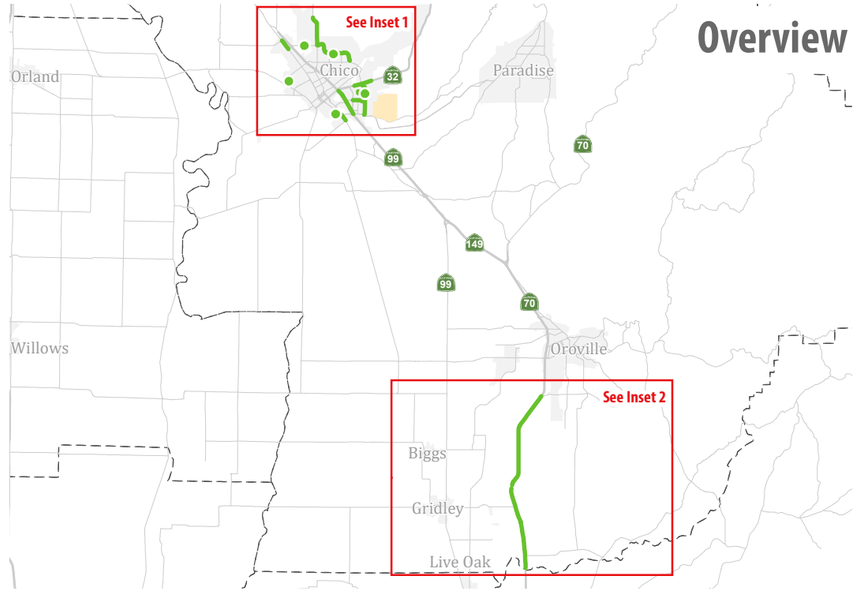
Table 15 identifies modifications to the roadway network assumed in the cumulative analysis. **Figure 11** shows the location of the projects in Table 12.

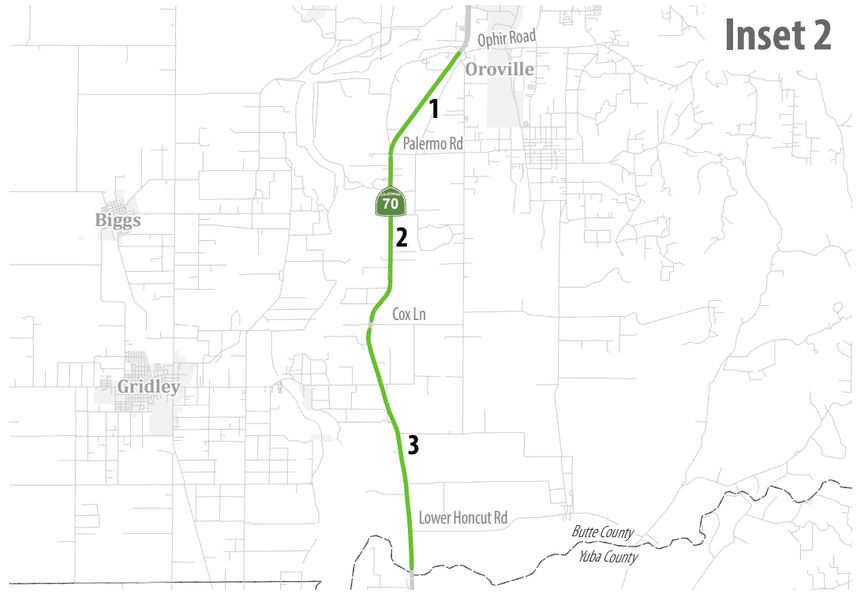
Table 15: Roadway Network Assumptions

ID	Project Title	Implementing Agency	Project Description
1	SR 70 Passing Lanes (Segment 1)	Caltrans	SR 70, from 0.1 mile south of Palermo Road, to just north of Ophir Road/Pacific Heights intersection. Widen from 2 lanes to 4 lanes. (EA 3H71U). Capacity increasing portion only.
2	SR 70 Passing Lanes (Segment 2)	Caltrans	On State Route 70, from Cox Lane to 0.1 mile south of Palermo Road. Widen from 2 lanes to 4 lanes. (EA 3F281 & 3H720)
3	SR 70 Passing Lanes (Segment 3)	Caltrans	On Route 70 from 0.4 mile South or East of Gridley Road to 0.3 mile South of Butte/Yuba County line. Widen from 2 lanes to 4 lanes. (EA 3H930 & 3F282)
4	Guynn Rd over Lindo Channel Bridge Project	Chico	Project is located just north of W Lindo Ave. Replace the existing 1 lane structurally deficient bridge with a new 2 lane bridge. Bridge No 12C0066
5	Bruce Rd Bridge Replacement Project	Chico	In Chico 0.5 miles south of Humboldt Rd on Bruce Road over Little Chico Creek. Project includes replacement of an existing 2-lane

Table 15: Roadway Network Assumptions			
ID	**Project Title**	**Implementing Agency**	**Project Description**
			functionally obsolete bridge with a new 4-lane bridge including reconstruction of bridge approaches. New bridge incorporates a class I bicycle facility.
6	Bruce Rd. Widening	Chico	From Skyway to SR 32, widen Roadway (Bridge included as separate project)
7	Cohasset Road Widening (Airport Blvd to Eaton Rd)	Chico	Widen Cohasset Road (2 to 4 lanes) from Eaton Rd to Airpark Blvd.
8	Commerce Court Connection	Chico	From Ivy Street to Park Ave. connect existing Commerce Ct. to Park Avenue via Westfield Lane.
9	E. 20th Street Widening	Chico	From Forest Avenue to Bruce Road. Widen from 1 lane per direction to 2 lanes per direction with median
10	Eaton Rd Widening	Chico	From Hicks Lane to Cohasset. Widen and extend to 4 lanes with median and new bridge at Sycamore Creek Tributary
11	Eaton Rd Widening	Chico	From Cohasset to Manzanita. Widen to 4 lanes with median
12	Esplanade Widening	Chico	Eaton Rd to Nord Highway. Widen to 4 lanes with median. Extend median south to Shasta Ave
13	Mariposa Ave Connection	Chico	From Glenshire Lane to Eaton Road, add new arterial connection. 1 lane per direction.
14	Midway Widening	Chico	From Hegan Lane to Park Ave. Widen road from 2 lanes to 4 lanes with a median.
15	Notre Dame Boulevard Connection	Chico	From Little Chico Creek to E. 20th Street. Construct new 2 lane street and bridge at Little Chico Creek.
16	SR 32 Widening (Segment 3)	Chico	From El Monte to Bruce Rd. Widen from 2 to 4 lanes.
17	SR 32 Widening (Segment 4)	Chico	From Bruce Rd to Yosemite. Widen from 2 to 4 lanes with signal at Yosemite.
18	SR 99 Auxilary Lanes (Segment 1)	Chico	From Skyway to E. 20th Street. Construct auxiliary lanes to the outside.
19	SR 99 Auxiliary Lanes (Segment 2)	Chico	E. 20th to SR 32. Construct auxiliary lanes to the outside. CP 18057.
Source: BCAG 2020 RTP/SCS Roadway Capacity Projects			







Planned Cumulative Roadway Improvement Location

1 Location ID

Project Site

City Boundary

County Boundary

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Figure 11

Planned Cumulative Roadway Improvements

BUILDOUT TRIP GENERATION

Estimated trip generation for the VESP under the cumulative year conditions (which assumes full build out) is displayed in **Table 16**. As shown, the project is estimated to generate approximately 23,160 daily, 1,710 AM peak hour, and 2,140 PM peak hour net new external trips.

Table 16: Valley's Edge Specific Plan Trip Generation

Land Use	Units	ITE Code	Quantity	Rates[3]			Trip Generation						
								AM			PM		
				Daily	AM	PM	Daily	In	Out	Total	In	Out	Total
Single-Family Detached Housing (Adj Streets, 7-9A, 4-6P)	DU	210	1,230	8.51	0.71	0.92	10,463	220	659	878	712	418	1,130
Multifamily Housing Low Rise (Adj Streets, 7-9A, 4-6P)	DU	220	162	7.31	0.46	0.56	1,184	17	58	75	57	34	91
Senior Adult Housing - Detached (Adj Streets, 7-9A, 4-6P)	DU	251	1,385	4.27	0.24	0.30	5,914	110	222	332	254	162	416
Shopping Center (Adj Street, 7-9A, 4-6P)	KSF	820	39	81.26	0.95	6.95	3,169	23	14	37	130	141	271
General Office Building (Adj Streets, 7-9A, 4-6P)1	KSF	710	272	8.19	1.04	1.08	2,228	243	39	282	47	248	295
Medical-Dental Office Building (Adj Streets, 7-9A, 4-6P)	KSF	720	136	34.80	2.78	3.46	4,733	295	83	378	132	339	471
Elementary School (Adj Streets, 7-9A, 4-6P)	Students	520	500	1.89	0.67	0.17	945	181	154	335	41	44	85
Soccer Complex (Adj Streets, 7-9A, 4-6P)2	Fields	488	7	71.33	0.99	16.43	500	4	3	7	76	39	115
Total Project Vehicle Trips							**29,136**	**1,093**	**1,232**	**2,324**	**1,449**	**1,425**	**2,874**
Reductions													
Internal Capture							-5,702	-272	-306	-578	-356	-350	-706
External Walk, Bike, Transit Trips							-272	-16	-17	-33	-15	-14	-29
Total Reductions							-5,974	-288	-323	-611	-371	-364	-735
New Net External Project Vehicle Trips							**23,162**	**805**	**909**	**1,713**	**1,078**	**1,061**	**2,139**

Sources:
[1]General Office Building - Review of the weekday daily dataset for General Office Building (710) category indicates that 60 percent of data points were collected in the 1980s. Therefore, a weighted average trip generation rate was derived using the ITE 10th Edition Trip Generation Manual WebApp, based on 18 data points from 2000-2016 (i.e., excluding the older data points from the 1980s). The weighted average trip generation rate based on the more recent data is 8.19 daily vehicles trips per 1,000 square feet.
[2]Trip generation for the 48-acre community park (which consists of 18-acres of passive space and 30-acres of active space, per the City of Chico) was estimated using the ITE Soccer Complex (488). The number of fields was estimated based on observed field density at similarly sized parks in Sacramento County and the City of Davis. The measured field density of these parks was 4.12 acres per field and included a combination of full-sized and youth fields.
[3]Trip generation rates calculated based on estimated trip generation and quantity of land use, since many of the trip generation estimates were calculated using trip generation equations, consistent with recommended practice.
Fehr & Peers, 2020, ITE Trip Generation Manual, 10th Edition, Mainstreet/MXD+

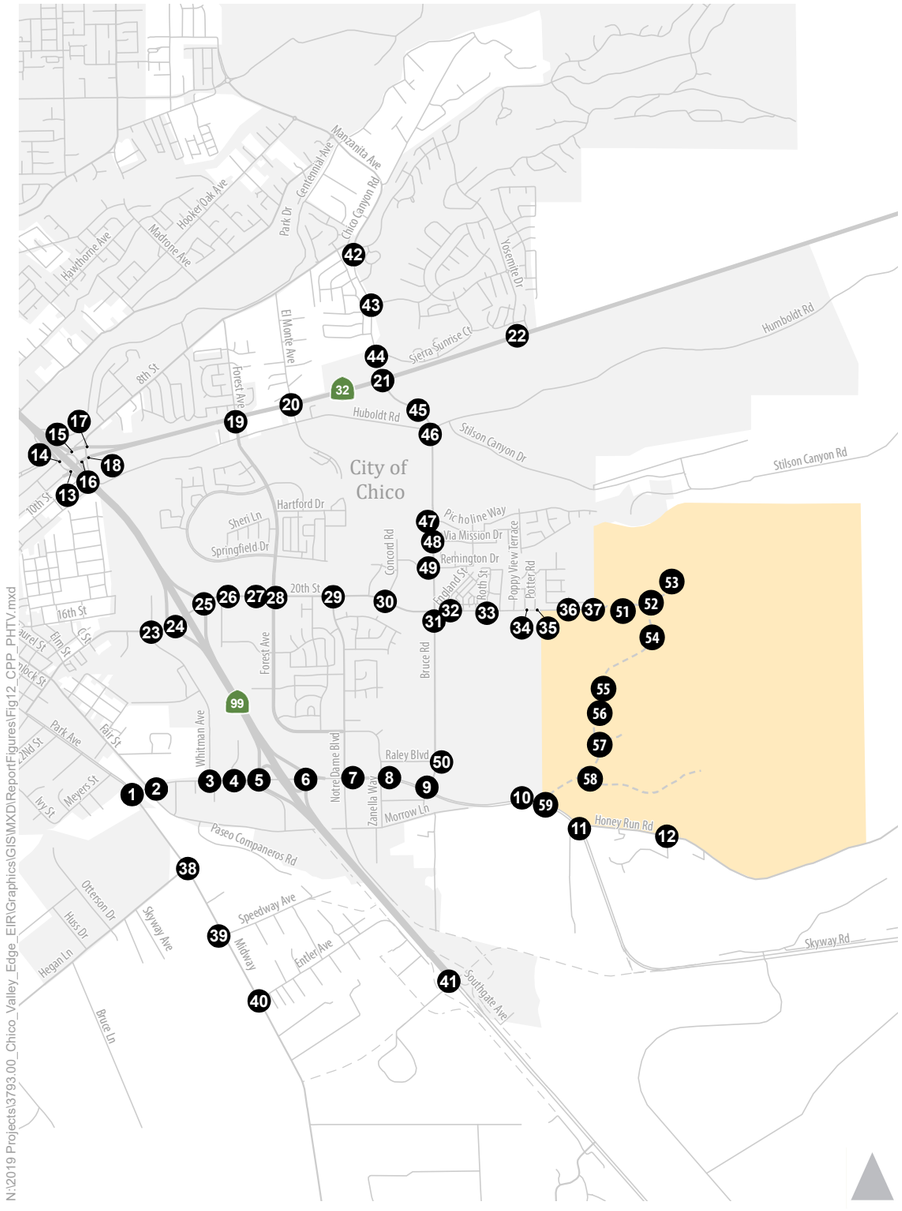
TRAFFIC FORECASTS AND DISTRIBUTION

The proposed project was added to the 2040 BCAG model to develop Cumulative Plus Project forecasts. Consistent with the methodology used to determine the Near term (2025) Future forecasts, the traffic forecasting adjustment procedure known as the "difference method" was used to develop Cumulative Year AM and PM peak hour traffic forecasts.

The Cumulative Plus Project analysis includes nine on-site future year study intersections. Because these intersections do not exist in the Base Year Model, the raw forecasts rounded to the nearest 10 trips are included in the analysis. Under Cumulative Year conditions, approximately 35% of project trips enter/exit the VESP area via E 20th Street and 65% of project trips enter/exit via Skyway during the AM peak hour; 27% of project trips enter/exit via E 20th Street and 73% enter/exit via Skyway during the PM peak hour. These on-site intersections comprise those formed by the primary collector street (Valley's Edge Drive), two other onsite collector streets, and several local residential streets proposed within the plan area. Cumulative Plus Project forecasts are displayed in **Figure 12**.

INTERSECTION OPERATIONS

Table 17 displays the average delay and LOS at the study intersections under Cumulative Plus Project conditions. Refer to **Appendix B** for technical calculations.



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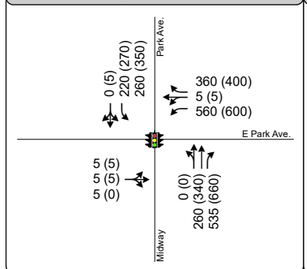
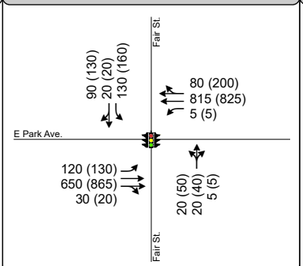
1 Study Intersection
Planned Roadway
Project Site
Turn Lane
AM (PM) Peak Hour Traffic Volume
Traffic Signal
Stop Sign
Roundabout

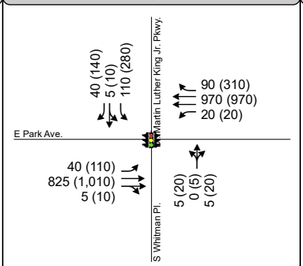
1. Midway/Park Ave/E Park Ave



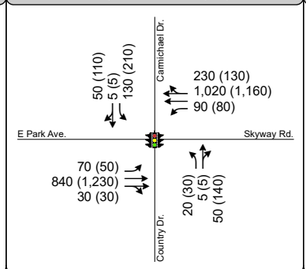
2. Fair St /Fair St/E Park Ave



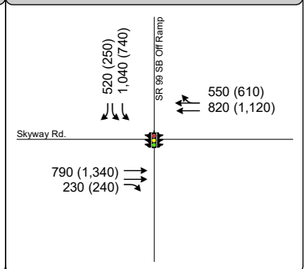
3. Dr Martin Luther King Jr Pkwy/E Park Ave



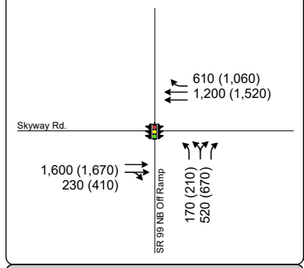
4. Country Dr/E Park Ave /Skyway Rd



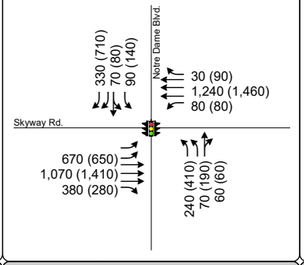
5. SR SB 99 Ramps/Skyway Rd



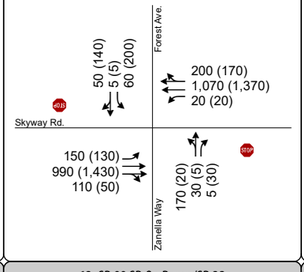
6. SR 99 NB Off Ramp/Skyway Rd



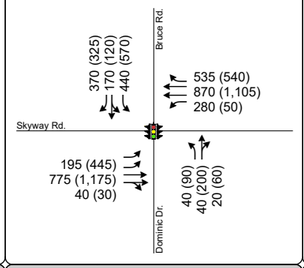
7. Notre Dame Blvd/Skyway Rd



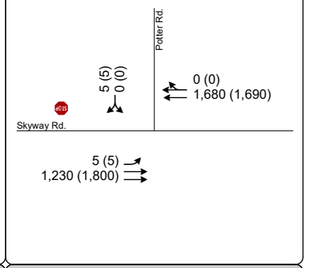
8. Zanella Way/Forest Ave/Skyway Rd



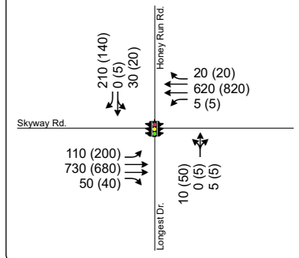
9. Dominic Dr /Bruce Rd/Skyway Rd



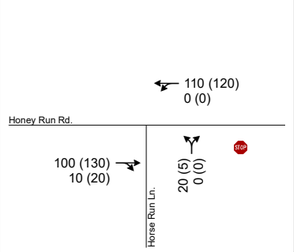
10. Potter Rd/Skyway Rd



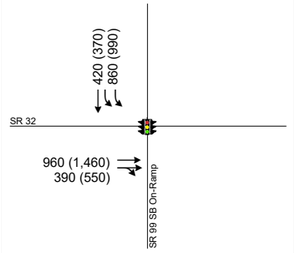
11. Longest Dr/Honey Run Rd/Skyway Rd



12. Horse Run Ln/Honey Run Rd



13. SR 99 SB On Ramp/SR 32



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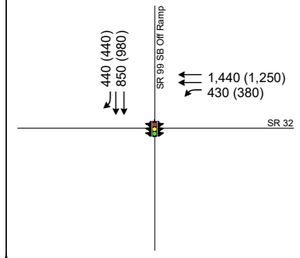
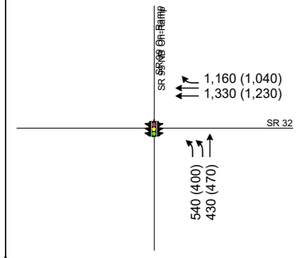
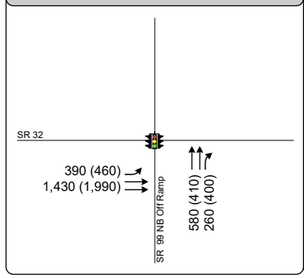


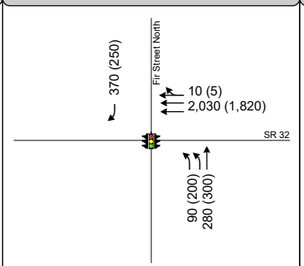
15. SR 99 NB On Ramp/SR 32



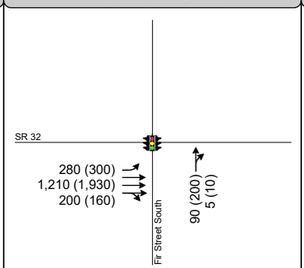
16. SR 99 NB Off Ramp/SR 32



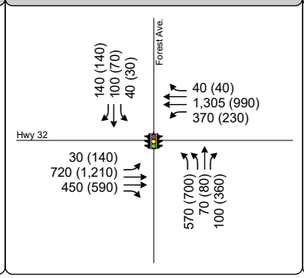
17. Fir Street North /SR 32



18. Fir Street South /SR 32



19. Forest Ave/Hwy 32



20. El Monte Ave/Hwy 32

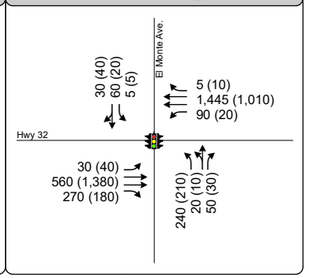
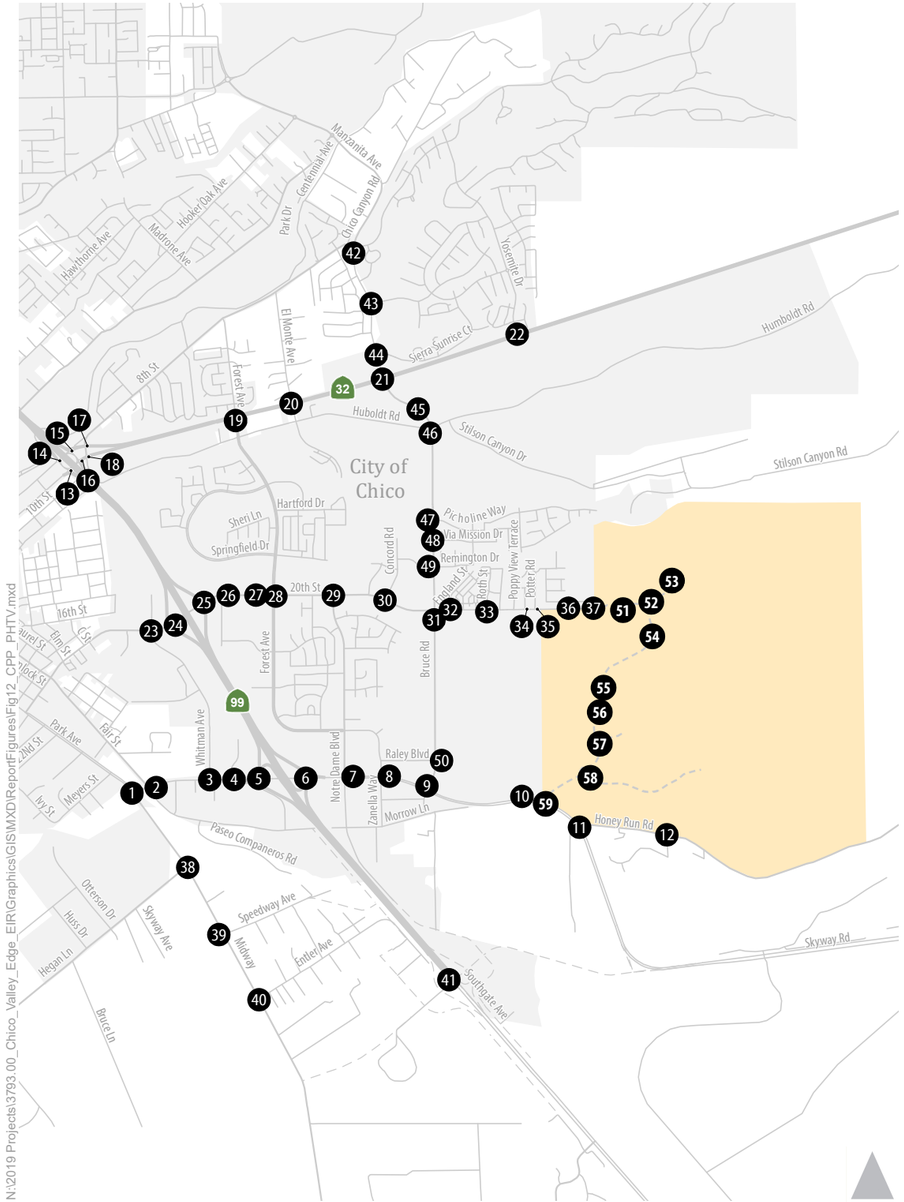


Figure 12A

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions



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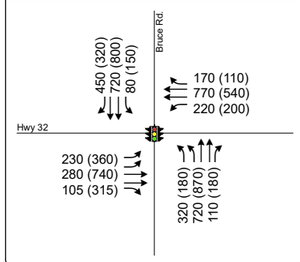
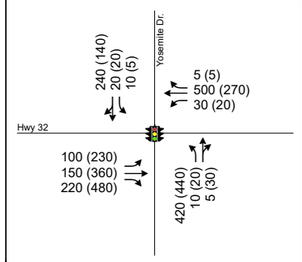
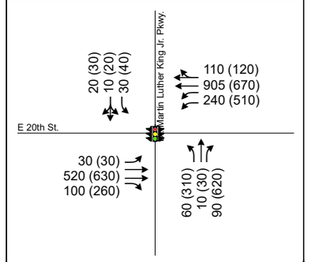
21. Bruce Rd/Hwy 32



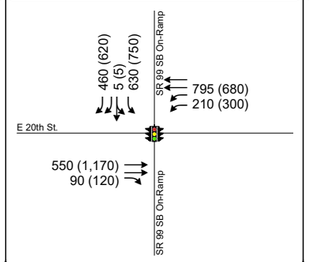
22. Yosemite Dr/Hwy 32



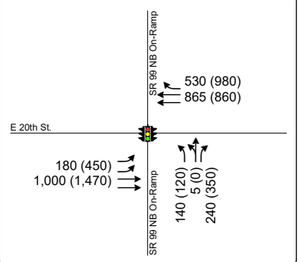
23. Dr Martin Luther King Jr Pkwy/E 20th St



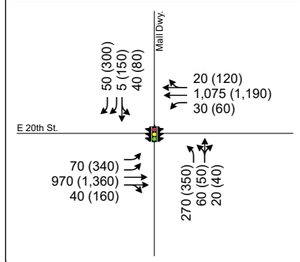
24. SR 99 SB Ramp/E 20th St



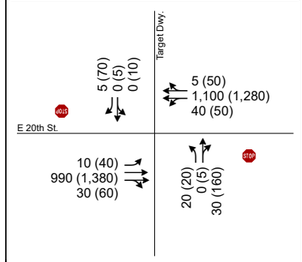
25. SR 99 NB Ramp/E 20th St



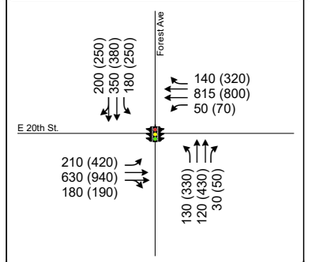
26. Mall Dwy/E 20th St



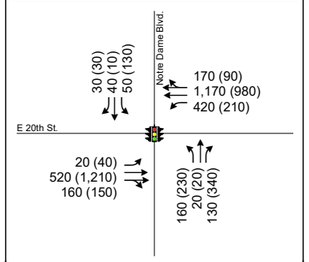
27. Target Dwy/E 20th St



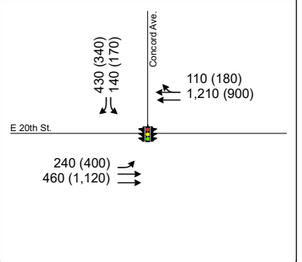
28. Forest Ave/E 20th St



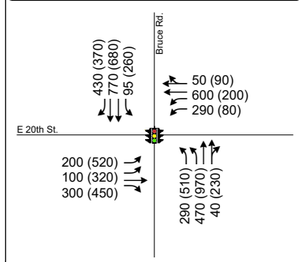
29. Notre Dame Blvd/E 20th St



30. Concord Ave/E 20th St

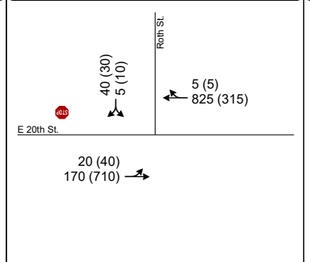


31. Bruce Rd/E 20th St

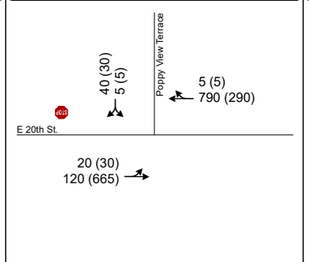


32. Belgium Ave/E 20th St

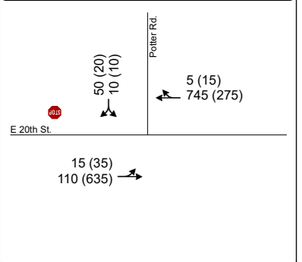
33. Roth St/E 20th St



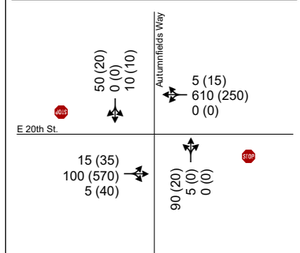
34. Poppy View Terrace/E 20th St



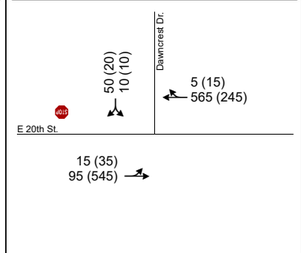
35. Potter Rd/E 20th St



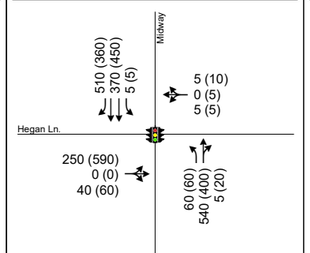
36. Autumnfields Way/E 20th St



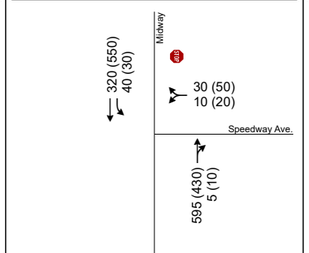
37. Dawncrest Dr/E 20th St



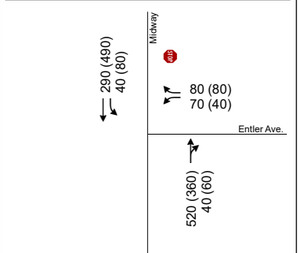
38. Midway/Hegan Ln



39. Midway/Speedway Ave



40. Midway/Entler Ave

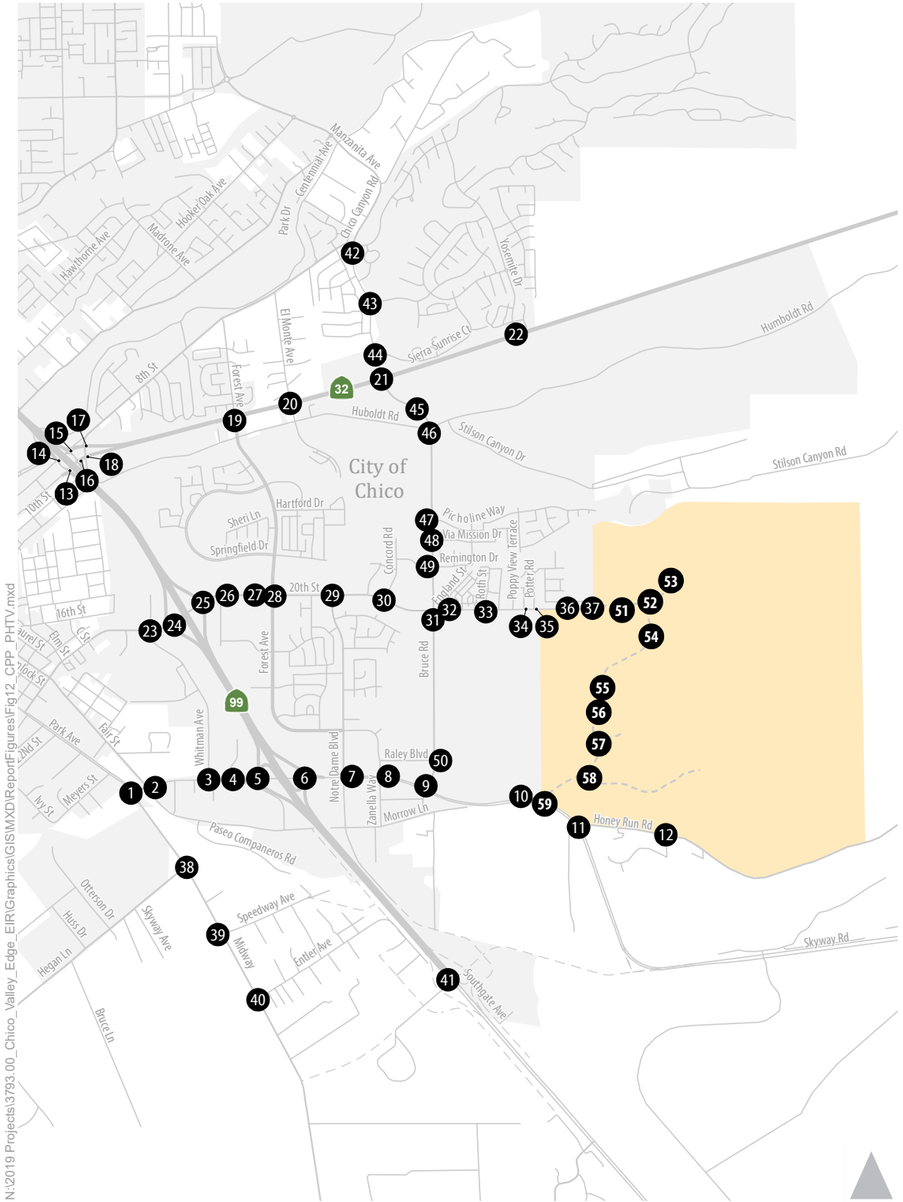


1 Study Intersection
Planned Roadway
Project Site

Turn Lane
AM (PM) Peak Hour Traffic Volume
Traffic Signal
Stop Sign
Roundabout

Figure 12B

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions



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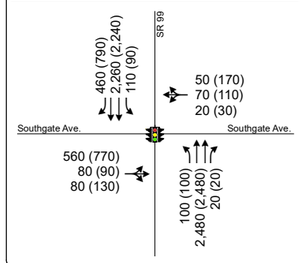
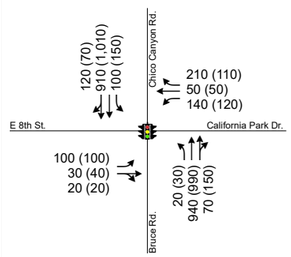
1 Study Intersection
Planned Roadway
Project Site
Turn Lane
AM (PM) Peak Hour Traffic Volume
Traffic Signal
Stop Sign
Roundabout

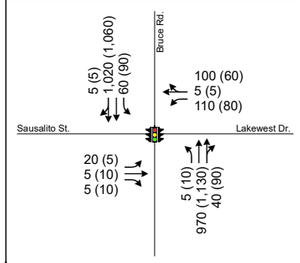
41. SR 99/Southgate Ave/Southgate Ave



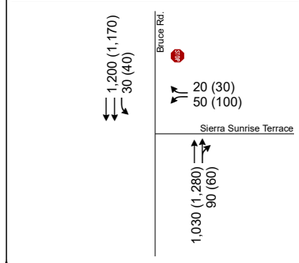
42. Bruce Rd/Chico Canyon Rd/E 8th St



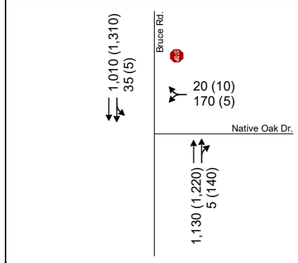
43. Bruce Rd/Sausalito St/Lakewest Dr



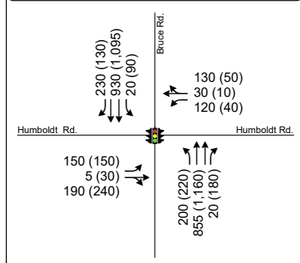
44. Bruce Rd/Sierra Sunrise Terrace



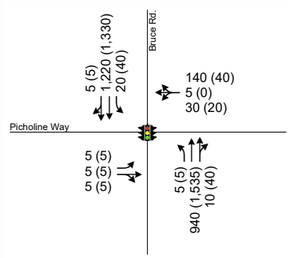
45. Bruce Rd/Native Oak Dr



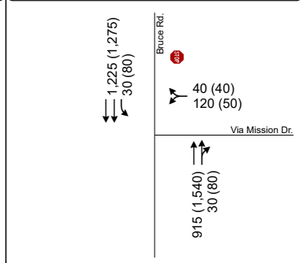
46. Bruce Rd/Humboldt Rd/Humboldt Rd



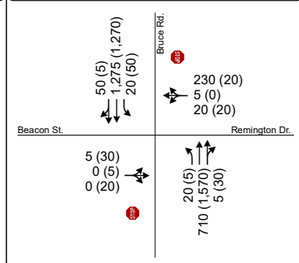
47. Bruce Rd/Picholine Way



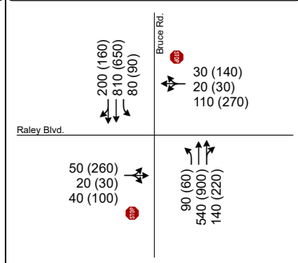
48. Bruce Rd/Via Mission Dr



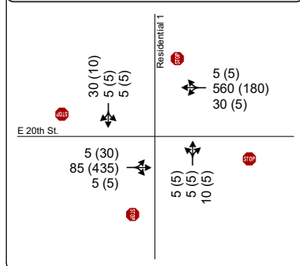
49. Bruce Rd/Beacon St/Remington Dr



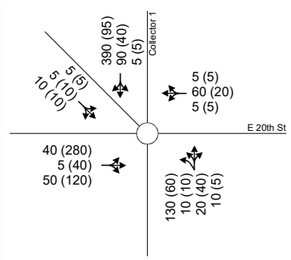
50. Bruce Rd/Raley Blvd



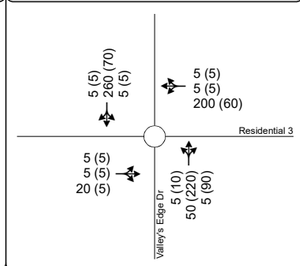
51. E 20th St/Residential 1



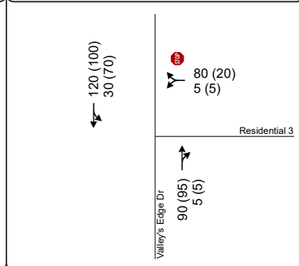
52. E 20th St/Collector 1



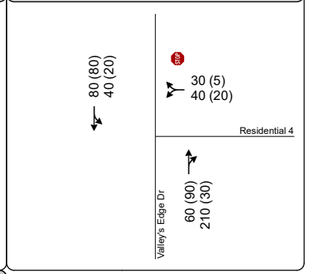
53. Valley's Edge Dr/Residential 3



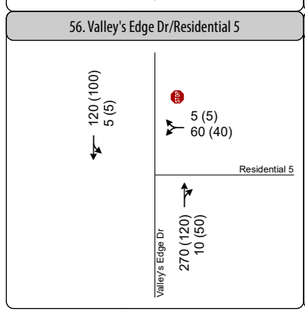
54. Valley's Edge Dr/Residential 3



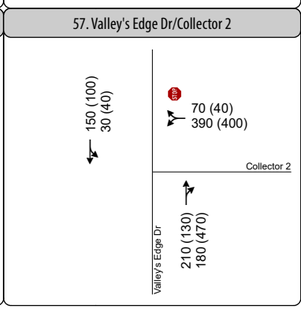
55. Valley's Edge Dr/Residential 4



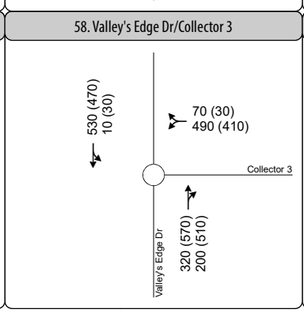
56. Valley's Edge Dr/Residential 5



57. Valley's Edge Dr/Collector 2



58. Valley's Edge Dr/Collector 3



59. Skyway Rd/Valley's Edge Dr

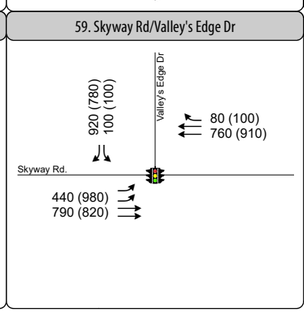


Figure 12C

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

Table 17: Intersection Operations - Cumulative Plus Project Conditions				
Intersection	**Traffic Control**	**Peak Hour**	**Delay**	**LOS**
1. Midway/Park Ave/ E Park Ave	Signal	AM PM	17 20	B B
2. Fair Street/E Park Ave	Signal	AM PM	11 12	B B
3. S Whitman Pl/Dr. Martin Luther King Jr Pkwy/E Park Ave	Signal	AM PM	11 16	B B
4. Skyway/Country Dr/Carmichael Dr	Signal	AM PM	14 23	B C
5. Skyway /SR 99 SB Ramps	Signal	AM PM	11 12	B B
6. Skyway/SR 99 NB Ramps	Signal	AM PM	9 11	A B
7. Skyway/Notre Dame Blvd	Signal	AM PM	28 48	C D
8. Skyway/Zanella Way/Forest Ave	SSSC	AM PM	**>300 (>300)** **1 (>300)**	**F (F)** **A (F)**
9. Skyway/Dominic Dr/Bruce Rd	Signal	AM PM	38 **92**	D **F**
10. Skyway/Potter Rd	SSSC	AM PM	1 (22) 1 (20)	A (C) A (C)
11. Skyway/Longest Dr/Honey Run Rd	Signal	AM PM	6 6	A A
12. Horse Run Ln/Honey Run Rd	SSSC	AM PM	1 (10) 1 (11)	A (B) A (B)
13. SR 32/SR 99 SB On-Ramp	Signal	AM PM	26 112	C F
14. SR 32/SR 99 SB Off-Ramp	Signal	AM PM	60 94	E F
15. SR 32/SR 99 NB On-Ramp	Signal	AM PM	107 90	F F
16. SR 99 NB Off-Ramp/SR 32	Signal	AM PM	16 53	B D
17. SR 32/N Fir St	Signal	AM PM	32 31	C C
18. SR 32/ S Fir St	Signal	AM PM	4 8	A A
19. SR 32/Forest Ave	Signal	AM PM	56 **98**	E **F**
20. SR 32/El Monte Ave	Signal	AM PM	33 13	C B
21. SR 32/Bruce Rd	Signal	AM PM	38 46	D D
22. SR 32/Yosemite DR	Signal	AM PM	35 41	C D
23. E 20th St/Dr. Martin Luther King Jr Pkwy	Signal	AM PM	17 29	B C
24. E 20th St/SR 99 SB Ramp	Signal	AM PM	20 21	C C
25. E 20th St/SR 99 NB Ramp	Signal	AM PM	22 17	C B
26. E 20th St/Mall Dwy*	Signal	AM PM	17 **82**	B **F**

Table 17: Intersection Operations - Cumulative Plus Project Conditions				
Intersection	**Traffic Control**	**Peak Hour**	**Delay**	**LOS**
27. E 20th St/Target Dwy*	SSSC	AM PM	**3 (>300)** **1 (>300)**	**A (F)** **A (F)**
28. E 20th St/Forest Ave	Signal	AM PM	26 79	C E
29. E 20th St/Notre Dame Blvd	Signal	AM PM	23 25	C C
30. E 20th St/Concord Ave	Signal	AM PM	19 21	B C
31. E 20th St/Bruce Rd	Signal	AM PM	33 56	C E
32. E 20th St/Belgium Ave	SSSC	AM PM	2 (27) 1 (15)	A (D) A (B)
33. E 20th St/Roth St	SSSC	AM PM	1 (24) 1 (18)	A (C) A (C)
34. E 20th St/Poppy View Terrace	SSSC	AM PM	1 (21) 1 (13)	A (C) A (B)
35. E 20th St/Potter Rd	SSSC	AM PM	2 (27) 1 (19)	A (D) A (C)
36. E 20th St/Autumnfields Way	SSSC	AM PM	**5 (39)** 1 (30)	**A (E)** A (D)
37. E 20th St/Dawncrest Dr	SSSC	AM PM	1 (14) 1 (13)	A (B) A (B)
38. Midway/Hegan Ln	Signal	AM PM	13 24	B C
39. Midway/Speedway Ave	SSSC	AM PM	1 (16) 1 (16)	A (C) A (C)
40. Midway/Entler Ave	SSSC	AM PM	3 (25) 2 (27)	A (C) A (D)
41. SR 99/Southgate Ave	Signal	AM PM	328 513	F F
42. Bruce Rd/Chico Canyon Rd/California Park Dr	Signal	AM PM	16 18	B B
43. Bruce Rd/Sausalito St/Lakewest Dr	Signal	AM PM	11 12	B B
44. Bruce Rd/Sierra Sunrise Terrace	SSSC	AM PM	**7 (>300)** **61 (>300)**	**A (F)** **F (F)**
45. Bruce Rd/Native Oak Dr	SSSC	AM PM	**>300 (>300)** **1 (68)**	**F (F)** **F (F)**
46. Bruce Rd/Humboldt Rd	Signal	AM PM	18 22	B C
47. Bruce Rd/Picholine Way	Signal	AM PM	11 10	B B
48. Bruce Rd/Via Mission Dr	SSSC	AM PM	**45 (>300)** **63 (>300)**	**F (F)** **F (F)**
49. Bruce Rd/Beacon St	SSSC	AM PM	**13 (>300)** **36 (>300)**	**B (F)** **E (F)**
50. Bruce Rd/Raley Blvd	SSSC	AM PM	**235 (>300)** **>300 (>300)**	**F (F)** **F (F)**
51. E 20th / Typical Residential 1	SSSC	AM PM	1 (9) 1 (11)	A (A) A (B)
52. E 20th / Valley's Edge Dr	Roundabout	AM PM	8 6	A A
53. Valley's Edge Dr /Typical Residential 2	Roundabout	AM PM	5 4	A A

Table 17: Intersection Operations - Cumulative Plus Project Conditions				
Intersection	**Traffic Control**	**Peak Hour**	**Delay**	**LOS**
54. Valley's Edge Dr /Typical Residential 3	SSSC	AM PM	3 (9) 3 (9)	A (A) A (A)
55. Valley's Edge Dr /Typical Residential 4	SSSC	AM PM	2 (11) 2 (10)	A (B) A (B)
56. Valley's Edge Dr /Typical Residential 5	SSSC	AM PM	2 (12) 1 (10)	A (B) A (B)
57. Valley's Edge Dr /Collector 2	SSSC	AM PM	**41 (90)** **42 (112)**	**E (F)** **E (F)**
58. Valley's Edge Dr /Collector 3	Roundabout	AM PM	18 14	C B
59. Valley's Edge Dr /Skyway	Signal	AM PM	18 70	A E

Notes:
Bold indicates intersection operates unacceptably per the established performance target.
-LOS = Level of Service; SSSC = Side Street Stop Control
-Intersection LOS and delay for all intersections, except intersections 13-16, was calculated using Synchro 10 and is based on the procedures and methodologies contained in the Highway Capacity Manual 6th Edition (Transportation Research Board, 2016). Intersection LOS and delay for intersections 13-16 is based on the Highway Capacity Manual 2000 because these intersections are clustered.
-For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches. For SSSC intersections; average intersection delay and (worst case) movement delay is reported.
* Pursuant to Chico General Plan Policy CIRC-1.4 there are no LOS standards for private roads, however because this intersection is located on a City arterial roadway the public/private intersection LOS is reported for information purposes.

Source: Fehr & Peers, 2020.

As shown, 12 intersections, two of which are future project intersections, operate below the established performance target under Cumulative Plus Project conditions.

FREEWAY OPERATIONS

Freeway operations for seven study segments on SR 99 were analyzed under Cumulative Plus Project Conditions. **Table 18** displays the results of the analysis for weekday AM and PM peak hours (refer to **Appendix B** for detailed calculations). As shown, all freeway facilities operate at LOS E or better under Cumulative Plus Project Conditions.

Table 18: Freeway Operations - Cumulative Plus Project Conditions					
Freeway	**Segment**	**Type**	**Peak Hour**	**Density**	**LOS**
SR 99 Northbound	Southgate to Skyway	Basic	AM	33.5	D
			PM	32.5	D
	Skyway Off-Ramp	Diverge	AM	37.2	E
			PM	36.5	E
	Skyway	Basic	AM	24.7	C
			PM	23.1	C
	Skyway Loop On-Ramp	Merge	AM	29.8	D
			PM	29.5	D
	Skyway Slip On-Ramp to E 20th Off-Ramp	Weave[2]	AM	-	C
			PM	-	D
	E 20th	Basic	AM	30.1	D
			PM	34.2	D
	E 20th On-Ramp to SR 32 Off-Ramp	Weave[2]	AM	-	D
			PM	-	D
SR 99 Southbound	SR 32 On-Ramp to E 20th St Off-Ramp	Weave[2]	AM	-	E
			PM	-	E
	E 20th St	Basic	AM	37.4	E
			PM	25.9	C
	E 20th St On-Ramp to Skyway Off-Ramp	Weave[2]	AM	-	D
			PM	-	D
	Skyway	Basic	AM	21.1	C
			PM	24.3	C
	Skyway Loop On-Ramp	Merge	AM	27.7	C
			PM	29.8	D
	Skyway Slip On-Ramp	Merge	AM	31.1	D
			PM	32.6	D
	South of Skyway	Basic	AM	29.7	D
			PM	31.6	D

Notes:
Auxiliary lanes on SR 99 are assumed from the Skyway Slip On-Ramp to SR 32.
[1] Density expressed in passenger car equivalents per hour per mile per lane.
[2] Result from Leisch Method is reported for weave segments. The Leisch method is based on service volume and therefore does not report density. For weave sections, a conservative assumption of zero on to Off-Ramp volumes were assumed.
Source: Fehr & Peers, 2020

CUMULATIVE IMPACTS

Cumulative conditions include planned population and employment growth in the City of Chico and Butte County, consistent with the *2016 Regional Transportation Plan and Sustainable Communities Strategy for Butte County*, including planned development in Paradise. The transportation improvements under cumulative conditions are funding constrained, based on financial projections.

The planned growth and transportation improvements that are part of the cumulative setting would not change the project, its provision of bicycle, pedestrian and transit facilities, or applicable City design standards. The connections to the existing transportation system would not change (i.e., in terms of location or capacity). While the planned growth and transportation improvements would increase demand for travel, the project must demonstrate consistency with General Plan policy related to the performance of the transportation system, including intersection level of service and delay. Consequently, traffic operations would not exceed established standards without approval by the City. As a result, the addition of the project under cumulative conditions would not change emergency access.

There are no conditions within the study area unique to the cumulative setting that would warrant a different conclusion than that of project-specific conditions.

OPR's Technical Advisory provides guidance to practitioners regarding VMT analysis under cumulative conditions. Specifically, for projects analyzed using a VMT efficiency metric (such as was performed in this study), the following statement is made:

> "A project that falls below an efficiency-based threshold that is aligned with the long-term environmental goals and relevant plans would have no cumulative impacts distinct from the project impact. Accordingly, a finding of less-than-significant project impact would imply a less than significant cumulative impact, and vice versa".

Because the VMT performance standard relies upon the Technical Advisory's 15% decrease recommendation, there is no need to analyze cumulative VMT.

Transportation impacts were found to be less than significant with implementation of Mitigation MeasureTR-1 under baseline conditions, and this same finding applies under cumulative conditions.

VII. OTHER CONSIDERATIONS

This chapter discusses several important topics including potential operational enhancements that would improve deficient operations at study intersections, the percent share of project-related traffic on deficient facilities and recommendations on when the internal project north/south roadway should be constructed.

POTENTIAL OPERATIONAL ENHANCEMENTS

Potential operational enhancements are provided for intersections where the proposed project would result in LOS and delay that is worse than the established performance target, or at intersections that were already operating below the established performance target and would experience an increase in delay by five seconds or more as a result of the proposed project. Recommendations are provided below for Cumulative Plus Project conditions.Cumulative Plus Project Recommendations

Under the Cumulative Plus Project scenario, 15 intersections operate below the established performance target. With the operational enhancements identified in **Table 19** and shown on **Figure 13**, the 12 intersections would meet the established performance target. **Table 20** summarizes the LOS and delay with the operational enhancements.

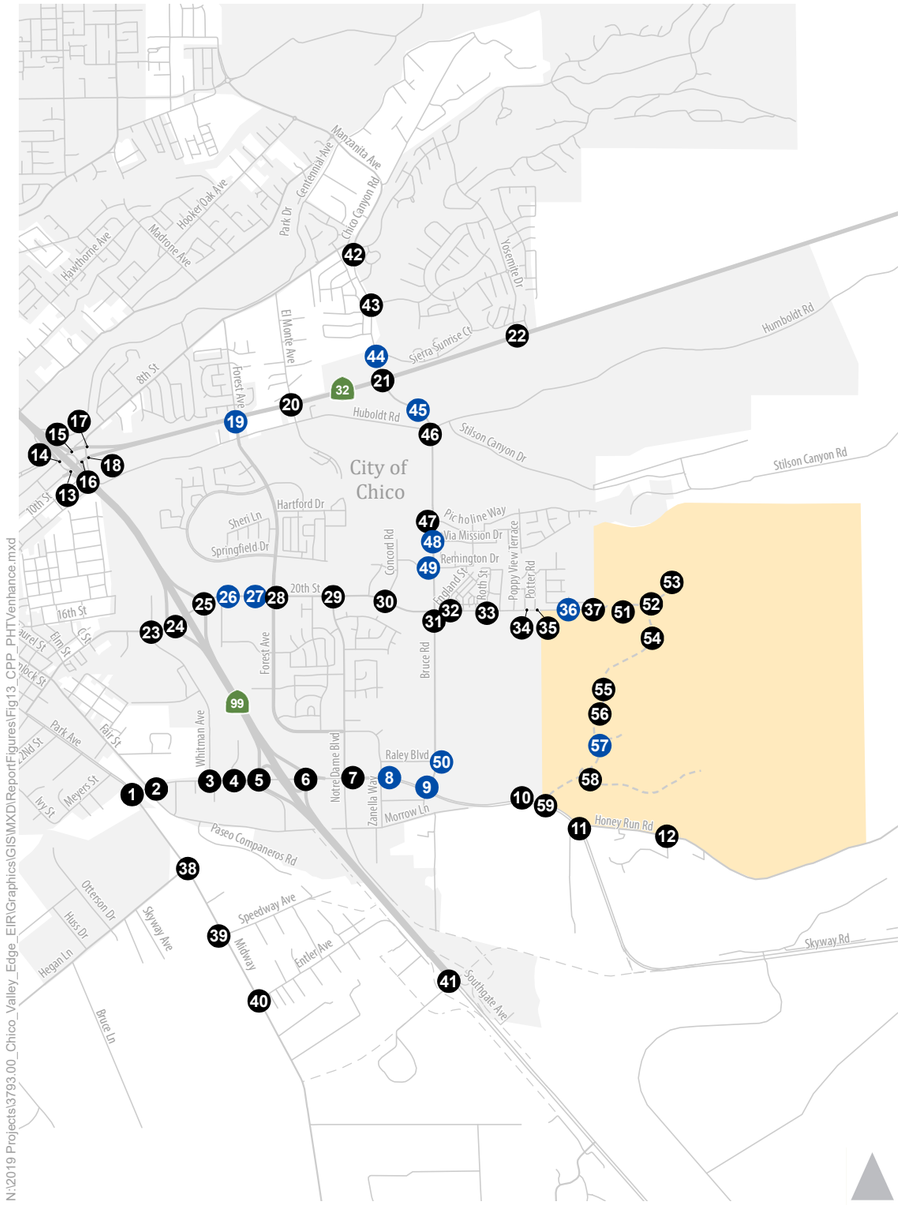
Table 19: Potential Cumulative Condition Enhancements

Intersection	Cumulative Condition	Recommendation	Included in City CIP or Fee Program
8. Skyway/Zanella Way/Forest Ave	SSSC	Install a Traffic Signal	No
9. Skyway/Dominic Dr/Bruce Rd	Signal	Pay Traffic Impact Fees[1]	No
19. SR 32/Forest Ave	Signal	No Additional Improvements Identified	No
26. E 20th St/Mall Dwy	Signal	Modify Phasing for Protected Northbound and Southbound Left Turns	No
27. E 20th St/Target Dwy	SSSC – Full Access	Prohibit Left Outs on the Side Streets, Intersection would operate as SSSC – Right In, Left In, Right Out	No
36. E 20th St/Autumnfields Way	SSSC	Install a Roundabout	No
44. Bruce Rd/Sierra Sunrise Terrace	SSSC	Install a Traffic Signal	Yes (Fee Program)
45. Bruce Rd/Native Oak Dr	SSSC	Install a Traffic Signal	No

48. Bruce Rd/Via Mission Dr	SSSC	Install a Traffic Signal or Prohibit Left Outs	No
49. Bruce Rd/Beacon St	SSSC	Install a Traffic Signal	No
50. Bruce Rd/Raley Blvd	SSSC	Install a Traffic Signal with Eastbound and Westbound Protected Left Turns	No
57. Valley's Edge Dr /Collector 2	SSSC	Install a Roundabout	No

[1] The City's traffic impact fee program includes funding for the SR 99/Southgate interchange (ID 717) and associated connection to Skyway. Payment of impact fees will mitigate the projects impact at this intersection by providing an alternative to Skyway.

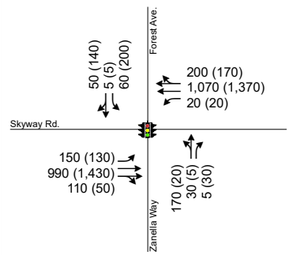
[2] With construction of the Southgate Interchange and the connection of Skyway Road to the interchange, a two lane roundabout would meet the desired performance standard.



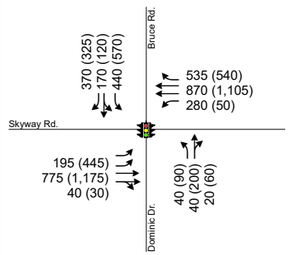
1 Study Intersection
1 Study Intersection with Enhancements
Planned Roadway
Project Site

Turn Lane
AM (PM) Peak Hour Traffic Volume
Traffic Signal
Stop Sign
Roundabout

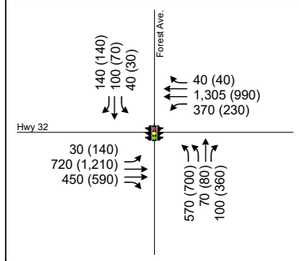
8. Zanella Way/Forest Ave/Skyway Rd



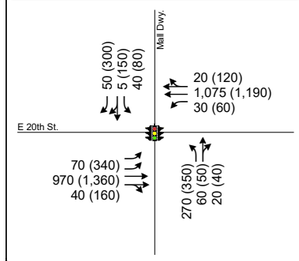
9. Dominic Dr /Bruce Rd/Skyway Rd



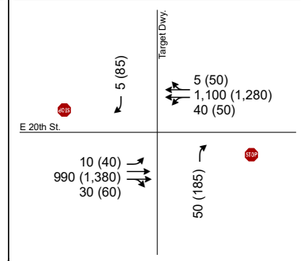
19. Forest Ave/Hwy 32



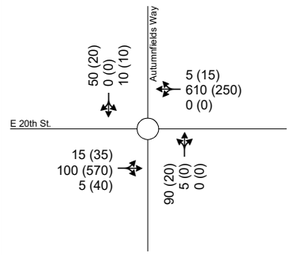
26. Mall Dwy/E 20th St



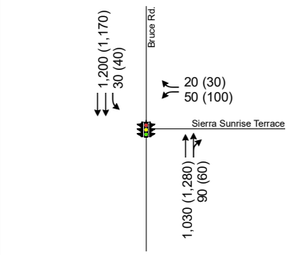
27. Target Dwy/E 20th St



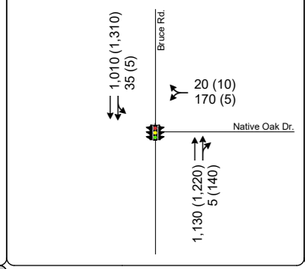
36. Autumnfields Way/E 20th St



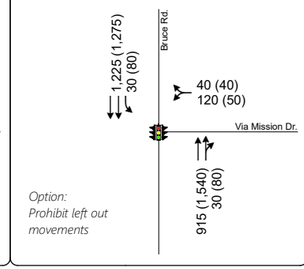
44. Bruce Rd/Sierra Sunrise Terrace



45. Bruce Rd/Native Oak Dr

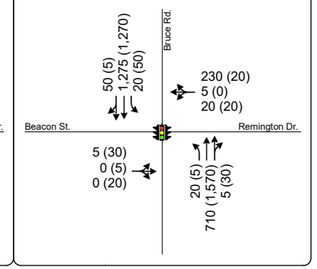


48. Bruce Rd/Via Mission Dr

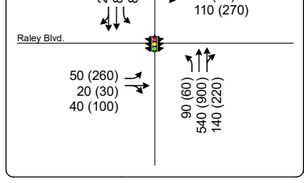


Option: Prohibit left out movements

49. Bruce Rd/Beacon St/Remington Dr



50. Bruce Rd/Raley Blvd



57. Valley's Edge Dr/Collector 2

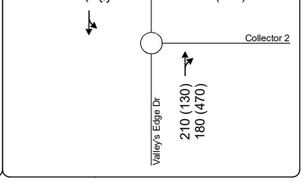


Figure 13

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions with Enhancements

Table 20: Intersection Operations with Enhancements - Cumulative Plus Project Conditions

Intersection	Traffic Control	Peak Hour	Cumulative Plus Project Conditions		Cumulative Plus Project with Operational Enhancements	
			Delay	LOS	Delay	LOS
8. Skyway/Zanella Way/Forest Ave	SSSC/Signal	AM	**>300 (>300)**	**F (F)**	26	C
		PM	**1 (>300)**	**A (F)**	29	C
26. E 20th St/Mall Dwy*	Signal	AM	17	B	13	B
		PM	**82**	**F**	53	D
27. E 20th St/Target Dwy*	SSSC	AM	**3 (>300)**	**A (F)**	1 (14)	A (B)
		PM	**1 (>300)**	**A (F)**	3 (36)	A (E)
31. E 20th St/Bruce Rd	Signal	AM	**139**	**F**	73	E
		PM	**163**	**F**	67	E
35. E 20th St/Autumnfields Way	SSSC/Roundabout	AM	**8 (64)**	**A (F)**	10	A
		PM	1 (24)	A (C)	7	A
44. Bruce Rd/Sierra Sunrise Terrace	SSSC/Signal	AM	**7 (>300)**	**A (F)**	5	A
		PM	**61 (>300)**	**F (F)**	7	A
45. Bruce Rd/Native Oak Dr	SSSC/Signal	AM	**>300 (>300)**	**F (F)**	12	A
		PM	**1 (68)**	**F (F)**	6	A
48a. Bruce Rd/Via Mission Dr	SSSC/Signal	AM	**45 (>300)**	**F (F)**	6	A
		PM	**63 (>300)**	**F (F)**	9	A
48b. Bruce Rd/Via Mission Dr	SSSC/Restricted Access	AM	**45 (>300)**	**F (F)**	1 (13)	A (A)
		PM	**63 (>300)**	**F (F)**	1 (21)	A (C)
49. Bruce Rd/Beacon St	SSSC/Signal	AM	**13 (>300)**	**B (F)**	10	A
		PM	**36 (>300)**	**E (F)**	8	A
50. Bruce Rd/Raley Blvd	SSSC/Signal	AM	**235 (>300)**	**F (F)**	10	B
		PM	**>300 (>300)**	**F (F)**	24	C
57. Collector 1/Collector 2	SSSC/Roundabout	AM	**41 (90)**	**E (F)**	8	A
		PM	**42 (112)**	**E (F)**	8	A

Notes:
Bold indicates intersection operates unacceptable per the established performance target.
-LOS = Level of Service; SSSC = Side Street Stop Control
-For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches. For SSSC intersections; average intersection delay and (worst case) movement delay is reported.
* Pursuant to Chico General Plan Policy CIRC-1.4 there are no LOS standards for private roads, however because this intersection is located on a City arterial roadway the public/private intersection LOS is reported for information purposes.

Source: Fehr & Peers, 2020.

INTERNAL NORTH/SOUTH ROADWAY CONSTRUCTION

Initial development is likely to occur in the north part of the proposed project due to the availability of utilities. Consequently, E 20th Street would be the primary project access until Valley's Edge Drive is extended to Skyway. The analysis guidelines documented in the City of Chico Neighborhood Traffic Management Program (NTMP) were used to determine a dwelling unit trigger for when the Valley's Edge Drive connection to Skyway should be constructed.

The NTMP uses several criteria to evaluate the effect of traffic intrusion on existing neighborhoods, like traffic volume, vehicle speed, and residential frontage. The purpose of identifying a trigger is to help preserve the quality of life/enjoyment of property for the existing residents abutting E. 20th Street.

Providing a southerly connection of Valley's Edge Drive to Skyway will provide an alternative to E. 20th Street for some vehicle trips and will also help preserve the use of alternative modes on E. 20th Street.

The NTMP methodology assigns points, based on different criteria, to determine if measures to address neighborhood traffic intrusion should be considered, which occurs at a point total of 45 or higher. The volume criteria for collector streets were used to establish a threshold for new traffic volume added by the proposed project on E. 20th Street, using the methodology outlined below (based on the NTMP):

- Point Assignment – 1.5 points are assigned for every 100 vehicles over 2,000 vehicles per day on the subject roadway.
- Project Volume at 45 Points – Calculated the added traffic volume from the proposed project that would result in a criterion score of 45 points. An increase of 3,000 vehicles per day would result in an NTMP score of 45 (3,000/100 X 1.5 = 45)
- Dwelling Unit Equivalent – Estimated the equivalent number of dwelling units that would generate 3,000 vehicle trips per day from the proposed project. The proposed project would add about 3,000 vehicles per day to E. 20th Street when about 350 dwelling units are constructed and occupied.

It is important to note, other factors may result in the need for completion of Valley's Edge Drive prior to construction of the 350th unit. In particular, the NTMP provides criteria based on speed (among others). Three points are assigned for every 1 mile per hour over 30 miles per hour. In the event speeding or other safety concerns arise prior to construction of the 350th unit, the City may consider requiring completion of Valley's Edge Drive prior to construction of the 350th unit.

Appendix A: Model Validation and Calibration Memo

FEHR PEERS

TECHNICAL MEMORANDUM

Date: February 18, 2020

To: Mike Sawley, Bikram Kahlon, City of Chico

From: Carly Panos & David B. Robinson, P.E., Fehr & Peers

Subject: ***Valley's Edge – Base Year Model Calibration and Validation***

RS19-3793

Fehr & Peers completed calibration and validation of a modified version of the Butte County Association of Governments (BCAG) travel demand forecasting (TDF) model that was developed for the preparation and analysis of the 2016 Regional Transportation Plan/Sustainable Communities Strategy. This memorandum describes the model calibration and validation process and presents the validation results.

Model Calibration and Validation

Model calibration is the process of specifying and adjusting model coefficients and inputs to better replicate travel behavior and traffic volumes. For this effort, model calibration focused on adding traffic analysis zone (TAZ) detail in the study area to provide better assignment of traffic for peak hour intersection operations analysis.

Model validation is the term used to describe model performance in terms of how closely the model's output matches existing travel data in the base year. The extent to which model outputs match existing travel data validates the assumptions of the inputs. There are two common forms of model validation, static and dynamic validation.

Static validation focuses on the performance of the trip assignment function by comparing the model's trip assignment output to existing traffic counts. Dynamic validation tests how the TDF model responds to changes in model inputs. For this effort, we conducted static validation for the entire model area and the study area. Dynamic validation was conducted during the development of the 2016 RTP/SCS TDF Model and included testing how the model responded to changes in land use and roadway network inputs. The results of the dynamic validation showed that the model responded in the correct direction and magnitude, relative to the changes made. The specific tests and model performance are documented in the *BCAG Model Development Report* (March 2016). Since, the fundamental structure (i.e., model coefficients and inputs) of the TDF model was not changed; we did not redo dynamic validation.

The model validation was conducted for pre-Camp Fire conditions, using traffic volumes collected in 2018 (by BCAG) as part of the update to the 2016 RTP/SCS TDF Model that is being conducted to support the development and analysis of the 2020 RTP/SCS. Post Camp Fire conditions were captured in the existing conditions data collection conducted for the analysis of the project.

Model Validation Targets

The *2017 California Regional Transportation Plan Guidelines* (CTC, January 2017) contain the following specific static validation criteria and thresholds that were used to evaluate model performance:

- At least 75 percent of the roadway links for which counts are available should be within the maximum desirable deviation, which ranges from approximately 15 to 60 percent depending on the total volume (the larger the volume, the less deviation is permitted).
- The percent root mean square error (RMSE) at or below 40 percent - The RMSE is the square root of the model volume minus the actual count squared, divided by the number of counts. In other words, it is the average of all the link-by-link percent differences, and it is an indicator of how far the model volumes are away from the counts.
- A correlation coefficient of at least 0.88 – The correlation coefficient measures the strength of the relationship between the relative movements of two variables. The coefficient ranges from 0.0 to 1.0, where 0.0 indicates no linear relationship.

In addition to these criteria, the model-wide volume-to-count ratio was checked against a desired maximum target of no more than 10 percent deviation.

The validity of the TDM model was evaluated against 296 counts for the entire model area and against 33 counts in the study area. Table 1 presents the results of the base year model validation. Attachment A includes the detailed validation results. As shown, the model satisfies all validation targets.

TABLE 1 – BASE YEAR MODEL VALIDATION

Validation		Average Control Delay (seconds/vehicle)		
Criteria	Target	Daily	Peak Hour	
			AM	PM
Entire Model				
Model/Count Ratio	Within 10%	0.96	1.07	1.09
Percent of Links within Deviation	> 75%	82%	75%	77%
Percent RMSE	≤ 40%	27%	38%	35%
Correlation Coefficient	> 0.88	0.96	0.92	0.94
Study Area				
Model/Count Ratio	Within 10%		1.05	1.02
Percent of Links within Deviation	> 75%		85%	94%
Percent RMSE	≤ 40%		26%	22%
Correlation Coefficient	> 0.88		0.94	0.95

Notes: [1]*2017 California Regional Transportation Plan Guidelines* (CTC, January 2017)
Source: Fehr & Peers (2020)

Attachment A – Detailed Model Validation Summaries

BCAG Model Validation Results: Daily Two-Way Total Traffic Volumes									
Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
8TH ST	N of G ST	1,275	590	0.46	-0.85	0.63	Yes	-685	469,225
B ST	E of 7TH ST	2,197	1,463	0.67	-0.53	0.63	Yes	-734	538,756
B ST	E of FIRST ST	2,319	2,087	0.90	-0.16	0.63	Yes	-232	53,824
W BIGGS GRIDLEY RD	S of BANNOCK ST	2,044	1,988	0.97	-0.04	0.63	Yes	-56	3,136
ALAMO AVE	N of W EAST AVE	1,189	66	0.06	-1.38	0.68	No	-1,123	1,261,129
BIDWELL AVE	E of CARRIAGE LN	785	1,865	2.38	2.01	0.68	No	1,080	1,166,400
BROADWAY	N of SR 32 (8TH ST)	7,473	10,394	1.39	0.89	0.44	Yes	2,921	8,532,241
BROADWAY	S of 2ND ST	8,638	11,367	1.32	0.77	0.41	Yes	2,729	7,447,441
BRUCE RD	N of SKYWAY	7,974	12,250	1.54	1.31	0.41	No	4,276	18,284,176
BRUCE RD	N of LAKEWEST DR	11,363	11,422	1.01	0.02	0.34	Yes	59	3,481
BRUCE RD	N of E 20TH ST	10,996	12,966	1.18	0.50	0.36	Yes	1,970	3,880,900
BRUCE RD	S of HUMBOLDT RD	10,536	12,960	1.23	0.64	0.36	Yes	2,424	5,875,776
CACTUS AVE	N of EAST AVE	844	0	0.00	-1.46	0.68	No	-844	712,336
COHASSET RD	N of EATON RD	10,222	10,441	1.02	0.06	0.36	Yes	219	47,961
COHASSET RD	S of EAST AVE	22,065	24,946	1.13	0.48	0.27	Yes	2,881	8,300,161
COHASSET RD	N of EAST AVE	18,364	16,131	0.88	-0.43	0.29	Yes	-2,233	4,986,289
COHASSET RD	E of RIO LINDO AVE	20,813	14,633	0.70	-1.08	0.28	No	-6,180	38,192,400
CUSSIK AVE	N of W EAST AVE	5,296	2,967	0.56	-0.93	0.48	Yes	-2,329	5,424,241
DAYTON RD	S of ARCHER AVE	6,096	5,386	0.88	-0.25	0.48	Yes	-710	504,100
DR MLK JR PKWY	S of E 20TH ST	6,945	8,594	1.24	0.54	0.44	Yes	1,649	2,719,201
E 1ST AVE	W of ESPLANADE RD	10,515	8,819	0.84	-0.45	0.36	Yes	-1,696	2,876,416
E 1ST AVE	E of ESPLANADE	12,862	14,288	1.11	0.34	0.33	Yes	1,426	2,033,476
E 1ST AVE	W of SHERMAN AVE	17,401	17,975	1.03	0.11	0.29	Yes	574	329,476
E 1ST AVE	W of LONGFELLOW	15,546	12,714	0.82	-0.60	0.30	Yes	-2,832	8,020,224
E 20TH ST	W of WHITMAN AVE	18,255	16,119	0.88	-0.41	0.29	Yes	-2,136	4,562,496
E 20TH ST	W of FOREST AVE	22,772	24,117	1.06	0.22	0.27	Yes	1,345	1,809,025
E 20TH ST	W of BRUCE RD	7,794	7,650	0.98	-0.05	0.41	Yes	-144	20,736
E 20TH ST	E of FOREST AVE	10,658	8,541	0.80	-0.55	0.36	Yes	-2,117	4,481,689
E 3RD ST	E of WALL ST	1,788	3,091	1.73	1.16	0.63	No	1,303	1,697,809
E 4TH ST	E of FLUME ST	1,693	263	0.16	-1.34	0.63	No	-1,430	2,044,900
E 5TH AVE	E of ESPLANADE RD	4,529	3,098	0.68	-0.61	0.52	Yes	-1,431	2,047,761
E 5TH AVE	W of NEAL DOW AVE	7,848	4,558	0.58	-1.02	0.41	No	-3,290	10,824,100
E 8TH ST	W of PARK VISTA DR	4,350	5,609	1.29	0.56	0.52	Yes	1,259	1,585,081
E 8TH ST	E of KERN ST	2,012	3,345	1.66	1.05	0.63	No	1,333	1,776,889
E 8TH ST	E of EL MONTE AVE	2,445	3,483	1.42	0.67	0.63	Yes	1,038	1,077,444
E 8TH ST	W of BRUCE RD	2,849	2,827	0.99	-0.01	0.58	Yes	-22	484
E EATON RD	E of COHASSET RD	4,203	5,131	1.22	0.42	0.52	Yes	928	861,184
E PARK AVE	Btwn SR 99 & CARMICHAEL DR	24,550	19,520	0.80	-0.79	0.26	Yes	-5,030	25,300,900
E PARK AVE	E of MIDWAY	18,760	17,881	0.95	-0.17	0.28	Yes	-879	772,641
EAST AVE	W of CUSSICK/HOLLY AVE	20,106	15,365	0.76	-0.86	0.28	Yes	-4,741	22,477,081
EAST AVE	W of ESPLANADE RD	23,814	18,348	0.77	-0.88	0.26	Yes	-5,466	29,877,156
EAST AVE	E of ESPLANADE RD	24,468	21,759	0.89	-0.43	0.26	Yes	-2,709	7,338,681
EAST AVE	W of COHASSET RD	13,353	14,663	1.10	0.30	0.33	Yes	1,310	1,716,100
EAST AVE	E of COHASSET RD	17,367	17,017	0.98	-0.07	0.29	Yes	-350	122,500
EAST AVE	E of FLORAL AVE	18,036	17,174	0.95	-0.17	0.29	Yes	-862	743,044
EAST AVE	E of CACTUS AVE	12,258	9,464	0.77	-0.67	0.34	Yes	-2,794	7,806,436
EATON RD	E of ESPLANADE RD	16,834	10,530	0.63	-1.27	0.29	No	-6,304	39,740,416

BCAG Model Validation Results: Daily Two-Way Total Traffic Volumes									
Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
EATON RD	W of SILVERBELL RD	9,728	6,216	0.64	-0.95	0.38	Yes	-3,512	12,334,144
EATON RD	W of BURNAP AVE	5,681	4,762	0.84	-0.34	0.48	Yes	-919	844,561
EL MONTE AVE	S of HWY 32	2,256	1,851	0.82	-0.28	0.63	Yes	-405	164,025
ESPANADE	S of COHASSET RD	24,099	19,943	0.83	-0.66	0.26	Yes	-4,156	17,272,336
ESPLANADE RD	N of LASSEN AVE	15,539	15,072	0.97	-0.10	0.30	Yes	-467	218,089
ESPLANADE RD	N of EATON RD	12,981	10,070	0.78	-0.69	0.33	Yes	-2,911	8,473,921
ESPLANADE RD	S of W SACRAMENTO AVE	20,748	25,789	1.24	0.88	0.28	Yes	5,041	25,411,681
ESPLANADE RD	N of EAST AVE	22,622	26,976	1.19	0.73	0.27	Yes	4,354	18,957,316
ESPLANADE RD	N of E 1ST AVE	22,206	20,822	0.94	-0.23	0.27	Yes	-1,384	1,915,456
ESPLANADE RD	S of EAST AVE	20,558	23,812	1.16	0.58	0.28	Yes	3,254	10,588,516
FAIR ST	S of E 20TH ST	6,118	5,157	0.84	-0.33	0.48	Yes	-961	923,521
FIR ST	S of HWY 32	3,201	2,757	0.86	-0.24	0.58	Yes	-444	197,136
FLORAL AVE	N of EAST AVE	6,835	7,258	1.06	0.14	0.44	Yes	423	178,929
FOREST AVE	S of E 20TH ST	14,112	13,579	0.96	-0.12	0.31	Yes	-533	284,089
FOREST AVE	S of HUMBOLDT RD	14,543	11,349	0.78	-0.70	0.31	Yes	-3,194	10,201,636
FOREST AVE	N of HWY 32	3,708	1,955	0.53	-0.82	0.58	Yes	-1,753	3,073,009
FOREST AVE	N of HUMBOLDT RD	13,918	11,561	0.83	-0.54	0.31	Yes	-2,357	5,555,449
FOREST AVE	W of NOTRE DAME BLVD	11,498	10,180	0.89	-0.34	0.34	Yes	-1,318	1,737,124
FOREST AVE	N of SKYWAY	2,653	2,832	1.07	0.12	0.58	Yes	179	32,041
GODMAN AVE	S of E EATON RD	1,807	382	0.21	-1.25	0.63	No	-1,425	2,030,625
GUYNN AVE	N of W EAST AVE	858	516	0.60	-0.58	0.68	Yes	-342	116,964
HAWTHORNE AVE	W of MADRONE AVE	1,066	279	0.26	-1.08	0.68	No	-787	619,369
HENSHAW AVE	W of ESPLANADE	3,273	7,541	2.30	2.27	0.58	No	4,268	18,215,824
HICKS LN	N of EATON RD	2,970	1,696	0.57	-0.75	0.58	Yes	-1,274	1,623,076
HOLLY AVE	S of W EAST AVE	4,693	2,516	0.54	-0.89	0.52	Yes	-2,177	4,739,329
HOOKER OAK AVE	E of MADRONE AVE	1,732	1,482	0.86	-0.23	0.63	Yes	-250	62,500
HOOKER OAK AVE	W of MANZANITA AVE	2,098	1,240	0.59	-0.65	0.63	Yes	-858	736,164
HUMBOLDT RD	W of FOREST AVE	2,700	2,757	1.02	0.04	0.58	Yes	57	3,249
IVY ST	N of 11TH ST	3,472	907	0.26	-1.28	0.58	No	-2,565	6,579,225
LASSEN AVE	E of ESPLANADE RD	9,124	7,656	0.84	-0.42	0.38	Yes	-1,468	2,155,024
LASSEN AVE	W of BURNAP AVE	7,654	4,273	0.56	-1.08	0.41	No	-3,381	11,431,161
MAIN ST	S of 2ND ST	10,724	12,911	1.20	0.57	0.36	Yes	2,187	4,782,969
MAIN ST	S of SR 32 (8TH ST)	10,702	13,036	1.22	0.61	0.36	Yes	2,334	5,447,556
MANGROVE AVE	S of VALLOMBROSA AVE	18,703	19,787	1.06	0.20	0.29	Yes	1,084	1,175,056
MANGROVE AVE	S of COHASSET RD	21,162	21,865	1.03	0.12	0.28	Yes	703	494,209
MANGROVE AVE	N of E 7TH AVE	19,523	20,333	1.04	0.15	0.28	Yes	810	656,100
MANGROVE AVE	S of E 1ST AVE	23,507	19,424	0.83	-0.66	0.27	Yes	-4,083	16,670,889
MANGROVE AVE	N of E 1ST AVE	18,981	19,668	1.04	0.13	0.28	Yes	687	471,969
MANZANITA AVE	N of VALLOMBROSA AVE	11,858	10,920	0.92	-0.23	0.34	Yes	-938	879,844
MANZANITA AVE	E of LONGFELLOW AVE	8,050	5,188	0.64	-0.87	0.41	Yes	-2,862	8,191,044
MANZANITA AVE	E of MADRONE AVE	4,414	2,360	0.53	-0.89	0.52	Yes	-2,054	4,218,916
MANZANITA AVE	N of CHICO CANYON RD	11,807	11,341	0.96	-0.12	0.34	Yes	-466	217,156
MARIGOLD AVE	S of EAST AVE	3,176	2,845	0.90	-0.18	0.58	Yes	-331	109,561
MARIGOLD AVE	N of EAST AVE	3,096	3,689	1.19	0.33	0.58	Yes	593	351,649
MARIPOSA AVE	N of EAST AVE	4,472	2,109	0.47	-1.02	0.52	No	-2,363	5,583,769
MIDWAY RD	S of E PARK AVE	16,862	14,178	0.84	-0.54	0.29	Yes	-2,684	7,203,856
MULBERRY ST	S of PINE ST/CYPRESS ST J	9,584	13,401	1.40	1.05	0.38	No	3,817	14,569,489

BCAG Model Validation Results: Daily Two-Way Total Traffic Volumes									
Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
NORD HWY	W of ESPLANADE	4,056	2,195	0.54	-0.88	0.52	Yes	-1,861	3,463,321
NOTRE DAME BLVD	N of FOREST AVE	4,355	2,281	0.52	-0.92	0.52	Yes	-2,074	4,301,476
NOTRE DAME BLVD	N of SKYWAY	14,040	10,308	0.73	-0.85	0.31	Yes	-3,732	13,927,824
PALMETTO	W of BRYANT AVE	3,823	1,868	0.49	-0.98	0.52	Yes	-1,955	3,822,025
PALMETTO AVE	E of MANGROVE AVE	5,398	4,194	0.78	-0.47	0.48	Yes	-1,204	1,449,616
PALMETTO AVE	E of SHERIDAN AVE	4,933	2,010	0.41	-1.14	0.52	No	-2,923	8,543,929
PARK AVE	N of E PARK AVE	12,136	15,134	1.25	0.73	0.34	Yes	2,998	8,988,004
PARK AVE	S of SR 32	18,405	22,183	1.21	0.72	0.29	Yes	3,778	14,273,284
PARK AVE	S of 16TH ST	17,988	17,016	0.95	-0.19	0.29	Yes	-972	944,784
PINE ST	N of 4TH ST	9,392	8,434	0.90	-0.27	0.38	Yes	-958	917,764
RIO LINDO AVE	E of ESPLANADE	3,652	2,364	0.65	-0.61	0.58	Yes	-1,288	1,658,944
SKYWAY	E of BRUCE RD	21,879	24,240	1.11	0.40	0.27	Yes	2,361	5,574,321
SKYWAY	E of NOTRE DAME BLVD	22,455	23,971	1.07	0.25	0.27	Yes	1,516	2,298,256
SKYWAY	W of NOTRE DAME BLVD	31,404	33,717	1.07	0.31	0.24	Yes	2,313	5,349,969
VALLOMBROSA AVE	S of MEMORIAL WAY	10,675	6,578	0.62	-1.07	0.36	No	-4,097	16,785,409
VALLOMBROSA AVE	E of SR 99	4,480	2,617	0.58	-0.80	0.52	Yes	-1,863	3,470,769
VALLOMBROSA AVE	W of MANZANITA AVE	3,657	1,497	0.41	-1.03	0.58	No	-2,160	4,665,600
W 11TH AVE	W of ESPLANADE	5,394	3,580	0.66	-0.71	0.48	Yes	-1,814	3,290,596
W 1ST AVE	E of HOBART ST	8,511	8,484	1.00	-0.01	0.41	Yes	-27	729
W 2ND ST	E of WALNUT ST (SR 32)	6,191	3,401	0.55	-0.95	0.48	Yes	-2,790	7,784,100
W 3RD ST	E of IVY ST	1,966	1,356	0.69	-0.49	0.63	Yes	-610	372,100
W 4TH ST	E of HAZEL ST	1,011	1,191	1.18	0.26	0.68	Yes	180	32,400
W 5TH ST	W of WALNUT ST (SR 32)	5,874	4,473	0.76	-0.50	0.48	Yes	-1,401	1,962,801
W 5TH ST	E of WALNUT ST (SR 32)	6,067	2,165	0.36	-1.35	0.48	No	-3,902	15,225,604
W 8TH AVE	E of NORD AVE (SR 32)	6,952	3,724	0.54	-1.06	0.44	No	-3,228	10,419,984
W 8TH AVE	W of ESPLANADE RD	4,404	2,357	0.54	-0.89	0.52	Yes	-2,047	4,190,209
W EATON RD	W of ESPLANADE	7,217	5,875	0.81	-0.42	0.44	Yes	-1,342	1,800,964
W LINDO AVE	E of NORD AVE (SR 32)	1,194	738	0.62	-0.56	0.68	Yes	-456	207,936
W SACRAMENTO AVE	E of NORD AVE (SR 32)	11,913	8,192	0.69	-0.92	0.34	Yes	-3,721	13,845,841
W SACRAMENTO AVE	W of NORD AVE (SR 32)	6,575	5,198	0.79	-0.48	0.44	Yes	-1,377	1,896,129
W SACRAMENTO AVE	W of CITRUS AVE	6,321	9,817	1.55	1.26	0.44	No	3,496	12,222,016
W SHASTA AVE	W of ESPLANADE	4,073	2,422	0.59	-0.78	0.52	Yes	-1,651	2,725,801
WARNER ST	S of W SACAMENTO AVE	7,581	9,656	1.27	0.67	0.41	Yes	2,075	4,305,625
YOSEMITE DR	N of HWY 32	4,001	2,849	0.71	-0.55	0.52	Yes	-1,152	1,327,104
18TH ST	N of GRAND AV	423	167	0.39	-0.89	0.68	Yes	-256	65,536
AFTON RD	W of AGUA FRIAS RD	126	119	0.94	-0.08	0.68	Yes	-7	49
BELL RD	E of NORD AVE	1,898	609	0.32	-1.08	0.63	No	-1,289	1,661,521
BIGGS EAST HWY	E of HWY 99	2,753	1,751	0.64	-0.63	0.58	Yes	-1,002	1,004,004
CANYON DR	N of OLIVE HWY	3,221	3,104	0.96	-0.06	0.58	Yes	-117	13,689
CHICO RIVER RD	W of ALBERTON RD	1,136	1,130	0.99	-0.01	0.68	Yes	-6	36
COHASSET HWY	N of KEEFER RD	1,562	2,503	1.60	0.96	0.63	Yes	941	885,481
COLUSA HWY	W of HATCH RD	669	660	0.99	-0.02	0.68	Yes	-9	81
CONCOW RD	W of HWY 70	965	2,173	2.25	1.83	0.68	No	1,208	1,459,264
DAYTON RD	N of HEGAN LN	3,059	1,979	0.65	-0.61	0.58	Yes	-1,080	1,166,400
DUNSTONE DR	S of GRUBBS RD	165	271	1.64	0.94	0.68	Yes	106	11,236
DURHAM DAYTON HWY	W of OROVILLE-CHICO HWY	2,239	2,633	1.18	0.28	0.63	Yes	394	155,236
DURHAM PENTZ RD	E of SR 99	9,417	11,096	1.18	0.47	0.38	Yes	1,679	2,819,041

BCAG Model Validation Results: Daily Two-Way Total Traffic Volumes									
Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
DURHAM PENTZ RD	E of SR 191	2,283	3,050	1.34	0.53	0.63	Yes	767	588,289
E GRIDLEY RD	At FEATHER RIVER BRIDGE	6,038	5,366	0.89	-0.23	0.48	Yes	-672	451,584
EAST AVE	E of SR 32	16,355	14,148	0.87	-0.46	0.29	Yes	-2,207	4,870,849
ENTLER AVE	E of MIDWAY	1,196	1,226	1.03	0.04	0.68	Yes	30	900
FOOTHILL BLVD	N of LWR WYANDOTTE RD	1,462	3,195	2.19	1.88	0.63	No	1,733	3,003,289
FORBESTOWN RD	S of OLD OLIVE HWY	3,154	2,887	0.92	-0.15	0.58	Yes	-267	71,289
FORBESTOWN RD	W of ROBINSON MILL RD	1,008	885	0.88	-0.18	0.68	Yes	-123	15,129
GARDEN DR	E of HWY 70	2,752	4,935	1.79	1.38	0.58	No	2,183	4,765,489
GARNER LN	N of SR 99	5,425	8,638	1.59	1.25	0.48	No	3,213	10,323,369
GARNER LN	N of ESPLANADE	2,175	790	0.36	-1.01	0.63	No	-1,385	1,918,225
GRAND AVE	E of 20TH ST	1,376	602	0.44	-0.89	0.63	Yes	-774	599,076
GRAND AVE	E of 10TH ST	4,981	3,695	0.74	-0.50	0.52	Yes	-1,286	1,653,796
HAMILTON CITY NORD	N of BENNETT RD	482	183	0.38	-0.91	0.68	Yes	-299	89,401
HEGAN LN	E of FIMPLE LN	3,454	1,393	0.40	-1.04	0.58	No	-2,061	4,247,721
HEGAN LN	W of MIDWAY	11,061	4,211	0.38	-1.73	0.36	No	-6,850	46,922,500
HONEY RUN RD	W of CENTERVILLE RD	1,404	1,796	1.28	0.44	0.63	Yes	392	153,664
KEEFER RD	W of GARNER LN	1,136	257	0.23	-1.13	0.68	No	-879	772,641
KELLY RIDGE RD	N of OLIVE HWY	2,041	1,116	0.55	-0.72	0.63	Yes	-925	855,625
LARKIN RD	S of CHANDON AVE	2,954	2,776	0.94	-0.10	0.58	Yes	-178	31,684
LARKIN RD	N of EAST GRIDLEY RD	1,327	2,011	1.52	0.82	0.63	Yes	684	467,856
LARKIN RD	N of E RIO BONITO RD	2,968	2,113	0.71	-0.50	0.58	Yes	-855	731,025
LINCOLN BLVD	S of OPHIR RD	5,890	4,336	0.74	-0.56	0.48	Yes	-1,554	2,414,916
LINCOLN BLVD	N of OPHIR RD	7,200	4,894	0.68	-0.73	0.44	Yes	-2,306	5,317,636
LINCOLN BLVD	S of JUNCTION W/ MYERS	11,618	10,903	0.94	-0.18	0.34	Yes	-715	511,225
LOS VERJELES RD	S of LA PORTE RD	988	592	0.60	-0.59	0.68	Yes	-396	156,816
LOWER WYANDOTTE RD	W of ALVERDA DR	7,025	10,990	1.56	1.28	0.44	No	3,965	15,721,225
LUMPKIN RD	N of FORBESTOWN RD	658	624	0.95	-0.08	0.68	Yes	-34	1,156
MERIDIAN RD	E of SR 99	1,057	712	0.67	-0.48	0.68	Yes	-345	119,025
MERIDIAN RD	N of HWY 32	2,956	480	0.16	-1.46	0.58	No	-2,476	6,130,576
MIDWAY RD	S of DURHAM DAYTON RD	3,668	3,494	0.95	-0.08	0.58	Yes	-174	30,276
MIDWAY RD	N of NELSON SHIPPEE RD	1,254	2,067	1.65	1.03	0.63	No	813	660,969
MIDWAY RD	S of HEGAN LN	9,116	9,201	1.01	0.02	0.38	Yes	85	7,225
MINERS RANCH RD	S of SR 162	3,025	1,361	0.45	-0.96	0.58	Yes	-1,664	2,768,896
NEAL RD	W of HWY 99	940	1,107	1.18	0.26	0.68	Yes	167	27,889
NEAL RD	E of HWY 99	1,451	2,225	1.53	0.85	0.63	Yes	774	599,076
OAKVALE AVE	S of SR 162	2,632	2,028	0.77	-0.40	0.58	Yes	-604	364,816
OPHIR RD	E of FEATHER RIVER BLVD	6,393	10,597	1.66	1.49	0.44	No	4,204	17,673,616
ORD FERRY RD	W of RIVER RD	3,127	3,336	1.07	0.12	0.58	Yes	209	43,681
ORD FERRY RD	W of AGUAS FRIAS RD	3,383	3,227	0.95	-0.08	0.58	Yes	-156	24,336
ORO QUINCY HWY	W of OLIVE HWY	2,604	2,426	0.93	-0.12	0.58	Yes	-178	31,684
ORO-BANGOR HWY	E of FOOTHILL BLVD	1,594	1,167	0.73	-0.43	0.63	Yes	-427	182,329
ORO-BANGOR HWY	S of V-7 RD	1,867	1,228	0.66	-0.54	0.63	Yes	-639	408,321
ORO-QUINCY HWY	At LAKE MADRONE BRIDGE	499	1,572	3.15	3.15	0.68	No	1,073	1,151,329
OROVILLE-BANGOR HWY	N of SWEDES FLAT RD	2,073	6,315	3.05	3.25	0.63	No	4,242	17,994,564
PALERMO RD	E of HWY 70	1,179	1,289	1.09	0.14	0.68	Yes	110	12,100
PENNINGTON RD	S of W EVANS REIMER RD	325	334	1.03	0.04	0.68	Yes	9	81
PENTZ RD	N of HWY 70	3,507	6,604	1.88	1.54	0.58	No	3,097	9,591,409

BCAG Model Validation Results: Daily Two-Way Total Traffic Volumes									
Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
RICHVALE HWY	E of MIDWAY	1,374	3,104	2.26	2.00	0.63	No	1,730	2,992,900
ROSE AVE	S of WEBB AVE	1,462	938	0.64	-0.57	0.63	Yes	-524	274,576
SEVEN MILE LN	S of ORD FERRY RD	426	162	0.38	-0.91	0.68	Yes	-264	69,696
SKYLINE BLVD	S of SR 162	1,142	1,309	1.15	0.21	0.68	Yes	167	27,889
SKYWAY	E of CLIFFHANGER LN	19,392	23,218	1.20	0.70	0.28	Yes	3,826	14,638,276
SKYWAY	N of COUTOLENC RD	16,608	17,736	1.07	0.23	0.29	Yes	1,128	1,272,384
SKYWAY	N of WYCLIFF WAY	10,141	12,226	1.21	0.57	0.36	Yes	2,085	4,347,225
SKYWAY	N of NIMSHEW RD	1,659	1,529	0.92	-0.12	0.63	Yes	-130	16,900
SKYWAY	S of MANZANITA ST (Stirling City)	583	1,176	2.02	1.49	0.68	No	593	351,649
UPPER PALERMO RD	S of OPHIR RD/LOWER WYANDO	3,638	2,695	0.74	-0.45	0.58	Yes	-943	889,249
W RIO BONITO RD	E of HAWKINS LN	1,334	1,517	1.14	0.22	0.63	Yes	183	33,489
W SACRAMENTO AVE	W of MUIR AVE	884	381	0.43	-0.83	0.68	Yes	-503	253,009
WALMER RD	E of LINCOLN BLVD	3,685	2,663	0.72	-0.48	0.58	Yes	-1,022	1,044,484
CHERRY ST	W of SR 99	1,268	2,736	2.16	1.84	0.63	No	1,468	2,155,024
E GRIDLEY RD	E of SR 99	6,281	4,626	0.74	-0.60	0.44	Yes	-1,655	2,739,025
JACKSON ST	N of MAGNOLIA ST	677	4,795	7.08	8.91	0.68	No	4,118	16,957,924
MAGNOLIA ST	W of SR 99	5,806	6,013	1.04	0.08	0.48	Yes	207	42,849
MAGNOLIA ST	E of JACKSON ST	4,533	5,031	1.11	0.21	0.52	Yes	498	248,004
MAGNOLIA ST	W of JACKSON ST	4,115	787	0.19	-1.56	0.52	No	-3,328	11,075,584
SPRUCE ST	W of SR 99	8,235	6,577	0.80	-0.49	0.41	Yes	-1,658	2,748,964
SYCAMORE ST	W of SR 99	3,273	1,746	0.53	-0.81	0.58	Yes	-1,527	2,331,729
SYCAMORE ST	E of RANDOLPH AVE	3,546	1,810	0.51	-0.85	0.58	Yes	-1,736	3,013,696
W BIGGS GRIDLEY RD	S of SPRUCE ST	2,746	957	0.35	-1.13	0.58	No	-1,789	3,200,521
W BIGGS GRIDLEY RD	N of HERON LANDING WAY	2,459	1,859	0.76	-0.39	0.63	Yes	-600	360,000
W LIBERTY RD	W of SR 99	2,438	681	0.28	-1.14	0.63	No	-1,757	3,087,049
18TH ST	N of ORO DAM BLVD	1,815	2,189	1.21	0.33	0.63	Yes	374	139,876
5TH AV	S of ORO DAM BLVD (SR 162)	4,025	3,468	0.86	-0.27	0.52	Yes	-557	310,249
5TH AV	S of CAL OAK AV	2,723	1,886	0.69	-0.53	0.58	Yes	-837	700,569
FEATHER RIVER BLVD	S of ORO-DAM BLVD (SR 162)	9,039	6,066	0.67	-0.87	0.38	Yes	-2,973	8,838,729
FEATHER RIVER BLVD	N of ORO DAM BLVD	7,947	4,365	0.55	-1.10	0.41	No	-3,582	12,830,724
FOOTHILL BLVD	S of SR 162	5,771	7,869	1.36	0.77	0.48	Yes	2,098	4,401,604
GEORGIA PACIFIC WAY	E of HWY 70	1,913	2,371	1.24	0.38	0.63	Yes	458	209,764
GRAND AVE	E of SR 70	6,176	5,861	0.95	-0.11	0.48	Yes	-315	99,225
HUNTOON ST	S of GRACE ST	2,045	2,193	1.07	0.11	0.63	Yes	148	21,904
LARKIN RD	S of SR 162	4,603	3,334	0.72	-0.53	0.52	Yes	-1,269	1,610,361
LINCOLN BLVD	S of ORO DAM BLVD	12,713	15,802	1.24	0.75	0.33	Yes	3,089	9,541,921
LINCOLN ST	S of GRACE ST	2,474	2,528	1.02	0.03	0.63	Yes	54	2,916
LOWER WYANDOTTE RD	S of SR 162	7,748	7,077	0.91	-0.21	0.41	Yes	-671	450,241
MITCHELL ST	E of FEATHER RIVER BLVD	3,367	4,050	1.20	0.35	0.58	Yes	683	466,489
MITCHELL ST	E of MYERS ST	5,804	5,722	0.99	-0.03	0.48	Yes	-82	6,724
MONTGOMERY ST	W of FEATHER RIVER BLVD	8,058	9,354	1.16	0.39	0.41	Yes	1,296	1,679,616
MONTGOMERY ST	W of LINCOLN BLVD	6,802	7,553	1.11	0.25	0.44	Yes	751	564,001
MONTGOMERY ST	W of TABLE MTN BLVD	6,574	9,551	1.45	1.03	0.44	No	2,977	8,862,529
MYERS ST	N of ORO DAM BLVD	5,815	5,533	0.95	-0.10	0.48	Yes	-282	79,524
NELSON AVE	E of SR 70	9,091	7,890	0.87	-0.35	0.38	Yes	-1,201	1,442,401
NELSON AVE	W of 4TH ST	4,139	2,657	0.64	-0.69	0.52	Yes	-1,482	2,196,324
ORANGE AVE	E of BRIDGE ST	666	476	0.71	-0.42	0.68	Yes	-190	36,100

BCAG Model Validation Results: Daily Two-Way Total Traffic Volumes									
Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
ORANGE AVE	W of ACACIA AVE	4,669	6,426	1.38	0.72	0.52	Yes	1,757	3,087,049
ORO-DAM BLVD	E of FOOTHILL BLVD/BRIDGE	4,494	5,948	1.32	0.62	0.52	Yes	1,454	2,114,116
ORO-QUINCY HWY	E of FOOTHILL BLVD	3,192	1,696	0.53	-0.82	0.58	Yes	-1,496	2,238,016
OROVILLE DAM BLVD E	E of CANYON HIGHLANDS DR	4,609	4,993	1.08	0.16	0.52	Yes	384	147,456
TABLE MOUNTAIN BLVD	N of NELSON AVE	5,239	5,979	1.14	0.30	0.48	Yes	740	547,600
TABLE MTN BLVD	S of NELSON AVE	13,249	13,400	1.01	0.04	0.33	Yes	151	22,801
TABLE MTN BLVD	S of GRAND AVE	16,224	16,606	1.02	0.08	0.30	Yes	382	145,924
WASHINGTON AVE	W of ORO DAM BLVD	10,443	11,845	1.13	0.37	0.36	Yes	1,402	1,965,604
WYANDOTTE AVE	W of LOWER WYANDOTTE RD	4,430	6,028	1.36	0.69	0.52	Yes	1,598	2,553,604
YARD ST	W of WASHINGTON AVE	1,075	1,899	1.77	1.12	0.68	No	824	678,976
BILLE RD	E of OLIVER RD	1,822	1,041	0.57	-0.68	0.63	Yes	-781	609,961
BILLE RD	E of SKYWAY	8,373	5,685	0.68	-0.78	0.41	Yes	-2,688	7,225,344
BILLE RD	W of SKYWAY	2,719	1,607	0.59	-0.71	0.58	Yes	-1,112	1,236,544
BILLE RD	E of CLARK RD	7,673	5,726	0.75	-0.62	0.41	Yes	-1,947	3,790,809
BILLE RD	W of PENTZ RD	5,595	5,684	1.02	0.03	0.48	Yes	89	7,921
BUSCHMANN RD	E of FOSTER RD	2,527	380	0.15	-1.48	0.58	No	-2,147	4,609,609
BUSCHMANN RD	W of CLARK RD	3,725	960	0.26	-1.29	0.58	No	-2,765	7,645,225
CLARK RD	N of CENTRAL PARK DR	16,106	14,427	0.90	-0.34	0.30	Yes	-1,679	2,819,041
CLARK RD	N of PEARSON RD	15,637	11,907	0.76	-0.79	0.30	Yes	-3,730	13,912,900
CLARK RD	N of ELLIOT RD	15,644	14,843	0.95	-0.17	0.30	Yes	-801	641,601
CLARK RD	N of NUNNELEY RD	18,693	13,607	0.73	-0.95	0.29	Yes	-5,086	25,867,396
CLARK RD	N of WAGSTAFF RD	10,519	10,707	1.02	0.05	0.36	Yes	188	35,344
CLARK RD	N of BILLE RD	15,537	13,574	0.87	-0.42	0.30	Yes	-1,963	3,853,369
CLARK RD	S of SKYWAY	7,865	7,150	0.91	-0.22	0.41	Yes	-715	511,225
CLARK RD (CT ROW)	N of BUSCHMANN RD	11,596	9,421	0.81	-0.55	0.34	Yes	-2,175	4,730,625
ELLIOT RD	W of CLARK RD	9,823	10,196	1.04	0.10	0.38	Yes	373	139,129
ELLIOT RD	E of CLARK RD	5,540	4,063	0.73	-0.56	0.48	Yes	-1,477	2,181,529
ELLIOTT RD	E of SKYWAY	8,718	8,623	0.99	-0.03	0.41	Yes	-95	9,025
FOSTER RD	N of ROE RD	2,087	1,756	0.84	-0.25	0.63	Yes	-331	109,561
NEAL RD	N of ROE RD	2,308	1,733	0.75	-0.40	0.63	Yes	-575	330,625
NEAL RD	S of SKYWAY	4,042	3,399	0.84	-0.31	0.52	Yes	-643	413,449
NEW SKYWAY	E of PENTZ RD	16,125	19,286	1.20	0.65	0.30	Yes	3,161	9,991,921
NEW SKYWAY	W of PENTZ RD	15,450	17,573	1.14	0.45	0.30	Yes	2,123	4,507,129
NUNNELEY RD	W of CLARK RD	2,804	4,465	1.59	1.03	0.58	No	1,661	2,758,921
OLIVER RD	W of SKYWAY	5,151	4,595	0.89	-0.23	0.48	Yes	-556	309,136
OLIVER RD	S of BILLE RD	2,180	2,217	1.02	0.03	0.63	Yes	37	1,369
PEARSON RD	E of SKYWAY	9,647	6,703	0.69	-0.80	0.38	Yes	-2,944	8,667,136
PEARSON RD	E of CLARK RD	8,971	8,536	0.95	-0.13	0.38	Yes	-435	189,225
PEARSON RD	W of CLARK RD	11,927	12,098	1.01	0.04	0.34	Yes	171	29,241
PEARSON RD	E of SAWMILL RD	7,669	5,731	0.75	-0.62	0.41	Yes	-1,938	3,755,844
PEARSON RD	W of PENTZ RD	6,071	3,075	0.51	-1.04	0.48	No	-2,996	8,976,016
PENTZ RD	N of MALIBU	4,301	5,874	1.37	0.70	0.52	Yes	1,573	2,474,329
PENTZ RD	N of PEARSON RD	4,954	5,182	1.05	0.09	0.52	Yes	228	51,984
PENTZ RD	S or PEARSON RD	6,602	7,604	1.15	0.34	0.44	Yes	1,002	1,004,004
PENTZ RD	N or BILLE RD	5,713	5,814	1.02	0.04	0.48	Yes	101	10,201
PENTZ RD	N of WAGSTAFF RD	6,567	6,837	1.04	0.09	0.44	Yes	270	72,900
SAWMILL RD	N of PEARSON RD	2,770	1,727	0.62	-0.65	0.58	Yes	-1,043	1,087,849

BCAG Model Validation Results: Daily Two-Way Total Traffic Volumes									
Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
SAWMILL RD	S of BILLE RD	2,685	1,614	0.60	-0.69	0.58	Yes	-1,071	1,147,041
SKYWAY	S of NEAL RD	22,248	25,368	1.14	0.52	0.27	Yes	3,120	9,734,400
SKYWAY	N or NEAL RD	22,253	25,436	1.14	0.53	0.27	Yes	3,183	10,131,489
SKYWAY	N of ELLIOT RD	20,341	24,222	1.19	0.69	0.28	Yes	3,881	15,062,161
SKYWAY	S of PEARSON RD	22,916	25,436	1.11	0.41	0.27	Yes	2,520	6,350,400
SKYWAY	N of FIR ST	22,591	23,911	1.06	0.22	0.27	Yes	1,320	1,742,400
SKYWAY	N of WAGSTAFF RD	10,252	12,622	1.23	0.64	0.36	Yes	2,370	5,616,900
SKYWAY	N of MAXWELL DR	20,605	19,120	0.93	-0.26	0.28	Yes	-1,485	2,205,225
SKYWAY	N or BILLE RD	12,246	14,921	1.22	0.64	0.34	Yes	2,675	7,155,625
SKYWAY	W of CLARK RD	9,639	10,616	1.10	0.27	0.38	Yes	977	954,529
WAGSTAFF RD	E of SKYWAY	5,055	3,503	0.69	-0.65	0.48	Yes	-1,552	2,408,704
WAGSTAFF RD	W of SKYWAY	1,721	707	0.41	-0.94	0.63	Yes	-1,014	1,028,196
WAGSTAFF RD	W of CLARK RD	5,612	3,430	0.61	-0.82	0.48	Yes	-2,182	4,761,124
WAGSTAFF RD	E of CLARK RD	6,243	7,467	1.20	0.41	0.48	Yes	1,224	1,498,176
WAGSTAFF RD	W of PENTZ RD	5,406	5,320	0.98	-0.03	0.48	Yes	-86	7,396
		2,220,140	2,121,154				**Model/Count Ratio =**	**0.96**	Within 10%
Indicates Model Less Than Count							**Percent Within Caltrans Maximum Deviation =**	**82%**	> 75%
Indicates Model Greater Than Count							**Percent Root Mean Square Error =**	**27%**	< 40%
							Correlation Coefficient =	**0.96**	> 0.88

Total Count	**296**
Link Within Deviation	**243**
Link Outside Deviation	**53**

BCAG Model Validation Results: AM Peak Hour Two-Way Total Traffic Volumes									
Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
8TH ST	N of G ST	102	53	0.52	-0.70	0.68	Yes	-49	2,401
B ST	E of 7TH ST	207	156	0.75	-0.39	0.63	Yes	-51	2,601
B ST	E of FIRST ST	146	240	1.64	1.02	0.63	No	94	8,836
W BIGGS GRIDLEY RD	S of BANNOCK ST	149	133	0.89	-0.17	0.63	Yes	-16	256
ALAMO AVE	N of W EAST AVE	98	8	0.08	-1.34	0.68	No	-90	8,100
BIDWELL AVE	E of CARRIAGE LN	57	165	2.89	2.77	0.68	No	108	11,664
BROADWAY	N of SR 32 (8TH ST)	811	493	0.61	-0.96	0.41	Yes	-318	101,124
BROADWAY	S of 2ND ST	703	563	0.80	-0.45	0.44	Yes	-140	19,600
BRUCE RD	N of SKYWAY	635	774	1.22	0.50	0.44	Yes	139	19,321
BRUCE RD	N of LAKEWEST DR	749	1,064	1.42	0.96	0.44	Yes	315	99,225
BRUCE RD	N of E 20TH ST	749	1,043	1.39	0.89	0.44	Yes	294	86,436
BRUCE RD	S of HUMBOLDT RD	805	1,043	1.30	0.72	0.41	Yes	238	56,644
CACTUS AVE	N of EAST AVE	74	0	0.00	-1.46	0.68	No	-74	5,476
COHASSET RD	N of EATON RD	706	1,066	1.51	1.16	0.44	No	360	129,600
COHASSET RD	S of EAST AVE	1,451	2,068	1.43	1.36	0.31	No	617	380,689
COHASSET RD	N of EAST AVE	1,526	1,394	0.91	-0.29	0.30	Yes	-132	17,424
COHASSET RD	E of RIO LINDO AVE	1,831	1,039	0.57	-1.51	0.29	No	-792	627,264
CUSSIK AVE	N of W EAST AVE	430	260	0.60	-0.76	0.52	Yes	-170	28,900
DAYTON RD	S of ARCHER AVE	328	449	1.37	0.64	0.58	Yes	121	14,641
DR MLK JR PKWY	S of E 20TH ST	592	574	0.97	-0.06	0.48	Yes	-18	324
E 1ST AVE	W of ESPLANADE RD	766	1,068	1.39	0.96	0.41	Yes	302	91,204
E 1ST AVE	E of ESPLANADE	885	1,293	1.46	1.21	0.38	No	408	166,464
E 1ST AVE	W of SHERMAN AVE	1,439	1,394	0.97	-0.10	0.31	Yes	-45	2,025
E 1ST AVE	W of LONGFELLOW	1,173	993	0.85	-0.45	0.34	Yes	-180	32,400
E 20TH ST	W of WHITMAN AVE	1,212	1,297	1.07	0.21	0.34	Yes	85	7,225
E 20TH ST	W of FOREST AVE	1,562	1,898	1.22	0.71	0.30	Yes	336	112,896
E 20TH ST	W of BRUCE RD	525	752	1.43	0.91	0.48	Yes	227	51,529
E 20TH ST	E of FOREST AVE	819	816	1.00	-0.01	0.41	Yes	-3	9
E 3RD ST	E of WALL ST	125	259	2.07	1.70	0.63	No	134	17,956
E 4TH ST	E of FLUME ST	127	14	0.11	-1.41	0.63	No	-113	12,769
E 5TH AVE	E of ESPLANADE RD	296	292	0.99	-0.02	0.58	Yes	-4	16
E 5TH AVE	W of NEAL DOW AVE	665	616	0.93	-0.17	0.44	Yes	-49	2,401
E 8TH ST	W of PARK VISTA DR	297	629	2.12	1.94	0.58	No	332	110,224
E 8TH ST	E of KERN ST	154	400	2.60	2.54	0.63	No	246	60,516
E 8TH ST	E of EL MONTE AVE	182	423	2.32	2.10	0.63	No	241	58,081
E 8TH ST	W of BRUCE RD	152	349	2.30	2.06	0.63	No	197	38,809
E EATON RD	E of COHASSET RD	412	528	1.28	0.54	0.52	Yes	116	13,456
E PARK AVE	Btwn SR 99 & CARMICHAEL DR	2,028	1,657	0.82	-0.67	0.28	Yes	-371	137,641
E PARK AVE	E of MIDWAY	1,288	1,585	1.23	0.71	0.33	Yes	297	88,209
EAST AVE	W of CUSSICK/HOLLY AVE	1,722	1,079	0.63	-1.27	0.29	No	-643	413,449
EAST AVE	W of ESPLANADE RD	1,677	1,413	0.84	-0.54	0.29	Yes	-264	69,696
EAST AVE	E of ESPLANADE RD	1,662	1,679	1.01	0.03	0.29	Yes	17	289
EAST AVE	W of COHASSET RD	990	1,061	1.07	0.19	0.38	Yes	71	5,041
EAST AVE	E of COHASSET RD	1,206	1,431	1.19	0.55	0.34	Yes	225	50,625
EAST AVE	E of FLORAL AVE	1,574	1,628	1.03	0.11	0.30	Yes	54	2,916
EAST AVE	E of CACTUS AVE	905	969	1.07	0.19	0.38	Yes	64	4,096
EATON RD	E of ESPLANADE RD	1,395	867	0.62	-1.21	0.31	No	-528	278,784

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
EATON RD	W of SILVERBELL RD	801	544	0.68	-0.78	0.41	Yes	-257	66,049
EATON RD	W of BURNAP AVE	370	413	1.12	0.20	0.58	Yes	43	1,849
EL MONTE AVE	S of HWY 32	351	278	0.79	-0.36	0.58	Yes	-73	5,329
ESPANADE	S of COHASSET RD	1,681	1,617	0.96	-0.13	0.29	Yes	-64	4,096
ESPLANADE RD	N of LASSEN AVE	1,204	1,238	1.03	0.08	0.34	Yes	34	1,156
ESPLANADE RD	N of EATON RD	1,048	748	0.71	-0.80	0.36	Yes	-300	90,000
ESPLANADE RD	S of W SACRAMENTO AVE	1,609	1,803	1.12	0.40	0.30	Yes	194	37,636
ESPLANADE RD	N of EAST AVE	1,579	2,173	1.38	1.24	0.30	No	594	352,836
ESPLANADE RD	N of E 1ST AVE	1,528	1,770	1.16	0.52	0.30	Yes	242	58,564
ESPLANADE RD	S of EAST AVE	1,308	1,805	1.38	1.17	0.33	No	497	247,009
FAIR ST	S of E 20TH ST	439	380	0.87	-0.26	0.52	Yes	-59	3,481
FIR ST	S of HWY 32	237	227	0.96	-0.07	0.63	Yes	-10	100
FLORAL AVE	N of EAST AVE	441	768	1.74	1.43	0.52	No	327	106,929
FOREST AVE	S of E 20TH ST	895	878	0.98	-0.05	0.38	Yes	-17	289
FOREST AVE	S of HUMBOLDT RD	1,199	981	0.82	-0.53	0.34	Yes	-218	47,524
FOREST AVE	N of HWY 32	277	190	0.69	-0.55	0.58	Yes	-87	7,569
FOREST AVE	N of HUMBOLDT RD	1,296	966	0.75	-0.78	0.33	Yes	-330	108,900
FOREST AVE	W of NOTRE DAME BLVD	854	840	0.98	-0.04	0.41	Yes	-14	196
FOREST AVE	N of SKYWAY	196	424	2.16	1.85	0.63	No	228	51,984
GODMAN AVE	S of E EATON RD	146	43	0.29	-1.12	0.63	No	-103	10,609
GUYNN AVE	N of W EAST AVE	69	50	0.72	-0.40	0.68	Yes	-19	361
HAWTHORNE AVE	W of MADRONE AVE	92	35	0.38	-0.91	0.68	Yes	-57	3,249
HENSHAW AVE	W of ESPLANADE	214	479	2.24	1.97	0.63	No	265	70,225
HICKS LN	N of EATON RD	209	144	0.69	-0.49	0.63	Yes	-65	4,225
HOLLY AVE	S of W EAST AVE	390	229	0.59	-0.79	0.52	Yes	-161	25,921
HOOKER OAK AVE	E of MADRONE AVE	139	188	1.35	0.56	0.63	Yes	49	2,401
HOOKER OAK AVE	W of MANZANITA AVE	149	144	0.97	-0.05	0.63	Yes	-5	25
HUMBOLDT RD	W of FOREST AVE	181	227	1.25	0.40	0.63	Yes	46	2,116
IVY ST	N of 11TH ST	223	87	0.39	-0.97	0.63	Yes	-136	18,496
LASSEN AVE	E of ESPLANADE RD	663	718	1.08	0.19	0.44	Yes	55	3,025
LASSEN AVE	W of BURNAP AVE	535	432	0.81	-0.41	0.48	Yes	-103	10,609
MAIN ST	S of 2ND ST	908	1,082	1.19	0.50	0.38	Yes	174	30,276
MAIN ST	S of SR 32 (8TH ST)	711	1,353	1.90	2.05	0.44	No	642	412,164
MANGROVE AVE	S of VALLOMBROSA AVE	1,413	1,805	1.28	0.89	0.31	Yes	392	153,664
MANGROVE AVE	S of COHASSET RD	1,265	1,720	1.36	1.11	0.33	No	455	207,025
MANGROVE AVE	N of E 7TH AVE	1,520	1,580	1.04	0.13	0.30	Yes	60	3,600
MANGROVE AVE	S of E 1ST AVE	1,632	1,406	0.86	-0.47	0.29	Yes	-226	51,076
MANGROVE AVE	N of E 1ST AVE	1,561	1,544	0.99	-0.04	0.30	Yes	-17	289
MANZANITA AVE	N of VALLOMBROSA AVE	879	1,098	1.25	0.66	0.38	Yes	219	47,961
MANZANITA AVE	E of LONGFELLOW AVE	641	601	0.94	-0.14	0.44	Yes	-40	1,600
MANZANITA AVE	E of MADRONE AVE	325	246	0.76	-0.42	0.58	Yes	-79	6,241
MANZANITA AVE	N of CHICO CANYON RD	797	1,130	1.42	1.02	0.41	No	333	110,889
MARIGOLD AVE	S of EAST AVE	238	312	1.31	0.49	0.63	Yes	74	5,476
MARIGOLD AVE	N of EAST AVE	226	339	1.50	0.79	0.63	Yes	113	12,769
MARIPOSA AVE	N of EAST AVE	311	210	0.68	-0.56	0.58	Yes	-101	10,201
MIDWAY RD	S of E PARK AVE	1,301	1,270	0.98	-0.07	0.33	Yes	-31	961
MULBERRY ST	S of PINE ST/CYPRESS ST J	852	910	1.07	0.17	0.41	Yes	58	3,364
NORD HWY	W of ESPLANADE	366	127	0.35	-1.14	0.58	No	-239	57,121

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
NOTRE DAME BLVD	N of FOREST AVE	361	166	0.46	-0.94	0.58	Yes	-195	38,025
NOTRE DAME BLVD	N of SKYWAY	900	714	0.79	-0.54	0.38	Yes	-186	34,596
PALMETTO	W of BRYANT AVE	249	334	1.34	0.54	0.63	Yes	85	7,225
PALMETTO AVE	E of MANGROVE AVE	408	446	1.09	0.18	0.52	Yes	38	1,444
PALMETTO AVE	E of SHERIDAN AVE	346	372	1.08	0.13	0.58	Yes	26	676
PARK AVE	N of E PARK AVE	935	1,362	1.46	1.20	0.38	No	427	182,329
PARK AVE	S of SR 32	1,675	1,938	1.16	0.53	0.29	Yes	263	69,169
PARK AVE	S of 16TH ST	1,255	1,643	1.31	0.95	0.33	Yes	388	150,544
PINE ST	N of 4TH ST	765	689	0.90	-0.24	0.41	Yes	-76	5,776
RIO LINDO AVE	E of ESPLANADE	284	167	0.59	-0.72	0.58	Yes	-117	13,689
SKYWAY	E of BRUCE RD	2,283	2,334	1.02	0.08	0.27	Yes	51	2,601
SKYWAY	E of NOTRE DAME BLVD	1,669	2,053	1.23	0.78	0.29	Yes	384	147,456
SKYWAY	W of NOTRE DAME BLVD	3,297	2,851	0.86	-0.58	0.24	Yes	-446	198,916
VALLOMBROSA AVE	S of MEMORIAL WAY	672	484	0.72	-0.64	0.44	Yes	-188	35,344
VALLOMBROSA AVE	E of SR 99	322	306	0.95	-0.09	0.58	Yes	-16	256
VALLOMBROSA AVE	W of MANZANITA AVE	322	146	0.45	-0.95	0.58	Yes	-176	30,976
W 11TH AVE	W of ESPLANADE	419	351	0.84	-0.31	0.52	Yes	-68	4,624
W 1ST AVE	E of HOBART ST	628	1,014	1.61	1.40	0.44	No	386	148,996
W 2ND ST	E of WALNUT ST (SR 32)	620	316	0.51	-1.03	0.48	No	-304	92,416
W 3RD ST	E of IVY ST	150	89	0.59	-0.65	0.63	Yes	-61	3,721
W 4TH ST	E of HAZEL ST	85	113	1.33	0.48	0.68	Yes	28	784
W 5TH ST	W of WALNUT ST (SR 32)	442	397	0.90	-0.20	0.52	Yes	-45	2,025
W 5TH ST	E of WALNUT ST (SR 32)	438	218	0.50	-0.97	0.52	Yes	-220	48,400
W 8TH AVE	E of NORD AVE (SR 32)	568	366	0.64	-0.75	0.48	Yes	-202	40,804
W 8TH AVE	W of ESPLANADE RD	316	256	0.81	-0.33	0.58	Yes	-60	3,600
W EATON RD	W of ESPLANADE	629	555	0.88	-0.27	0.44	Yes	-74	5,476
W LINDO AVE	E of NORD AVE (SR 32)	87	70	0.80	-0.29	0.68	Yes	-17	289
W SACRAMENTO AVE	E of NORD AVE (SR 32)	929	678	0.73	-0.71	0.38	Yes	-251	63,001
W SACRAMENTO AVE	W of NORD AVE (SR 32)	470	476	1.01	0.02	0.52	Yes	6	36
W SACRAMENTO AVE	W of CITRUS AVE	504	868	1.72	1.52	0.48	No	364	132,496
W SHASTA AVE	W of ESPLANADE	311	232	0.75	-0.44	0.58	Yes	-79	6,241
WARNER ST	S of W SACAMENTO AVE	615	1,183	1.92	1.94	0.48	No	568	322,624
YOSEMITE DR	N of HWY 32	294	239	0.81	-0.33	0.58	Yes	-55	3,025
18TH ST	N of GRAND AV	31	14	0.45	-0.80	0.68	Yes	-17	289
AFTON RD	W of AGUA FRIAS RD	20	4	0.20	-1.17	0.68	No	-16	256
BELL RD	E of NORD AVE	176	45	0.26	-1.18	0.63	No	-131	17,161
BIGGS EAST HWY	E of HWY 99	287	124	0.43	-0.99	0.58	Yes	-163	26,569
CANYON DR	N of OLIVE HWY	250	194	0.78	-0.39	0.58	Yes	-56	3,136
CHICO RIVER RD	W of ALBERTON RD	79	48	0.61	-0.57	0.68	Yes	-31	961
COHASSET HWY	N of KEEFER RD	136	245	1.80	1.27	0.63	No	109	11,881
COLUSA HWY	W of HATCH RD	56	23	0.41	-0.86	0.68	Yes	-33	1,089
CONCOW RD	W of HWY 70	83	194	2.34	1.96	0.68	No	111	12,321
DAYTON RD	N of HEGAN LN	234	133	0.57	-0.69	0.63	Yes	-101	10,201
DUNSTONE DR	S of GRUBBS RD	16	97	6.06	7.41	0.68	No	81	6,561
DURHAM DAYTON HWY	W of OROVILLE-CHICO HWY	156	289	1.85	1.35	0.63	No	133	17,689
DURHAM PENTZ RD	E of SR 99	610	915	1.50	1.05	0.48	No	305	93,025
DURHAM PENTZ RD	E of SR 191	162	262	1.62	0.98	0.63	Yes	100	10,000
E GRIDLEY RD	At FEATHER RIVER BRIDGE	532	396	0.74	-0.54	0.48	Yes	-136	18,496

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
EAST AVE	E of SR 32	1,222	970	0.79	-0.61	0.34	Yes	-252	63,504
ENTLER AVE	E of MIDWAY	95	103	1.08	0.12	0.68	Yes	8	64
FOOTHILL BLVD	N of LWR WYANDOTTE RD	103	312	3.03	2.97	0.68	No	209	43,681
FORBESTOWN RD	S of OLD OLIVE HWY	228	245	1.07	0.12	0.63	Yes	17	289
FORBESTOWN RD	W of ROBINSON MILL RD	82	47	0.57	-0.62	0.68	Yes	-35	1,225
GARDEN DR	E of HWY 70	231	441	1.91	1.44	0.63	No	210	44,100
GARNER LN	N of SR 99	442	802	1.81	1.57	0.52	No	360	129,600
GARNER LN	N of ESPLANADE	217	104	0.48	-0.83	0.63	Yes	-113	12,769
GRAND AVE	E of 20TH ST	94	84	0.89	-0.16	0.68	Yes	-10	100
GRAND AVE	E of 10TH ST	351	384	1.09	0.16	0.58	Yes	33	1,089
HAMILTON CITY NORD	N of BENNETT RD	40	14	0.35	-0.95	0.68	Yes	-26	676
HEGAN LN	E of FIMPLE LN	226	92	0.41	-0.94	0.63	Yes	-134	17,956
HEGAN LN	W of MIDWAY	752	380	0.51	-1.21	0.41	No	-372	138,384
HONEY RUN RD	W of CENTERVILLE RD	146	180	1.23	0.37	0.63	Yes	34	1,156
KEEFER RD	W of GARNER LN	98	17	0.17	-1.21	0.68	No	-81	6,561
KELLY RIDGE RD	N of OLIVE HWY	138	118	0.86	-0.23	0.63	Yes	-20	400
LARKIN RD	S of CHANDON AVE	195	97	0.50	-0.80	0.63	Yes	-98	9,604
LARKIN RD	N of EAST GRIDLEY RD	96	129	1.34	0.50	0.68	Yes	33	1,089
LARKIN RD	N of E RIO BONITO RD	226	174	0.77	-0.37	0.63	Yes	-52	2,704
LINCOLN BLVD	S of OPHIR RD	404	428	1.06	0.11	0.52	Yes	24	576
LINCOLN BLVD	N of OPHIR RD	517	443	0.86	-0.30	0.48	Yes	-74	5,476
LINCOLN BLVD	S of JUNCTION W/ MYERS	813	1,052	1.29	0.72	0.41	Yes	239	57,121
LOS VERJELES RD	S of LA PORTE RD	62	43	0.69	-0.45	0.68	Yes	-19	361
LOWER WYANDOTTE RD	W of ALVERDA DR	484	1,033	2.13	2.18	0.52	No	549	301,401
LUMPKIN RD	N of FORBESTOWN RD	45	59	1.31	0.46	0.68	Yes	14	196
MERIDIAN RD	E of SR 99	80	75	0.94	-0.09	0.68	Yes	-5	25
MERIDIAN RD	N of HWY 32	280	53	0.19	-1.41	0.58	No	-227	51,529
MIDWAY RD	S of DURHAM DAYTON RD	227	517	2.28	2.03	0.63	No	290	84,100
MIDWAY RD	N of NELSON SHIPPEE RD	85	169	1.99	1.45	0.68	No	84	7,056
MIDWAY RD	S of HEGAN LN	611	858	1.40	0.85	0.48	Yes	247	61,009
MINERS RANCH RD	S of SR 162	216	192	0.89	-0.18	0.63	Yes	-24	576
NEAL RD	W of HWY 99	81	137	1.69	1.01	0.68	No	56	3,136
NEAL RD	E of HWY 99	104	156	1.50	0.73	0.68	Yes	52	2,704
OAKVALE AVE	S of SR 162	190	256	1.35	0.55	0.63	Yes	66	4,356
OPHIR RD	E of FEATHER RIVER BLVD	507	1,048	2.07	2.25	0.48	No	541	292,681
ORD FERRY RD	W of RIVER RD	202	190	0.94	-0.09	0.63	Yes	-12	144
ORD FERRY RD	W of AGUAS FRIAS RD	224	245	1.09	0.15	0.63	Yes	21	441
ORO QUINCY HWY	W of OLIVE HWY	182	544	2.99	3.16	0.63	No	362	131,044
ORO-BANGOR HWY	E of FOOTHILL BLVD	102	185	1.81	1.19	0.68	No	83	6,889
ORO-BANGOR HWY	S of V-7 RD	129	130	1.01	0.01	0.63	Yes	1	1
ORO-QUINCY HWY	At LAKE MADRONE BRIDGE	46	75	1.63	0.92	0.68	Yes	29	841
OROVILLE-BANGOR HWY	N of SWEDES FLAT RD	153	595	3.89	4.59	0.63	No	442	195,364
PALERMO RD	E of HWY 70	114	312	2.74	2.54	0.68	No	198	39,204
PENNINGTON RD	S of W EVANS REIMER RD	33	12	0.36	-0.93	0.68	Yes	-21	441
PENTZ RD	N of HWY 70	251	509	2.03	1.79	0.58	No	258	66,564
RICHVALE HWY	E of MIDWAY	110	267	2.43	2.09	0.68	No	157	24,649
ROSE AVE	S of WEBB AVE	102	85	0.83	-0.24	0.68	Yes	-17	289
SEVEN MILE LN	S of ORD FERRY RD	35	10	0.29	-1.05	0.68	No	-25	625

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
SKYLINE BLVD	S of SR 162	78	102	1.31	0.45	0.68	Yes	24	576
SKYWAY	E of CLIFFHANGER LN	1,696	2,153	1.27	0.92	0.29	Yes	457	208,849
SKYWAY	N of COUTOLENC RD	1,204	1,392	1.16	0.46	0.34	Yes	188	35,344
SKYWAY	N of WYCLIFF WAY	885	937	1.06	0.15	0.38	Yes	52	2,704
SKYWAY	N of NIMSHEW RD	121	35	0.29	-1.04	0.68	No	-86	7,396
SKYWAY	S of MANZANITA ST (Stirling City)	39	57	1.46	0.68	0.68	Yes	18	324
UPPER PALERMO RD	S of OPHIR RD/LOWER WYANDO	267	439	1.64	1.12	0.58	No	172	29,584
W RIO BONITO RD	E of HAWKINS LN	103	112	1.09	0.13	0.68	Yes	9	81
W SACRAMENTO AVE	W of MUIR AVE	82	39	0.48	-0.77	0.68	Yes	-43	1,849
WALMER RD	E of LINCOLN BLVD	223	284	1.27	0.43	0.63	Yes	61	3,721
CHERRY ST	W of SR 99	95	229	2.41	2.07	0.68	No	134	17,956
E GRIDLEY RD	E of SR 99	453	228	0.50	-0.96	0.52	Yes	-225	50,625
JACKSON ST	N of MAGNOLIA ST	60	144	2.40	2.05	0.68	No	84	7,056
MAGNOLIA ST	W of SR 99	535	197	0.37	-1.33	0.48	No	-338	114,244
MAGNOLIA ST	E of JACKSON ST	314	179	0.57	-0.75	0.58	Yes	-135	18,225
MAGNOLIA ST	W of JACKSON ST	294	70	0.24	-1.33	0.58	No	-224	50,176
SPRUCE ST	W of SR 99	496	251	0.51	-0.95	0.52	Yes	-245	60,025
SYCAMORE ST	W of SR 99	223	778	3.49	3.95	0.63	No	555	308,025
SYCAMORE ST	E of RANDOLPH AVE	218	163	0.75	-0.40	0.63	Yes	-55	3,025
W BIGGS GRIDLEY RD	S of SPRUCE ST	179	43	0.24	-1.21	0.63	No	-136	18,496
W BIGGS GRIDLEY RD	N of HERON LANDING WAY	170	140	0.82	-0.28	0.63	Yes	-30	900
W LIBERTY RD	W of SR 99	145	58	0.40	-0.95	0.63	Yes	-87	7,569
18TH ST	N of ORO DAM BLVD	165	232	1.41	0.64	0.63	Yes	67	4,489
5TH AV	S of ORO DAM BLVD (SR 162)	347	306	0.88	-0.21	0.58	Yes	-41	1,681
5TH AV	S of CAL OAK AV	224	151	0.67	-0.52	0.63	Yes	-73	5,329
FEATHER RIVER BLVD	S of ORO-DAM BLVD (SR 162)	684	371	0.54	-1.04	0.44	No	-313	97,969
FEATHER RIVER BLVD	N of ORO DAM BLVD	604	297	0.49	-1.07	0.48	No	-307	94,249
FOOTHILL BLVD	S of SR 162	456	664	1.46	0.88	0.52	Yes	208	43,264
GEORGIA PACIFIC WAY	E of HWY 70	146	393	2.69	2.69	0.63	No	247	61,009
GRAND AVE	E of SR 70	589	484	0.82	-0.38	0.48	Yes	-105	11,025
HUNTOON ST	S of GRACE ST	185	191	1.03	0.05	0.63	Yes	6	36
LARKIN RD	S of SR 162	431	358	0.83	-0.33	0.52	Yes	-73	5,329
LINCOLN BLVD	S of ORO DAM BLVD	924	1,312	1.42	1.11	0.38	No	388	150,544
LINCOLN ST	S of GRACE ST	213	143	0.67	-0.52	0.63	Yes	-70	4,900
LOWER WYANDOTTE RD	S of SR 162	671	551	0.82	-0.41	0.44	Yes	-120	14,400
MITCHELL ST	E of FEATHER RIVER BLVD	269	340	1.26	0.46	0.58	Yes	71	5,041
MITCHELL ST	E of MYERS ST	506	461	0.91	-0.19	0.48	Yes	-45	2,025
MONTGOMERY ST	W of FEATHER RIVER BLVD	602	819	1.36	0.76	0.48	Yes	217	47,089
MONTGOMERY ST	W of LINCOLN BLVD	532	604	1.14	0.28	0.48	Yes	72	5,184
MONTGOMERY ST	W of TABLE MTN BLVD	542	775	1.43	0.91	0.48	Yes	233	54,289
MYERS ST	N of ORO DAM BLVD	532	347	0.65	-0.73	0.48	Yes	-185	34,225
NELSON AVE	E of SR 70	865	690	0.80	-0.49	0.41	Yes	-175	30,625
NELSON AVE	W of 4TH ST	504	273	0.54	-0.96	0.48	Yes	-231	53,361
ORANGE AVE	E of BRIDGE ST	177	111	0.63	-0.59	0.63	Yes	-66	4,356
ORANGE AVE	W of ACACIA AVE	503	796	1.58	1.23	0.48	No	293	85,849
ORO-DAM BLVD	E of FOOTHILL BLVD/BRIDGE	460	684	1.49	0.94	0.52	Yes	224	50,176
ORO-QUINCY HWY	E of FOOTHILL BLVD	296	321	1.08	0.15	0.58	Yes	25	625
OROVILLE DAM BLVD E	E of CANYON HIGHLANDS DR	414	792	1.91	1.76	0.52	No	378	142,884

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
TABLE MOUNTAIN BLVD	N of NELSON AVE	498	575	1.15	0.30	0.52	Yes	77	5,929
TABLE MTN BLVD	S of NELSON AVE	1,076	1,263	1.17	0.48	0.36	Yes	187	34,969
TABLE MTN BLVD	S of GRAND AVE	1,253	1,552	1.24	0.73	0.33	Yes	299	89,401
WASHINGTON AVE	W of ORO DAM BLVD	768	643	0.84	-0.40	0.41	Yes	-125	15,625
WYANDOTTE AVE	W of LOWER WYANDOTTE RD	392	512	1.31	0.59	0.52	Yes	120	14,400
YARD ST	W of WASHINGTON AVE	114	187	1.64	0.94	0.68	Yes	73	5,329
BILLE RD	E of OLIVER RD	130	89	0.68	-0.50	0.63	Yes	-41	1,681
BILLE RD	E of SKYWAY	712	542	0.76	-0.54	0.44	Yes	-170	28,900
BILLE RD	W of SKYWAY	227	136	0.60	-0.64	0.63	Yes	-91	8,281
BILLE RD	E of CLARK RD	718	450	0.63	-0.85	0.44	Yes	-268	71,824
BILLE RD	W of PENTZ RD	543	388	0.71	-0.60	0.48	Yes	-155	24,025
BUSCHMANN RD	E of FOSTER RD	198	95	0.48	-0.83	0.63	Yes	-103	10,609
BUSCHMANN RD	W of CLARK RD	259	122	0.47	-0.92	0.58	Yes	-137	18,769
CLARK RD	N of CENTRAL PARK DR	1,145	1,279	1.12	0.34	0.34	Yes	134	17,956
CLARK RD	N of PEARSON RD	1,048	1,008	0.96	-0.11	0.36	Yes	-40	1,600
CLARK RD	N of ELLIOT RD	1,266	1,316	1.04	0.12	0.33	Yes	50	2,500
CLARK RD	N of NUNNELEY RD	1,315	1,099	0.84	-0.51	0.33	Yes	-216	46,656
CLARK RD	N of WAGSTAFF RD	835	969	1.16	0.39	0.41	Yes	134	17,956
CLARK RD	N of BILLE RD	1,165	1,241	1.07	0.19	0.34	Yes	76	5,776
CLARK RD	S of SKYWAY	534	458	0.86	-0.30	0.48	Yes	-76	5,776
CLARK RD (CT ROW)	N of BUSCHMANN RD	799	693	0.87	-0.32	0.41	Yes	-106	11,236
ELLIOT RD	W of CLARK RD	793	936	1.18	0.44	0.41	Yes	143	20,449
ELLIOT RD	E of CLARK RD	382	444	1.16	0.31	0.52	Yes	62	3,844
ELLIOTT RD	E of SKYWAY	632	747	1.18	0.41	0.44	Yes	115	13,225
FOSTER RD	N of ROE RD	156	114	0.73	-0.43	0.63	Yes	-42	1,764
NEAL RD	N of ROE RD	165	129	0.78	-0.35	0.63	Yes	-36	1,296
NEAL RD	S of SKYWAY	291	391	1.34	0.60	0.58	Yes	100	10,000
NEW SKYWAY	E of PENTZ RD	1,091	1,385	1.27	0.75	0.36	Yes	294	86,436
NEW SKYWAY	W of PENTZ RD	1,490	1,300	0.87	-0.41	0.31	Yes	-190	36,100
NUNNELEY RD	W of CLARK RD	264	279	1.06	0.10	0.58	Yes	15	225
OLIVER RD	W of SKYWAY	339	400	1.18	0.31	0.58	Yes	61	3,721
OLIVER RD	S of BILLE RD	151	208	1.38	0.60	0.63	Yes	57	3,249
PEARSON RD	E of SKYWAY	700	422	0.60	-0.90	0.44	Yes	-278	77,284
PEARSON RD	E of CLARK RD	649	746	1.15	0.34	0.44	Yes	97	9,409
PEARSON RD	W of CLARK RD	974	1,097	1.13	0.33	0.38	Yes	123	15,129
PEARSON RD	E of SAWMILL RD	661	505	0.76	-0.54	0.44	Yes	-156	24,336
PEARSON RD	W of PENTZ RD	431	259	0.60	-0.77	0.52	Yes	-172	29,584
PENTZ RD	N of MALIBU	327	480	1.47	0.81	0.58	Yes	153	23,409
PENTZ RD	N of PEARSON RD	436	432	0.99	-0.02	0.52	Yes	-4	16
PENTZ RD	S or PEARSON RD	459	629	1.37	0.71	0.52	Yes	170	28,900
PENTZ RD	N or BILLE RD	521	508	0.98	-0.05	0.48	Yes	-13	169
PENTZ RD	N of WAGSTAFF RD	509	733	1.44	0.93	0.48	Yes	224	50,176
SAWMILL RD	N of PEARSON RD	181	170	0.94	-0.10	0.63	Yes	-11	121
SAWMILL RD	S of BILLE RD	200	138	0.69	-0.49	0.63	Yes	-62	3,844
SKYWAY	**S of NEAL RD**	**1,657**	**2,283**	**1.38**	**1.29**	**0.29**	**No**	**626**	**391,876**
SKYWAY	N or NEAL RD	1,715	2,164	1.26	0.89	0.29	Yes	449	201,601
SKYWAY	N of ELLIOT RD	1,477	1,864	1.26	0.84	0.31	Yes	387	149,769
SKYWAY	**S of PEARSON RD**	**1,573**	**2,164**	**1.38**	**1.24**	**0.30**	**No**	**591**	**349,281**

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
SKYWAY	N of FIR ST	1,677	1,854	1.11	0.36	0.29	Yes	177	31,329
SKYWAY	N of WAGSTAFF RD	634	978	1.54	1.23	0.44	No	344	118,336
SKYWAY	N of MAXWELL DR	1,404	1,524	1.09	0.27	0.31	Yes	120	14,400
SKYWAY	N or BILLE RD	1,099	1,103	1.00	0.01	0.36	Yes	4	16
SKYWAY	W of CLARK RD	615	854	1.39	0.82	0.48	Yes	239	57,121
WAGSTAFF RD	E of SKYWAY	372	244	0.66	-0.60	0.58	Yes	-128	16,384
WAGSTAFF RD	W of SKYWAY	112	63	0.56	-0.64	0.68	Yes	-49	2,401
WAGSTAFF RD	W of CLARK RD	439	257	0.59	-0.80	0.52	Yes	-182	33,124
WAGSTAFF RD	E of CLARK RD	439	637	1.45	0.87	0.52	Yes	198	39,204
WAGSTAFF RD	W of PENTZ RD	411	574	1.40	0.76	0.52	Yes	163	26,569
		170,245	181,435				**Model/Count Ratio =**	**1.07**	Within 10%
Indicates Model Less Than Count							**Percent Within Caltrans Maximum Deviation =**	**75%**	> 75%
Indicates Model Greater Than Count							**Percent Root Mean Square Error =**	**38%**	< 40%
							Correlation Coefficient =	**0.92**	> 0.88

Total Count	**296**
Link Within Deviation	**223**
Link Outside Deviation	**73**

BCAG Model Validation Results: PM Peak Hour Two-Way Total Traffic Volumes									
Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
8TH ST	N of G ST	115	82	0.71	-0.42	0.68	Yes	-33	1,089
B ST	E of 7TH ST	223	144	0.65	-0.56	0.63	Yes	-79	6,241
B ST	E of FIRST ST	183	138	0.75	-0.39	0.63	Yes	-45	2,025
W BIGGS GRIDLEY RD	S of BANNOCK ST	147	306	2.08	1.72	0.63	No	159	25,281
ALAMO AVE	N of W EAST AVE	105	6	0.06	-1.38	0.68	No	-99	9,801
BIDWELL AVE	E of CARRIAGE LN	79	194	2.46	2.13	0.68	No	115	13,225
BROADWAY	N of SR 32 (8TH ST)	533	1,163	2.18	2.49	0.48	No	630	396,900
BROADWAY	S of 2ND ST	760	1,253	1.65	1.58	0.41	No	493	243,049
BRUCE RD	N of SKYWAY	722	1,014	1.40	0.92	0.44	Yes	292	85,264
BRUCE RD	N of LAKEWEST DR	925	1,114	1.20	0.54	0.38	Yes	189	35,721
BRUCE RD	N of E 20TH ST	897	1,176	1.31	0.82	0.38	Yes	279	77,841
BRUCE RD	S of HUMBOLDT RD	898	1,175	1.31	0.81	0.38	Yes	277	76,729
CACTUS AVE	N of EAST AVE	72	0	0.00	-1.46	0.68	No	-72	5,184
COHASSET RD	N of EATON RD	973	1,312	1.35	0.92	0.38	Yes	339	114,921
COHASSET RD	S of EAST AVE	1,983	2,754	1.39	1.39	0.28	No	771	594,441
COHASSET RD	N of EAST AVE	1,705	1,800	1.06	0.19	0.29	Yes	95	9,025
COHASSET RD	E of RIO LINDO AVE	1,762	1,854	1.05	0.18	0.29	Yes	92	8,464
CUSSIK AVE	N of W EAST AVE	514	327	0.64	-0.77	0.48	Yes	-187	34,969
DAYTON RD	S of ARCHER AVE	570	515	0.90	-0.20	0.48	Yes	-55	3,025
DR MLK JR PKWY	S of E 20TH ST	1,326	1,002	0.76	-0.75	0.33	Yes	-324	104,976
E 1ST AVE	W of ESPLANADE RD	909	615	0.68	-0.85	0.38	Yes	-294	86,436
E 1ST AVE	E of ESPLANADE	1,119	1,064	0.95	-0.14	0.36	Yes	-55	3,025
E 1ST AVE	W of SHERMAN AVE	1,519	1,296	0.85	-0.48	0.30	Yes	-223	49,729
E 1ST AVE	W of LONGFELLOW	1,284	1,272	0.99	-0.03	0.33	Yes	-12	144
E 20TH ST	W of WHITMAN AVE	1,381	1,615	1.17	0.54	0.31	Yes	234	54,756
E 20TH ST	W of FOREST AVE	1,864	2,226	1.19	0.68	0.29	Yes	362	131,044
E 20TH ST	W of BRUCE RD	656	655	1.00	0.00	0.44	Yes	-1	1
E 20TH ST	E of FOREST AVE	881	762	0.86	-0.36	0.38	Yes	-119	14,161
E 3RD ST	E of WALL ST	161	347	2.16	1.83	0.63	No	186	34,596
E 4TH ST	E of FLUME ST	149	11	0.07	-1.47	0.63	No	-138	19,044
E 5TH AVE	E of ESPLANADE RD	365	393	1.08	0.13	0.58	Yes	28	784
E 5TH AVE	W of NEAL DOW AVE	779	547	0.70	-0.73	0.41	Yes	-232	53,824
E 8TH ST	W of PARK VISTA DR	323	656	2.03	1.79	0.58	No	333	110,889
E 8TH ST	E of KERN ST	163	446	2.74	2.76	0.63	No	283	80,089
E 8TH ST	E of EL MONTE AVE	193	420	2.18	1.87	0.63	No	227	51,529
E 8TH ST	W of BRUCE RD	238	341	1.43	0.69	0.63	Yes	103	10,609
E EATON RD	E of COHASSET RD	457	680	1.49	0.94	0.52	Yes	223	49,729
E PARK AVE	Btwn SR 99 & CARMICHAEL DR	2,266	1,982	0.87	-0.47	0.27	Yes	-284	80,656
E PARK AVE	E of MIDWAY	1,612	1,819	1.13	0.42	0.30	Yes	207	42,849
EAST AVE	W of CUSSICK/HOLLY AVE	1,697	1,527	0.90	-0.34	0.29	Yes	-170	28,900
EAST AVE	W of ESPLANADE RD	1,888	1,801	0.95	-0.16	0.28	Yes	-87	7,569
EAST AVE	E of ESPLANADE RD	1,942	2,241	1.15	0.55	0.28	Yes	299	89,401
EAST AVE	W of COHASSET RD	1,133	1,687	1.49	1.44	0.34	No	554	306,916
EAST AVE	E of COHASSET RD	1,555	1,759	1.13	0.43	0.30	Yes	204	41,616
EAST AVE	E of FLORAL AVE	1,601	1,742	1.09	0.29	0.30	Yes	141	19,881
EAST AVE	E of CACTUS AVE	1,247	954	0.77	-0.69	0.34	Yes	-293	85,849
EATON RD	E of ESPLANADE RD	1,505	1,000	0.66	-1.11	0.30	No	-505	255,025

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
EATON RD	W of SILVERBELL RD	843	687	0.81	-0.45	0.41	Yes	-156	24,336
EATON RD	W of BURNAP AVE	483	539	1.12	0.22	0.52	Yes	56	3,136
EL MONTE AVE	S of HWY 32	348	141	0.41	-1.03	0.58	No	-207	42,849
ESPANADE	S of COHASSET RD	2,011	2,130	1.06	0.22	0.28	Yes	119	14,161
ESPLANADE RD	N of LASSEN AVE	1,378	1,534	1.11	0.36	0.31	Yes	156	24,336
ESPLANADE RD	N of EATON RD	1,175	944	0.80	-0.58	0.34	Yes	-231	53,361
ESPLANADE RD	S of W SACRAMENTO AVE	1,820	2,428	1.33	1.17	0.29	No	608	369,664
ESPLANADE RD	N of EAST AVE	1,806	2,908	1.61	2.13	0.29	No	1,102	1,214,404
ESPLANADE RD	N of E 1ST AVE	1,678	2,099	1.25	0.85	0.29	Yes	421	177,241
ESPLANADE RD	S of EAST AVE	1,678	2,557	1.52	1.78	0.29	No	879	772,641
FAIR ST	S of E 20TH ST	498	629	1.26	0.51	0.52	Yes	131	17,161
FIR ST	S of HWY 32	267	346	1.30	0.51	0.58	Yes	79	6,241
FLORAL AVE	N of EAST AVE	569	755	1.33	0.69	0.48	Yes	186	34,596
FOREST AVE	S of E 20TH ST	1,066	1,356	1.27	0.76	0.36	Yes	290	84,100
FOREST AVE	S of HUMBOLDT RD	1,392	1,281	0.92	-0.25	0.31	Yes	-111	12,321
FOREST AVE	N of HWY 32	305	144	0.47	-0.92	0.58	Yes	-161	25,921
FOREST AVE	N of HUMBOLDT RD	1,367	1,304	0.95	-0.14	0.33	Yes	-63	3,969
FOREST AVE	W of NOTRE DAME BLVD	1,090	1,428	1.31	0.86	0.36	Yes	338	114,244
FOREST AVE	N of SKYWAY	271	366	1.35	0.61	0.58	Yes	95	9,025
GODMAN AVE	S of E EATON RD	172	45	0.26	-1.17	0.63	No	-127	16,129
GUYNN AVE	N of W EAST AVE	72	44	0.61	-0.57	0.68	Yes	-28	784
HAWTHORNE AVE	W of MADRONE AVE	102	27	0.26	-1.08	0.68	No	-75	5,625
HENSHAW AVE	W of ESPLANADE	289	965	3.34	4.07	0.58	No	676	456,976
HICKS LN	N of EATON RD	223	187	0.84	-0.26	0.63	Yes	-36	1,296
HOLLY AVE	S of W EAST AVE	431	306	0.71	-0.56	0.52	Yes	-125	15,625
HOOKER OAK AVE	E of MADRONE AVE	150	119	0.79	-0.33	0.63	Yes	-31	961
HOOKER OAK AVE	W of MANZANITA AVE	168	99	0.59	-0.65	0.63	Yes	-69	4,761
HUMBOLDT RD	W of FOREST AVE	214	346	1.62	0.98	0.63	Yes	132	17,424
IVY ST	N of 11TH ST	273	88	0.32	-1.18	0.58	No	-185	34,225
LASSEN AVE	E of ESPLANADE RD	647	847	1.31	0.70	0.44	Yes	200	40,000
LASSEN AVE	W of BURNAP AVE	634	546	0.86	-0.32	0.44	Yes	-88	7,744
MAIN ST	S of 2ND ST	995	1,360	1.37	0.97	0.38	Yes	365	133,225
MAIN ST	S of SR 32 (8TH ST)	914	1,268	1.39	1.02	0.38	No	354	125,316
MANGROVE AVE	S of VALLOMBROSA AVE	1,592	1,743	1.09	0.31	0.30	Yes	151	22,801
MANGROVE AVE	S of COHASSET RD	1,736	2,474	1.43	1.45	0.29	No	738	544,644
MANGROVE AVE	N of E 7TH AVE	1,870	2,049	1.10	0.33	0.29	Yes	179	32,041
MANGROVE AVE	S of E 1ST AVE	1,881	2,237	1.19	0.68	0.28	Yes	356	126,736
MANGROVE AVE	N of E 1ST AVE	1,784	2,254	1.26	0.92	0.29	Yes	470	220,900
MANZANITA AVE	N of VALLOMBROSA AVE	901	1,104	1.23	0.59	0.38	Yes	203	41,209
MANZANITA AVE	E of LONGFELLOW AVE	717	482	0.67	-0.74	0.44	Yes	-235	55,225
MANZANITA AVE	E of MADRONE AVE	372	230	0.62	-0.66	0.58	Yes	-142	20,164
MANZANITA AVE	N of CHICO CANYON RD	910	1,146	1.26	0.68	0.38	Yes	236	55,696
MARIGOLD AVE	S of EAST AVE	272	268	0.99	-0.03	0.58	Yes	-4	16
MARIGOLD AVE	N of EAST AVE	254	393	1.55	0.95	0.58	Yes	139	19,321
MARIPOSA AVE	N of EAST AVE	333	202	0.61	-0.68	0.58	Yes	-131	17,161
MIDWAY RD	S of E PARK AVE	1,536	1,508	0.98	-0.06	0.30	Yes	-28	784
MULBERRY ST	S of PINE ST/CYPRESS ST J	876	1,071	1.22	0.59	0.38	Yes	195	38,025
NORD HWY	W of ESPLANADE	382	199	0.52	-0.92	0.52	Yes	-183	33,489

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
NOTRE DAME BLVD	N of FOREST AVE	405	302	0.75	-0.49	0.52	Yes	-103	10,609
NOTRE DAME BLVD	N of SKYWAY	1,607	1,441	0.90	-0.34	0.30	Yes	-166	27,556
PALMETTO	W of BRYANT AVE	317	253	0.80	-0.35	0.58	Yes	-64	4,096
PALMETTO AVE	E of MANGROVE AVE	505	532	1.05	0.11	0.48	Yes	27	729
PALMETTO AVE	E of SHERIDAN AVE	496	273	0.55	-0.86	0.52	Yes	-223	49,729
PARK AVE	N of E PARK AVE	1,207	1,547	1.28	0.83	0.34	Yes	340	115,600
PARK AVE	S of SR 32	1,741	2,147	1.23	0.79	0.29	Yes	406	164,836
PARK AVE	**S of 16TH ST**	**1,507**	**1,980**	**1.31**	**1.04**	**0.30**	**No**	**473**	**223,729**
PINE ST	N of 4TH ST	771	770	1.00	0.00	0.41	Yes	-1	1
RIO LINDO AVE	E of ESPLANADE	300	411	1.37	0.64	0.58	Yes	111	12,321
SKYWAY	E of BRUCE RD	2,451	2,014	0.82	-0.69	0.26	Yes	-437	190,969
SKYWAY	E of NOTRE DAME BLVD	1,915	1,964	1.03	0.09	0.28	Yes	49	2,401
SKYWAY	W of NOTRE DAME BLVD	3,936	3,429	0.87	-0.58	0.22	Yes	-507	257,049
VALLOMBROSA AVE	S of MEMORIAL WAY	932	948	1.02	0.05	0.38	Yes	16	256
VALLOMBROSA AVE	E of SR 99	344	235	0.68	-0.55	0.58	Yes	-109	11,881
VALLOMBROSA AVE	**W of MANZANITA AVE**	**349**	**142**	**0.41**	**-1.03**	**0.58**	**No**	**-207**	**42,849**
W 11TH AVE	W of ESPLANADE	469	341	0.73	-0.52	0.52	Yes	-128	16,384
W 1ST AVE	E of HOBART ST	703	584	0.83	-0.38	0.44	Yes	-119	14,161
W 2ND ST	E of WALNUT ST (SR 32)	525	394	0.75	-0.53	0.48	Yes	-131	17,161
W 3RD ST	E of IVY ST	150	170	1.13	0.21	0.63	Yes	20	400
W 4TH ST	E of HAZEL ST	89	116	1.30	0.44	0.68	Yes	27	729
W 5TH ST	W of WALNUT ST (SR 32)	478	469	0.98	-0.04	0.52	Yes	-9	81
W 5TH ST	**E of WALNUT ST (SR 32)**	**481**	**218**	**0.45**	**-1.05**	**0.52**	**No**	**-263**	**69,169**
W 8TH AVE	E of NORD AVE (SR 32)	581	413	0.71	-0.61	0.48	Yes	-168	28,224
W 8TH AVE	W of ESPLANADE RD	429	256	0.60	-0.78	0.52	Yes	-173	29,929
W EATON RD	W of ESPLANADE	637	593	0.93	-0.16	0.44	Yes	-44	1,936
W LINDO AVE	E of NORD AVE (SR 32)	92	72	0.78	-0.32	0.68	Yes	-20	400
W SACRAMENTO AVE	E of NORD AVE (SR 32)	996	714	0.72	-0.75	0.38	Yes	-282	79,524
W SACRAMENTO AVE	W of NORD AVE (SR 32)	536	444	0.83	-0.36	0.48	Yes	-92	8,464
W SACRAMENTO AVE	W of CITRUS AVE	532	688	1.29	0.62	0.48	Yes	156	24,336
W SHASTA AVE	W of ESPLANADE	391	282	0.72	-0.54	0.52	Yes	-109	11,881
WARNER ST	**S of W SACAMENTO AVE**	**647**	**312**	**0.48**	**-1.18**	**0.44**	**No**	**-335**	**112,225**
YOSEMITE DR	N of HWY 32	392	249	0.64	-0.70	0.52	Yes	-143	20,449
18TH ST	N of GRAND AV	46	21	0.46	-0.80	0.68	Yes	-25	625
AFTON RD	W of AGUA FRIAS RD	12	11	0.92	-0.12	0.68	Yes	-1	1
BELL RD	E of NORD AVE	191	93	0.49	-0.81	0.63	Yes	-98	9,604
BIGGS EAST HWY	E of HWY 99	250	298	1.19	0.33	0.58	Yes	48	2,304
CANYON DR	N of OLIVE HWY	259	212	0.82	-0.32	0.58	Yes	-47	2,209
CHICO RIVER RD	W of ALBERTON RD	82	114	1.39	0.57	0.68	Yes	32	1,024
COHASSET HWY	**N of KEEFER RD**	**142**	**239**	**1.68**	**1.08**	**0.63**	**No**	**97**	**9,409**
COLUSA HWY	W of HATCH RD	61	59	0.97	-0.05	0.68	Yes	-2	4
CONCOW RD	**W of HWY 70**	**87**	**200**	**2.30**	**1.90**	**0.68**	**No**	**113**	**12,769**
DAYTON RD	N of HEGAN LN	277	178	0.64	-0.62	0.58	Yes	-99	9,801
DUNSTONE DR	**S of GRUBBS RD**	**13**	**22**	**1.69**	**1.01**	**0.68**	**No**	**9**	**81**
DURHAM DAYTON HWY	W of OROVILLE-CHICO HWY	162	253	1.56	0.89	0.63	Yes	91	8,281
DURHAM PENTZ RD	E of SR 99	763	848	1.11	0.27	0.41	Yes	85	7,225
DURHAM PENTZ RD	E of SR 191	222	305	1.37	0.59	0.63	Yes	83	6,889
E GRIDLEY RD	At FEATHER RIVER BRIDGE	515	274	0.53	-0.99	0.48	Yes	-241	58,081

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
EAST AVE	E of SR 32	1,272	1,413	1.11	0.34	0.33	Yes	141	19,881
ENTLER AVE	E of MIDWAY	96	135	1.41	0.59	0.68	Yes	39	1,521
FOOTHILL BLVD	N of LWR WYANDOTTE RD	140	293	2.09	1.73	0.63	No	153	23,409
FORBESTOWN RD	S of OLD OLIVE HWY	251	220	0.88	-0.21	0.58	Yes	-31	961
FORBESTOWN RD	W of ROBINSON MILL RD	78	82	1.05	0.08	0.68	Yes	4	16
GARDEN DR	E of HWY 70	259	429	1.66	1.14	0.58	No	170	28,900
GARNER LN	N of SR 99	499	895	1.79	1.53	0.52	No	396	156,816
GARNER LN	N of ESPLANADE	252	67	0.27	-1.28	0.58	No	-185	34,225
GRAND AVE	E of 20TH ST	110	48	0.44	-0.83	0.68	Yes	-62	3,844
GRAND AVE	E of 10TH ST	399	352	0.88	-0.23	0.52	Yes	-47	2,209
HAMILTON CITY NORD	N of BENNETT RD	51	19	0.37	-0.92	0.68	Yes	-32	1,024
HEGAN LN	E of FIMPLE LN	295	137	0.46	-0.93	0.58	Yes	-158	24,964
HEGAN LN	W of MIDWAY	971	523	0.54	-1.21	0.38	No	-448	200,704
HONEY RUN RD	W of CENTERVILLE RD	136	165	1.21	0.34	0.63	Yes	29	841
KEEFER RD	W of GARNER LN	102	26	0.25	-1.09	0.68	No	-76	5,776
KELLY RIDGE RD	N of OLIVE HWY	160	102	0.64	-0.58	0.63	Yes	-58	3,364
LARKIN RD	S of CHANDON AVE	244	250	1.02	0.04	0.63	Yes	6	36
LARKIN RD	N of EAST GRIDLEY RD	118	388	3.29	3.35	0.68	No	270	72,900
LARKIN RD	N of E RIO BONITO RD	244	447	1.83	1.32	0.63	No	203	41,209
LINCOLN BLVD	S of OPHIR RD	468	433	0.93	-0.14	0.52	Yes	-35	1,225
LINCOLN BLVD	N of OPHIR RD	601	520	0.87	-0.28	0.48	Yes	-81	6,561
LINCOLN BLVD	S of JUNCTION W/ MYERS	1,011	1,000	0.99	-0.03	0.36	Yes	-11	121
LOS VERJELES RD	S of LA PORTE RD	89	68	0.76	-0.35	0.68	Yes	-21	441
LOWER WYANDOTTE RD	W of ALVERDA DR	600	828	1.38	0.80	0.48	Yes	228	51,984
LUMPKIN RD	N of FORBESTOWN RD	55	54	0.98	-0.03	0.68	Yes	-1	1
MERIDIAN RD	E of SR 99	93	63	0.68	-0.47	0.68	Yes	-30	900
MERIDIAN RD	N of HWY 32	269	49	0.18	-1.42	0.58	No	-220	48,400
MIDWAY RD	S of DURHAM DAYTON RD	263	467	1.78	1.35	0.58	No	204	41,616
MIDWAY RD	N of NELSON SHIPPEE RD	93	184	1.98	1.43	0.68	No	91	8,281
MIDWAY RD	S of HEGAN LN	730	886	1.21	0.49	0.44	Yes	156	24,336
MINERS RANCH RD	S of SR 162	248	113	0.46	-0.86	0.63	Yes	-135	18,225
NEAL RD	W of HWY 99	84	114	1.36	0.52	0.68	Yes	30	900
NEAL RD	E of HWY 99	111	238	2.14	1.68	0.68	No	127	16,129
OAKVALE AVE	S of SR 162	203	160	0.79	-0.34	0.63	Yes	-43	1,849
OPHIR RD	E of FEATHER RIVER BLVD	535	674	1.26	0.55	0.48	Yes	139	19,321
ORD FERRY RD	W of RIVER RD	267	289	1.08	0.14	0.58	Yes	22	484
ORD FERRY RD	W of AGUAS FRIAS RD	261	268	1.03	0.05	0.58	Yes	7	49
ORO QUINCY HWY	W of OLIVE HWY	233	308	1.32	0.51	0.63	Yes	75	5,625
ORO-BANGOR HWY	E of FOOTHILL BLVD	144	115	0.80	-0.32	0.63	Yes	-29	841
ORO-BANGOR HWY	S of V-7 RD	152	91	0.60	-0.64	0.63	Yes	-61	3,721
ORO-QUINCY HWY	At LAKE MADRONE BRIDGE	45	152	3.38	3.48	0.68	No	107	11,449
OROVILLE-BANGOR HWY	N of SWEDES FLAT RD	164	547	3.34	3.71	0.63	No	383	146,689
PALERMO RD	E of HWY 70	118	230	1.95	1.39	0.68	No	112	12,544
PENNINGTON RD	S of W EVANS REIMER RD	30	30	1.00	0.00	0.68	Yes	0	0
PENTZ RD	N of HWY 70	307	588	1.92	1.59	0.58	No	281	78,961
RICHVALE HWY	E of MIDWAY	122	390	3.20	3.22	0.68	No	268	71,824
ROSE AVE	S of WEBB AVE	119	96	0.81	-0.28	0.68	Yes	-23	529
SEVEN MILE LN	S of ORD FERRY RD	46	15	0.33	-0.99	0.68	Yes	-31	961

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
SKYLINE BLVD	S of SR 162	108	119	1.10	0.15	0.68	Yes	11	121
SKYWAY	E of CLIFFHANGER LN	1,783	1,927	1.08	0.28	0.29	Yes	144	20,736
SKYWAY	N of COUTOLENC RD	1,362	1,577	1.16	0.49	0.33	Yes	215	46,225
SKYWAY	N of WYCLIFF WAY	821	998	1.22	0.53	0.41	Yes	177	31,329
SKYWAY	N of NIMSHEW RD	128	110	0.86	-0.22	0.63	Yes	-18	324
SKYWAY	S of MANZANITA ST (Stirling City)	48	79	1.65	0.95	0.68	Yes	31	961
UPPER PALERMO RD	S of OPHIR RD/LOWER WYANDO	330	309	0.94	-0.11	0.58	Yes	-21	441
W RIO BONITO RD	E of HAWKINS LN	118	193	1.64	0.93	0.68	Yes	75	5,625
W SACRAMENTO AVE	W of MUIR AVE	85	34	0.40	-0.88	0.68	Yes	-51	2,601
WALMER RD	E of LINCOLN BLVD	259	222	0.86	-0.25	0.58	Yes	-37	1,369
CHERRY ST	**W of SR 99**	**111**	**266**	**2.40**	**2.04**	**0.68**	**No**	**155**	**24,025**
E GRIDLEY RD	E of SR 99	526	596	1.13	0.28	0.48	Yes	70	4,900
JACKSON ST	**N of MAGNOLIA ST**	**65**	**663**	**10.20**	**13.47**	**0.68**	**No**	**598**	**357,604**
MAGNOLIA ST	W of SR 99	610	786	1.29	0.61	0.48	Yes	176	30,976
MAGNOLIA ST	**E of JACKSON ST**	**382**	**683**	**1.79**	**1.52**	**0.52**	**No**	**301**	**90,601**
MAGNOLIA ST	**W of JACKSON ST**	**350**	**93**	**0.27**	**-1.28**	**0.58**	**No**	**-257**	**66,049**
SPRUCE ST	W of SR 99	752	647	0.86	-0.34	0.41	Yes	-105	11,025
SYCAMORE ST	W of SR 99	249	198	0.80	-0.33	0.63	Yes	-51	2,601
SYCAMORE ST	E of RANDOLPH AVE	293	131	0.45	-0.96	0.58	Yes	-162	26,244
W BIGGS GRIDLEY RD	**S of SPRUCE ST**	**222**	**53**	**0.24**	**-1.21**	**0.63**	**No**	**-169**	**28,561**
W BIGGS GRIDLEY RD	N of HERON LANDING WAY	216	261	1.21	0.33	0.63	Yes	45	2,025
W LIBERTY RD	W of SR 99	196	76	0.39	-0.97	0.63	Yes	-120	14,400
18TH ST	N of ORO DAM BLVD	185	239	1.29	0.46	0.63	Yes	54	2,916
5TH AV	S of ORO DAM BLVD (SR 162)	389	307	0.79	-0.41	0.52	Yes	-82	6,724
5TH AV	S of CAL OAK AV	260	245	0.94	-0.10	0.58	Yes	-15	225
FEATHER RIVER BLVD	S of ORO-DAM BLVD (SR 162)	685	809	1.18	0.41	0.44	Yes	124	15,376
FEATHER RIVER BLVD	N of ORO DAM BLVD	629	554	0.88	-0.27	0.44	Yes	-75	5,625
FOOTHILL BLVD	S of SR 162	505	720	1.43	0.90	0.48	Yes	215	46,225
GEORGIA PACIFIC WAY	E of HWY 70	180	255	1.42	0.66	0.63	Yes	75	5,625
GRAND AVE	E of SR 70	542	636	1.17	0.37	0.48	Yes	94	8,836
HUNTOON ST	S of GRACE ST	196	230	1.17	0.28	0.63	Yes	34	1,156
LARKIN RD	S of SR 162	503	630	1.25	0.53	0.48	Yes	127	16,129
LINCOLN BLVD	**S of ORO DAM BLVD**	**1,027**	**1,760**	**1.71**	**1.99**	**0.36**	**No**	**733**	**537,289**
LINCOLN ST	**S of GRACE ST**	**228**	**384**	**1.68**	**1.09**	**0.63**	**No**	**156**	**24,336**
LOWER WYANDOTTE RD	S of SR 162	599	813	1.36	0.75	0.48	Yes	214	45,796
MITCHELL ST	E of FEATHER RIVER BLVD	301	468	1.55	0.96	0.58	Yes	167	27,889
MITCHELL ST	E of MYERS ST	562	570	1.01	0.03	0.48	Yes	8	64
MONTGOMERY ST	W of FEATHER RIVER BLVD	678	773	1.14	0.32	0.44	Yes	95	9,025
MONTGOMERY ST	W of LINCOLN BLVD	600	767	1.28	0.59	0.48	Yes	167	27,889
MONTGOMERY ST	**W of TABLE MTN BLVD**	**578**	**992**	**1.72**	**1.51**	**0.48**	**No**	**414**	**171,396**
MYERS ST	N of ORO DAM BLVD	549	719	1.31	0.65	0.48	Yes	170	28,900
NELSON AVE	E of SR 70	778	591	0.76	-0.59	0.41	Yes	-187	34,969
NELSON AVE	W of 4TH ST	401	250	0.62	-0.72	0.52	Yes	-151	22,801
ORANGE AVE	E of BRIDGE ST	112	74	0.66	-0.50	0.68	Yes	-38	1,444
ORANGE AVE	**W of ACACIA AVE**	**394**	**666**	**1.69**	**1.33**	**0.52**	**No**	**272**	**73,984**
ORO-DAM BLVD	**E of FOOTHILL BLVD/BRIDGE**	**417**	**691**	**1.66**	**1.26**	**0.52**	**No**	**274**	**75,076**
ORO-QUINCY HWY	E of FOOTHILL BLVD	305	166	0.54	-0.79	0.58	Yes	-139	19,321
OROVILLE DAM BLVD E	**E of CANYON HIGHLANDS DR**	**359**	**626**	**1.74**	**1.29**	**0.58**	**No**	**267**	**71,289**

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
TABLE MOUNTAIN BLVD	N of NELSON AVE	464	563	1.21	0.41	0.52	Yes	99	9,801
TABLE MTN BLVD	S of NELSON AVE	1,134	1,099	0.97	-0.09	0.34	Yes	-35	1,225
TABLE MTN BLVD	S of GRAND AVE	1,282	1,479	1.15	0.47	0.33	Yes	197	38,809
WASHINGTON AVE	W of ORO DAM BLVD	783	736	0.94	-0.15	0.41	Yes	-47	2,209
WYANDOTTE AVE	W of LOWER WYANDOTTE RD	411	776	1.89	1.71	0.52	No	365	133,225
YARD ST	W of WASHINGTON AVE	103	233	2.26	1.85	0.68	No	130	16,900
BILLE RD	E of OLIVER RD	159	97	0.61	-0.62	0.63	Yes	-62	3,844
BILLE RD	E of SKYWAY	753	688	0.91	-0.21	0.41	Yes	-65	4,225
BILLE RD	W of SKYWAY	245	147	0.60	-0.63	0.63	Yes	-98	9,604
BILLE RD	E of CLARK RD	769	644	0.84	-0.40	0.41	Yes	-125	15,625
BILLE RD	W of PENTZ RD	456	698	1.53	1.02	0.52	No	242	58,564
BUSCHMANN RD	E of FOSTER RD	218	62	0.28	-1.14	0.63	No	-156	24,336
BUSCHMANN RD	W of CLARK RD	325	86	0.26	-1.28	0.58	No	-239	57,121
CLARK RD	N of CENTRAL PARK DR	1,332	1,487	1.12	0.36	0.33	Yes	155	24,025
CLARK RD	N of PEARSON RD	1,468	1,171	0.80	-0.65	0.31	Yes	-297	88,209
CLARK RD	N of ELLIOT RD	1,382	1,535	1.11	0.35	0.31	Yes	153	23,409
CLARK RD	N of NUNNELEY RD	1,526	1,383	0.91	-0.31	0.30	Yes	-143	20,449
CLARK RD	N of WAGSTAFF RD	872	1,017	1.17	0.41	0.41	Yes	145	21,025
CLARK RD	N of BILLE RD	1,235	1,419	1.15	0.44	0.34	Yes	184	33,856
CLARK RD	S of SKYWAY	635	608	0.96	-0.10	0.44	Yes	-27	729
CLARK RD (CT ROW)	N of BUSCHMANN RD	923	893	0.97	-0.09	0.38	Yes	-30	900
ELLIOT RD	W of CLARK RD	797	1,029	1.29	0.71	0.41	Yes	232	53,824
ELLIOT RD	E of CLARK RD	441	376	0.85	-0.28	0.52	Yes	-65	4,225
ELLIOTT RD	E of SKYWAY	740	901	1.22	0.49	0.44	Yes	161	25,921
FOSTER RD	N of ROE RD	184	116	0.63	-0.59	0.63	Yes	-68	4,624
NEAL RD	N of ROE RD	212	178	0.84	-0.25	0.63	Yes	-34	1,156
NEAL RD	S of SKYWAY	317	395	1.25	0.43	0.58	Yes	78	6,084
NEW SKYWAY	E of PENTZ RD	1,430	1,551	1.08	0.27	0.31	Yes	121	14,641
NEW SKYWAY	W of PENTZ RD	1,295	1,474	1.14	0.43	0.33	Yes	179	32,041
NUNNELEY RD	W of CLARK RD	248	556	2.24	1.97	0.63	No	308	94,864
OLIVER RD	W of SKYWAY	466	384	0.82	-0.34	0.52	Yes	-82	6,724
OLIVER RD	S of BILLE RD	178	200	1.12	0.20	0.63	Yes	22	484
PEARSON RD	E of SKYWAY	714	645	0.90	-0.22	0.44	Yes	-69	4,761
PEARSON RD	E of CLARK RD	751	765	1.02	0.05	0.41	Yes	14	196
PEARSON RD	W of CLARK RD	1,218	1,189	0.98	-0.07	0.34	Yes	-29	841
PEARSON RD	E of SAWMILL RD	712	530	0.74	-0.58	0.44	Yes	-182	33,124
PEARSON RD	W of PENTZ RD	484	280	0.58	-0.81	0.52	Yes	-204	41,616
PENTZ RD	N of MALIBU	363	500	1.38	0.66	0.58	Yes	137	18,769
PENTZ RD	N of PEARSON RD	430	453	1.05	0.10	0.52	Yes	23	529
PENTZ RD	S or PEARSON RD	630	673	1.07	0.16	0.44	Yes	43	1,849
PENTZ RD	N or BILLE RD	565	585	1.04	0.07	0.48	Yes	20	400
PENTZ RD	N of WAGSTAFF RD	561	649	1.16	0.33	0.48	Yes	88	7,744
SAWMILL RD	N of PEARSON RD	232	183	0.79	-0.34	0.63	Yes	-49	2,401
SAWMILL RD	S of BILLE RD	234	174	0.74	-0.41	0.63	Yes	-60	3,600
SKYWAY	S of NEAL RD	1,966	2,224	1.13	0.47	0.28	Yes	258	66,564
SKYWAY	N or NEAL RD	2,030	2,179	1.07	0.27	0.28	Yes	149	22,201
SKYWAY	N of ELLIOT RD	1,688	2,455	1.45	1.55	0.29	No	767	588,289
SKYWAY	S of PEARSON RD	2,109	2,179	1.03	0.12	0.28	Yes	70	4,900

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
SKYWAY	N of FIR ST	1,812	2,092	1.15	0.54	0.29	Yes	280	78,400
SKYWAY	N of WAGSTAFF RD	857	1,090	1.27	0.66	0.41	Yes	233	54,289
SKYWAY	N of MAXWELL DR	1,614	1,853	1.15	0.49	0.30	Yes	239	57,121
SKYWAY	N or BILLE RD	1,134	1,315	1.16	0.47	0.34	Yes	181	32,761
SKYWAY	W of CLARK RD	771	886	1.15	0.36	0.41	Yes	115	13,225
WAGSTAFF RD	E of SKYWAY	427	358	0.84	-0.31	0.52	Yes	-69	4,761
WAGSTAFF RD	W of SKYWAY	150	69	0.46	-0.86	0.63	Yes	-81	6,561
WAGSTAFF RD	W of CLARK RD	443	347	0.78	-0.42	0.52	Yes	-96	9,216
WAGSTAFF RD	**E of CLARK RD**	**494**	**906**	**1.83**	**1.60**	**0.52**	**No**	**412**	**169,744**
WAGSTAFF RD	W of PENTZ RD	494	533	1.08	0.15	0.52	Yes	39	1,521
		193,897	211,210				**Model/Count Ratio =**	**1.09**	Within 10%
Indicates Model Less Than Count							**Percent Within Caltrans Maximum Deviation =**	**77%**	> 75%
Indicates Model Greater Than Count							**Percent Root Mean Square Error =**	**35%**	< 40%
							Correlation Coefficient =	**0.94**	> 0.88

Total Count	**296**
Link Within Deviation	**229**
Link Outside Deviation	**67**

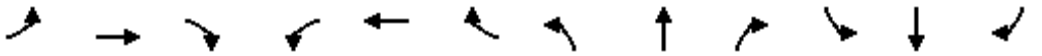
BCAG Model Validation Results: AM Peak Hour Two-Way Total Traffic Volumes (Study Area)									
Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
BRUCE RD	N of SKYWAY	635	774	1.22	0.50	0.44	Yes	139	19,321
BRUCE RD	N of LAKEWEST DR	749	1,064	1.42	0.96	0.44	Yes	315	99,225
BRUCE RD	N of E 20TH ST	749	1,043	1.39	0.89	0.44	Yes	294	86,436
BRUCE RD	S of HUMBOLDT RD	805	1,043	1.30	0.72	0.41	Yes	238	56,644
DR MLK JR PKWY	S of E 20TH ST	592	574	0.97	-0.06	0.48	Yes	-18	324
E 20TH ST	W of WHITMAN AVE	1,212	1,297	1.07	0.21	0.34	Yes	85	7,225
E 20TH ST	W of FOREST AVE	1,562	1,898	1.22	0.71	0.30	Yes	336	112,896
E 20TH ST	W of BRUCE RD	525	752	1.43	0.91	0.48	Yes	227	51,529
E 20TH ST	E of FOREST AVE	819	816	1.00	-0.01	0.41	Yes	-3	9
E 8TH ST	W of BRUCE RD	152	349	2.30	2.06	0.63	No	197	38,809
E PARK AVE	Btwn SR 99 & CARMICHAEL DR	2,028	1,657	0.82	-0.67	0.28	Yes	-371	137,641
E PARK AVE	E of MIDWAY	1,288	1,585	1.23	0.71	0.33	Yes	297	88,209
EL MONTE AVE	S of HWY 32	351	278	0.79	-0.36	0.58	Yes	-73	5,329
FIR ST	S of HWY 32	237	227	0.96	-0.07	0.63	Yes	-10	100
FOREST AVE	S of E 20TH ST	895	878	0.98	-0.05	0.38	Yes	-17	289
FOREST AVE	S of HUMBOLDT RD	1,199	981	0.82	-0.53	0.34	Yes	-218	47,524
FOREST AVE	N of HWY 32	277	190	0.69	-0.55	0.58	Yes	-87	7,569
FOREST AVE	N of HUMBOLDT RD	1,296	966	0.75	-0.78	0.33	Yes	-330	108,900
FOREST AVE	W of NOTRE DAME BLVD	854	840	0.98	-0.04	0.41	Yes	-14	196
FOREST AVE	N of SKYWAY	196	424	2.16	1.85	0.63	No	228	51,984
HUMBOLDT RD	W of FOREST AVE	181	227	1.25	0.40	0.63	Yes	46	2,116
MANZANITA AVE	N of CHICO CANYON RD	797	1,130	1.42	1.02	0.41	No	333	110,889
MIDWAY RD	S of E PARK AVE	1,301	1,270	0.98	-0.07	0.33	Yes	-31	961
NOTRE DAME BLVD	N of FOREST AVE	361	166	0.46	-0.94	0.58	Yes	-195	38,025
NOTRE DAME BLVD	N of SKYWAY	900	714	0.79	-0.54	0.38	Yes	-186	34,596
PARK AVE	N of E PARK AVE	935	1,362	1.46	1.20	0.38	No	427	182,329
SKYWAY	E of BRUCE RD	2,283	2,334	1.02	0.08	0.27	Yes	51	2,601
SKYWAY	E of NOTRE DAME BLVD	1,669	2,053	1.23	0.78	0.29	Yes	384	147,456
SKYWAY	W of NOTRE DAME BLVD	3,297	2,851	0.86	-0.58	0.24	Yes	-446	198,916
YOSEMITE DR	N of HWY 32	294	239	0.81	-0.33	0.58	Yes	-55	3,025
ENTLER AVE	E of MIDWAY	95	103	1.08	0.12	0.68	Yes	8	64
HEGAN LN	W of MIDWAY	752	380	0.51	-1.21	0.41	No	-372	138,384
MIDWAY RD	S of HEGAN LN	611	858	1.40	0.85	0.48	Yes	247	61,009
		29,897	**31,323**				**Model/Count Ratio =**	**1.05**	Within 10%
Indicates Model Less Than Count							**Percent Within Caltrans Maximum Deviation =**	**85%**	> 75%
Indicates Model Greater Than Count							**Percent Root Mean Square Error =**	**26%**	< 40%
							Correlation Coefficient =	**0.94**	> 0.88

Total Count	**33**
Link Within Deviation	**28**
Link Outside Deviation	**5**

BCAG Model Validation Results: PM Peak Hour Two-Way Total Traffic Volumes (Study Area)									
Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
BRUCE RD	N of SKYWAY	722	1,014	1.40	0.92	0.44	Yes	292	85,264
BRUCE RD	N of LAKEWEST DR	925	1,114	1.20	0.54	0.38	Yes	189	35,721
BRUCE RD	N of E 20TH ST	897	1,176	1.31	0.82	0.38	Yes	279	77,841
BRUCE RD	S of HUMBOLDT RD	898	1,175	1.31	0.81	0.38	Yes	277	76,729
DR MLK JR PKWY	S of E 20TH ST	1,326	1,002	0.76	-0.75	0.33	Yes	-324	104,976
E 20TH ST	W of WHITMAN AVE	1,381	1,615	1.17	0.54	0.31	Yes	234	54,756
E 20TH ST	W of FOREST AVE	1,864	2,226	1.19	0.68	0.29	Yes	362	131,044
E 20TH ST	W of BRUCE RD	656	655	1.00	0.00	0.44	Yes	-1	1
E 20TH ST	E of FOREST AVE	881	762	0.86	-0.36	0.38	Yes	-119	14,161
E 8TH ST	W of BRUCE RD	238	341	1.43	0.69	0.63	Yes	103	10,609
E PARK AVE	Btwn SR 99 & CARMICHAEL DR	2,266	1,982	0.87	-0.47	0.27	Yes	-284	80,656
E PARK AVE	E of MIDWAY	1,612	1,819	1.13	0.42	0.30	Yes	207	42,849
EL MONTE AVE	S of HWY 32	348	141	0.41	-1.03	0.58	No	-207	42,849
FIR ST	S of HWY 32	267	346	1.30	0.51	0.58	Yes	79	6,241
FOREST AVE	S of E 20TH ST	1,066	1,356	1.27	0.76	0.36	Yes	290	84,100
FOREST AVE	S of HUMBOLDT RD	1,392	1,281	0.92	-0.25	0.31	Yes	-111	12,321
FOREST AVE	N of HWY 32	305	144	0.47	-0.92	0.58	Yes	-161	25,921
FOREST AVE	N of HUMBOLDT RD	1,367	1,304	0.95	-0.14	0.33	Yes	-63	3,969
FOREST AVE	W of NOTRE DAME BLVD	1,090	1,428	1.31	0.86	0.36	Yes	338	114,244
FOREST AVE	N of SKYWAY	271	366	1.35	0.61	0.58	Yes	95	9,025
HUMBOLDT RD	W of FOREST AVE	214	346	1.62	0.98	0.63	Yes	132	17,424
MANZANITA AVE	N of CHICO CANYON RD	910	1,146	1.26	0.68	0.38	Yes	236	55,696
MIDWAY RD	S of E PARK AVE	1,536	1,508	0.98	-0.06	0.30	Yes	-28	784
NOTRE DAME BLVD	N of FOREST AVE	405	302	0.75	-0.49	0.52	Yes	-103	10,609
NOTRE DAME BLVD	N of SKYWAY	1,607	1,441	0.90	-0.34	0.30	Yes	-166	27,556
PARK AVE	N of E PARK AVE	1,207	1,547	1.28	0.83	0.34	Yes	340	115,600
SKYWAY	E of BRUCE RD	2,451	2,014	0.82	-0.69	0.26	Yes	-437	190,969
SKYWAY	E of NOTRE DAME BLVD	1,915	1,964	1.03	0.09	0.28	Yes	49	2,401
SKYWAY	W of NOTRE DAME BLVD	3,936	3,429	0.87	-0.58	0.22	Yes	-507	257,049
YOSEMITE DR	N of HWY 32	392	249	0.64	-0.70	0.52	Yes	-143	20,449
ENTLER AVE	E of MIDWAY	96	135	1.41	0.59	0.68	Yes	39	1,521
HEGAN LN	W of MIDWAY	971	523	0.54	-1.21	0.38	No	-448	200,704
MIDWAY RD	S of HEGAN LN	730	886	1.21	0.49	0.44	Yes	156	24,336
		36,142	**36,737**				**Model/Count Ratio =**	**1.02**	Within 10%
Indicates Model Less Than Count							**Percent Within Caltrans Maximum Deviation =**	**94%**	> 75%
Indicates Model Greater Than Count							**Percent Root Mean Square Error =**	**22%**	< 40%
							Correlation Coefficient =	**0.95**	> 0.88

Total Count	**33**
Link Within Deviation	**31**
Link Outside Deviation	**2**

Appendix B: Technical Calculations



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	1	481	2	239	0	229	418	214	201	0
Future Volume (veh/h)	1	1	1	481	2	239	0	229	418	214	201	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	0
Adj Flow Rate, veh/h	1	1	0	518	0	0	0	246	0	223	226	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	0
Cap, veh/h	306	262	0	1090	0		0	335		320	336	0
Arrive On Green	0.29	0.29	0.00	0.29	0.00	0.00	0.00	0.19	0.00	0.19	0.19	0.00
Sat Flow, veh/h	639	909	0	2653	0	1485	0	1752	1485	1668	1752	0
Grp Volume(v), veh/h	2	0	0	518	0	0	0	246	0	223	226	0
Grp Sat Flow(s),veh/h/ln	1548	0	0	1326	0	1485	0	1752	1485	1668	1752	0
Q Serve(g_s), s	0.0	0.0	0.0	7.6	0.0	0.0	0.0	5.9	0.0	5.5	5.3	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	7.7	0.0	0.0	0.0	5.9	0.0	5.5	5.3	0.0
Prop In Lane	0.50		0.00	1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	568	0	0	1090	0		0	335		320	336	0
V/C Ratio(X)	0.00	0.00	0.00	0.48	0.00		0.00	0.73		0.70	0.67	0.00
Avail Cap(c_a), veh/h	777	0	0	2436	0		0	1363		1313	1378	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.3	0.0	0.0	14.0	0.0	0.0	0.0	16.9	0.0	16.8	16.7	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	2.3	0.0	1.0	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.8	0.0	0.0	0.0	2.1	0.0	1.8	1.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.3	0.0	0.0	14.4	0.0	0.0	0.0	19.3	0.0	17.8	17.5	0.0
LnGrp LOS	B	A	A	B	A		A	B		B	B	A
Approach Vol, veh/h		2			518	A		246	A		449	
Approach Delay, s/veh		11.3			14.4			19.3			17.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		13.5		17.4		13.5		17.4				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		35.0		35.4		34.6		19.0				
Max Q Clear Time (g_c+I1), s		7.5		9.7		7.9		2.0				
Green Ext Time (p_c), s		1.0		3.2		1.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			16.6									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	550	16	6	623	58	14	11	3	113	16	85
Future Volume (veh/h)	67	550	16	6	623	58	14	11	3	113	16	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	74	611	16	7	692	56	16	12	1	126	18	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	117	1431	37	15	1117	90	320	199	13	532	196	217
Arrive On Green	0.07	0.44	0.44	0.01	0.36	0.36	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1640	3255	85	1640	3062	248	661	760	51	1290	745	828
Grp Volume(v), veh/h	74	307	320	7	369	379	29	0	0	126	0	38
Grp Sat Flow(s),veh/h/ln	1640	1636	1704	1640	1636	1674	1471	0	0	1290	0	1573
Q Serve(g_s), s	1.7	4.9	4.9	0.2	7.1	7.1	0.0	0.0	0.0	2.4	0.0	0.7
Cycle Q Clear(g_c), s	1.7	4.9	4.9	0.2	7.1	7.1	0.5	0.0	0.0	2.9	0.0	0.7
Prop In Lane	1.00		0.05	1.00		0.15	0.55		0.03	1.00		0.53
Lane Grp Cap(c), veh/h	117	719	749	15	597	610	533	0	0	532	0	413
V/C Ratio(X)	0.63	0.43	0.43	0.46	0.62	0.62	0.05	0.00	0.00	0.24	0.00	0.09
Avail Cap(c_a), veh/h	882	1717	1788	1076	1717	1757	1094	0	0	1040	0	1032
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	7.4	7.4	18.8	9.9	9.9	10.5	0.0	0.0	11.4	0.0	10.6
Incr Delay (d2), s/veh	2.1	0.4	0.4	7.6	1.1	1.0	0.0	0.0	0.0	0.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.1	0.1	1.8	1.8	0.2	0.0	0.0	0.7	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.3	7.8	7.8	26.4	11.0	11.0	10.6	0.0	0.0	11.6	0.0	10.7
LnGrp LOS	B	A	A	C	B	B	B	A	A	B	A	B
Approach Vol, veh/h		701			755			29			164	
Approach Delay, s/veh		9.0			11.1			10.6			11.4	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.4	20.8		14.0	6.2	17.9		14.0				
Change Period (Y+Rc), s	3.0	4.0		4.0	3.5	4.0		4.0				
Max Green Setting (Gmax), s	25.0	40.0		25.0	20.5	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.2	6.9		4.9	3.7	9.1		2.5				
Green Ext Time (p_c), s	0.0	3.9		0.5	0.0	4.8		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	10.2
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	662	3	13	710	66	3	0	5	76	1	32
Future Volume (veh/h)	40	662	3	13	710	66	3	0	5	76	1	32
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		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	45	752	3	15	807	0	3	0	0	87	0	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	115	1488	6	45	1316		9	0	0	367	0	163
Arrive On Green	0.07	0.44	0.44	0.03	0.40	0.00	0.01	0.00	0.00	0.11	0.00	0.11
Sat Flow, veh/h	1654	3371	13	1654	3300	1472	1654	0	0	3309	0	1472
Grp Volume(v), veh/h	45	368	387	15	807	0	3	0	0	87	0	1
Grp Sat Flow(s),veh/h/ln	1654	1650	1734	1654	1650	1472	1654	0	0	1654	0	1472
Q Serve(g_s), s	1.0	6.2	6.2	0.3	7.5	0.0	0.1	0.0	0.0	0.9	0.0	0.0
Cycle Q Clear(g_c), s	1.0	6.2	6.2	0.3	7.5	0.0	0.1	0.0	0.0	0.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	115	728	765	45	1316		9	0	0	367	0	163
V/C Ratio(X)	0.39	0.51	0.51	0.34	0.61		0.32	0.00	0.00	0.24	0.00	0.01
Avail Cap(c_a), veh/h	859	1499	1575	644	2997		644	0	0	1030	0	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	7.7	7.7	18.4	9.2	0.0	19.1	0.0	0.0	15.6	0.0	15.2
Incr Delay (d2), s/veh	0.8	0.5	0.5	1.6	0.5	0.0	6.9	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.4	1.4	0.1	1.7	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.0	8.3	8.3	20.0	9.7	0.0	26.0	0.0	0.0	15.8	0.0	15.3
LnGrp LOS	B	A	A	C	A		C	A	A	B	A	B
Approach Vol, veh/h		800			822	A		3			88	
Approach Delay, s/veh		8.8			9.9			26.0			15.8	
Approach LOS		A			A			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	20.4		3.7	4.5	22.0		8.3				
Change Period (Y+Rc), s	3.5	5.0		3.5	3.5	5.0		4.0				
Max Green Setting (Gmax), s	20.0	35.0		15.0	15.0	35.0		12.0				
Max Q Clear Time (g_c+I1), s	3.0	9.5		2.1	2.3	8.2		2.9				
Green Ext Time (p_c), s	0.0	5.7		0.0	0.0	4.7		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	661	20	60	742	217	11	3	44	119	3	45
Future Volume (veh/h)	62	661	20	60	742	217	11	3	44	119	3	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	70	751	22	68	843	225	12	3	3	135	3	4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	149	1559	46	147	1216	324	335	109	109	336	92	123
Arrive On Green	0.09	0.48	0.48	0.09	0.48	0.48	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1640	3242	95	1640	2537	677	1294	790	790	1298	668	891
Grp Volume(v), veh/h	70	379	394	68	543	525	12	0	6	135	0	7
Grp Sat Flow(s),veh/h/ln	1640	1636	1701	1640	1636	1578	1294	0	1580	1298	0	1560
Q Serve(g_s), s	1.8	7.0	7.0	1.8	11.5	11.5	0.4	0.0	0.1	4.5	0.0	0.2
Cycle Q Clear(g_c), s	1.8	7.0	7.0	1.8	11.5	11.5	0.5	0.0	0.1	4.6	0.0	0.2
Prop In Lane	1.00		0.06	1.00		0.43	1.00		0.50	1.00		0.57
Lane Grp Cap(c), veh/h	149	787	818	147	784	756	335	0	218	336	0	215
V/C Ratio(X)	0.47	0.48	0.48	0.46	0.69	0.69	0.04	0.00	0.03	0.40	0.00	0.03
Avail Cap(c_a), veh/h	847	1543	1604	847	1543	1488	854	0	851	1090	0	1121
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.2	7.8	7.8	19.3	9.0	9.0	16.9	0.0	16.6	18.6	0.0	16.6
Incr Delay (d2), s/veh	0.8	0.5	0.4	0.8	1.1	1.2	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.6	1.7	0.6	2.7	2.7	0.1	0.0	0.0	1.2	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.1	8.3	8.2	20.1	10.2	10.2	16.9	0.0	16.6	18.9	0.0	16.7
LnGrp LOS	C	A	A	C	B	B	B	A	B	B	A	B
Approach Vol, veh/h		843			1136			18			142	
Approach Delay, s/veh		9.2			10.8			16.8			18.8	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	26.4		10.1	8.1	26.3		10.1
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	23.0	42.0		32.0	23.0	42.0		24.0
Max Q Clear Time (g_c+I1), s	3.8	9.0		6.6	3.8	13.5		2.5
Green Ext Time (p_c), s	0.0	5.0		0.1	0.0	7.8		0.0

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑					↰↰		↱
Traffic Volume (veh/h)	0	613	211	0	568	0	0	0	0	793	0	451
Future Volume (veh/h)	0	613	211	0	568	0	0	0	0	793	0	451
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1811	0	1826	0				1826	0	1826
Adj Flow Rate, veh/h	0	652	0	0	604	0				844	0	212
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	5	6	0	5	0				5	0	5
Cap, veh/h	0	960		0	960	0				1099	0	504
Arrive On Green	0.00	0.28	0.00	0.00	0.28	0.00				0.33	0.00	0.33
Sat Flow, veh/h	0	3561	1535	0	3652	0				3374	0	1547
Grp Volume(v), veh/h	0	652	0	0	604	0				844	0	212
Grp Sat Flow(s),veh/h/ln	0	1735	1535	0	1735	0				1687	0	1547
Q Serve(g_s), s	0.0	4.6	0.0	0.0	4.2	0.0				6.2	0.0	3.0
Cycle Q Clear(g_c), s	0.0	4.6	0.0	0.0	4.2	0.0				6.2	0.0	3.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	960		0	960	0				1099	0	504
V/C Ratio(X)	0.00	0.68		0.00	0.63	0.00				0.77	0.00	0.42
Avail Cap(c_a), veh/h	0	6268		0	6268	0				6095	0	2796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.9	0.0	0.0	8.8	0.0				8.4	0.0	7.3
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.3	0.0				0.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.9	0.0	0.0	0.9	0.0				1.4	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.2	0.0	0.0	9.0	0.0				8.8	0.0	7.5
LnGrp LOS	A	A		A	A	A				A	A	A
Approach Vol, veh/h		652	A		604						1056	
Approach Delay, s/veh		9.2			9.0						8.6	
Approach LOS		A			A						A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		13.7		14.0		13.7
Change Period (Y+Rc), s		* 6		* 5		* 6
Max Green Setting (Gmax), s		* 50		* 50		* 50
Max Q Clear Time (g_c+I1), s		6.6		8.2		6.2
Green Ext Time (p_c), s		1.0		0.8		1.0

Intersection Summary		
HCM 6th Ctrl Delay		8.9
HCM 6th LOS		A

Notes

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

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1185	0	0	625	161	317
Future Volume (veh/h)	1185	0	0	625	161	317
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1737	0	0	1737	1737	1737
Adj Flow Rate, veh/h	1274	0	0	672	173	42
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	11	0	0	11	11	11
Cap, veh/h	1651	0	0	1651	456	203
Arrive On Green	0.50	0.00	0.00	0.50	0.14	0.14
Sat Flow, veh/h	3474	0	0	3474	3309	1472
Grp Volume(v), veh/h	1274	0	0	672	173	42
Grp Sat Flow(s),veh/h/ln	1650	0	0	1650	1654	1472
Q Serve(g_s), s	9.5	0.0	0.0	3.9	1.4	0.8
Cycle Q Clear(g_c), s	9.5	0.0	0.0	3.9	1.4	0.8
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1651	0	0	1651	456	203
V/C Ratio(X)	0.77	0.00	0.00	0.41	0.38	0.21
Avail Cap(c_a), veh/h	5430	0	0	5430	2722	1211
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.2	0.0	0.0	4.8	11.9	11.6
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.4	0.4	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.5	0.0	0.0	4.8	12.1	11.8
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h	1274			672	215	
Approach Delay, s/veh	6.5			4.8	12.1	
Approach LOS	A			A	B	

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	21.2			21.2	9.2
Change Period (Y+Rc), s	* 6			* 6	5.0
Max Green Setting (Gmax), s	* 50			* 50	25.0
Max Q Clear Time (g_c+I1), s	11.5			5.9	3.4
Green Ext Time (p_c), s	3.7			1.6	0.1

Intersection Summary		
HCM 6th Ctrl Delay		6.5
HCM 6th LOS		A

Notes

User approved volume balancing among the lanes for turning movement.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	447	682	373	68	637	25	234	62	58	80	61	309
Future Volume (veh/h)	447	682	373	68	637	25	234	62	58	80	61	309
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		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	476	726	196	72	678	27	249	66	35	75	79	26
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	642	1704	477	137	1173	356	523	173	92	189	199	337
Arrive On Green	0.20	0.36	0.36	0.08	0.25	0.25	0.16	0.16	0.16	0.11	0.11	0.11
Sat Flow, veh/h	3209	4742	1327	1654	4742	1438	3209	1060	562	1654	1737	2944
Grp Volume(v), veh/h	476	726	196	72	678	27	249	0	101	75	79	26
Grp Sat Flow(s),veh/h/ln	1605	1581	1327	1654	1581	1438	1605	0	1622	1654	1737	1472
Q Serve(g_s), s	8.0	6.7	6.4	2.4	7.3	0.8	4.1	0.0	3.2	2.4	2.4	0.5
Cycle Q Clear(g_c), s	8.0	6.7	6.4	2.4	7.3	0.8	4.1	0.0	3.2	2.4	2.4	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	642	1704	477	137	1173	356	523	0	264	189	199	337
V/C Ratio(X)	0.74	0.43	0.41	0.52	0.58	0.08	0.48	0.00	0.38	0.40	0.40	0.08
Avail Cap(c_a), veh/h	1394	3283	919	716	3283	996	1667	0	842	859	902	1529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	14.0	13.9	25.4	19.1	16.7	21.9	0.0	21.6	23.7	23.7	22.9
Incr Delay (d2), s/veh	1.7	0.2	0.6	3.1	0.5	0.1	0.7	0.0	0.9	1.3	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	2.8	2.0	1.7	1.0	2.4	0.2	1.5	0.0	1.2	0.9	1.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.4	14.2	14.5	28.5	19.5	16.8	22.6	0.0	22.5	25.1	25.0	23.0
LnGrp LOS	C	B	B	C	B	B	C	A	C	C	C	C
Approach Vol, veh/h		1398			777			350			180	
Approach Delay, s/veh		17.4			20.3			22.6			24.7	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.8	25.6		10.3	15.3	19.1		13.1
Change Period (Y+Rc), s	4.0	4.8		3.7	3.7	4.8		3.7
Max Green Setting (Gmax), s	25.0	40.0		30.0	25.1	40.0		30.0
Max Q Clear Time (g_c+I1), s	4.4	8.7		4.4	10.0	9.3		6.1
Green Ext Time (p_c), s	0.1	6.2		0.7	1.5	5.0		1.5

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

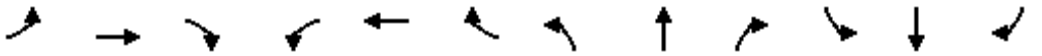
Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	150	559	101	17	693	20	7	1	6	2	2	41
Future Vol, veh/h	150	559	101	17	693	20	7	1	6	2	2	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	240	-	-	120	-	-	-	-	25	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	11	11	11	11	11	11	11	11	11	11	11	11
Mvmt Flow	153	570	103	17	707	20	7	1	6	2	2	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	727	0	0	673	0	0	1317	1689	337	1343	1730	364
Stage 1	-	-	-	-	-	-	928	928	-	751	751	-
Stage 2	-	-	-	-	-	-	389	761	-	592	979	-
Critical Hdwy	4.32	-	-	4.32	-	-	7.72	6.72	7.12	7.72	6.72	7.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Follow-up Hdwy	2.31	-	-	2.31	-	-	3.61	4.11	3.41	3.61	4.11	3.41
Pot Cap-1 Maneuver	815	-	-	856	-	-	107	84	633	102	80	608
Stage 1	-	-	-	-	-	-	271	325	-	349	396	-
Stage 2	-	-	-	-	-	-	583	391	-	438	307	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	815	-	-	856	-	-	82	67	633	84	64	608
Mov Cap-2 Maneuver	-	-	-	-	-	-	82	67	-	84	64	-
Stage 1	-	-	-	-	-	-	220	264	-	283	388	-
Stage 2	-	-	-	-	-	-	529	383	-	351	249	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.2	36.1	15.7
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	80	633	815	-	-	856	-	-	84	436
HCM Lane V/C Ratio	0.102	0.01	0.188	-	-	0.02	-	-	0.024	0.101
HCM Control Delay (s)	55.1	10.7	10.4	-	-	9.3	-	-	48.9	14.2
HCM Lane LOS	F	B	B	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.3	0	0.7	-	-	0.1	-	-	0.1	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	413	37	19	508	169	38	17	11	136	87	174
Future Volume (veh/h)	71	413	37	19	508	169	38	17	11	136	87	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.96	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	79	459	37	21	564	94	42	19	0	124	135	26
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	314	1062	85	59	937	624	140	147	0	252	265	224
Arrive On Green	0.10	0.35	0.35	0.04	0.28	0.28	0.08	0.08	0.00	0.15	0.15	0.15
Sat Flow, veh/h	3209	3071	246	1654	3300	1408	1654	1737	0	1654	1737	1472
Grp Volume(v), veh/h	79	246	250	21	564	94	42	19	0	124	135	26
Grp Sat Flow(s),veh/h/ln	1605	1650	1667	1654	1650	1408	1654	1737	0	1654	1737	1472
Q Serve(g_s), s	1.0	5.1	5.2	0.6	6.6	1.8	1.1	0.5	0.0	3.1	3.2	0.7
Cycle Q Clear(g_c), s	1.0	5.1	5.2	0.6	6.6	1.8	1.1	0.5	0.0	3.1	3.2	0.7
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	571	577	59	937	624	140	147	0	252	265	224
V/C Ratio(X)	0.25	0.43	0.43	0.35	0.60	0.15	0.30	0.13	0.00	0.49	0.51	0.12
Avail Cap(c_a), veh/h	864	1480	1496	445	2960	1487	482	506	0	742	779	660
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	11.2	11.2	21.0	13.8	7.6	19.2	18.9	0.0	17.3	17.4	16.3
Incr Delay (d2), s/veh	0.2	0.5	0.5	1.3	0.6	0.1	0.4	0.1	0.0	0.6	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.3	1.4	0.2	1.9	0.6	0.4	0.2	0.0	1.0	1.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	11.7	11.7	22.3	14.4	7.7	19.6	19.0	0.0	17.9	17.9	16.4
LnGrp LOS	B	B	B	C	B	A	B	B	A	B	B	B
Approach Vol, veh/h		575			679			61			285	
Approach Delay, s/veh		12.7			13.7			19.4			17.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	18.7		10.3	4.6	21.4		8.3				
Change Period (Y+Rc), s	3.0	6.0		3.5	3.0	6.0		4.5				
Max Green Setting (Gmax), s	12.0	40.0		20.0	12.0	40.0		13.0				
Max Q Clear Time (g_c+I1), s	3.0	8.6		5.2	2.6	7.2		3.1				
Green Ext Time (p_c), s	0.0	4.1		0.5	0.0	2.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		14.3	
HCM 6th LOS		B	

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

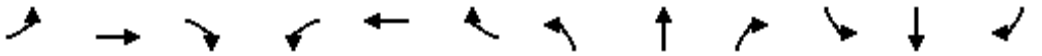
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	559	695	0	0	1
Future Vol, veh/h	1	559	695	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	90	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	13	13	13	13	13
Mvmt Flow	1	608	755	0	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	755	0	-	0	1061	378
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	306	-
Critical Hdwy	4.36	-	-	-	7.06	7.16
Critical Hdwy Stg 1	-	-	-	-	6.06	-
Critical Hdwy Stg 2	-	-	-	-	6.06	-
Follow-up Hdwy	2.33	-	-	-	3.63	3.43
Pot Cap-1 Maneuver	783	-	-	-	202	589
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	689	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	783	-	-	-	202	589
Mov Cap-2 Maneuver	-	-	-	-	202	-
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	689	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	783	-	-	-	589
HCM Lane V/C Ratio	0.001	-	-	-	0.002
HCM Control Delay (s)	9.6	-	-	-	11.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	490	7	1	615	6	4	0	3	6	0	76
Future Volume (veh/h)	62	490	7	1	615	6	4	0	3	6	0	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663
Adj Flow Rate, veh/h	67	527	0	1	661	3	4	0	0	6	0	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	16	16	16	16	16	16	16	16	16	16	16	16
Cap, veh/h	635	1539		694	1539	686	415	0	0	422	0	28
Arrive On Green	0.49	0.49	0.00	0.49	0.49	0.49	0.02	0.00	0.00	0.02	0.00	0.02
Sat Flow, veh/h	686	3159	1409	779	3159	1409	1022	0	0	1371	0	1409
Grp Volume(v), veh/h	67	527	0	1	661	3	4	0	0	6	0	5
Grp Sat Flow(s),veh/h/ln	686	1580	1409	779	1580	1409	1022	0	0	1371	0	1409
Q Serve(g_s), s	1.3	1.9	0.0	0.0	2.5	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	3.8	1.9	0.0	1.9	2.5	0.0	0.1	0.0	0.0	0.1	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	635	1539		694	1539	686	415	0	0	422	0	28
V/C Ratio(X)	0.11	0.34		0.00	0.43	0.00	0.01	0.00	0.00	0.01	0.00	0.18
Avail Cap(c_a), veh/h	1278	4498		1423	4498	2006	3138	0	0	3157	0	3087
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.3	2.9	0.0	3.5	3.0	2.4	8.9	0.0	0.0	8.8	0.0	8.8
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.3	3.0	0.0	3.5	3.2	2.4	8.9	0.0	0.0	8.8	0.0	11.7
LnGrp LOS	A	A		A	A	A	A	A	A	A	A	B
Approach Vol, veh/h		594	A		665			4			11	
Approach Delay, s/veh		3.2			3.2			8.9			10.1	
Approach LOS		A			A			A			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		4.9		13.4		4.9		13.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		40.0		26.0		40.0		26.0				
Max Q Clear Time (g_c+I1), s		2.1		5.8		2.1		4.5				
Green Ext Time (p_c), s		0.0		3.6		0.0		4.0				

Intersection Summary												
HCM 6th Ctrl Delay			3.3									
HCM 6th LOS			A									

Notes

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

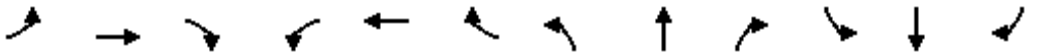
Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	7	0	67	15	0
Future Vol, veh/h	61	7	0	67	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	12	12	12	12	12	12
Mvmt Flow	76	9	0	84	19	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	85	0	165	81
Stage 1	-	-	-	-	81	-
Stage 2	-	-	-	-	84	-
Critical Hdwy	-	-	4.22	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.308	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	1451	-	803	952
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	915	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1451	-	803	952
Mov Cap-2 Maneuver	-	-	-	-	803	-
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	915	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

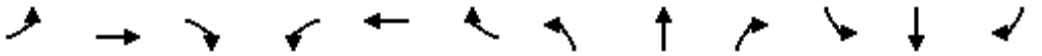
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	803	-	-	1451	-
HCM Lane V/C Ratio	0.023	-	-	-	-
HCM Control Delay (s)	9.6	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	881	374	0	0	0	0	0	0	644	227	0
Future Volume (vph)	0	881	374	0	0	0	0	0	0	644	227	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		11.0								4.0	4.0	
Lane Util. Factor		0.95								0.97	1.00	
Frpb, ped/bikes		1.00								1.00	1.00	
Flpb, ped/bikes		1.00								1.00	1.00	
Frt		0.96								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3369								3433	1863	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3369								3433	1863	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	990	420	0	0	0	0	0	0	724	255	0
RTOR Reduction (vph)	0	62	0	0	0	0	0	0	0	113	0	0
Lane Group Flow (vph)	0	1348	0	0	0	0	0	0	0	611	255	0
Confl. Bikes (#/hr)			1									2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA								Split	NA	
Protected Phases		2								1	1	
Permitted Phases												
Actuated Green, G (s)		37.6								17.4	17.4	
Effective Green, g (s)		37.6								17.4	17.4	
Actuated g/C Ratio		0.54								0.25	0.25	
Clearance Time (s)		11.0								4.0	4.0	
Vehicle Extension (s)		2.0								2.0	2.0	
Lane Grp Cap (vph)		1809								853	463	
v/s Ratio Prot		c0.40								c0.18	0.14	
v/s Ratio Perm												
v/c Ratio		0.75								0.72	0.55	
Uniform Delay, d1		12.5								24.0	22.9	
Progression Factor		1.00								1.39	1.30	
Incremental Delay, d2		2.8								1.5	0.5	
Delay (s)		15.3								35.0	30.2	
Level of Service		B								D	C	
Approach Delay (s)		15.3			0.0			0.0			33.8	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		

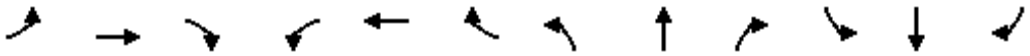
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	229	1079	0	0	0	0	0	642	422
Future Volume (vph)	0	0	0	229	1079	0	0	0	0	0	642	422
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0	5.0						5.0	5.0
Lane Util. Factor				1.00	0.95						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.99
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1752	3505						3505	1545
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1752	3505						3505	1545
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	266	1255	0	0	0	0	0	747	491
RTOR Reduction (vph)	0	0	0	12	0	0	0	0	0	0	0	96
Lane Group Flow (vph)	0	0	0	254	1255	0	0	0	0	0	747	395
Confl. Peds. (#/hr)												2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						5	
Permitted Phases				6								5
Actuated Green, G (s)				44.0	44.0						16.0	16.0
Effective Green, g (s)				44.0	44.0						16.0	16.0
Actuated g/C Ratio				0.63	0.63						0.23	0.23
Clearance Time (s)				5.0	5.0						5.0	5.0
Vehicle Extension (s)				2.0	2.0						2.0	2.0
Lane Grp Cap (vph)				1101	2203						801	353
v/s Ratio Prot					c0.36						0.21	
v/s Ratio Perm				0.15								c0.26
v/c Ratio				0.23	0.57						0.93	1.12
Uniform Delay, d1				5.6	7.5						26.5	27.0
Progression Factor				0.48	0.52						1.00	1.00
Incremental Delay, d2				0.4	0.9						19.1	83.7
Delay (s)				3.1	4.8						45.6	110.7
Level of Service				A	A						D	F
Approach Delay (s)		0.0			4.5			0.0			71.4	
Approach LOS		A			A			A			E	

Intersection Summary			
HCM 2000 Control Delay	34.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

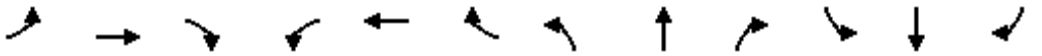
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	938	925	370	393	0	0	0	0
Future Volume (vph)	0	0	0	0	938	925	370	393	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					11.0	11.0	4.0	4.0				
Lane Util. Factor					0.95	1.00	0.97	1.00				
Frpb, ped/bikes					1.00	0.99	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					3539	1562	3433	1863				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					3539	1562	3433	1863				
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)	0	0	0	0	1078	1063	425	452	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	42	114	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1078	1021	311	452	0	0	0	0
Confl. Bikes (#/hr)						3						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type					NA	Perm	Split	NA				
Protected Phases					2		1	1				
Permitted Phases						2						
Actuated Green, G (s)					38.0	38.0	17.0	17.0				
Effective Green, g (s)					38.0	38.0	17.0	17.0				
Actuated g/C Ratio					0.54	0.54	0.24	0.24				
Clearance Time (s)					11.0	11.0	4.0	4.0				
Vehicle Extension (s)					2.0	2.0	2.0	2.0				
Lane Grp Cap (vph)					1921	847	833	452				
v/s Ratio Prot					0.30		0.09	c0.24				
v/s Ratio Perm						c0.65						
v/c Ratio					0.56	1.21	0.37	1.00				
Uniform Delay, d1					10.5	16.0	22.1	26.5				
Progression Factor					1.00	1.00	0.52	0.65				
Incremental Delay, d2					1.2	103.5	0.1	40.8				
Delay (s)					11.7	119.5	11.6	57.9				
Level of Service					B	F	B	E				
Approach Delay (s)		0.0			65.3			35.4			0.0	
Approach LOS		A			E			D			A	

Intersection Summary			
HCM 2000 Control Delay	56.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	374	1151	0	0	0	0	0	389	140	0	0	0
Future Volume (vph)	374	1151	0	0	0	0	0	389	140	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						5.0	5.0			
Lane Util. Factor	1.00	0.95						0.95	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1736	3471						3471	1553			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1736	3471						3471	1553			
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	435	1338	0	0	0	0	0	452	163	0	0	0
RTOR Reduction (vph)	46	0	0	0	0	0	0	0	100	0	0	0
Lane Group Flow (vph)	389	1338	0	0	0	0	0	452	63	0	0	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA						NA	Perm			
Protected Phases	6	6						5				
Permitted Phases									5			
Actuated Green, G (s)	46.2	46.2						13.8	13.8			
Effective Green, g (s)	46.2	46.2						13.8	13.8			
Actuated g/C Ratio	0.66	0.66						0.20	0.20			
Clearance Time (s)	5.0	5.0						5.0	5.0			
Vehicle Extension (s)	2.0	2.0						2.0	2.0			
Lane Grp Cap (vph)	1145	2290						684	306			
v/s Ratio Prot	0.22	c0.39						c0.13				
v/s Ratio Perm									0.04			
v/c Ratio	0.34	0.58						0.66	0.20			
Uniform Delay, d1	5.2	6.6						25.9	23.5			
Progression Factor	0.00	1.14						1.00	1.00			
Incremental Delay, d2	0.6	0.8						1.9	0.1			
Delay (s)	0.6	8.3						27.8	23.6			
Level of Service	A	A						C	C			
Approach Delay (s)		6.4			0.0			26.7			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	1411	7	90	212	0	0	0	362
Future Volume (veh/h)	0	0	0	0	1411	7	90	212	0	0	0	362
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				0	1870	1900	1870	1870	0	0	0	1870
Adj Flow Rate, veh/h				0	1603	8	102	241	0	0	0	177
Peak Hour Factor				0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				0	2	0	2	2	0	0	0	2
Cap, veh/h				0	0	0	539	291	0	0	0	0
Arrive On Green				0.00	0.00	0.00	0.16	0.16	0.00	0.00	0.00	0.00
Sat Flow, veh/h					0		3456	1870	0		0	
Grp Volume(v), veh/h					0.0		102	241	0		0.0	
Grp Sat Flow(s),veh/h/ln							1728	1870	0			
Q Serve(g_s), s							1.8	8.6	0.0			
Cycle Q Clear(g_c), s							1.8	8.6	0.0			
Prop In Lane							1.00		0.00			
Lane Grp Cap(c), veh/h							539	291	0			
V/C Ratio(X)							0.19	0.83	0.00			
Avail Cap(c_a), veh/h							751	515	0			
HCM Platoon Ratio							1.00	1.00	1.00			
Upstream Filter(I)							0.98	0.98	0.00			
Uniform Delay (d), s/veh							25.3	28.2	0.0			
Incr Delay (d2), s/veh							0.1	2.2	0.0			
Initial Q Delay(d3),s/veh							0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln							0.7	3.9	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh							25.4	30.5	0.0			
LnGrp LOS							C	C	A			
Approach Vol, veh/h								343				
Approach Delay, s/veh								29.0				
Approach LOS								C				

Timer - Assigned Phs	3	8
Phs Duration (G+Y+Rc), s	14.8	14.8
Change Period (Y+Rc), s	* 4	* 4
Max Green Setting (Gmax), s	* 15	* 19
Max Q Clear Time (g_c+I1), s	3.8	10.6
Green Ext Time (p_c), s	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	29.0
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	885	194	0	0	0	0	90	2	0	0	0
Future Volume (veh/h)	212	885	194	0	0	0	0	90	2	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1841	1841	1841				0	1841	1841			
Adj Flow Rate, veh/h	259	1079	0				0	110	1			
Peak Hour Factor	0.82	0.82	0.82				0.82	0.82	0.82			
Percent Heavy Veh, %	4	4	4				0	4	4			
Cap, veh/h	1355	3883					0	173	2			
Arrive On Green	0.77	0.77	0.00				0.00	0.09	0.09			
Sat Flow, veh/h	1753	5191	0				0	1821	17			
Grp Volume(v), veh/h	259	1079	0				0	0	111			
Grp Sat Flow(s),veh/h/ln	1753	1675	0				0	0	1838			
Q Serve(g_s), s	2.7	4.2	0.0				0.0	0.0	4.0			
Cycle Q Clear(g_c), s	2.7	4.2	0.0				0.0	0.0	4.0			
Prop In Lane	1.00		0.00				0.00		0.01			
Lane Grp Cap(c), veh/h	1355	3883					0	0	174			
V/C Ratio(X)	0.19	0.28					0.00	0.00	0.64			
Avail Cap(c_a), veh/h	1355	3883					0	0	459			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.80	0.80	0.00				0.00	0.00	1.00			
Uniform Delay (d), s/veh	2.1	2.2	0.0				0.0	0.0	29.6			
Incr Delay (d2), s/veh	0.3	0.1	0.0				0.0	0.0	1.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.0				0.0	0.0	1.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.3	2.4	0.0				0.0	0.0	31.1			
LnGrp LOS	A	A					A	A	C			
Approach Vol, veh/h		1338	A					111				
Approach Delay, s/veh		2.4						31.1				
Approach LOS		A						C				

Timer - Assigned Phs	2	8
Phs Duration (G+Y+Rc), s	57.6	10.4
Change Period (Y+Rc), s	* 5	4.0
Max Green Setting (Gmax), s	* 42	17.0
Max Q Clear Time (g_c+I1), s	6.2	6.0
Green Ext Time (p_c), s	5.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	4.6
HCM 6th LOS	A

Notes

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	478	367	144	769	24	485	67	77	12	95	130
Future Volume (veh/h)	26	478	367	144	769	24	485	67	77	12	95	130
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	562	97	169	905	10	571	79	17	14	112	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	948	414	549	2024	884	576	417	351	33	141	119
Arrive On Green	0.02	0.27	0.27	0.10	0.19	0.19	0.17	0.22	0.22	0.02	0.08	0.00
Sat Flow, veh/h	1781	3554	1551	1781	3554	1551	3456	1870	1572	1781	1870	1585
Grp Volume(v), veh/h	31	562	97	169	905	10	571	79	17	14	112	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1551	1781	1777	1551	1728	1870	1572	1781	1870	1585
Q Serve(g_s), s	2.1	16.5	3.8	10.6	27.1	0.6	19.8	4.1	0.5	0.9	7.1	0.0
Cycle Q Clear(g_c), s	2.1	16.5	3.8	10.6	27.1	0.6	19.8	4.1	0.5	0.9	7.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	39	948	414	549	2024	884	576	417	351	33	141	119
V/C Ratio(X)	0.79	0.59	0.23	0.31	0.45	0.01	0.99	0.19	0.05	0.42	0.80	0.00
Avail Cap(c_a), veh/h	223	948	414	549	2024	884	576	546	459	208	483	409
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.4	38.3	14.4	42.0	32.0	21.2	49.9	37.8	8.6	58.2	54.6	0.0
Incr Delay (d2), s/veh	12.5	2.7	1.3	0.0	0.1	0.0	35.2	0.1	0.0	3.1	3.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	7.2	2.3	4.8	12.7	0.2	11.2	1.9	0.4	0.4	3.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	41.1	15.8	42.0	32.0	21.2	85.1	37.9	8.6	61.4	58.5	0.0
LnGrp LOS	E	D	B	D	C	C	F	D	A	E	E	A
Approach Vol, veh/h		690			1084			667			126	
Approach Delay, s/veh		38.8			33.5			77.5			58.8	
Approach LOS		D			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	38.0	25.0	14.0	6.6	74.3	7.2	31.8
Change Period (Y+Rc), s	* 6	* 6	* 5	* 5	* 4	* 6	* 5	* 5
Max Green Setting (Gmax), s	* 15	* 32	* 20	* 31	* 15	* 34	* 14	* 35
Max Q Clear Time (g_c+I1), s	12.6	18.5	21.8	9.1	4.1	29.1	2.9	6.1
Green Ext Time (p_c), s	0.0	0.6	0.0	0.2	0.0	0.8	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	47.6
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* 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)	26	376	165	68	750	6	161	16	38	5	58	26
Future Volume (veh/h)	26	376	165	68	750	6	161	16	38	5	58	26
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	33	476	95	86	949	8	204	20	0	6	73	18
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	401	1142	947	109	811	7	285	22	299	39	271	64
Arrive On Green	0.15	0.41	0.41	0.06	0.44	0.44	0.19	0.19	0.00	0.19	0.19	0.19
Sat Flow, veh/h	1767	1856	1539	1767	1837	15	1197	117	1572	40	1429	335
Grp Volume(v), veh/h	33	476	95	86	0	957	224	0	0	97	0	0
Grp Sat Flow(s),veh/h/ln	1767	1856	1539	1767	0	1852	1314	0	1572	1803	0	0
Q Serve(g_s), s	1.9	21.9	4.5	5.8	0.0	53.0	14.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.9	21.9	4.5	5.8	0.0	53.0	20.0	0.0	0.0	5.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.91		1.00	0.06		0.19
Lane Grp Cap(c), veh/h	401	1142	947	109	0	818	307	0	299	374	0	0
V/C Ratio(X)	0.08	0.42	0.10	0.79	0.00	1.17	0.73	0.00	0.00	0.26	0.00	0.00
Avail Cap(c_a), veh/h	401	1142	947	295	0	818	398	0	406	495	0	0
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	0.68	0.00	0.68	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	40.2	20.0	14.9	55.6	0.0	33.5	47.6	0.0	0.0	41.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.2	3.3	0.0	85.6	4.8	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	10.1	1.5	2.6	0.0	40.9	6.9	0.0	0.0	2.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	21.0	15.1	58.9	0.0	119.1	52.4	0.0	0.0	42.0	0.0	0.0
LnGrp LOS	D	C	B	E	A	F	D	A	A	D	A	A
Approach Vol, veh/h		604			1043			224			97	
Approach Delay, s/veh		21.2			114.1			52.4			42.0	
Approach LOS		C			F			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	79.8		27.8	33.2	59.0		27.8
Change Period (Y+Rc), s	* 5	6.0		* 5	6.0	* 6		* 5
Max Green Setting (Gmax), s	* 8	53.0		* 31	20.0	* 53		* 31
Max Q Clear Time (g_c+I1), s	7.8	23.9		7.6	3.9	55.0		22.0
Green Ext Time (p_c), s	0.1	0.7		0.4	0.0	0.0		0.8

Intersection Summary	
HCM 6th Ctrl Delay	75.0
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* 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)	222	128	69	114	319	19	144	321	40	19	438	361
Future Volume (veh/h)	222	128	69	114	319	19	144	321	40	19	438	361
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		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	249	144	17	128	358	20	162	361	15	21	492	240
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	280	547	454	158	393	22	194	694	588	39	531	699
Arrive On Green	0.16	0.29	0.29	0.09	0.23	0.23	0.11	0.37	0.37	0.02	0.29	0.29
Sat Flow, veh/h	1767	1856	1539	1767	1741	97	1767	1856	1572	1767	1856	1572
Grp Volume(v), veh/h	249	144	17	128	0	378	162	361	15	21	492	240
Grp Sat Flow(s),veh/h/ln	1767	1856	1539	1767	0	1838	1767	1856	1572	1767	1856	1572
Q Serve(g_s), s	13.8	5.9	0.8	7.1	0.0	20.1	9.0	15.1	0.6	1.2	25.8	10.0
Cycle Q Clear(g_c), s	13.8	5.9	0.8	7.1	0.0	20.1	9.0	15.1	0.6	1.2	25.8	10.0
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	280	547	454	158	0	415	194	694	588	39	531	699
V/C Ratio(X)	0.89	0.26	0.04	0.81	0.00	0.91	0.83	0.52	0.03	0.54	0.93	0.34
Avail Cap(c_a), veh/h	706	742	615	353	0	735	353	694	588	353	742	878
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.2	27.0	25.2	44.7	0.0	37.8	43.7	24.4	19.8	48.4	34.7	18.2
Incr Delay (d2), s/veh	3.8	0.1	0.0	3.7	0.0	4.3	3.6	0.3	0.0	4.2	12.0	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	5.9	2.5	0.3	3.1	0.0	8.8	4.0	6.3	0.2	0.5	12.7	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	27.1	25.2	48.5	0.0	42.1	47.2	24.7	19.8	52.7	46.7	18.3
LnGrp LOS	D	C	C	D	A	D	D	C	B	D	D	B
Approach Vol, veh/h		410			506			538			753	
Approach Delay, s/veh		37.9			43.7			31.3			37.8	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	36.5	15.0	34.6	20.9	29.6	6.2	43.4
Change Period (Y+Rc), s	* 5	7.0	* 4	* 6	* 5	7.0	* 4	* 6
Max Green Setting (Gmax), s	* 9	40.0	* 20	* 40	* 40	40.0	* 20	* 30
Max Q Clear Time (g_c+I1), s	9.1	7.9	11.0	27.8	15.8	22.1	3.2	17.1
Green Ext Time (p_c), s	0.1	0.2	0.1	0.8	0.1	0.5	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	37.6
HCM 6th LOS	D

Notes

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

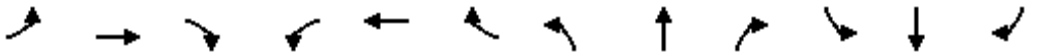
Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	84	6	1	201	3	20	1	0	6	1	231
Future Vol, veh/h	97	84	6	1	201	3	20	1	0	6	1	231
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	285	-	200	300	-	170	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	5	5	6	6	5	5	6	6	6	5	6	5
Mvmt Flow	104	90	6	1	216	3	22	1	0	6	1	248

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	219	0	0	96	0	0	642	519	90	520	522	216
Stage 1	-	-	-	-	-	-	298	298	-	218	218	-
Stage 2	-	-	-	-	-	-	344	221	-	302	304	-
Critical Hdwy	4.15	-	-	4.16	-	-	7.16	6.56	6.26	7.15	6.56	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.56	-	6.15	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.56	-	6.15	5.56	-
Follow-up Hdwy	2.245	-	-	2.254	-	-	3.554	4.054	3.354	3.545	4.054	3.345
Pot Cap-1 Maneuver	1333	-	-	1473	-	-	381	455	957	462	454	816
Stage 1	-	-	-	-	-	-	702	660	-	778	715	-
Stage 2	-	-	-	-	-	-	663	713	-	701	656	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1333	-	-	1473	-	-	248	419	957	433	418	816
Mov Cap-2 Maneuver	-	-	-	-	-	-	248	419	-	433	418	-
Stage 1	-	-	-	-	-	-	647	609	-	717	714	-
Stage 2	-	-	-	-	-	-	460	712	-	645	605	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.1	0	20.6	11.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	253	-	1333	-	-	1473	-	-	431	816
HCM Lane V/C Ratio	0.089	-	0.078	-	-	0.001	-	-	0.017	0.304
HCM Control Delay (s)	20.6	0	7.9	-	-	7.4	-	-	13.5	11.3
HCM Lane LOS	C	A	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.3	-	0.3	-	-	0	-	-	0.1	1.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	392	72	139	497	39	49	7	77	21	6	11
Future Volume (veh/h)	18	392	72	139	497	39	49	7	77	21	6	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	20	426	28	151	540	39	53	8	16	15	18	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	59	980	429	439	1241	89	238	250	413	129	135	0
Arrive On Green	0.03	0.29	0.29	0.13	0.39	0.39	0.14	0.14	0.14	0.08	0.08	0.00
Sat Flow, veh/h	1711	3413	1494	3319	3222	232	1711	1796	1518	1711	1796	0
Grp Volume(v), veh/h	20	426	28	151	285	294	53	8	16	15	18	0
Grp Sat Flow(s),veh/h/ln	1711	1706	1494	1659	1706	1748	1711	1796	1518	1711	1796	0
Q Serve(g_s), s	0.5	4.6	0.6	1.9	5.5	5.6	1.2	0.2	0.3	0.4	0.4	0.0
Cycle Q Clear(g_c), s	0.5	4.6	0.6	1.9	5.5	5.6	1.2	0.2	0.3	0.4	0.4	0.0
Prop In Lane	1.00		1.00	1.00		0.13	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	59	980	429	439	657	673	238	250	413	129	135	0
V/C Ratio(X)	0.34	0.43	0.07	0.34	0.43	0.44	0.22	0.03	0.04	0.12	0.13	0.00
Avail Cap(c_a), veh/h	1146	3047	1334	1482	1524	1561	458	481	608	1146	1203	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.1	13.0	11.6	17.7	10.2	10.2	17.1	16.7	12.0	19.3	19.4	0.0
Incr Delay (d2), s/veh	1.3	0.7	0.1	0.2	1.0	1.0	0.2	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.5	0.2	0.6	1.7	1.8	0.4	0.1	0.1	0.1	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	13.7	11.7	17.8	11.1	11.1	17.3	16.7	12.0	19.5	19.5	0.0
LnGrp LOS	C	B	B	B	B	B	B	B	B	B	B	A
Approach Vol, veh/h		474			730			77			33	
Approach Delay, s/veh		13.9			12.5			16.1			19.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	17.1		7.5	5.5	21.5		10.3				
Change Period (Y+Rc), s	4.0	* 4.2		4.1	4.0	* 4.2		4.1				
Max Green Setting (Gmax), s	20.0	* 40		30.0	30.0	* 40		12.0				
Max Q Clear Time (g_c+I1), s	3.9	6.6		2.4	2.5	7.6		3.2				
Green Ext Time (p_c), s	0.2	5.9		0.0	0.0	7.4		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		13.4
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.

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)	0	430	60	119	314	0	0	0	0	517	3	361
Future Volume (veh/h)	0	430	60	119	314	0	0	0	0	517	3	361
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1841	1841	1841	0				1841	1841	1841
Adj Flow Rate, veh/h	0	467	22	129	341	0				564	0	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	4	4	4	4	0				4	4	4
Cap, veh/h	0	1008	442	995	2303	0				680	0	605
Arrive On Green	0.00	0.29	0.29	0.10	0.22	0.00				0.19	0.00	0.19
Sat Flow, veh/h	0	3589	1533	3401	3589	0				3506	0	3120
Grp Volume(v), veh/h	0	467	22	129	341	0				564	0	63
Grp Sat Flow(s),veh/h/ln	0	1749	1533	1700	1749	0				1753	0	1560
Q Serve(g_s), s	0.0	6.5	0.6	2.0	4.7	0.0				9.1	0.0	1.0
Cycle Q Clear(g_c), s	0.0	6.5	0.6	2.0	4.7	0.0				9.1	0.0	1.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1008	442	995	2303	0				680	0	605
V/C Ratio(X)	0.00	0.46	0.05	0.13	0.15	0.00				0.83	0.00	0.10
Avail Cap(c_a), veh/h	0	1008	442	995	2303	0				1010	0	899
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.96	0.96	0.99	0.99	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.3	15.2	19.8	9.7	0.0				22.8	0.0	19.6
Incr Delay (d2), s/veh	0.0	1.5	0.2	0.1	0.1	0.0				2.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	0.2	0.7	1.3	0.0				3.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.7	15.4	19.8	9.8	0.0				25.2	0.0	19.6
LnGrp LOS	A	B	B	B	A	A				C	A	B
Approach Vol, veh/h		489			470						627	
Approach Delay, s/veh		18.6			12.6						24.6	
Approach LOS		B			B						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	21.9	21.6		15.5		43.5
Change Period (Y+Rc), s	4.6	* 4.6		4.1		4.6
Max Green Setting (Gmax), s	10.3	* 17		17.0		33.0
Max Q Clear Time (g_c+I1), s	14.0	8.5		11.1		6.7
Green Ext Time (p_c), s	0.2	0.8		0.3		0.8

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

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)	154	793	0	0	394	383	39	1	145	0	0	0
Future Volume (veh/h)	154	793	0	0	394	383	39	1	145	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1826	1826	0	0	1826	1826	1826	1826	1826			
Adj Flow Rate, veh/h	173	891	0	0	443	215	45	0	9			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	5	5	0	0	5	5	5	5	5			
Cap, veh/h	1495	2831	0	0	1000	446	104	0	46			
Arrive On Green	0.89	1.00	0.00	0.00	0.29	0.29	0.03	0.00	0.03			
Sat Flow, veh/h	3374	3561	0	0	3561	1547	3478	0	1547			
Grp Volume(v), veh/h	173	891	0	0	443	215	45	0	9			
Grp Sat Flow(s),veh/h/ln	1687	1735	0	0	1735	1547	1739	0	1547			
Q Serve(g_s), s	0.4	0.0	0.0	0.0	6.1	6.8	0.8	0.0	0.3			
Cycle Q Clear(g_c), s	0.4	0.0	0.0	0.0	6.1	6.8	0.8	0.0	0.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	1495	2831	0	0	1000	446	104	0	46			
V/C Ratio(X)	0.12	0.31	0.00	0.00	0.44	0.48	0.43	0.00	0.19			
Avail Cap(c_a), veh/h	1495	2831	0	0	1000	446	884	0	393			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.87	0.87	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	1.9	0.0	0.0	0.0	17.1	17.4	28.1	0.0	27.9			
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	1.4	3.7	1.1	0.0	0.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.0	2.4	2.6	0.3	0.0	0.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.9	0.3	0.0	0.0	18.6	21.1	29.2	0.0	28.7			
LnGrp LOS	A	A	A	A	B	C	C	A	C			
Approach Vol, veh/h		1064			658			54				
Approach Delay, s/veh		0.5			19.4			29.1				
Approach LOS		A			B			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		53.1			31.1	22.0		5.9				
Change Period (Y+Rc), s		* 5			* 5	* 5		4.1				
Max Green Setting (Gmax), s		* 35			* 12	* 17		15.0				
Max Q Clear Time (g_c+I1), s		2.0			2.4	8.8		2.8				
Green Ext Time (p_c), s		2.4			0.4	0.9		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.
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)	61	594	32	18	623	15	108	3	12	12	6	46
Future Volume (veh/h)	61	594	32	18	623	15	108	3	12	12	6	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	71	691	34	21	724	16	126	3	0	14	7	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	243	1361	67	46	1195	26	189	199	0	31	16	73
Arrive On Green	0.07	0.40	0.40	0.03	0.34	0.34	0.11	0.11	0.00	0.03	0.03	0.00
Sat Flow, veh/h	3401	3392	167	1753	3497	77	1753	1841	0	1188	594	2745
Grp Volume(v), veh/h	71	356	369	21	362	378	126	3	0	21	0	0
Grp Sat Flow(s),veh/h/ln	1700	1749	1810	1753	1749	1826	1753	1841	0	1781	0	1373
Q Serve(g_s), s	0.7	5.3	5.3	0.4	5.9	5.9	2.4	0.1	0.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	0.7	5.3	5.3	0.4	5.9	5.9	2.4	0.1	0.0	0.4	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.04	1.00		0.00	0.67		1.00
Lane Grp Cap(c), veh/h	243	702	726	46	597	624	189	199	0	47	0	73
V/C Ratio(X)	0.29	0.51	0.51	0.45	0.61	0.61	0.67	0.02	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	1972	1775	1837	1017	1775	1853	1271	1334	0	1291	0	1990
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.2	7.8	7.8	16.5	9.4	9.4	14.8	13.7	0.0	16.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.4	0.4	2.6	0.7	0.7	1.5	0.0	0.0	2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.3	1.3	0.2	1.6	1.7	0.9	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.4	8.2	8.2	19.1	10.2	10.1	16.3	13.8	0.0	19.0	0.0	0.0
LnGrp LOS	B	A	A	B	B	B	B	B	A	B	A	A
Approach Vol, veh/h		796			761			129			21	
Approach Delay, s/veh		8.8			10.4			16.2			19.0	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.9	17.9		4.9	6.0	15.9		7.7
Change Period (Y+Rc), s	3.0	4.1		4.0	3.5	4.1		4.0
Max Green Setting (Gmax), s	20.0	35.0		25.0	20.0	35.0		25.0
Max Q Clear Time (g_c+I1), s	2.4	7.3		2.4	2.7	7.9		4.4
Green Ext Time (p_c), s	0.0	3.7		0.0	0.1	3.8		0.2

Intersection Summary	
HCM 6th Ctrl Delay	10.2
HCM 6th LOS	B

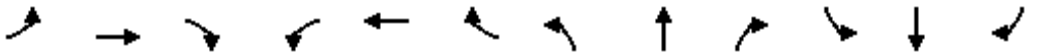
Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	586	25	1	642	2	13	0	8	0	0	1
Future Vol, veh/h	7	586	25	1	642	2	13	0	8	0	0	1
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	245	-	-	-	-	-	35	-	-	-	-	85
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	8	689	29	1	755	2	15	0	9	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	757	0	0	720	0	0	1102	1481	361	1119	1494	379
Stage 1	-	-	-	-	-	-	722	722	-	758	758	-
Stage 2	-	-	-	-	-	-	380	759	-	361	736	-
Critical Hdwy	4.18	-	-	4.18	-	-	7.58	6.58	6.98	7.58	6.58	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Follow-up Hdwy	2.24	-	-	2.24	-	-	3.54	4.04	3.34	3.54	4.04	3.34
Pot Cap-1 Maneuver	837	-	-	864	-	-	164	122	630	159	120	613
Stage 1	-	-	-	-	-	-	380	425	-	361	409	-
Stage 2	-	-	-	-	-	-	609	408	-	625	418	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	837	-	-	862	-	-	162	120	629	155	118	613
Mov Cap-2 Maneuver	-	-	-	-	-	-	162	120	-	155	118	-
Stage 1	-	-	-	-	-	-	376	420	-	357	408	-
Stage 2	-	-	-	-	-	-	607	407	-	610	413	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	22.4	10.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	162	629	837	-	-	862	-	-	-	613
HCM Lane V/C Ratio	0.094	0.015	0.01	-	-	0.001	-	-	-	0.002
HCM Control Delay (s)	29.5	10.8	9.3	-	-	9.2	-	-	0	10.9
HCM Lane LOS	D	B	A	-	-	A	-	-	A	B
HCM 95th %tile Q(veh)	0.3	0	0	-	-	0	-	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	286	163	44	325	134	124	111	19	101	265	196
Future Volume (veh/h)	145	286	163	44	325	134	124	111	19	101	265	196
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	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	163	321	86	49	365	27	139	125	2	113	298	45
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	210	724	191	94	695	302	181	691	305	162	569	85
Arrive On Green	0.12	0.26	0.26	0.05	0.20	0.20	0.10	0.20	0.20	0.09	0.19	0.19
Sat Flow, veh/h	1767	2755	726	1767	3526	1533	1767	3526	1556	1767	3072	459
Grp Volume(v), veh/h	163	204	203	49	365	27	139	125	2	113	170	173
Grp Sat Flow(s),veh/h/ln	1767	1763	1718	1767	1763	1533	1767	1763	1556	1767	1763	1768
Q Serve(g_s), s	3.4	3.6	3.7	1.0	3.5	0.5	2.9	1.1	0.0	2.3	3.3	3.4
Cycle Q Clear(g_c), s	3.4	3.6	3.7	1.0	3.5	0.5	2.9	1.1	0.0	2.3	3.3	3.4
Prop In Lane	1.00		0.42	1.00		1.00	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	210	463	452	94	695	302	181	691	305	162	327	328
V/C Ratio(X)	0.78	0.44	0.45	0.52	0.53	0.09	0.77	0.18	0.01	0.70	0.52	0.53
Avail Cap(c_a), veh/h	537	862	840	397	1537	668	934	2235	986	584	792	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.2	11.6	11.7	17.5	13.6	12.4	16.6	12.7	12.3	16.7	13.9	13.9
Incr Delay (d2), s/veh	2.3	0.2	0.3	1.7	0.2	0.0	2.6	0.0	0.0	2.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.1	1.1	0.4	1.1	0.2	1.1	0.4	0.0	0.9	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	11.9	11.9	19.1	13.8	12.5	19.1	12.7	12.3	18.7	14.4	14.4
LnGrp LOS	B	B	B	B	B	B	B	B	B	B	B	B
Approach Vol, veh/h		570			441			266			456	
Approach Delay, s/veh		13.8			14.3			16.1			15.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	12.0	6.5	11.9	5.0	14.4	6.9	11.5
Change Period (Y+Rc), s	3.0	4.5	3.0	4.5	3.0	4.5	3.0	4.5
Max Green Setting (Gmax), s	11.5	16.5	12.5	24.0	8.5	18.5	20.0	17.0
Max Q Clear Time (g_c+I1), s	5.4	5.5	4.3	3.1	3.0	5.7	4.9	5.4
Green Ext Time (p_c), s	0.1	1.2	0.1	0.4	0.0	1.2	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	14.7
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

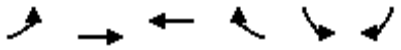
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	203	95	60	326	0	158	0	70	0	0	0
Future Volume (veh/h)	0	203	95	60	326	0	158	0	70	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	211	44	62	340	0	165	0	22	0	0	0
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	7	674	138	171	1685	0	327	343	291	7	7	6
Arrive On Green	0.00	0.23	0.23	0.10	0.48	0.00	0.19	0.00	0.19	0.00	0.00	0.00
Sat Flow, veh/h	1767	2912	595	1767	3618	0	1767	1856	1571	1767	1856	1572
Grp Volume(v), veh/h	0	126	129	62	340	0	165	0	22	0	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1744	1767	1763	0	1767	1856	1571	1767	1856	1572
Q Serve(g_s), s	0.0	1.6	1.6	0.9	1.5	0.0	2.2	0.0	0.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.6	1.6	0.9	1.5	0.0	2.2	0.0	0.3	0.0	0.0	0.0
Prop In Lane	1.00		0.34	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	7	408	404	171	1685	0	327	343	291	7	7	6
V/C Ratio(X)	0.00	0.31	0.32	0.36	0.20	0.00	0.50	0.00	0.08	0.00	0.00	0.00
Avail Cap(c_a), veh/h	993	2640	2613	993	5281	0	1324	1390	1176	993	1390	1178
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	8.5	8.5	11.3	4.0	0.0	9.8	0.0	9.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.5	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	0.4	0.3	0.1	0.0	0.6	0.0	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	8.7	8.7	11.8	4.0	0.0	10.2	0.0	9.0	0.0	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h		255			402			187			0	
Approach Delay, s/veh		8.7			5.2			10.1			0.0	
Approach LOS		A			A			B				

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	17.8	8.9	0.0	6.6	11.2	0.0	8.9
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	15.0	40.0	20.0	20.0	15.0	40.0	15.0	20.0
Max Q Clear Time (g_c+I1), s	0.0	3.5	4.2	0.0	2.9	3.6	0.0	2.3
Green Ext Time (p_c), s	0.0	1.5	0.2	0.0	0.0	0.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	7.4
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	112	161	370	11	2	13
Future Volume (veh/h)	112	161	370	11	2	13
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	122	175	402	11	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	472	1392	629	17	7	6
Arrive On Green	0.26	0.74	0.35	0.35	0.00	0.00
Sat Flow, veh/h	1781	1870	1812	50	1781	1585
Grp Volume(v), veh/h	122	175	0	413	2	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1861	1781	1585
Q Serve(g_s), s	2.0	1.0	0.0	7.0	0.0	0.0
Cycle Q Clear(g_c), s	2.0	1.0	0.0	7.0	0.0	0.0
Prop In Lane	1.00			0.03	1.00	1.00
Lane Grp Cap(c), veh/h	472	1392	0	646	7	6
V/C Ratio(X)	0.26	0.13	0.00	0.64	0.29	0.00
Avail Cap(c_a), veh/h	1652	1735	0	1726	1157	1029
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.9	1.4	0.0	10.3	18.7	0.0
Incr Delay (d2), s/veh	0.4	0.1	0.0	1.5	16.5	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	0.7	0.0	0.0	2.5	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.4	1.4	0.0	11.9	35.2	0.0
LnGrp LOS	B	A	A	B	D	A
Approach Vol, veh/h		297	413		2	
Approach Delay, s/veh		5.5	11.9		35.2	
Approach LOS		A	B		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		33.1		4.6	15.0	18.1
Change Period (Y+Rc), s		5.0		4.5	5.0	5.0
Max Green Setting (Gmax), s		35.0		24.5	35.0	35.0
Max Q Clear Time (g_c+I1), s		3.0		2.0	4.0	9.0
Green Ext Time (p_c), s		1.5		0.0	0.6	4.0

Intersection Summary	
HCM 6th Ctrl Delay	9.3
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	43	35	76	151	48	39	200	19	30	348	191
Future Volume (veh/h)	85	43	35	76	151	48	39	200	19	30	348	191
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	97	49	4	86	172	44	44	227	20	34	395	206
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	161	323	273	153	241	62	105	705	62	88	471	245
Arrive On Green	0.09	0.17	0.17	0.09	0.17	0.17	0.06	0.42	0.42	0.05	0.41	0.41
Sat Flow, veh/h	1767	1856	1572	1767	1424	364	1767	1681	148	1767	1149	599
Grp Volume(v), veh/h	97	49	4	86	0	216	44	0	247	34	0	601
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1767	0	1789	1767	0	1829	1767	0	1748
Q Serve(g_s), s	3.3	1.4	0.1	2.9	0.0	7.2	1.5	0.0	5.7	1.2	0.0	19.5
Cycle Q Clear(g_c), s	3.3	1.4	0.1	2.9	0.0	7.2	1.5	0.0	5.7	1.2	0.0	19.5
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.08	1.00		0.34
Lane Grp Cap(c), veh/h	161	323	273	153	0	303	105	0	767	88	0	716
V/C Ratio(X)	0.60	0.15	0.01	0.56	0.00	0.71	0.42	0.00	0.32	0.39	0.00	0.84
Avail Cap(c_a), veh/h	562	1150	975	562	0	1137	562	0	767	562	0	1111
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.5	22.1	21.5	27.6	0.0	24.7	28.5	0.0	12.3	29.0	0.0	16.7
Incr Delay (d2), s/veh	1.4	0.3	0.0	1.2	0.0	3.7	1.0	0.0	0.3	1.0	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	1.4	0.6	0.0	1.3	0.0	3.2	0.6	0.0	1.9	0.5	0.0	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.9	22.3	21.6	28.8	0.0	28.4	29.5	0.0	12.5	30.0	0.0	20.7
LnGrp LOS	C	C	C	C	A	C	C	A	B	C	A	C
Approach Vol, veh/h		150			302			291			635	
Approach Delay, s/veh		26.5			28.5			15.1			21.2	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	15.7	7.8	29.8	9.4	15.9	7.1	30.4
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	39.0	20.0	20.0
Max Q Clear Time (g_c+I1), s	5.3	9.2	3.5	21.5	4.9	3.4	3.2	7.7
Green Ext Time (p_c), s	0.0	1.7	0.0	4.3	0.0	0.3	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	77	199	0	2	76
Future Vol, veh/h	15	77	199	0	2	76
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	18	93	240	0	2	92

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	242	0	-	0	371	242
Stage 1	-	-	-	-	242	-
Stage 2	-	-	-	-	129	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1330	-	-	-	632	799
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	899	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1327	-	-	-	621	797
Mov Cap-2 Maneuver	-	-	-	-	621	-
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	897	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1327	-	-	-	791
HCM Lane V/C Ratio	0.014	-	-	-	0.119
HCM Control Delay (s)	7.8	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	52	129	1	1	37
Future Vol, veh/h	11	52	129	1	1	37
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	14	67	165	1	1	47

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	171	0	-	0	266	171
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	95	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1412	-	-	-	725	875
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	931	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1405	-	-	-	711	871
Mov Cap-2 Maneuver	-	-	-	-	711	-
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	926	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1405	-	-	-	866
HCM Lane V/C Ratio	0.01	-	-	-	0.056
HCM Control Delay (s)	7.6	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	45	93	1	1	37
Future Vol, veh/h	17	45	93	1	1	37
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	56	116	1	1	46

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	122	0	-	0	220	122
Stage 1	-	-	-	-	122	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1465	-	-	-	768	929
Stage 1	-	-	-	-	903	-
Stage 2	-	-	-	-	926	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1458	-	-	-	749	925
Mov Cap-2 Maneuver	-	-	-	-	749	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	921	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1458	-	-	-	919
HCM Lane V/C Ratio	0.015	-	-	-	0.052
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	37	43	0	0	51
Future Vol, veh/h	9	37	43	0	0	51
Conflicting Peds, #/hr	7	0	0	7	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	13	52	61	0	0	72

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	68	0	-	0	146	68
Stage 1	-	-	-	-	68	-
Stage 2	-	-	-	-	78	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1527	-	-	-	844	992
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	943	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1517	-	-	-	825	985
Mov Cap-2 Maneuver	-	-	-	-	825	-
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	936	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1517	-	-	-	985
HCM Lane V/C Ratio	0.008	-	-	-	0.073
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	3	4	0	0	39
Future Vol, veh/h	34	3	4	0	0	39
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	41	4	5	0	0	47

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	9	0	-	0	95	9
Stage 1	-	-	-	-	9	-
Stage 2	-	-	-	-	86	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1624	-	-	-	909	1079
Stage 1	-	-	-	-	1019	-
Stage 2	-	-	-	-	942	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1618	-	-	-	879	1075
Mov Cap-2 Maneuver	-	-	-	-	879	-
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	938	-

Approach	EB	WB	SB
HCM Control Delay, s	6.7	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1618	-	-	-	1075
HCM Lane V/C Ratio	0.025	-	-	-	0.044
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

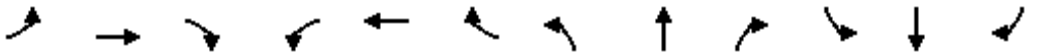
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	0	0	0	0	4
Future Vol, veh/h	3	0	0	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	42	42	42	42	42	42
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	0	0	0	0	10

Major/Minor	Major2		Minor2	
Conflicting Flow All	-	0	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.3
Pot Cap-1 Maneuver	-	0	0	-
Stage 1	-	0	0	-
Stage 2	-	0	0	-
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	SB
HCM Control Delay, s	0	
HCM LOS		-

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	-
HCM Lane LOS	-	-
HCM 95th %tile Q(veh)	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	0	38	2	0	3	50	429	3	1	334	444
Future Volume (veh/h)	215	0	38	2	0	3	50	429	3	1	334	444
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	226	0	0	2	0	0	53	452	3	1	352	379
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	501	0	0	555	0	0	144	741	5	5	599	508
Arrive On Green	0.21	0.00	0.00	0.21	0.00	0.00	0.08	0.39	0.39	0.00	0.32	0.32
Sat Flow, veh/h	1441	0	0	1693	0	0	1810	1885	13	1810	1900	1610
Grp Volume(v), veh/h	226	0	0	2	0	0	53	0	455	1	352	379
Grp Sat Flow(s),veh/h/ln	1441	0	0	1693	0	0	1810	0	1898	1810	1900	1610
Q Serve(g_s), s	5.4	0.0	0.0	0.0	0.0	0.0	1.0	0.0	7.1	0.0	5.8	7.9
Cycle Q Clear(g_c), s	5.4	0.0	0.0	0.0	0.0	0.0	1.0	0.0	7.1	0.0	5.8	7.9
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	501	0	0	555	0	0	144	0	745	5	599	508
V/C Ratio(X)	0.45	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.61	0.21	0.59	0.75
Avail Cap(c_a), veh/h	2434	0	0	1522	0	0	1554	0	2953	1311	2957	2506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.7	0.0	0.0	11.5	0.0	0.0	16.3	0.0	9.0	18.6	10.7	11.4
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.3	7.6	0.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.0	0.0	0.0	0.4	0.0	2.0	0.0	1.7	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	0.0	0.0	11.5	0.0	0.0	16.9	0.0	9.3	26.1	11.1	12.3
LnGrp LOS	B	A	A	B	A	A	B	A	A	C	B	B
Approach Vol, veh/h		226			2			508			732	
Approach Delay, s/veh		14.3			11.5			10.1			11.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	19.6		13.0	7.6	16.8		13.0				
Change Period (Y+Rc), s	4.6	5.0		5.0	4.6	5.0		* 5				
Max Green Setting (Gmax), s	27.0	58.0		58.0	32.0	58.0		* 33				
Max Q Clear Time (g_c+I1), s	2.0	9.1		7.4	3.0	9.9		2.0				
Green Ext Time (p_c), s	0.0	1.8		1.4	0.1	1.9		0.0				

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

Notes

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

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	21	466	3	31	306
Future Vol, veh/h	8	21	466	3	31	306
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	9	23	501	3	33	329

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	898	503	0	0	504	0
Stage 1	503	-	-	-	-	-
Stage 2	395	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	306	563	-	-	1045	-
Stage 1	601	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	296	563	-	-	1045	-
Mov Cap-2 Maneuver	296	-	-	-	-	-
Stage 1	582	-	-	-	-	-
Stage 2	674	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	451	1045	-
HCM Lane V/C Ratio	-	-	0.069	0.032	-
HCM Control Delay (s)	-	-	13.6	8.6	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

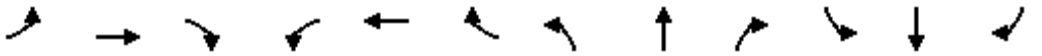
Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	51	45	424	31	38	276
Future Vol, veh/h	51	45	424	31	38	276
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	-	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	55	49	461	34	41	300

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	860	478	0	0	495	0
Stage 1	478	-	-	-	-	-
Stage 2	382	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	322	581	-	-	1053	-
Stage 1	617	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	309	581	-	-	1053	-
Mov Cap-2 Maneuver	309	-	-	-	-	-
Stage 1	593	-	-	-	-	-
Stage 2	683	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.7	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	309	581	1053	-
HCM Lane V/C Ratio	-	-	0.179	0.084	0.039	-
HCM Control Delay (s)	-	-	19.2	11.8	8.6	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.3	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	6	19	8	3	28	36	1610	11	60	1662	97
Future Volume (veh/h)	86	6	19	8	3	28	36	1610	11	60	1662	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	102	7	16	10	4	0	43	1917	8	71	1979	71
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	205	11	20	189	62	0	52	2009	873	89	2083	897
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.00	0.03	0.61	0.61	0.05	0.63	0.63
Sat Flow, veh/h	1096	98	175	989	549	0	1654	3300	1434	1654	3300	1422
Grp Volume(v), veh/h	125	0	0	14	0	0	43	1917	8	71	1979	71
Grp Sat Flow(s),veh/h/ln	1370	0	0	1537	0	0	1654	1650	1434	1654	1650	1422
Q Serve(g_s), s	6.5	0.0	0.0	0.0	0.0	0.0	2.1	43.5	0.2	3.4	44.3	1.6
Cycle Q Clear(g_c), s	7.1	0.0	0.0	0.6	0.0	0.0	2.1	43.5	0.2	3.4	44.3	1.6
Prop In Lane	0.82		0.13	0.71		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	236	0	0	250	0	0	52	2009	873	89	2083	897
V/C Ratio(X)	0.53	0.00	0.00	0.06	0.00	0.00	0.83	0.95	0.01	0.80	0.95	0.08
Avail Cap(c_a), veh/h	505	0	0	527	0	0	310	3294	1431	310	3294	1419
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.6	0.0	0.0	31.8	0.0	0.0	38.6	14.6	6.2	37.5	13.6	5.7
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.0	0.0	0.0	11.5	3.7	0.0	5.9	3.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	0.2	0.0	0.0	0.9	11.8	0.0	1.4	11.5	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	0.0	0.0	31.8	0.0	0.0	50.1	18.3	6.2	43.4	17.4	5.8
LnGrp LOS	D	A	A	C	A	A	D	B	A	D	B	A
Approach Vol, veh/h		125			14			1968			2121	
Approach Delay, s/veh		35.3			31.8			19.0			17.8	
Approach LOS		D			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	56.8		14.0	7.5	58.6		14.0				
Change Period (Y+Rc), s	* 5	8.0		* 5	* 5	8.0		* 5				
Max Green Setting (Gmax), s	* 15	80.0		* 25	* 15	80.0		* 25				
Max Q Clear Time (g_c+I1), s	5.4	45.5		9.1	4.1	46.3		2.6				
Green Ext Time (p_c), s	0.0	3.3		0.4	0.0	3.5		0.0				

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

Notes

User approved pedestrian interval to be less than phase max green.

* 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)	81	20	18	108	49	171	20	453	44	95	578	106
Future Volume (veh/h)	81	20	18	108	49	171	20	453	44	95	578	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	93	23	0	124	56	14	23	521	43	109	664	107
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	198	143	0	228	175	148	70	997	82	215	1168	188
Arrive On Green	0.11	0.08	0.00	0.13	0.09	0.09	0.04	0.30	0.30	0.12	0.38	0.38
Sat Flow, veh/h	1795	1885	0	1795	1885	1598	1795	3351	276	1795	3089	497
Grp Volume(v), veh/h	93	23	0	124	56	14	23	278	286	109	385	386
Grp Sat Flow(s),veh/h/ln	1795	1885	0	1795	1885	1598	1795	1791	1836	1795	1791	1796
Q Serve(g_s), s	2.0	0.5	0.0	2.7	1.2	0.3	0.5	5.4	5.5	2.4	7.2	7.2
Cycle Q Clear(g_c), s	2.0	0.5	0.0	2.7	1.2	0.3	0.5	5.4	5.5	2.4	7.2	7.2
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.15	1.00		0.28
Lane Grp Cap(c), veh/h	198	143	0	228	175	148	70	533	546	215	677	679
V/C Ratio(X)	0.47	0.16	0.00	0.54	0.32	0.09	0.33	0.52	0.52	0.51	0.57	0.57
Avail Cap(c_a), veh/h	426	984	0	639	984	834	511	1487	1524	511	1487	1491
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	18.2	0.0	17.2	17.9	17.5	19.7	12.3	12.3	17.4	10.4	10.4
Incr Delay (d2), s/veh	0.6	0.5	0.0	0.7	0.4	0.1	1.0	1.1	1.1	0.7	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	0.8	0.2	0.0	1.1	0.5	0.1	0.2	1.7	1.8	0.8	2.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.2	18.7	0.0	18.0	18.3	17.6	20.7	13.4	13.4	18.1	11.4	11.5
LnGrp LOS	B	B	A	B	B	B	C	B	B	B	B	B
Approach Vol, veh/h		116			194			587			880	
Approach Delay, s/veh		18.3			18.0			13.7			12.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	17.5	8.9	7.2	5.2	20.9	8.1	7.9
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	12.0	35.0	15.0	22.0	12.0	35.0	10.0	22.0
Max Q Clear Time (g_c+I1), s	4.4	7.5	4.7	2.5	2.5	9.2	4.0	3.2
Green Ext Time (p_c), s	0.0	4.7	0.1	0.1	0.0	6.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	13.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	2	4	110	4	87	1	444	40	51	629	5
Future Volume (veh/h)	15	2	4	110	4	87	1	444	40	51	629	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	2	0	124	4	7	1	499	39	57	707	6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	54	13	11	250	71	125	5	1033	81	152	1417	12
Arrive On Green	0.03	0.01	0.00	0.14	0.12	0.12	0.00	0.31	0.31	0.09	0.39	0.39
Sat Flow, veh/h	1781	1870	1585	1781	610	1068	1781	3340	260	1781	3610	31
Grp Volume(v), veh/h	17	2	0	124	0	11	1	265	273	57	348	365
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1678	1781	1777	1823	1781	1777	1864
Q Serve(g_s), s	0.3	0.0	0.0	2.2	0.0	0.2	0.0	4.2	4.2	1.1	5.2	5.2
Cycle Q Clear(g_c), s	0.3	0.0	0.0	2.2	0.0	0.2	0.0	4.2	4.2	1.1	5.2	5.2
Prop In Lane	1.00		1.00	1.00		0.64	1.00		0.14	1.00		0.02
Lane Grp Cap(c), veh/h	54	13	11	250	0	196	5	550	564	152	698	732
V/C Ratio(X)	0.31	0.16	0.00	0.50	0.00	0.06	0.20	0.48	0.48	0.38	0.50	0.50
Avail Cap(c_a), veh/h	1021	1125	954	1021	0	1010	1021	1782	1828	1021	1782	1869
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	17.2	0.0	13.9	0.0	13.7	17.4	9.8	9.8	15.1	8.0	8.0
Incr Delay (d2), s/veh	1.2	8.0	0.0	0.6	0.0	0.2	6.8	0.9	0.9	0.6	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.8	0.0	0.1	0.0	1.1	1.2	0.3	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.8	25.2	0.0	14.4	0.0	13.9	24.1	10.7	10.7	15.7	8.8	8.8
LnGrp LOS	B	C	A	B	A	B	C	B	B	B	A	A
Approach Vol, veh/h		19			135			539			770	
Approach Delay, s/veh		18.6			14.4			10.7			9.3	
Approach LOS		B			B			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	15.8	8.4	4.2	3.6	18.7	4.6	8.1
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	20.0	35.0	20.0	21.0	20.0	35.0	20.0	21.0
Max Q Clear Time (g_c+I1), s	3.1	6.2	4.2	2.0	2.0	7.2	2.3	2.2
Green Ext Time (p_c), s	0.0	4.5	0.1	0.0	0.0	6.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	10.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	9	500	62	21	802
Future Vol, veh/h	16	9	500	62	21	802
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	10	581	72	24	933

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1132	327	0	0	653	0
Stage 1	617	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	197	669	-	-	930	-
Stage 1	501	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	192	669	-	-	930	-
Mov Cap-2 Maneuver	192	-	-	-	-	-
Stage 1	488	-	-	-	-	-
Stage 2	565	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.3	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	192	669	930	-
HCM Lane V/C Ratio	-	-	0.097	0.016	0.026	-
HCM Control Delay (s)	-	-	25.8	10.5	9	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	0.1	-

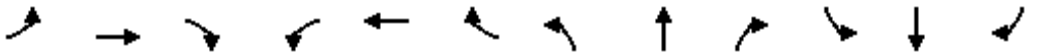
Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	12	493	4	3	618
Future Vol, veh/h	1	12	493	4	3	618
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1	14	580	5	4	727

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1318	583	0	0	585	0
Stage 1	583	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	173	510	-	-	985	-
Stage 1	556	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	172	510	-	-	985	-
Mov Cap-2 Maneuver	172	-	-	-	-	-
Stage 1	552	-	-	-	-	-
Stage 2	473	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	443	985	-
HCM Lane V/C Ratio	-	-	0.035	0.004	-
HCM Control Delay (s)	-	-	13.4	8.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	4	81	13	11	26	63	384	9	2	492	125
Future Volume (veh/h)	87	4	81	13	11	26	63	384	9	2	492	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	106	5	0	16	13	0	77	468	6	2	600	106
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	185	0	281	185	0	117	1172	993	5	1054	893
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.00	0.07	0.63	0.63	0.00	0.56	0.56
Sat Flow, veh/h	1401	1870	0	1411	1870	0	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	106	5	0	16	13	0	77	468	6	2	600	106
Grp Sat Flow(s),veh/h/ln	1401	1870	0	1411	1870	0	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	3.7	0.1	0.0	0.5	0.3	0.0	2.1	6.2	0.1	0.1	10.2	1.6
Cycle Q Clear(g_c), s	4.0	0.1	0.0	0.6	0.3	0.0	2.1	6.2	0.1	0.1	10.2	1.6
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	275	185	0	281	185	0	117	1172	993	5	1054	893
V/C Ratio(X)	0.39	0.03	0.00	0.06	0.07	0.00	0.66	0.40	0.01	0.41	0.57	0.12
Avail Cap(c_a), veh/h	1067	1242	0	1079	1242	0	197	1172	993	179	1054	893
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	20.2	0.0	20.5	20.3	0.0	22.7	4.6	3.5	24.7	7.0	5.1
Incr Delay (d2), s/veh	0.9	0.1	0.0	0.1	0.2	0.0	6.1	1.0	0.0	47.0	2.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	0.2	0.1	0.0	1.0	1.3	0.0	0.1	2.8	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.0	20.3	0.0	20.6	20.5	0.0	28.8	5.6	3.5	71.7	9.2	5.3
LnGrp LOS	C	C	A	C	C	A	C	A	A	E	A	A
Approach Vol, veh/h		111			29			551			708	
Approach Delay, s/veh		22.9			20.5			8.8			8.8	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	35.6		9.4	7.8	32.5		9.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	28.5		33.0	5.5	28.0		33.0				
Max Q Clear Time (g_c+I1), s	2.1	8.2		6.0	4.1	12.2		2.6				
Green Ext Time (p_c), s	0.0	2.6		0.3	0.0	3.5		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		10.2	
HCM 6th LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	27	5	58	5	389	9	14	556	5
Future Volume (veh/h)	5	5	5	27	5	58	5	389	9	14	556	5
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	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	6	6	6	31	6	0	6	452	5	16	647	6
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	69	33	33	89	17	0	20	921	761	50	882	8
Arrive On Green	0.04	0.04	0.04	0.06	0.06	0.00	0.01	0.50	0.50	0.03	0.48	0.48
Sat Flow, veh/h	1767	848	848	1492	289	0	1767	1856	1535	1767	1835	17
Grp Volume(v), veh/h	6	0	12	37	0	0	6	452	5	16	0	653
Grp Sat Flow(s),veh/h/ln	1767	0	1697	1781	0	0	1767	1856	1535	1767	0	1852
Q Serve(g_s), s	0.2	0.0	0.3	0.9	0.0	0.0	0.2	7.5	0.1	0.4	0.0	13.1
Cycle Q Clear(g_c), s	0.2	0.0	0.3	0.9	0.0	0.0	0.2	7.5	0.1	0.4	0.0	13.1
Prop In Lane	1.00		0.50	0.84		0.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	69	0	66	106	0	0	20	921	761	50	0	890
V/C Ratio(X)	0.09	0.00	0.18	0.35	0.00	0.00	0.30	0.49	0.01	0.32	0.00	0.73
Avail Cap(c_a), veh/h	762	0	731	767	0	0	381	1599	1323	571	0	1597
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	0.0	21.6	21.0	0.0	0.0	22.8	7.8	5.9	22.1	0.0	9.7
Incr Delay (d2), s/veh	0.2	0.0	0.5	0.7	0.0	0.0	3.1	0.7	0.0	1.4	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.4	0.0	0.0	0.1	1.9	0.0	0.2	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.7	0.0	22.1	21.7	0.0	0.0	25.9	8.5	5.9	23.5	0.0	11.7
LnGrp LOS	C	A	C	C	A	A	C	A	A	C	A	B
Approach Vol, veh/h		18			37			463			669	
Approach Delay, s/veh		21.9			21.7			8.7			12.0	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.8	28.0		6.8	5.5	27.3		6.8
Change Period (Y+Rc), s	3.5	5.0		5.0	5.0	5.0		4.0
Max Green Setting (Gmax), s	15.0	40.0		20.0	10.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	2.4	9.5		2.3	2.2	15.1		2.9
Green Ext Time (p_c), s	0.0	4.8		0.0	0.0	7.2		0.1

Intersection Summary	
HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	42	32	371	12	11	577
Future Vol, veh/h	42	32	371	12	11	577
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	48	36	422	14	13	656

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	783	218	0	0	436	0
Stage 1	429	-	-	-	-	-
Stage 2	354	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	329	783	-	-	1113	-
Stage 1	621	-	-	-	-	-
Stage 2	678	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	325	783	-	-	1113	-
Mov Cap-2 Maneuver	325	-	-	-	-	-
Stage 1	614	-	-	-	-	-
Stage 2	678	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.2	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	435	1113	-
HCM Lane V/C Ratio	-	-	0.193	0.011	-
HCM Control Delay (s)	-	-	15.2	8.3	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	0	16	3	37	14	344	3	16	553	50
Future Vol, veh/h	2	0	0	16	3	37	14	344	3	16	553	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	90	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	2	0	0	19	3	43	16	400	3	19	643	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	915	1116	643	1144	1173	202	701	0	0	403	0	0
Stage 1	681	681	-	434	434	-	-	-	-	-	-	-
Stage 2	234	435	-	710	739	-	-	-	-	-	-	-
Critical Hdwy	7.345	6.545	6.245	7.345	6.545	6.945	4.145	-	-	4.145	-	-
Critical Hdwy Stg 1	6.145	5.545	-	6.545	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.545	5.545	-	6.145	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.5285	4.0285	3.3285	3.5285	4.0285	3.3285	2.2285	-	-	2.2285	-	-
Pot Cap-1 Maneuver	239	206	470	164	190	803	888	-	-	1148	-	-
Stage 1	437	447	-	569	578	-	-	-	-	-	-	-
Stage 2	746	578	-	421	421	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	217	199	470	160	183	803	888	-	-	1148	-	-
Mov Cap-2 Maneuver	217	199	-	160	183	-	-	-	-	-	-	-
Stage 1	429	439	-	559	568	-	-	-	-	-	-	-
Stage 2	689	568	-	414	414	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.8	17.8	0.4	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	888	-	-	217	345	1148	-	-
HCM Lane V/C Ratio	0.018	-	-	0.011	0.189	0.016	-	-
HCM Control Delay (s)	9.1	-	-	21.8	17.8	8.2	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.7	0	-	-

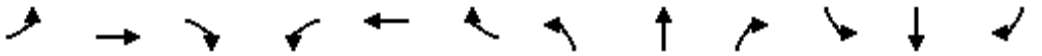
Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	38	39	229	359	100
Future Vol, veh/h	29	38	39	229	359	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	160	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	32	42	43	254	399	111

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	795	455	510	0	-	0
Stage 1	455	-	-	-	-	-
Stage 2	340	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	355	603	1050	-	-	-
Stage 1	637	-	-	-	-	-
Stage 2	719	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	340	603	1050	-	-	-
Mov Cap-2 Maneuver	340	-	-	-	-	-
Stage 1	611	-	-	-	-	-
Stage 2	719	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.5	1.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1050	-	452	-	-
HCM Lane V/C Ratio	0.041	-	0.165	-	-
HCM Control Delay (s)	8.6	-	14.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1	0	523	1	349	0	281	563	308	259	5
Future Volume (veh/h)	5	1	0	523	1	349	0	281	563	308	259	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	5	1	-1	563	0	0	0	302	0	307	312	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	254	43	0	1018	0		0	384		391	403	6
Arrive On Green	0.29	0.29	0.00	0.29	0.00	0.00	0.00	0.22	0.00	0.23	0.23	0.23
Sat Flow, veh/h	1365	273	-273	2655	0	1485	0	1752	1485	1668	1719	28
Grp Volume(v), veh/h	0	0	0	563	0	0	0	302	0	307	0	317
Grp Sat Flow(s),veh/h/ln	0	0	0	1328	0	1485	0	1752	1485	1668	0	1747
Q Serve(g_s), s	0.0	0.0	0.0	10.8	0.0	0.0	0.0	9.2	0.0	9.7	0.0	9.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	10.8	0.0	0.0	0.0	9.2	0.0	9.7	0.0	9.6
Prop In Lane	1.00		-0.20	1.00		1.00	0.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	0	0	0	1018	0		0	384		391	0	410
V/C Ratio(X)	0.00	0.00	0.00	0.55	0.00		0.00	0.79		0.78	0.00	0.77
Avail Cap(c_a), veh/h	0	0	0	1921	0		0	1074		1035	0	1083
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	18.2	0.0	0.0	0.0	20.8	0.0	20.3	0.0	20.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.0	0.0	2.7	0.0	1.3	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	2.9	0.0	0.0	0.0	3.5	0.0	3.4	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	18.9	0.0	0.0	0.0	23.5	0.0	21.6	0.0	21.4
LnGrp LOS	A	A	A	B	A		A	C		C	A	C
Approach Vol, veh/h		0			563	A		302	A		624	
Approach Delay, s/veh		0.0			18.9			23.5			21.5	
Approach LOS					B			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		18.2		20.8		17.4		20.8				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		35.0		35.4		34.6		19.0				
Max Q Clear Time (g_c+I1), s		11.7		12.8		11.2		0.0				
Green Ext Time (p_c), s		1.5		3.4		1.3		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		20.9
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	742	8	5	760	176	25	27	5	128	12	88
Future Volume (veh/h)	122	742	8	5	760	176	25	27	5	128	12	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	136	824	7	6	844	188	28	30	4	142	13	24
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	169	1842	16	13	1190	265	215	190	20	425	113	209
Arrive On Green	0.10	0.55	0.55	0.01	0.45	0.45	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1640	3324	28	1640	2652	591	509	913	98	1266	542	1000
Grp Volume(v), veh/h	136	406	425	6	521	511	62	0	0	142	0	37
Grp Sat Flow(s),veh/h/ln	1640	1636	1716	1640	1636	1607	1519	0	0	1266	0	1542
Q Serve(g_s), s	3.9	7.0	7.0	0.2	12.3	12.3	0.0	0.0	0.0	2.9	0.0	0.9
Cycle Q Clear(g_c), s	3.9	7.0	7.0	0.2	12.3	12.3	1.4	0.0	0.0	4.3	0.0	0.9
Prop In Lane	1.00		0.02	1.00		0.37	0.45		0.06	1.00		0.65
Lane Grp Cap(c), veh/h	169	907	951	13	734	721	426	0	0	425	0	322
V/C Ratio(X)	0.80	0.45	0.45	0.46	0.71	0.71	0.15	0.00	0.00	0.33	0.00	0.12
Avail Cap(c_a), veh/h	701	1364	1431	855	1364	1340	884	0	0	821	0	804
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.0	6.3	6.3	23.7	10.7	10.7	15.6	0.0	0.0	16.6	0.0	15.4
Incr Delay (d2), s/veh	3.4	0.3	0.3	8.9	1.3	1.3	0.2	0.0	0.0	0.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.5	1.5	0.1	3.3	3.3	0.5	0.0	0.0	1.2	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.4	6.7	6.7	32.6	12.0	12.0	15.7	0.0	0.0	17.1	0.0	15.6
LnGrp LOS	C	A	A	C	B	B	B	A	A	B	A	B
Approach Vol, veh/h		967			1038			62			179	
Approach Delay, s/veh		9.2			12.1			15.7			16.8	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.4	30.6		14.0	8.4	25.5		14.0				
Change Period (Y+Rc), s	3.0	4.0		4.0	3.5	4.0		4.0				
Max Green Setting (Gmax), s	25.0	40.0		25.0	20.5	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.2	9.0		6.3	5.9	14.3		3.4				
Green Ext Time (p_c), s	0.0	5.5		0.6	0.0	7.2		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	835	8	15	818	257	14	3	19	263	8	132
Future Volume (veh/h)	100	835	8	15	818	257	14	3	19	263	8	132
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		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	114	949	9	17	930	0	16	3	16	305	0	115
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	179	1595	15	48	1311		38	7	38	445	0	198
Arrive On Green	0.11	0.48	0.48	0.03	0.40	0.00	0.05	0.05	0.05	0.13	0.00	0.13
Sat Flow, veh/h	1654	3348	32	1654	3300	1472	719	135	719	3309	0	1472
Grp Volume(v), veh/h	114	468	490	17	930	0	35	0	0	305	0	115
Grp Sat Flow(s),veh/h/ln	1654	1650	1730	1654	1650	1472	1572	0	0	1654	0	1472
Q Serve(g_s), s	3.4	10.8	10.8	0.5	12.3	0.0	1.1	0.0	0.0	4.6	0.0	3.8
Cycle Q Clear(g_c), s	3.4	10.8	10.8	0.5	12.3	0.0	1.1	0.0	0.0	4.6	0.0	3.8
Prop In Lane	1.00		0.02	1.00		1.00	0.46		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	179	786	824	48	1311		84	0	0	445	0	198
V/C Ratio(X)	0.64	0.60	0.60	0.35	0.71		0.42	0.00	0.00	0.69	0.00	0.58
Avail Cap(c_a), veh/h	634	1107	1160	475	2213		452	0	0	761	0	338
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.3	10.0	10.0	24.8	13.2	0.0	23.9	0.0	0.0	21.5	0.0	21.2
Incr Delay (d2), s/veh	1.4	0.7	0.7	1.6	0.7	0.0	1.2	0.0	0.0	0.7	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.9	3.1	0.2	3.6	0.0	0.4	0.0	0.0	1.6	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	10.7	10.7	26.4	13.9	0.0	25.1	0.0	0.0	22.2	0.0	22.2
LnGrp LOS	C	B	B	C	B		C	A	A	C	A	C
Approach Vol, veh/h		1072			947	A		35			420	
Approach Delay, s/veh		12.1			14.1			25.1			22.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	25.7		6.3	5.0	29.9		11.0				
Change Period (Y+Rc), s	3.5	5.0		3.5	3.5	5.0		4.0				
Max Green Setting (Gmax), s	20.0	35.0		15.0	15.0	35.0		12.0				
Max Q Clear Time (g_c+I1), s	5.4	14.3		3.1	2.5	12.8		6.6				
Green Ext Time (p_c), s	0.1	6.3		0.0	0.0	6.0		0.4				

Intersection Summary	
HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	1053	16	52	957	124	25	2	82	195	2	108
Future Volume (veh/h)	48	1053	16	52	957	124	25	2	82	195	2	108
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	55	1197	17	59	1088	119	28	2	46	222	2	76
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	115	1562	22	120	1412	154	355	14	331	383	9	336
Arrive On Green	0.07	0.47	0.47	0.07	0.48	0.48	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1640	3301	47	1640	2965	324	1215	61	1408	1250	38	1426
Grp Volume(v), veh/h	55	593	621	59	600	607	28	0	48	222	0	78
Grp Sat Flow(s),veh/h/ln	1640	1636	1712	1640	1636	1653	1215	0	1469	1250	0	1463
Q Serve(g_s), s	1.9	17.9	17.9	2.1	18.1	18.1	1.1	0.0	1.5	10.2	0.0	2.6
Cycle Q Clear(g_c), s	1.9	17.9	17.9	2.1	18.1	18.1	3.7	0.0	1.5	11.7	0.0	2.6
Prop In Lane	1.00		0.03	1.00		0.20	1.00		0.96	1.00		0.97
Lane Grp Cap(c), veh/h	115	774	810	120	779	787	355	0	346	383	0	345
V/C Ratio(X)	0.48	0.77	0.77	0.49	0.77	0.77	0.08	0.00	0.14	0.58	0.00	0.23
Avail Cap(c_a), veh/h	633	1153	1206	633	1153	1165	558	0	591	759	0	786
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	13.0	13.0	26.6	12.9	12.9	19.9	0.0	18.0	22.6	0.0	18.4
Incr Delay (d2), s/veh	1.1	1.8	1.7	1.2	1.9	1.9	0.0	0.0	0.1	0.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.4	5.6	0.8	5.5	5.5	0.3	0.0	0.5	2.7	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.8	14.8	14.7	27.7	14.8	14.8	19.9	0.0	18.1	23.2	0.0	18.5
LnGrp LOS	C	B	B	C	B	B	B	A	B	C	A	B
Approach Vol, veh/h		1269			1266			76			300	
Approach Delay, s/veh		15.3			15.4			18.8			22.0	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	33.2		18.0	8.2	33.4		18.0				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	23.0	42.0		32.0	23.0	42.0		24.0				
Max Q Clear Time (g_c+I1), s	4.1	19.9		13.7	3.9	20.1		5.7				
Green Ext Time (p_c), s	0.0	8.3		0.3	0.0	8.3		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1131	199	0	903	0	0	0	0	616	0	230
Future Volume (veh/h)	0	1131	199	0	903	0	0	0	0	616	0	230
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1811	0	1826	0				1826	0	1826
Adj Flow Rate, veh/h	0	1203	0	0	961	0				655	0	-23
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	5	6	0	5	0				5	0	5
Cap, veh/h	0	1479		0	1479	0				851	0	390
Arrive On Green	0.00	0.43	0.00	0.00	0.43	0.00				0.25	0.00	0.00
Sat Flow, veh/h	0	3561	1535	0	3652	0				3374	0	1547
Grp Volume(v), veh/h	0	1203	0	0	961	0				655	0	-23
Grp Sat Flow(s),veh/h/ln	0	1735	1535	0	1735	0				1687	0	1547
Q Serve(g_s), s	0.0	10.4	0.0	0.0	7.5	0.0				6.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.4	0.0	0.0	7.5	0.0				6.2	0.0	0.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1479		0	1479	0				851	0	390
V/C Ratio(X)	0.00	0.81		0.00	0.65	0.00				0.77	0.00	-0.06
Avail Cap(c_a), veh/h	0	5069		0	5069	0				4929	0	2261
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	8.6	0.0	0.0	7.8	0.0				11.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.2	0.0				0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.0	0.0	0.0	1.6	0.0				1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.0	0.0	0.0	8.0	0.0				12.4	0.0	0.0
LnGrp LOS	A	A		A	A	A				B	A	A
Approach Vol, veh/h		1203	A		961						632	
Approach Delay, s/veh		9.0			8.0						12.9	
Approach LOS		A			A						B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		20.6		13.6		20.6
Change Period (Y+Rc), s		* 6		* 5		* 6
Max Green Setting (Gmax), s		* 50		* 50		* 50
Max Q Clear Time (g_c+I1), s		12.4		8.2		9.5
Green Ext Time (p_c), s		2.2		0.5		1.8

Intersection Summary		
HCM 6th Ctrl Delay		9.5
HCM 6th LOS		A

Notes

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

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1343	0	0	1093	187	400
Future Volume (veh/h)	1343	0	0	1093	187	400
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1737	0	0	1737	1737	1737
Adj Flow Rate, veh/h	1444	0	0	1175	220	111
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	11	0	0	11	11	11
Cap, veh/h	1788	0	0	1788	460	205
Arrive On Green	0.54	0.00	0.00	0.54	0.14	0.14
Sat Flow, veh/h	3474	0	0	3474	3309	1472
Grp Volume(v), veh/h	1444	0	0	1175	220	111
Grp Sat Flow(s),veh/h/ln	1650	0	0	1650	1654	1472
Q Serve(g_s), s	12.3	0.0	0.0	8.7	2.1	2.4
Cycle Q Clear(g_c), s	12.3	0.0	0.0	8.7	2.1	2.4
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1788	0	0	1788	460	205
V/C Ratio(X)	0.81	0.00	0.00	0.66	0.48	0.54
Avail Cap(c_a), veh/h	4787	0	0	4787	2400	1068
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.4	0.0	0.0	5.6	13.7	13.8
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	1.0	0.6	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.8	0.0	0.0	5.8	14.0	14.7
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h	1444			1175	331	
Approach Delay, s/veh	6.8			5.8	14.2	
Approach LOS	A			A	B	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	24.7				24.7	9.8
Change Period (Y+Rc), s	* 6				* 6	5.0
Max Green Setting (Gmax), s	* 50				* 50	25.0
Max Q Clear Time (g_c+I1), s	14.3				10.7	4.4
Green Ext Time (p_c), s	4.4				3.3	0.2

Intersection Summary	
HCM 6th Ctrl Delay	7.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	650	818	275	75	815	90	402	185	57	114	79	673
Future Volume (veh/h)	650	818	275	75	815	90	402	185	57	114	79	673
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	691	870	92	80	867	96	428	197	34	102	110	413
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	750	1973	559	102	1171	355	610	274	47	291	305	518
Arrive On Green	0.23	0.42	0.42	0.06	0.25	0.25	0.19	0.19	0.19	0.18	0.18	0.18
Sat Flow, veh/h	3209	4742	1343	1654	4742	1438	3209	1439	248	1654	1737	2944
Grp Volume(v), veh/h	691	870	92	80	867	96	428	0	231	102	110	413
Grp Sat Flow(s),veh/h/ln	1605	1581	1343	1654	1581	1438	1605	0	1687	1654	1737	1472
Q Serve(g_s), s	21.8	13.6	4.4	4.9	17.5	5.6	12.9	0.0	13.3	5.6	5.8	13.9
Cycle Q Clear(g_c), s	21.8	13.6	4.4	4.9	17.5	5.6	12.9	0.0	13.3	5.6	5.8	13.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	750	1973	559	102	1171	355	610	0	321	291	305	518
V/C Ratio(X)	0.92	0.44	0.16	0.79	0.74	0.27	0.70	0.00	0.72	0.35	0.36	0.80
Avail Cap(c_a), veh/h	777	1973	559	399	1830	555	929	0	488	479	503	852
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	21.6	19.0	48.0	36.0	31.5	39.2	0.0	39.4	37.5	37.6	40.9
Incr Delay (d2), s/veh	16.0	0.2	0.1	12.4	0.9	0.4	1.5	0.0	3.0	0.7	0.7	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	4.8	1.4	2.3	6.6	1.9	5.2	0.0	5.8	2.3	2.5	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	21.8	19.1	60.3	36.9	31.9	40.7	0.0	42.4	38.2	38.3	43.8
LnGrp LOS	D	C	B	E	D	C	D	A	D	D	D	D
Approach Vol, veh/h		1653			1043			659			625	
Approach Delay, s/veh		35.4			38.2			41.3			41.9	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	30.4	47.9		21.9	27.9	30.4		23.4
Change Period (Y+Rc), s	4.0	4.8		3.7	3.7	4.8		3.7
Max Green Setting (Gmax), s	25.6	40.0		30.0	25.1	40.0		30.0
Max Q Clear Time (g_c+I1), s	16.9	15.6		15.9	23.8	19.5		15.3
Green Ext Time (p_c), s	0.1	6.5		2.3	0.4	6.1		2.8

Intersection Summary	
HCM 6th Ctrl Delay	38.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	100	799	49	17	724	43	11	2	23	9	3	134
Future Vol, veh/h	100	799	49	17	724	43	11	2	23	9	3	134
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	240	-	-	120	-	-	-	-	25	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	11	11	11	11	11	11	11	11	11	11	11	11
Mvmt Flow	102	815	50	17	739	44	11	2	23	9	3	137

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	783	0	0	865	0	0	1449	1861	433	1408	1864	392
Stage 1	-	-	-	-	-	-	1044	1044	-	795	795	-
Stage 2	-	-	-	-	-	-	405	817	-	613	1069	-
Critical Hdwy	4.32	-	-	4.32	-	-	7.72	6.72	7.12	7.72	6.72	7.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Follow-up Hdwy	2.31	-	-	2.31	-	-	3.61	4.11	3.41	3.61	4.11	3.41
Pot Cap-1 Maneuver	775	-	-	719	-	-	85	66	547	91	65	582
Stage 1	-	-	-	-	-	-	229	285	-	328	377	-
Stage 2	-	-	-	-	-	-	570	368	-	425	277	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	775	-	-	719	-	-	55	56	547	75	55	582
Mov Cap-2 Maneuver	-	-	-	-	-	-	55	56	-	75	55	-
Stage 1	-	-	-	-	-	-	199	247	-	285	368	-
Stage 2	-	-	-	-	-	-	422	359	-	350	240	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.2	40.1	18.2
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	55	547	775	-	-	719	-	-	75	481
HCM Lane V/C Ratio	0.241	0.043	0.132	-	-	0.024	-	-	0.122	0.291
HCM Control Delay (s)	90.1	11.9	10.3	-	-	10.1	-	-	59.6	15.5
HCM Lane LOS	F	B	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	0.8	0.1	0.5	-	-	0.1	-	-	0.4	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	505	26	12	546	194	85	83	18	242	35	101
Future Volume (veh/h)	224	505	26	12	546	194	85	83	18	242	35	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.96	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	249	561	25	13	607	122	94	92	8	297	0	-55
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	364	1223	54	27	940	606	177	169	15	461	0	205
Arrive On Green	0.11	0.38	0.38	0.02	0.28	0.28	0.11	0.11	0.11	0.14	0.00	0.00
Sat Flow, veh/h	3209	3205	143	1654	3300	1408	1654	1575	137	3309	0	1472
Grp Volume(v), veh/h	249	288	298	13	607	122	94	0	100	297	0	-55
Grp Sat Flow(s),veh/h/ln	1605	1650	1698	1654	1650	1408	1654	0	1712	1654	0	1472
Q Serve(g_s), s	3.8	6.6	6.7	0.4	8.2	2.8	2.7	0.0	2.8	4.3	0.0	0.0
Cycle Q Clear(g_c), s	3.8	6.6	6.7	0.4	8.2	2.8	2.7	0.0	2.8	4.3	0.0	0.0
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	364	630	648	27	940	606	177	0	183	461	0	205
V/C Ratio(X)	0.68	0.46	0.46	0.48	0.65	0.20	0.53	0.00	0.55	0.64	0.00	-0.27
Avail Cap(c_a), veh/h	475	1092	1124	245	2151	1123	1078	0	1116	2157	0	960
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.6	11.7	11.7	24.7	15.9	9.2	21.4	0.0	21.4	20.6	0.0	0.0
Incr Delay (d2), s/veh	2.7	0.5	0.5	12.3	0.8	0.2	2.5	0.0	2.5	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.8	1.9	0.2	2.5	0.9	1.1	0.0	1.1	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	12.2	12.2	37.0	16.6	9.4	23.9	0.0	24.0	22.1	0.0	0.0
LnGrp LOS	C	B	B	D	B	A	C	A	C	C	A	A
Approach Vol, veh/h		835			742			194			242	
Approach Delay, s/veh		15.8			15.8			23.9			27.1	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	18.9		11.6	5.3	23.8		9.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	33.0		33.0	7.5	33.5		33.0				
Max Q Clear Time (g_c+I1), s	5.8	10.2		6.3	2.4	8.7		4.8				
Green Ext Time (p_c), s	0.1	4.3		1.0	0.0	3.1		0.8				

Intersection Summary			
HCM 6th Ctrl Delay		17.9	
HCM 6th LOS		B	

Notes

User approved volume balancing among the lanes for turning movement.

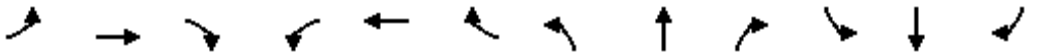
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	764	749	0	0	3
Future Vol, veh/h	1	764	749	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	90	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	13	13	13	13	13
Mvmt Flow	1	830	814	0	0	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	814	0	-	0	1231	407
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	417	-
Critical Hdwy	4.36	-	-	-	7.06	7.16
Critical Hdwy Stg 1	-	-	-	-	6.06	-
Critical Hdwy Stg 2	-	-	-	-	6.06	-
Follow-up Hdwy	2.33	-	-	-	3.63	3.43
Pot Cap-1 Maneuver	742	-	-	-	155	564
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	602	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	742	-	-	-	155	564
Mov Cap-2 Maneuver	-	-	-	-	155	-
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	602	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	742	-	-	-	564
HCM Lane V/C Ratio	0.001	-	-	-	0.006
HCM Control Delay (s)	9.9	-	-	-	11.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	674	17	0	681	4	13	1	0	2	1	55
Future Volume (veh/h)	73	674	17	0	681	4	13	1	0	2	1	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663
Adj Flow Rate, veh/h	78	725	0	0	732	1	14	1	-3	2	1	-18
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	16	16	16	16	16	16	16	16	16	16	16	16
Cap, veh/h	630	1762		357	1762	786	756	174	0	0	0	7
Arrive On Green	0.56	0.56	0.00	0.00	0.56	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	643	3159	1409	648	3159	1409	1833	131	-393	0	0	1409
Grp Volume(v), veh/h	78	725	0	0	732	1	0	0	0	3	0	-18
Grp Sat Flow(s),veh/h/ln	643	1580	1409	648	1580	1409	0	0	0	0	0	1409
Q Serve(g_s), s	1.6	2.7	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.3	2.7	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.17		-0.25	0.67		1.00
Lane Grp Cap(c), veh/h	630	1762		357	1762	786	0	0	0	0	0	7
V/C Ratio(X)	0.12	0.41		0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	-2.57
Avail Cap(c_a), veh/h	1101	4076		832	4076	1818	0	0	0	0	0	2797
HCM Platoon Ratio	1.00	1.00	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	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.8	2.6	0.0	0.0	2.6	2.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.9	2.7	0.0	0.0	2.7	2.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS	A	A		A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		803	A		733			0			-15	
Approach Delay, s/veh		2.8			2.7			0.0			0.0	
Approach LOS		A			A						A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		4.4		15.7		4.4		15.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		40.0		26.0		40.0		26.0				
Max Q Clear Time (g_c+I1), s		0.0		6.3		2.0		4.7				
Green Ext Time (p_c), s		0.0		5.1		0.0		4.5				

Intersection Summary		
HCM 6th Ctrl Delay		2.8
HCM 6th LOS		A

Notes

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

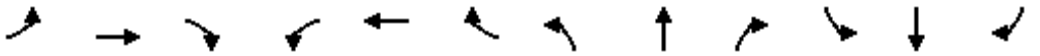
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	65	13	0	54	4	0
Future Vol, veh/h	65	13	0	54	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	12	12	12	12	12	12
Mvmt Flow	81	16	0	68	5	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	97	0	157	89
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	68	-
Critical Hdwy	-	-	4.22	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.308	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	1436	-	811	942
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	930	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1436	-	811	942
Mov Cap-2 Maneuver	-	-	-	-	811	-
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	930	-

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

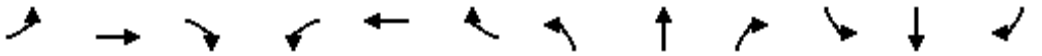
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	811	-	-	1436	-
HCM Lane V/C Ratio	0.006	-	-	-	-
HCM Control Delay (s)	9.5	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1053	473	0	0	0	0	0	0	633	166	0
Future Volume (vph)	0	1053	473	0	0	0	0	0	0	633	166	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		11.0								4.0	4.0	
Lane Util. Factor		0.95								0.97	1.00	
Frpb, ped/bikes		1.00								1.00	1.00	
Flpb, ped/bikes		1.00								1.00	1.00	
Frt		0.95								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3362								3433	1863	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3362								3433	1863	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1183	531	0	0	0	0	0	0	711	187	0
RTOR Reduction (vph)	0	67	0	0	0	0	0	0	0	95	0	0
Lane Group Flow (vph)	0	1647	0	0	0	0	0	0	0	616	187	0
Confl. Bikes (#/hr)			1									2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA								Split	NA	
Protected Phases		2								1	1	
Permitted Phases												
Actuated Green, G (s)		38.0								17.0	17.0	
Effective Green, g (s)		38.0								17.0	17.0	
Actuated g/C Ratio		0.54								0.24	0.24	
Clearance Time (s)		11.0								4.0	4.0	
Vehicle Extension (s)		2.0								2.0	2.0	
Lane Grp Cap (vph)		1825								833	452	
v/s Ratio Prot		c0.49								c0.18	0.10	
v/s Ratio Perm												
v/c Ratio		0.90								0.74	0.41	
Uniform Delay, d1		14.3								24.5	22.3	
Progression Factor		1.00								1.40	1.34	
Incremental Delay, d2		7.7								1.9	0.1	
Delay (s)		22.1								36.3	29.9	
Level of Service		C								D	C	
Approach Delay (s)		22.1			0.0			0.0			35.0	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

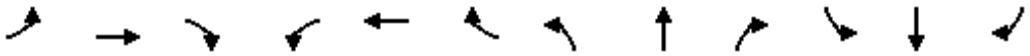
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	175	937	0	0	0	0	0	624	398
Future Volume (vph)	0	0	0	175	937	0	0	0	0	0	624	398
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0	5.0						5.0	5.0
Lane Util. Factor				1.00	0.95						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.99
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1752	3505						3505	1545
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1752	3505						3505	1545
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	203	1090	0	0	0	0	0	726	463
RTOR Reduction (vph)	0	0	0	12	0	0	0	0	0	0	0	96
Lane Group Flow (vph)	0	0	0	191	1090	0	0	0	0	0	726	367
Confl. Peds. (#/hr)												2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						5	
Permitted Phases				6								5
Actuated Green, G (s)				44.0	44.0						16.0	16.0
Effective Green, g (s)				44.0	44.0						16.0	16.0
Actuated g/C Ratio				0.63	0.63						0.23	0.23
Clearance Time (s)				5.0	5.0						5.0	5.0
Vehicle Extension (s)				2.0	2.0						2.0	2.0
Lane Grp Cap (vph)				1101	2203						801	353
v/s Ratio Prot					c0.31						0.21	
v/s Ratio Perm				0.11								c0.24
v/c Ratio				0.17	0.49						0.91	1.04
Uniform Delay, d1				5.4	7.0						26.3	27.0
Progression Factor				0.46	0.48						1.00	1.00
Incremental Delay, d2				0.3	0.7						15.8	58.2
Delay (s)				2.8	4.1						42.1	85.2
Level of Service				A	A						D	F
Approach Delay (s)		0.0			3.9			0.0			58.9	
Approach LOS		A			A			A			E	

Intersection Summary			
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		

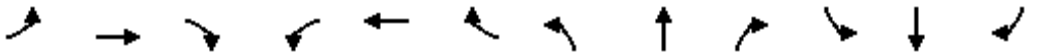
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	772	757	340	374	0	0	0	0
Future Volume (vph)	0	0	0	0	772	757	340	374	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					11.0	11.0	4.0	4.0				
Lane Util. Factor					0.95	1.00	0.97	1.00				
Frpb, ped/bikes					1.00	0.99	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					3539	1562	3433	1863				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					3539	1562	3433	1863				
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)	0	0	0	0	887	870	391	430	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	48	186	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	887	822	206	430	0	0	0	0
Confl. Bikes (#/hr)						3						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type					NA	Perm	Split	NA				
Protected Phases					2		1	1				
Permitted Phases						2						
Actuated Green, G (s)					38.0	38.0	17.0	17.0				
Effective Green, g (s)					38.0	38.0	17.0	17.0				
Actuated g/C Ratio					0.54	0.54	0.24	0.24				
Clearance Time (s)					11.0	11.0	4.0	4.0				
Vehicle Extension (s)					2.0	2.0	2.0	2.0				
Lane Grp Cap (vph)					1921	847	833	452				
v/s Ratio Prot					0.25		0.06	c0.23				
v/s Ratio Perm						c0.53						
v/c Ratio					0.46	0.97	0.25	0.95				
Uniform Delay, d1					9.8	15.5	21.3	26.1				
Progression Factor					1.00	1.00	0.49	0.65				
Incremental Delay, d2					0.8	24.6	0.1	28.8				
Delay (s)					10.6	40.1	10.5	45.8				
Level of Service					B	D	B	D				
Approach Delay (s)		0.0			25.2			29.0			0.0	
Approach LOS		A			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	366	1320	0	0	0	0	0	348	170	0	0	0
Future Volume (vph)	366	1320	0	0	0	0	0	348	170	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						5.0	5.0			
Lane Util. Factor	1.00	0.95						0.95	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1736	3471						3471	1553			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1736	3471						3471	1553			
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	426	1535	0	0	0	0	0	405	198	0	0	0
RTOR Reduction (vph)	55	0	0	0	0	0	0	0	102	0	0	0
Lane Group Flow (vph)	371	1535	0	0	0	0	0	405	96	0	0	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA						NA	Perm			
Protected Phases	6	6						5				
Permitted Phases									5			
Actuated Green, G (s)	47.2	47.2						12.8	12.8			
Effective Green, g (s)	47.2	47.2						12.8	12.8			
Actuated g/C Ratio	0.67	0.67						0.18	0.18			
Clearance Time (s)	5.0	5.0						5.0	5.0			
Vehicle Extension (s)	2.0	2.0						2.0	2.0			
Lane Grp Cap (vph)	1170	2340						634	283			
v/s Ratio Prot	0.21	c0.44						c0.12				
v/s Ratio Perm									0.06			
v/c Ratio	0.32	0.66						0.64	0.34			
Uniform Delay, d1	4.7	6.7						26.5	24.9			
Progression Factor	0.00	0.96						1.00	1.00			
Incremental Delay, d2	0.4	0.9						1.6	0.3			
Delay (s)	0.4	7.3						28.0	25.2			
Level of Service	A	A						C	C			
Approach Delay (s)		5.8			0.0			27.1			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	1127	5	202	224	0	0	0	200
Future Volume (veh/h)	0	0	0	0	1127	5	202	224	0	0	0	200
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				0	1870	1900	1870	1870	0	0	0	1870
Adj Flow Rate, veh/h				0	1281	6	230	255	0	0	0	-7
Peak Hour Factor				0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				0	2	0	2	2	0	0	0	2
Cap, veh/h				0	0	0	565	306	0	0	0	0
Arrive On Green				0.00	0.00	0.00	0.16	0.16	0.00	0.00	0.00	0.00
Sat Flow, veh/h					0		3456	1870	0		0	
Grp Volume(v), veh/h					0.0		230	255	0		0.0	
Grp Sat Flow(s),veh/h/ln							1728	1870	0			
Q Serve(g_s), s							4.1	9.1	0.0			
Cycle Q Clear(g_c), s							4.1	9.1	0.0			
Prop In Lane							1.00		0.00			
Lane Grp Cap(c), veh/h							565	306	0			
V/C Ratio(X)							0.41	0.83	0.00			
Avail Cap(c_a), veh/h							751	515	0			
HCM Platoon Ratio							1.00	1.00	1.00			
Upstream Filter(I)							0.89	0.89	0.00			
Uniform Delay (d), s/veh							25.9	28.0	0.0			
Incr Delay (d2), s/veh							0.2	2.0	0.0			
Initial Q Delay(d3),s/veh							0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln							1.7	4.1	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh							26.0	30.0	0.0			
LnGrp LOS							C	C	A			
Approach Vol, veh/h								485				
Approach Delay, s/veh								28.1				
Approach LOS								C				

Timer - Assigned Phs	3	8
Phs Duration (G+Y+Rc), s	15.3	15.3
Change Period (Y+Rc), s	* 4	* 4
Max Green Setting (Gmax), s	* 15	* 19
Max Q Clear Time (g_c+I1), s	6.1	11.1
Green Ext Time (p_c), s	0.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	229	1106	155	0	0	0	0	197	8	0	0	0
Future Volume (veh/h)	229	1106	155	0	0	0	0	197	8	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1841	1841	1841				0	1841	1841			
Adj Flow Rate, veh/h	279	1349	0				0	240	9			
Peak Hour Factor	0.82	0.82	0.82				0.82	0.82	0.82			
Percent Heavy Veh, %	4	4	4				0	4	4			
Cap, veh/h	1226	3513					0	297	11			
Arrive On Green	0.70	0.70	0.00				0.00	0.17	0.17			
Sat Flow, veh/h	1753	5191	0				0	1762	66			
Grp Volume(v), veh/h	279	1349	0				0	0	249			
Grp Sat Flow(s),veh/h/ln	1753	1675	0				0	0	1828			
Q Serve(g_s), s	3.9	7.5	0.0				0.0	0.0	8.9			
Cycle Q Clear(g_c), s	3.9	7.5	0.0				0.0	0.0	8.9			
Prop In Lane	1.00		0.00				0.00		0.04			
Lane Grp Cap(c), veh/h	1226	3513					0	0	308			
V/C Ratio(X)	0.23	0.38					0.00	0.00	0.81			
Avail Cap(c_a), veh/h	1226	3513					0	0	457			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.72	0.72	0.00				0.00	0.00	1.00			
Uniform Delay (d), s/veh	3.7	4.2	0.0				0.0	0.0	27.2			
Incr Delay (d2), s/veh	0.3	0.2	0.0				0.0	0.0	3.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.7	1.1	0.0				0.0	0.0	4.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.0	4.4	0.0				0.0	0.0	31.0			
LnGrp LOS	A	A					A	A	C			
Approach Vol, veh/h		1628	A					249				
Approach Delay, s/veh		4.4						31.0				
Approach LOS		A						C				

Timer - Assigned Phs	2	8
Phs Duration (G+Y+Rc), s	52.5	15.5
Change Period (Y+Rc), s	* 5	4.0
Max Green Setting (Gmax), s	* 42	17.0
Max Q Clear Time (g_c+I1), s	9.5	10.9
Green Ext Time (p_c), s	6.7	0.5

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Notes

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	563	411	135	496	8	506	71	170	7	66	130
Future Volume (veh/h)	140	563	411	135	496	8	506	71	170	7	66	130
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		1.00	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	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	165	662	149	159	584	-9	595	84	126	8	78	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	775	338	615	1681	750	628	420	353	21	102	87
Arrive On Green	0.11	0.22	0.22	0.23	0.32	0.00	0.18	0.22	0.22	0.01	0.05	0.00
Sat Flow, veh/h	1781	3554	1551	1781	3554	1585	3456	1870	1572	1781	1870	1585
Grp Volume(v), veh/h	165	662	149	159	584	-9	595	84	126	8	78	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1551	1781	1777	1585	1728	1870	1572	1781	1870	1585
Q Serve(g_s), s	10.0	19.7	5.8	8.0	13.9	0.0	18.7	4.0	3.2	0.5	4.5	0.0
Cycle Q Clear(g_c), s	10.0	19.7	5.8	8.0	13.9	0.0	18.7	4.0	3.2	0.5	4.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	194	775	338	615	1681	750	628	420	353	21	102	87
V/C Ratio(X)	0.85	0.85	0.44	0.26	0.35	-0.01	0.95	0.20	0.36	0.38	0.76	0.00
Avail Cap(c_a), veh/h	211	775	338	615	1681	750	628	595	500	194	527	447
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.64	0.64	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.2	41.3	15.2	30.8	24.5	0.0	44.5	34.6	6.5	53.9	51.3	0.0
Incr Delay (d2), s/veh	23.8	11.5	4.1	0.1	0.4	0.0	23.3	0.1	0.2	4.1	4.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	9.3	3.7	3.3	5.9	0.0	9.9	1.8	2.7	0.2	2.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.0	52.9	19.3	30.8	24.9	0.0	67.8	34.7	6.7	58.1	55.6	0.0
LnGrp LOS	E	D	B	C	C	A	E	C	A	E	E	A
Approach Vol, veh/h		976			734			805			86	
Approach Delay, s/veh		51.0			26.5			54.8			55.8	
Approach LOS		D			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.0	30.0	25.0	11.0	16.0	58.0	6.3	29.7
Change Period (Y+Rc), s	* 6	* 6	* 5	* 5	* 4	* 6	* 5	* 5
Max Green Setting (Gmax), s	* 13	* 24	* 20	* 31	* 13	* 26	* 12	* 35
Max Q Clear Time (g_c+I1), s	10.0	21.7	20.7	6.5	12.0	15.9	2.5	6.0
Green Ext Time (p_c), s	0.1	0.3	0.0	0.1	0.0	0.6	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* 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)	34	679	27	15	559	8	42	8	17	6	10	38
Future Volume (veh/h)	34	679	27	15	559	8	42	8	17	6	10	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	43	859	-80	19	708	10	53	10	-26	8	13	33
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	729	1450	1229	23	680	10	132	14	95	0	0	0
Arrive On Green	0.82	1.00	0.00	0.01	0.37	0.37	0.06	0.06	0.00	0.06	0.06	0.06
Sat Flow, veh/h	1767	1856	1572	1767	1824	26	1186	224	1572	0	0	0
Grp Volume(v), veh/h	43	859	-80	19	0	718	63	0	-26	54	0	0
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1767	0	1850	1410	0	1572	0	0	0
Q Serve(g_s), s	0.5	0.0	0.0	1.2	0.0	41.0	4.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.0	0.0	1.2	0.0	41.0	4.8	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.84		1.00	0.15		0.61
Lane Grp Cap(c), veh/h	729	1450	1229	23	0	690	145	0	95	0	0	0
V/C Ratio(X)	0.06	0.59	-0.07	0.84	0.00	1.04	0.43	0.00	-0.27	0.00	0.00	0.00
Avail Cap(c_a), veh/h	729	1450	1229	289	0	690	458	0	443	0	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.00	0.83	0.00	0.83	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.7	0.0	0.0	54.2	0.0	34.5	50.8	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.6	0.0	21.8	0.0	42.4	2.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.6	0.0	0.6	0.0	24.8	1.8	0.0	0.0	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	1.6	0.0	76.0	0.0	76.9	52.9	0.0	0.0	0.0	0.0	0.0
LnGrp LOS	A	A	A	E	A	F	D	A	A	A	A	A
Approach Vol, veh/h		822			737			37			54	
Approach Delay, s/veh		2.0			76.9			90.0			0.0	
Approach LOS		A			E			F			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	92.0		11.6	51.4	47.0		11.6				
Change Period (Y+Rc), s	* 5	6.0		* 5	6.0	* 6		* 5				
Max Green Setting (Gmax), s	* 18	45.0		* 30	18.0	* 41		* 31				
Max Q Clear Time (g_c+I1), s	3.2	2.0		2.0	2.5	43.0		6.8				
Green Ext Time (p_c), s	0.0	1.5		0.2	0.0	0.0		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	37.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* 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)	318	262	122	51	196	21	98	541	107	37	348	288
Future Volume (veh/h)	318	262	122	51	196	21	98	541	107	37	348	288
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		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	357	294	76	57	220	23	110	608	90	42	391	158
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	389	619	513	74	256	27	140	650	551	63	569	829
Arrive On Green	0.22	0.33	0.33	0.04	0.15	0.15	0.08	0.35	0.35	0.04	0.31	0.31
Sat Flow, veh/h	1767	1856	1539	1767	1652	173	1767	1856	1572	1767	1856	1572
Grp Volume(v), veh/h	357	294	76	57	0	243	110	608	90	42	391	158
Grp Sat Flow(s),veh/h/ln	1767	1856	1539	1767	0	1824	1767	1856	1572	1767	1856	1572
Q Serve(g_s), s	18.2	11.6	3.2	2.9	0.0	12.0	5.6	29.2	3.6	2.2	17.1	4.9
Cycle Q Clear(g_c), s	18.2	11.6	3.2	2.9	0.0	12.0	5.6	29.2	3.6	2.2	17.1	4.9
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	389	619	513	74	0	283	140	650	551	63	569	829
V/C Ratio(X)	0.92	0.48	0.15	0.77	0.00	0.86	0.79	0.94	0.16	0.66	0.69	0.19
Avail Cap(c_a), veh/h	959	1007	836	959	0	990	959	1007	854	959	806	1029
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	24.3	21.5	43.7	0.0	37.9	41.6	28.9	20.6	43.9	28.1	11.5
Incr Delay (d2), s/veh	3.7	0.2	0.0	6.3	0.0	3.0	3.6	8.4	0.1	4.4	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	4.6	1.1	1.3	0.0	5.2	2.5	13.3	1.3	1.0	7.1	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	24.5	21.6	50.0	0.0	40.9	45.3	37.4	20.7	48.3	28.6	11.5
LnGrp LOS	D	C	C	D	A	D	D	D	C	D	C	B
Approach Vol, veh/h		727			300			808			591	
Approach Delay, s/veh		31.2			42.7			36.6			25.4	
Approach LOS		C			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	37.7	11.3	34.2	25.3	21.3	7.3	38.3
Change Period (Y+Rc), s	* 5	7.0	* 4	* 6	* 5	7.0	* 4	* 6
Max Green Setting (Gmax), s	* 5	50.0	* 50	* 40	* 50	50.0	* 50	* 50
Max Q Clear Time (g_c+I1), s	4.9	13.6	7.6	19.1	20.2	14.0	4.2	31.2
Green Ext Time (p_c), s	0.1	0.4	0.1	0.7	0.1	0.3	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

Notes

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

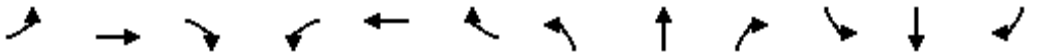
Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	230	176	0	0	131	5	0	0	0	1	0	137
Future Vol, veh/h	230	176	0	0	131	5	0	0	0	1	0	137
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	285	-	200	300	-	170	-	-	50	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	5	5	6	6	5	5	6	6	6	5	6	5
Mvmt Flow	247	189	0	0	141	5	0	0	0	1	0	147

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	146	0	0	189	0	0	900	829	189	824	824	141
Stage 1	-	-	-	-	-	-	683	683	-	141	141	-
Stage 2	-	-	-	-	-	-	217	146	-	683	683	-
Critical Hdwy	4.15	-	-	4.16	-	-	7.16	6.56	6.26	7.15	6.56	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.56	-	6.15	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.56	-	6.15	5.56	-
Follow-up Hdwy	2.245	-	-	2.254	-	-	3.554	4.054	3.354	3.545	4.054	3.345
Pot Cap-1 Maneuver	1418	-	-	1361	-	-	255	302	843	289	304	899
Stage 1	-	-	-	-	-	-	433	443	-	855	772	-
Stage 2	-	-	-	-	-	-	776	769	-	434	443	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1418	-	-	1361	-	-	185	249	843	250	251	899
Mov Cap-2 Maneuver	-	-	-	-	-	-	185	249	-	250	251	-
Stage 1	-	-	-	-	-	-	358	366	-	706	772	-
Stage 2	-	-	-	-	-	-	649	769	-	358	366	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.6	0	0	9.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1418	-	-	1361	-	-	250	899
HCM Lane V/C Ratio	-	-	0.174	-	-	-	-	-	0.004	0.164
HCM Control Delay (s)	0	0	8.1	-	-	0	-	-	19.5	9.8
HCM Lane LOS	A	A	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.6	-	-	0	-	-	0	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	533	212	438	582	111	241	12	412	32	11	29
Future Volume (veh/h)	23	533	212	438	582	111	241	12	412	32	11	29
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	25	579	180	476	633	118	262	13	380	34	14	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	66	1053	461	586	1277	238	296	311	531	180	70	101
Arrive On Green	0.04	0.31	0.31	0.18	0.45	0.45	0.17	0.17	0.17	0.11	0.11	0.11
Sat Flow, veh/h	1711	3413	1495	3319	2860	532	1711	1796	1517	1711	669	955
Grp Volume(v), veh/h	25	579	180	476	377	374	262	13	380	34	0	34
Grp Sat Flow(s),veh/h/ln	1711	1706	1495	1659	1706	1685	1711	1796	1517	1711	0	1624
Q Serve(g_s), s	1.0	9.8	6.6	9.6	10.9	10.9	10.4	0.4	12.0	1.3	0.0	1.3
Cycle Q Clear(g_c), s	1.0	9.8	6.6	9.6	10.9	10.9	10.4	0.4	12.0	1.3	0.0	1.3
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		0.59
Lane Grp Cap(c), veh/h	66	1053	461	586	762	752	296	311	531	180	0	171
V/C Ratio(X)	0.38	0.55	0.39	0.81	0.50	0.50	0.88	0.04	0.72	0.19	0.00	0.20
Avail Cap(c_a), veh/h	740	1969	863	958	985	973	296	311	531	740	0	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	20.0	18.8	27.4	13.6	13.6	28.0	23.9	19.6	28.3	0.0	28.3
Incr Delay (d2), s/veh	1.3	1.0	1.2	1.1	1.1	1.1	24.8	0.0	3.9	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.7	2.2	3.6	3.9	3.9	6.0	0.2	5.3	0.5	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	20.9	20.0	28.5	14.7	14.7	52.8	23.9	23.5	28.5	0.0	28.5
LnGrp LOS	C	C	B	C	B	B	D	C	C	C	A	C
Approach Vol, veh/h		784			1227			655			68	
Approach Delay, s/veh		21.1			20.1			35.2			28.5	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.2	25.6		11.4	6.7	35.1		16.1				
Change Period (Y+Rc), s	4.0	* 4.2		4.1	4.0	* 4.2		4.1				
Max Green Setting (Gmax), s	20.0	* 40		30.0	30.0	* 40		12.0				
Max Q Clear Time (g_c+I1), s	11.6	11.8		3.3	3.0	12.9		14.0				
Green Ext Time (p_c), s	0.7	9.3		0.1	0.0	9.5		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		24.2	
HCM 6th LOS		C	

Notes

User approved pedestrian interval to be less than phase max green.
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)	0	922	55	204	600	0	0	0	0	746	1	531
Future Volume (veh/h)	0	922	55	204	600	0	0	0	0	746	1	531
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1841	1841	1841	0				1841	1841	1841
Adj Flow Rate, veh/h	0	1002	17	222	652	0				812	0	248
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	4	4	4	4	0				4	4	4
Cap, veh/h	0	1008	442	764	2066	0				918	0	817
Arrive On Green	0.00	0.29	0.29	0.07	0.19	0.00				0.26	0.00	0.26
Sat Flow, veh/h	0	3589	1533	3401	3589	0				3506	0	3120
Grp Volume(v), veh/h	0	1002	17	222	652	0				812	0	248
Grp Sat Flow(s),veh/h/ln	0	1749	1533	1700	1749	0				1753	0	1560
Q Serve(g_s), s	0.0	16.9	0.5	3.6	9.4	0.0				13.1	0.0	3.8
Cycle Q Clear(g_c), s	0.0	16.9	0.5	3.6	9.4	0.0				13.1	0.0	3.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1008	442	764	2066	0				918	0	817
V/C Ratio(X)	0.00	0.99	0.04	0.29	0.32	0.00				0.88	0.00	0.30
Avail Cap(c_a), veh/h	0	1008	442	764	2066	0				1010	0	899
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.83	0.83	0.82	0.82	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	15.1	22.9	13.5	0.0				20.9	0.0	17.5
Incr Delay (d2), s/veh	0.0	24.5	0.1	0.2	0.3	0.0				8.3	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
%ile BackOfQ(50%),veh/ln	0.0	9.4	0.2	1.4	3.7	0.0				5.7	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	45.5	15.3	23.0	13.8	0.0				29.2	0.0	17.5
LnGrp LOS	A	D	B	C	B	A				C	A	B
Approach Vol, veh/h		1019			874						1060	
Approach Delay, s/veh		45.0			16.2						26.5	
Approach LOS		D			B						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	17.8	21.6		19.6		39.4
Change Period (Y+Rc), s	4.6	* 4.6		4.1		4.6
Max Green Setting (Gmax), s	10.0	* 17		17.0		33.0
Max Q Clear Time (g_c+I1), s	15.6	18.9		15.1		11.4
Green Ext Time (p_c), s	0.3	0.0		0.3		1.6

Intersection Summary	
HCM 6th Ctrl Delay	29.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
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)	363	1305	0	0	724	770	80	0	209	0	0	0
Future Volume (veh/h)	363	1305	0	0	724	770	80	0	209	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1826	1826	0	0	1826	1826	1826	1826	1826			
Adj Flow Rate, veh/h	408	1466	0	0	813	650	90	0	81			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	5	5	0	0	5	5	5	5	5			
Cap, veh/h	1317	2648	0	0	1000	446	287	0	128			
Arrive On Green	0.78	1.00	0.00	0.00	0.29	0.29	0.08	0.00	0.08			
Sat Flow, veh/h	3374	3561	0	0	3561	1547	3478	0	1547			
Grp Volume(v), veh/h	408	1466	0	0	813	650	90	0	81			
Grp Sat Flow(s),veh/h/ln	1687	1735	0	0	1735	1547	1739	0	1547			
Q Serve(g_s), s	2.1	0.0	0.0	0.0	12.9	17.0	1.4	0.0	3.0			
Cycle Q Clear(g_c), s	2.1	0.0	0.0	0.0	12.9	17.0	1.4	0.0	3.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	1317	2648	0	0	1000	446	287	0	128			
V/C Ratio(X)	0.31	0.55	0.00	0.00	0.81	1.46	0.31	0.00	0.63			
Avail Cap(c_a), veh/h	1317	2648	0	0	1000	446	884	0	393			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.25	0.25	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	4.2	0.0	0.0	0.0	19.5	21.0	25.5	0.0	26.2			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	7.2	218.2	0.2	0.0	1.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.5	0.1	0.0	0.0	5.5	32.4	0.6	0.0	1.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.2	0.2	0.0	0.0	26.7	239.2	25.7	0.0	28.1			
LnGrp LOS	A	A	A	A	C	F	C	A	C			
Approach Vol, veh/h		1874			1463			171				
Approach Delay, s/veh		1.1			121.1			26.9				
Approach LOS		A			F			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		50.0			28.0	22.0		9.0				
Change Period (Y+Rc), s		* 5			* 5	* 5		4.1				
Max Green Setting (Gmax), s		* 35			* 12	* 17		15.0				
Max Q Clear Time (g_c+I1), s		2.0			4.1	19.0		5.0				
Green Ext Time (p_c), s		4.8			0.9	0.0		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	52.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
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)	335	767	72	52	850	55	348	38	22	71	36	296
Future Volume (veh/h)	335	767	72	52	850	55	348	38	22	71	36	296
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	390	892	81	60	988	63	405	44	12	83	42	291
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	457	1343	122	77	1079	69	442	351	96	152	77	353
Arrive On Green	0.13	0.41	0.41	0.04	0.32	0.32	0.25	0.25	0.25	0.13	0.13	0.13
Sat Flow, veh/h	3401	3241	294	1753	3335	213	1753	1392	380	1183	599	2745
Grp Volume(v), veh/h	390	481	492	60	518	533	405	0	56	125	0	291
Grp Sat Flow(s),veh/h/ln	1700	1749	1787	1753	1749	1799	1753	0	1771	1782	0	1373
Q Serve(g_s), s	12.5	24.8	24.8	3.8	31.8	31.8	25.1	0.0	2.7	7.3	0.0	11.5
Cycle Q Clear(g_c), s	12.5	24.8	24.8	3.8	31.8	31.8	25.1	0.0	2.7	7.3	0.0	11.5
Prop In Lane	1.00		0.16	1.00		0.12	1.00		0.21	0.66		1.00
Lane Grp Cap(c), veh/h	457	725	740	77	566	582	442	0	447	229	0	353
V/C Ratio(X)	0.85	0.66	0.66	0.78	0.92	0.92	0.92	0.00	0.13	0.55	0.00	0.82
Avail Cap(c_a), veh/h	548	784	801	91	593	610	519	0	525	287	0	442
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.3	26.4	26.4	52.9	36.3	36.3	40.6	0.0	32.3	45.6	0.0	47.4
Incr Delay (d2), s/veh	10.8	1.9	1.9	30.1	18.5	18.1	19.3	0.0	0.1	2.0	0.0	9.9
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	5.9	10.4	10.6	2.3	16.1	16.5	13.2	0.0	1.2	3.4	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.0	28.3	28.3	83.0	54.8	54.4	59.9	0.0	32.4	47.6	0.0	57.3
LnGrp LOS	E	C	C	F	D	D	E	A	C	D	A	E
Approach Vol, veh/h		1363			1111			461			416	
Approach Delay, s/veh		36.8			56.2			56.5			54.4	
Approach LOS		D			E			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	50.8		18.9	19.5	40.7		32.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.8	50.1		18.0	18.0	37.9		33.1				
Max Q Clear Time (g_c+I1), s	15.8	26.8		13.5	14.5	33.8		27.1				
Green Ext Time (p_c), s	0.0	6.6		0.8	0.5	2.3		0.9				

Intersection Summary		
HCM 6th Ctrl Delay		48.1
HCM 6th LOS		D

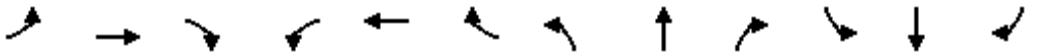
Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	765	56	2	876	44	18	2	79	9	1	63
Future Vol, veh/h	39	765	56	2	876	44	18	2	79	9	1	63
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	245	-	-	-	-	-	35	-	-	-	-	85
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	46	900	66	2	1031	52	21	2	93	11	1	74

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1083	0	0	968	0	0	1547	2114	485	1604	2121	542
Stage 1	-	-	-	-	-	-	1027	1027	-	1061	1061	-
Stage 2	-	-	-	-	-	-	520	1087	-	543	1060	-
Critical Hdwy	4.18	-	-	4.18	-	-	7.58	6.58	6.98	7.58	6.58	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Follow-up Hdwy	2.24	-	-	2.24	-	-	3.54	4.04	3.34	3.54	4.04	3.34
Pot Cap-1 Maneuver	628	-	-	695	-	-	76	49	523	69	48	480
Stage 1	-	-	-	-	-	-	247	306	-	236	294	-
Stage 2	-	-	-	-	-	-	502	286	-	486	295	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	628	-	-	694	-	-	59	45	522	51	44	480
Mov Cap-2 Maneuver	-	-	-	-	-	-	59	45	-	51	44	-
Stage 1	-	-	-	-	-	-	228	283	-	219	292	-
Stage 2	-	-	-	-	-	-	420	284	-	367	273	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	31	25.4
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	59	414	628	-	-	694	-	-	50	480
HCM Lane V/C Ratio	0.359	0.23	0.073	-	-	0.003	-	-	0.235	0.154
HCM Control Delay (s)	96.9	16.3	11.2	-	-	10.2	-	-	97.9	13.9
HCM Lane LOS	F	C	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.3	0.9	0.2	-	-	0	-	-	0.8	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	287	376	190	69	423	182	324	377	42	115	278	175
Future Volume (veh/h)	287	376	190	69	423	182	324	377	42	115	278	175
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		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	322	422	116	78	475	80	364	424	28	129	312	22
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	172	802	218	110	911	398	172	824	364	164	766	54
Arrive On Green	0.10	0.29	0.29	0.06	0.26	0.26	0.10	0.23	0.23	0.09	0.23	0.23
Sat Flow, veh/h	1767	2734	744	1767	3526	1538	1767	3526	1558	1767	3340	234
Grp Volume(v), veh/h	322	271	267	78	475	80	364	424	28	129	164	170
Grp Sat Flow(s),veh/h/ln	1767	1763	1715	1767	1763	1538	1767	1763	1558	1767	1763	1811
Q Serve(g_s), s	5.5	7.3	7.4	2.5	6.5	2.3	5.5	5.9	0.8	4.0	4.5	4.5
Cycle Q Clear(g_c), s	5.5	7.3	7.4	2.5	6.5	2.3	5.5	5.9	0.8	4.0	4.5	4.5
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	172	517	503	110	911	398	172	824	364	164	404	415
V/C Ratio(X)	1.88	0.52	0.53	0.71	0.52	0.20	2.12	0.51	0.08	0.79	0.41	0.41
Avail Cap(c_a), veh/h	172	1136	1106	156	2241	978	172	2179	963	172	1090	1120
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	16.7	16.8	26.0	18.0	16.4	25.6	18.9	16.9	25.1	18.5	18.6
Incr Delay (d2), s/veh	415.4	0.8	0.9	8.0	0.5	0.2	523.4	0.5	0.1	20.4	0.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.9	2.7	2.7	1.2	2.4	0.7	27.1	2.2	0.3	2.5	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	441.0	17.5	17.6	34.1	18.5	16.7	548.9	19.4	17.0	45.6	19.2	19.2
LnGrp LOS	F	B	B	C	B	B	F	B	B	D	B	B
Approach Vol, veh/h		860			633			816			463	
Approach Delay, s/veh		176.1			20.2			255.5			26.6	
Approach LOS		F			C			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	19.1	9.8	17.7	8.0	21.1	10.0	17.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	36.0	5.5	35.0	5.0	36.5	5.5	35.0
Max Q Clear Time (g_c+I1), s	7.5	8.5	6.0	7.9	4.5	9.4	7.5	6.5
Green Ext Time (p_c), s	0.0	3.5	0.0	2.9	0.0	3.3	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	138.9
HCM 6th LOS	F

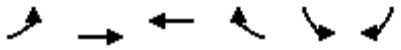
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	290	149	70	285	0	223	0	139	0	0	0
Future Volume (veh/h)	0	290	149	70	285	0	223	0	139	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	302	100	73	297	0	232	0	94	0	0	0
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	6	628	204	190	1712	0	361	379	321	6	6	5
Arrive On Green	0.00	0.24	0.24	0.11	0.49	0.00	0.20	0.00	0.20	0.00	0.00	0.00
Sat Flow, veh/h	1767	2612	848	1767	3618	0	1767	1856	1571	1767	1856	1572
Grp Volume(v), veh/h	0	202	200	73	297	0	232	0	94	0	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1697	1767	1763	0	1767	1856	1571	1767	1856	1572
Q Serve(g_s), s	0.0	2.8	2.9	1.1	1.4	0.0	3.5	0.0	1.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	2.8	2.9	1.1	1.4	0.0	3.5	0.0	1.5	0.0	0.0	0.0
Prop In Lane	1.00		0.50	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	6	424	408	190	1712	0	361	379	321	6	6	5
V/C Ratio(X)	0.00	0.48	0.49	0.38	0.17	0.00	0.64	0.00	0.29	0.00	0.00	0.00
Avail Cap(c_a), veh/h	914	2431	2340	914	4862	0	1218	1279	1083	914	1279	1084
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.4	9.5	12.1	4.2	0.0	10.6	0.0	9.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.3	0.5	0.0	0.0	0.7	0.0	0.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.7	0.7	0.3	0.2	0.0	0.9	0.0	0.3	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.8	9.8	12.5	4.2	0.0	11.3	0.0	10.0	0.0	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h		402			370			326			0	
Approach Delay, s/veh		9.8			5.9			10.9			0.0	
Approach LOS		A			A			B				

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	19.1	9.9	0.0	7.1	12.0	0.0	9.9
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	15.0	40.0	20.0	20.0	15.0	40.0	15.0	20.0
Max Q Clear Time (g_c+I1), s	0.0	3.4	5.5	0.0	3.1	4.9	0.0	3.5
Green Ext Time (p_c), s	0.0	1.3	0.3	0.0	0.1	1.5	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	426	296	1	4	57
Future Volume (veh/h)	5	426	296	1	4	57
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	463	322	0	4	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	466	1260	527	0	138	123
Arrive On Green	0.26	0.67	0.28	0.00	0.08	0.08
Sat Flow, veh/h	1781	1870	1870	0	1781	1585
Grp Volume(v), veh/h	5	463	322	0	4	48
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	0	1781	1585
Q Serve(g_s), s	0.1	4.1	5.7	0.0	0.1	1.1
Cycle Q Clear(g_c), s	0.1	4.1	5.7	0.0	0.1	1.1
Prop In Lane	1.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	466	1260	527	0	138	123
V/C Ratio(X)	0.01	0.37	0.61	0.00	0.03	0.39
Avail Cap(c_a), veh/h	1630	1712	1712	0	1141	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	10.5	2.7	11.9	0.0	16.3	16.8
Incr Delay (d2), s/veh	0.0	0.3	1.6	0.0	0.1	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.6	2.2	0.0	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.5	3.0	13.6	0.0	16.4	18.3
LnGrp LOS	B	A	B	A	B	B
Approach Vol, veh/h		468	322		52	
Approach Delay, s/veh		3.0	13.6		18.1	
Approach LOS		A	B		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		30.8		7.5	15.0	15.8
Change Period (Y+Rc), s		5.0		4.5	5.0	5.0
Max Green Setting (Gmax), s		35.0		24.5	35.0	35.0
Max Q Clear Time (g_c+I1), s		6.1		3.1	2.1	7.7
Green Ext Time (p_c), s		4.8		0.1	0.0	3.0

Intersection Summary		
HCM 6th Ctrl Delay		8.0
HCM 6th LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	285	96	49	38	71	33	54	466	63	34	265	172
Future Volume (veh/h)	285	96	49	38	71	33	54	466	63	34	265	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	324	109	20	43	81	27	61	530	70	39	301	184
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	371	460	390	105	129	43	130	581	77	98	370	226
Arrive On Green	0.21	0.25	0.25	0.06	0.10	0.10	0.07	0.36	0.36	0.06	0.34	0.34
Sat Flow, veh/h	1767	1856	1572	1767	1330	443	1767	1605	212	1767	1078	659
Grp Volume(v), veh/h	324	109	20	43	0	108	61	0	600	39	0	485
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1767	0	1773	1767	0	1817	1767	0	1737
Q Serve(g_s), s	10.9	2.9	0.6	1.4	0.0	3.6	2.0	0.0	19.4	1.3	0.0	15.7
Cycle Q Clear(g_c), s	10.9	2.9	0.6	1.4	0.0	3.6	2.0	0.0	19.4	1.3	0.0	15.7
Prop In Lane	1.00		1.00	1.00		0.25	1.00		0.12	1.00		0.38
Lane Grp Cap(c), veh/h	371	460	390	105	0	172	130	0	658	98	0	597
V/C Ratio(X)	0.87	0.24	0.05	0.41	0.00	0.63	0.47	0.00	0.91	0.40	0.00	0.81
Avail Cap(c_a), veh/h	573	1173	994	573	0	1150	573	0	658	573	0	1126
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.6	18.5	17.7	28.0	0.0	26.8	27.4	0.0	18.7	28.1	0.0	18.4
Incr Delay (d2), s/veh	6.1	0.3	0.1	1.0	0.0	4.4	1.0	0.0	17.2	1.0	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	1.2	0.2	0.6	0.0	1.7	0.8	0.0	9.8	0.5	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	18.8	17.7	28.9	0.0	31.2	28.4	0.0	36.0	29.1	0.0	21.7
LnGrp LOS	C	B	B	C	A	C	C	A	D	C	A	C
Approach Vol, veh/h		453			151			661			524	
Approach Delay, s/veh		26.5			30.6			35.3			22.3	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	11.0	8.5	25.2	7.6	20.3	7.4	26.3
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	39.0	20.0	20.0
Max Q Clear Time (g_c+I1), s	12.9	5.6	4.0	17.7	3.4	4.9	3.3	21.4
Green Ext Time (p_c), s	0.1	0.8	0.0	3.5	0.0	0.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	42	151	118	1	2	24
Future Vol, veh/h	42	151	118	1	2	24
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	51	182	142	1	2	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	145	0	-	0	429	145
Stage 1	-	-	-	-	145	-
Stage 2	-	-	-	-	284	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1443	-	-	-	585	905
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	766	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1440	-	-	-	560	903
Mov Cap-2 Maneuver	-	-	-	-	560	-
Stage 1	-	-	-	-	849	-
Stage 2	-	-	-	-	764	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1440	-	-	-	862
HCM Lane V/C Ratio	0.035	-	-	-	0.036
HCM Control Delay (s)	7.6	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	37	105	69	0	1	29
Future Vol, veh/h	37	105	69	0	1	29
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	47	135	88	0	1	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	93	0	-	0	322	93
Stage 1	-	-	-	-	93	-
Stage 2	-	-	-	-	229	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1508	-	-	-	674	967
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	811	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1501	-	-	-	644	962
Mov Cap-2 Maneuver	-	-	-	-	644	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	807	-

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1501	-	-	-	946
HCM Lane V/C Ratio	0.032	-	-	-	0.041
HCM Control Delay (s)	7.5	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	79	40	0	1	29
Future Vol, veh/h	27	79	40	0	1	29
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	99	50	0	1	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	55	0	-	0	222	55
Stage 1	-	-	-	-	55	-
Stage 2	-	-	-	-	167	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1550	-	-	-	766	1012
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1543	-	-	-	741	1007
Mov Cap-2 Maneuver	-	-	-	-	741	-
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	859	-

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1543	-	-	-	995
HCM Lane V/C Ratio	0.022	-	-	-	0.038
HCM Control Delay (s)	7.4	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	52	25	0	0	15
Future Vol, veh/h	28	52	25	0	0	15
Conflicting Peds, #/hr	7	0	0	7	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	39	73	35	0	0	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	42	0	-	0	193	42
Stage 1	-	-	-	-	42	-
Stage 2	-	-	-	-	151	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1561	-	-	-	794	1026
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	874	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1551	-	-	-	762	1019
Mov Cap-2 Maneuver	-	-	-	-	762	-
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	868	-

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1551	-	-	-	1019
HCM Lane V/C Ratio	0.025	-	-	-	0.021
HCM Control Delay (s)	7.4	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	44	8	5	0	0	20
Future Vol, veh/h	44	8	5	0	0	20
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	53	10	6	0	0	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	10	0	-	0	126	10
Stage 1	-	-	-	-	10	-
Stage 2	-	-	-	-	116	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1623	-	-	-	874	1077
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	914	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1617	-	-	-	838	1073
Mov Cap-2 Maneuver	-	-	-	-	838	-
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	910	-

Approach	EB	WB	SB
HCM Control Delay, s	6.2	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1617	-	-	-	1073
HCM Lane V/C Ratio	0.033	-	-	-	0.022
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

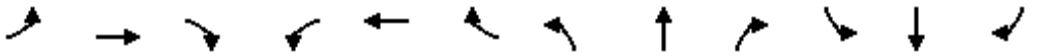
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	0	0	0	0	5
Future Vol, veh/h	8	0	0	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	42	42	42	42	42	42
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	19	0	0	0	0	12

Major/Minor	Major2		Minor2	
Conflicting Flow All	-	0	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.3
Pot Cap-1 Maneuver	-	0	0	-
Stage 1	-	0	0	-
Stage 2	-	0	0	-
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	SB
HCM Control Delay, s	0	
HCM LOS		-

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	-
HCM Lane LOS	-	-
HCM 95th %tile Q(veh)	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	503	0	58	3	1	7	39	334	16	5	403	308
Future Volume (veh/h)	503	0	58	3	1	7	39	334	16	5	403	308
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	529	0	21	3	1	4	41	352	17	5	424	236
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	721	0	24	338	133	392	103	574	28	17	516	438
Arrive On Green	0.44	0.00	0.44	0.44	0.44	0.44	0.06	0.32	0.32	0.01	0.27	0.27
Sat Flow, veh/h	1387	0	55	591	302	893	1810	1798	87	1810	1900	1610
Grp Volume(v), veh/h	550	0	0	8	0	0	41	0	369	5	424	236
Grp Sat Flow(s),veh/h/ln	1442	0	0	1785	0	0	1810	0	1884	1810	1900	1610
Q Serve(g_s), s	21.6	0.0	0.0	0.0	0.0	0.0	1.4	0.0	10.4	0.2	13.2	7.9
Cycle Q Clear(g_c), s	21.7	0.0	0.0	0.2	0.0	0.0	1.4	0.0	10.4	0.2	13.2	7.9
Prop In Lane	0.96		0.04	0.37		0.50	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	745	0	0	863	0	0	103	0	602	17	516	438
V/C Ratio(X)	0.74	0.00	0.00	0.01	0.00	0.00	0.40	0.00	0.61	0.30	0.82	0.54
Avail Cap(c_a), veh/h	1441	0	0	996	0	0	921	0	1738	777	1753	1485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	0.0	0.0	9.9	0.0	0.0	28.6	0.0	18.1	30.9	21.5	19.5
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.4	3.6	1.3	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	6.2	0.0	0.0	0.1	0.0	0.0	0.6	0.0	4.1	0.1	5.3	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.4	0.0	0.0	9.9	0.0	0.0	29.5	0.0	18.5	34.5	22.7	19.9
LnGrp LOS	B	A	A	A	A	A	C	A	B	C	C	B
Approach Vol, veh/h		550			8			410			665	
Approach Delay, s/veh		17.4			9.9			19.6			21.8	
Approach LOS		B			A			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	25.1		32.6	8.2	22.1		32.6				
Change Period (Y+Rc), s	4.6	5.0		5.0	4.6	5.0		* 5				
Max Green Setting (Gmax), s	27.0	58.0		58.0	32.0	58.0		* 33				
Max Q Clear Time (g_c+I1), s	2.2	12.4		23.7	3.4	15.2		2.2				
Green Ext Time (p_c), s	0.0	1.4		3.9	0.0	1.9		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		19.7
HCM 6th LOS		B

Notes

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

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	34	357	8	21	508
Future Vol, veh/h	15	34	357	8	21	508
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	16	37	384	9	23	546

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	981	389	0	0	393	0
Stage 1	389	-	-	-	-	-
Stage 2	592	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	273	653	-	-	1149	-
Stage 1	678	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	268	653	-	-	1149	-
Mov Cap-2 Maneuver	268	-	-	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	547	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	454	1149	-
HCM Lane V/C Ratio	-	-	0.116	0.02	-
HCM Control Delay (s)	-	-	14	8.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

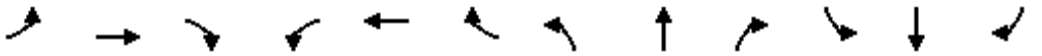
Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	49	316	40	63	460
Future Vol, veh/h	26	49	316	40	63	460
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	-	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	28	53	343	43	68	500

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1001	365	0	0	386	0
Stage 1	365	-	-	-	-	-
Stage 2	636	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	266	673	-	-	1156	-
Stage 1	696	-	-	-	-	-
Stage 2	522	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	250	673	-	-	1156	-
Mov Cap-2 Maneuver	250	-	-	-	-	-
Stage 1	655	-	-	-	-	-
Stage 2	522	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	250	673	1156	-
HCM Lane V/C Ratio	-	-	0.113	0.079	0.059	-
HCM Control Delay (s)	-	-	21.2	10.8	8.3	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.3	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	1	40	16	1	81	26	1953	7	25	1762	194
Future Volume (veh/h)	175	1	40	16	1	81	26	1953	7	25	1762	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	208	1	41	19	1	63	31	2325	3	30	2098	187
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	262	1	41	91	22	245	38	2100	912	37	2097	904
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.02	0.64	0.64	0.02	0.64	0.64
Sat Flow, veh/h	1053	5	208	281	110	1233	1654	3300	1434	1654	3300	1422
Grp Volume(v), veh/h	250	0	0	83	0	0	31	2325	3	30	2098	187
Grp Sat Flow(s),veh/h/ln	1266	0	0	1624	0	0	1654	1650	1434	1654	1650	1422
Q Serve(g_s), s	19.0	0.0	0.0	0.0	0.0	0.0	2.3	80.1	0.1	2.3	80.0	6.9
Cycle Q Clear(g_c), s	24.8	0.0	0.0	5.8	0.0	0.0	2.3	80.1	0.1	2.3	80.0	6.9
Prop In Lane	0.83		0.16	0.23		0.76	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	304	0	0	358	0	0	38	2100	912	37	2097	904
V/C Ratio(X)	0.82	0.00	0.00	0.23	0.00	0.00	0.82	1.11	0.00	0.82	1.00	0.21
Avail Cap(c_a), veh/h	304	0	0	358	0	0	197	2100	912	197	2097	904
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	0.0	0.0	42.7	0.0	0.0	61.2	22.9	8.3	61.3	22.9	9.6
Incr Delay (d2), s/veh	15.5	0.0	0.0	0.1	0.0	0.0	14.5	55.9	0.0	15.2	19.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	0.0	0.0	2.2	0.0	0.0	1.1	41.4	0.0	1.1	30.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.0	0.0	0.0	42.9	0.0	0.0	75.7	78.8	8.3	76.5	42.7	9.7
LnGrp LOS	E	A	A	D	A	A	E	F	A	E	F	A
Approach Vol, veh/h		250			83			2359			2315	
Approach Delay, s/veh		66.0			42.9			78.6			40.4	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	88.1		30.0	7.9	88.0		30.0				
Change Period (Y+Rc), s	* 5	8.0		* 5	* 5	8.0		* 5				
Max Green Setting (Gmax), s	* 15	80.0		* 25	* 15	80.0		* 25				
Max Q Clear Time (g_c+I1), s	4.3	82.1		26.8	4.3	82.0		7.8				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		59.7
HCM 6th LOS		E

Notes

User approved pedestrian interval to be less than phase max green.

* 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)	76	25	15	83	23	98	26	608	114	142	481	59
Future Volume (veh/h)	76	25	15	83	23	98	26	608	114	142	481	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	87	29	-4	95	26	-70	30	699	123	163	553	53
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	181	89	0	189	98	83	87	1153	203	234	1523	146
Arrive On Green	0.10	0.05	0.00	0.11	0.05	0.00	0.05	0.38	0.38	0.13	0.46	0.46
Sat Flow, veh/h	1795	1885	0	1795	1885	1598	1795	3044	535	1795	3303	316
Grp Volume(v), veh/h	87	25	0	95	26	-70	30	411	411	163	299	307
Grp Sat Flow(s),veh/h/ln	1795	1885	0	1795	1885	1598	1795	1791	1789	1795	1791	1828
Q Serve(g_s), s	2.2	0.6	0.0	2.4	0.6	0.0	0.8	8.8	8.8	4.1	5.1	5.1
Cycle Q Clear(g_c), s	2.2	0.6	0.0	2.4	0.6	0.0	0.8	8.8	8.8	4.1	5.1	5.1
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.30	1.00		0.17
Lane Grp Cap(c), veh/h	181	89	0	189	98	83	87	678	677	234	826	843
V/C Ratio(X)	0.48	0.28	0.00	0.50	0.27	-0.85	0.35	0.61	0.61	0.70	0.36	0.36
Avail Cap(c_a), veh/h	379	876	0	569	876	743	455	1325	1323	455	1325	1352
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	21.8	0.0	20.0	21.6	0.0	21.8	11.9	11.9	19.7	8.2	8.3
Incr Delay (d2), s/veh	0.7	1.7	0.0	0.8	0.5	0.0	0.9	1.2	1.3	1.4	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.3	0.0	1.0	0.3	0.0	0.3	2.7	2.7	1.5	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	23.5	0.0	20.8	22.1	0.0	22.7	13.1	13.1	21.1	8.6	8.6
LnGrp LOS	C	C	A	C	C	A	C	B	B	C	A	A
Approach Vol, veh/h		112			51			852			769	
Approach Delay, s/veh		21.4			49.9			13.4			11.3	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	22.9	8.5	6.2	5.8	26.8	8.3	6.5
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	12.0	35.0	15.0	22.0	12.0	35.0	10.0	22.0
Max Q Clear Time (g_c+I1), s	6.1	10.8	4.4	2.6	2.8	7.1	4.2	2.6
Green Ext Time (p_c), s	0.0	7.2	0.1	0.1	0.0	5.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	7	8	78	5	58	10	682	88	84	474	5
Future Volume (veh/h)	5	7	8	78	5	58	10	682	88	84	474	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	8	5	88	6	-26	11	766	93	94	533	6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	49	41	185	0	297	36	1288	156	192	1769	20
Arrive On Green	0.01	0.03	0.03	0.10	0.12	0.00	0.02	0.40	0.40	0.11	0.49	0.49
Sat Flow, veh/h	1781	1870	1582	1781	1870	0	1781	3190	387	1781	3598	40
Grp Volume(v), veh/h	6	8	5	88	-20	-20	11	427	432	94	263	276
Grp Sat Flow(s),veh/h/ln	1781	1870	1582	1781	1870	1585	1781	1777	1800	1781	1777	1862
Q Serve(g_s), s	0.1	0.2	0.1	2.1	0.0	0.0	0.3	8.4	8.4	2.2	3.9	4.0
Cycle Q Clear(g_c), s	0.1	0.2	0.1	2.1	0.0	0.0	0.3	8.4	8.4	2.2	3.9	4.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.22	1.00		0.02
Lane Grp Cap(c), veh/h	20	49	41	185	0	0	36	717	727	192	874	915
V/C Ratio(X)	0.30	0.16	0.12	0.47	0.00	0.00	0.31	0.59	0.59	0.49	0.30	0.30
Avail Cap(c_a), veh/h	797	879	744	797	0	0	797	1392	1410	797	1392	1459
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	21.3	21.3	18.9	0.0	0.0	21.6	10.5	10.5	18.8	6.8	6.8
Incr Delay (d2), s/veh	3.1	2.2	1.8	0.7	0.0	0.0	1.8	1.1	1.1	0.7	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.1	0.8	0.0	0.0	0.1	2.4	2.4	0.8	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	23.5	23.1	19.6	0.0	0.0	23.4	11.6	11.6	19.5	7.1	7.0
LnGrp LOS	C	C	C	B	A	A	C	B	B	B	A	A
Approach Vol, veh/h		19			48			870			633	
Approach Delay, s/veh		23.8			35.9			11.7			8.9	
Approach LOS		C			D			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	23.0	8.2	5.2	4.4	27.0	4.0	9.3
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	20.0	35.0	20.0	21.0	20.0	35.0	20.0	21.0
Max Q Clear Time (g_c+I1), s	4.2	10.4	4.1	2.2	2.3	6.0	2.1	0.0
Green Ext Time (p_c), s	0.1	7.6	0.1	0.0	0.0	4.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	25	843	37	12	610
Future Vol, veh/h	63	25	843	37	12	610
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	73	29	980	43	14	709

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1385	512	0	0	1023	0
Stage 1	1002	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	134	507	-	-	674	-
Stage 1	316	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	131	507	-	-	674	-
Mov Cap-2 Maneuver	131	-	-	-	-	-
Stage 1	309	-	-	-	-	-
Stage 2	659	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	48.4	0	0.2
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	131	507	674	-
HCM Lane V/C Ratio	-	-	0.559	0.057	0.021	-
HCM Control Delay (s)	-	-	62.7	12.5	10.5	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	2.8	0.2	0.1	-

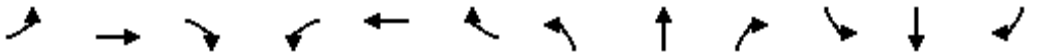
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	519	742	33	5	4
Future Vol, veh/h	2	519	742	33	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	611	873	39	6	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	912	0	-	0	1508	893
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	615	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	743	-	-	-	132	339
Stage 1	-	-	-	-	398	-
Stage 2	-	-	-	-	537	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	743	-	-	-	131	339
Mov Cap-2 Maneuver	-	-	-	-	131	-
Stage 1	-	-	-	-	396	-
Stage 2	-	-	-	-	537	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	26.2
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	743	-	-	-	180
HCM Lane V/C Ratio	0.003	-	-	-	0.059
HCM Control Delay (s)	9.9	0	-	-	26.2
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	11	31	10	7	20	32	746	24	26	485	13
Future Volume (veh/h)	9	11	31	10	7	20	32	746	24	26	485	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	13	-61	12	9	-8	39	910	24	32	591	-30
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	0	654	192	31	9999	77	1201	1018	65	1190	1008
Arrive On Green	0.02	0.02	0.00	0.02	0.02	0.00	0.04	0.64	0.64	0.04	0.64	0.00
Sat Flow, veh/h	1416	1870	0	1781	1870	0	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	11	-48	-48	12	1	0	39	910	24	32	591	-30
Grp Sat Flow(s),veh/h/ln	1416	1870	1585	1781	1870	0	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.3	0.0	0.0	0.3	0.0	0.0	1.0	15.0	0.2	0.8	7.5	0.0
Cycle Q Clear(g_c), s	0.4	0.0	0.0	0.3	0.0	0.0	1.0	15.0	0.2	0.8	7.5	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	0	0	192	31	0	77	1201	1018	65	1190	1008
V/C Ratio(X)	0.06	0.00	0.00	0.06	0.03	0.00	0.51	0.76	0.02	0.49	0.50	-0.03
Avail Cap(c_a), veh/h	1215	0	0	1487	1391	0	221	1201	1018	201	1190	1008
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.6	0.0	0.0	21.6	21.5	0.0	20.8	5.5	2.9	21.0	4.3	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.4	0.0	5.1	4.5	0.0	5.6	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.1	0.0	0.0	0.4	3.0	0.0	0.4	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	0.0	0.0	21.7	21.9	0.0	25.9	10.0	2.9	26.5	5.8	0.0
LnGrp LOS	C	A	A	C	C	A	C	B	A	C	A	A
Approach Vol, veh/h		-85			13			973			593	
Approach Delay, s/veh		0.0			21.7			10.5			7.2	
Approach LOS		A			C			B			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	33.0		5.2	6.4	32.7		5.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	28.5		33.0	5.5	28.0		33.0				
Max Q Clear Time (g_c+I1), s	2.8	17.0		2.4	3.0	9.5		2.3				
Green Ext Time (p_c), s	0.0	4.8		0.0	0.0	3.3		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		9.9	
HCM 6th LOS		A	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	19	0	32	5	776	36	36	487	5
Future Volume (veh/h)	5	5	5	19	0	32	5	776	36	36	487	5
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	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	6	6	6	22	0	-30	6	902	37	42	566	6
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	68	33	33	0	870	316	20	1147	950	110	1170	12
Arrive On Green	0.04	0.04	0.04	0.00	0.00	0.00	0.01	0.62	0.62	0.06	0.64	0.64
Sat Flow, veh/h	1761	848	848	-3319	0	4526	1767	1856	1536	1767	1833	19
Grp Volume(v), veh/h	6	0	12	0	0	0	6	902	37	42	0	572
Grp Sat Flow(s),veh/h/ln	1761	0	1697	0	0	0	1767	1856	1536	1767	0	1852
Q Serve(g_s), s	0.2	0.0	0.3	0.0	0.0	0.0	0.2	17.4	0.5	1.1	0.0	7.8
Cycle Q Clear(g_c), s	0.2	0.0	0.3	0.0	0.0	0.0	0.2	17.4	0.5	1.1	0.0	7.8
Prop In Lane	1.00		0.50	-2.75		3.75	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	68	0	66	0	0	0	20	1147	950	110	0	1183
V/C Ratio(X)	0.09	0.00	0.18	0.00	0.00	0.00	0.30	0.79	0.04	0.38	0.00	0.48
Avail Cap(c_a), veh/h	731	0	704	0	0	0	367	1541	1276	550	0	1538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.3	0.0	22.4	0.0	0.0	0.0	23.6	6.8	3.6	21.7	0.0	4.6
Incr Delay (d2), s/veh	0.2	0.0	0.5	0.0	0.0	0.0	3.1	2.7	0.0	0.8	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.0	0.0	0.0	0.1	3.6	0.1	0.4	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	0.0	22.9	0.0	0.0	0.0	26.8	9.5	3.6	22.5	0.0	5.1
LnGrp LOS	C	A	C	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		18			0			945			614	
Approach Delay, s/veh		22.8			0.0			9.4			6.3	
Approach LOS		C						A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.5	34.8		6.9	5.5	35.8		0.0
Change Period (Y+Rc), s	3.5	5.0		5.0	5.0	5.0		4.0
Max Green Setting (Gmax), s	15.0	40.0		20.0	10.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	3.1	19.4		2.3	2.2	9.8		0.0
Green Ext Time (p_c), s	0.0	10.4		0.0	0.0	6.4		0.0

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

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	17	800	32	44	467
Future Vol, veh/h	17	17	800	32	44	467
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	19	19	909	36	50	531

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1293	473	0	0	945	0
Stage 1	927	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	153	535	-	-	716	-
Stage 1	343	-	-	-	-	-
Stage 2	669	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	142	535	-	-	716	-
Mov Cap-2 Maneuver	142	-	-	-	-	-
Stage 1	319	-	-	-	-	-
Stage 2	669	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.4	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	224	716	-
HCM Lane V/C Ratio	-	-	0.172	0.07	-
HCM Control Delay (s)	-	-	24.4	10.4	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	1	11	19	0	20	4	789	30	37	441	6
Future Vol, veh/h	23	1	11	19	0	20	4	789	30	37	441	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	90	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	27	1	13	22	0	23	5	917	35	43	513	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1068	1561	513	1555	1551	476	520	0	0	952	0	0
Stage 1	599	599	-	945	945	-	-	-	-	-	-	-
Stage 2	469	962	-	610	606	-	-	-	-	-	-	-
Critical Hdwy	7.345	6.545	6.245	7.345	6.545	6.945	4.145	-	-	4.145	-	-
Critical Hdwy Stg 1	6.145	5.545	-	6.545	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.545	5.545	-	6.145	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.5285	4.0285	3.3285	3.5285	4.0285	3.3285	2.2285	-	-	2.2285	-	-
Pot Cap-1 Maneuver	186	111	558	83	112	534	1038	-	-	714	-	-
Stage 1	485	487	-	281	338	-	-	-	-	-	-	-
Stage 2	543	332	-	479	484	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	169	104	558	76	105	534	1038	-	-	714	-	-
Mov Cap-2 Maneuver	169	104	-	76	105	-	-	-	-	-	-	-
Stage 1	483	458	-	280	336	-	-	-	-	-	-	-
Stage 2	517	330	-	439	455	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26	44.2	0	0.8
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1038	-	-	212	136	714	-	-
HCM Lane V/C Ratio	0.004	-	-	0.192	0.333	0.06	-	-
HCM Control Delay (s)	8.5	-	-	26	44.2	10.4	-	-
HCM Lane LOS	A	-	-	D	E	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	1.3	0.2	-	-

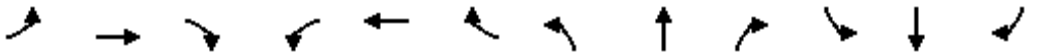
Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	138	92	54	445	296	56
Future Vol, veh/h	138	92	54	445	296	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	160	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	153	102	60	494	329	62

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	974	360	391	0	-	0
Stage 1	360	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	278	682	1162	-	-	-
Stage 1	704	-	-	-	-	-
Stage 2	538	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	264	682	1162	-	-	-
Mov Cap-2 Maneuver	264	-	-	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	538	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	38.6	0.9	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1162	-	350	-	-
HCM Lane V/C Ratio	0.052	-	0.73	-	-
HCM Control Delay (s)	8.3	-	38.6	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0.2	-	5.5	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	540	5	240	0	230	430	220	210	0
Future Volume (veh/h)	5	5	5	540	5	240	0	230	430	220	210	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	0
Adj Flow Rate, veh/h	5	5	2	585	0	0	0	247	0	232	234	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	0
Cap, veh/h	266	241	80	1127	0		0	332		323	340	0
Arrive On Green	0.31	0.31	0.31	0.31	0.00	0.00	0.00	0.19	0.00	0.19	0.19	0.00
Sat Flow, veh/h	512	773	257	2639	0	1485	0	1752	1485	1668	1752	0
Grp Volume(v), veh/h	12	0	0	585	0	0	0	247	0	232	234	0
Grp Sat Flow(s),veh/h/ln	1542	0	0	1319	0	1485	0	1752	1485	1668	1752	0
Q Serve(g_s), s	0.0	0.0	0.0	9.1	0.0	0.0	0.0	6.4	0.0	6.2	6.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	9.3	0.0	0.0	0.0	6.4	0.0	6.2	6.0	0.0
Prop In Lane	0.42		0.17	1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	587	0	0	1127	0		0	332		323	340	0
V/C Ratio(X)	0.02	0.00	0.00	0.52	0.00		0.00	0.74		0.72	0.69	0.00
Avail Cap(c_a), veh/h	715	0	0	2253	0		0	1265		1219	1280	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.4	0.0	0.0	14.5	0.0	0.0	0.0	18.3	0.0	18.1	18.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	2.5	0.0	1.1	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	2.3	0.0	0.0	0.0	2.4	0.0	2.1	2.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.4	0.0	0.0	15.0	0.0	0.0	0.0	20.8	0.0	19.2	18.9	0.0
LnGrp LOS	B	A	A	B	A		A	C		B	B	A
Approach Vol, veh/h		12			585	A		247	A		466	
Approach Delay, s/veh		11.4			15.0			20.8			19.1	
Approach LOS		B			B			C			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.3		19.5		14.1		19.5				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		35.0		35.4		34.6		19.0				
Max Q Clear Time (g_c+I1), s		8.2		11.3		8.4		2.2				
Green Ext Time (p_c), s		1.1		3.6		1.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			17.5									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	565	20	5	675	60	20	20	5	120	20	90
Future Volume (veh/h)	70	565	20	5	675	60	20	20	5	120	20	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	78	628	20	6	750	59	22	22	2	133	22	19
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	119	1491	47	13	1178	93	273	226	17	512	216	186
Arrive On Green	0.07	0.46	0.46	0.01	0.38	0.38	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1640	3233	103	1640	3070	241	550	892	66	1277	853	737
Grp Volume(v), veh/h	78	318	330	6	400	409	46	0	0	133	0	41
Grp Sat Flow(s),veh/h/ln	1640	1636	1700	1640	1636	1675	1507	0	0	1277	0	1590
Q Serve(g_s), s	1.8	5.1	5.1	0.1	7.9	7.9	0.0	0.0	0.0	2.4	0.0	0.8
Cycle Q Clear(g_c), s	1.8	5.1	5.1	0.1	7.9	7.9	0.8	0.0	0.0	3.2	0.0	0.8
Prop In Lane	1.00		0.06	1.00		0.14	0.48		0.04	1.00		0.46
Lane Grp Cap(c), veh/h	119	755	784	13	628	643	515	0	0	512	0	402
V/C Ratio(X)	0.65	0.42	0.42	0.45	0.64	0.64	0.09	0.00	0.00	0.26	0.00	0.10
Avail Cap(c_a), veh/h	850	1654	1718	1036	1654	1693	1067	0	0	996	0	1004
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.9	7.1	7.1	19.5	9.9	9.9	11.4	0.0	0.0	12.2	0.0	11.3
Incr Delay (d2), s/veh	2.2	0.4	0.4	8.7	1.1	1.1	0.1	0.0	0.0	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	0.6	1.1	1.1	0.1	2.0	2.0	0.3	0.0	0.0	0.8	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.1	7.5	7.5	28.3	11.0	11.0	11.4	0.0	0.0	12.4	0.0	11.4
LnGrp LOS	C	A	A	C	B	B	B	A	A	B	A	B
Approach Vol, veh/h		726			815			46			174	
Approach Delay, s/veh		8.9			11.1			11.4			12.2	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.3	22.2		14.0	6.4	19.2		14.0				
Change Period (Y+Rc), s	3.0	4.0		4.0	3.5	4.0		4.0				
Max Green Setting (Gmax), s	25.0	40.0		25.0	20.5	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.1	7.1		5.2	3.8	9.9		2.8				
Green Ext Time (p_c), s	0.0	4.0		0.6	0.0	5.3		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	695	5	20	720	70	5	0	5	80	5	40
Future Volume (veh/h)	40	695	5	20	720	70	5	0	5	80	5	40
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		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	45	790	6	23	818	0	6	0	0	95	0	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	114	1438	11	65	1317		19	0	0	382	0	170
Arrive On Green	0.07	0.43	0.43	0.04	0.40	0.00	0.01	0.00	0.00	0.12	0.00	0.12
Sat Flow, veh/h	1654	3356	25	1654	3300	1472	1654	0	0	3309	0	1472
Grp Volume(v), veh/h	45	388	408	23	818	0	6	0	0	95	0	1
Grp Sat Flow(s),veh/h/ln	1654	1650	1731	1654	1650	1472	1654	0	0	1654	0	1472
Q Serve(g_s), s	1.0	6.9	6.9	0.5	7.8	0.0	0.1	0.0	0.0	1.0	0.0	0.0
Cycle Q Clear(g_c), s	1.0	6.9	6.9	0.5	7.8	0.0	0.1	0.0	0.0	1.0	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	114	707	742	65	1317		19	0	0	382	0	170
V/C Ratio(X)	0.39	0.55	0.55	0.35	0.62		0.32	0.00	0.00	0.25	0.00	0.01
Avail Cap(c_a), veh/h	838	1462	1534	628	2925		628	0	0	1005	0	447
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.6	8.4	8.4	18.5	9.5	0.0	19.4	0.0	0.0	15.9	0.0	15.5
Incr Delay (d2), s/veh	0.8	0.7	0.6	1.2	0.5	0.0	3.6	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.6	1.7	0.2	1.9	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.4	9.1	9.1	19.7	10.0	0.0	23.0	0.0	0.0	16.0	0.0	15.5
LnGrp LOS	B	A	A	B	A		C	A	A	B	A	B
Approach Vol, veh/h		841			841	A		6			96	
Approach Delay, s/veh		9.6			10.2			23.0			16.0	
Approach LOS		A			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	20.8		3.9	5.1	21.9		8.6				
Change Period (Y+Rc), s	3.5	5.0		3.5	3.5	5.0		4.0				
Max Green Setting (Gmax), s	20.0	35.0		15.0	15.0	35.0		12.0				
Max Q Clear Time (g_c+I1), s	3.0	9.8		2.1	2.5	8.9		3.0				
Green Ext Time (p_c), s	0.0	5.8		0.0	0.0	5.0		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	680	30	70	760	220	20	5	50	120	5	50
Future Volume (veh/h)	70	680	30	70	760	220	20	5	50	120	5	50
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	80	773	32	80	864	230	23	6	5	136	6	5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	159	1543	64	159	1225	326	328	122	101	329	122	101
Arrive On Green	0.10	0.48	0.48	0.10	0.48	0.48	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1640	3196	132	1640	2539	675	1290	868	724	1292	867	723
Grp Volume(v), veh/h	80	396	409	80	557	537	23	0	11	136	0	11
Grp Sat Flow(s),veh/h/ln	1640	1636	1693	1640	1636	1578	1290	0	1592	1292	0	1590
Q Serve(g_s), s	2.1	7.7	7.7	2.1	12.4	12.4	0.7	0.0	0.3	4.7	0.0	0.3
Cycle Q Clear(g_c), s	2.1	7.7	7.7	2.1	12.4	12.4	1.0	0.0	0.3	5.0	0.0	0.3
Prop In Lane	1.00		0.08	1.00		0.43	1.00		0.45	1.00		0.45
Lane Grp Cap(c), veh/h	159	790	817	159	790	762	328	0	223	329	0	223
V/C Ratio(X)	0.50	0.50	0.50	0.50	0.70	0.71	0.07	0.00	0.05	0.41	0.00	0.05
Avail Cap(c_a), veh/h	813	1481	1532	813	1481	1428	814	0	823	1039	0	1097
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.9	8.2	8.2	19.9	9.4	9.4	17.7	0.0	17.3	19.4	0.0	17.3
Incr Delay (d2), s/veh	0.9	0.5	0.5	0.9	1.2	1.2	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.8	1.9	0.7	3.1	3.0	0.2	0.0	0.1	1.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	8.7	8.7	20.8	10.6	10.6	17.7	0.0	17.3	19.7	0.0	17.3
LnGrp LOS	C	A	A	C	B	B	B	A	B	B	A	B
Approach Vol, veh/h		885			1174			34			147	
Approach Delay, s/veh		9.8			11.3			17.6			19.6	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.5	27.4		10.5	8.5	27.4		10.5				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	23.0	42.0		32.0	23.0	42.0		24.0				
Max Q Clear Time (g_c+I1), s	4.1	9.7		7.0	4.1	14.4		3.0				
Green Ext Time (p_c), s	0.0	5.3		0.1	0.0	8.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑					↰↰		↱
Traffic Volume (veh/h)	0	630	220	0	580	0	0	0	0	800	0	470
Future Volume (veh/h)	0	630	220	0	580	0	0	0	0	800	0	470
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1811	0	1826	0				1826	0	1826
Adj Flow Rate, veh/h	0	670	0	0	617	0				851	0	223
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	5	6	0	5	0				5	0	5
Cap, veh/h	0	975		0	975	0				1103	0	506
Arrive On Green	0.00	0.28	0.00	0.00	0.28	0.00				0.33	0.00	0.33
Sat Flow, veh/h	0	3561	1535	0	3652	0				3374	0	1547
Grp Volume(v), veh/h	0	670	0	0	617	0				851	0	223
Grp Sat Flow(s),veh/h/ln	0	1735	1535	0	1735	0				1687	0	1547
Q Serve(g_s), s	0.0	4.8	0.0	0.0	4.4	0.0				6.4	0.0	3.2
Cycle Q Clear(g_c), s	0.0	4.8	0.0	0.0	4.4	0.0				6.4	0.0	3.2
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	975		0	975	0				1103	0	506
V/C Ratio(X)	0.00	0.69		0.00	0.63	0.00				0.77	0.00	0.44
Avail Cap(c_a), veh/h	0	6181		0	6181	0				6011	0	2757
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.0	0.0	0.0	8.8	0.0				8.5	0.0	7.4
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.3	0.0				0.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.0	0.0	0.0	1.0	0.0				1.4	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.3	0.0	0.0	9.1	0.0				8.9	0.0	7.7
LnGrp LOS	A	A		A	A	A				A	A	A
Approach Vol, veh/h		670	A		617						1074	
Approach Delay, s/veh		9.3			9.1						8.7	
Approach LOS		A			A						A	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		13.9		14.2		13.9						
Change Period (Y+Rc), s		* 6		* 5		* 6						
Max Green Setting (Gmax), s		* 50		* 50		* 50						
Max Q Clear Time (g_c+I1), s		6.8		8.4		6.4						
Green Ext Time (p_c), s		1.1		0.8		1.1						

Intersection Summary		
HCM 6th Ctrl Delay		9.0
HCM 6th LOS		A

Notes

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

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1200	0	0	880	170	330
Future Volume (veh/h)	1200	0	0	880	170	330
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1737	0	0	1737	1737	1737
Adj Flow Rate, veh/h	1290	0	0	946	213	108
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	11	0	0	11	11	11
Cap, veh/h	1655	0	0	1655	494	220
Arrive On Green	0.50	0.00	0.00	0.50	0.15	0.15
Sat Flow, veh/h	3474	0	0	3474	3309	1472
Grp Volume(v), veh/h	1290	0	0	946	213	108
Grp Sat Flow(s),veh/h/ln	1650	0	0	1650	1654	1472
Q Serve(g_s), s	10.1	0.0	0.0	6.3	1.8	2.1
Cycle Q Clear(g_c), s	10.1	0.0	0.0	6.3	1.8	2.1
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1655	0	0	1655	494	220
V/C Ratio(X)	0.78	0.00	0.00	0.57	0.43	0.49
Avail Cap(c_a), veh/h	5239	0	0	5239	2626	1168
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.4	0.0	0.0	5.5	12.2	12.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	0.7	0.5	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.7	0.0	0.0	5.6	12.4	12.9
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h	1290			946	321	
Approach Delay, s/veh	6.7			5.6	12.6	
Approach LOS	A			A	B	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	21.8				21.8	9.7
Change Period (Y+Rc), s	* 6				* 6	5.0
Max Green Setting (Gmax), s	* 50				* 50	25.0
Max Q Clear Time (g_c+I1), s	12.1				8.3	4.1
Green Ext Time (p_c), s	3.7				2.5	0.2

Intersection Summary		
HCM 6th Ctrl Delay	7.0	
HCM 6th LOS	A	

Notes

User approved volume balancing among the lanes for turning movement.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	450	700	380	70	880	40	240	70	60	90	80	320
Future Volume (veh/h)	450	700	380	70	880	40	240	70	60	90	80	320
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	479	745	222	74	936	11	255	74	40	90	93	26
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	622	1976	560	130	1450	441	506	166	90	171	179	304
Arrive On Green	0.19	0.42	0.42	0.08	0.31	0.31	0.16	0.16	0.16	0.10	0.10	0.10
Sat Flow, veh/h	3209	4742	1343	1654	4742	1441	3209	1052	569	1654	1737	2944
Grp Volume(v), veh/h	479	745	222	74	936	11	255	0	114	90	93	26
Grp Sat Flow(s),veh/h/ln	1605	1581	1343	1654	1581	1441	1605	0	1620	1654	1737	1472
Q Serve(g_s), s	9.4	7.2	7.7	2.9	11.3	0.4	4.8	0.0	4.2	3.4	3.4	0.5
Cycle Q Clear(g_c), s	9.4	7.2	7.7	2.9	11.3	0.4	4.8	0.0	4.2	3.4	3.4	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	622	1976	560	130	1450	441	506	0	255	171	179	304
V/C Ratio(X)	0.77	0.38	0.40	0.57	0.65	0.02	0.50	0.00	0.45	0.53	0.52	0.09
Avail Cap(c_a), veh/h	1213	2857	809	623	2857	868	1450	0	732	748	785	1330
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.4	13.4	13.5	29.5	19.9	16.1	25.6	0.0	25.3	28.2	28.2	26.9
Incr Delay (d2), s/veh	2.1	0.1	0.5	3.9	0.5	0.0	0.8	0.0	1.2	2.5	2.3	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	3.4	2.2	2.0	1.2	3.7	0.1	1.8	0.0	1.7	1.4	1.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	13.5	14.0	33.4	20.4	16.1	26.4	0.0	26.6	30.7	30.5	27.1
LnGrp LOS	C	B	B	C	C	B	C	A	C	C	C	C
Approach Vol, veh/h		1446			1021			369			209	
Approach Delay, s/veh		18.2			21.3			26.4			30.2	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.2	32.5		10.6	16.6	25.1		14.2
Change Period (Y+Rc), s	4.0	4.8		3.7	3.7	4.8		3.7
Max Green Setting (Gmax), s	25.0	40.0		30.0	25.1	40.0		30.0
Max Q Clear Time (g_c+I1), s	11.4	9.7		5.4	11.4	13.3		6.8
Green Ext Time (p_c), s	0.1	6.5		0.8	1.5	6.9		1.6

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

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	150	590	110	20	980	20	10	5	5	5	5	110
Future Vol, veh/h	150	590	110	20	980	20	10	5	5	5	5	110
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	240	-	-	120	-	-	-	-	25	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	11	11	11	11	11	11	11	11	11	11	11	11
Mvmt Flow	153	602	112	20	1000	20	10	5	5	5	5	112

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1020	0	0	714	0	0	1507	2024	357	1660	2070	510
Stage 1	-	-	-	-	-	-	964	964	-	1050	1050	-
Stage 2	-	-	-	-	-	-	543	1060	-	610	1020	-
Critical Hdwy	4.32	-	-	4.32	-	-	7.72	6.72	7.12	7.72	6.72	7.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Follow-up Hdwy	2.31	-	-	2.31	-	-	3.61	4.11	3.41	3.61	4.11	3.41
Pot Cap-1 Maneuver	624	-	-	825	-	-	76	51	614	58	48	485
Stage 1	-	-	-	-	-	-	257	312	-	227	283	-
Stage 2	-	-	-	-	-	-	469	280	-	427	293	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	624	-	-	825	-	-	42	38	614	41	35	485
Mov Cap-2 Maneuver	-	-	-	-	-	-	42	38	-	41	35	-
Stage 1	-	-	-	-	-	-	194	236	-	171	276	-
Stage 2	-	-	-	-	-	-	345	273	-	313	221	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0.2	106.2	26.8
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	41	614	624	-	-	825	-	-	41	311
HCM Lane V/C Ratio	0.373	0.008	0.245	-	-	0.025	-	-	0.124	0.377
HCM Control Delay (s)	137.9	10.9	12.6	-	-	9.5	-	-	104.9	23.4
HCM Lane LOS	F	B	B	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	1.3	0	1	-	-	0.1	-	-	0.4	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	425	40	20	520	170	40	30	20	160	170	460
Future Volume (veh/h)	100	425	40	20	520	170	40	30	20	160	170	460
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.96	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	111	472	36	22	578	95	44	33	0	178	189	145
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	360	1097	83	61	925	634	156	164	0	269	282	239
Arrive On Green	0.11	0.36	0.36	0.04	0.28	0.28	0.09	0.09	0.00	0.16	0.16	0.16
Sat Flow, veh/h	3209	3087	234	1654	3300	1408	1654	1737	0	1654	1737	1472
Grp Volume(v), veh/h	111	251	257	22	578	95	44	33	0	178	189	145
Grp Sat Flow(s),veh/h/ln	1605	1650	1671	1654	1650	1408	1654	1737	0	1654	1737	1472
Q Serve(g_s), s	1.5	5.6	5.7	0.6	7.4	2.0	1.2	0.8	0.0	4.9	5.0	4.4
Cycle Q Clear(g_c), s	1.5	5.6	5.7	0.6	7.4	2.0	1.2	0.8	0.0	4.9	5.0	4.4
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	360	586	594	61	925	634	156	164	0	269	282	239
V/C Ratio(X)	0.31	0.43	0.43	0.36	0.62	0.15	0.28	0.20	0.00	0.66	0.67	0.61
Avail Cap(c_a), veh/h	795	1362	1380	410	2724	1401	444	466	0	683	717	608
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	11.9	11.9	22.8	15.2	8.1	20.4	20.3	0.0	19.0	19.1	18.9
Incr Delay (d2), s/veh	0.2	0.5	0.5	1.3	0.7	0.1	0.4	0.2	0.0	1.0	1.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.5	1.6	0.2	2.2	0.6	0.4	0.3	0.0	1.6	1.7	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.0	12.4	12.4	24.1	15.9	8.2	20.8	20.5	0.0	20.1	20.1	19.8
LnGrp LOS	B	B	B	C	B	A	C	C	A	C	C	B
Approach Vol, veh/h		619			695			77			512	
Approach Delay, s/veh		13.7			15.1			20.6			20.0	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	19.6		11.4	4.8	23.2		9.1				
Change Period (Y+Rc), s	3.0	6.0		3.5	3.0	6.0		4.5				
Max Green Setting (Gmax), s	12.0	40.0		20.0	12.0	40.0		13.0				
Max Q Clear Time (g_c+I1), s	3.5	9.4		7.0	2.6	7.7		3.2				
Green Ext Time (p_c), s	0.0	4.2		0.9	0.0	2.8		0.1				

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

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

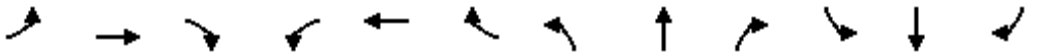
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	600	705	0	0	5
Future Vol, veh/h	5	600	705	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	90	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	13	13	13	13	13
Mvmt Flow	5	652	766	0	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	766	0	-	0	1102	383
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	336	-
Critical Hdwy	4.36	-	-	-	7.06	7.16
Critical Hdwy Stg 1	-	-	-	-	6.06	-
Critical Hdwy Stg 2	-	-	-	-	6.06	-
Follow-up Hdwy	2.33	-	-	-	3.63	3.43
Pot Cap-1 Maneuver	775	-	-	-	189	585
Stage 1	-	-	-	-	392	-
Stage 2	-	-	-	-	664	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	775	-	-	-	188	585
Mov Cap-2 Maneuver	-	-	-	-	188	-
Stage 1	-	-	-	-	390	-
Stage 2	-	-	-	-	664	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	775	-	-	-	585
HCM Lane V/C Ratio	0.007	-	-	-	0.009
HCM Control Delay (s)	9.7	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	505	20	5	620	5	5	0	5	10	0	80
Future Volume (veh/h)	75	505	20	5	620	5	5	0	5	10	0	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663
Adj Flow Rate, veh/h	81	543	0	5	667	3	5	0	0	11	0	8
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	16	16	16	16	16	16	16	16	16	16	16	16
Cap, veh/h	625	1584		679	1584	707	405	0	0	417	0	44
Arrive On Green	0.50	0.50	0.00	0.50	0.50	0.50	0.03	0.00	0.00	0.03	0.00	0.03
Sat Flow, veh/h	682	3159	1409	767	3159	1409	980	0	0	1371	0	1409
Grp Volume(v), veh/h	81	543	0	5	667	3	5	0	0	11	0	8
Grp Sat Flow(s),veh/h/ln	682	1580	1409	767	1580	1409	980	0	0	1371	0	1409
Q Serve(g_s), s	1.6	2.0	0.0	0.1	2.6	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	4.2	2.0	0.0	2.1	2.6	0.0	0.2	0.0	0.0	0.1	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	625	1584		679	1584	707	405	0	0	417	0	44
V/C Ratio(X)	0.13	0.34		0.01	0.42	0.00	0.01	0.00	0.00	0.03	0.00	0.18
Avail Cap(c_a), veh/h	1204	4266		1330	4266	1903	2964	0	0	2995	0	2927
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.4	2.9	0.0	3.5	3.0	2.4	9.2	0.0	0.0	9.1	0.0	9.1
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.5	3.0	0.0	3.5	3.2	2.4	9.2	0.0	0.0	9.1	0.0	11.0
LnGrp LOS	A	A		A	A	A	A	A	A	A	A	B
Approach Vol, veh/h		624	A		675			5			19	
Approach Delay, s/veh		3.2			3.2			9.2			9.9	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		5.1		14.2		5.1		14.2				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		40.0		26.0		40.0		26.0				
Max Q Clear Time (g_c+I1), s		2.2		6.2		2.1		4.6				
Green Ext Time (p_c), s		0.0		3.8		0.0		4.1				

Intersection Summary		
HCM 6th Ctrl Delay	3.3	
HCM 6th LOS	A	

Notes

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

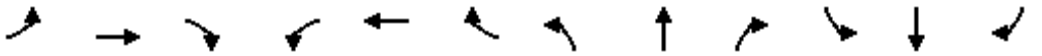
Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	70	10	0	70	20	0
Future Vol, veh/h	70	10	0	70	20	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	12	12	12	12	12	12
Mvmt Flow	88	13	0	88	25	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	101	0	183	95
Stage 1	-	-	-	-	95	-
Stage 2	-	-	-	-	88	-
Critical Hdwy	-	-	4.22	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.308	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	1431	-	784	935
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	911	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1431	-	784	935
Mov Cap-2 Maneuver	-	-	-	-	784	-
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	911	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.7
HCM LOS			A

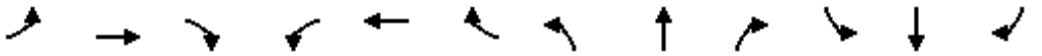
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	784	-	-	1431	-
HCM Lane V/C Ratio	0.032	-	-	-	-
HCM Control Delay (s)	9.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	905	390	0	0	0	0	0	0	660	230	0
Future Volume (vph)	0	905	390	0	0	0	0	0	0	660	230	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		11.0								4.0	4.0	
Lane Util. Factor		0.95								0.97	1.00	
Frpb, ped/bikes		1.00								1.00	1.00	
Flpb, ped/bikes		1.00								1.00	1.00	
Frt		0.95								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3367								3433	1863	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3367								3433	1863	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1017	438	0	0	0	0	0	0	742	258	0
RTOR Reduction (vph)	0	64	0	0	0	0	0	0	0	105	0	0
Lane Group Flow (vph)	0	1391	0	0	0	0	0	0	0	637	258	0
Confl. Bikes (#/hr)			1									2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA								Split	NA	
Protected Phases		2								1	1	
Permitted Phases												
Actuated Green, G (s)		37.3								17.7	17.7	
Effective Green, g (s)		37.3								17.7	17.7	
Actuated g/C Ratio		0.53								0.25	0.25	
Clearance Time (s)		11.0								4.0	4.0	
Vehicle Extension (s)		2.0								2.0	2.0	
Lane Grp Cap (vph)		1794								868	471	
v/s Ratio Prot		c0.41								c0.19	0.14	
v/s Ratio Perm												
v/c Ratio		0.78								0.73	0.55	
Uniform Delay, d1		13.0								24.0	22.7	
Progression Factor		1.00								1.35	1.28	
Incremental Delay, d2		3.4								1.7	0.4	
Delay (s)		16.4								34.1	29.4	
Level of Service		B								C	C	
Approach Delay (s)		16.4			0.0			0.0			32.9	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

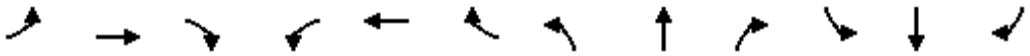
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	230	1130	0	0	0	0	0	660	430
Future Volume (vph)	0	0	0	230	1130	0	0	0	0	0	660	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0	5.0						5.0	5.0
Lane Util. Factor				1.00	0.95						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.99
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1752	3505						3505	1545
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1752	3505						3505	1545
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	267	1314	0	0	0	0	0	767	500
RTOR Reduction (vph)	0	0	0	12	0	0	0	0	0	0	0	96
Lane Group Flow (vph)	0	0	0	255	1314	0	0	0	0	0	767	404
Confl. Peds. (#/hr)												2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						5	
Permitted Phases				6								5
Actuated Green, G (s)				44.0	44.0						16.0	16.0
Effective Green, g (s)				44.0	44.0						16.0	16.0
Actuated g/C Ratio				0.63	0.63						0.23	0.23
Clearance Time (s)				5.0	5.0						5.0	5.0
Vehicle Extension (s)				2.0	2.0						2.0	2.0
Lane Grp Cap (vph)				1101	2203						801	353
v/s Ratio Prot					c0.37						0.22	
v/s Ratio Perm				0.15								c0.26
v/c Ratio				0.23	0.60						0.96	1.14
Uniform Delay, d1				5.7	7.7						26.7	27.0
Progression Factor				0.48	0.51						1.00	1.00
Incremental Delay, d2				0.4	1.0						23.0	92.8
Delay (s)				3.1	5.0						49.7	119.8
Level of Service				A	A						D	F
Approach Delay (s)		0.0			4.7			0.0			77.3	
Approach LOS		A			A			A			E	

Intersection Summary			
HCM 2000 Control Delay	37.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		

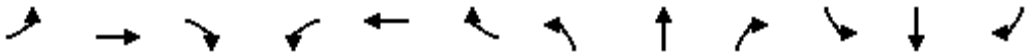
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	990	1090	370	400	0	0	0	0
Future Volume (vph)	0	0	0	0	990	1090	370	400	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					11.0	11.0	4.0	4.0				
Lane Util. Factor					0.95	1.00	0.97	1.00				
Frpb, ped/bikes					1.00	0.99	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					3539	1562	3433	1863				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					3539	1562	3433	1863				
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)	0	0	0	0	1138	1253	425	460	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	40	98	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1138	1213	327	460	0	0	0	0
Confl. Bikes (#/hr)						3						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type					NA	Perm	Split	NA				
Protected Phases					2		1	1				
Permitted Phases						2						
Actuated Green, G (s)					38.0	38.0	17.0	17.0				
Effective Green, g (s)					38.0	38.0	17.0	17.0				
Actuated g/C Ratio					0.54	0.54	0.24	0.24				
Clearance Time (s)					11.0	11.0	4.0	4.0				
Vehicle Extension (s)					2.0	2.0	2.0	2.0				
Lane Grp Cap (vph)					1921	847	833	452				
v/s Ratio Prot					0.32		0.10	c0.25				
v/s Ratio Perm						c0.78						
v/c Ratio					0.59	1.43	0.39	1.02				
Uniform Delay, d1					10.8	16.0	22.2	26.5				
Progression Factor					1.00	1.00	0.52	0.64				
Incremental Delay, d2					1.4	201.1	0.1	45.3				
Delay (s)					12.1	217.1	11.7	62.4				
Level of Service					B	F	B	E				
Approach Delay (s)		0.0			119.6			38.0			0.0	
Approach LOS		A			F			D			A	

Intersection Summary			
HCM 2000 Control Delay	97.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	380	1185	0	0	0	0	0	390	140	0	0	0
Future Volume (vph)	380	1185	0	0	0	0	0	390	140	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						5.0	5.0			
Lane Util. Factor	1.00	0.95						0.95	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1736	3471						3471	1553			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1736	3471						3471	1553			
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	442	1378	0	0	0	0	0	453	163	0	0	0
RTOR Reduction (vph)	46	0	0	0	0	0	0	0	100	0	0	0
Lane Group Flow (vph)	396	1378	0	0	0	0	0	453	63	0	0	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA						NA	Perm			
Protected Phases	6	6						5				
Permitted Phases									5			
Actuated Green, G (s)	46.2	46.2						13.8	13.8			
Effective Green, g (s)	46.2	46.2						13.8	13.8			
Actuated g/C Ratio	0.66	0.66						0.20	0.20			
Clearance Time (s)	5.0	5.0						5.0	5.0			
Vehicle Extension (s)	2.0	2.0						2.0	2.0			
Lane Grp Cap (vph)	1145	2290						684	306			
v/s Ratio Prot	0.23	c0.40						c0.13				
v/s Ratio Perm									0.04			
v/c Ratio	0.35	0.60						0.66	0.20			
Uniform Delay, d1	5.2	6.7						25.9	23.5			
Progression Factor	0.00	1.14						1.00	1.00			
Incremental Delay, d2	0.6	0.8						1.9	0.1			
Delay (s)	0.6	8.5						27.8	23.6			
Level of Service	A	A						C	C			
Approach Delay (s)		6.6			0.0			26.7			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	83.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	1570	10	90	220	0	0	0	420
Future Volume (veh/h)	0	0	0	0	1570	10	90	220	0	0	0	420
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				0	1870	1900	1870	1870	0	0	0	1870
Adj Flow Rate, veh/h				0	1784	11	102	250	0	0	0	255
Peak Hour Factor				0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				0	2	0	2	2	0	0	0	2
Cap, veh/h				0	0	0	556	301	0	0	0	0
Arrive On Green				0.00	0.00	0.00	0.16	0.16	0.00	0.00	0.00	0.00
Sat Flow, veh/h					0		3456	1870	0		0	
Grp Volume(v), veh/h					0.0		102	250	0		0.0	
Grp Sat Flow(s),veh/h/ln							1728	1870	0			
Q Serve(g_s), s							1.8	8.9	0.0			
Cycle Q Clear(g_c), s							1.8	8.9	0.0			
Prop In Lane							1.00		0.00			
Lane Grp Cap(c), veh/h							556	301	0			
V/C Ratio(X)							0.18	0.83	0.00			
Avail Cap(c_a), veh/h							751	515	0			
HCM Platoon Ratio							1.00	1.00	1.00			
Upstream Filter(I)							0.97	0.97	0.00			
Uniform Delay (d), s/veh							25.0	28.0	0.0			
Incr Delay (d2), s/veh							0.1	2.2	0.0			
Initial Q Delay(d3),s/veh							0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln							0.7	4.1	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh							25.1	30.3	0.0			
LnGrp LOS							C	C	A			
Approach Vol, veh/h								352				
Approach Delay, s/veh								28.8				
Approach LOS								C				

Timer - Assigned Phs	3	8
Phs Duration (G+Y+Rc), s	15.1	15.1
Change Period (Y+Rc), s	* 4	* 4
Max Green Setting (Gmax), s	* 15	* 19
Max Q Clear Time (g_c+I1), s	3.8	10.9
Green Ext Time (p_c), s	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	905	200	0	0	0	0	90	5	0	0	0
Future Volume (veh/h)	220	905	200	0	0	0	0	90	5	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1841	1841	1841				0	1841	1841			
Adj Flow Rate, veh/h	268	1104	0				0	110	1			
Peak Hour Factor	0.82	0.82	0.82				0.82	0.82	0.82			
Percent Heavy Veh, %	4	4	4				0	4	4			
Cap, veh/h	1355	3883					0	173	2			
Arrive On Green	0.77	0.77	0.00				0.00	0.09	0.09			
Sat Flow, veh/h	1753	5191	0				0	1821	17			
Grp Volume(v), veh/h	268	1104	0				0	0	111			
Grp Sat Flow(s),veh/h/ln	1753	1675	0				0	0	1838			
Q Serve(g_s), s	2.8	4.3	0.0				0.0	0.0	4.0			
Cycle Q Clear(g_c), s	2.8	4.3	0.0				0.0	0.0	4.0			
Prop In Lane	1.00		0.00				0.00		0.01			
Lane Grp Cap(c), veh/h	1355	3883					0	0	174			
V/C Ratio(X)	0.20	0.28					0.00	0.00	0.64			
Avail Cap(c_a), veh/h	1355	3883					0	0	459			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.79	0.79	0.00				0.00	0.00	1.00			
Uniform Delay (d), s/veh	2.1	2.2	0.0				0.0	0.0	29.6			
Incr Delay (d2), s/veh	0.3	0.1	0.0				0.0	0.0	1.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.0				0.0	0.0	1.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.3	2.4	0.0				0.0	0.0	31.1			
LnGrp LOS	A	A					A	A	C			
Approach Vol, veh/h		1372	A					111				
Approach Delay, s/veh		2.4						31.1				
Approach LOS		A						C				

Timer - Assigned Phs	2	8
Phs Duration (G+Y+Rc), s	57.6	10.4
Change Period (Y+Rc), s	* 5	4.0
Max Green Setting (Gmax), s	* 42	17.0
Max Q Clear Time (g_c+I1), s	6.3	6.0
Green Ext Time (p_c), s	5.2	0.2

Intersection Summary	
HCM 6th Ctrl Delay	4.5
HCM 6th LOS	A

Notes

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	495	370	150	880	30	540	70	80	20	100	140
Future Volume (veh/h)	30	495	370	150	880	30	540	70	80	20	100	140
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	35	582	116	176	1035	14	635	82	13	24	118	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	45	948	414	543	2001	873	576	407	342	49	147	125
Arrive On Green	0.03	0.27	0.27	0.10	0.19	0.19	0.17	0.22	0.22	0.03	0.08	0.00
Sat Flow, veh/h	1781	3554	1551	1781	3554	1551	3456	1870	1572	1781	1870	1585
Grp Volume(v), veh/h	35	582	116	176	1035	14	635	82	13	24	118	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1551	1781	1777	1551	1728	1870	1572	1781	1870	1585
Q Serve(g_s), s	2.3	17.2	4.6	11.0	31.5	0.9	20.0	4.3	0.4	1.6	7.4	0.0
Cycle Q Clear(g_c), s	2.3	17.2	4.6	11.0	31.5	0.9	20.0	4.3	0.4	1.6	7.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	45	948	414	543	2001	873	576	407	342	49	147	125
V/C Ratio(X)	0.79	0.61	0.28	0.32	0.52	0.02	1.10	0.20	0.04	0.49	0.80	0.00
Avail Cap(c_a), veh/h	223	948	414	543	2001	873	576	546	458	208	483	409
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.78	0.78	0.78	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.2	38.6	14.6	42.5	34.2	21.7	50.0	38.4	9.0	57.5	54.4	0.0
Incr Delay (d2), s/veh	10.7	3.0	1.7	0.1	0.7	0.0	68.7	0.1	0.0	2.8	3.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.5	2.8	5.0	15.0	0.3	14.0	2.0	0.3	0.8	3.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.9	41.6	16.3	42.6	34.9	21.7	118.7	38.5	9.0	60.3	58.2	0.0
LnGrp LOS	E	D	B	D	C	C	F	D	A	E	E	A
Approach Vol, veh/h		733			1225			730			142	
Approach Delay, s/veh		38.9			35.9			107.7			58.5	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	38.0	25.0	14.4	7.0	73.6	8.3	31.1
Change Period (Y+Rc), s	* 6	* 6	* 5	* 5	* 4	* 6	* 5	* 5
Max Green Setting (Gmax), s	* 15	* 32	* 20	* 31	* 15	* 34	* 14	* 35
Max Q Clear Time (g_c+I1), s	13.0	19.2	22.0	9.4	4.3	33.5	3.6	6.3
Green Ext Time (p_c), s	0.0	0.6	0.0	0.2	0.0	0.1	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	56.3
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* 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)	30	395	170	80	820	5	210	20	40	5	60	30
Future Volume (veh/h)	30	395	170	80	820	5	210	20	40	5	60	30
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	38	500	83	101	1038	6	284	0	3	6	76	20
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	423	2180	952	126	1557	680	457	0	279	309	251	66
Arrive On Green	0.48	1.00	1.00	0.07	0.44	0.44	0.18	0.00	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1767	3526	1539	1767	3526	1540	2579	0	1572	1403	1416	373
Grp Volume(v), veh/h	38	500	83	101	1038	6	284	0	3	6	0	96
Grp Sat Flow(s),veh/h/ln	1767	1763	1539	1767	1763	1540	1289	0	1572	1403	0	1788
Q Serve(g_s), s	1.4	0.0	0.0	6.8	28.0	0.3	12.9	0.0	0.2	0.4	0.0	5.6
Cycle Q Clear(g_c), s	1.4	0.0	0.0	6.8	28.0	0.3	18.5	0.0	0.2	0.4	0.0	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	423	2180	952	126	1557	680	457	0	279	309	0	317
V/C Ratio(X)	0.09	0.23	0.09	0.80	0.67	0.01	0.62	0.00	0.01	0.02	0.00	0.30
Avail Cap(c_a), veh/h	423	2180	952	295	1557	680	666	0	406	422	0	462
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.2	0.0	0.0	54.9	26.5	18.8	50.9	0.0	40.7	40.8	0.0	42.9
Incr Delay (d2), s/veh	0.0	0.2	0.2	3.9	1.9	0.0	1.4	0.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.1	0.0	3.0	11.1	0.1	4.2	0.0	0.1	0.1	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	0.2	0.2	58.8	28.4	18.8	52.3	0.0	40.7	40.8	0.0	43.4
LnGrp LOS	C	A	A	E	C	B	D	A	D	D	A	D
Approach Vol, veh/h		621			1145			287			102	
Approach Delay, s/veh		1.7			31.1			52.2			43.3	
Approach LOS		A			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.5	80.2		26.3	34.7	59.0		26.3
Change Period (Y+Rc), s	* 5	6.0		* 5	6.0	* 6		* 5
Max Green Setting (Gmax), s	* 20	53.0		* 31	20.0	* 53		* 31
Max Q Clear Time (g_c+I1), s	8.8	2.0		7.6	3.4	30.0		20.5
Green Ext Time (p_c), s	0.1	0.9		0.4	0.0	9.5		0.8

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

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)	230	130	80	195	345	80	190	455	80	30	600	370
Future Volume (veh/h)	230	130	80	195	345	80	190	455	80	30	600	370
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	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	258	146	21	219	388	84	213	511	81	34	674	329
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	374	383	168	272	541	241	334	1071	478	65	857	554
Arrive On Green	0.11	0.11	0.11	0.15	0.15	0.15	0.10	0.30	0.30	0.04	0.24	0.24
Sat Flow, veh/h	3428	3526	1550	1767	3526	1572	3428	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	258	146	21	219	388	84	213	511	81	34	674	329
Grp Sat Flow(s),veh/h/ln	1714	1763	1550	1767	1763	1572	1714	1763	1572	1767	1763	1572
Q Serve(g_s), s	4.0	2.1	0.7	6.6	5.8	2.6	3.3	6.5	2.1	1.0	9.9	9.5
Cycle Q Clear(g_c), s	4.0	2.1	0.7	6.6	5.8	2.6	3.3	6.5	2.1	1.0	9.9	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	374	383	168	272	541	241	334	1071	478	65	857	554
V/C Ratio(X)	0.69	0.38	0.12	0.80	0.72	0.35	0.64	0.48	0.17	0.52	0.79	0.59
Avail Cap(c_a), veh/h	2474	2544	1119	638	2544	1135	1237	1908	851	638	2544	1306
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	23.0	22.3	22.6	22.3	21.0	24.1	15.7	14.2	26.2	19.6	14.7
Incr Delay (d2), s/veh	0.9	0.2	0.1	2.1	0.7	0.3	0.8	0.1	0.1	2.4	0.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.8	0.2	2.4	2.0	0.9	1.2	2.1	0.6	0.4	3.4	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	23.2	22.4	24.8	23.0	21.3	24.8	15.8	14.2	28.6	20.3	15.1
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	C	B
Approach Vol, veh/h		425			691			805			1037	
Approach Delay, s/veh		24.0			23.3			18.1			18.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	13.0	9.4	19.5	11.0	15.5	6.0	22.8
Change Period (Y+Rc), s	* 5	7.0	* 4	* 6	* 5	7.0	* 4	* 6
Max Green Setting (Gmax), s	* 20	40.0	* 20	* 40	* 40	40.0	* 20	* 30
Max Q Clear Time (g_c+I1), s	8.6	4.1	5.3	11.9	6.0	7.8	3.0	8.5
Green Ext Time (p_c), s	0.2	0.3	0.3	1.6	0.1	0.7	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	110	30	5	230	5	150	5	0	10	5	240
Future Volume (veh/h)	100	110	30	5	230	5	150	5	0	10	5	240
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1811	1811	1826	1826	1811	1811	1811	1826	1811	1811
Adj Flow Rate, veh/h	108	118	18	5	247	3	161	5	0	11	5	43
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	6	6	5	5	6	6	6	5	6	6
Cap, veh/h	137	1111	934	11	979	813	310	323	0	353	29	249
Arrive On Green	0.08	0.61	0.61	0.01	0.54	0.54	0.18	0.18	0.00	0.18	0.18	0.18
Sat Flow, veh/h	1739	1826	1535	1725	1826	1515	1314	1811	0	1378	162	1397
Grp Volume(v), veh/h	108	118	18	5	247	3	161	5	0	11	0	48
Grp Sat Flow(s),veh/h/ln	1739	1826	1535	1725	1826	1515	1314	1811	0	1378	0	1560
Q Serve(g_s), s	4.0	1.8	0.3	0.2	4.7	0.1	7.7	0.1	0.0	0.4	0.0	1.7
Cycle Q Clear(g_c), s	4.0	1.8	0.3	0.2	4.7	0.1	9.4	0.1	0.0	0.6	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.90
Lane Grp Cap(c), veh/h	137	1111	934	11	979	813	310	323	0	353	0	278
V/C Ratio(X)	0.79	0.11	0.02	0.44	0.25	0.00	0.52	0.02	0.00	0.03	0.00	0.17
Avail Cap(c_a), veh/h	147	1111	934	132	979	813	600	721	0	656	0	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.5	5.4	5.1	32.3	8.1	7.0	26.7	22.1	0.0	22.3	0.0	22.7
Incr Delay (d2), s/veh	23.2	0.2	0.0	24.0	0.6	0.0	1.3	0.0	0.0	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.4	0.1	0.1	1.4	0.0	2.4	0.1	0.0	0.1	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.8	5.5	5.1	56.3	8.7	7.0	28.1	22.1	0.0	22.4	0.0	23.0
LnGrp LOS	D	A	A	E	A	A	C	C	A	C	A	C
Approach Vol, veh/h		244			255			166			59	
Approach Delay, s/veh		26.4			9.6			27.9			22.9	
Approach LOS		C			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.9	44.2		16.1	9.6	39.5		16.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	35.5		26.0	5.5	35.0		26.0
Max Q Clear Time (g_c+I1), s	2.2	3.8		3.7	6.0	6.7		11.4
Green Ext Time (p_c), s	0.0	0.6		0.2	0.0	1.2		0.4

Intersection Summary		
HCM 6th Ctrl Delay		20.6
HCM 6th LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	400	80	160	595	60	50	10	80	30	5	20
Future Volume (veh/h)	20	400	80	160	595	60	50	10	80	30	5	20
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	22	435	37	174	647	61	54	11	16	37	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	64	1023	448	441	1243	117	239	251	415	278	146	0
Arrive On Green	0.04	0.30	0.30	0.13	0.40	0.40	0.14	0.14	0.14	0.08	0.00	0.00
Sat Flow, veh/h	1711	3413	1495	3319	3145	296	1711	1796	1518	3421	1796	0
Grp Volume(v), veh/h	22	435	37	174	351	357	54	11	16	37	0	0
Grp Sat Flow(s),veh/h/ln	1711	1706	1495	1659	1706	1734	1711	1796	1518	1711	1796	0
Q Serve(g_s), s	0.6	4.8	0.8	2.3	7.4	7.4	1.3	0.3	0.4	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.6	4.8	0.8	2.3	7.4	7.4	1.3	0.3	0.4	0.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.17	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	64	1023	448	441	675	686	239	251	415	278	146	0
V/C Ratio(X)	0.35	0.43	0.08	0.39	0.52	0.52	0.23	0.04	0.04	0.13	0.00	0.00
Avail Cap(c_a), veh/h	1083	2882	1262	1401	1441	1464	433	455	587	2167	1137	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.2	13.3	11.9	18.8	10.9	10.9	18.1	17.6	12.7	20.2	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.6	0.2	0.2	1.3	1.3	0.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.6	0.3	0.8	2.4	2.4	0.5	0.1	0.1	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.4	13.9	12.1	19.0	12.2	12.2	18.3	17.7	12.7	20.3	0.0	0.0
LnGrp LOS	C	B	B	B	B	B	B	B	B	C	A	A
Approach Vol, veh/h		494			882			81			37	
Approach Delay, s/veh		14.2			13.6			17.1			20.3	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.3	18.4		8.0	5.8	22.9		10.7
Change Period (Y+Rc), s	4.0	* 4.2		4.1	4.0	* 4.2		4.1
Max Green Setting (Gmax), s	20.0	* 40		30.0	30.0	* 40		12.0
Max Q Clear Time (g_c+I1), s	4.3	6.8		2.5	2.6	9.4		3.3
Green Ext Time (p_c), s	0.3	6.1		0.0	0.0	9.3		0.1

Intersection Summary	
HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
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)	0	440	70	160	435	0	0	0	0	520	5	380
Future Volume (veh/h)	0	440	70	160	435	0	0	0	0	520	5	380
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1841	1841	1841	0				1841	1841	1841
Adj Flow Rate, veh/h	0	478	26	174	473	0				569	0	66
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	4	4	4	4	0				4	4	4
Cap, veh/h	0	1008	442	990	2298	0				685	0	610
Arrive On Green	0.00	0.29	0.29	0.10	0.22	0.00				0.20	0.00	0.20
Sat Flow, veh/h	0	3589	1533	3401	3589	0				3506	0	3120
Grp Volume(v), veh/h	0	478	26	174	473	0				569	0	66
Grp Sat Flow(s),veh/h/ln	0	1749	1533	1700	1749	0				1753	0	1560
Q Serve(g_s), s	0.0	6.6	0.7	2.8	6.5	0.0				9.2	0.0	1.0
Cycle Q Clear(g_c), s	0.0	6.6	0.7	2.8	6.5	0.0				9.2	0.0	1.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1008	442	990	2298	0				685	0	610
V/C Ratio(X)	0.00	0.47	0.06	0.18	0.21	0.00				0.83	0.00	0.11
Avail Cap(c_a), veh/h	0	1008	442	990	2298	0				1010	0	899
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.96	0.96	0.96	0.96	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.3	15.2	20.2	10.5	0.0				22.8	0.0	19.5
Incr Delay (d2), s/veh	0.0	1.5	0.2	0.1	0.2	0.0				2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.6	0.3	1.0	2.0	0.0				3.6	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.9	15.5	20.2	10.7	0.0				25.2	0.0	19.5
LnGrp LOS	A	B	B	C	B	A				C	A	B
Approach Vol, veh/h		504			647						635	
Approach Delay, s/veh		18.7			13.2						24.7	
Approach LOS		B			B						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	21.8	21.6		15.6		43.4
Change Period (Y+Rc), s	4.6	* 4.6		4.1		4.6
Max Green Setting (Gmax), s	10.0	* 17		17.0		33.0
Max Q Clear Time (g_c+I1), s	14.8	8.6		11.2		8.5
Green Ext Time (p_c), s	0.2	0.9		0.3		1.1

Intersection Summary	
HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

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)	160	800	0	0	555	390	40	5	150	0	0	0
Future Volume (veh/h)	160	800	0	0	555	390	40	5	150	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1826	1826	0	0	1826	1826	1826	1826	1826			
Adj Flow Rate, veh/h	180	899	0	0	624	218	49	0	18			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	5	5	0	0	5	5	5	5	5			
Cap, veh/h	1481	2817	0	0	1000	446	118	0	52			
Arrive On Green	0.88	1.00	0.00	0.00	0.29	0.29	0.03	0.00	0.03			
Sat Flow, veh/h	3374	3561	0	0	3561	1547	3478	0	1547			
Grp Volume(v), veh/h	180	899	0	0	624	218	49	0	18			
Grp Sat Flow(s),veh/h/ln	1687	1735	0	0	1735	1547	1739	0	1547			
Q Serve(g_s), s	0.4	0.0	0.0	0.0	9.2	6.9	0.8	0.0	0.7			
Cycle Q Clear(g_c), s	0.4	0.0	0.0	0.0	9.2	6.9	0.8	0.0	0.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	1481	2817	0	0	1000	446	118	0	52			
V/C Ratio(X)	0.12	0.32	0.00	0.00	0.62	0.49	0.42	0.00	0.34			
Avail Cap(c_a), veh/h	1481	2817	0	0	1000	446	884	0	393			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.86	0.86	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	2.0	0.0	0.0	0.0	18.2	17.4	27.9	0.0	27.9			
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	2.9	3.8	0.9	0.0	1.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.0	3.7	2.6	0.3	0.0	0.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.1	0.3	0.0	0.0	21.2	21.2	28.8	0.0	29.3			
LnGrp LOS	A	A	A	A	C	C	C	A	C			
Approach Vol, veh/h		1079			842			67				
Approach Delay, s/veh		0.6			21.2			28.9				
Approach LOS		A			C			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		52.9			30.9	22.0		6.1				
Change Period (Y+Rc), s		* 5			* 5	* 5		4.1				
Max Green Setting (Gmax), s		* 35			* 12	* 17		15.0				
Max Q Clear Time (g_c+I1), s		2.0			2.4	11.2		2.8				
Green Ext Time (p_c), s		2.5			0.4	1.1		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	10.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
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)	70	630	40	30	785	60	110	5	20	20	5	50
Future Volume (veh/h)	70	630	40	30	785	60	110	5	20	20	5	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	81	733	45	35	913	67	139	0	0	23	6	6
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	249	1511	93	70	1340	98	357	187	0	56	15	110
Arrive On Green	0.07	0.45	0.45	0.04	0.41	0.41	0.10	0.00	0.00	0.04	0.04	0.04
Sat Flow, veh/h	3401	3347	205	1753	3300	242	3506	1841	0	1404	366	2745
Grp Volume(v), veh/h	81	383	395	35	484	496	139	0	0	29	0	6
Grp Sat Flow(s),veh/h/ln	1700	1749	1803	1753	1749	1793	1753	1841	0	1771	0	1373
Q Serve(g_s), s	0.9	6.3	6.3	0.8	9.4	9.4	1.5	0.0	0.0	0.7	0.0	0.1
Cycle Q Clear(g_c), s	0.9	6.3	6.3	0.8	9.4	9.4	1.5	0.0	0.0	0.7	0.0	0.1
Prop In Lane	1.00		0.11	1.00		0.14	1.00		0.00	0.79		1.00
Lane Grp Cap(c), veh/h	249	790	814	70	710	728	357	187	0	71	0	110
V/C Ratio(X)	0.32	0.48	0.49	0.50	0.68	0.68	0.39	0.00	0.00	0.41	0.00	0.05
Avail Cap(c_a), veh/h	1651	1486	1532	851	1486	1524	2128	1117	0	1075	0	1666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.1	7.9	7.9	19.4	10.0	10.0	17.3	0.0	0.0	19.3	0.0	19.0
Incr Delay (d2), s/veh	0.3	0.3	0.3	2.0	0.9	0.8	0.3	0.0	0.0	1.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.6	1.7	0.3	2.6	2.7	0.6	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.4	8.3	8.3	21.4	10.9	10.9	17.6	0.0	0.0	20.7	0.0	19.1
LnGrp LOS	B	A	A	C	B	B	B	A	A	C	A	B
Approach Vol, veh/h		859			1015			139			35	
Approach Delay, s/veh		9.2			11.3			17.6			20.4	
Approach LOS		A			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.6	22.7		5.6	6.5	20.8		8.2
Change Period (Y+Rc), s	3.0	4.1		4.0	3.5	4.1		4.0
Max Green Setting (Gmax), s	20.0	35.0		25.0	20.0	35.0		25.0
Max Q Clear Time (g_c+I1), s	2.8	8.3		2.7	2.9	11.4		3.5
Green Ext Time (p_c), s	0.0	4.1		0.1	0.1	5.3		0.2

Intersection Summary	
HCM 6th Ctrl Delay	11.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

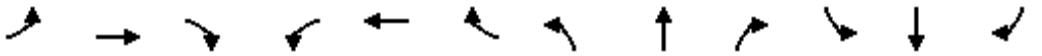
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	630	30	30	850	5	20	0	20	0	0	5
Future Vol, veh/h	10	630	30	30	850	5	20	0	20	0	0	5
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	245	-	-	-	-	-	35	-	-	-	-	85
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	12	741	35	35	1000	6	24	0	24	0	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1006	0	0	778	0	0	1355	1861	390	1468	1875	503
Stage 1	-	-	-	-	-	-	785	785	-	1073	1073	-
Stage 2	-	-	-	-	-	-	570	1076	-	395	802	-
Critical Hdwy	4.18	-	-	4.18	-	-	7.58	6.58	6.98	7.58	6.58	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Follow-up Hdwy	2.24	-	-	2.24	-	-	3.54	4.04	3.34	3.54	4.04	3.34
Pot Cap-1 Maneuver	672	-	-	822	-	-	106	71	603	87	69	509
Stage 1	-	-	-	-	-	-	348	397	-	232	291	-
Stage 2	-	-	-	-	-	-	469	290	-	596	390	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	672	-	-	820	-	-	96	63	602	76	61	509
Mov Cap-2 Maneuver	-	-	-	-	-	-	96	63	-	76	61	-
Stage 1	-	-	-	-	-	-	341	389	-	228	263	-
Stage 2	-	-	-	-	-	-	419	262	-	562	382	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	32.8	12.2
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	96	602	672	-	-	820	-	-	-	509
HCM Lane V/C Ratio	0.245	0.039	0.018	-	-	0.043	-	-	-	0.012
HCM Control Delay (s)	54.3	11.2	10.5	-	-	9.6	-	-	0	12.2
HCM Lane LOS	F	B	B	-	-	A	-	-	A	B
HCM 95th %tile Q(veh)	0.9	0.1	0.1	-	-	0.1	-	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	330	170	60	485	140	150	120	30	110	270	250
Future Volume (veh/h)	150	330	170	60	485	140	150	120	30	110	270	250
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		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	169	371	99	67	545	45	169	135	4	124	303	32
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	217	816	215	113	836	365	219	724	320	160	552	58
Arrive On Green	0.12	0.30	0.30	0.06	0.24	0.24	0.12	0.21	0.21	0.09	0.17	0.17
Sat Flow, veh/h	1767	2755	726	1767	3526	1537	1767	3526	1556	1767	3217	337
Grp Volume(v), veh/h	169	236	234	67	545	45	169	135	4	124	165	170
Grp Sat Flow(s),veh/h/ln	1767	1763	1719	1767	1763	1537	1767	1763	1556	1767	1763	1791
Q Serve(g_s), s	4.0	4.7	4.8	1.6	6.1	1.0	4.0	1.4	0.1	3.0	3.7	3.8
Cycle Q Clear(g_c), s	4.0	4.7	4.8	1.6	6.1	1.0	4.0	1.4	0.1	3.0	3.7	3.8
Prop In Lane	1.00		0.42	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	217	522	509	113	836	365	219	724	320	160	303	307
V/C Ratio(X)	0.78	0.45	0.46	0.59	0.65	0.12	0.77	0.19	0.01	0.78	0.54	0.55
Avail Cap(c_a), veh/h	466	748	729	345	1334	582	811	1941	857	507	687	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.5	12.5	12.5	19.9	15.0	13.1	18.5	14.3	13.8	19.4	16.5	16.5
Incr Delay (d2), s/veh	2.3	0.2	0.2	1.9	0.3	0.1	2.2	0.0	0.0	3.0	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.5	1.5	0.6	2.0	0.3	1.5	0.5	0.0	1.2	1.3	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	12.7	12.7	21.7	15.3	13.1	20.6	14.4	13.8	22.4	17.1	17.1
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		639			657			308			459	
Approach Delay, s/veh		14.9			15.8			17.8			18.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	14.8	6.9	13.5	5.8	17.4	8.4	12.0
Change Period (Y+Rc), s	3.0	4.5	3.0	4.5	3.0	4.5	3.0	4.5
Max Green Setting (Gmax), s	11.5	16.5	12.5	24.0	8.5	18.5	20.0	17.0
Max Q Clear Time (g_c+I1), s	6.0	8.1	5.0	3.4	3.6	6.8	6.0	5.8
Green Ext Time (p_c), s	0.1	1.7	0.1	0.5	0.0	1.4	0.2	0.9

Intersection Summary	
HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

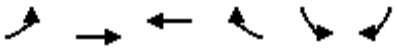
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	270	100	60	530	0	160	0	80	0	0	0
Future Volume (veh/h)	0	270	100	60	530	0	160	0	80	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	281	67	62	552	0	167	0	24	0	0	0
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	6	696	163	170	1720	0	325	341	289	6	7	6
Arrive On Green	0.00	0.25	0.25	0.10	0.49	0.00	0.18	0.00	0.18	0.00	0.00	0.00
Sat Flow, veh/h	1767	2831	663	1767	3618	0	1767	1856	1571	1767	1856	1572
Grp Volume(v), veh/h	0	173	175	62	552	0	167	0	24	0	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1732	1767	1763	0	1767	1856	1571	1767	1856	1572
Q Serve(g_s), s	0.0	2.3	2.3	0.9	2.6	0.0	2.3	0.0	0.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	2.3	2.3	0.9	2.6	0.0	2.3	0.0	0.3	0.0	0.0	0.0
Prop In Lane	1.00		0.38	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	6	434	426	170	1720	0	325	341	289	6	7	6
V/C Ratio(X)	0.00	0.40	0.41	0.37	0.32	0.00	0.51	0.00	0.08	0.00	0.00	0.00
Avail Cap(c_a), veh/h	967	2572	2526	967	5144	0	1289	1354	1146	967	1354	1147
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	8.6	8.7	11.6	4.3	0.0	10.1	0.0	9.3	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.5	0.3	0.3	0.0	0.6	0.0	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	8.9	8.9	12.1	4.3	0.0	10.6	0.0	9.3	0.0	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h		348			614			191			0	
Approach Delay, s/veh		8.9			5.1			10.4			0.0	
Approach LOS		A			A			B				

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	18.4	9.0	0.0	6.6	11.7	0.0	9.0
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	15.0	40.0	20.0	20.0	15.0	40.0	15.0	20.0
Max Q Clear Time (g_c+I1), s	0.0	4.6	4.3	0.0	2.9	4.3	0.0	2.3
Green Ext Time (p_c), s	0.0	2.5	0.2	0.0	0.0	1.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	7.1
HCM 6th LOS	A

Notes

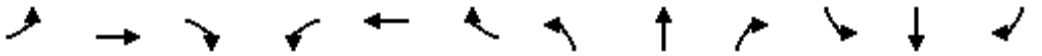
User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	120	235	570	20	5	20
Future Volume (veh/h)	120	235	570	20	5	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	255	620	21	5	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	378	1456	827	28	35	32
Arrive On Green	0.21	0.78	0.46	0.46	0.02	0.02
Sat Flow, veh/h	1781	1870	1798	61	1781	1585
Grp Volume(v), veh/h	130	255	0	641	5	6
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1859	1781	1585
Q Serve(g_s), s	2.9	1.6	0.0	13.4	0.1	0.2
Cycle Q Clear(g_c), s	2.9	1.6	0.0	13.4	0.1	0.2
Prop In Lane	1.00			0.03	1.00	1.00
Lane Grp Cap(c), veh/h	378	1456	0	855	35	32
V/C Ratio(X)	0.34	0.18	0.00	0.75	0.14	0.19
Avail Cap(c_a), veh/h	1324	1456	0	1382	927	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	1.3	0.0	10.5	22.7	22.7
Incr Delay (d2), s/veh	0.8	0.1	0.0	1.9	1.3	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.1	0.0	4.8	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.5	1.4	0.0	12.4	24.0	24.8
LnGrp LOS	B	A	A	B	C	C
Approach Vol, veh/h		385	641		11	
Approach Delay, s/veh		6.5	12.4		24.5	
Approach LOS		A	B		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		41.7		5.4	15.0	26.7
Change Period (Y+Rc), s		5.0		4.5	5.0	5.0
Max Green Setting (Gmax), s		35.0		24.5	35.0	35.0
Max Q Clear Time (g_c+I1), s		3.6		2.2	4.9	15.4
Green Ext Time (p_c), s		2.4		0.0	0.6	6.3

Intersection Summary		
HCM 6th Ctrl Delay		10.3
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	60	50	115	220	75	180	260	35	45	810	220
Future Volume (veh/h)	140	60	50	115	220	75	180	260	35	45	810	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	159	68	5	131	250	75	205	295	34	51	920	232
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	189	436	370	160	299	90	236	1442	165	94	1036	261
Arrive On Green	0.11	0.24	0.24	0.09	0.22	0.22	0.13	0.45	0.45	0.05	0.37	0.37
Sat Flow, veh/h	1767	1856	1572	1767	1370	411	1767	3188	364	1767	2789	702
Grp Volume(v), veh/h	159	68	5	131	0	325	205	162	167	51	581	571
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1767	0	1781	1767	1763	1790	1767	1763	1729
Q Serve(g_s), s	8.9	2.9	0.2	7.3	0.0	17.5	11.4	5.6	5.7	2.8	31.0	31.1
Cycle Q Clear(g_c), s	8.9	2.9	0.2	7.3	0.0	17.5	11.4	5.6	5.7	2.8	31.0	31.1
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.20	1.00		0.41
Lane Grp Cap(c), veh/h	189	436	370	160	0	389	236	797	809	94	655	642
V/C Ratio(X)	0.84	0.16	0.01	0.82	0.00	0.84	0.87	0.20	0.21	0.55	0.89	0.89
Avail Cap(c_a), veh/h	352	721	611	352	0	710	352	797	809	352	702	689
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	30.5	29.5	44.8	0.0	37.5	42.6	16.6	16.6	46.4	29.6	29.6
Incr Delay (d2), s/veh	3.8	0.2	0.0	3.9	0.0	5.7	10.0	0.2	0.2	1.8	12.8	13.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	1.3	0.1	3.4	0.0	8.2	5.4	2.1	2.2	1.2	14.4	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	30.7	29.5	48.7	0.0	43.2	52.6	16.7	16.8	48.2	42.4	42.8
LnGrp LOS	D	C	C	D	A	D	D	B	B	D	D	D
Approach Vol, veh/h		232			456			534			1203	
Approach Delay, s/veh		42.4			44.8			30.5			42.8	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.8	26.9	17.4	41.3	13.1	28.6	9.3	49.4
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	39.0	20.0	20.0
Max Q Clear Time (g_c+I1), s	10.9	19.5	13.4	33.1	9.3	4.9	4.8	7.7
Green Ext Time (p_c), s	0.0	2.4	0.0	4.2	0.0	0.4	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	40.4
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	120	330	0	5	80
Future Vol, veh/h	20	120	330	0	5	80
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	24	145	398	0	6	96

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	400	0	-	0	593	400
Stage 1	-	-	-	-	400	-
Stage 2	-	-	-	-	193	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1164	-	-	-	470	652
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	842	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1162	-	-	-	458	651
Mov Cap-2 Maneuver	-	-	-	-	458	-
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	840	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1162	-	-	-	635
HCM Lane V/C Ratio	0.021	-	-	-	0.161
HCM Control Delay (s)	8.2	0	-	-	11.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	80	230	5	5	40
Future Vol, veh/h	20	80	230	5	5	40
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	26	103	295	6	6	51

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	306	0	-	0	458	303
Stage 1	-	-	-	-	303	-
Stage 2	-	-	-	-	155	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1260	-	-	-	563	739
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	876	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1254	-	-	-	545	735
Mov Cap-2 Maneuver	-	-	-	-	545	-
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	872	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1254	-	-	-	708
HCM Lane V/C Ratio	0.02	-	-	-	0.081
HCM Control Delay (s)	7.9	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	70	165	5	5	40
Future Vol, veh/h	20	70	165	5	5	40
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	88	206	6	6	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	217	0	-	0	352	214
Stage 1	-	-	-	-	214	-
Stage 2	-	-	-	-	138	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1353	-	-	-	646	826
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	889	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1347	-	-	-	627	822
Mov Cap-2 Maneuver	-	-	-	-	627	-
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	885	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1347	-	-	-	795
HCM Lane V/C Ratio	0.019	-	-	-	0.071
HCM Control Delay (s)	7.7	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	60	90	0	0	80
Future Vol, veh/h	15	60	90	0	0	80
Conflicting Peds, #/hr	7	0	0	7	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	21	85	127	0	0	113

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	134	0	-	0	261	134
Stage 1	-	-	-	-	134	-
Stage 2	-	-	-	-	127	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1444	-	-	-	726	912
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	896	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1434	-	-	-	705	906
Mov Cap-2 Maneuver	-	-	-	-	705	-
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	890	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1434	-	-	-	906
HCM Lane V/C Ratio	0.015	-	-	-	0.124
HCM Control Delay (s)	7.5	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	10	20	0	0	70
Future Vol, veh/h	50	10	20	0	0	70
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	60	12	24	0	0	84

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	28	0	-	0	160	28
Stage 1	-	-	-	-	28	-
Stage 2	-	-	-	-	132	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1599	-	-	-	836	1053
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	899	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1593	-	-	-	798	1049
Mov Cap-2 Maneuver	-	-	-	-	798	-
Stage 1	-	-	-	-	958	-
Stage 2	-	-	-	-	895	-

Approach	EB	WB	SB
HCM Control Delay, s	6.1	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1593	-	-	-	1049
HCM Lane V/C Ratio	0.038	-	-	-	0.08
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

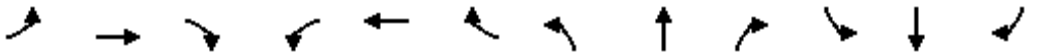
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	0	0	0	0	20
Future Vol, veh/h	10	0	0	0	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	42	42	42	42	42	42
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	0	0	0	0	48

Major/Minor	Major2		Minor2	
Conflicting Flow All	-	0	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.3
Pot Cap-1 Maneuver	-	0	0	-
Stage 1	-	0	0	-
Stage 2	-	0	0	-
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	SB
HCM Control Delay, s	0	
HCM LOS		-

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	-
HCM Lane LOS	-	-
HCM 95th %tile Q(veh)	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	0	40	5	0	5	50	435	5	5	390	460
Future Volume (veh/h)	220	0	40	5	0	5	50	435	5	5	390	460
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	232	0	0	5	0	0	53	458	5	5	411	407
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	497	0	0	551	0	0	142	754	8	17	633	536
Arrive On Green	0.22	0.00	0.00	0.22	0.00	0.00	0.08	0.40	0.40	0.01	0.33	0.33
Sat Flow, veh/h	1444	0	0	1694	0	0	1810	1876	20	1810	1900	1610
Grp Volume(v), veh/h	232	0	0	5	0	0	53	0	463	5	411	407
Grp Sat Flow(s),veh/h/ln	1444	0	0	1694	0	0	1810	0	1896	1810	1900	1610
Q Serve(g_s), s	5.8	0.0	0.0	0.0	0.0	0.0	1.1	0.0	7.6	0.1	7.2	8.9
Cycle Q Clear(g_c), s	5.9	0.0	0.0	0.1	0.0	0.0	1.1	0.0	7.6	0.1	7.2	8.9
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	497	0	0	551	0	0	142	0	762	17	633	536
V/C Ratio(X)	0.47	0.00	0.00	0.01	0.00	0.00	0.37	0.00	0.61	0.29	0.65	0.76
Avail Cap(c_a), veh/h	2309	0	0	1448	0	0	1473	0	2798	1243	2804	2376
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.3	0.0	0.0	12.1	0.0	0.0	17.2	0.0	9.3	19.3	11.2	11.7
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.3	3.4	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	0.0	0.0	0.0	0.4	0.0	2.2	0.1	2.1	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.0	0.0	0.0	12.1	0.0	0.0	17.8	0.0	9.6	22.8	11.6	12.5
LnGrp LOS	B	A	A	B	A	A	B	A	A	C	B	B
Approach Vol, veh/h		232			5			516			823	
Approach Delay, s/veh		15.0			12.1			10.4			12.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	20.8		13.5	7.7	18.1		13.5				
Change Period (Y+Rc), s	4.6	5.0		5.0	4.6	5.0		* 5				
Max Green Setting (Gmax), s	27.0	58.0		58.0	32.0	58.0		* 33				
Max Q Clear Time (g_c+I1), s	2.1	9.6		7.9	3.1	10.9		2.1				
Green Ext Time (p_c), s	0.0	1.9		1.4	0.1	2.2		0.0				

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.

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	30	475	5	40	360
Future Vol, veh/h	10	30	475	5	40	360
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	11	32	511	5	43	387

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	987	514	0	0	516	0
Stage 1	514	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	271	555	-	-	1035	-
Stage 1	594	-	-	-	-	-
Stage 2	621	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	260	555	-	-	1035	-
Mov Cap-2 Maneuver	260	-	-	-	-	-
Stage 1	569	-	-	-	-	-
Stage 2	621	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	0.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	432	1035	-
HCM Lane V/C Ratio	-	-	0.1	0.042	-
HCM Control Delay (s)	-	-	14.3	8.6	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

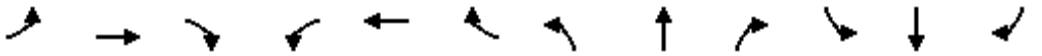
Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	50	430	40	40	330
Future Vol, veh/h	60	50	430	40	40	330
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	-	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	65	54	467	43	43	359

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	934	489	0	0	510	0
Stage 1	489	-	-	-	-	-
Stage 2	445	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	291	573	-	-	1040	-
Stage 1	610	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	279	573	-	-	1040	-
Mov Cap-2 Maneuver	279	-	-	-	-	-
Stage 1	585	-	-	-	-	-
Stage 2	639	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	279	573	1040	-
HCM Lane V/C Ratio	-	-	0.234	0.095	0.042	-
HCM Control Delay (s)	-	-	21.8	11.9	8.6	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0.3	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	20	20	10	5	30	40	1610	20	70	1890	120
Future Volume (veh/h)	90	20	20	10	5	30	40	1610	20	70	1890	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	107	24	18	12	6	0	48	1917	13	83	2250	86
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	175	30	21	158	68	0	60	2178	946	103	2264	976
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.00	0.04	0.66	0.66	0.06	0.69	0.69
Sat Flow, veh/h	992	243	170	866	554	0	1654	3300	1434	1654	3300	1423
Grp Volume(v), veh/h	149	0	0	18	0	0	48	1917	13	83	2250	86
Grp Sat Flow(s),veh/h/ln	1405	0	0	1420	0	0	1654	1650	1434	1654	1650	1423
Q Serve(g_s), s	11.0	0.0	0.0	0.0	0.0	0.0	3.4	55.0	0.4	5.8	78.5	2.4
Cycle Q Clear(g_c), s	12.1	0.0	0.0	1.1	0.0	0.0	3.4	55.0	0.4	5.8	78.5	2.4
Prop In Lane	0.72		0.12	0.67		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	226	0	0	227	0	0	60	2178	946	103	2264	976
V/C Ratio(X)	0.66	0.00	0.00	0.08	0.00	0.00	0.80	0.88	0.01	0.80	0.99	0.09
Avail Cap(c_a), veh/h	352	0	0	353	0	0	213	2264	984	213	2264	976
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	0.0	0.0	45.3	0.0	0.0	55.8	16.1	6.8	54.0	18.1	6.1
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.1	0.0	0.0	8.6	4.1	0.0	5.4	17.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	0.0	0.5	0.0	0.0	1.5	17.3	0.1	2.5	27.3	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	0.0	0.0	45.3	0.0	0.0	64.4	20.2	6.8	59.3	35.5	6.1
LnGrp LOS	D	A	A	D	A	A	E	C	A	E	D	A
Approach Vol, veh/h		149			18			1978			2419	
Approach Delay, s/veh		51.2			45.3			21.2			35.3	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.3	85.0		19.4	9.2	88.0		19.4				
Change Period (Y+Rc), s	* 5	8.0		* 5	* 5	8.0		* 5				
Max Green Setting (Gmax), s	* 15	80.0		* 25	* 15	80.0		* 25				
Max Q Clear Time (g_c+I1), s	7.8	57.0		14.1	5.4	80.5		3.1				
Green Ext Time (p_c), s	0.0	3.3		0.4	0.0	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		29.7
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

* 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	20	20	120	80	180	40	610	50	100	670	110
Future Volume (veh/h)	90	20	20	120	80	180	40	610	50	100	670	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	103	23	0	138	92	14	46	701	50	115	770	112
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	193	180	0	216	205	174	119	1177	84	202	1234	179
Arrive On Green	0.11	0.10	0.00	0.12	0.11	0.11	0.07	0.35	0.35	0.11	0.39	0.39
Sat Flow, veh/h	1795	1885	0	1795	1885	1598	1795	3391	242	1795	3138	456
Grp Volume(v), veh/h	103	23	0	138	92	14	46	370	381	115	439	443
Grp Sat Flow(s),veh/h/ln	1795	1885	0	1795	1885	1598	1795	1791	1842	1795	1791	1803
Q Serve(g_s), s	2.7	0.6	0.0	3.6	2.3	0.4	1.2	8.4	8.4	3.0	9.7	9.7
Cycle Q Clear(g_c), s	2.7	0.6	0.0	3.6	2.3	0.4	1.2	8.4	8.4	3.0	9.7	9.7
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.13	1.00		0.25
Lane Grp Cap(c), veh/h	193	180	0	216	205	174	119	621	639	202	704	709
V/C Ratio(X)	0.53	0.13	0.00	0.64	0.45	0.08	0.39	0.60	0.60	0.57	0.62	0.62
Avail Cap(c_a), veh/h	364	841	0	546	841	713	437	1271	1307	437	1271	1280
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	20.4	0.0	20.7	20.6	19.8	22.1	13.3	13.3	20.7	12.0	12.0
Incr Delay (d2), s/veh	0.9	0.3	0.0	1.2	0.6	0.1	0.8	1.3	1.3	0.9	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	1.1	0.2	0.0	1.5	1.0	0.1	0.5	2.7	2.8	1.1	3.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.7	20.7	0.0	21.8	21.2	19.8	22.8	14.6	14.5	21.7	13.3	13.3
LnGrp LOS	C	C	A	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		126			244			797			997	
Approach Delay, s/veh		21.5			21.5			15.0			14.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	22.1	9.4	8.7	6.8	24.4	8.8	9.4
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	12.0	35.0	15.0	22.0	12.0	35.0	10.0	22.0
Max Q Clear Time (g_c+I1), s	5.0	10.4	5.6	2.6	3.2	11.7	4.7	4.3
Green Ext Time (p_c), s	0.0	6.4	0.1	0.1	0.0	7.7	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	5	5	160	5	90	5	620	40	60	720	5
Future Volume (veh/h)	20	5	5	160	5	90	5	620	40	60	720	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	6	0	180	6	13	6	697	42	67	809	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	27	22	261	65	140	20	1245	75	161	1610	10
Arrive On Green	0.04	0.01	0.00	0.15	0.12	0.12	0.01	0.37	0.37	0.09	0.44	0.44
Sat Flow, veh/h	1781	1870	1585	1781	526	1139	1781	3405	205	1781	3620	22
Grp Volume(v), veh/h	22	6	0	180	0	19	6	364	375	67	397	417
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1665	1781	1777	1833	1781	1777	1866
Q Serve(g_s), s	0.5	0.1	0.0	4.0	0.0	0.4	0.1	6.8	6.8	1.5	6.7	6.7
Cycle Q Clear(g_c), s	0.5	0.1	0.0	4.0	0.0	0.4	0.1	6.8	6.8	1.5	6.7	6.7
Prop In Lane	1.00		1.00	1.00		0.68	1.00		0.11	1.00		0.01
Lane Grp Cap(c), veh/h	67	27	22	261	0	205	20	650	670	161	790	830
V/C Ratio(X)	0.33	0.23	0.00	0.69	0.00	0.09	0.30	0.56	0.56	0.42	0.50	0.50
Avail Cap(c_a), veh/h	853	940	797	853	0	837	853	1488	1535	853	1488	1563
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.6	20.4	0.0	16.9	0.0	16.2	20.5	10.6	10.6	18.0	8.3	8.3
Incr Delay (d2), s/veh	1.0	6.0	0.0	1.2	0.0	0.3	3.0	1.1	1.0	0.6	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.0	1.5	0.0	0.2	0.1	1.9	2.0	0.5	1.6	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	26.4	0.0	18.1	0.0	16.5	23.5	11.7	11.6	18.6	9.0	9.0
LnGrp LOS	C	C	A	B	A	B	C	B	B	B	A	A
Approach Vol, veh/h		28			199			745			881	
Approach Delay, s/veh		21.9			18.0			11.7			9.7	
Approach LOS		C			B			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	20.3	9.6	4.6	4.0	23.6	5.1	9.1
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	20.0	35.0	20.0	21.0	20.0	35.0	20.0	21.0
Max Q Clear Time (g_c+I1), s	3.5	8.8	6.0	2.1	2.1	8.7	2.5	2.4
Green Ext Time (p_c), s	0.1	6.4	0.2	0.0	0.0	7.2	0.0	0.1

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

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	10	695	70	30	980
Future Vol, veh/h	20	10	695	70	30	980
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	12	808	81	35	1140

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1489	445	0	0	889	0
Stage 1	849	-	-	-	-	-
Stage 2	640	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	115	561	-	-	758	-
Stage 1	380	-	-	-	-	-
Stage 2	487	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	110	561	-	-	758	-
Mov Cap-2 Maneuver	110	-	-	-	-	-
Stage 1	363	-	-	-	-	-
Stage 2	487	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	34.7	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	110	561	758	-
HCM Lane V/C Ratio	-	-	0.211	0.021	0.046	-
HCM Control Delay (s)	-	-	46.3	11.6	10	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.1	0.1	-

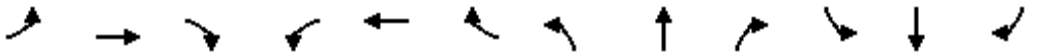
Intersection	
Int Delay, s/veh	5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	90	20	705	5	5	870
Future Vol, veh/h	90	20	705	5	5	870
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	106	24	829	6	6	1024

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1356	832	0	0	835	0
Stage 1	832	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Critical Hdwy	6.645	6.245	-	-	4.145	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.5285	3.3285	-	-	2.2285	-
Pot Cap-1 Maneuver	151	366	-	-	791	-
Stage 1	424	-	-	-	-	-
Stage 2	557	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	148	366	-	-	791	-
Mov Cap-2 Maneuver	148	-	-	-	-	-
Stage 1	416	-	-	-	-	-
Stage 2	557	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	77.4	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	166	791	-
HCM Lane V/C Ratio	-	-	0.78	0.007	-
HCM Control Delay (s)	-	-	77.4	9.6	0.1
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	5	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	5	170	100	20	50	90	510	10	5	815	140
Future Volume (veh/h)	150	5	170	100	20	50	90	510	10	5	815	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	6	34	122	24	4	110	622	6	6	994	115
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	361	44	250	348	284	47	141	2026	904	14	1773	791
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.08	0.57	0.57	0.01	0.50	0.50
Sat Flow, veh/h	1382	243	1379	1367	1563	260	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	183	0	40	122	0	28	110	622	6	6	994	115
Grp Sat Flow(s),veh/h/ln	1382	0	1622	1367	0	1823	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.1	0.0	1.2	4.6	0.0	0.7	3.4	5.1	0.1	0.2	10.9	2.2
Cycle Q Clear(g_c), s	7.8	0.0	1.2	5.8	0.0	0.7	3.4	5.1	0.1	0.2	10.9	2.2
Prop In Lane	1.00		0.85	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	361	0	294	348	0	331	141	2026	904	14	1773	791
V/C Ratio(X)	0.51	0.00	0.14	0.35	0.00	0.08	0.78	0.31	0.01	0.42	0.56	0.15
Avail Cap(c_a), veh/h	924	0	954	904	0	1072	175	2026	904	159	1773	791
HCM Platoon Ratio	1.00	1.00	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	22.3	0.0	19.3	21.7	0.0	19.1	25.4	6.3	5.2	27.7	9.8	7.6
Incr Delay (d2), s/veh	1.1	0.0	0.2	0.6	0.0	0.1	16.5	0.4	0.0	18.8	1.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.4	1.3	0.0	0.3	1.9	1.3	0.0	0.1	3.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.4	0.0	19.5	22.3	0.0	19.2	41.9	6.7	5.2	46.5	11.1	8.0
LnGrp LOS	C	A	B	C	A	B	D	A	A	D	B	A
Approach Vol, veh/h		223			150			738			1115	
Approach Delay, s/veh		22.7			21.7			11.9			10.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	36.5		14.7	8.9	32.5		14.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	28.5		33.0	5.5	28.0		33.0				
Max Q Clear Time (g_c+I1), s	2.2	7.1		9.8	5.4	12.9		7.8				
Green Ext Time (p_c), s	0.0	3.8		0.7	0.0	6.0		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		13.2	
HCM 6th LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	30	5	60	5	545	10	20	1035	5
Future Volume (veh/h)	5	5	5	30	5	60	5	545	10	20	1035	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	6	6	0	35	6	1	6	634	11	23	1203	6
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	52	54	0	94	16	3	20	1893	33	67	1914	10
Arrive On Green	0.03	0.03	0.00	0.06	0.06	0.06	0.01	0.53	0.53	0.04	0.53	0.53
Sat Flow, veh/h	1767	1856	0	1478	253	42	1767	3544	61	1767	3597	18
Grp Volume(v), veh/h	6	6	0	42	0	0	6	315	330	23	589	620
Grp Sat Flow(s),veh/h/ln	1767	1856	0	1774	0	0	1767	1763	1843	1767	1763	1852
Q Serve(g_s), s	0.2	0.2	0.0	1.2	0.0	0.0	0.2	5.3	5.3	0.7	12.3	12.3
Cycle Q Clear(g_c), s	0.2	0.2	0.0	1.2	0.0	0.0	0.2	5.3	5.3	0.7	12.3	12.3
Prop In Lane	1.00		0.00	0.83		0.02	1.00		0.03	1.00		0.01
Lane Grp Cap(c), veh/h	52	54	0	113	0	0	20	941	984	67	938	986
V/C Ratio(X)	0.12	0.11	0.00	0.37	0.00	0.00	0.30	0.33	0.34	0.34	0.63	0.63
Avail Cap(c_a), veh/h	677	711	0	679	0	0	338	1350	1411	508	1350	1419
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	24.7	0.0	23.5	0.0	0.0	25.6	6.9	6.9	24.5	8.6	8.6
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.8	0.0	0.0	3.2	0.4	0.3	1.1	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.5	0.0	0.0	0.1	1.3	1.4	0.3	3.2	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.1	25.0	0.0	24.2	0.0	0.0	28.8	7.3	7.2	25.6	9.8	9.7
LnGrp LOS	C	C	A	C	A	A	C	A	A	C	A	A
Approach Vol, veh/h		12			42			651			1232	
Approach Delay, s/veh		25.0			24.2			7.5			10.0	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.5	32.9		6.5	5.6	32.8		7.3
Change Period (Y+Rc), s	3.5	5.0		5.0	5.0	5.0		4.0
Max Green Setting (Gmax), s	15.0	40.0		20.0	10.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	2.2	7.3		2.2	2.2	14.3		3.2
Green Ext Time (p_c), s	0.0	6.8		0.0	0.0	13.5		0.1

Intersection Summary	
HCM 6th Ctrl Delay	9.6
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	70	490	20	20	1050
Future Vol, veh/h	70	70	490	20	20	1050
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	80	80	557	23	23	1193

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1212	290	0	0	580	0
Stage 1	569	-	-	-	-	-
Stage 2	643	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	173	704	-	-	983	-
Stage 1	527	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	169	704	-	-	983	-
Mov Cap-2 Maneuver	169	-	-	-	-	-
Stage 1	515	-	-	-	-	-
Stage 2	483	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	35.1	0	0.2
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	273	983	-
HCM Lane V/C Ratio	-	-	0.583	0.023	-
HCM Control Delay (s)	-	-	35.1	8.7	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	3.4	0.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	0	20	5	40	20	465	5	20	1050	50
Future Vol, veh/h	5	0	0	20	5	40	20	465	5	20	1050	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	6	0	0	23	6	47	23	541	6	23	1221	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1616	1889	640	1247	1915	274	1279	0	0	547	0	0
Stage 1	1296	1296	-	590	590	-	-	-	-	-	-	-
Stage 2	320	593	-	657	1325	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	68	69	416	129	66	721	533	-	-	1012	-	-
Stage 1	170	229	-	458	491	-	-	-	-	-	-	-
Stage 2	663	489	-	418	221	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	56	65	416	123	62	721	533	-	-	1012	-	-
Mov Cap-2 Maneuver	56	65	-	123	62	-	-	-	-	-	-	-
Stage 1	163	224	-	438	470	-	-	-	-	-	-	-
Stage 2	586	468	-	409	216	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	76.6	30	0.5	0.2
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	533	-	-	56	218	1012	-	-
HCM Lane V/C Ratio	0.044	-	-	0.104	0.347	0.023	-	-
HCM Control Delay (s)	12.1	-	-	76.6	30	8.6	-	-
HCM Lane LOS	B	-	-	F	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	1.5	0.1	-	-

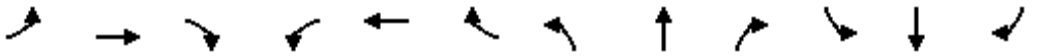
Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	40	60	240	750	300
Future Vol, veh/h	40	40	60	240	750	300
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	160	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	44	44	67	267	833	333

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1268	583	1166	0	-	0
Stage 1	1000	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	159	453	589	-	-	-
Stage 1	314	-	-	-	-	-
Stage 2	750	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	141	453	589	-	-	-
Mov Cap-2 Maneuver	141	-	-	-	-	-
Stage 1	278	-	-	-	-	-
Stage 2	750	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	33.1	2.4	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	589	-	215	-	-
HCM Lane V/C Ratio	0.113	-	0.413	-	-
HCM Control Delay (s)	11.9	-	33.1	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.4	-	1.9	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	0	530	5	350	0	290	580	320	260	5
Future Volume (veh/h)	5	5	0	530	5	350	0	290	580	320	260	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	5	5	0	574	0	0	0	312	0	314	322	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	285	252	0	1013	0		0	392		396	410	5
Arrive On Green	0.29	0.29	0.00	0.29	0.00	0.00	0.00	0.22	0.00	0.24	0.24	0.24
Sat Flow, veh/h	666	873	0	2643	0	1485	0	1752	1485	1668	1726	21
Grp Volume(v), veh/h	10	0	0	574	0	0	0	312	0	314	0	326
Grp Sat Flow(s),veh/h/ln	1539	0	0	1322	0	1485	0	1752	1485	1668	0	1748
Q Serve(g_s), s	0.0	0.0	0.0	11.2	0.0	0.0	0.0	9.8	0.0	10.3	0.0	10.2
Cycle Q Clear(g_c), s	0.2	0.0	0.0	11.5	0.0	0.0	0.0	9.8	0.0	10.3	0.0	10.2
Prop In Lane	0.50		0.00	1.00		1.00	0.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	537	0	0	1013	0		0	392		396	0	415
V/C Ratio(X)	0.02	0.00	0.00	0.57	0.00		0.00	0.80		0.79	0.00	0.79
Avail Cap(c_a), veh/h	591	0	0	1848	0		0	1036		998	0	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.9	0.0	0.0	18.8	0.0	0.0	0.0	21.4	0.0	21.0	0.0	20.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.0	0.0	2.8	0.0	1.4	0.0	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	0.1	0.0	0.0	3.1	0.0	0.0	0.0	3.8	0.0	3.6	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.9	0.0	0.0	19.5	0.0	0.0	0.0	24.2	0.0	22.3	0.0	22.2
LnGrp LOS	B	A	A	B	A		A	C		C	A	C
Approach Vol, veh/h		10			574	A		312	A		640	
Approach Delay, s/veh		14.9			19.5			24.2			22.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		18.9		21.5		18.1		21.5				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		35.0		35.4		34.6		19.0				
Max Q Clear Time (g_c+I1), s		12.3		13.5		11.8		2.2				
Green Ext Time (p_c), s		1.5		3.5		1.3		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			21.6									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	765	10	5	765	180	30	30	5	130	20	90
Future Volume (veh/h)	130	765	10	5	765	180	30	30	5	130	20	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	144	850	11	6	850	179	33	33	3	144	22	13
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	179	1843	24	13	1196	252	224	185	14	423	210	124
Arrive On Green	0.11	0.56	0.56	0.01	0.45	0.45	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1640	3306	43	1640	2683	565	551	894	66	1263	1015	600
Grp Volume(v), veh/h	144	421	440	6	518	511	69	0	0	144	0	35
Grp Sat Flow(s),veh/h/ln	1640	1636	1713	1640	1636	1612	1511	0	0	1263	0	1614
Q Serve(g_s), s	4.1	7.4	7.4	0.2	12.4	12.4	0.0	0.0	0.0	2.8	0.0	0.8
Cycle Q Clear(g_c), s	4.1	7.4	7.4	0.2	12.4	12.4	1.6	0.0	0.0	4.4	0.0	0.8
Prop In Lane	1.00		0.02	1.00		0.35	0.48		0.04	1.00		0.37
Lane Grp Cap(c), veh/h	179	912	955	13	729	719	423	0	0	423	0	334
V/C Ratio(X)	0.80	0.46	0.46	0.46	0.71	0.71	0.16	0.00	0.00	0.34	0.00	0.10
Avail Cap(c_a), veh/h	696	1354	1418	849	1354	1334	876	0	0	815	0	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.0	6.4	6.4	23.9	10.9	10.9	15.8	0.0	0.0	16.8	0.0	15.5
Incr Delay (d2), s/veh	3.2	0.4	0.3	8.9	1.3	1.3	0.2	0.0	0.0	0.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.6	1.6	0.1	3.4	3.3	0.6	0.0	0.0	1.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	6.7	6.7	32.8	12.2	12.2	16.0	0.0	0.0	17.3	0.0	15.7
LnGrp LOS	C	A	A	C	B	B	B	A	A	B	A	B
Approach Vol, veh/h		1005			1035			69			179	
Approach Delay, s/veh		9.2			12.3			16.0			17.0	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.4	30.9		14.0	8.8	25.5		14.0				
Change Period (Y+Rc), s	3.0	4.0		4.0	3.5	4.0		4.0				
Max Green Setting (Gmax), s	25.0	40.0		25.0	20.5	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.2	9.4		6.4	6.1	14.4		3.6				
Green Ext Time (p_c), s	0.0	5.7		0.6	0.0	7.1		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	11.4
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	850	10	20	820	260	20	5	20	290	10	140
Future Volume (veh/h)	110	850	10	20	820	260	20	5	20	290	10	140
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		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	125	966	11	23	932	0	23	6	0	338	0	14
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	185	1572	18	63	1309		61	16	0	468	0	208
Arrive On Green	0.11	0.47	0.47	0.04	0.40	0.00	0.05	0.05	0.00	0.14	0.00	0.14
Sat Flow, veh/h	1654	3341	38	1654	3300	1472	1325	346	0	3309	0	1472
Grp Volume(v), veh/h	125	477	500	23	932	0	29	0	0	338	0	14
Grp Sat Flow(s),veh/h/ln	1654	1650	1729	1654	1650	1472	1671	0	0	1654	0	1472
Q Serve(g_s), s	3.8	11.3	11.3	0.7	12.5	0.0	0.9	0.0	0.0	5.1	0.0	0.4
Cycle Q Clear(g_c), s	3.8	11.3	11.3	0.7	12.5	0.0	0.9	0.0	0.0	5.1	0.0	0.4
Prop In Lane	1.00		0.02	1.00		1.00	0.79		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	776	813	63	1309		77	0	0	468	0	208
V/C Ratio(X)	0.68	0.61	0.61	0.37	0.71		0.38	0.00	0.00	0.72	0.00	0.07
Avail Cap(c_a), veh/h	629	1098	1151	472	2197		477	0	0	755	0	336
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.4	10.4	10.4	24.7	13.3	0.0	24.4	0.0	0.0	21.6	0.0	19.6
Incr Delay (d2), s/veh	1.6	0.8	0.8	1.3	0.7	0.0	1.1	0.0	0.0	0.8	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	1.4	3.1	3.3	0.3	3.7	0.0	0.4	0.0	0.0	1.8	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.1	11.2	11.1	26.0	14.1	0.0	25.5	0.0	0.0	22.4	0.0	19.6
LnGrp LOS	C	B	B	C	B		C	A	A	C	A	B
Approach Vol, veh/h		1102			955	A		29			352	
Approach Delay, s/veh		12.6			14.4			25.5			22.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	25.9		5.9	5.5	29.7		11.4				
Change Period (Y+Rc), s	3.5	5.0		3.5	3.5	5.0		4.0				
Max Green Setting (Gmax), s	20.0	35.0		15.0	15.0	35.0		12.0				
Max Q Clear Time (g_c+I1), s	5.8	14.5		2.9	2.7	13.3		7.1				
Green Ext Time (p_c), s	0.1	6.3		0.0	0.0	6.1		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1090	20	60	990	130	30	5	90	200	5	110
Future Volume (veh/h)	50	1090	20	60	990	130	30	5	90	200	5	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	57	1239	22	68	1125	140	34	6	15	227	6	17
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	117	1601	28	130	1444	179	382	95	237	385	86	244
Arrive On Green	0.07	0.49	0.49	0.08	0.49	0.49	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1640	3287	58	1640	2919	362	1277	436	1090	1281	396	1122
Grp Volume(v), veh/h	57	617	644	68	630	635	34	0	21	227	0	23
Grp Sat Flow(s),veh/h/ln	1640	1636	1709	1640	1636	1645	1277	0	1526	1281	0	1518
Q Serve(g_s), s	2.0	18.7	18.7	2.4	19.0	19.1	1.3	0.0	0.7	10.3	0.0	0.7
Cycle Q Clear(g_c), s	2.0	18.7	18.7	2.4	19.0	19.1	2.0	0.0	0.7	10.9	0.0	0.7
Prop In Lane	1.00		0.03	1.00		0.22	1.00		0.71	1.00		0.74
Lane Grp Cap(c), veh/h	117	797	833	130	809	814	382	0	332	385	0	331
V/C Ratio(X)	0.49	0.77	0.77	0.52	0.78	0.78	0.09	0.00	0.06	0.59	0.00	0.07
Avail Cap(c_a), veh/h	627	1143	1194	627	1143	1149	614	0	609	787	0	808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.9	12.7	12.7	26.6	12.5	12.5	19.5	0.0	18.7	23.0	0.0	18.7
Incr Delay (d2), s/veh	1.2	2.1	2.0	1.2	2.3	2.3	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	5.6	5.9	0.9	5.7	5.8	0.4	0.0	0.2	2.9	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	14.8	14.7	27.8	14.7	14.8	19.5	0.0	18.7	23.5	0.0	18.7
LnGrp LOS	C	B	B	C	B	B	B	A	B	C	A	B
Approach Vol, veh/h		1318			1333			55			250	
Approach Delay, s/veh		15.3			15.4			19.2			23.1	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	34.3		17.1	8.3	34.8		17.1				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	23.0	42.0		32.0	23.0	42.0		24.0				
Max Q Clear Time (g_c+I1), s	4.4	20.7		12.9	4.0	21.1		4.0				
Green Ext Time (p_c), s	0.0	8.6		0.2	0.0	8.6		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1180	200	0	940	0	0	0	0	620	0	240
Future Volume (veh/h)	0	1180	200	0	940	0	0	0	0	620	0	240
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1811	0	1826	0				1826	0	1826
Adj Flow Rate, veh/h	0	1255	0	0	1000	0				660	0	45
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	5	6	0	5	0				5	0	5
Cap, veh/h	0	1522		0	1522	0				852	0	391
Arrive On Green	0.00	0.44	0.00	0.00	0.44	0.00				0.25	0.00	0.25
Sat Flow, veh/h	0	3561	1535	0	3652	0				3374	0	1547
Grp Volume(v), veh/h	0	1255	0	0	1000	0				660	0	45
Grp Sat Flow(s),veh/h/ln	0	1735	1535	0	1735	0				1687	0	1547
Q Serve(g_s), s	0.0	11.3	0.0	0.0	8.1	0.0				6.5	0.0	0.8
Cycle Q Clear(g_c), s	0.0	11.3	0.0	0.0	8.1	0.0				6.5	0.0	0.8
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1522		0	1522	0				852	0	391
V/C Ratio(X)	0.00	0.82		0.00	0.66	0.00				0.77	0.00	0.12
Avail Cap(c_a), veh/h	0	4872		0	4872	0				4737	0	2173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.8	0.0	0.0	7.9	0.0				12.4	0.0	10.2
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.2	0.0				0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.3	0.0	0.0	1.7	0.0				1.9	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.2	0.0	0.0	8.1	0.0				12.9	0.0	10.3
LnGrp LOS	A	A		A	A	A				B	A	B
Approach Vol, veh/h		1255	A		1000						705	
Approach Delay, s/veh		9.2			8.1						12.8	
Approach LOS		A			A						B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		21.6		14.0		21.6
Change Period (Y+Rc), s		* 6		* 5		* 6
Max Green Setting (Gmax), s		* 50		* 50		* 50
Max Q Clear Time (g_c+I1), s		13.3		8.5		10.1
Green Ext Time (p_c), s		2.3		0.5		1.9

Intersection Summary		
HCM 6th Ctrl Delay		9.7
HCM 6th LOS		A

Notes

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

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1380	0	0	1140	190	540
Future Volume (veh/h)	1380	0	0	1140	190	540
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1737	0	0	1737	1737	1737
Adj Flow Rate, veh/h	1484	0	0	1226	171	344
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	11	0	0	11	11	11
Cap, veh/h	1795	0	0	1795	281	501
Arrive On Green	0.54	0.00	0.00	0.54	0.17	0.17
Sat Flow, veh/h	3474	0	0	3474	1654	2944
Grp Volume(v), veh/h	1484	0	0	1226	171	344
Grp Sat Flow(s),veh/h/ln	1650	0	0	1650	1654	1472
Q Serve(g_s), s	14.3	0.0	0.0	10.4	3.7	4.2
Cycle Q Clear(g_c), s	14.3	0.0	0.0	10.4	3.7	4.2
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1795	0	0	1795	281	501
V/C Ratio(X)	0.83	0.00	0.00	0.68	0.61	0.69
Avail Cap(c_a), veh/h	4293	0	0	4293	1076	1915
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.3	0.0	0.0	6.4	14.8	15.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.2	0.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	1.5	1.1	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.7	0.0	0.0	6.5	15.6	15.6
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h	1484			1226	515	
Approach Delay, s/veh	7.7			6.5	15.6	
Approach LOS	A			A	B	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	26.9				26.9	11.5
Change Period (Y+Rc), s	* 6				* 6	5.0
Max Green Setting (Gmax), s	* 50				* 50	25.0
Max Q Clear Time (g_c+I1), s	16.3				12.4	6.2
Green Ext Time (p_c), s	4.6				3.5	0.3

Intersection Summary		
HCM 6th Ctrl Delay		8.5
HCM 6th LOS		A

Notes

User approved volume balancing among the lanes for turning movement.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	650	990	280	80	850	110	410	190	60	120	80	680
Future Volume (veh/h)	650	990	280	80	850	110	410	190	60	120	80	680
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	691	1053	198	85	904	45	436	202	55	106	115	224
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	773	2058	585	110	1248	379	681	278	76	188	197	334
Arrive On Green	0.24	0.43	0.43	0.07	0.26	0.26	0.21	0.21	0.21	0.11	0.11	0.11
Sat Flow, veh/h	3209	4742	1347	1654	4742	1439	3209	1310	357	1654	1737	2944
Grp Volume(v), veh/h	691	1053	198	85	904	45	436	0	257	106	115	224
Grp Sat Flow(s),veh/h/ln	1605	1581	1347	1654	1581	1439	1605	0	1666	1654	1737	1472
Q Serve(g_s), s	19.4	15.1	9.1	4.7	16.2	2.2	11.6	0.0	13.4	5.7	5.9	6.8
Cycle Q Clear(g_c), s	19.4	15.1	9.1	4.7	16.2	2.2	11.6	0.0	13.4	5.7	5.9	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	773	2058	585	110	1248	379	681	0	354	188	197	334
V/C Ratio(X)	0.89	0.51	0.34	0.77	0.72	0.12	0.64	0.00	0.73	0.57	0.58	0.67
Avail Cap(c_a), veh/h	863	2058	585	443	2032	617	1032	0	536	532	558	946
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	19.2	17.5	42.8	31.3	26.2	33.5	0.0	34.2	39.2	39.3	39.7
Incr Delay (d2), s/veh	11.0	0.2	0.3	10.7	0.8	0.1	1.0	0.0	2.9	2.7	2.7	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	5.1	2.7	2.2	6.0	0.7	4.6	0.0	5.7	2.4	2.6	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	19.4	17.9	53.5	32.1	26.3	34.5	0.0	37.1	41.9	42.0	42.0
LnGrp LOS	D	B	B	D	C	C	C	A	D	D	D	D
Approach Vol, veh/h		1942			1034			693			445	
Approach Delay, s/veh		28.5			33.6			35.5			42.0	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.2	45.3		14.3	26.2	29.4		23.5
Change Period (Y+Rc), s	4.0	4.8		3.7	3.7	4.8		3.7
Max Green Setting (Gmax), s	25.0	40.0		30.0	25.1	40.0		30.0
Max Q Clear Time (g_c+I1), s	10.7	17.1		8.8	21.4	18.2		15.4
Green Ext Time (p_c), s	0.2	8.4		1.8	1.0	6.4		3.0

Intersection Summary		
HCM 6th Ctrl Delay	32.4	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	100	975	50	20	780	50	20	5	30	10	5	140
Future Vol, veh/h	100	975	50	20	780	50	20	5	30	10	5	140
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	240	-	-	120	-	-	-	-	25	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	11	11	11	11	11	11	11	11	11	11	11	11
Mvmt Flow	102	995	51	20	796	51	20	5	31	10	5	143

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	847	0	0	1046	0	0	1666	2112	523	1566	2112	424
Stage 1	-	-	-	-	-	-	1225	1225	-	862	862	-
Stage 2	-	-	-	-	-	-	441	887	-	704	1250	-
Critical Hdwy	4.32	-	-	4.32	-	-	7.72	6.72	7.12	7.72	6.72	7.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Follow-up Hdwy	2.31	-	-	2.31	-	-	3.61	4.11	3.41	3.61	4.11	3.41
Pot Cap-1 Maneuver	731	-	-	610	-	-	58	45	476	69	45	554
Stage 1	-	-	-	-	-	-	176	232	-	298	350	-
Stage 2	-	-	-	-	-	-	542	340	-	374	226	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	731	-	-	610	-	-	34	37	476	50	37	554
Mov Cap-2 Maneuver	-	-	-	-	-	-	34	37	-	50	37	-
Stage 1	-	-	-	-	-	-	151	200	-	256	338	-
Stage 2	-	-	-	-	-	-	383	329	-	293	194	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.3	116.4	25.6
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	35	476	731	-	-	610	-	-	50	374
HCM Lane V/C Ratio	0.729	0.064	0.14	-	-	0.033	-	-	0.204	0.396
HCM Control Delay (s)	240.4	13.1	10.7	-	-	11.1	-	-	94.6	20.8
HCM Lane LOS	F	B	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	2.6	0.2	0.5	-	-	0.1	-	-	0.7	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	470	515	30	20	555	200	90	160	20	250	70	190
Future Volume (veh/h)	470	515	30	20	555	200	90	160	20	250	70	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.95	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	522	572	30	22	617	100	100	178	18	178	218	25
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	375	1129	59	42	872	630	270	253	26	290	305	258
Arrive On Green	0.12	0.36	0.36	0.03	0.26	0.26	0.16	0.16	0.16	0.18	0.18	0.18
Sat Flow, veh/h	3209	3174	166	1654	3300	1405	1654	1552	157	1654	1737	1472
Grp Volume(v), veh/h	522	297	305	22	617	100	100	0	196	178	218	25
Grp Sat Flow(s),veh/h/ln	1605	1650	1690	1654	1650	1405	1654	0	1708	1654	1737	1472
Q Serve(g_s), s	7.5	9.1	9.1	0.8	10.9	2.8	3.5	0.0	7.0	6.4	7.6	0.9
Cycle Q Clear(g_c), s	7.5	9.1	9.1	0.8	10.9	2.8	3.5	0.0	7.0	6.4	7.6	0.9
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	375	587	601	42	872	630	270	0	278	290	305	258
V/C Ratio(X)	1.39	0.51	0.51	0.53	0.71	0.16	0.37	0.00	0.70	0.61	0.72	0.10
Avail Cap(c_a), veh/h	375	861	882	193	1697	981	851	0	879	851	893	757
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.3	16.2	16.3	30.9	21.4	10.8	23.9	0.0	25.4	24.4	24.9	22.2
Incr Delay (d2), s/veh	191.9	0.7	0.7	9.9	1.1	0.1	0.8	0.0	3.2	2.1	3.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	2.9	3.0	0.4	3.8	1.1	1.3	0.0	2.9	2.4	3.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	220.2	16.9	16.9	40.8	22.4	11.0	24.8	0.0	28.6	26.5	28.1	22.4
LnGrp LOS	F	B	B	D	C	B	C	A	C	C	C	C
Approach Vol, veh/h		1124			739			296			421	
Approach Delay, s/veh		111.3			21.4			27.3			27.1	
Approach LOS		F			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	21.5		15.8	6.1	27.3		15.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	33.0		33.0	7.5	33.5		33.0				
Max Q Clear Time (g_c+I1), s	9.5	12.9		9.6	2.8	11.1		9.0				
Green Ext Time (p_c), s	0.0	4.1		1.7	0.0	3.2		1.3				

Intersection Summary		
HCM 6th Ctrl Delay		62.2
HCM 6th LOS		E

Notes

User approved volume balancing among the lanes for turning movement.

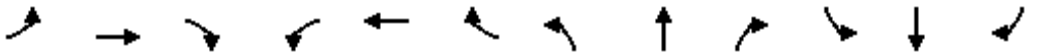
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	780	770	0	0	5
Future Vol, veh/h	5	780	770	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	90	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	13	13	13	13	13
Mvmt Flow	5	848	837	0	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	837	0	-	0	1271	419
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	434	-
Critical Hdwy	4.36	-	-	-	7.06	7.16
Critical Hdwy Stg 1	-	-	-	-	6.06	-
Critical Hdwy Stg 2	-	-	-	-	6.06	-
Follow-up Hdwy	2.33	-	-	-	3.63	3.43
Pot Cap-1 Maneuver	726	-	-	-	145	553
Stage 1	-	-	-	-	359	-
Stage 2	-	-	-	-	590	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	726	-	-	-	144	553
Mov Cap-2 Maneuver	-	-	-	-	144	-
Stage 1	-	-	-	-	356	-
Stage 2	-	-	-	-	590	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	726	-	-	-	553
HCM Lane V/C Ratio	0.007	-	-	-	0.01
HCM Control Delay (s)	10	-	-	-	11.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	680	20	0	690	5	20	5	0	5	5	60
Future Volume (veh/h)	80	680	20	0	690	5	20	5	0	5	5	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663
Adj Flow Rate, veh/h	86	731	0	0	742	3	22	5	0	5	5	6
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	16	16	16	16	16	16	16	16	16	16	16	16
Cap, veh/h	580	1725		321	1725	769	341	11	0	281	40	74
Arrive On Green	0.55	0.55	0.00	0.00	0.55	0.55	0.05	0.05	0.00	0.05	0.05	0.05
Sat Flow, veh/h	636	3159	1409	644	3159	1409	946	215	0	763	763	1409
Grp Volume(v), veh/h	86	731	0	0	742	3	27	0	0	10	0	6
Grp Sat Flow(s),veh/h/ln	636	1580	1409	644	1580	1409	1162	0	0	1525	0	1409
Q Serve(g_s), s	2.1	3.1	0.0	0.0	3.1	0.0	0.5	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	5.2	3.1	0.0	0.0	3.1	0.0	0.6	0.0	0.0	0.1	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	0.81		0.00	0.50		1.00
Lane Grp Cap(c), veh/h	580	1725		321	1725	769	352	0	0	321	0	74
V/C Ratio(X)	0.15	0.42		0.00	0.43	0.00	0.08	0.00	0.00	0.03	0.00	0.08
Avail Cap(c_a), veh/h	971	3666		717	3666	1635	2619	0	0	2799	0	2515
HCM Platoon Ratio	1.00	1.00	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	0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.6	3.0	0.0	0.0	3.0	2.3	10.4	0.0	0.0	10.1	0.0	10.1
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.7	3.2	0.0	0.0	3.2	2.3	10.5	0.0	0.0	10.2	0.0	10.6
LnGrp LOS	A	A		A	A	A	B	A	A	B	A	B
Approach Vol, veh/h		817	A		745			27			16	
Approach Delay, s/veh		3.3			3.2			10.5			10.3	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		5.7		16.7		5.7		16.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		40.0		26.0		40.0		26.0				
Max Q Clear Time (g_c+I1), s		2.6		7.2		2.1		5.1				
Green Ext Time (p_c), s		0.1		5.1		0.0		4.6				

Intersection Summary												
HCM 6th Ctrl Delay			3.5									
HCM 6th LOS			A									

Notes

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

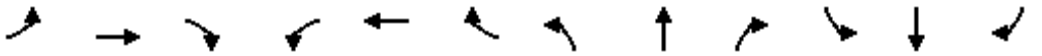
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	70	20	0	65	5	0
Future Vol, veh/h	70	20	0	65	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	12	12	12	12	12	12
Mvmt Flow	88	25	0	81	6	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	113	0	182	101
Stage 1	-	-	-	-	101	-
Stage 2	-	-	-	-	81	-
Critical Hdwy	-	-	4.22	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.308	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	1416	-	785	928
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	917	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	785	928
Mov Cap-2 Maneuver	-	-	-	-	785	-
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	917	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

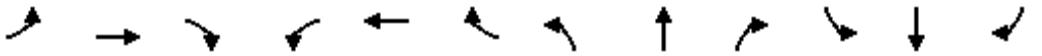
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	785	-	-	1416	-
HCM Lane V/C Ratio	0.008	-	-	-	-
HCM Control Delay (s)	9.6	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1135	480	0	0	0	0	0	0	750	170	0
Future Volume (vph)	0	1135	480	0	0	0	0	0	0	750	170	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		11.0								4.0	4.0	
Lane Util. Factor		0.95								0.97	1.00	
Frpb, ped/bikes		1.00								1.00	1.00	
Flpb, ped/bikes		1.00								1.00	1.00	
Frt		0.96								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3369								3433	1863	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3369								3433	1863	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1275	539	0	0	0	0	0	0	843	191	0
RTOR Reduction (vph)	0	64	0	0	0	0	0	0	0	91	0	0
Lane Group Flow (vph)	0	1750	0	0	0	0	0	0	0	752	191	0
Confl. Bikes (#/hr)			1									2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA								Split	NA	
Protected Phases		2								1	1	
Permitted Phases												
Actuated Green, G (s)		36.2								18.8	18.8	
Effective Green, g (s)		36.2								18.8	18.8	
Actuated g/C Ratio		0.52								0.27	0.27	
Clearance Time (s)		11.0								4.0	4.0	
Vehicle Extension (s)		2.0								2.0	2.0	
Lane Grp Cap (vph)		1742								922	500	
v/s Ratio Prot		c0.52								c0.22	0.10	
v/s Ratio Perm												
v/c Ratio		1.00								0.82	0.38	
Uniform Delay, d1		16.9								24.0	20.9	
Progression Factor		1.00								1.26	1.25	
Incremental Delay, d2		22.6								2.3	0.1	
Delay (s)		39.5								32.6	26.3	
Level of Service		D								C	C	
Approach Delay (s)		39.5			0.0			0.0			31.4	
Approach LOS		D			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	36.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	89.1%	ICU Level of Service	E
Analysis Period (min)	15		

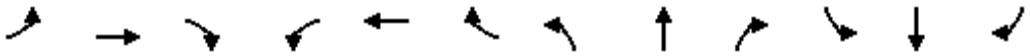
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	180	970	0	0	0	0	0	740	400
Future Volume (vph)	0	0	0	180	970	0	0	0	0	0	740	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0	5.0						5.0	5.0
Lane Util. Factor				1.00	0.95						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.99
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1752	3505						3505	1545
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1752	3505						3505	1545
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	209	1128	0	0	0	0	0	860	465
RTOR Reduction (vph)	0	0	0	12	0	0	0	0	0	0	0	96
Lane Group Flow (vph)	0	0	0	197	1128	0	0	0	0	0	860	369
Confl. Peds. (#/hr)												2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						5	
Permitted Phases				6								5
Actuated Green, G (s)				44.0	44.0						16.0	16.0
Effective Green, g (s)				44.0	44.0						16.0	16.0
Actuated g/C Ratio				0.63	0.63						0.23	0.23
Clearance Time (s)				5.0	5.0						5.0	5.0
Vehicle Extension (s)				2.0	2.0						2.0	2.0
Lane Grp Cap (vph)				1101	2203						801	353
v/s Ratio Prot					c0.32						c0.25	
v/s Ratio Perm				0.11								0.24
v/c Ratio				0.18	0.51						1.07	1.04
Uniform Delay, d1				5.4	7.1						27.0	27.0
Progression Factor				0.47	0.49						1.00	1.00
Incremental Delay, d2				0.3	0.8						53.5	59.9
Delay (s)				2.9	4.2						80.5	86.9
Level of Service				A	A						F	F
Approach Delay (s)		0.0			4.0			0.0			82.7	
Approach LOS		A			A			A			F	

Intersection Summary			
HCM 2000 Control Delay	43.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

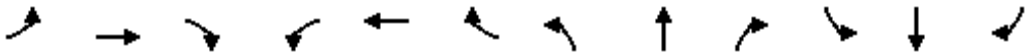
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	810	795	340	380	0	0	0	0
Future Volume (vph)	0	0	0	0	810	795	340	380	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					11.0	11.0	4.0	4.0				
Lane Util. Factor					0.95	1.00	0.97	1.00				
Frpb, ped/bikes					1.00	0.99	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					3539	1562	3433	1863				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					3539	1562	3433	1863				
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)	0	0	0	0	931	914	391	437	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	46	166	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	931	868	225	437	0	0	0	0
Confl. Bikes (#/hr)						3						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type					NA	Perm	Split	NA				
Protected Phases					2		1	1				
Permitted Phases						2						
Actuated Green, G (s)					38.0	38.0	17.0	17.0				
Effective Green, g (s)					38.0	38.0	17.0	17.0				
Actuated g/C Ratio					0.54	0.54	0.24	0.24				
Clearance Time (s)					11.0	11.0	4.0	4.0				
Vehicle Extension (s)					2.0	2.0	2.0	2.0				
Lane Grp Cap (vph)					1921	847	833	452				
v/s Ratio Prot					0.26		0.07	c0.23				
v/s Ratio Perm						c0.56						
v/c Ratio					0.48	1.03	0.27	0.97				
Uniform Delay, d1					9.9	16.0	21.5	26.2				
Progression Factor					1.00	1.00	0.50	0.63				
Incremental Delay, d2					0.9	37.5	0.1	32.2				
Delay (s)					10.8	53.5	10.7	48.6				
Level of Service					B	D	B	D				
Approach Delay (s)		0.0			31.9			30.7			0.0	
Approach LOS		A			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	1515	0	0	0	0	0	350	170	0	0	0
Future Volume (vph)	370	1515	0	0	0	0	0	350	170	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						5.0	5.0			
Lane Util. Factor	1.00	0.95						0.95	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1736	3471						3471	1553			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1736	3471						3471	1553			
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	430	1762	0	0	0	0	0	407	198	0	0	0
RTOR Reduction (vph)	55	0	0	0	0	0	0	0	102	0	0	0
Lane Group Flow (vph)	375	1762	0	0	0	0	0	407	96	0	0	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA						NA	Perm			
Protected Phases	6	6						5				
Permitted Phases									5			
Actuated Green, G (s)	47.1	47.1						12.9	12.9			
Effective Green, g (s)	47.1	47.1						12.9	12.9			
Actuated g/C Ratio	0.67	0.67						0.18	0.18			
Clearance Time (s)	5.0	5.0						5.0	5.0			
Vehicle Extension (s)	2.0	2.0						2.0	2.0			
Lane Grp Cap (vph)	1168	2335						639	286			
v/s Ratio Prot	0.22	c0.51						c0.12				
v/s Ratio Perm									0.06			
v/c Ratio	0.32	0.75						0.64	0.34			
Uniform Delay, d1	4.8	7.6						26.4	24.8			
Progression Factor	0.00	0.95						1.00	1.00			
Incremental Delay, d2	0.3	1.2						1.5	0.3			
Delay (s)	0.3	8.4						27.9	25.1			
Level of Service	A	A						C	C			
Approach Delay (s)		6.8			0.0			27.0			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	95.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	1195	5	210	280	0	0	0	200
Future Volume (veh/h)	0	0	0	0	1195	5	210	280	0	0	0	200
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				0	1870	1900	1870	1870	0	0	0	1870
Adj Flow Rate, veh/h				0	1358	6	239	318	0	0	0	119
Peak Hour Factor				0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				0	2	0	2	2	0	0	0	2
Cap, veh/h				0	0	0	681	369	0	0	0	0
Arrive On Green				0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.00
Sat Flow, veh/h					0		3456	1870	0		0	
Grp Volume(v), veh/h					0.0		239	318	0		0.0	
Grp Sat Flow(s),veh/h/ln							1728	1870	0			
Q Serve(g_s), s							4.1	11.3	0.0			
Cycle Q Clear(g_c), s							4.1	11.3	0.0			
Prop In Lane							1.00		0.00			
Lane Grp Cap(c), veh/h							681	369	0			
V/C Ratio(X)							0.35	0.86	0.00			
Avail Cap(c_a), veh/h							751	515	0			
HCM Platoon Ratio							1.00	1.00	1.00			
Upstream Filter(I)							0.88	0.88	0.00			
Uniform Delay (d), s/veh							23.9	26.8	0.0			
Incr Delay (d2), s/veh							0.1	7.2	0.0			
Initial Q Delay(d3),s/veh							0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln							1.6	5.6	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh							24.0	34.0	0.0			
LnGrp LOS							C	C	A			
Approach Vol, veh/h								557				
Approach Delay, s/veh								29.7				
Approach LOS								C				

Timer - Assigned Phs	3	8
Phs Duration (G+Y+Rc), s	17.6	17.6
Change Period (Y+Rc), s	* 4	* 4
Max Green Setting (Gmax), s	* 15	* 19
Max Q Clear Time (g_c+I1), s	6.1	13.3
Green Ext Time (p_c), s	0.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	1235	160	0	0	0	0	200	10	0	0	0
Future Volume (veh/h)	290	1235	160	0	0	0	0	200	10	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1841	1841	1841				0	1841	1841			
Adj Flow Rate, veh/h	354	1506	0				0	244	10			
Peak Hour Factor	0.82	0.82	0.82				0.82	0.82	0.82			
Percent Heavy Veh, %	4	4	4				0	4	4			
Cap, veh/h	1221	3499					0	301	12			
Arrive On Green	0.70	0.70	0.00				0.00	0.17	0.17			
Sat Flow, veh/h	1753	5191	0				0	1755	72			
Grp Volume(v), veh/h	354	1506	0				0	0	254			
Grp Sat Flow(s),veh/h/ln	1753	1675	0				0	0	1827			
Q Serve(g_s), s	5.2	8.8	0.0				0.0	0.0	9.1			
Cycle Q Clear(g_c), s	5.2	8.8	0.0				0.0	0.0	9.1			
Prop In Lane	1.00		0.00				0.00		0.04			
Lane Grp Cap(c), veh/h	1221	3499					0	0	313			
V/C Ratio(X)	0.29	0.43					0.00	0.00	0.81			
Avail Cap(c_a), veh/h	1221	3499					0	0	457			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.61	0.61	0.00				0.00	0.00	1.00			
Uniform Delay (d), s/veh	3.9	4.5	0.0				0.0	0.0	27.1			
Incr Delay (d2), s/veh	0.4	0.2	0.0				0.0	0.0	4.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.9	1.3	0.0				0.0	0.0	4.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.3	4.7	0.0				0.0	0.0	31.4			
LnGrp LOS	A	A					A	A	C			
Approach Vol, veh/h		1860	A					254				
Approach Delay, s/veh		4.6						31.4				
Approach LOS		A						C				

Timer - Assigned Phs	2	8
Phs Duration (G+Y+Rc), s	52.3	15.7
Change Period (Y+Rc), s	* 5	4.0
Max Green Setting (Gmax), s	* 42	17.0
Max Q Clear Time (g_c+I1), s	10.8	11.1
Green Ext Time (p_c), s	7.9	0.5

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Notes

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	685	420	140	560	10	510	80	170	10	70	130
Future Volume (veh/h)	140	685	420	140	560	10	510	80	170	10	70	130
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	165	806	118	165	659	3	600	94	40	12	82	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	775	338	610	1671	729	628	416	350	30	107	91
Arrive On Green	0.11	0.22	0.22	0.23	0.32	0.32	0.18	0.22	0.22	0.02	0.06	0.00
Sat Flow, veh/h	1781	3554	1551	1781	3554	1551	3456	1870	1572	1781	1870	1585
Grp Volume(v), veh/h	165	806	118	165	659	3	600	94	40	12	82	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1551	1781	1777	1551	1728	1870	1572	1781	1870	1585
Q Serve(g_s), s	10.0	24.0	4.5	8.4	16.0	0.1	18.9	4.5	1.0	0.7	4.8	0.0
Cycle Q Clear(g_c), s	10.0	24.0	4.5	8.4	16.0	0.1	18.9	4.5	1.0	0.7	4.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	194	775	338	610	1671	729	628	416	350	30	107	91
V/C Ratio(X)	0.85	1.04	0.35	0.27	0.39	0.00	0.95	0.23	0.11	0.40	0.76	0.00
Avail Cap(c_a), veh/h	211	775	338	610	1671	729	628	595	500	194	527	447
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.2	43.0	14.9	31.1	25.4	20.0	44.6	35.0	6.3	53.5	51.1	0.0
Incr Delay (d2), s/veh	23.8	43.0	2.8	0.1	0.7	0.0	25.0	0.1	0.1	3.2	4.2	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	14.5	2.8	3.5	7.0	0.1	10.1	2.1	0.8	0.4	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.0	86.0	17.7	31.2	26.1	20.0	69.5	35.1	6.4	56.7	55.3	0.0
LnGrp LOS	E	F	B	C	C	C	E	D	A	E	E	A
Approach Vol, veh/h		1089			827			734			94	
Approach Delay, s/veh		76.5			27.1			61.7			55.5	
Approach LOS		E			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	30.0	25.0	11.3	16.0	57.7	6.8	29.5
Change Period (Y+Rc), s	* 6	* 6	* 5	* 5	* 4	* 6	* 5	* 5
Max Green Setting (Gmax), s	* 13	* 24	* 20	* 31	* 13	* 26	* 12	* 35
Max Q Clear Time (g_c+I1), s	10.4	26.0	20.9	6.8	12.0	18.0	2.7	6.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	56.9
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* 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)	40	735	90	20	600	10	70	10	20	5	10	40
Future Volume (veh/h)	40	735	90	20	600	10	70	10	20	5	10	40
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	51	930	82	25	759	12	98	0	0	6	13	0
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	729	2740	1196	31	1314	574	280	0	95	150	112	0
Arrive On Green	0.83	1.00	1.00	0.02	0.37	0.37	0.06	0.00	0.00	0.06	0.06	0.00
Sat Flow, veh/h	1767	3526	1540	1767	3526	1539	2780	0	1572	1406	1856	0
Grp Volume(v), veh/h	51	930	82	25	759	12	98	0	0	6	13	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1540	1767	1763	1539	1390	0	1572	1406	1856	0
Q Serve(g_s), s	0.6	0.0	0.0	1.6	18.9	0.5	3.8	0.0	0.0	0.4	0.7	0.0
Cycle Q Clear(g_c), s	0.6	0.0	0.0	1.6	18.9	0.5	4.5	0.0	0.0	0.4	0.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	729	2740	1196	31	1314	574	280	0	95	150	112	0
V/C Ratio(X)	0.07	0.34	0.07	0.82	0.58	0.02	0.35	0.00	0.00	0.04	0.12	0.00
Avail Cap(c_a), veh/h	729	2740	1196	289	1314	574	896	0	443	449	506	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	0.93	0.93	0.93	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	5.7	0.0	0.0	53.9	27.6	21.8	51.1	0.0	0.0	48.8	48.9	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.1	16.5	1.7	0.1	0.7	0.0	0.0	0.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.0	0.8	7.6	0.2	1.3	0.0	0.0	0.2	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	0.3	0.1	70.3	29.3	21.9	51.8	0.0	0.0	48.9	49.4	0.0
LnGrp LOS	A	A	A	E	C	C	D	A	A	D	D	A
Approach Vol, veh/h		1063			796			98			19	
Approach Delay, s/veh		0.5			30.5			51.8			49.2	
Approach LOS		A			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.9	91.5		11.6	51.4	47.0		11.6
Change Period (Y+Rc), s	* 5	6.0		* 5	6.0	* 6		* 5
Max Green Setting (Gmax), s	* 18	45.0		* 30	18.0	* 41		* 31
Max Q Clear Time (g_c+I1), s	3.6	2.0		2.7	2.6	20.9		6.5
Green Ext Time (p_c), s	0.0	1.9		0.0	0.0	6.2		0.3

Intersection Summary	
HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
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)	320	270	170	110	230	40	110	655	210	60	450	290
Future Volume (veh/h)	320	270	170	110	230	40	110	655	210	60	450	290
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	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	360	303	108	124	258	42	124	736	223	67	506	162
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	483	587	258	158	406	181	274	929	414	105	857	604
Arrive On Green	0.14	0.17	0.17	0.09	0.12	0.12	0.08	0.26	0.26	0.06	0.24	0.24
Sat Flow, veh/h	3428	3526	1552	1767	3526	1572	3428	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	360	303	108	124	258	42	124	736	223	67	506	162
Grp Sat Flow(s),veh/h/ln	1714	1763	1552	1767	1763	1572	1714	1763	1572	1767	1763	1572
Q Serve(g_s), s	5.3	4.1	3.3	3.6	3.6	1.3	1.8	10.2	6.4	1.9	6.6	3.7
Cycle Q Clear(g_c), s	5.3	4.1	3.3	3.6	3.6	1.3	1.8	10.2	6.4	1.9	6.6	3.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	483	587	258	158	406	181	274	929	414	105	857	604
V/C Ratio(X)	0.75	0.52	0.42	0.78	0.64	0.23	0.45	0.79	0.54	0.64	0.59	0.27
Avail Cap(c_a), veh/h	788	2227	980	203	1822	813	459	1957	873	169	1822	1034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.5	19.9	19.5	23.3	22.1	21.0	22.9	17.9	16.5	24.0	17.5	11.1
Incr Delay (d2), s/veh	0.9	0.3	0.4	10.7	0.6	0.2	0.4	0.6	0.4	2.4	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.4	1.0	1.7	1.3	0.4	0.6	3.4	1.9	0.8	2.2	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	20.1	19.9	33.9	22.7	21.3	23.4	18.5	16.9	26.4	17.7	11.1
LnGrp LOS	C	C	B	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		771			424			1083			735	
Approach Delay, s/veh		21.2			25.8			18.7			17.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	15.7	8.2	18.7	12.4	13.0	7.1	19.8
Change Period (Y+Rc), s	* 5	7.0	* 4	* 6	* 5	7.0	* 4	* 6
Max Green Setting (Gmax), s	* 6	33.0	* 7	* 27	* 12	27.0	* 5	* 29
Max Q Clear Time (g_c+I1), s	5.6	6.1	3.8	8.6	7.3	5.6	3.9	12.2
Green Ext Time (p_c), s	0.0	0.6	0.1	1.1	0.1	0.4	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	19.9
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)	250	220	70	0	180	5	60	5	0	5	5	140
Future Volume (veh/h)	250	220	70	0	180	5	60	5	0	5	5	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1811	1811	1826	1826	1811	1811	1811	1826	1811	1811
Adj Flow Rate, veh/h	269	237	53	0	194	2	65	5	0	5	5	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	6	6	5	5	6	6	6	5	6	6
Cap, veh/h	318	1440	1211	3	980	814	196	133	0	208	35	83
Arrive On Green	0.18	0.79	0.79	0.00	0.54	0.54	0.07	0.07	0.00	0.07	0.07	0.07
Sat Flow, veh/h	1739	1826	1535	1725	1826	1515	1352	1811	0	1378	473	1134
Grp Volume(v), veh/h	269	237	53	0	194	2	65	5	0	5	0	17
Grp Sat Flow(s),veh/h/ln	1739	1826	1535	1725	1826	1515	1352	1811	0	1378	0	1607
Q Serve(g_s), s	9.7	2.1	0.5	0.0	3.6	0.0	3.1	0.2	0.0	0.2	0.0	0.6
Cycle Q Clear(g_c), s	9.7	2.1	0.5	0.0	3.6	0.0	3.7	0.2	0.0	0.4	0.0	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.71
Lane Grp Cap(c), veh/h	318	1440	1211	3	980	814	196	133	0	208	0	118
V/C Ratio(X)	0.85	0.16	0.04	0.00	0.20	0.00	0.33	0.04	0.00	0.02	0.00	0.14
Avail Cap(c_a), veh/h	413	1440	1211	132	980	814	636	722	0	656	0	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.7	1.7	1.5	0.0	7.8	7.0	30.0	28.1	0.0	28.3	0.0	28.3
Incr Delay (d2), s/veh	12.0	0.2	0.1	0.0	0.5	0.0	1.0	0.1	0.0	0.0	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.1	0.0	0.0	1.1	0.0	1.0	0.1	0.0	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	1.9	1.6	0.0	8.3	7.0	31.0	28.2	0.0	28.3	0.0	28.9
LnGrp LOS	D	A	A	A	A	A	C	C	A	C	A	C
Approach Vol, veh/h		559			196			70			22	
Approach Delay, s/veh		19.1			8.3			30.8			28.7	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	55.9		9.3	16.4	39.5		9.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	45.5		26.0	15.5	35.0		26.0				
Max Q Clear Time (g_c+I1), s	10.0	4.1		2.6	11.7	5.6		5.7				
Green Ext Time (p_c), s	0.0	1.4		0.1	0.3	0.9		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	560	220	450	600	120	250	20	420	40	20	30
Future Volume (veh/h)	30	560	220	450	600	120	250	20	420	40	20	30
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	33	609	154	489	652	119	272	22	172	33	36	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	81	1070	469	596	1281	233	290	304	531	181	184	5
Arrive On Green	0.05	0.31	0.31	0.18	0.45	0.45	0.17	0.17	0.17	0.11	0.11	0.11
Sat Flow, veh/h	1711	3413	1495	3319	2871	523	1711	1796	1517	1711	1739	48
Grp Volume(v), veh/h	33	609	154	489	387	384	272	22	172	33	0	37
Grp Sat Flow(s),veh/h/ln	1711	1706	1495	1659	1706	1687	1711	1796	1517	1711	0	1788
Q Serve(g_s), s	1.3	10.6	5.6	10.0	11.5	11.5	11.1	0.7	5.9	1.2	0.0	1.3
Cycle Q Clear(g_c), s	1.3	10.6	5.6	10.0	11.5	11.5	11.1	0.7	5.9	1.2	0.0	1.3
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	81	1070	469	596	761	753	290	304	531	181	0	189
V/C Ratio(X)	0.41	0.57	0.33	0.82	0.51	0.51	0.94	0.07	0.32	0.18	0.00	0.20
Avail Cap(c_a), veh/h	725	1928	845	937	964	953	290	304	531	725	0	757
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.8	20.3	18.6	27.9	14.0	14.1	29.0	24.7	16.9	28.9	0.0	28.9
Incr Delay (d2), s/veh	1.2	1.0	0.9	1.6	1.1	1.1	36.2	0.0	0.1	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.0	1.9	3.9	4.1	4.1	7.2	0.3	1.9	0.5	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	21.3	19.5	29.6	15.2	15.2	65.3	24.8	17.0	29.1	0.0	29.1
LnGrp LOS	C	C	B	C	B	B	E	C	B	C	A	C
Approach Vol, veh/h		796			1260			466			70	
Approach Delay, s/veh		21.5			20.8			45.6			29.1	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.7	26.4		11.6	7.3	35.8		16.1
Change Period (Y+Rc), s	4.0	* 4.2		4.1	4.0	* 4.2		4.1
Max Green Setting (Gmax), s	20.0	* 40		30.0	30.0	* 40		12.0
Max Q Clear Time (g_c+I1), s	12.0	12.6		3.3	3.3	13.5		13.1
Green Ext Time (p_c), s	0.7	9.4		0.1	0.0	9.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
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)	0	960	60	210	630	0	0	0	0	750	5	540
Future Volume (veh/h)	0	960	60	210	630	0	0	0	0	750	5	540
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1841	1841	1841	0				1841	1841	1841
Adj Flow Rate, veh/h	0	1043	16	228	685	0				819	0	278
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	4	4	4	4	0				4	4	4
Cap, veh/h	0	1008	442	757	2059	0				925	0	823
Arrive On Green	0.00	0.29	0.29	0.07	0.19	0.00				0.26	0.00	0.26
Sat Flow, veh/h	0	3589	1533	3401	3589	0				3506	0	3120
Grp Volume(v), veh/h	0	1043	16	228	685	0				819	0	278
Grp Sat Flow(s),veh/h/ln	0	1749	1533	1700	1749	0				1753	0	1560
Q Serve(g_s), s	0.0	17.0	0.4	3.7	10.0	0.0				13.2	0.0	4.2
Cycle Q Clear(g_c), s	0.0	17.0	0.4	3.7	10.0	0.0				13.2	0.0	4.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1008	442	757	2059	0				925	0	823
V/C Ratio(X)	0.00	1.04	0.04	0.30	0.33	0.00				0.89	0.00	0.34
Avail Cap(c_a), veh/h	0	1008	442	757	2059	0				1010	0	899
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.81	0.81	0.79	0.79	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	15.1	23.0	13.8	0.0				20.9	0.0	17.6
Incr Delay (d2), s/veh	0.0	35.0	0.1	0.2	0.3	0.0				8.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.9	0.2	1.4	4.0	0.0				5.7	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	56.0	15.2	23.2	14.1	0.0				29.3	0.0	17.6
LnGrp LOS	A	F	B	C	B	A				C	A	B
Approach Vol, veh/h		1059			913						1097	
Approach Delay, s/veh		55.4			16.4						26.3	
Approach LOS		E			B						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	17.7	21.6		19.7		39.3
Change Period (Y+Rc), s	4.6	* 4.6		4.1		4.6
Max Green Setting (Gmax), s	10.0	* 17		17.0		33.0
Max Q Clear Time (g_c+I1), s	15.7	19.0		15.2		12.0
Green Ext Time (p_c), s	0.3	0.0		0.3		1.7

Intersection Summary	
HCM 6th Ctrl Delay	33.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

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)	370	1340	0	0	760	790	80	0	210	0	0	0
Future Volume (veh/h)	370	1340	0	0	760	790	80	0	210	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1826	1826	0	0	1826	1826	1826	1826	1826			
Adj Flow Rate, veh/h	416	1506	0	0	854	472	90	0	114			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	5	5	0	0	5	5	5	5	5			
Cap, veh/h	1241	2569	0	0	1000	446	366	0	163			
Arrive On Green	0.74	1.00	0.00	0.00	0.29	0.29	0.11	0.00	0.11			
Sat Flow, veh/h	3374	3561	0	0	3561	1547	3478	0	1547			
Grp Volume(v), veh/h	416	1506	0	0	854	472	90	0	114			
Grp Sat Flow(s),veh/h/ln	1687	1735	0	0	1735	1547	1739	0	1547			
Q Serve(g_s), s	2.6	0.0	0.0	0.0	13.7	17.0	1.4	0.0	4.2			
Cycle Q Clear(g_c), s	2.6	0.0	0.0	0.0	13.7	17.0	1.4	0.0	4.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	1241	2569	0	0	1000	446	366	0	163			
V/C Ratio(X)	0.34	0.59	0.00	0.00	0.85	1.06	0.25	0.00	0.70			
Avail Cap(c_a), veh/h	1241	2569	0	0	1000	446	884	0	393			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.18	0.18	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	5.3	0.0	0.0	0.0	19.8	21.0	24.3	0.0	25.5			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	9.3	59.0	0.1	0.0	2.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.7	0.1	0.0	0.0	6.1	12.7	0.6	0.0	1.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.3	0.2	0.0	0.0	29.1	80.0	24.4	0.0	27.5			
LnGrp LOS	A	A	A	A	C	F	C	A	C			
Approach Vol, veh/h		1922			1326			204				
Approach Delay, s/veh		1.3			47.2			26.2				
Approach LOS		A			D			C				

Timer - Assigned Phs	2			5	6		8				
Phs Duration (G+Y+Rc), s	48.7			26.7	22.0		10.3				
Change Period (Y+Rc), s	* 5			* 5	* 5		4.1				
Max Green Setting (Gmax), s	* 35			* 12	* 17		15.0				
Max Q Clear Time (g_c+I1), s	2.0			4.6	19.0		6.2				
Green Ext Time (p_c), s	5.0			0.9	0.0		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
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)	340	830	80	60	900	80	350	40	30	120	40	300
Future Volume (veh/h)	340	830	80	60	900	80	350	40	30	120	40	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	395	965	86	70	1047	87	467	0	0	140	47	123
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	481	1479	132	89	1192	99	600	315	0	176	59	363
Arrive On Green	0.14	0.46	0.46	0.05	0.36	0.36	0.17	0.00	0.00	0.13	0.13	0.13
Sat Flow, veh/h	3401	3247	289	1753	3265	271	3506	1841	0	1328	446	2745
Grp Volume(v), veh/h	395	520	531	70	561	573	467	0	0	187	0	123
Grp Sat Flow(s),veh/h/ln	1700	1749	1788	1753	1749	1788	1753	1841	0	1774	0	1373
Q Serve(g_s), s	10.7	21.8	21.8	3.7	28.3	28.3	12.0	0.0	0.0	9.7	0.0	3.8
Cycle Q Clear(g_c), s	10.7	21.8	21.8	3.7	28.3	28.3	12.0	0.0	0.0	9.7	0.0	3.8
Prop In Lane	1.00		0.16	1.00		0.15	1.00		0.00	0.75		1.00
Lane Grp Cap(c), veh/h	481	796	814	89	638	652	600	315	0	235	0	363
V/C Ratio(X)	0.82	0.65	0.65	0.78	0.88	0.88	0.78	0.00	0.00	0.80	0.00	0.34
Avail Cap(c_a), veh/h	648	927	948	108	701	717	1228	645	0	338	0	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.4	19.9	19.9	44.3	28.0	28.1	37.5	0.0	0.0	39.8	0.0	37.3
Incr Delay (d2), s/veh	6.2	1.3	1.3	26.0	11.5	11.4	2.2	0.0	0.0	8.3	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	8.6	8.7	2.2	13.2	13.5	5.3	0.0	0.0	4.7	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.6	21.3	21.2	70.3	39.6	39.4	39.7	0.0	0.0	48.1	0.0	37.8
LnGrp LOS	D	C	C	E	D	D	D	A	A	D	A	D
Approach Vol, veh/h		1446			1204			467			310	
Approach Delay, s/veh		27.9			41.3			39.7			44.0	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.3	47.5		17.0	17.9	39.0		20.7
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.8	50.1		18.0	18.0	37.9		33.1
Max Q Clear Time (g_c+I1), s	5.7	23.8		11.7	12.7	30.3		14.0
Green Ext Time (p_c), s	0.0	7.5		0.8	0.7	4.1		1.7

Intersection Summary	
HCM 6th Ctrl Delay	35.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

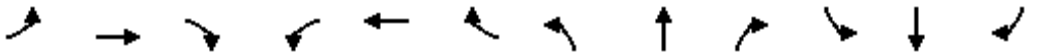
Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	880	60	20	950	50	20	5	110	10	5	70
Future Vol, veh/h	40	880	60	20	950	50	20	5	110	10	5	70
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	245	-	-	-	-	-	35	-	-	-	-	85
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	47	1035	71	24	1118	59	24	6	129	12	6	82

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1177	0	0	1108	0	0	1777	2392	555	1811	2398	589
Stage 1	-	-	-	-	-	-	1167	1167	-	1196	1196	-
Stage 2	-	-	-	-	-	-	610	1225	-	615	1202	-
Critical Hdwy	4.18	-	-	4.18	-	-	7.58	6.58	6.98	7.58	6.58	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Follow-up Hdwy	2.24	-	-	2.24	-	-	3.54	4.04	3.34	3.54	4.04	3.34
Pot Cap-1 Maneuver	578	-	-	614	-	-	51	32	470	48	32	447
Stage 1	-	-	-	-	-	-	203	262	-	194	254	-
Stage 2	-	-	-	-	-	-	443	246	-	440	252	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	578	-	-	613	-	-	30	26	469	25	26	447
Mov Cap-2 Maneuver	-	-	-	-	-	-	30	26	-	25	26	-
Stage 1	-	-	-	-	-	-	186	240	-	178	225	-
Stage 2	-	-	-	-	-	-	311	218	-	286	231	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	69.2	66.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	30	269	578	-	-	613	-	-	25	447
HCM Lane V/C Ratio	0.784	0.503	0.081	-	-	0.038	-	-	0.706	0.184
HCM Control Delay (s)	287.9	31.2	11.8	-	-	11.1	-	-	$ 306.7	14.9
HCM Lane LOS	F	D	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	2.6	2.6	0.3	-	-	0.1	-	-	2.2	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	520	190	80	510	190	330	380	60	120	280	180
Future Volume (veh/h)	290	520	190	80	510	190	330	380	60	120	280	180
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		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	326	584	169	90	573	51	371	427	10	135	315	66
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	157	888	256	115	1077	471	157	797	352	157	657	136
Arrive On Green	0.09	0.33	0.33	0.06	0.31	0.31	0.09	0.23	0.23	0.09	0.23	0.23
Sat Flow, veh/h	1767	2695	778	1767	3526	1540	1767	3526	1558	1767	2904	600
Grp Volume(v), veh/h	326	382	371	90	573	51	371	427	10	135	189	192
Grp Sat Flow(s),veh/h/ln	1767	1763	1710	1767	1763	1540	1767	1763	1558	1767	1763	1742
Q Serve(g_s), s	5.5	11.5	11.5	3.1	8.3	1.5	5.5	6.6	0.3	4.7	5.8	5.9
Cycle Q Clear(g_c), s	5.5	11.5	11.5	3.1	8.3	1.5	5.5	6.6	0.3	4.7	5.8	5.9
Prop In Lane	1.00		0.45	1.00		1.00	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	157	581	563	115	1077	471	157	797	352	157	399	394
V/C Ratio(X)	2.08	0.66	0.66	0.78	0.53	0.11	2.36	0.54	0.03	0.86	0.48	0.49
Avail Cap(c_a), veh/h	157	1039	1008	143	2050	896	157	1993	881	157	996	985
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	17.8	17.8	28.5	17.8	15.4	28.2	21.1	18.7	27.8	20.8	20.8
Incr Delay (d2), s/veh	505.7	1.3	1.3	19.9	0.4	0.1	632.8	0.6	0.0	35.2	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.2	4.3	4.2	1.9	3.1	0.5	29.8	2.5	0.1	3.4	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	533.9	19.0	19.1	48.4	18.2	15.5	661.0	21.7	18.7	63.1	21.7	21.8
LnGrp LOS	F	B	B	D	B	B	F	C	B	E	C	C
Approach Vol, veh/h		1079			714			808			516	
Approach Delay, s/veh		174.6			21.9			315.2			32.5	
Approach LOS		F			C			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	23.4	10.0	18.5	8.5	24.9	10.0	18.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	36.0	5.5	35.0	5.0	36.5	5.5	35.0
Max Q Clear Time (g_c+I1), s	7.5	10.3	6.7	8.6	5.1	13.5	7.5	7.9
Green Ext Time (p_c), s	0.0	4.1	0.0	2.9	0.0	4.8	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	152.5
HCM 6th LOS	F

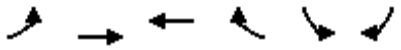
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	480	150	80	420	0	230	0	140	0	0	0
Future Volume (veh/h)	0	480	150	80	420	0	230	0	140	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	500	126	83	438	0	240	0	49	0	0	0
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	5	833	209	200	1884	0	336	353	298	5	6	5
Arrive On Green	0.00	0.30	0.30	0.11	0.53	0.00	0.19	0.00	0.19	0.00	0.00	0.00
Sat Flow, veh/h	1767	2789	699	1767	3618	0	1767	1856	1570	1767	1856	1572
Grp Volume(v), veh/h	0	315	311	83	438	0	240	0	49	0	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1726	1767	1763	0	1767	1856	1570	1767	1856	1572
Q Serve(g_s), s	0.0	5.0	5.0	1.4	2.2	0.0	4.2	0.0	0.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	5.0	5.0	1.4	2.2	0.0	4.2	0.0	0.9	0.0	0.0	0.0
Prop In Lane	1.00		0.41	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	5	526	515	200	1884	0	336	353	298	5	6	5
V/C Ratio(X)	0.00	0.60	0.60	0.41	0.23	0.00	0.71	0.00	0.16	0.00	0.00	0.00
Avail Cap(c_a), veh/h	811	2158	2113	811	4317	0	1082	1136	961	811	1136	963
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.8	9.8	13.5	4.0	0.0	12.4	0.0	11.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.5	0.0	0.0	1.1	0.0	0.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.3	1.3	0.5	0.3	0.0	1.3	0.0	0.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.2	10.2	14.0	4.1	0.0	13.5	0.0	11.2	0.0	0.0	0.0
LnGrp LOS	A	B	B	B	A	A	B	A	B	A	A	A
Approach Vol, veh/h		626			521			289			0	
Approach Delay, s/veh		10.2			5.6			13.1			0.0	
Approach LOS		B			A			B				

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	22.5	10.2	0.0	7.7	14.8	0.0	10.2
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	15.0	40.0	20.0	20.0	15.0	40.0	15.0	20.0
Max Q Clear Time (g_c+I1), s	0.0	4.2	6.2	0.0	3.4	7.0	0.0	2.9
Green Ext Time (p_c), s	0.0	1.9	0.3	0.0	0.1	2.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	9.1
HCM 6th LOS	A

Notes

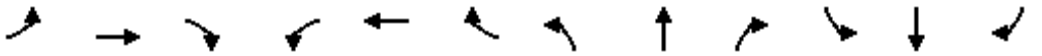
User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	615	445	5	5	60
Future Volume (veh/h)	5	615	445	5	5	60
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	668	484	4	5	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	428	1390	709	6	51	45
Arrive On Green	0.24	0.74	0.38	0.38	0.03	0.03
Sat Flow, veh/h	1781	1870	1852	15	1781	1585
Grp Volume(v), veh/h	5	668	0	488	5	11
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1868	1781	1585
Q Serve(g_s), s	0.1	5.9	0.0	9.1	0.1	0.3
Cycle Q Clear(g_c), s	0.1	5.9	0.0	9.1	0.1	0.3
Prop In Lane	1.00			0.01	1.00	1.00
Lane Grp Cap(c), veh/h	428	1390	0	715	51	45
V/C Ratio(X)	0.01	0.48	0.00	0.68	0.10	0.24
Avail Cap(c_a), veh/h	1499	1573	0	1571	1049	933
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.0	2.1	0.0	10.7	19.7	19.8
Incr Delay (d2), s/veh	0.0	0.4	0.0	1.6	0.6	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.0	3.3	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.1	2.5	0.0	12.4	20.3	21.8
LnGrp LOS	B	A	A	B	C	C
Approach Vol, veh/h		673	488		16	
Approach Delay, s/veh		2.6	12.4		21.4	
Approach LOS		A	B		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		35.9		5.7	15.0	20.9
Change Period (Y+Rc), s		5.0		4.5	5.0	5.0
Max Green Setting (Gmax), s		35.0		24.5	35.0	35.0
Max Q Clear Time (g_c+I1), s		7.9		2.3	2.1	11.1
Green Ext Time (p_c), s		7.6		0.0	0.0	4.8

Intersection Summary		
HCM 6th Ctrl Delay		6.9
HCM 6th LOS		A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	410	130	100	60	105	50	90	790	100	80	395	270
Future Volume (veh/h)	410	130	100	60	105	50	90	790	100	80	395	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	466	148	28	68	119	42	102	898	108	91	449	207
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	490	618	523	128	167	59	149	879	106	144	645	295
Arrive On Green	0.28	0.33	0.33	0.07	0.13	0.13	0.08	0.28	0.28	0.08	0.27	0.27
Sat Flow, veh/h	1767	1856	1572	1767	1309	462	1767	3169	381	1767	2350	1075
Grp Volume(v), veh/h	466	148	28	68	0	161	102	500	506	91	336	320
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1767	0	1771	1767	1763	1787	1767	1763	1662
Q Serve(g_s), s	18.6	4.2	0.9	2.7	0.0	6.3	4.0	20.0	20.0	3.6	12.3	12.5
Cycle Q Clear(g_c), s	18.6	4.2	0.9	2.7	0.0	6.3	4.0	20.0	20.0	3.6	12.3	12.5
Prop In Lane	1.00		1.00	1.00		0.26	1.00		0.21	1.00		0.65
Lane Grp Cap(c), veh/h	490	618	523	128	0	226	149	489	496	144	484	456
V/C Ratio(X)	0.95	0.24	0.05	0.53	0.00	0.71	0.68	1.02	1.02	0.63	0.69	0.70
Avail Cap(c_a), veh/h	490	1004	851	490	0	983	490	489	496	490	978	923
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	17.4	16.3	32.3	0.0	30.2	32.0	26.0	26.0	32.1	23.4	23.5
Incr Delay (d2), s/veh	28.2	0.2	0.1	1.3	0.0	5.0	2.0	46.1	45.9	1.7	2.2	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.3	1.8	0.3	1.2	0.0	2.9	1.7	13.6	13.8	1.5	4.8	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.7	17.7	16.4	33.5	0.0	35.1	34.1	72.2	71.9	33.8	25.6	25.9
LnGrp LOS	D	B	B	C	A	D	C	F	F	C	C	C
Approach Vol, veh/h		642			229			1108			747	
Approach Delay, s/veh		43.8			34.7			68.5			26.7	
Approach LOS		D			C			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	14.2	10.1	23.8	9.2	29.0	9.9	24.0
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	39.0	20.0	20.0
Max Q Clear Time (g_c+I1), s	20.6	8.3	6.0	14.5	4.7	6.2	5.6	22.0
Green Ext Time (p_c), s	0.0	1.2	0.0	4.7	0.0	1.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	48.4
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	260	185	5	5	30
Future Vol, veh/h	50	260	185	5	5	30
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	60	313	223	6	6	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	231	0	-	0	661	228
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	433	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1343	-	-	-	429	814
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	656	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1340	-	-	-	404	812
Mov Cap-2 Maneuver	-	-	-	-	404	-
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	655	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1340	-	-	-	710
HCM Lane V/C Ratio	0.045	-	-	-	0.059
HCM Control Delay (s)	7.8	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	220	120	0	5	30
Future Vol, veh/h	40	220	120	0	5	30
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	51	282	154	0	6	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	159	0	-	0	543	159
Stage 1	-	-	-	-	159	-
Stage 2	-	-	-	-	384	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1427	-	-	-	502	889
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	691	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1420	-	-	-	475	885
Mov Cap-2 Maneuver	-	-	-	-	475	-
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	688	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	788
HCM Lane V/C Ratio	0.036	-	-	-	0.057
HCM Control Delay (s)	7.6	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	145	80	0	5	30
Future Vol, veh/h	30	145	80	0	5	30
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	181	100	0	6	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	105	0	-	0	362	105
Stage 1	-	-	-	-	105	-
Stage 2	-	-	-	-	257	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1486	-	-	-	637	949
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	786	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1479	-	-	-	612	944
Mov Cap-2 Maneuver	-	-	-	-	612	-
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	782	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1479	-	-	-	876
HCM Lane V/C Ratio	0.025	-	-	-	0.05
HCM Control Delay (s)	7.5	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	100	50	0	0	30
Future Vol, veh/h	50	100	50	0	0	30
Conflicting Peds, #/hr	7	0	0	7	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	70	141	70	0	0	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	358	77
Stage 1	-	-	-	-	77	-
Stage 2	-	-	-	-	281	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1515	-	-	-	638	981
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	764	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1505	-	-	-	598	974
Mov Cap-2 Maneuver	-	-	-	-	598	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	759	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1505	-	-	-	974
HCM Lane V/C Ratio	0.047	-	-	-	0.043
HCM Control Delay (s)	7.5	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	30	20	0	0	30
Future Vol, veh/h	70	30	20	0	0	30
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	84	36	24	0	0	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	28	0	-	0	232	28
Stage 1	-	-	-	-	28	-
Stage 2	-	-	-	-	204	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1599	-	-	-	761	1053
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	835	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1593	-	-	-	714	1049
Mov Cap-2 Maneuver	-	-	-	-	714	-
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	832	-

Approach	EB	WB	SB
HCM Control Delay, s	5.2	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1593	-	-	-	1049
HCM Lane V/C Ratio	0.053	-	-	-	0.034
HCM Control Delay (s)	7.4	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1

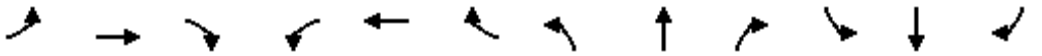
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	0	0	0	0	20
Future Vol, veh/h	30	0	0	0	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	42	42	42	42	42	42
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	71	0	0	0	0	48

Major/Minor	Major2		Minor2	
Conflicting Flow All	-	0	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.3
Pot Cap-1 Maneuver	-	0	0	-
Stage 1	-	0	0	-
Stage 2	-	0	0	-
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	SB
HCM Control Delay, s	0	
HCM LOS		-

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	-
HCM Lane LOS	-	-
HCM 95th %tile Q(veh)	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	510	0	60	5	5	10	40	340	20	5	410	310
Future Volume (veh/h)	510	0	60	5	5	10	40	340	20	5	410	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	537	0	26	5	5	6	42	358	20	5	432	267
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	719	0	30	287	289	302	103	575	32	17	522	442
Arrive On Green	0.45	0.00	0.45	0.45	0.45	0.45	0.06	0.32	0.32	0.01	0.27	0.27
Sat Flow, veh/h	1371	0	66	481	647	677	1810	1782	100	1810	1900	1610
Grp Volume(v), veh/h	563	0	0	16	0	0	42	0	378	5	432	267
Grp Sat Flow(s),veh/h/ln	1438	0	0	1805	0	0	1810	0	1882	1810	1900	1610
Q Serve(g_s), s	23.1	0.0	0.0	0.0	0.0	0.0	1.5	0.0	11.2	0.2	14.1	9.5
Cycle Q Clear(g_c), s	23.4	0.0	0.0	0.3	0.0	0.0	1.5	0.0	11.2	0.2	14.1	9.5
Prop In Lane	0.95		0.05	0.31		0.37	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	749	0	0	878	0	0	103	0	607	17	522	442
V/C Ratio(X)	0.75	0.00	0.00	0.02	0.00	0.00	0.41	0.00	0.62	0.30	0.83	0.60
Avail Cap(c_a), veh/h	1371	0	0	966	0	0	879	0	1657	742	1673	1418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.5	0.0	0.0	10.2	0.0	0.0	30.0	0.0	18.9	32.4	22.4	20.8
Incr Delay (d2), s/veh	1.6	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.4	3.6	1.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	0.0	0.1	0.0	0.0	0.6	0.0	4.5	0.1	5.7	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	0.0	0.0	10.2	0.0	0.0	30.9	0.0	19.3	36.0	23.7	21.3
LnGrp LOS	B	A	A	B	A	A	C	A	B	D	C	C
Approach Vol, veh/h		563			16			420			704	
Approach Delay, s/veh		18.1			10.2			20.5			22.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	26.2		34.4	8.4	23.1		34.4				
Change Period (Y+Rc), s	4.6	5.0		5.0	4.6	5.0		* 5				
Max Green Setting (Gmax), s	27.0	58.0		58.0	32.0	58.0		* 33				
Max Q Clear Time (g_c+I1), s	2.2	13.2		25.4	3.5	16.1		2.3				
Green Ext Time (p_c), s	0.0	1.5		4.0	0.0	2.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		20.6
HCM 6th LOS		C

Notes

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

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	40	360	10	30	510
Future Vol, veh/h	20	40	360	10	30	510
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	22	43	387	11	32	548

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1005	393	0	0	398	0
Stage 1	393	-	-	-	-	-
Stage 2	612	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	264	649	-	-	1144	-
Stage 1	676	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	257	649	-	-	1144	-
Mov Cap-2 Maneuver	257	-	-	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	535	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.8	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	430	1144	-
HCM Lane V/C Ratio	-	-	0.15	0.028	-
HCM Control Delay (s)	-	-	14.8	8.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

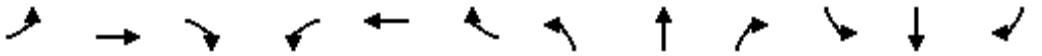
Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	50	320	60	70	460
Future Vol, veh/h	30	50	320	60	70	460
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	-	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	33	54	348	65	76	500

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1033	381	0	0	413	0
Stage 1	381	-	-	-	-	-
Stage 2	652	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	254	660	-	-	1130	-
Stage 1	684	-	-	-	-	-
Stage 2	513	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	237	660	-	-	1130	-
Mov Cap-2 Maneuver	237	-	-	-	-	-
Stage 1	638	-	-	-	-	-
Stage 2	513	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.3	0	1.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	237	660	1130	-
HCM Lane V/C Ratio	-	-	0.138	0.082	0.067	-
HCM Control Delay (s)	-	-	22.6	10.9	8.4	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.3	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	5	40	20	5	90	30	1960	10	30	1770	200
Future Volume (veh/h)	210	5	40	20	5	90	30	1960	10	30	1770	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	250	6	42	24	6	5	36	2333	6	36	2107	131
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	278	5	38	249	61	44	45	2089	908	45	2089	900
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.03	0.63	0.63	0.03	0.63	0.63
Sat Flow, veh/h	1143	27	192	1014	307	220	1654	3300	1434	1654	3300	1422
Grp Volume(v), veh/h	298	0	0	35	0	0	36	2333	6	36	2107	131
Grp Sat Flow(s),veh/h/ln	1362	0	0	1541	0	0	1654	1650	1434	1654	1650	1422
Q Serve(g_s), s	22.7	0.0	0.0	0.0	0.0	0.0	2.7	80.0	0.2	2.7	80.0	4.7
Cycle Q Clear(g_c), s	25.0	0.0	0.0	2.3	0.0	0.0	2.7	80.0	0.2	2.7	80.0	4.7
Prop In Lane	0.84		0.14	0.69		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	322	0	0	353	0	0	45	2089	908	45	2089	900
V/C Ratio(X)	0.93	0.00	0.00	0.10	0.00	0.00	0.81	1.12	0.01	0.81	1.01	0.15
Avail Cap(c_a), veh/h	322	0	0	353	0	0	196	2089	908	196	2089	900
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	0.0	0.0	41.6	0.0	0.0	61.2	23.2	8.6	61.2	23.2	9.4
Incr Delay (d2), s/veh	31.3	0.0	0.0	0.0	0.0	0.0	11.9	59.9	0.0	11.9	21.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	0.0	0.0	0.9	0.0	0.0	1.3	42.7	0.1	1.3	31.7	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.9	0.0	0.0	41.6	0.0	0.0	73.1	83.1	8.6	73.1	45.1	9.4
LnGrp LOS	F	A	A	D	A	A	E	F	A	E	F	A
Approach Vol, veh/h		298			35			2375			2274	
Approach Delay, s/veh		82.9			41.6			82.7			43.5	
Approach LOS		F			D			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	88.0		30.0	8.4	88.0		30.0				
Change Period (Y+Rc), s	* 5	8.0		* 5	* 5	8.0		* 5				
Max Green Setting (Gmax), s	* 15	80.0		* 25	* 15	80.0		* 25				
Max Q Clear Time (g_c+I1), s	4.7	82.0		27.0	4.7	82.0		4.3				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		64.5	
HCM 6th LOS		E	

Notes

User approved pedestrian interval to be less than phase max green.

* 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	50	20	90	30	100	30	680	120	150	550	60
Future Volume (veh/h)	90	50	20	90	30	100	30	680	120	150	550	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	103	57	3	103	34	23	34	782	123	172	632	62
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	185	147	8	185	156	132	93	1209	190	219	1515	148
Arrive On Green	0.10	0.08	0.08	0.10	0.08	0.08	0.05	0.39	0.39	0.12	0.46	0.46
Sat Flow, veh/h	1795	1774	93	1795	1885	1598	1795	3101	488	1795	3295	323
Grp Volume(v), veh/h	103	0	60	103	34	23	34	452	453	172	343	351
Grp Sat Flow(s),veh/h/ln	1795	0	1868	1795	1885	1598	1795	1791	1797	1795	1791	1827
Q Serve(g_s), s	2.9	0.0	1.6	2.9	0.9	0.7	1.0	10.9	10.9	4.9	6.8	6.8
Cycle Q Clear(g_c), s	2.9	0.0	1.6	2.9	0.9	0.7	1.0	10.9	10.9	4.9	6.8	6.8
Prop In Lane	1.00		0.05	1.00		1.00	1.00		0.27	1.00		0.18
Lane Grp Cap(c), veh/h	185	0	154	185	156	132	93	698	701	219	823	840
V/C Ratio(X)	0.56	0.00	0.39	0.56	0.22	0.17	0.36	0.65	0.65	0.79	0.42	0.42
Avail Cap(c_a), veh/h	339	0	777	509	784	665	407	1185	1189	407	1185	1209
HCM Platoon Ratio	1.00	1.00	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	22.6	0.0	23.0	22.6	22.7	22.6	24.2	13.2	13.2	22.6	9.6	9.6
Incr Delay (d2), s/veh	1.0	0.0	1.6	1.0	0.3	0.2	0.9	1.4	1.4	2.4	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.7	1.2	0.4	0.3	0.4	3.5	3.6	1.9	2.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.5	0.0	24.6	23.5	22.9	22.8	25.1	14.6	14.6	24.9	10.0	10.0
LnGrp LOS	C	A	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		163			160			939			866	
Approach Delay, s/veh		23.9			23.3			15.0			13.0	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	25.6	9.0	8.4	6.3	29.3	9.0	8.4
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	12.0	35.0	15.0	22.0	12.0	35.0	10.0	22.0
Max Q Clear Time (g_c+I1), s	6.9	12.9	4.9	3.6	3.0	8.8	4.9	2.9
Green Ext Time (p_c), s	0.0	7.7	0.1	0.2	0.0	5.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	10	10	80	5	60	10	760	90	90	560	5
Future Volume (veh/h)	5	10	10	80	5	60	10	760	90	90	560	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	11	0	90	6	3	11	854	94	101	629	6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	43	36	183	134	67	35	1377	152	194	1859	18
Arrive On Green	0.01	0.02	0.00	0.10	0.11	0.11	0.02	0.43	0.43	0.11	0.52	0.52
Sat Flow, veh/h	1781	1870	1585	1781	1176	588	1781	3228	355	1781	3606	34
Grp Volume(v), veh/h	6	11	0	90	0	9	11	470	478	101	310	325
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1764	1781	1777	1806	1781	1777	1863
Q Serve(g_s), s	0.2	0.3	0.0	2.3	0.0	0.2	0.3	9.7	9.7	2.5	4.8	4.8
Cycle Q Clear(g_c), s	0.2	0.3	0.0	2.3	0.0	0.2	0.3	9.7	9.7	2.5	4.8	4.8
Prop In Lane	1.00		1.00	1.00		0.33	1.00		0.20	1.00		0.02
Lane Grp Cap(c), veh/h	20	43	36	183	0	202	35	758	770	194	916	961
V/C Ratio(X)	0.30	0.26	0.00	0.49	0.00	0.04	0.31	0.62	0.62	0.52	0.34	0.34
Avail Cap(c_a), veh/h	755	832	705	755	0	785	755	1318	1340	755	1318	1382
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	22.7	0.0	20.0	0.0	18.6	22.8	10.6	10.6	19.9	6.7	6.7
Incr Delay (d2), s/veh	3.1	4.5	0.0	0.8	0.0	0.1	1.8	1.2	1.2	0.8	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.0	0.9	0.0	0.1	0.1	2.8	2.8	0.9	1.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	27.1	0.0	20.8	0.0	18.7	24.6	11.7	11.7	20.7	7.0	7.0
LnGrp LOS	C	C	A	C	A	B	C	B	B	C	A	A
Approach Vol, veh/h		17			99			959			736	
Approach Delay, s/veh		26.8			20.6			11.9			8.9	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	25.1	8.3	5.1	4.4	29.3	4.0	9.4
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	20.0	35.0	20.0	21.0	20.0	35.0	20.0	21.0
Max Q Clear Time (g_c+I1), s	4.5	11.7	4.3	2.3	2.3	6.8	2.2	2.2
Green Ext Time (p_c), s	0.1	8.4	0.1	0.0	0.0	5.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	6.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	30	975	40	20	730
Future Vol, veh/h	70	30	975	40	20	730
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	81	35	1134	47	23	849

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1629	591	0	0	1181	0
Stage 1	1158	-	-	-	-	-
Stage 2	471	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	93	450	-	-	587	-
Stage 1	261	-	-	-	-	-
Stage 2	594	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	89	450	-	-	587	-
Mov Cap-2 Maneuver	89	-	-	-	-	-
Stage 1	251	-	-	-	-	-
Stage 2	594	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	113.8	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	89	450	587	-
HCM Lane V/C Ratio	-	-	0.915	0.078	0.04	-
HCM Control Delay (s)	-	-	156.7	13.7	11.4	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	5.1	0.3	0.1	-

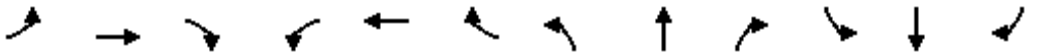
Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	970	100	5	725
Future Vol, veh/h	5	5	970	100	5	725
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	6	6	1141	118	6	853

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1639	630	0	0	1259	0
Stage 1	1200	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	90	422	-	-	543	-
Stage 1	246	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	88	422	-	-	543	-
Mov Cap-2 Maneuver	88	-	-	-	-	-
Stage 1	241	-	-	-	-	-
Stage 2	614	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.8	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	146	543	-
HCM Lane V/C Ratio	-	-	0.081	0.011	-
HCM Control Delay (s)	-	-	31.8	11.7	0.1
HCM Lane LOS	-	-	D	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	20	100	10	10	20	160	1020	90	30	660	40
Future Volume (veh/h)	30	20	100	10	10	20	160	1020	90	30	660	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	37	24	24	12	12	6	195	1244	56	37	805	21
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	59	59	200	81	41	194	2216	988	71	1971	879
Arrive On Green	0.07	0.07	0.07	0.07	0.07	0.07	0.11	0.62	0.62	0.04	0.55	0.55
Sat Flow, veh/h	1395	858	858	1357	1176	588	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	37	0	48	12	0	18	195	1244	56	37	805	21
Grp Sat Flow(s),veh/h/ln	1395	0	1716	1357	0	1764	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.3	0.0	1.4	0.4	0.0	0.5	5.5	10.2	0.7	1.0	6.6	0.3
Cycle Q Clear(g_c), s	1.8	0.0	1.4	1.8	0.0	0.5	5.5	10.2	0.7	1.0	6.6	0.3
Prop In Lane	1.00		0.50	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	225	0	118	200	0	122	194	2216	988	71	1971	879
V/C Ratio(X)	0.16	0.00	0.41	0.06	0.00	0.15	1.00	0.56	0.06	0.52	0.41	0.02
Avail Cap(c_a), veh/h	1041	0	1122	994	0	1153	194	2216	988	176	1971	879
HCM Platoon Ratio	1.00	1.00	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	22.9	0.0	22.5	23.4	0.0	22.1	22.5	5.5	3.7	23.8	6.5	5.1
Incr Delay (d2), s/veh	0.3	0.0	2.2	0.1	0.0	0.6	65.8	1.0	0.1	5.7	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.5	0.1	0.0	0.2	5.5	2.0	0.1	0.5	1.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	0.0	24.7	23.5	0.0	22.7	88.3	6.5	3.8	29.5	7.1	5.1
LnGrp LOS	C	A	C	C	A	C	F	A	A	C	A	A
Approach Vol, veh/h		85			30			1495			863	
Approach Delay, s/veh		24.1			23.0			17.1			8.0	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	36.0		8.0	10.0	32.5		8.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	28.5		33.0	5.5	28.0		33.0				
Max Q Clear Time (g_c+I1), s	3.0	12.2		3.8	7.5	8.6		3.8				
Green Ext Time (p_c), s	0.0	7.8		0.3	0.0	5.0		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		14.2	
HCM 6th LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	20	0	40	5	1230	40	40	735	5
Future Volume (veh/h)	5	5	5	20	0	40	5	1230	40	40	735	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	6	6	0	23	0	12	6	1430	46	47	855	6
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	51	54	0	60	0	31	20	1971	63	112	2129	15
Arrive On Green	0.03	0.03	0.00	0.05	0.00	0.05	0.01	0.57	0.57	0.06	0.59	0.59
Sat Flow, veh/h	1767	1856	0	1113	0	581	1767	3483	112	1767	3589	25
Grp Volume(v), veh/h	6	6	0	35	0	0	6	722	754	47	420	441
Grp Sat Flow(s),veh/h/ln	1767	1856	0	1694	0	0	1767	1763	1832	1767	1763	1851
Q Serve(g_s), s	0.2	0.2	0.0	1.2	0.0	0.0	0.2	18.3	18.4	1.6	7.7	7.7
Cycle Q Clear(g_c), s	0.2	0.2	0.0	1.2	0.0	0.0	0.2	18.3	18.4	1.6	7.7	7.7
Prop In Lane	1.00		0.00	0.66		0.34	1.00		0.06	1.00		0.01
Lane Grp Cap(c), veh/h	51	54	0	91	0	0	20	998	1037	112	1046	1098
V/C Ratio(X)	0.12	0.11	0.00	0.38	0.00	0.00	0.31	0.72	0.73	0.42	0.40	0.40
Avail Cap(c_a), veh/h	582	611	0	558	0	0	291	1161	1207	436	1161	1219
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	28.7	0.0	27.8	0.0	0.0	29.8	9.7	9.7	27.4	6.6	6.6
Incr Delay (d2), s/veh	0.4	0.3	0.0	1.0	0.0	0.0	3.2	2.4	2.4	0.9	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.5	0.0	0.0	0.1	5.3	5.5	0.6	1.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	29.1	0.0	28.7	0.0	0.0	33.0	12.1	12.1	28.3	7.0	7.0
LnGrp LOS	C	C	A	C	A	A	C	B	B	C	A	A
Approach Vol, veh/h		12			35			1482			908	
Approach Delay, s/veh		29.1			28.7			12.2			8.1	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.3	39.4		6.8	5.7	41.0		7.3
Change Period (Y+Rc), s	3.5	5.0		5.0	5.0	5.0		4.0
Max Green Setting (Gmax), s	15.0	40.0		20.0	10.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	3.6	20.4		2.2	2.2	9.7		3.2
Green Ext Time (p_c), s	0.0	14.0		0.0	0.0	9.5		0.1

Intersection Summary	
HCM 6th Ctrl Delay	11.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	20	1255	40	50	710
Future Vol, veh/h	20	20	1255	40	50	710
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	23	23	1426	45	57	807

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1967	736	0	0	1471	0
Stage 1	1449	-	-	-	-	-
Stage 2	518	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	54	359	-	-	449	-
Stage 1	181	-	-	-	-	-
Stage 2	560	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	47	359	-	-	449	-
Mov Cap-2 Maneuver	47	-	-	-	-	-
Stage 1	158	-	-	-	-	-
Stage 2	560	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	91.7	0	0.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	83	449	-
HCM Lane V/C Ratio	-	-	0.548	0.127	-
HCM Control Delay (s)	-	-	91.7	14.2	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	2.4	0.4	-

Intersection	
Int Delay, s/veh	15.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	5	20	20	0	20	5	1245	30	40	685	5
Future Vol, veh/h	30	5	20	20	0	20	5	1245	30	40	685	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	90	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	35	6	23	23	0	23	6	1448	35	47	797	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1627	2386	797	2387	2375	742	803	0	0	1483	0	0
Stage 1	891	891	-	1478	1478	-	-	-	-	-	-	-
Stage 2	736	1495	-	909	897	-	-	-	-	-	-	-
Critical Hdwy	7.345	6.545	6.245	7.345	6.545	6.945	4.145	-	-	4.145	-	-
Critical Hdwy Stg 1	6.145	5.545	-	6.545	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.545	5.545	-	6.145	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.5285	4.0285	3.3285	3.5285	4.0285	3.3285	2.2285	-	-	2.2285	-	-
Pot Cap-1 Maneuver	74	33	384	~ 20	34	357	813	-	-	448	-	-
Stage 1	334	358	-	132	188	-	-	-	-	-	-	-
Stage 2	376	184	-	327	356	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	63	29	384	~ 15	30	357	813	-	-	448	-	-
Mov Cap-2 Maneuver	63	29	-	~ 15	30	-	-	-	-	-	-	-
Stage 1	332	320	-	131	187	-	-	-	-	-	-	-
Stage 2	349	183	-	270	319	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	147.3	$ 593.7	0	0.8
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	813	-	-	78	29	448	-	-
HCM Lane V/C Ratio	0.007	-	-	0.82	1.604	0.104	-	-
HCM Control Delay (s)	9.5	-	-	147.3	$ 593.7	14	-	-
HCM Lane LOS	A	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	4.1	5.4	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	67.2

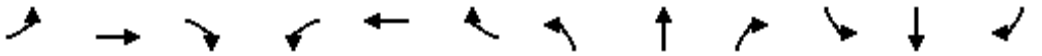
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	260	100	60	770	410	80
Future Vol, veh/h	260	100	60	770	410	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	160	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	289	111	67	856	456	89

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1063	273	545	0	-	0
Stage 1	501	-	-	-	-	-
Stage 2	562	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	~ 217	722	1013	-	-	-
Stage 1	571	-	-	-	-	-
Stage 2	531	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 203	722	1013	-	-	-
Mov Cap-2 Maneuver	~ 203	-	-	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	531	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 312.1	0.6	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1013	-	254	-	-
HCM Lane V/C Ratio	0.066	-	1.575	-	-
HCM Control Delay (s)	8.8	-	$ 312.1	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0.2	-	24.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	575	5	268	0	230	448	234	210	0
Future Volume (veh/h)	5	5	5	575	5	268	0	230	448	234	210	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	0
Adj Flow Rate, veh/h	5	5	2	622	0	0	0	247	0	239	244	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	0
Cap, veh/h	271	247	83	1146	0		0	329		328	344	0
Arrive On Green	0.32	0.32	0.32	0.32	0.00	0.00	0.00	0.19	0.00	0.20	0.20	0.00
Sat Flow, veh/h	521	762	257	2639	0	1485	0	1752	1485	1668	1752	0
Grp Volume(v), veh/h	12	0	0	622	0	0	0	247	0	239	244	0
Grp Sat Flow(s),veh/h/ln	1539	0	0	1319	0	1485	0	1752	1485	1668	1752	0
Q Serve(g_s), s	0.0	0.0	0.0	10.1	0.0	0.0	0.0	6.7	0.0	6.7	6.5	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	10.4	0.0	0.0	0.0	6.7	0.0	6.7	6.5	0.0
Prop In Lane	0.42		0.17	1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	601	0	0	1146	0		0	329		328	344	0
V/C Ratio(X)	0.02	0.00	0.00	0.54	0.00		0.00	0.75		0.73	0.71	0.00
Avail Cap(c_a), veh/h	684	0	0	2157	0		0	1211		1166	1225	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.5	0.0	0.0	14.9	0.0	0.0	0.0	19.2	0.0	18.9	18.8	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.0	0.0	2.6	0.0	1.2	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	2.5	0.0	0.0	0.0	2.5	0.0	2.3	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	0.0	0.0	15.5	0.0	0.0	0.0	21.8	0.0	20.0	19.8	0.0
LnGrp LOS	B	A	A	B	A		A	C		C	B	A
Approach Vol, veh/h		12			622	A		247	A		483	
Approach Delay, s/veh		11.5			15.5			21.8			19.9	
Approach LOS		B			B			C			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.8		20.8		14.4		20.8				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		35.0		35.4		34.6		19.0				
Max Q Clear Time (g_c+I1), s		8.7		12.4		8.7		2.2				
Green Ext Time (p_c), s		1.1		3.9		1.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			18.2									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	597	20	5	738	64	20	20	5	122	20	90
Future Volume (veh/h)	70	597	20	5	738	64	20	20	5	122	20	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	78	663	20	6	820	64	22	22	2	136	22	18
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	117	1565	47	13	1252	98	262	216	16	491	212	174
Arrive On Green	0.07	0.48	0.48	0.01	0.41	0.41	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1640	3239	98	1640	3072	240	550	893	66	1277	876	717
Grp Volume(v), veh/h	78	335	348	6	437	447	46	0	0	136	0	40
Grp Sat Flow(s),veh/h/ln	1640	1636	1701	1640	1636	1675	1508	0	0	1277	0	1593
Q Serve(g_s), s	1.9	5.5	5.5	0.2	8.9	8.9	0.0	0.0	0.0	2.6	0.0	0.8
Cycle Q Clear(g_c), s	1.9	5.5	5.5	0.2	8.9	8.9	0.9	0.0	0.0	3.5	0.0	0.8
Prop In Lane	1.00		0.06	1.00		0.14	0.48		0.04	1.00		0.45
Lane Grp Cap(c), veh/h	117	790	822	13	667	683	494	0	0	491	0	386
V/C Ratio(X)	0.66	0.42	0.42	0.45	0.66	0.66	0.09	0.00	0.00	0.28	0.00	0.10
Avail Cap(c_a), veh/h	815	1585	1648	993	1585	1624	1023	0	0	956	0	965
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.7	6.9	6.9	20.4	9.9	9.9	12.2	0.0	0.0	13.1	0.0	12.2
Incr Delay (d2), s/veh	2.4	0.4	0.3	8.8	1.1	1.1	0.1	0.0	0.0	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	0.7	1.2	1.2	0.1	2.3	2.3	0.3	0.0	0.0	0.9	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	7.3	7.3	29.1	11.0	11.0	12.3	0.0	0.0	13.4	0.0	12.3
LnGrp LOS	C	A	A	C	B	B	B	A	A	B	A	B
Approach Vol, veh/h		761			890			46			176	
Approach Delay, s/veh		8.7			11.1			12.3			13.1	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.3	23.9		14.0	6.5	20.8		14.0				
Change Period (Y+Rc), s	3.0	4.0		4.0	3.5	4.0		4.0				
Max Green Setting (Gmax), s	25.0	40.0		25.0	20.5	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.2	7.5		5.5	3.9	10.9		2.9				
Green Ext Time (p_c), s	0.0	4.3		0.6	0.0	5.9		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	729	5	24	787	82	5	0	7	87	5	40
Future Volume (veh/h)	40	729	5	24	787	82	5	0	7	87	5	40
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		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	45	828	6	27	894	0	6	0	2	103	0	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	113	1482	11	75	1381		18	0	6	388	0	173
Arrive On Green	0.07	0.44	0.44	0.05	0.42	0.00	0.01	0.00	0.01	0.12	0.00	0.12
Sat Flow, veh/h	1654	3357	24	1654	3300	1472	1203	0	401	3309	0	1472
Grp Volume(v), veh/h	45	407	427	27	894	0	8	0	0	103	0	1
Grp Sat Flow(s),veh/h/ln	1654	1650	1732	1654	1650	1472	1605	0	0	1654	0	1472
Q Serve(g_s), s	1.1	7.7	7.7	0.7	9.1	0.0	0.2	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	1.1	7.7	7.7	0.7	9.1	0.0	0.2	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.75		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	113	728	764	75	1381		24	0	0	388	0	173
V/C Ratio(X)	0.40	0.56	0.56	0.36	0.65		0.34	0.00	0.00	0.27	0.00	0.01
Avail Cap(c_a), veh/h	789	1377	1445	592	2754		574	0	0	947	0	421
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.7	8.7	8.7	19.4	9.7	0.0	20.5	0.0	0.0	16.9	0.0	16.4
Incr Delay (d2), s/veh	0.9	0.7	0.6	1.1	0.5	0.0	3.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.8	1.9	0.2	2.2	0.0	0.1	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.6	9.4	9.3	20.5	10.2	0.0	23.5	0.0	0.0	17.0	0.0	16.4
LnGrp LOS	B	A	A	C	B		C	A	A	B	A	B
Approach Vol, veh/h		879			921	A		8			104	
Approach Delay, s/veh		9.9			10.5			23.5			17.0	
Approach LOS		A			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	22.5		4.1	5.4	23.5		8.9				
Change Period (Y+Rc), s	3.5	5.0		3.5	3.5	5.0		4.0				
Max Green Setting (Gmax), s	20.0	35.0		15.0	15.0	35.0		12.0				
Max Q Clear Time (g_c+I1), s	3.1	11.1		2.2	2.7	9.7		3.2				
Green Ext Time (p_c), s	0.0	6.4		0.0	0.0	5.3		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	10.6
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	723	30	70	843	220	20	5	50	120	5	50
Future Volume (veh/h)	70	723	30	70	843	220	20	5	50	120	5	50
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	80	822	32	80	958	233	23	6	4	136	6	4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	154	1623	63	154	1313	319	317	134	89	317	134	89
Arrive On Green	0.09	0.51	0.51	0.09	0.51	0.51	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1640	3206	125	1640	2595	629	1291	964	643	1293	963	642
Grp Volume(v), veh/h	80	419	435	80	603	588	23	0	10	136	0	10
Grp Sat Flow(s),veh/h/ln	1640	1636	1694	1640	1636	1588	1291	0	1606	1293	0	1605
Q Serve(g_s), s	2.3	8.5	8.5	2.3	14.4	14.5	0.8	0.0	0.3	5.1	0.0	0.3
Cycle Q Clear(g_c), s	2.3	8.5	8.5	2.3	14.4	14.5	1.1	0.0	0.3	5.3	0.0	0.3
Prop In Lane	1.00		0.07	1.00		0.40	1.00		0.40	1.00		0.40
Lane Grp Cap(c), veh/h	154	828	858	154	828	804	317	0	223	317	0	223
V/C Ratio(X)	0.52	0.51	0.51	0.52	0.73	0.73	0.07	0.00	0.04	0.43	0.00	0.04
Avail Cap(c_a), veh/h	758	1380	1429	758	1380	1339	760	0	774	969	0	1031
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	8.2	8.2	21.5	9.6	9.6	19.0	0.0	18.6	20.9	0.0	18.6
Incr Delay (d2), s/veh	1.0	0.5	0.5	1.0	1.2	1.3	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.1	2.2	0.8	3.6	3.5	0.2	0.0	0.1	1.4	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	8.6	8.6	22.5	10.9	10.9	19.1	0.0	18.6	21.2	0.0	18.6
LnGrp LOS	C	A	A	C	B	B	B	A	B	C	A	B
Approach Vol, veh/h		934			1271			33			146	
Approach Delay, s/veh		9.8			11.6			18.9			21.1	
Approach LOS		A			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	30.2		10.9	8.7	30.2		10.9				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	23.0	42.0		32.0	23.0	42.0		24.0				
Max Q Clear Time (g_c+I1), s	4.3	10.5		7.3	4.3	16.5		3.1				
Green Ext Time (p_c), s	0.0	5.7		0.1	0.0	8.8		0.0				

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	673	220	0	663	0	0	0	0	800	0	470
Future Volume (veh/h)	0	673	220	0	663	0	0	0	0	800	0	470
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1811	0	1826	0				1826	0	1826
Adj Flow Rate, veh/h	0	716	0	0	705	0				851	0	220
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	5	6	0	5	0				5	0	5
Cap, veh/h	0	1017		0	1017	0				1096	0	503
Arrive On Green	0.00	0.29	0.00	0.00	0.29	0.00				0.32	0.00	0.32
Sat Flow, veh/h	0	3561	1535	0	3652	0				3374	0	1547
Grp Volume(v), veh/h	0	716	0	0	705	0				851	0	220
Grp Sat Flow(s),veh/h/ln	0	1735	1535	0	1735	0				1687	0	1547
Q Serve(g_s), s	0.0	5.3	0.0	0.0	5.2	0.0				6.6	0.0	3.2
Cycle Q Clear(g_c), s	0.0	5.3	0.0	0.0	5.2	0.0				6.6	0.0	3.2
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1017		0	1017	0				1096	0	503
V/C Ratio(X)	0.00	0.70		0.00	0.69	0.00				0.78	0.00	0.44
Avail Cap(c_a), veh/h	0	6024		0	6024	0				5858	0	2687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.1	0.0	0.0	9.0	0.0				8.8	0.0	7.6
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.3	0.0				0.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.1	0.0	0.0	1.2	0.0				1.5	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.4	0.0	0.0	9.4	0.0				9.2	0.0	7.9
LnGrp LOS	A	A		A	A	A				A	A	A
Approach Vol, veh/h		716	A		705						1071	
Approach Delay, s/veh		9.4			9.4						8.9	
Approach LOS		A			A						A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		14.4		14.4		14.4
Change Period (Y+Rc), s		* 6		* 5		* 6
Max Green Setting (Gmax), s		* 50		* 50		* 50
Max Q Clear Time (g_c+I1), s		7.3		8.6		7.2
Green Ext Time (p_c), s		1.1		0.8		1.2

Intersection Summary		
HCM 6th Ctrl Delay		9.2
HCM 6th LOS		A

Notes

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

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↰↰↱	↱
Traffic Volume (veh/h)	1243	0	0	1015	170	357
Future Volume (veh/h)	1243	0	0	1015	170	357
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1737	0	0	1737	1737	1737
Adj Flow Rate, veh/h	1337	0	0	1091	231	117
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	11	0	0	11	11	11
Cap, veh/h	1695	0	0	1695	488	217
Arrive On Green	0.51	0.00	0.00	0.51	0.15	0.15
Sat Flow, veh/h	3474	0	0	3474	3309	1472
Grp Volume(v), veh/h	1337	0	0	1091	231	117
Grp Sat Flow(s),veh/h/ln	1650	0	0	1650	1654	1472
Q Serve(g_s), s	10.7	0.0	0.0	7.8	2.1	2.4
Cycle Q Clear(g_c), s	10.7	0.0	0.0	7.8	2.1	2.4
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1695	0	0	1695	488	217
V/C Ratio(X)	0.79	0.00	0.00	0.64	0.47	0.54
Avail Cap(c_a), veh/h	5085	0	0	5085	2549	1134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.5	0.0	0.0	5.7	12.7	12.8
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.9	0.5	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.8	0.0	0.0	5.9	12.9	13.6
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h	1337			1091	348	
Approach Delay, s/veh	6.8			5.9	13.2	
Approach LOS	A			A	B	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	22.7				22.7	9.8
Change Period (Y+Rc), s	* 6				* 6	5.0
Max Green Setting (Gmax), s	* 50				* 50	25.0
Max Q Clear Time (g_c+I1), s	12.7				9.8	4.4
Green Ext Time (p_c), s	3.9				3.0	0.2

Intersection Summary						
HCM 6th Ctrl Delay			7.2			
HCM 6th LOS			A			

Notes

User approved volume balancing among the lanes for turning movement.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	450	770	380	80	1015	62	240	70	65	101	80	320
Future Volume (veh/h)	450	770	380	80	1015	62	240	70	65	101	80	320
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	479	819	242	85	1080	21	255	74	42	96	100	25
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	611	2097	597	132	1594	485	493	158	90	160	168	285
Arrive On Green	0.19	0.44	0.44	0.08	0.34	0.34	0.15	0.15	0.15	0.10	0.10	0.10
Sat Flow, veh/h	3209	4742	1349	1654	4742	1442	3209	1031	585	1654	1737	2944
Grp Volume(v), veh/h	479	819	242	85	1080	21	255	0	116	96	100	25
Grp Sat Flow(s),veh/h/ln	1605	1581	1349	1654	1581	1442	1605	0	1616	1654	1737	1472
Q Serve(g_s), s	10.1	8.3	8.7	3.6	14.0	0.7	5.2	0.0	4.7	4.0	3.9	0.6
Cycle Q Clear(g_c), s	10.1	8.3	8.7	3.6	14.0	0.7	5.2	0.0	4.7	4.0	3.9	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	611	2097	597	132	1594	485	493	0	248	160	168	285
V/C Ratio(X)	0.78	0.39	0.41	0.64	0.68	0.04	0.52	0.00	0.47	0.60	0.59	0.09
Avail Cap(c_a), veh/h	1130	2660	757	580	2660	809	1350	0	680	696	731	1239
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	13.4	13.5	31.8	20.4	15.9	27.7	0.0	27.5	30.9	30.9	29.3
Incr Delay (d2), s/veh	2.3	0.1	0.4	5.1	0.5	0.0	0.8	0.0	1.4	3.5	3.3	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	3.8	2.6	2.3	1.5	4.6	0.2	2.0	0.0	1.9	1.7	1.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.7	13.5	14.0	36.9	20.9	16.0	28.6	0.0	28.9	34.4	34.2	29.5
LnGrp LOS	C	B	B	D	C	B	C	A	C	C	C	C
Approach Vol, veh/h		1540			1186			371			221	
Approach Delay, s/veh		18.6			21.9			28.7			33.7	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.7	36.3		10.6	17.3	28.8		14.7
Change Period (Y+Rc), s	4.0	4.8		3.7	3.7	4.8		3.7
Max Green Setting (Gmax), s	25.0	40.0		30.0	25.1	40.0		30.0
Max Q Clear Time (g_c+I1), s	5.6	10.7		6.0	12.1	16.0		7.2
Green Ext Time (p_c), s	0.2	7.2		0.9	1.4	8.0		1.6

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

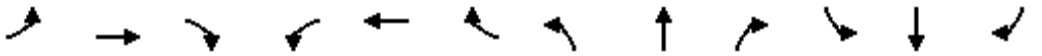
Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	150	676	110	24	1147	31	10	5	7	10	5	110
Future Vol, veh/h	150	676	110	24	1147	31	10	5	7	10	5	110
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	240	-	-	120	-	-	-	-	25	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	11	11	11	11	11	11	11	11	11	11	11	11
Mvmt Flow	153	690	112	24	1170	32	10	5	7	10	5	112

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1202	0	0	802	0	0	1688	2302	401	1888	2342	601
Stage 1	-	-	-	-	-	-	1052	1052	-	1234	1234	-
Stage 2	-	-	-	-	-	-	636	1250	-	654	1108	-
Critical Hdwy	4.32	-	-	4.32	-	-	7.72	6.72	7.12	7.72	6.72	7.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Follow-up Hdwy	2.31	-	-	2.31	-	-	3.61	4.11	3.41	3.61	4.11	3.41
Pot Cap-1 Maneuver	528	-	-	762	-	-	55	34	574	39	32	422
Stage 1	-	-	-	-	-	-	227	283	-	174	230	-
Stage 2	-	-	-	-	-	-	411	226	-	401	265	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	528	-	-	762	-	-	25	23	574	24	22	422
Mov Cap-2 Maneuver	-	-	-	-	-	-	25	23	-	24	22	-
Stage 1	-	-	-	-	-	-	161	201	-	124	223	-
Stage 2	-	-	-	-	-	-	285	219	-	274	188	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0.2	205.7	50.8
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	24	574	528	-	-	762	-	-	24	236
HCM Lane V/C Ratio	0.638	0.012	0.29	-	-	0.032	-	-	0.425	0.497
HCM Control Delay (s)	296.4	11.4	14.6	-	-	9.9	-	-	238.8	34.5
HCM Lane LOS	F	B	B	-	-	A	-	-	F	D
HCM 95th %tile Q(veh)	1.9	0	1.2	-	-	0.1	-	-	1.3	2.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	425	40	20	520	174	40	32	20	166	174	642
Future Volume (veh/h)	193	425	40	20	520	174	40	32	20	166	174	642
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.95	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	214	472	36	22	578	100	44	36	0	184	193	371
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	347	1012	77	59	843	774	140	147	0	467	491	416
Arrive On Green	0.11	0.33	0.33	0.04	0.26	0.26	0.08	0.08	0.00	0.28	0.28	0.28
Sat Flow, veh/h	3209	3085	234	1654	3300	1404	1654	1737	0	1654	1737	1472
Grp Volume(v), veh/h	214	251	257	22	578	100	44	36	0	184	193	371
Grp Sat Flow(s),veh/h/ln	1605	1650	1670	1654	1650	1404	1654	1737	0	1654	1737	1472
Q Serve(g_s), s	4.0	7.6	7.7	0.8	10.0	2.2	1.6	1.2	0.0	5.7	5.7	15.3
Cycle Q Clear(g_c), s	4.0	7.6	7.7	0.8	10.0	2.2	1.6	1.2	0.0	5.7	5.7	15.3
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	347	541	548	59	843	774	140	147	0	467	491	416
V/C Ratio(X)	0.62	0.46	0.47	0.37	0.69	0.13	0.31	0.24	0.00	0.39	0.39	0.89
Avail Cap(c_a), veh/h	610	1045	1057	314	2090	1305	341	358	0	524	550	466
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.9	16.8	16.8	29.8	21.2	7.3	27.2	27.0	0.0	18.3	18.3	21.7
Incr Delay (d2), s/veh	0.7	0.6	0.6	1.5	1.0	0.1	0.5	0.3	0.0	0.2	0.2	16.6
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	1.4	2.5	2.5	0.3	3.4	1.0	0.6	0.5	0.0	1.9	2.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.6	17.4	17.5	31.2	22.2	7.3	27.6	27.3	0.0	18.5	18.5	38.3
LnGrp LOS	C	B	B	C	C	A	C	C	A	B	B	D
Approach Vol, veh/h		722			700			80			748	
Approach Delay, s/veh		20.5			20.4			27.5			28.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	22.1		21.3	5.2	26.7		9.8				
Change Period (Y+Rc), s	3.0	6.0		3.5	3.0	6.0		4.5				
Max Green Setting (Gmax), s	12.0	40.0		20.0	12.0	40.0		13.0				
Max Q Clear Time (g_c+I1), s	6.0	12.0		17.3	2.8	9.7		3.6				
Green Ext Time (p_c), s	0.0	4.1		0.6	0.0	2.8		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			23.3									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

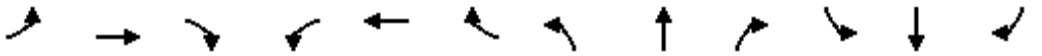
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	606	709	0	0	5
Future Vol, veh/h	5	606	709	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	90	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	13	13	13	13	13
Mvmt Flow	5	659	771	0	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	771	0	-	0	1111	386
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	340	-
Critical Hdwy	4.36	-	-	-	7.06	7.16
Critical Hdwy Stg 1	-	-	-	-	6.06	-
Critical Hdwy Stg 2	-	-	-	-	6.06	-
Follow-up Hdwy	2.33	-	-	-	3.63	3.43
Pot Cap-1 Maneuver	771	-	-	-	187	582
Stage 1	-	-	-	-	390	-
Stage 2	-	-	-	-	661	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	771	-	-	-	186	582
Mov Cap-2 Maneuver	-	-	-	-	186	-
Stage 1	-	-	-	-	388	-
Stage 2	-	-	-	-	661	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	771	-	-	-	582
HCM Lane V/C Ratio	0.007	-	-	-	0.009
HCM Control Delay (s)	9.7	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	508	20	5	622	5	5	0	5	10	0	82
Future Volume (veh/h)	78	508	20	5	622	5	5	0	5	10	0	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663
Adj Flow Rate, veh/h	84	546	0	5	669	3	5	0	0	11	0	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	16	16	16	16	16	16	16	16	16	16	16	16
Cap, veh/h	622	1593		676	1593	711	403	0	0	416	0	47
Arrive On Green	0.50	0.50	0.00	0.50	0.50	0.50	0.03	0.00	0.00	0.03	0.00	0.03
Sat Flow, veh/h	681	3159	1409	765	3159	1409	998	0	0	1363	0	1409
Grp Volume(v), veh/h	84	546	0	5	669	3	5	0	0	11	0	10
Grp Sat Flow(s),veh/h/ln	681	1580	1409	765	1580	1409	998	0	0	1363	0	1409
Q Serve(g_s), s	1.7	2.0	0.0	0.1	2.6	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	4.3	2.0	0.0	2.1	2.6	0.0	0.2	0.0	0.0	0.1	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	622	1593		676	1593	711	403	0	0	416	0	47
V/C Ratio(X)	0.13	0.34		0.01	0.42	0.00	0.01	0.00	0.00	0.03	0.00	0.21
Avail Cap(c_a), veh/h	1188	4217		1312	4217	1881	2926	0	0	2961	0	2894
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.4	2.9	0.0	3.5	3.0	2.4	9.3	0.0	0.0	9.2	0.0	9.2
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.5	3.0	0.0	3.5	3.2	2.4	9.3	0.0	0.0	9.2	0.0	11.3
LnGrp LOS	A	A		A	A	A	A	A	A	A	A	B
Approach Vol, veh/h		630	A		677			5			21	
Approach Delay, s/veh		3.2			3.2			9.3			10.2	
Approach LOS		A			A			A			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		5.2		14.3		5.2		14.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		40.0		26.0		40.0		26.0				
Max Q Clear Time (g_c+I1), s		2.2		6.3		2.1		4.6				
Green Ext Time (p_c), s		0.0		3.8		0.1		4.1				

Intersection Summary												
HCM 6th Ctrl Delay			3.3									
HCM 6th LOS			A									

Notes

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

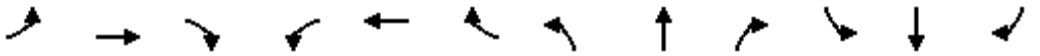
Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	73	10	0	72	20	0
Future Vol, veh/h	73	10	0	72	20	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	12	12	12	12	12	12
Mvmt Flow	91	13	0	90	25	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	104	0	188	98
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	90	-
Critical Hdwy	-	-	4.22	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.308	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	1427	-	779	931
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	909	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1427	-	779	931
Mov Cap-2 Maneuver	-	-	-	-	779	-
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	909	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.8
HCM LOS			A

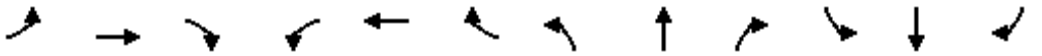
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	779	-	-	1427	-
HCM Lane V/C Ratio	0.032	-	-	-	-
HCM Control Delay (s)	9.8	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	916	390	0	0	0	0	0	0	660	230	0
Future Volume (vph)	0	916	390	0	0	0	0	0	0	660	230	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		11.0								4.0	4.0	
Lane Util. Factor		0.95								0.97	1.00	
Frpb, ped/bikes		1.00								1.00	1.00	
Flpb, ped/bikes		1.00								1.00	1.00	
Frt		0.96								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3368								3433	1863	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3368								3433	1863	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1029	438	0	0	0	0	0	0	742	258	0
RTOR Reduction (vph)	0	63	0	0	0	0	0	0	0	101	0	0
Lane Group Flow (vph)	0	1404	0	0	0	0	0	0	0	641	258	0
Confl. Bikes (#/hr)			1									2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA								Split	NA	
Protected Phases		2								1	1	
Permitted Phases												
Actuated Green, G (s)		37.2								17.8	17.8	
Effective Green, g (s)		37.2								17.8	17.8	
Actuated g/C Ratio		0.53								0.25	0.25	
Clearance Time (s)		11.0								4.0	4.0	
Vehicle Extension (s)		2.0								2.0	2.0	
Lane Grp Cap (vph)		1789								872	473	
v/s Ratio Prot		c0.42								c0.19	0.14	
v/s Ratio Perm												
v/c Ratio		0.78								0.73	0.55	
Uniform Delay, d1		13.2								23.9	22.6	
Progression Factor		1.00								1.34	1.28	
Incremental Delay, d2		3.5								1.7	0.4	
Delay (s)		16.7								33.9	29.3	
Level of Service		B								C	C	
Approach Delay (s)		16.7			0.0			0.0			32.7	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		

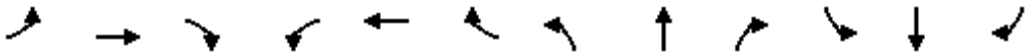
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	230	1152	0	0	0	0	0	660	430
Future Volume (vph)	0	0	0	230	1152	0	0	0	0	0	660	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0	5.0						5.0	5.0
Lane Util. Factor				1.00	0.95						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.99
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1752	3505						3505	1545
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1752	3505						3505	1545
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	267	1340	0	0	0	0	0	767	500
RTOR Reduction (vph)	0	0	0	12	0	0	0	0	0	0	0	96
Lane Group Flow (vph)	0	0	0	255	1340	0	0	0	0	0	767	404
Confl. Peds. (#/hr)												2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						5	
Permitted Phases				6								5
Actuated Green, G (s)				44.0	44.0						16.0	16.0
Effective Green, g (s)				44.0	44.0						16.0	16.0
Actuated g/C Ratio				0.63	0.63						0.23	0.23
Clearance Time (s)				5.0	5.0						5.0	5.0
Vehicle Extension (s)				2.0	2.0						2.0	2.0
Lane Grp Cap (vph)				1101	2203						801	353
v/s Ratio Prot					c0.38						0.22	
v/s Ratio Perm				0.15								c0.26
v/c Ratio				0.23	0.61						0.96	1.14
Uniform Delay, d1				5.7	7.8						26.7	27.0
Progression Factor				0.48	0.51						1.00	1.00
Incremental Delay, d2				0.4	1.1						23.0	92.8
Delay (s)				3.1	5.0						49.7	119.8
Level of Service				A	A						D	F
Approach Delay (s)		0.0			4.7			0.0			77.3	
Approach LOS		A			A			A			E	

Intersection Summary			
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		

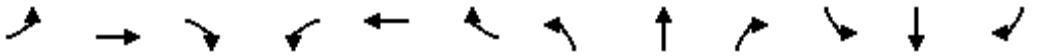
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1012	1090	370	400	0	0	0	0
Future Volume (vph)	0	0	0	0	1012	1090	370	400	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					11.0	11.0	4.0	4.0				
Lane Util. Factor					0.95	1.00	0.97	1.00				
Frpb, ped/bikes					1.00	0.99	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					3539	1562	3433	1863				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					3539	1562	3433	1863				
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)	0	0	0	0	1163	1253	425	460	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	40	95	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1163	1213	330	460	0	0	0	0
Confl. Bikes (#/hr)						3						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type					NA	Perm	Split	NA				
Protected Phases					2		1	1				
Permitted Phases						2						
Actuated Green, G (s)					38.0	38.0	17.0	17.0				
Effective Green, g (s)					38.0	38.0	17.0	17.0				
Actuated g/C Ratio					0.54	0.54	0.24	0.24				
Clearance Time (s)					11.0	11.0	4.0	4.0				
Vehicle Extension (s)					2.0	2.0	2.0	2.0				
Lane Grp Cap (vph)					1921	847	833	452				
v/s Ratio Prot					0.33		0.10	c0.25				
v/s Ratio Perm						c0.78						
v/c Ratio					0.61	1.43	0.40	1.02				
Uniform Delay, d1					10.9	16.0	22.2	26.5				
Progression Factor					1.00	1.00	0.52	0.64				
Incremental Delay, d2					1.4	201.1	0.1	45.3				
Delay (s)					12.3	217.1	11.8	62.3				
Level of Service					B	F	B	E				
Approach Delay (s)		0.0			118.5			38.0			0.0	
Approach LOS		A			F			D			A	

Intersection Summary			
HCM 2000 Control Delay	97.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	380	1196	0	0	0	0	0	390	140	0	0	0
Future Volume (vph)	380	1196	0	0	0	0	0	390	140	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						5.0	5.0			
Lane Util. Factor	1.00	0.95						0.95	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1736	3471						3471	1553			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1736	3471						3471	1553			
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	442	1391	0	0	0	0	0	453	163	0	0	0
RTOR Reduction (vph)	46	0	0	0	0	0	0	0	100	0	0	0
Lane Group Flow (vph)	396	1391	0	0	0	0	0	453	63	0	0	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA						NA	Perm			
Protected Phases	6	6						5				
Permitted Phases									5			
Actuated Green, G (s)	46.2	46.2						13.8	13.8			
Effective Green, g (s)	46.2	46.2						13.8	13.8			
Actuated g/C Ratio	0.66	0.66						0.20	0.20			
Clearance Time (s)	5.0	5.0						5.0	5.0			
Vehicle Extension (s)	2.0	2.0						2.0	2.0			
Lane Grp Cap (vph)	1145	2290						684	306			
v/s Ratio Prot	0.23	c0.40						c0.13				
v/s Ratio Perm									0.04			
v/c Ratio	0.35	0.61						0.66	0.20			
Uniform Delay, d1	5.2	6.8						25.9	23.5			
Progression Factor	0.00	1.13						1.00	1.00			
Incremental Delay, d2	0.6	0.9						1.9	0.1			
Delay (s)	0.6	8.5						27.8	23.6			
Level of Service	A	A						C	C			
Approach Delay (s)		6.6			0.0			26.7			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	1592	10	90	220	0	0	0	420
Future Volume (veh/h)	0	0	0	0	1592	10	90	220	0	0	0	420
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				0	1870	1900	1870	1870	0	0	0	1870
Adj Flow Rate, veh/h				0	1809	11	102	250	0	0	0	255
Peak Hour Factor				0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				0	2	0	2	2	0	0	0	2
Cap, veh/h				0	0	0	556	301	0	0	0	0
Arrive On Green				0.00	0.00	0.00	0.16	0.16	0.00	0.00	0.00	0.00
Sat Flow, veh/h					0		3456	1870	0		0	
Grp Volume(v), veh/h					0.0		102	250	0		0.0	
Grp Sat Flow(s),veh/h/ln							1728	1870	0			
Q Serve(g_s), s							1.8	8.9	0.0			
Cycle Q Clear(g_c), s							1.8	8.9	0.0			
Prop In Lane							1.00		0.00			
Lane Grp Cap(c), veh/h							556	301	0			
V/C Ratio(X)							0.18	0.83	0.00			
Avail Cap(c_a), veh/h							751	515	0			
HCM Platoon Ratio							1.00	1.00	1.00			
Upstream Filter(I)							0.97	0.97	0.00			
Uniform Delay (d), s/veh							25.0	28.0	0.0			
Incr Delay (d2), s/veh							0.1	2.2	0.0			
Initial Q Delay(d3),s/veh							0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln							0.7	4.1	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh							25.1	30.3	0.0			
LnGrp LOS							C	C	A			
Approach Vol, veh/h								352				
Approach Delay, s/veh								28.8				
Approach LOS								C				

Timer - Assigned Phs	3							8				
Phs Duration (G+Y+Rc), s	15.1							15.1				
Change Period (Y+Rc), s	* 4							* 4				
Max Green Setting (Gmax), s	* 15							* 19				
Max Q Clear Time (g_c+I1), s	3.8							10.9				
Green Ext Time (p_c), s	0.0							0.3				

Intersection Summary	
HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	916	200	0	0	0	0	90	5	0	0	0
Future Volume (veh/h)	220	916	200	0	0	0	0	90	5	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1841	1841	1841				0	1841	1841			
Adj Flow Rate, veh/h	268	1117	0				0	110	1			
Peak Hour Factor	0.82	0.82	0.82				0.82	0.82	0.82			
Percent Heavy Veh, %	4	4	4				0	4	4			
Cap, veh/h	1355	3883					0	173	2			
Arrive On Green	0.77	0.77	0.00				0.00	0.09	0.09			
Sat Flow, veh/h	1753	5191	0				0	1821	17			
Grp Volume(v), veh/h	268	1117	0				0	0	111			
Grp Sat Flow(s),veh/h/ln	1753	1675	0				0	0	1838			
Q Serve(g_s), s	2.8	4.4	0.0				0.0	0.0	4.0			
Cycle Q Clear(g_c), s	2.8	4.4	0.0				0.0	0.0	4.0			
Prop In Lane	1.00		0.00				0.00		0.01			
Lane Grp Cap(c), veh/h	1355	3883					0	0	174			
V/C Ratio(X)	0.20	0.29					0.00	0.00	0.64			
Avail Cap(c_a), veh/h	1355	3883					0	0	459			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.78	0.78	0.00				0.00	0.00	1.00			
Uniform Delay (d), s/veh	2.1	2.3	0.0				0.0	0.0	29.6			
Incr Delay (d2), s/veh	0.3	0.1	0.0				0.0	0.0	1.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.0				0.0	0.0	1.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.3	2.4	0.0				0.0	0.0	31.1			
LnGrp LOS	A	A					A	A	C			
Approach Vol, veh/h		1385	A					111				
Approach Delay, s/veh		2.4						31.1				
Approach LOS		A						C				
Timer - Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		57.6						10.4				
Change Period (Y+Rc), s		* 5						4.0				
Max Green Setting (Gmax), s		* 42						17.0				
Max Q Clear Time (g_c+I1), s		6.4						6.0				
Green Ext Time (p_c), s		5.2						0.2				

Intersection Summary	
HCM 6th Ctrl Delay	4.5
HCM 6th LOS	A

Notes

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	506	370	150	902	30	540	70	80	20	100	140
Future Volume (veh/h)	30	506	370	150	902	30	540	70	80	20	100	140
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	35	595	116	176	1061	14	635	82	13	24	118	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	45	948	414	543	2001	873	576	407	342	49	147	125
Arrive On Green	0.03	0.27	0.27	0.10	0.19	0.19	0.17	0.22	0.22	0.03	0.08	0.00
Sat Flow, veh/h	1781	3554	1551	1781	3554	1551	3456	1870	1572	1781	1870	1585
Grp Volume(v), veh/h	35	595	116	176	1061	14	635	82	13	24	118	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1551	1781	1777	1551	1728	1870	1572	1781	1870	1585
Q Serve(g_s), s	2.3	17.7	4.6	11.0	32.4	0.9	20.0	4.3	0.4	1.6	7.4	0.0
Cycle Q Clear(g_c), s	2.3	17.7	4.6	11.0	32.4	0.9	20.0	4.3	0.4	1.6	7.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	45	948	414	543	2001	873	576	407	342	49	147	125
V/C Ratio(X)	0.79	0.63	0.28	0.32	0.53	0.02	1.10	0.20	0.04	0.49	0.80	0.00
Avail Cap(c_a), veh/h	223	948	414	543	2001	873	576	546	458	208	483	409
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.2	38.8	14.6	42.5	34.5	21.7	50.0	38.4	9.0	57.5	54.4	0.0
Incr Delay (d2), s/veh	10.7	3.1	1.7	0.1	0.8	0.0	68.7	0.1	0.0	2.8	3.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.7	2.8	5.0	15.4	0.3	14.0	2.0	0.3	0.8	3.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.9	41.9	16.3	42.6	35.3	21.7	118.7	38.5	9.0	60.3	58.2	0.0
LnGrp LOS	E	D	B	D	D	C	F	D	A	E	E	A
Approach Vol, veh/h		746			1251			730			142	
Approach Delay, s/veh		39.2			36.2			107.7			58.5	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	38.0	25.0	14.4	7.0	73.6	8.3	31.1
Change Period (Y+Rc), s	* 6	* 6	* 5	* 5	* 4	* 6	* 5	* 5
Max Green Setting (Gmax), s	* 15	* 32	* 20	* 31	* 15	* 34	* 14	* 35
Max Q Clear Time (g_c+I1), s	13.0	19.7	22.0	9.4	4.3	34.4	3.6	6.3
Green Ext Time (p_c), s	0.0	0.7	0.0	0.2	0.0	0.0	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	56.3
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* 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)	30	406	170	80	842	5	210	20	40	5	60	30
Future Volume (veh/h)	30	406	170	80	842	5	210	20	40	5	60	30
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	38	514	83	101	1066	6	284	0	3	6	76	20
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	423	2180	952	126	1557	680	457	0	279	309	251	66
Arrive On Green	0.48	1.00	1.00	0.07	0.44	0.44	0.18	0.00	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1767	3526	1539	1767	3526	1540	2579	0	1572	1403	1416	373
Grp Volume(v), veh/h	38	514	83	101	1066	6	284	0	3	6	0	96
Grp Sat Flow(s),veh/h/ln	1767	1763	1539	1767	1763	1540	1289	0	1572	1403	0	1788
Q Serve(g_s), s	1.4	0.0	0.0	6.8	29.0	0.3	12.9	0.0	0.2	0.4	0.0	5.6
Cycle Q Clear(g_c), s	1.4	0.0	0.0	6.8	29.0	0.3	18.5	0.0	0.2	0.4	0.0	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	423	2180	952	126	1557	680	457	0	279	309	0	317
V/C Ratio(X)	0.09	0.24	0.09	0.80	0.68	0.01	0.62	0.00	0.01	0.02	0.00	0.30
Avail Cap(c_a), veh/h	423	2180	952	295	1557	680	666	0	406	422	0	462
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.2	0.0	0.0	54.9	26.8	18.8	50.9	0.0	40.7	40.8	0.0	42.9
Incr Delay (d2), s/veh	0.0	0.2	0.2	3.9	2.1	0.0	1.4	0.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.1	0.0	3.0	11.6	0.1	4.2	0.0	0.1	0.1	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	0.2	0.2	58.8	28.9	18.8	52.3	0.0	40.7	40.8	0.0	43.4
LnGrp LOS	C	A	A	E	C	B	D	A	D	D	A	D
Approach Vol, veh/h		635			1173			287			102	
Approach Delay, s/veh		1.7			31.4			52.2			43.3	
Approach LOS		A			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.5	80.2		26.3	34.7	59.0		26.3
Change Period (Y+Rc), s	* 5	6.0		* 5	6.0	* 6		* 5
Max Green Setting (Gmax), s	* 20	53.0		* 31	20.0	* 53		* 31
Max Q Clear Time (g_c+I1), s	8.8	2.0		7.6	3.4	31.0		20.5
Green Ext Time (p_c), s	0.1	1.0		0.4	0.0	9.6		0.8

Intersection Summary	
HCM 6th Ctrl Delay	26.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
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)	230	130	91	204	345	80	212	493	97	30	619	370
Future Volume (veh/h)	230	130	91	204	345	80	212	493	97	30	619	370
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	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	258	146	24	229	388	84	238	554	99	34	696	336
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	371	356	157	282	537	239	361	1118	499	65	875	561
Arrive On Green	0.11	0.10	0.10	0.16	0.15	0.15	0.11	0.32	0.32	0.04	0.25	0.25
Sat Flow, veh/h	3428	3526	1550	1767	3526	1572	3428	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	258	146	24	229	388	84	238	554	99	34	696	336
Grp Sat Flow(s),veh/h/ln	1714	1763	1550	1767	1763	1572	1714	1763	1572	1767	1763	1572
Q Serve(g_s), s	4.1	2.2	0.8	7.1	6.0	2.7	3.8	7.3	2.6	1.1	10.5	10.0
Cycle Q Clear(g_c), s	4.1	2.2	0.8	7.1	6.0	2.7	3.8	7.3	2.6	1.1	10.5	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	371	356	157	282	537	239	361	1118	499	65	875	561
V/C Ratio(X)	0.69	0.41	0.15	0.81	0.72	0.35	0.66	0.50	0.20	0.53	0.80	0.60
Avail Cap(c_a), veh/h	2405	2473	1087	620	2473	1103	1203	1855	827	620	2473	1273
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.5	24.0	23.4	23.1	23.0	21.6	24.5	15.8	14.2	27.0	20.1	15.0
Incr Delay (d2), s/veh	0.9	0.3	0.2	2.2	0.7	0.3	0.8	0.1	0.1	2.5	0.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.8	0.3	2.6	2.1	0.9	1.4	2.4	0.8	0.4	3.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	24.3	23.6	25.3	23.7	22.0	25.3	15.9	14.3	29.4	20.7	15.4
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	C	B
Approach Vol, veh/h		428			701			891			1066	
Approach Delay, s/veh		24.9			24.0			18.2			19.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	12.8	10.0	20.2	11.2	15.7	6.1	24.1
Change Period (Y+Rc), s	* 5	7.0	* 4	* 6	* 5	7.0	* 4	* 6
Max Green Setting (Gmax), s	* 20	40.0	* 20	* 40	* 40	40.0	* 20	* 30
Max Q Clear Time (g_c+I1), s	9.1	4.2	5.8	12.5	6.1	8.0	3.1	9.3
Green Ext Time (p_c), s	0.2	0.3	0.3	1.6	0.1	0.7	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	127	30	5	239	5	150	5	0	10	5	240
Future Volume (veh/h)	100	127	30	5	239	5	150	5	0	10	5	240
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1811	1811	1826	1826	1811	1811	1811	1826	1811	1811
Adj Flow Rate, veh/h	108	137	18	5	257	3	161	5	0	11	5	43
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	6	6	5	5	6	6	6	5	6	6
Cap, veh/h	137	1111	934	11	979	813	310	323	0	353	29	249
Arrive On Green	0.08	0.61	0.61	0.01	0.54	0.54	0.18	0.18	0.00	0.18	0.18	0.18
Sat Flow, veh/h	1739	1826	1535	1725	1826	1515	1314	1811	0	1378	162	1397
Grp Volume(v), veh/h	108	137	18	5	257	3	161	5	0	11	0	48
Grp Sat Flow(s),veh/h/ln	1739	1826	1535	1725	1826	1515	1314	1811	0	1378	0	1560
Q Serve(g_s), s	4.0	2.1	0.3	0.2	5.0	0.1	7.7	0.1	0.0	0.4	0.0	1.7
Cycle Q Clear(g_c), s	4.0	2.1	0.3	0.2	5.0	0.1	9.4	0.1	0.0	0.6	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.90
Lane Grp Cap(c), veh/h	137	1111	934	11	979	813	310	323	0	353	0	278
V/C Ratio(X)	0.79	0.12	0.02	0.44	0.26	0.00	0.52	0.02	0.00	0.03	0.00	0.17
Avail Cap(c_a), veh/h	147	1111	934	132	979	813	600	721	0	656	0	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.5	5.4	5.1	32.3	8.2	7.0	26.7	22.1	0.0	22.3	0.0	22.7
Incr Delay (d2), s/veh	23.2	0.2	0.0	24.0	0.7	0.0	1.3	0.0	0.0	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.5	0.1	0.1	1.5	0.0	2.4	0.1	0.0	0.1	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.8	5.6	5.1	56.3	8.8	7.0	28.1	22.1	0.0	22.4	0.0	23.0
LnGrp LOS	D	A	A	E	A	A	C	C	A	C	A	C
Approach Vol, veh/h		263			265			166			59	
Approach Delay, s/veh		25.0			9.7			27.9			22.9	
Approach LOS		C			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.9	44.2		16.1	9.6	39.5		16.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	35.5		26.0	5.5	35.0		26.0
Max Q Clear Time (g_c+I1), s	2.2	4.1		3.7	6.0	7.0		11.4
Green Ext Time (p_c), s	0.0	0.7		0.2	0.0	1.2		0.4

Intersection Summary		
HCM 6th Ctrl Delay		20.1
HCM 6th LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	415	80	177	625	64	50	10	89	32	5	20
Future Volume (veh/h)	20	415	80	177	625	64	50	10	89	32	5	20
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	22	451	36	192	679	66	54	11	19	39	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	63	1057	463	438	1270	123	240	252	414	287	151	0
Arrive On Green	0.04	0.31	0.31	0.13	0.40	0.40	0.14	0.14	0.14	0.08	0.00	0.00
Sat Flow, veh/h	1711	3413	1495	3319	3135	304	1711	1796	1518	3421	1796	0
Grp Volume(v), veh/h	22	451	36	192	369	376	54	11	19	39	0	0
Grp Sat Flow(s),veh/h/ln	1711	1706	1495	1659	1706	1733	1711	1796	1518	1711	1796	0
Q Serve(g_s), s	0.6	5.2	0.8	2.6	8.1	8.1	1.4	0.3	0.5	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.6	5.2	0.8	2.6	8.1	8.1	1.4	0.3	0.5	0.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.18	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	63	1057	463	438	691	702	240	252	414	287	151	0
V/C Ratio(X)	0.35	0.43	0.08	0.44	0.53	0.54	0.22	0.04	0.05	0.14	0.00	0.00
Avail Cap(c_a), veh/h	1044	2778	1217	1351	1389	1410	418	439	572	2089	1097	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.1	13.5	12.0	19.6	11.1	11.1	18.8	18.3	13.2	20.9	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.6	0.2	0.3	1.4	1.4	0.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.7	0.3	0.9	2.6	2.7	0.5	0.1	0.1	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.3	14.1	12.1	19.9	12.5	12.5	18.9	18.3	13.2	20.9	0.0	0.0
LnGrp LOS	C	B	B	B	B	B	B	B	B	C	A	A
Approach Vol, veh/h		509			937			84			39	
Approach Delay, s/veh		14.4			14.0			17.5			20.9	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	19.4		8.2	5.8	24.1		11.0
Change Period (Y+Rc), s	4.0	* 4.2		4.1	4.0	* 4.2		4.1
Max Green Setting (Gmax), s	20.0	* 40		30.0	30.0	* 40		12.0
Max Q Clear Time (g_c+I1), s	4.6	7.2		2.5	2.6	10.1		3.4
Green Ext Time (p_c), s	0.3	6.3		0.0	0.0	9.8		0.1

Intersection Summary	
HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
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)	0	466	70	212	486	0	0	0	0	595	5	380
Future Volume (veh/h)	0	466	70	212	486	0	0	0	0	595	5	380
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1841	1841	1841	0				1841	1841	1841
Adj Flow Rate, veh/h	0	507	22	230	528	0				651	0	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	4	4	4	4	0				4	4	4
Cap, veh/h	0	1008	442	913	2219	0				765	0	680
Arrive On Green	0.00	0.29	0.29	0.09	0.21	0.00				0.22	0.00	0.22
Sat Flow, veh/h	0	3589	1533	3401	3589	0				3506	0	3120
Grp Volume(v), veh/h	0	507	22	230	528	0				651	0	74
Grp Sat Flow(s),veh/h/ln	0	1749	1533	1700	1749	0				1753	0	1560
Q Serve(g_s), s	0.0	7.1	0.6	3.7	7.4	0.0				10.5	0.0	1.1
Cycle Q Clear(g_c), s	0.0	7.1	0.6	3.7	7.4	0.0				10.5	0.0	1.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1008	442	913	2219	0				765	0	680
V/C Ratio(X)	0.00	0.50	0.05	0.25	0.24	0.00				0.85	0.00	0.11
Avail Cap(c_a), veh/h	0	1008	442	913	2219	0				1010	0	899
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.96	0.96	0.92	0.92	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.5	15.2	21.4	11.5	0.0				22.1	0.0	18.5
Incr Delay (d2), s/veh	0.0	1.7	0.2	0.1	0.2	0.0				4.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.8	0.2	1.4	2.5	0.0				4.3	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.2	15.4	21.5	11.7	0.0				26.5	0.0	18.5
LnGrp LOS	A	B	B	C	B	A				C	A	B
Approach Vol, veh/h		529			758						725	
Approach Delay, s/veh		19.0			14.7						25.7	
Approach LOS		B			B						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.4	21.6		17.0		42.0
Change Period (Y+Rc), s	4.6	* 4.6		4.1		4.6
Max Green Setting (Gmax), s	10.8	* 17		17.0		33.0
Max Q Clear Time (g_c+I1), s	15.7	9.1		12.5		9.4
Green Ext Time (p_c), s	0.3	0.9		0.3		1.3

Intersection Summary	
HCM 6th Ctrl Delay	19.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

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)	160	901	0	0	658	535	40	5	177	0	0	0
Future Volume (veh/h)	160	901	0	0	658	535	40	5	177	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1826	1826	0	0	1826	1826	1826	1826	1826			
Adj Flow Rate, veh/h	180	1012	0	0	739	272	49	0	73			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	5	5	0	0	5	5	5	5	5			
Cap, veh/h	1356	2688	0	0	1000	446	247	0	110			
Arrive On Green	0.80	1.00	0.00	0.00	0.29	0.29	0.07	0.00	0.07			
Sat Flow, veh/h	3374	3561	0	0	3561	1547	3478	0	1547			
Grp Volume(v), veh/h	180	1012	0	0	739	272	49	0	73			
Grp Sat Flow(s),veh/h/ln	1687	1735	0	0	1735	1547	1739	0	1547			
Q Serve(g_s), s	0.7	0.0	0.0	0.0	11.4	9.0	0.8	0.0	2.7			
Cycle Q Clear(g_c), s	0.7	0.0	0.0	0.0	11.4	9.0	0.8	0.0	2.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	1356	2688	0	0	1000	446	247	0	110			
V/C Ratio(X)	0.13	0.38	0.00	0.00	0.74	0.61	0.20	0.00	0.67			
Avail Cap(c_a), veh/h	1356	2688	0	0	1000	446	884	0	393			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.79	0.79	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	3.5	0.0	0.0	0.0	19.0	18.1	25.8	0.0	26.7			
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	4.9	6.1	0.1	0.0	2.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.0	0.0	4.7	3.6	0.3	0.0	1.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.6	0.3	0.0	0.0	23.9	24.2	26.0	0.0	29.3			
LnGrp LOS	A	A	A	A	C	C	C	A	C			
Approach Vol, veh/h		1192			1011			122				
Approach Delay, s/veh		0.8			24.0			28.0				
Approach LOS		A			C			C				

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		50.7			28.7	22.0		8.3				
Change Period (Y+Rc), s		* 5			* 5	* 5		4.1				
Max Green Setting (Gmax), s		* 35			* 12	* 17		15.0				
Max Q Clear Time (g_c+I1), s		2.0			2.7	13.4		4.7				
Green Ext Time (p_c), s		2.9			0.4	1.0		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		12.3
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.
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)	70	758	40	30	1033	60	110	5	20	20	5	50
Future Volume (veh/h)	70	758	40	30	1033	60	110	5	20	20	5	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	81	881	45	35	1201	67	139	0	0	23	6	6
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	233	1750	89	68	1604	89	324	170	0	54	14	107
Arrive On Green	0.07	0.52	0.52	0.04	0.48	0.48	0.09	0.00	0.00	0.04	0.04	0.04
Sat Flow, veh/h	3401	3385	173	1753	3365	188	3506	1841	0	1404	366	2745
Grp Volume(v), veh/h	81	455	471	35	624	644	139	0	0	29	0	6
Grp Sat Flow(s),veh/h/ln	1700	1749	1809	1753	1749	1804	1753	1841	0	1771	0	1373
Q Serve(g_s), s	1.1	8.2	8.2	0.9	14.0	14.0	1.8	0.0	0.0	0.8	0.0	0.1
Cycle Q Clear(g_c), s	1.1	8.2	8.2	0.9	14.0	14.0	1.8	0.0	0.0	0.8	0.0	0.1
Prop In Lane	1.00		0.10	1.00		0.10	1.00		0.00	0.79		1.00
Lane Grp Cap(c), veh/h	233	904	935	68	834	860	324	170	0	69	0	107
V/C Ratio(X)	0.35	0.50	0.50	0.51	0.75	0.75	0.43	0.00	0.00	0.42	0.00	0.06
Avail Cap(c_a), veh/h	1409	1268	1312	727	1268	1308	1816	954	0	917	0	1422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.4	7.6	7.6	22.7	10.3	10.3	20.7	0.0	0.0	22.7	0.0	22.3
Incr Delay (d2), s/veh	0.3	0.3	0.3	2.2	1.0	1.0	0.3	0.0	0.0	1.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.2	2.2	0.4	4.0	4.2	0.7	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	7.9	7.9	25.0	11.3	11.3	21.0	0.0	0.0	24.2	0.0	22.4
LnGrp LOS	C	A	A	C	B	B	C	A	A	C	A	C
Approach Vol, veh/h		1007			1303			139			35	
Approach Delay, s/veh		9.0			11.6			21.0			23.9	
Approach LOS		A			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.9	29.0		5.9	6.8	27.1		8.5
Change Period (Y+Rc), s	3.0	4.1		4.0	3.5	4.1		4.0
Max Green Setting (Gmax), s	20.0	35.0		25.0	20.0	35.0		25.0
Max Q Clear Time (g_c+I1), s	2.9	10.2		2.8	3.1	16.0		3.8
Green Ext Time (p_c), s	0.0	5.0		0.1	0.1	7.0		0.2

Intersection Summary		
HCM 6th Ctrl Delay		11.3
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

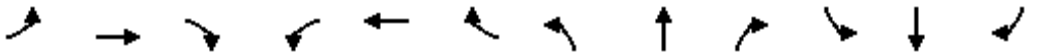
Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	758	30	30	1098	17	20	0	20	6	0	5
Future Vol, veh/h	10	758	30	30	1098	17	20	0	20	6	0	5
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	245	-	-	-	-	-	35	-	-	-	-	85
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	12	892	35	35	1292	20	24	0	24	7	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1312	0	0	929	0	0	1652	2318	466	1842	2325	656
Stage 1	-	-	-	-	-	-	936	936	-	1372	1372	-
Stage 2	-	-	-	-	-	-	716	1382	-	470	953	-
Critical Hdwy	4.18	-	-	4.18	-	-	7.58	6.58	6.98	7.58	6.58	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Follow-up Hdwy	2.24	-	-	2.24	-	-	3.54	4.04	3.34	3.54	4.04	3.34
Pot Cap-1 Maneuver	513	-	-	720	-	-	63	36	538	46	36	403
Stage 1	-	-	-	-	-	-	281	337	-	151	208	-
Stage 2	-	-	-	-	-	-	383	206	-	538	331	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	513	-	-	719	-	-	52	29	537	37	29	403
Mov Cap-2 Maneuver	-	-	-	-	-	-	52	29	-	37	29	-
Stage 1	-	-	-	-	-	-	274	329	-	148	170	-
Stage 2	-	-	-	-	-	-	309	169	-	502	323	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	67.1	74
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	52	537	513	-	-	719	-	-	37	403
HCM Lane V/C Ratio	0.452	0.044	0.023	-	-	0.049	-	-	0.191	0.015
HCM Control Delay (s)	122.1	12	12.2	-	-	10.3	-	-	123.9	14.1
HCM Lane LOS	F	B	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.7	0.1	0.1	-	-	0.2	-	-	0.6	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	464	170	83	745	152	150	120	42	116	270	250
Future Volume (veh/h)	150	464	170	83	745	152	150	120	42	116	270	250
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		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	169	521	138	93	837	47	169	135	5	130	303	32
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	205	733	193	516	1558	683	208	571	251	163	440	46
Arrive On Green	0.12	0.27	0.27	0.29	0.44	0.44	0.12	0.16	0.16	0.09	0.14	0.14
Sat Flow, veh/h	1767	2755	726	1767	3526	1544	1767	3526	1552	1767	3216	337
Grp Volume(v), veh/h	169	332	327	93	837	47	169	135	5	130	165	170
Grp Sat Flow(s),veh/h/ln	1767	1763	1718	1767	1763	1544	1767	1763	1552	1767	1763	1790
Q Serve(g_s), s	7.5	13.6	13.8	3.1	13.9	1.4	7.5	2.7	0.2	5.8	7.1	7.3
Cycle Q Clear(g_c), s	7.5	13.6	13.8	3.1	13.9	1.4	7.5	2.7	0.2	5.8	7.1	7.3
Prop In Lane	1.00		0.42	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	205	469	457	516	1558	683	208	571	251	163	241	245
V/C Ratio(X)	0.82	0.71	0.71	0.18	0.54	0.07	0.81	0.24	0.02	0.80	0.68	0.69
Avail Cap(c_a), veh/h	254	469	457	516	1558	683	442	1058	466	276	375	380
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	26.6	26.6	21.2	16.3	12.8	34.4	29.2	28.2	35.6	32.9	32.9
Incr Delay (d2), s/veh	13.4	4.2	4.5	0.1	1.3	0.2	2.9	0.1	0.0	3.3	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	3.9	6.0	5.9	1.2	5.4	0.5	3.3	1.1	0.1	2.5	3.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	30.8	31.1	21.2	17.6	13.0	37.4	29.3	28.2	38.9	34.2	34.3
LnGrp LOS	D	C	C	C	B	B	D	C	C	D	C	C
Approach Vol, veh/h		828			977			309			465	
Approach Delay, s/veh		34.4			17.7			33.7			35.5	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	39.9	10.4	17.5	26.4	25.8	12.4	15.4
Change Period (Y+Rc), s	3.0	4.5	3.0	4.5	3.0	4.5	3.0	4.5
Max Green Setting (Gmax), s	11.5	16.5	12.5	24.0	8.5	18.5	20.0	17.0
Max Q Clear Time (g_c+I1), s	9.5	15.9	7.8	4.7	5.1	15.8	9.5	9.3
Green Ext Time (p_c), s	0.0	0.3	0.1	0.4	0.0	0.8	0.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

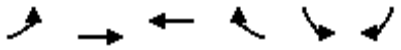
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	422	100	64	825	0	160	0	82	0	0	0
Future Volume (veh/h)	0	422	100	64	825	0	160	0	82	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	440	84	67	859	0	167	0	23	0	0	0
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	6	803	152	178	1800	0	316	331	281	6	6	5
Arrive On Green	0.00	0.27	0.27	0.10	0.51	0.00	0.18	0.00	0.18	0.00	0.00	0.00
Sat Flow, veh/h	1767	2954	560	1767	3618	0	1767	1856	1571	1767	1856	1572
Grp Volume(v), veh/h	0	261	263	67	859	0	167	0	23	0	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1751	1767	1763	0	1767	1856	1571	1767	1856	1572
Q Serve(g_s), s	0.0	3.7	3.7	1.0	4.6	0.0	2.5	0.0	0.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	3.7	3.7	1.0	4.6	0.0	2.5	0.0	0.4	0.0	0.0	0.0
Prop In Lane	1.00		0.32	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	6	479	476	178	1800	0	316	331	281	6	6	5
V/C Ratio(X)	0.00	0.55	0.55	0.38	0.48	0.00	0.53	0.00	0.08	0.00	0.00	0.00
Avail Cap(c_a), veh/h	915	2434	2418	915	4869	0	1220	1281	1084	915	1281	1086
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.0	9.0	12.2	4.6	0.0	10.8	0.0	9.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.5	0.1	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.9	0.9	0.3	0.5	0.0	0.7	0.0	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.4	9.4	12.7	4.7	0.0	11.3	0.0	10.0	0.0	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h		524			926			190			0	
Approach Delay, s/veh		9.4			5.2			11.1			0.0	
Approach LOS		A			A			B				

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	19.8	9.2	0.0	6.9	12.9	0.0	9.2
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	15.0	40.0	20.0	20.0	15.0	40.0	15.0	20.0
Max Q Clear Time (g_c+I1), s	0.0	6.6	4.5	0.0	3.0	5.7	0.0	2.4
Green Ext Time (p_c), s	0.0	4.3	0.2	0.0	0.0	2.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	7.2
HCM 6th LOS	A

Notes

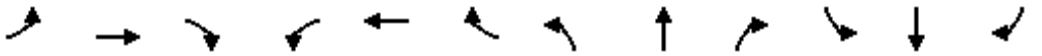
User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	120	389	869	20	5	20
Future Volume (veh/h)	120	389	869	20	5	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	423	945	22	5	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	301	1533	1031	24	35	31
Arrive On Green	0.17	0.82	0.57	0.57	0.02	0.02
Sat Flow, veh/h	1781	1870	1820	42	1781	1585
Grp Volume(v), veh/h	130	423	0	967	5	6
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1863	1781	1585
Q Serve(g_s), s	3.9	3.1	0.0	27.7	0.2	0.2
Cycle Q Clear(g_c), s	3.9	3.1	0.0	27.7	0.2	0.2
Prop In Lane	1.00			0.02	1.00	1.00
Lane Grp Cap(c), veh/h	301	1533	0	1055	35	31
V/C Ratio(X)	0.43	0.28	0.00	0.92	0.14	0.19
Avail Cap(c_a), veh/h	1054	1533	0	1102	738	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.0	1.2	0.0	11.6	28.5	28.5
Incr Delay (d2), s/veh	1.4	0.1	0.0	11.8	1.4	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.2	0.0	12.4	0.1	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.4	1.4	0.0	23.4	29.9	30.8
LnGrp LOS	C	A	A	C	C	C
Approach Vol, veh/h		553	967		11	
Approach Delay, s/veh		6.6	23.4		30.4	
Approach LOS		A	C		C	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	53.5		5.7	15.0	38.5
Change Period (Y+Rc), s	5.0		4.5	5.0	5.0
Max Green Setting (Gmax), s	35.0		24.5	35.0	35.0
Max Q Clear Time (g_c+I1), s	5.1		2.2	5.9	29.7
Green Ext Time (p_c), s	4.3		0.0	0.6	3.8

Intersection Summary	
HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	214	50	311	519	159	180	260	136	88	810	220
Future Volume (veh/h)	140	214	50	311	519	159	180	260	136	88	810	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	159	243	9	353	590	172	205	295	108	100	920	231
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	184	486	412	279	436	127	230	957	343	123	882	221
Arrive On Green	0.10	0.26	0.26	0.16	0.32	0.32	0.13	0.38	0.38	0.07	0.32	0.32
Sat Flow, veh/h	1767	1856	1572	1767	1380	402	1767	2543	911	1767	2792	700
Grp Volume(v), veh/h	159	243	9	353	0	762	205	203	200	100	580	571
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1767	0	1783	1767	1763	1691	1767	1763	1730
Q Serve(g_s), s	11.2	14.1	0.5	20.0	0.0	40.0	14.5	10.3	10.6	7.1	40.0	40.0
Cycle Q Clear(g_c), s	11.2	14.1	0.5	20.0	0.0	40.0	14.5	10.3	10.6	7.1	40.0	40.0
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.54	1.00		0.40
Lane Grp Cap(c), veh/h	184	486	412	279	0	563	230	663	636	123	557	546
V/C Ratio(X)	0.86	0.50	0.02	1.27	0.00	1.35	0.89	0.31	0.31	0.81	1.04	1.04
Avail Cap(c_a), veh/h	279	571	484	279	0	563	279	663	636	279	557	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.9	39.7	34.7	53.3	0.0	43.3	54.2	27.8	28.0	58.1	43.3	43.3
Incr Delay (d2), s/veh	11.0	1.0	0.0	144.7	0.0	170.5	22.6	0.3	0.3	4.8	49.7	50.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	6.6	0.2	20.1	0.0	44.3	7.7	4.3	4.2	3.3	24.4	24.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.8	40.6	34.7	198.0	0.0	213.8	76.8	28.2	28.3	62.9	93.0	94.1
LnGrp LOS	E	D	C	F	A	F	E	C	C	E	F	F
Approach Vol, veh/h		411			1115			608			1251	
Approach Delay, s/veh		50.6			208.8			44.6			91.1	
Approach LOS		D			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.2	45.0	20.5	44.0	24.0	38.2	12.8	51.7
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	39.0	20.0	20.0
Max Q Clear Time (g_c+I1), s	13.2	42.0	16.5	42.0	22.0	16.1	9.1	12.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.8	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	116.6
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	418	909	2	6	80
Future Vol, veh/h	20	418	909	2	6	80
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	24	504	1095	2	7	96

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1099	0	-	0	1650	1098
Stage 1	-	-	-	-	1098	-
Stage 2	-	-	-	-	552	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	639	-	-	-	109	260
Stage 1	-	-	-	-	321	-
Stage 2	-	-	-	-	579	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	638	-	-	-	103	260
Mov Cap-2 Maneuver	-	-	-	-	103	-
Stage 1	-	-	-	-	304	-
Stage 2	-	-	-	-	578	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	31.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	638	-	-	-	235
HCM Lane V/C Ratio	0.038	-	-	-	0.441
HCM Control Delay (s)	10.9	0	-	-	31.9
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	2.1

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	379	811	5	5	40
Future Vol, veh/h	20	379	811	5	5	40
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	26	486	1040	6	6	51

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1051	0	-	0	1586	1048
Stage 1	-	-	-	-	1048	-
Stage 2	-	-	-	-	538	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	666	-	-	-	120	278
Stage 1	-	-	-	-	339	-
Stage 2	-	-	-	-	587	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	663	-	-	-	112	277
Mov Cap-2 Maneuver	-	-	-	-	112	-
Stage 1	-	-	-	-	319	-
Stage 2	-	-	-	-	584	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	24.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	663	-	-	-	238
HCM Lane V/C Ratio	0.039	-	-	-	0.242
HCM Control Delay (s)	10.6	0	-	-	24.9
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	369	746	5	5	40
Future Vol, veh/h	20	369	746	5	5	40
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	461	933	6	6	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	944	0	-	0	1452	941
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	511	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	727	-	-	-	144	319
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	602	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	724	-	-	-	136	317
Mov Cap-2 Maneuver	-	-	-	-	136	-
Stage 1	-	-	-	-	361	-
Stage 2	-	-	-	-	599	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	21.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	724	-	-	-	276
HCM Lane V/C Ratio	0.035	-	-	-	0.204
HCM Control Delay (s)	10.2	0	-	-	21.4
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	359	671	0	0	80
Future Vol, veh/h	15	359	671	0	0	80
Conflicting Peds, #/hr	7	0	0	7	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	21	506	945	0	0	113

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	952	0	-	0	1500	952
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	548	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	718	-	-	-	134	313
Stage 1	-	-	-	-	373	-
Stage 2	-	-	-	-	577	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	713	-	-	-	127	311
Mov Cap-2 Maneuver	-	-	-	-	127	-
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	573	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	23
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	713	-	-	-	311
HCM Lane V/C Ratio	0.03	-	-	-	0.362
HCM Control Delay (s)	10.2	0	-	-	23
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.6

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	309	601	0	0	70
Future Vol, veh/h	50	309	601	0	0	70
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	60	372	724	0	0	84

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	728	0	-	0	1220	728
Stage 1	-	-	-	-	728	-
Stage 2	-	-	-	-	492	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	885	-	-	-	201	427
Stage 1	-	-	-	-	482	-
Stage 2	-	-	-	-	619	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	882	-	-	-	182	425
Mov Cap-2 Maneuver	-	-	-	-	182	-
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	617	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	882	-	-	-	425
HCM Lane V/C Ratio	0.068	-	-	-	0.198
HCM Control Delay (s)	9.4	0	-	-	15.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.7

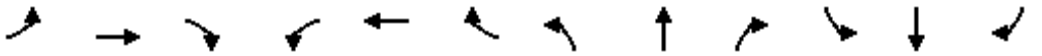
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	299	581	0	0	20
Future Vol, veh/h	10	299	581	0	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	42	42	42	42	42	42
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	712	1383	0	0	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1383	0	-	0	2143	1383
Stage 1	-	-	-	-	1383	-
Stage 2	-	-	-	-	760	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	502	-	-	-	54	178
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	465	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	502	-	-	-	50	178
Mov Cap-2 Maneuver	-	-	-	-	50	-
Stage 1	-	-	-	-	216	-
Stage 2	-	-	-	-	465	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	32.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	502	-	-	-	178
HCM Lane V/C Ratio	0.047	-	-	-	0.268
HCM Control Delay (s)	12.5	0	-	-	32.5
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	229	0	40	5	0	5	50	444	5	5	407	477
Future Volume (veh/h)	229	0	40	5	0	5	50	444	5	5	407	477
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	241	0	0	5	0	0	53	467	5	5	428	426
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	499	0	0	556	0	0	140	770	8	17	650	551
Arrive On Green	0.22	0.00	0.00	0.22	0.00	0.00	0.08	0.41	0.41	0.01	0.34	0.34
Sat Flow, veh/h	1444	0	0	1696	0	0	1810	1876	20	1810	1900	1610
Grp Volume(v), veh/h	241	0	0	5	0	0	53	0	472	5	428	426
Grp Sat Flow(s),veh/h/ln	1444	0	0	1696	0	0	1810	0	1896	1810	1900	1610
Q Serve(g_s), s	6.3	0.0	0.0	0.0	0.0	0.0	1.1	0.0	8.0	0.1	7.8	9.7
Cycle Q Clear(g_c), s	6.4	0.0	0.0	0.1	0.0	0.0	1.1	0.0	8.0	0.1	7.8	9.7
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	499	0	0	556	0	0	140	0	778	17	650	551
V/C Ratio(X)	0.48	0.00	0.00	0.01	0.00	0.00	0.38	0.00	0.61	0.29	0.66	0.77
Avail Cap(c_a), veh/h	2213	0	0	1392	0	0	1412	0	2683	1192	2688	2278
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	0.0	12.4	0.0	0.0	18.0	0.0	9.5	20.2	11.4	12.1
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.3	3.5	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	0.0	0.0	0.0	0.4	0.0	2.3	0.1	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.5	0.0	0.0	12.4	0.0	0.0	18.6	0.0	9.8	23.6	11.9	12.9
LnGrp LOS	B	A	A	B	A	A	B	A	A	C	B	B
Approach Vol, veh/h		241			5			525			859	
Approach Delay, s/veh		15.5			12.4			10.7			12.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	21.8		14.2	7.8	19.0		14.2				
Change Period (Y+Rc), s	4.6	5.0		5.0	4.6	5.0		* 5				
Max Green Setting (Gmax), s	27.0	58.0		58.0	32.0	58.0		* 33				
Max Q Clear Time (g_c+I1), s	2.1	10.0		8.4	3.1	11.7		2.1				
Green Ext Time (p_c), s	0.0	1.9		1.5	0.1	2.3		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		12.3	
HCM 6th LOS		B	

Notes

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

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	30	484	5	40	377
Future Vol, veh/h	10	30	484	5	40	377
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	11	32	520	5	43	405

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1014	523	0	0	525	0
Stage 1	523	-	-	-	-	-
Stage 2	491	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	261	548	-	-	1027	-
Stage 1	589	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	250	548	-	-	1027	-
Mov Cap-2 Maneuver	250	-	-	-	-	-
Stage 1	564	-	-	-	-	-
Stage 2	609	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	422	1027	-
HCM Lane V/C Ratio	-	-	0.102	0.042	-
HCM Control Delay (s)	-	-	14.5	8.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

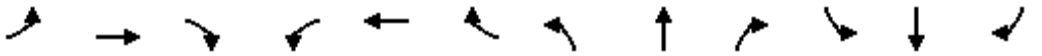
Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	50	439	40	40	347
Future Vol, veh/h	60	50	439	40	40	347
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	-	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	65	54	477	43	43	377

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	962	499	0	0	520	0
Stage 1	499	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	280	566	-	-	1031	-
Stage 1	604	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	268	566	-	-	1031	-
Mov Cap-2 Maneuver	268	-	-	-	-	-
Stage 1	579	-	-	-	-	-
Stage 2	627	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.8	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	268	566	1031	-
HCM Lane V/C Ratio	-	-	0.243	0.096	0.042	-
HCM Control Delay (s)	-	-	22.7	12	8.6	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0.3	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	20	20	10	5	30	40	1664	20	70	1995	120
Future Volume (veh/h)	90	20	20	10	5	30	40	1664	20	70	1995	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	107	24	18	12	6	0	48	1981	13	83	2375	86
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	175	30	21	158	68	0	60	2178	946	103	2264	976
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.00	0.04	0.66	0.66	0.06	0.69	0.69
Sat Flow, veh/h	992	243	170	866	554	0	1654	3300	1434	1654	3300	1423
Grp Volume(v), veh/h	149	0	0	18	0	0	48	1981	13	83	2375	86
Grp Sat Flow(s),veh/h/ln	1405	0	0	1420	0	0	1654	1650	1434	1654	1650	1423
Q Serve(g_s), s	11.0	0.0	0.0	0.0	0.0	0.0	3.4	59.6	0.4	5.8	80.0	2.4
Cycle Q Clear(g_c), s	12.1	0.0	0.0	1.1	0.0	0.0	3.4	59.6	0.4	5.8	80.0	2.4
Prop In Lane	0.72		0.12	0.67		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	226	0	0	227	0	0	60	2178	946	103	2264	976
V/C Ratio(X)	0.66	0.00	0.00	0.08	0.00	0.00	0.80	0.91	0.01	0.80	1.05	0.09
Avail Cap(c_a), veh/h	352	0	0	353	0	0	213	2264	984	213	2264	976
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	0.0	0.0	45.3	0.0	0.0	55.8	16.9	6.8	54.0	18.3	6.1
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.1	0.0	0.0	8.6	5.6	0.0	5.4	33.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	0.0	0.5	0.0	0.0	1.5	19.1	0.1	2.5	32.8	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	0.0	0.0	45.3	0.0	0.0	64.4	22.5	6.8	59.3	51.7	6.1
LnGrp LOS	D	A	A	D	A	A	E	C	A	E	F	A
Approach Vol, veh/h		149			18			2042			2544	
Approach Delay, s/veh		51.2			45.3			23.4			50.4	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.3	85.0		19.4	9.2	88.0		19.4				
Change Period (Y+Rc), s	* 5	8.0		* 5	* 5	8.0		* 5				
Max Green Setting (Gmax), s	* 15	80.0		* 25	* 15	80.0		* 25				
Max Q Clear Time (g_c+I1), s	7.8	61.6		14.1	5.4	82.0		3.1				
Green Ext Time (p_c), s	0.0	3.4		0.4	0.0	0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		38.8	
HCM 6th LOS		D	

Notes

User approved pedestrian interval to be less than phase max green.

* 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	20	21	121	80	180	41	640	51	100	685	110
Future Volume (veh/h)	90	20	21	121	80	180	41	640	51	100	685	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	103	23	0	139	92	14	47	736	52	115	787	112
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	191	179	0	215	203	172	121	1200	85	201	1253	178
Arrive On Green	0.11	0.09	0.00	0.12	0.11	0.11	0.07	0.35	0.35	0.11	0.40	0.40
Sat Flow, veh/h	1795	1885	0	1795	1885	1598	1795	3393	240	1795	3148	448
Grp Volume(v), veh/h	103	23	0	139	92	14	47	388	400	115	448	451
Grp Sat Flow(s),veh/h/ln	1795	1885	0	1795	1885	1598	1795	1791	1842	1795	1791	1805
Q Serve(g_s), s	2.7	0.6	0.0	3.7	2.3	0.4	1.3	8.9	9.0	3.0	10.0	10.0
Cycle Q Clear(g_c), s	2.7	0.6	0.0	3.7	2.3	0.4	1.3	8.9	9.0	3.0	10.0	10.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.13	1.00		0.25
Lane Grp Cap(c), veh/h	191	179	0	215	203	172	121	633	651	201	713	718
V/C Ratio(X)	0.54	0.13	0.00	0.65	0.45	0.08	0.39	0.61	0.61	0.57	0.63	0.63
Avail Cap(c_a), veh/h	359	830	0	539	830	704	431	1255	1291	431	1255	1264
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	20.7	0.0	21.0	20.9	20.1	22.3	13.3	13.3	21.1	12.1	12.1
Incr Delay (d2), s/veh	0.9	0.3	0.0	1.2	0.6	0.1	0.8	1.4	1.3	1.0	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	1.1	0.2	0.0	1.5	1.0	0.1	0.5	2.9	3.0	1.1	3.1	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.0	21.0	0.0	22.2	21.5	20.1	23.1	14.7	14.7	22.0	13.4	13.4
LnGrp LOS	C	C	A	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		126			245			835			1014	
Approach Delay, s/veh		21.8			21.8			15.2			14.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	22.7	9.5	8.7	6.9	24.9	8.8	9.4
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	12.0	35.0	15.0	22.0	12.0	35.0	10.0	22.0
Max Q Clear Time (g_c+I1), s	5.0	11.0	5.7	2.6	3.3	12.0	4.7	4.3
Green Ext Time (p_c), s	0.0	6.7	0.1	0.1	0.0	7.8	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	15.9
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	5	6	161	5	90	8	652	43	60	737	5
Future Volume (veh/h)	20	5	6	161	5	90	8	652	43	60	737	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	6	1	181	6	13	9	733	45	67	828	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	30	25	257	64	140	30	1282	79	160	1630	10
Arrive On Green	0.04	0.02	0.02	0.14	0.12	0.12	0.02	0.38	0.38	0.09	0.45	0.45
Sat Flow, veh/h	1781	1870	1582	1781	526	1139	1781	3401	209	1781	3621	22
Grp Volume(v), veh/h	22	6	1	181	0	19	9	383	395	67	406	427
Grp Sat Flow(s),veh/h/ln	1781	1870	1582	1781	0	1665	1781	1777	1832	1781	1777	1866
Q Serve(g_s), s	0.5	0.1	0.0	4.2	0.0	0.4	0.2	7.3	7.3	1.5	7.0	7.0
Cycle Q Clear(g_c), s	0.5	0.1	0.0	4.2	0.0	0.4	0.2	7.3	7.3	1.5	7.0	7.0
Prop In Lane	1.00		1.00	1.00		0.68	1.00		0.11	1.00		0.01
Lane Grp Cap(c), veh/h	67	30	25	257	0	204	30	670	691	160	800	840
V/C Ratio(X)	0.33	0.20	0.04	0.70	0.00	0.09	0.30	0.57	0.57	0.42	0.51	0.51
Avail Cap(c_a), veh/h	831	916	775	831	0	815	831	1450	1496	831	1450	1523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	20.8	20.8	17.5	0.0	16.7	20.8	10.6	10.6	18.5	8.4	8.4
Incr Delay (d2), s/veh	1.0	4.6	0.9	1.3	0.0	0.3	2.1	1.1	1.1	0.7	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.0	1.6	0.0	0.2	0.1	2.1	2.2	0.5	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	25.5	21.7	18.8	0.0	17.0	23.0	11.7	11.7	19.1	9.1	9.1
LnGrp LOS	C	C	C	B	A	B	C	B	B	B	A	A
Approach Vol, veh/h		29			200			787			900	
Approach Delay, s/veh		22.1			18.6			11.8			9.8	
Approach LOS		C			B			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	21.2	9.7	4.7	4.2	24.3	5.1	9.3
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	20.0	35.0	20.0	21.0	20.0	35.0	20.0	21.0
Max Q Clear Time (g_c+I1), s	3.5	9.3	6.2	2.1	2.2	9.0	2.5	2.4
Green Ext Time (p_c), s	0.1	6.8	0.2	0.0	0.0	7.3	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	11.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	10	733	70	30	999
Future Vol, veh/h	20	10	733	70	30	999
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	12	852	81	35	1162

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1544	467	0	0	933	0
Stage 1	893	-	-	-	-	-
Stage 2	651	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	105	542	-	-	729	-
Stage 1	360	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	100	542	-	-	729	-
Mov Cap-2 Maneuver	100	-	-	-	-	-
Stage 1	343	-	-	-	-	-
Stage 2	481	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	38.3	0	0.3
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	100	542	729	-
HCM Lane V/C Ratio	-	-	0.233	0.021	0.048	-
HCM Control Delay (s)	-	-	51.6	11.8	10.2	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	0.8	0.1	0.2	-

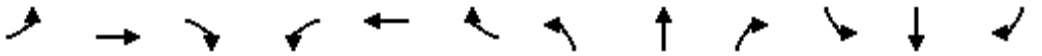
Intersection	
Int Delay, s/veh	7.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	90	20	782	5	5	909
Future Vol, veh/h	90	20	782	5	5	909
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	106	24	920	6	6	1069

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1470	923	0	0	926	0
Stage 1	923	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Critical Hdwy	6.645	6.245	-	-	4.145	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.5285	3.3285	-	-	2.2285	-
Pot Cap-1 Maneuver	128	324	-	-	731	-
Stage 1	384	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	125	324	-	-	731	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	376	-	-	-	-	-
Stage 2	542	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	116.4	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	141	731	-
HCM Lane V/C Ratio	-	-	0.918	0.008	-
HCM Control Delay (s)	-	-	116.4	10	0.1
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	6.3	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	5	172	100	20	50	94	587	10	5	854	140
Future Volume (veh/h)	150	5	172	100	20	50	94	587	10	5	854	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	6	40	122	24	4	115	716	6	6	1041	105
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	38	256	343	285	47	147	2028	905	14	1763	786
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.08	0.57	0.57	0.01	0.50	0.50
Sat Flow, veh/h	1382	211	1406	1360	1563	260	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	183	0	46	122	0	28	115	716	6	6	1041	105
Grp Sat Flow(s),veh/h/ln	1382	0	1617	1360	0	1823	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.2	0.0	1.4	4.7	0.0	0.7	3.6	6.1	0.1	0.2	11.8	2.0
Cycle Q Clear(g_c), s	7.9	0.0	1.4	6.0	0.0	0.7	3.6	6.1	0.1	0.2	11.8	2.0
Prop In Lane	1.00		0.87	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	362	0	295	343	0	332	147	2028	905	14	1763	786
V/C Ratio(X)	0.51	0.00	0.16	0.36	0.00	0.08	0.78	0.35	0.01	0.42	0.59	0.13
Avail Cap(c_a), veh/h	918	0	946	890	0	1066	174	2028	905	158	1763	786
HCM Platoon Ratio	1.00	1.00	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	22.4	0.0	19.4	22.0	0.0	19.2	25.4	6.5	5.2	27.9	10.1	7.7
Incr Delay (d2), s/veh	1.1	0.0	0.2	0.6	0.0	0.1	17.6	0.5	0.0	18.8	1.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.5	1.4	0.0	0.3	2.0	1.6	0.0	0.1	3.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.5	0.0	19.7	22.6	0.0	19.3	43.0	7.0	5.2	46.7	11.6	8.0
LnGrp LOS	C	A	B	C	A	B	D	A	A	D	B	A
Approach Vol, veh/h		229			150			837			1152	
Approach Delay, s/veh		22.8			22.0			11.9			11.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	36.7		14.8	9.2	32.5		14.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	28.5		33.0	5.5	28.0		33.0				
Max Q Clear Time (g_c+I1), s	2.2	8.1		9.9	5.6	13.8		8.0				
Green Ext Time (p_c), s	0.0	4.4		0.7	0.0	6.1		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		13.4	
HCM 6th LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	30	5	60	5	626	10	20	1076	5
Future Volume (veh/h)	5	5	5	30	5	60	5	626	10	20	1076	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	6	6	0	35	6	1	6	728	11	23	1251	6
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	52	54	0	93	16	3	20	1928	29	67	1948	9
Arrive On Green	0.03	0.03	0.00	0.06	0.06	0.06	0.01	0.54	0.54	0.04	0.54	0.54
Sat Flow, veh/h	1767	1856	0	1478	253	42	1767	3553	54	1767	3598	17
Grp Volume(v), veh/h	6	6	0	42	0	0	6	361	378	23	613	644
Grp Sat Flow(s),veh/h/ln	1767	1856	0	1774	0	0	1767	1763	1844	1767	1763	1852
Q Serve(g_s), s	0.2	0.2	0.0	1.2	0.0	0.0	0.2	6.3	6.3	0.7	13.1	13.1
Cycle Q Clear(g_c), s	0.2	0.2	0.0	1.2	0.0	0.0	0.2	6.3	6.3	0.7	13.1	13.1
Prop In Lane	1.00		0.00	0.83		0.02	1.00		0.03	1.00		0.01
Lane Grp Cap(c), veh/h	52	54	0	112	0	0	20	957	1001	67	954	1003
V/C Ratio(X)	0.12	0.11	0.00	0.38	0.00	0.00	0.30	0.38	0.38	0.34	0.64	0.64
Avail Cap(c_a), veh/h	660	693	0	663	0	0	330	1318	1379	495	1318	1385
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.3	25.3	0.0	24.1	0.0	0.0	26.3	7.0	7.0	25.1	8.6	8.6
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.8	0.0	0.0	3.2	0.4	0.4	1.1	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.5	0.0	0.0	0.1	1.6	1.6	0.3	3.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	25.6	0.0	24.8	0.0	0.0	29.4	7.5	7.4	26.2	9.9	9.8
LnGrp LOS	C	C	A	C	A	A	C	A	A	C	A	A
Approach Vol, veh/h		12			42			745			1280	
Approach Delay, s/veh		25.6			24.8			7.6			10.1	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.5	34.0		6.6	5.6	34.0		7.4
Change Period (Y+Rc), s	3.5	5.0		5.0	5.0	5.0		4.0
Max Green Setting (Gmax), s	15.0	40.0		20.0	10.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	2.7	8.3		2.2	2.2	15.1		3.2
Green Ext Time (p_c), s	0.0	7.9		0.0	0.0	13.9		0.1

Intersection Summary	
HCM 6th Ctrl Delay	9.6
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	71	70	571	22	20	1091
Future Vol, veh/h	71	70	571	22	20	1091
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	81	80	649	25	23	1240

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1328	337	0	0	674	0
Stage 1	662	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	145	656	-	-	906	-
Stage 1	472	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	141	656	-	-	906	-
Mov Cap-2 Maneuver	141	-	-	-	-	-
Stage 1	460	-	-	-	-	-
Stage 2	470	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	49.7	0	0.2
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	231	906	-
HCM Lane V/C Ratio	-	-	0.694	0.025	-
HCM Control Delay (s)	-	-	49.7	9.1	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	4.5	0.1	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	0	21	5	40	20	548	6	20	1092	50
Future Vol, veh/h	5	0	0	21	5	40	20	548	6	20	1092	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	6	0	0	24	6	47	23	637	7	23	1270	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1713	2035	664	1368	2061	322	1328	0	0	644	0	0
Stage 1	1345	1345	-	687	687	-	-	-	-	-	-	-
Stage 2	368	690	-	681	1374	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	58	56	401	105	54	671	510	-	-	930	-	-
Stage 1	158	217	-	401	443	-	-	-	-	-	-	-
Stage 2	621	442	-	404	210	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	47	52	401	99	50	671	510	-	-	930	-	-
Mov Cap-2 Maneuver	47	52	-	99	50	-	-	-	-	-	-	-
Stage 1	151	212	-	383	423	-	-	-	-	-	-	-
Stage 2	544	422	-	394	205	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	92.1	39.7	0.4	0.2
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	510	-	-	47	178	930	-	-
HCM Lane V/C Ratio	0.046	-	-	0.124	0.431	0.025	-	-
HCM Control Delay (s)	12.4	-	-	92.1	39.7	9	-	-
HCM Lane LOS	B	-	-	F	E	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	2	0.1	-	-

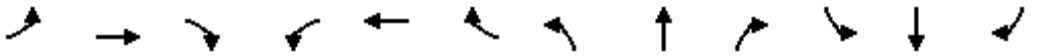
Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	40	60	339	942	304
Future Vol, veh/h	42	40	60	339	942	304
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	160	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	47	44	67	377	1047	338

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1539	693	1385	0	-	0
Stage 1	1216	-	-	-	-	-
Stage 2	323	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	105	384	485	-	-	-
Stage 1	241	-	-	-	-	-
Stage 2	703	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	91	384	485	-	-	-
Mov Cap-2 Maneuver	91	-	-	-	-	-
Stage 1	208	-	-	-	-	-
Stage 2	703	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	64.6	2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	485	-	145	-	-
HCM Lane V/C Ratio	0.137	-	0.628	-	-
HCM Control Delay (s)	13.6	-	64.6	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.5	-	3.4	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	0	553	5	368	0	290	617	348	260	5
Future Volume (veh/h)	5	5	0	553	5	368	0	290	617	348	260	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	5	5	0	599	0	0	0	312	0	329	343	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	286	256	0	1018	0		0	389		410	424	5
Arrive On Green	0.30	0.30	0.00	0.30	0.00	0.00	0.00	0.22	0.00	0.25	0.25	0.25
Sat Flow, veh/h	672	864	0	2643	0	1485	0	1752	1485	1668	1728	20
Grp Volume(v), veh/h	10	0	0	599	0	0	0	312	0	329	0	347
Grp Sat Flow(s),veh/h/ln	1537	0	0	1322	0	1485	0	1752	1485	1668	0	1748
Q Serve(g_s), s	0.0	0.0	0.0	12.4	0.0	0.0	0.0	10.4	0.0	11.4	0.0	11.5
Cycle Q Clear(g_c), s	0.2	0.0	0.0	12.6	0.0	0.0	0.0	10.4	0.0	11.4	0.0	11.5
Prop In Lane	0.50		0.00	1.00		1.00	0.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	542	0	0	1018	0		0	389		410	0	429
V/C Ratio(X)	0.02	0.00	0.00	0.59	0.00		0.00	0.80		0.80	0.00	0.81
Avail Cap(c_a), veh/h	561	0	0	1755	0		0	984		948	0	993
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.4	0.0	0.0	19.7	0.0	0.0	0.0	22.7	0.0	21.8	0.0	21.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	0.0	0.0	2.9	0.0	1.4	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	3.5	0.0	0.0	0.0	4.1	0.0	4.1	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.4	0.0	0.0	20.5	0.0	0.0	0.0	25.6	0.0	23.3	0.0	23.3
LnGrp LOS	B	A	A	C	A		A	C		C	A	C
Approach Vol, veh/h		10			599	A		312	A		676	
Approach Delay, s/veh		15.4			20.5			25.6			23.3	
Approach LOS		B			C			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		20.1		22.8		18.7		22.8				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		35.0		35.4		34.6		19.0				
Max Q Clear Time (g_c+I1), s		13.5		14.6		12.4		2.2				
Green Ext Time (p_c), s		1.6		3.6		1.3		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		22.6
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	830	10	5	806	183	30	30	5	134	20	90
Future Volume (veh/h)	130	830	10	5	806	183	30	30	5	134	20	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	144	922	11	6	896	183	33	33	3	149	22	13
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	179	1889	23	13	1240	253	217	179	13	411	204	120
Arrive On Green	0.11	0.57	0.57	0.01	0.46	0.46	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1640	3310	39	1640	2700	551	551	894	66	1263	1015	600
Grp Volume(v), veh/h	144	456	477	6	543	536	69	0	0	149	0	35
Grp Sat Flow(s),veh/h/ln	1640	1636	1714	1640	1636	1615	1511	0	0	1263	0	1614
Q Serve(g_s), s	4.3	8.3	8.3	0.2	13.4	13.4	0.0	0.0	0.0	3.1	0.0	0.9
Cycle Q Clear(g_c), s	4.3	8.3	8.3	0.2	13.4	13.4	1.7	0.0	0.0	4.8	0.0	0.9
Prop In Lane	1.00		0.02	1.00		0.34	0.48		0.04	1.00		0.37
Lane Grp Cap(c), veh/h	179	933	978	13	751	742	410	0	0	411	0	324
V/C Ratio(X)	0.80	0.49	0.49	0.46	0.72	0.72	0.17	0.00	0.00	0.36	0.00	0.11
Avail Cap(c_a), veh/h	675	1313	1376	823	1313	1296	849	0	0	791	0	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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	6.4	6.4	24.6	10.9	10.9	16.6	0.0	0.0	17.7	0.0	16.3
Incr Delay (d2), s/veh	3.2	0.4	0.4	8.9	1.3	1.4	0.2	0.0	0.0	0.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.7	1.8	0.1	3.6	3.6	0.6	0.0	0.0	1.4	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.9	6.8	6.7	33.5	12.2	12.3	16.8	0.0	0.0	18.2	0.0	16.4
LnGrp LOS	C	A	A	C	B	B	B	A	A	B	A	B
Approach Vol, veh/h		1077			1085			69			184	
Approach Delay, s/veh		9.2			12.4			16.8			17.9	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.4	32.4		14.0	8.9	26.9		14.0				
Change Period (Y+Rc), s	3.0	4.0		4.0	3.5	4.0		4.0				
Max Green Setting (Gmax), s	25.0	40.0		25.0	20.5	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.2	10.3		6.8	6.3	15.4		3.7				
Green Ext Time (p_c), s	0.0	6.3		0.6	0.0	7.5		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	11.5
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	919	10	23	864	267	20	5	25	303	10	140
Future Volume (veh/h)	110	919	10	23	864	267	20	5	25	303	10	140
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		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	125	1044	11	26	982	0	23	6	5	352	0	14
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	179	1582	17	69	1342		57	15	12	475	0	212
Arrive On Green	0.11	0.47	0.47	0.04	0.41	0.00	0.05	0.05	0.05	0.14	0.00	0.14
Sat Flow, veh/h	1654	3344	35	1654	3300	1472	1108	289	241	3309	0	1472
Grp Volume(v), veh/h	125	515	540	26	982	0	34	0	0	352	0	14
Grp Sat Flow(s),veh/h/ln	1654	1650	1729	1654	1650	1472	1638	0	0	1654	0	1472
Q Serve(g_s), s	4.0	13.2	13.2	0.8	13.9	0.0	1.1	0.0	0.0	5.6	0.0	0.5
Cycle Q Clear(g_c), s	4.0	13.2	13.2	0.8	13.9	0.0	1.1	0.0	0.0	5.6	0.0	0.5
Prop In Lane	1.00		0.02	1.00		1.00	0.68		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	179	781	818	69	1342		84	0	0	475	0	212
V/C Ratio(X)	0.70	0.66	0.66	0.38	0.73		0.40	0.00	0.00	0.74	0.00	0.07
Avail Cap(c_a), veh/h	600	1047	1097	450	2094		445	0	0	720	0	320
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.7	11.1	11.1	25.7	13.8	0.0	25.3	0.0	0.0	22.6	0.0	20.4
Incr Delay (d2), s/veh	1.8	1.0	0.9	1.3	0.8	0.0	1.1	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.8	3.9	0.3	4.2	0.0	0.4	0.0	0.0	2.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	12.1	12.1	27.0	14.6	0.0	26.5	0.0	0.0	23.5	0.0	20.5
LnGrp LOS	C	B	B	C	B		C	A	A	C	A	C
Approach Vol, veh/h		1180			1008	A		34			366	
Approach Delay, s/veh		13.5			14.9			26.5			23.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	27.4		6.3	5.8	31.1		11.9				
Change Period (Y+Rc), s	3.5	5.0		3.5	3.5	5.0		4.0				
Max Green Setting (Gmax), s	20.0	35.0		15.0	15.0	35.0		12.0				
Max Q Clear Time (g_c+I1), s	6.0	15.9		3.1	2.8	15.2		7.6				
Green Ext Time (p_c), s	0.1	6.6		0.0	0.0	6.6		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1177	20	60	1044	130	30	5	90	200	5	110
Future Volume (veh/h)	50	1177	20	60	1044	130	30	5	90	200	5	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	57	1338	22	68	1186	140	34	6	15	227	6	17
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	114	1664	27	126	1506	177	372	94	235	375	86	242
Arrive On Green	0.07	0.51	0.51	0.08	0.51	0.51	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1640	3292	54	1640	2939	346	1277	436	1090	1281	396	1122
Grp Volume(v), veh/h	57	665	695	68	659	667	34	0	21	227	0	23
Grp Sat Flow(s),veh/h/ln	1640	1636	1710	1640	1636	1649	1277	0	1526	1281	0	1518
Q Serve(g_s), s	2.2	21.8	21.8	2.6	21.1	21.3	1.4	0.0	0.7	11.0	0.0	0.8
Cycle Q Clear(g_c), s	2.2	21.8	21.8	2.6	21.1	21.3	2.2	0.0	0.7	11.7	0.0	0.8
Prop In Lane	1.00		0.03	1.00		0.21	1.00		0.71	1.00		0.74
Lane Grp Cap(c), veh/h	114	827	864	126	838	845	372	0	330	375	0	328
V/C Ratio(X)	0.50	0.80	0.80	0.54	0.79	0.79	0.09	0.00	0.06	0.61	0.00	0.07
Avail Cap(c_a), veh/h	586	1068	1117	586	1068	1076	573	0	569	735	0	755
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.9	13.3	13.3	28.6	12.8	12.9	20.9	0.0	20.0	24.7	0.0	20.1
Incr Delay (d2), s/veh	1.3	3.5	3.4	1.3	3.0	3.1	0.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	7.0	7.3	1.0	6.6	6.7	0.4	0.0	0.2	3.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	16.7	16.6	30.0	15.8	16.0	21.0	0.0	20.1	25.3	0.0	20.1
LnGrp LOS	C	B	B	C	B	B	C	A	C	C	A	C
Approach Vol, veh/h		1417			1394			55			250	
Approach Delay, s/veh		17.2			16.6			20.6			24.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.9	37.5		17.9	8.5	38.0		17.9				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	23.0	42.0		32.0	23.0	42.0		24.0				
Max Q Clear Time (g_c+I1), s	4.6	23.8		13.7	4.2	23.3		4.2				
Green Ext Time (p_c), s	0.0	8.7		0.2	0.0	8.7		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	17.6
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1267	200	0	994	0	0	0	0	620	0	240
Future Volume (veh/h)	0	1267	200	0	994	0	0	0	0	620	0	240
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1811	0	1826	0				1826	0	1826
Adj Flow Rate, veh/h	0	1348	0	0	1057	0				660	0	44
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	5	6	0	5	0				5	0	5
Cap, veh/h	0	1601		0	1601	0				840	0	385
Arrive On Green	0.00	0.46	0.00	0.00	0.46	0.00				0.25	0.00	0.25
Sat Flow, veh/h	0	3561	1535	0	3652	0				3374	0	1547
Grp Volume(v), veh/h	0	1348	0	0	1057	0				660	0	44
Grp Sat Flow(s),veh/h/ln	0	1735	1535	0	1735	0				1687	0	1547
Q Serve(g_s), s	0.0	13.0	0.0	0.0	9.0	0.0				6.9	0.0	0.8
Cycle Q Clear(g_c), s	0.0	13.0	0.0	0.0	9.0	0.0				6.9	0.0	0.8
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1601		0	1601	0				840	0	385
V/C Ratio(X)	0.00	0.84		0.00	0.66	0.00				0.79	0.00	0.11
Avail Cap(c_a), veh/h	0	4567		0	4567	0				4441	0	2037
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.0	0.0	0.0	7.9	0.0				13.3	0.0	11.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.2	0.0				0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	0.0	0.0	2.0	0.0				2.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.5	0.0	0.0	8.1	0.0				13.9	0.0	11.1
LnGrp LOS	A	A		A	A	A				B	A	B
Approach Vol, veh/h		1348	A		1057						704	
Approach Delay, s/veh		9.5			8.1						13.8	
Approach LOS		A			A						B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		23.5		14.5		23.5
Change Period (Y+Rc), s		* 6		* 5		* 6
Max Green Setting (Gmax), s		* 50		* 50		* 50
Max Q Clear Time (g_c+I1), s		15.0		8.9		11.0
Green Ext Time (p_c), s		2.5		0.5		2.0

Intersection Summary		
HCM 6th Ctrl Delay		10.0
HCM 6th LOS		A

Notes

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

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1467	0	0	1227	190	593
Future Volume (veh/h)	1467	0	0	1227	190	593
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1737	0	0	1737	1737	1737
Adj Flow Rate, veh/h	1577	0	0	1319	190	380
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	11	0	0	11	11	11
Cap, veh/h	1861	0	0	1861	294	523
Arrive On Green	0.56	0.00	0.00	0.56	0.18	0.18
Sat Flow, veh/h	3474	0	0	3474	1654	2944
Grp Volume(v), veh/h	1577	0	0	1319	190	380
Grp Sat Flow(s),veh/h/ln	1650	0	0	1650	1654	1472
Q Serve(g_s), s	17.0	0.0	0.0	12.4	4.5	5.2
Cycle Q Clear(g_c), s	17.0	0.0	0.0	12.4	4.5	5.2
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1861	0	0	1861	294	523
V/C Ratio(X)	0.85	0.00	0.00	0.71	0.65	0.73
Avail Cap(c_a), veh/h	3878	0	0	3878	972	1730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.8	0.0	0.0	6.7	16.3	16.5
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.2	0.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	2.0	1.4	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.2	0.0	0.0	6.9	17.1	17.2
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h	1577			1319	570	
Approach Delay, s/veh	8.2			6.9	17.2	
Approach LOS	A			A	B	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	30.0				30.0	12.6
Change Period (Y+Rc), s	* 6				* 6	5.0
Max Green Setting (Gmax), s	* 50				* 50	25.0
Max Q Clear Time (g_c+I1), s	19.0				14.4	7.2
Green Ext Time (p_c), s	5.0				3.8	0.4

Intersection Summary		
HCM 6th Ctrl Delay		9.2
HCM 6th LOS		A

Notes

User approved volume balancing among the lanes for turning movement.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	650	1130	280	87	937	123	410	190	70	142	80	680
Future Volume (veh/h)	650	1130	280	87	937	123	410	190	70	142	80	680
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	691	1202	207	93	997	58	436	202	64	118	131	229
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	758	2091	595	118	1323	402	681	267	85	188	198	335
Arrive On Green	0.24	0.44	0.44	0.07	0.28	0.28	0.21	0.21	0.21	0.11	0.11	0.11
Sat Flow, veh/h	3209	4742	1349	1654	4742	1440	3209	1259	399	1654	1737	2944
Grp Volume(v), veh/h	691	1202	207	93	997	58	436	0	266	118	131	229
Grp Sat Flow(s),veh/h/ln	1605	1581	1349	1654	1581	1440	1605	0	1658	1654	1737	1472
Q Serve(g_s), s	21.0	19.0	10.2	5.5	19.2	3.0	12.4	0.0	15.1	6.8	7.2	7.5
Cycle Q Clear(g_c), s	21.0	19.0	10.2	5.5	19.2	3.0	12.4	0.0	15.1	6.8	7.2	7.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	758	2091	595	118	1323	402	681	0	352	188	198	335
V/C Ratio(X)	0.91	0.57	0.35	0.79	0.75	0.14	0.64	0.00	0.76	0.63	0.66	0.68
Avail Cap(c_a), veh/h	804	2091	595	413	1894	575	962	0	497	496	520	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	21.0	18.5	45.8	33.0	27.1	36.0	0.0	37.0	42.3	42.5	42.6
Incr Delay (d2), s/veh	14.1	0.4	0.3	11.0	1.1	0.2	1.0	0.0	4.1	3.4	3.8	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	6.6	3.0	2.6	7.2	1.0	4.9	0.0	6.5	2.9	3.3	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	21.4	18.8	56.8	34.0	27.3	37.0	0.0	41.2	45.7	46.3	45.1
LnGrp LOS	D	C	B	E	C	C	D	A	D	D	D	D
Approach Vol, veh/h		2100			1148			702			478	
Approach Delay, s/veh		31.0			35.5			38.5			45.6	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.1	48.9		15.1	27.3	32.7		25.0
Change Period (Y+Rc), s	4.0	4.8		3.7	3.7	4.8		3.7
Max Green Setting (Gmax), s	25.0	40.0		30.0	25.1	40.0		30.0
Max Q Clear Time (g_c+I1), s	7.5	21.0		9.5	23.0	21.2		17.1
Green Ext Time (p_c), s	0.2	8.9		1.9	0.7	6.7		2.9

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	10.2

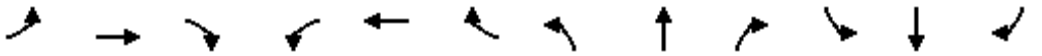
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	100	1147	50	23	887	57	20	5	34	20	5	140
Future Vol, veh/h	100	1147	50	23	887	57	20	5	34	20	5	140
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	240	-	-	120	-	-	-	-	25	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	11	11	11	11	11	11	11	11	11	11	11	11
Mvmt Flow	102	1170	51	23	905	58	20	5	35	20	5	143

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	963	0	0	1221	0	0	1901	2409	611	1772	2405	482
Stage 1	-	-	-	-	-	-	1400	1400	-	980	980	-
Stage 2	-	-	-	-	-	-	501	1009	-	792	1425	-
Critical Hdwy	4.32	-	-	4.32	-	-	7.72	6.72	7.12	7.72	6.72	7.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Follow-up Hdwy	2.31	-	-	2.31	-	-	3.61	4.11	3.41	3.61	4.11	3.41
Pot Cap-1 Maneuver	658	-	-	519	-	-	38	29	415	48	29	507
Stage 1	-	-	-	-	-	-	136	190	-	251	307	-
Stage 2	-	-	-	-	-	-	498	297	-	329	184	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	658	-	-	519	-	-	~ 19	23	415	31	23	507
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 19	23	-	31	23	-
Stage 1	-	-	-	-	-	-	115	161	-	212	293	-
Stage 2	-	-	-	-	-	-	336	284	-	247	155	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.3	251.7	55.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	20	415	658	-	-	519	-	-	31	294
HCM Lane V/C Ratio	1.276	0.084	0.155	-	-	0.045	-	-	0.658	0.503
HCM Control Delay (s)	$ 574.3	14.5	11.5	-	-	12.3	-	-	245	29
HCM Lane LOS	F	B	B	-	-	B	-	-	F	D
HCM 95th %tile Q(veh)	3.5	0.3	0.5	-	-	0.1	-	-	2.2	2.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	656	515	30	20	555	206	90	164	20	254	73	307
Future Volume (veh/h)	656	515	30	20	555	206	90	164	20	254	73	307
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.95	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	729	572	30	22	617	103	100	182	18	182	222	63
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	371	1122	59	42	869	634	273	257	25	297	311	264
Arrive On Green	0.12	0.35	0.35	0.03	0.26	0.26	0.16	0.16	0.16	0.18	0.18	0.18
Sat Flow, veh/h	3209	3174	166	1654	3300	1405	1654	1555	154	1654	1737	1472
Grp Volume(v), veh/h	729	297	305	22	617	103	100	0	200	182	222	63
Grp Sat Flow(s),veh/h/ln	1605	1650	1690	1654	1650	1405	1654	0	1709	1654	1737	1472
Q Serve(g_s), s	7.5	9.2	9.3	0.9	11.0	2.9	3.5	0.0	7.2	6.6	7.8	2.4
Cycle Q Clear(g_c), s	7.5	9.2	9.3	0.9	11.0	2.9	3.5	0.0	7.2	6.6	7.8	2.4
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	371	583	597	42	869	634	273	0	282	297	311	264
V/C Ratio(X)	1.97	0.51	0.51	0.53	0.71	0.16	0.37	0.00	0.71	0.61	0.71	0.24
Avail Cap(c_a), veh/h	371	851	872	191	1677	978	840	0	868	840	882	748
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	16.6	16.6	31.3	21.7	10.9	24.1	0.0	25.6	24.6	25.1	22.9
Incr Delay (d2), s/veh	445.0	0.7	0.7	9.9	1.1	0.1	0.8	0.0	3.3	2.1	3.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.4	3.0	3.0	0.4	3.8	1.1	1.3	0.0	3.0	2.5	3.1	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	473.7	17.2	17.2	41.2	22.8	11.0	24.9	0.0	28.9	26.6	28.1	23.3
LnGrp LOS	F	B	B	D	C	B	C	A	C	C	C	C
Approach Vol, veh/h		1331			742			300			467	
Approach Delay, s/veh		267.3			21.7			27.6			26.9	
Approach LOS		F			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	21.6		16.1	6.1	27.5		15.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	33.0		33.0	7.5	33.5		33.0				
Max Q Clear Time (g_c+I1), s	9.5	13.0		9.8	2.9	11.3		9.2				
Green Ext Time (p_c), s	0.0	4.1		1.8	0.0	3.2		1.4				

Intersection Summary			
HCM 6th Ctrl Delay		138.3	
HCM 6th LOS		F	

Notes

User approved volume balancing among the lanes for turning movement.

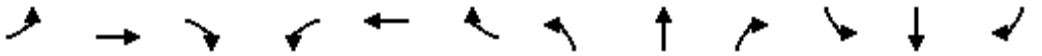
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	784	776	0	0	5
Future Vol, veh/h	5	784	776	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	90	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	13	13	13	13	13
Mvmt Flow	5	852	843	0	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	843	0	-	0	1279	422
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	436	-
Critical Hdwy	4.36	-	-	-	7.06	7.16
Critical Hdwy Stg 1	-	-	-	-	6.06	-
Critical Hdwy Stg 2	-	-	-	-	6.06	-
Follow-up Hdwy	2.33	-	-	-	3.63	3.43
Pot Cap-1 Maneuver	722	-	-	-	144	551
Stage 1	-	-	-	-	356	-
Stage 2	-	-	-	-	588	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	722	-	-	-	143	551
Mov Cap-2 Maneuver	-	-	-	-	143	-
Stage 1	-	-	-	-	354	-
Stage 2	-	-	-	-	588	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	722	-	-	-	551
HCM Lane V/C Ratio	0.008	-	-	-	0.01
HCM Control Delay (s)	10	-	-	-	11.6
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	682	20	0	693	5	20	5	0	5	5	63
Future Volume (veh/h)	82	682	20	0	693	5	20	5	0	5	5	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663
Adj Flow Rate, veh/h	88	733	0	0	745	3	22	5	0	5	5	9
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	16	16	16	16	16	16	16	16	16	16	16	16
Cap, veh/h	576	1728		318	1728	771	341	12	0	281	42	78
Arrive On Green	0.55	0.55	0.00	0.00	0.55	0.55	0.06	0.06	0.00	0.06	0.06	0.06
Sat Flow, veh/h	634	3159	1409	643	3159	1409	951	216	0	760	760	1409
Grp Volume(v), veh/h	88	733	0	0	745	3	27	0	0	10	0	9
Grp Sat Flow(s),veh/h/ln	634	1580	1409	643	1580	1409	1167	0	0	1520	0	1409
Q Serve(g_s), s	2.2	3.1	0.0	0.0	3.2	0.0	0.5	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	5.3	3.1	0.0	0.0	3.2	0.0	0.6	0.0	0.0	0.1	0.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	0.81		0.00	0.50		1.00
Lane Grp Cap(c), veh/h	576	1728		318	1728	771	353	0	0	323	0	78
V/C Ratio(X)	0.15	0.42		0.00	0.43	0.00	0.08	0.00	0.00	0.03	0.00	0.12
Avail Cap(c_a), veh/h	958	3628		705	3628	1618	2587	0	0	2770	0	2489
HCM Platoon Ratio	1.00	1.00	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	0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.6	3.0	0.0	0.0	3.0	2.3	10.4	0.0	0.0	10.2	0.0	10.2
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.7	3.2	0.0	0.0	3.2	2.3	10.5	0.0	0.0	10.2	0.0	10.8
LnGrp LOS	A	A		A	A	A	B	A	A	B	A	B
Approach Vol, veh/h		821	A		748			27			19	
Approach Delay, s/veh		3.4			3.2			10.5			10.5	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		5.8		16.9		5.8		16.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		40.0		26.0		40.0		26.0				
Max Q Clear Time (g_c+I1), s		2.6		7.3		2.1		5.2				
Green Ext Time (p_c), s		0.1		5.1		0.0		4.6				

Intersection Summary												
HCM 6th Ctrl Delay			3.5									
HCM 6th LOS			A									

Notes

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

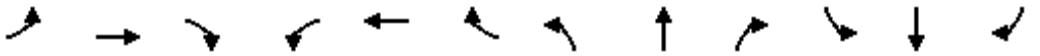
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	72	20	0	68	5	0
Future Vol, veh/h	72	20	0	68	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	12	12	12	12	12	12
Mvmt Flow	90	25	0	85	6	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	115	0	188	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	85	-
Critical Hdwy	-	-	4.22	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.308	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	1414	-	779	925
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	914	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1414	-	779	925
Mov Cap-2 Maneuver	-	-	-	-	779	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	914	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.7
HCM LOS			A

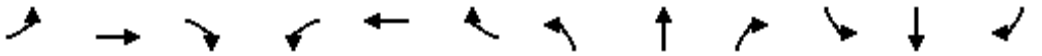
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	779	-	-	1414	-
HCM Lane V/C Ratio	0.008	-	-	-	-
HCM Control Delay (s)	9.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1157	480	0	0	0	0	0	0	750	170	0
Future Volume (vph)	0	1157	480	0	0	0	0	0	0	750	170	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		11.0								4.0	4.0	
Lane Util. Factor		0.95								0.97	1.00	
Frpb, ped/bikes		1.00								1.00	1.00	
Flpb, ped/bikes		1.00								1.00	1.00	
Frt		0.96								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3371								3433	1863	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3371								3433	1863	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1300	539	0	0	0	0	0	0	843	191	0
RTOR Reduction (vph)	0	62	0	0	0	0	0	0	0	91	0	0
Lane Group Flow (vph)	0	1777	0	0	0	0	0	0	0	752	191	0
Confl. Bikes (#/hr)			1									2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA								Split	NA	
Protected Phases		2								1	1	
Permitted Phases												
Actuated Green, G (s)		36.2								18.8	18.8	
Effective Green, g (s)		36.2								18.8	18.8	
Actuated g/C Ratio		0.52								0.27	0.27	
Clearance Time (s)		11.0								4.0	4.0	
Vehicle Extension (s)		2.0								2.0	2.0	
Lane Grp Cap (vph)		1743								922	500	
v/s Ratio Prot		c0.53								c0.22	0.10	
v/s Ratio Perm												
v/c Ratio		1.02								0.82	0.38	
Uniform Delay, d1		16.9								24.0	20.9	
Progression Factor		1.00								1.26	1.25	
Incremental Delay, d2		26.5								2.3	0.1	
Delay (s)		43.4								32.6	26.2	
Level of Service		D								C	C	
Approach Delay (s)		43.4			0.0			0.0			31.4	
Approach LOS		D			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

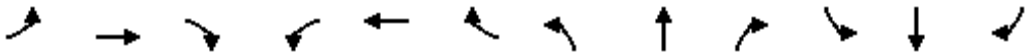
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	180	984	0	0	0	0	0	740	400
Future Volume (vph)	0	0	0	180	984	0	0	0	0	0	740	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0	5.0						5.0	5.0
Lane Util. Factor				1.00	0.95						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.99
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1752	3505						3505	1545
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1752	3505						3505	1545
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	209	1144	0	0	0	0	0	860	465
RTOR Reduction (vph)	0	0	0	12	0	0	0	0	0	0	0	96
Lane Group Flow (vph)	0	0	0	197	1144	0	0	0	0	0	860	369
Confl. Peds. (#/hr)												2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						5	
Permitted Phases				6								5
Actuated Green, G (s)				44.0	44.0						16.0	16.0
Effective Green, g (s)				44.0	44.0						16.0	16.0
Actuated g/C Ratio				0.63	0.63						0.23	0.23
Clearance Time (s)				5.0	5.0						5.0	5.0
Vehicle Extension (s)				2.0	2.0						2.0	2.0
Lane Grp Cap (vph)				1101	2203						801	353
v/s Ratio Prot					c0.33						c0.25	
v/s Ratio Perm				0.11								0.24
v/c Ratio				0.18	0.52						1.07	1.04
Uniform Delay, d1				5.4	7.2						27.0	27.0
Progression Factor				0.47	0.49						1.00	1.00
Incremental Delay, d2				0.3	0.8						53.5	59.9
Delay (s)				2.9	4.3						80.5	86.9
Level of Service				A	A						F	F
Approach Delay (s)		0.0			4.1			0.0			82.7	
Approach LOS		A			A			A			F	

Intersection Summary			
HCM 2000 Control Delay	43.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

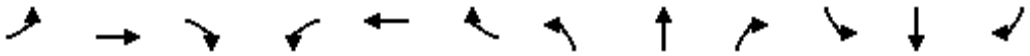
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	824	795	340	380	0	0	0	0
Future Volume (vph)	0	0	0	0	824	795	340	380	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					11.0	11.0	4.0	4.0				
Lane Util. Factor					0.95	1.00	0.97	1.00				
Frpb, ped/bikes					1.00	0.99	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					3539	1562	3433	1863				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					3539	1562	3433	1863				
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)	0	0	0	0	947	914	391	437	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	46	159	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	947	868	232	437	0	0	0	0
Confl. Bikes (#/hr)						3						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type					NA	Perm	Split	NA				
Protected Phases					2		1	1				
Permitted Phases						2						
Actuated Green, G (s)					38.0	38.0	17.0	17.0				
Effective Green, g (s)					38.0	38.0	17.0	17.0				
Actuated g/C Ratio					0.54	0.54	0.24	0.24				
Clearance Time (s)					11.0	11.0	4.0	4.0				
Vehicle Extension (s)					2.0	2.0	2.0	2.0				
Lane Grp Cap (vph)					1921	847	833	452				
v/s Ratio Prot					0.27		0.07	c0.23				
v/s Ratio Perm						c0.56						
v/c Ratio					0.49	1.03	0.28	0.97				
Uniform Delay, d1					10.0	16.0	21.5	26.2				
Progression Factor					1.00	1.00	0.50	0.63				
Incremental Delay, d2					0.9	37.5	0.1	32.2				
Delay (s)					10.9	53.5	10.8	48.6				
Level of Service					B	D	B	D				
Approach Delay (s)		0.0			31.8			30.8			0.0	
Approach LOS		A			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	31.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	1537	0	0	0	0	0	350	170	0	0	0
Future Volume (vph)	370	1537	0	0	0	0	0	350	170	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						5.0	5.0			
Lane Util. Factor	1.00	0.95						0.95	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1736	3471						3471	1553			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1736	3471						3471	1553			
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	430	1787	0	0	0	0	0	407	198	0	0	0
RTOR Reduction (vph)	55	0	0	0	0	0	0	0	102	0	0	0
Lane Group Flow (vph)	375	1787	0	0	0	0	0	407	96	0	0	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA						NA	Perm			
Protected Phases	6	6						5				
Permitted Phases									5			
Actuated Green, G (s)	47.1	47.1						12.9	12.9			
Effective Green, g (s)	47.1	47.1						12.9	12.9			
Actuated g/C Ratio	0.67	0.67						0.18	0.18			
Clearance Time (s)	5.0	5.0						5.0	5.0			
Vehicle Extension (s)	2.0	2.0						2.0	2.0			
Lane Grp Cap (vph)	1168	2335						639	286			
v/s Ratio Prot	0.22	c0.51						c0.12				
v/s Ratio Perm									0.06			
v/c Ratio	0.32	0.77						0.64	0.34			
Uniform Delay, d1	4.8	7.7						26.4	24.8			
Progression Factor	0.00	0.94						1.00	1.00			
Incremental Delay, d2	0.3	1.2						1.5	0.3			
Delay (s)	0.3	8.5						27.9	25.1			
Level of Service	A	A						C	C			
Approach Delay (s)		6.9			0.0			27.0			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	1209	5	210	280	0	0	0	200
Future Volume (veh/h)	0	0	0	0	1209	5	210	280	0	0	0	200
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				0	1870	1900	1870	1870	0	0	0	1870
Adj Flow Rate, veh/h				0	1374	6	239	318	0	0	0	119
Peak Hour Factor				0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				0	2	0	2	2	0	0	0	2
Cap, veh/h				0	0	0	681	369	0	0	0	0
Arrive On Green				0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.00
Sat Flow, veh/h					0		3456	1870	0		0	
Grp Volume(v), veh/h					0.0		239	318	0		0.0	
Grp Sat Flow(s),veh/h/ln							1728	1870	0			
Q Serve(g_s), s							4.1	11.3	0.0			
Cycle Q Clear(g_c), s							4.1	11.3	0.0			
Prop In Lane							1.00		0.00			
Lane Grp Cap(c), veh/h							681	369	0			
V/C Ratio(X)							0.35	0.86	0.00			
Avail Cap(c_a), veh/h							751	515	0			
HCM Platoon Ratio							1.00	1.00	1.00			
Upstream Filter(I)							0.88	0.88	0.00			
Uniform Delay (d), s/veh							23.9	26.8	0.0			
Incr Delay (d2), s/veh							0.1	7.2	0.0			
Initial Q Delay(d3),s/veh							0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln							1.6	5.6	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh							24.0	34.0	0.0			
LnGrp LOS							C	C	A			
Approach Vol, veh/h								557				
Approach Delay, s/veh								29.7				
Approach LOS								C				

Timer - Assigned Phs	3	8
Phs Duration (G+Y+Rc), s	17.6	17.6
Change Period (Y+Rc), s	* 4	* 4
Max Green Setting (Gmax), s	* 15	* 19
Max Q Clear Time (g_c+I1), s	6.1	13.3
Green Ext Time (p_c), s	0.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	1257	160	0	0	0	0	200	10	0	0	0
Future Volume (veh/h)	290	1257	160	0	0	0	0	200	10	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1841	1841	1841				0	1841	1841			
Adj Flow Rate, veh/h	354	1533	0				0	244	10			
Peak Hour Factor	0.82	0.82	0.82				0.82	0.82	0.82			
Percent Heavy Veh, %	4	4	4				0	4	4			
Cap, veh/h	1221	3499					0	301	12			
Arrive On Green	0.70	0.70	0.00				0.00	0.17	0.17			
Sat Flow, veh/h	1753	5191	0				0	1755	72			
Grp Volume(v), veh/h	354	1533	0				0	0	254			
Grp Sat Flow(s),veh/h/ln	1753	1675	0				0	0	1827			
Q Serve(g_s), s	5.2	9.1	0.0				0.0	0.0	9.1			
Cycle Q Clear(g_c), s	5.2	9.1	0.0				0.0	0.0	9.1			
Prop In Lane	1.00		0.00				0.00		0.04			
Lane Grp Cap(c), veh/h	1221	3499					0	0	313			
V/C Ratio(X)	0.29	0.44					0.00	0.00	0.81			
Avail Cap(c_a), veh/h	1221	3499					0	0	457			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.59	0.59	0.00				0.00	0.00	1.00			
Uniform Delay (d), s/veh	3.9	4.5	0.0				0.0	0.0	27.1			
Incr Delay (d2), s/veh	0.4	0.2	0.0				0.0	0.0	4.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.9	1.4	0.0				0.0	0.0	4.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.3	4.7	0.0				0.0	0.0	31.4			
LnGrp LOS	A	A					A	A	C			
Approach Vol, veh/h		1887	A					254				
Approach Delay, s/veh		4.7						31.4				
Approach LOS		A						C				

Timer - Assigned Phs	2	8
Phs Duration (G+Y+Rc), s	52.3	15.7
Change Period (Y+Rc), s	* 5	4.0
Max Green Setting (Gmax), s	* 42	17.0
Max Q Clear Time (g_c+I1), s	11.1	11.1
Green Ext Time (p_c), s	8.1	0.5

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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	707	420	140	574	10	510	80	170	10	70	130
Future Volume (veh/h)	140	707	420	140	574	10	510	80	170	10	70	130
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	165	832	118	165	675	3	600	94	40	12	82	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	775	338	610	1671	729	628	416	350	30	107	91
Arrive On Green	0.11	0.22	0.22	0.34	0.47	0.47	0.18	0.22	0.22	0.02	0.06	0.00
Sat Flow, veh/h	1781	3554	1551	1781	3554	1551	3456	1870	1572	1781	1870	1585
Grp Volume(v), veh/h	165	832	118	165	675	3	600	94	40	12	82	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1551	1781	1777	1551	1728	1870	1572	1781	1870	1585
Q Serve(g_s), s	10.0	24.0	4.5	7.4	13.7	0.1	18.9	4.5	1.0	0.7	4.8	0.0
Cycle Q Clear(g_c), s	10.0	24.0	4.5	7.4	13.7	0.1	18.9	4.5	1.0	0.7	4.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	194	775	338	610	1671	729	628	416	350	30	107	91
V/C Ratio(X)	0.85	1.07	0.35	0.27	0.40	0.00	0.95	0.23	0.11	0.40	0.76	0.00
Avail Cap(c_a), veh/h	211	775	338	610	1671	729	628	595	500	194	527	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.2	43.0	14.9	26.2	19.0	15.5	44.6	35.0	6.3	53.5	51.1	0.0
Incr Delay (d2), s/veh	23.8	53.7	2.8	0.1	0.7	0.0	25.0	0.1	0.1	3.2	4.2	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	15.6	2.8	2.9	5.2	0.0	10.1	2.1	0.8	0.4	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.0	96.7	17.7	26.3	19.7	15.5	69.5	35.1	6.4	56.7	55.3	0.0
LnGrp LOS	E	F	B	C	B	B	E	D	A	E	E	A
Approach Vol, veh/h		1115			843			734			94	
Approach Delay, s/veh		84.7			21.0			61.7			55.5	
Approach LOS		F			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	30.0	25.0	11.3	16.0	57.7	6.8	29.5
Change Period (Y+Rc), s	* 6	* 6	* 5	* 5	* 4	* 6	* 5	* 5
Max Green Setting (Gmax), s	* 13	* 24	* 20	* 31	* 13	* 26	* 12	* 35
Max Q Clear Time (g_c+I1), s	9.4	26.0	20.9	6.8	12.0	15.7	2.7	6.5
Green Ext Time (p_c), s	0.1	0.0	0.0	0.1	0.0	0.7	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	58.4
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* 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)	40	757	90	20	614	10	70	10	20	5	10	40
Future Volume (veh/h)	40	757	90	20	614	10	70	10	20	5	10	40
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	51	958	84	25	777	12	98	0	0	6	13	0
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	729	2740	1196	31	1314	574	280	0	95	150	112	0
Arrive On Green	0.83	1.00	1.00	0.02	0.37	0.37	0.06	0.00	0.00	0.06	0.06	0.00
Sat Flow, veh/h	1767	3526	1540	1767	3526	1539	2780	0	1572	1406	1856	0
Grp Volume(v), veh/h	51	958	84	25	777	12	98	0	0	6	13	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1540	1767	1763	1539	1390	0	1572	1406	1856	0
Q Serve(g_s), s	0.6	0.0	0.0	1.6	19.5	0.5	3.8	0.0	0.0	0.4	0.7	0.0
Cycle Q Clear(g_c), s	0.6	0.0	0.0	1.6	19.5	0.5	4.5	0.0	0.0	0.4	0.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	729	2740	1196	31	1314	574	280	0	95	150	112	0
V/C Ratio(X)	0.07	0.35	0.07	0.82	0.59	0.02	0.35	0.00	0.00	0.04	0.12	0.00
Avail Cap(c_a), veh/h	729	2740	1196	289	1314	574	896	0	443	449	506	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	0.91	0.91	0.91	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	5.7	0.0	0.0	53.9	27.8	21.8	51.1	0.0	0.0	48.8	48.9	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.1	16.1	1.8	0.1	0.7	0.0	0.0	0.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.0	0.8	7.9	0.2	1.3	0.0	0.0	0.2	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	0.3	0.1	70.0	29.5	21.9	51.8	0.0	0.0	48.9	49.4	0.0
LnGrp LOS	A	A	A	E	C	C	D	A	A	D	D	A
Approach Vol, veh/h		1093			814			98			19	
Approach Delay, s/veh		0.5			30.7			51.8			49.2	
Approach LOS		A			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.9	91.5		11.6	51.4	47.0		11.6
Change Period (Y+Rc), s	* 5	6.0		* 5	6.0	* 6		* 5
Max Green Setting (Gmax), s	* 18	45.0		* 30	18.0	* 41		* 31
Max Q Clear Time (g_c+I1), s	3.6	2.0		2.7	2.6	21.5		6.5
Green Ext Time (p_c), s	0.0	2.0		0.0	0.0	6.3		0.3

Intersection Summary	
HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
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)	320	270	192	128	230	40	124	680	221	60	489	290
Future Volume (veh/h)	320	270	192	128	230	40	124	680	221	60	489	290
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	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	360	303	119	144	258	42	139	764	235	67	549	159
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	485	530	233	187	404	180	181	959	428	104	806	582
Arrive On Green	0.14	0.15	0.15	0.11	0.11	0.11	0.10	0.27	0.27	0.06	0.23	0.23
Sat Flow, veh/h	3428	3526	1551	1767	3526	1572	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	360	303	119	144	258	42	139	764	235	67	549	159
Grp Sat Flow(s),veh/h/ln	1714	1763	1551	1767	1763	1572	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	5.4	4.3	3.8	4.2	3.7	1.3	4.1	10.7	6.8	2.0	7.6	3.8
Cycle Q Clear(g_c), s	5.4	4.3	3.8	4.2	3.7	1.3	4.1	10.7	6.8	2.0	7.6	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	485	530	233	187	404	180	181	959	428	104	806	582
V/C Ratio(X)	0.74	0.57	0.51	0.77	0.64	0.23	0.77	0.80	0.55	0.64	0.68	0.27
Avail Cap(c_a), veh/h	3217	3309	1456	1658	3309	1476	1658	3309	1476	1658	2647	1403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	21.0	20.8	23.2	22.5	21.4	23.3	18.0	16.6	24.5	18.8	11.8
Incr Delay (d2), s/veh	0.9	0.4	0.6	2.5	0.6	0.2	2.6	0.6	0.4	2.4	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.4	1.2	1.6	1.3	0.4	1.6	3.6	2.0	0.8	2.6	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.8	21.4	21.5	25.7	23.1	21.7	25.9	18.6	17.0	27.0	19.2	11.9
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		782			444			1138			775	
Approach Delay, s/veh		22.1			23.8			19.2			18.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	15.0	9.5	18.2	12.5	13.1	7.1	20.5
Change Period (Y+Rc), s	* 5	7.0	* 4	* 6	* 5	7.0	* 4	* 6
Max Green Setting (Gmax), s	* 5	50.0	* 50	* 40	* 50	50.0	* 50	* 50
Max Q Clear Time (g_c+I1), s	6.2	6.3	6.1	9.6	7.4	5.7	4.0	12.7
Green Ext Time (p_c), s	0.2	0.6	0.2	1.2	0.2	0.5	0.1	1.8

Intersection Summary	
HCM 6th Ctrl Delay	20.3
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)	250	231	70	0	198	5	60	5	0	5	5	140
Future Volume (veh/h)	250	231	70	0	198	5	60	5	0	5	5	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1811	1811	1826	1826	1811	1811	1811	1826	1811	1811
Adj Flow Rate, veh/h	269	248	53	0	213	2	65	5	0	5	5	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	6	6	5	5	6	6	6	5	6	6
Cap, veh/h	318	1440	1211	3	980	814	196	133	0	208	35	83
Arrive On Green	0.18	0.79	0.79	0.00	0.54	0.54	0.07	0.07	0.00	0.07	0.07	0.07
Sat Flow, veh/h	1739	1826	1535	1725	1826	1515	1352	1811	0	1378	473	1134
Grp Volume(v), veh/h	269	248	53	0	213	2	65	5	0	5	0	17
Grp Sat Flow(s),veh/h/ln	1739	1826	1535	1725	1826	1515	1352	1811	0	1378	0	1607
Q Serve(g_s), s	9.7	2.2	0.5	0.0	4.0	0.0	3.1	0.2	0.0	0.2	0.0	0.6
Cycle Q Clear(g_c), s	9.7	2.2	0.5	0.0	4.0	0.0	3.7	0.2	0.0	0.4	0.0	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.71
Lane Grp Cap(c), veh/h	318	1440	1211	3	980	814	196	133	0	208	0	118
V/C Ratio(X)	0.85	0.17	0.04	0.00	0.22	0.00	0.33	0.04	0.00	0.02	0.00	0.14
Avail Cap(c_a), veh/h	413	1440	1211	132	980	814	636	722	0	656	0	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.7	1.7	1.5	0.0	7.9	7.0	30.0	28.1	0.0	28.3	0.0	28.3
Incr Delay (d2), s/veh	12.0	0.3	0.1	0.0	0.5	0.0	1.0	0.1	0.0	0.0	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.1	0.0	0.0	1.2	0.0	1.0	0.1	0.0	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	1.9	1.6	0.0	8.4	7.0	31.0	28.2	0.0	28.3	0.0	28.9
LnGrp LOS	D	A	A	A	A	A	C	C	A	C	A	C
Approach Vol, veh/h		570			215			70			22	
Approach Delay, s/veh		18.8			8.4			30.8			28.7	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	55.9		9.3	16.4	39.5		9.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	45.5		26.0	15.5	35.0		26.0				
Max Q Clear Time (g_c+I1), s	10.0	4.2		2.6	11.7	6.0		5.7				
Green Ext Time (p_c), s	0.0	1.4		0.1	0.3	1.0		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	590	220	461	619	123	250	20	438	44	20	30
Future Volume (veh/h)	30	590	220	461	619	123	250	20	438	44	20	30
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	33	641	159	501	673	124	272	22	204	36	39	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	80	1096	480	604	1308	241	281	295	527	184	188	5
Arrive On Green	0.05	0.32	0.32	0.18	0.46	0.46	0.16	0.16	0.16	0.11	0.11	0.11
Sat Flow, veh/h	1711	3413	1495	3319	2865	527	1711	1796	1517	1711	1744	45
Grp Volume(v), veh/h	33	641	159	501	400	397	272	22	204	36	0	40
Grp Sat Flow(s),veh/h/ln	1711	1706	1495	1659	1706	1686	1711	1796	1517	1711	0	1788
Q Serve(g_s), s	1.4	11.5	5.9	10.6	12.2	12.2	11.5	0.8	7.4	1.4	0.0	1.5
Cycle Q Clear(g_c), s	1.4	11.5	5.9	10.6	12.2	12.2	11.5	0.8	7.4	1.4	0.0	1.5
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	80	1096	480	604	779	770	281	295	527	184	0	192
V/C Ratio(X)	0.41	0.58	0.33	0.83	0.51	0.52	0.97	0.07	0.39	0.20	0.00	0.21
Avail Cap(c_a), veh/h	703	1870	819	909	935	924	281	295	527	703	0	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.8	20.7	18.8	28.8	14.1	14.1	30.3	25.8	18.0	29.7	0.0	29.7
Incr Delay (d2), s/veh	1.3	1.1	0.9	2.4	1.1	1.1	44.3	0.0	0.2	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.4	2.0	4.2	4.4	4.3	7.9	0.3	0.0	0.6	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	21.8	19.7	31.2	15.2	15.2	74.6	25.8	18.2	29.9	0.0	29.9
LnGrp LOS	D	C	B	C	B	B	E	C	B	C	A	C
Approach Vol, veh/h		833			1298			498			76	
Approach Delay, s/veh		21.9			21.4			49.4			29.9	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.3	27.6		12.0	7.4	37.5		16.1
Change Period (Y+Rc), s	4.0	* 4.2		4.1	4.0	* 4.2		4.1
Max Green Setting (Gmax), s	20.0	* 40		30.0	30.0	* 40		12.0
Max Q Clear Time (g_c+I1), s	12.6	13.5		3.5	3.4	14.2		13.5
Green Ext Time (p_c), s	0.7	9.8		0.1	0.0	10.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	26.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
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)	0	1012	60	244	663	0	0	0	0	899	5	540
Future Volume (veh/h)	0	1012	60	244	663	0	0	0	0	899	5	540
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1841	1841	1841	0				1841	1841	1841
Adj Flow Rate, veh/h	0	1100	15	265	721	0				981	0	311
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	4	4	4	4	0				4	4	4
Cap, veh/h	0	1008	442	674	1974	0				1010	0	899
Arrive On Green	0.00	0.29	0.29	0.07	0.19	0.00				0.29	0.00	0.29
Sat Flow, veh/h	0	3589	1533	3401	3589	0				3506	0	3120
Grp Volume(v), veh/h	0	1100	15	265	721	0				981	0	311
Grp Sat Flow(s),veh/h/ln	0	1749	1533	1700	1749	0				1753	0	1560
Q Serve(g_s), s	0.0	17.0	0.4	4.4	10.6	0.0				16.3	0.0	4.7
Cycle Q Clear(g_c), s	0.0	17.0	0.4	4.4	10.6	0.0				16.3	0.0	4.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1008	442	674	1974	0				1010	0	899
V/C Ratio(X)	0.00	1.09	0.03	0.39	0.37	0.00				0.97	0.00	0.35
Avail Cap(c_a), veh/h	0	1008	442	674	1974	0				1010	0	899
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.79	0.79	0.69	0.69	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	15.1	24.2	14.8	0.0				20.8	0.0	16.6
Incr Delay (d2), s/veh	0.0	54.0	0.1	0.3	0.4	0.0				21.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.6	0.1	1.7	4.5	0.0				8.7	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	75.0	15.2	24.4	15.1	0.0				42.2	0.0	16.7
LnGrp LOS	A	F	B	C	B	A				D	A	B
Approach Vol, veh/h		1115			986						1292	
Approach Delay, s/veh		74.2			17.6						36.0	
Approach LOS		E			B						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	16.3	21.6		21.1		37.9
Change Period (Y+Rc), s	4.6	* 4.6		4.1		4.6
Max Green Setting (Gmax), s	10.3	* 17		17.0		33.0
Max Q Clear Time (g_c+I1), s	6.4	19.0		18.3		12.6
Green Ext Time (p_c), s	0.3	0.0		0.0		1.8

Intersection Summary	
HCM 6th Ctrl Delay	43.2
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

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)	370	1541	0	0	827	884	80	0	263	0	0	0
Future Volume (veh/h)	370	1541	0	0	827	884	80	0	263	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1826	1826	0	0	1826	1826	1826	1826	1826			
Adj Flow Rate, veh/h	416	1731	0	0	929	559	90	0	177			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	5	5	0	0	5	5	5	5	5			
Cap, veh/h	1100	2425	0	0	1000	446	511	0	227			
Arrive On Green	0.65	1.00	0.00	0.00	0.29	0.29	0.15	0.00	0.15			
Sat Flow, veh/h	3374	3561	0	0	3561	1547	3478	0	1547			
Grp Volume(v), veh/h	416	1731	0	0	929	559	90	0	177			
Grp Sat Flow(s),veh/h/ln	1687	1735	0	0	1735	1547	1739	0	1547			
Q Serve(g_s), s	3.4	0.0	0.0	0.0	15.4	17.0	1.3	0.0	6.5			
Cycle Q Clear(g_c), s	3.4	0.0	0.0	0.0	15.4	17.0	1.3	0.0	6.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	1100	2425	0	0	1000	446	511	0	227			
V/C Ratio(X)	0.38	0.71	0.00	0.00	0.93	1.25	0.18	0.00	0.78			
Avail Cap(c_a), veh/h	1100	2425	0	0	1000	446	884	0	393			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	7.5	0.0	0.0	0.0	20.4	21.0	22.0	0.0	24.2			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	15.8	131.5	0.1	0.0	2.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.9	0.1	0.0	0.0	7.6	21.6	0.5	0.0	2.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.5	0.2	0.0	0.0	36.2	152.5	22.1	0.0	26.4			
LnGrp LOS	A	A	A	A	D	F	C	A	C			
Approach Vol, veh/h		2147			1488			267				
Approach Delay, s/veh		1.6			79.9			25.0				
Approach LOS		A			E			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		46.2			24.2	22.0		12.8				
Change Period (Y+Rc), s		* 5			* 5	* 5		4.1				
Max Green Setting (Gmax), s		* 35			* 12	* 17		15.0				
Max Q Clear Time (g_c+I1), s		2.0			5.4	19.0		8.5				
Green Ext Time (p_c), s		6.3			0.9	0.0		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
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)	340	1084	80	60	1061	80	350	40	30	120	40	300
Future Volume (veh/h)	340	1084	80	60	1061	80	350	40	30	120	40	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	395	1260	88	70	1234	88	467	0	0	140	47	123
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	475	1555	108	89	1258	90	593	311	0	173	58	358
Arrive On Green	0.14	0.47	0.47	0.05	0.38	0.38	0.17	0.00	0.00	0.13	0.13	0.13
Sat Flow, veh/h	3401	3316	231	1753	3308	235	3506	1841	0	1328	446	2745
Grp Volume(v), veh/h	395	663	685	70	651	671	467	0	0	187	0	123
Grp Sat Flow(s),veh/h/ln	1700	1749	1799	1753	1749	1795	1753	1841	0	1774	0	1373
Q Serve(g_s), s	11.3	32.3	32.5	3.9	36.6	36.8	12.7	0.0	0.0	10.2	0.0	4.1
Cycle Q Clear(g_c), s	11.3	32.3	32.5	3.9	36.6	36.8	12.7	0.0	0.0	10.2	0.0	4.1
Prop In Lane	1.00		0.13	1.00		0.13	1.00		0.00	0.75		1.00
Lane Grp Cap(c), veh/h	475	820	844	89	665	683	593	311	0	231	0	358
V/C Ratio(X)	0.83	0.81	0.81	0.78	0.98	0.98	0.79	0.00	0.00	0.81	0.00	0.34
Avail Cap(c_a), veh/h	614	879	904	102	665	683	1165	612	0	321	0	496
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.7	22.6	22.7	46.7	30.5	30.5	39.7	0.0	0.0	42.1	0.0	39.4
Incr Delay (d2), s/veh	7.5	5.4	5.4	28.6	29.6	29.9	2.4	0.0	0.0	10.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	13.6	14.1	2.4	20.1	20.7	5.7	0.0	0.0	5.1	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	28.0	28.0	75.3	60.1	60.4	42.1	0.0	0.0	52.3	0.0	40.0
LnGrp LOS	D	C	C	E	E	E	D	A	A	D	A	D
Approach Vol, veh/h		1743			1392			467			310	
Approach Delay, s/veh		32.8			61.0			42.1			47.4	
Approach LOS		C			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.6	51.2		17.5	18.4	42.4		21.3
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	50.1		18.0	18.0	37.9		33.1
Max Q Clear Time (g_c+I1), s	5.9	34.5		12.2	13.3	38.8		14.7
Green Ext Time (p_c), s	0.0	8.1		0.8	0.6	0.0		1.7

Intersection Summary	
HCM 6th Ctrl Delay	45.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	39.6

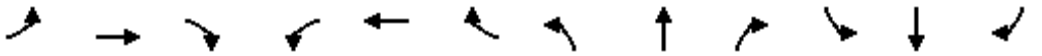
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	1134	60	20	1111	57	20	5	110	22	5	70
Future Vol, veh/h	40	1134	60	20	1111	57	20	5	110	22	5	70
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	245	-	-	-	-	-	35	-	-	-	-	85
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	47	1334	71	24	1307	67	24	6	129	26	6	82

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1374	0	0	1407	0	0	2171	2888	705	2153	2890	687
Stage 1	-	-	-	-	-	-	1466	1466	-	1389	1389	-
Stage 2	-	-	-	-	-	-	705	1422	-	764	1501	-
Critical Hdwy	4.18	-	-	4.18	-	-	7.58	6.58	6.98	7.58	6.58	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Follow-up Hdwy	2.24	-	-	2.24	-	-	3.54	4.04	3.34	3.54	4.04	3.34
Pot Cap-1 Maneuver	485	-	-	471	-	-	25	15	374	26	15	385
Stage 1	-	-	-	-	-	-	132	187	-	147	204	-
Stage 2	-	-	-	-	-	-	389	197	-	358	180	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	485	-	-	470	-	-	~ 9	11	373	~ 8	11	385
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 9	11	-	~ 8	11	-
Stage 1	-	-	-	-	-	-	119	168	-	133	159	-
Stage 2	-	-	-	-	-	-	229	153	-	204	162	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	$ 316.3	$ 636.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	9	153	485	-	-	470	-	-	8	385
HCM Lane V/C Ratio	2.614	0.884	0.097	-	-	0.05	-	-	3.971	0.214
HCM Control Delay (s)	$ 1544.5	102.7	13.2	-	-	13.1	-	-	$ 2241.8	16.9
HCM Lane LOS	F	F	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	4	6.1	0.3	-	-	0.2	-	-	5.2	0.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	786	190	95	678	197	330	380	84	132	280	180
Future Volume (veh/h)	290	786	190	95	678	197	330	380	84	132	280	180
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		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	326	883	191	107	762	70	371	427	12	148	315	63
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	134	1137	246	122	1367	599	134	752	332	134	625	123
Arrive On Green	0.08	0.39	0.39	0.07	0.39	0.39	0.08	0.21	0.21	0.08	0.21	0.21
Sat Flow, veh/h	1767	2880	623	1767	3526	1543	1767	3526	1557	1767	2930	578
Grp Volume(v), veh/h	326	540	534	107	762	70	371	427	12	148	188	190
Grp Sat Flow(s),veh/h/ln	1767	1763	1740	1767	1763	1543	1767	1763	1557	1767	1763	1746
Q Serve(g_s), s	5.5	19.5	19.5	4.4	12.3	2.1	5.5	7.9	0.4	5.5	6.8	7.0
Cycle Q Clear(g_c), s	5.5	19.5	19.5	4.4	12.3	2.1	5.5	7.9	0.4	5.5	6.8	7.0
Prop In Lane	1.00		0.36	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	134	696	687	122	1367	599	134	752	332	134	376	372
V/C Ratio(X)	2.44	0.78	0.78	0.88	0.56	0.12	2.78	0.57	0.04	1.11	0.50	0.51
Avail Cap(c_a), veh/h	134	885	873	122	1746	764	134	1697	749	134	849	840
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	19.2	19.2	33.6	17.4	14.3	33.6	25.6	22.7	33.6	25.2	25.3
Incr Delay (d2), s/veh	669.5	3.4	3.4	47.2	0.4	0.1	819.4	0.7	0.0	109.5	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	27.1	7.8	7.7	3.4	4.6	0.7	32.7	3.2	0.2	6.3	2.8	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	703.1	22.6	22.7	80.8	17.7	14.4	853.0	26.3	22.7	143.1	26.2	26.3
LnGrp LOS	F	C	C	F	B	B	F	C	C	F	C	C
Approach Vol, veh/h		1400			939			810			526	
Approach Delay, s/veh		181.1			24.7			404.9			59.1	
Approach LOS		F			C			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	32.7	10.0	20.0	9.5	33.2	10.0	20.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	36.0	5.5	35.0	5.0	36.5	5.5	35.0
Max Q Clear Time (g_c+I1), s	7.5	14.3	7.5	9.9	6.4	21.5	7.5	9.0
Green Ext Time (p_c), s	0.0	5.5	0.0	2.8	0.0	6.2	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	173.0
HCM 6th LOS	F

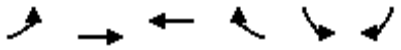
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	782	150	83	610	0	230	0	144	0	0	0
Future Volume (veh/h)	0	782	150	83	610	0	230	0	144	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	815	141	86	635	0	240	0	45	0	0	0
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	4	1168	202	191	2109	0	307	323	273	4	5	4
Arrive On Green	0.00	0.39	0.39	0.11	0.60	0.00	0.17	0.00	0.17	0.00	0.00	0.00
Sat Flow, veh/h	1767	3003	520	1767	3618	0	1767	1856	1570	1767	1856	1572
Grp Volume(v), veh/h	0	478	478	86	635	0	240	0	45	0	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1760	1767	1763	0	1767	1856	1570	1767	1856	1572
Q Serve(g_s), s	0.0	9.0	9.0	1.8	3.5	0.0	5.1	0.0	1.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.0	9.0	1.8	3.5	0.0	5.1	0.0	1.0	0.0	0.0	0.0
Prop In Lane	1.00		0.30	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	685	684	191	2109	0	307	323	273	4	5	4
V/C Ratio(X)	0.00	0.70	0.70	0.45	0.30	0.00	0.78	0.00	0.16	0.00	0.00	0.00
Avail Cap(c_a), veh/h	671	1785	1782	671	3569	0	895	939	795	671	939	796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	10.1	10.1	16.5	3.9	0.0	15.6	0.0	13.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.6	0.0	0.0	1.6	0.0	0.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	2.5	0.6	0.5	0.0	1.8	0.0	0.3	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.6	10.6	17.1	3.9	0.0	17.3	0.0	14.0	0.0	0.0	0.0
LnGrp LOS	A	B	B	B	A	A	B	A	B	A	A	A
Approach Vol, veh/h		956			721			285			0	
Approach Delay, s/veh		10.6			5.5			16.7			0.0	
Approach LOS		B			A			B				

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	28.6	10.9	0.0	8.3	20.4	0.0	10.9
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	15.0	40.0	20.0	20.0	15.0	40.0	15.0	20.0
Max Q Clear Time (g_c+I1), s	0.0	5.5	7.1	0.0	3.8	11.0	0.0	3.0
Green Ext Time (p_c), s	0.0	3.0	0.3	0.0	0.1	4.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	9.6
HCM 6th LOS	A

Notes

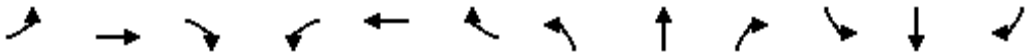
User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	921	638	5	5	60
Future Volume (veh/h)	5	921	638	5	5	60
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	1001	693	5	5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	362	1475	897	6	32	29
Arrive On Green	0.20	0.79	0.48	0.48	0.02	0.02
Sat Flow, veh/h	1781	1870	1855	13	1781	1585
Grp Volume(v), veh/h	5	1001	0	698	5	5
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1868	1781	1585
Q Serve(g_s), s	0.1	12.0	0.0	15.2	0.1	0.2
Cycle Q Clear(g_c), s	0.1	12.0	0.0	15.2	0.1	0.2
Prop In Lane	1.00			0.01	1.00	1.00
Lane Grp Cap(c), veh/h	362	1475	0	904	32	29
V/C Ratio(X)	0.01	0.68	0.00	0.77	0.15	0.17
Avail Cap(c_a), veh/h	1267	1475	0	1329	887	789
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.7	2.4	0.0	10.5	23.8	23.8
Incr Delay (d2), s/veh	0.0	1.4	0.0	2.3	1.6	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.1	0.0	5.5	0.1	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.7	3.8	0.0	12.7	25.4	25.9
LnGrp LOS	B	A	A	B	C	C
Approach Vol, veh/h		1006	698		10	
Approach Delay, s/veh		3.8	12.7		25.6	
Approach LOS		A	B		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		43.8		5.4	15.0	28.8
Change Period (Y+Rc), s		5.0		4.5	5.0	5.0
Max Green Setting (Gmax), s		35.0		24.5	35.0	35.0
Max Q Clear Time (g_c+I1), s		14.0		2.2	2.1	17.2
Green Ext Time (p_c), s		11.8		0.0	0.0	6.7

Intersection Summary	
HCM 6th Ctrl Delay	7.6
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	410	436	100	187	298	104	90	790	300	165	395	270
Future Volume (veh/h)	410	436	100	187	298	104	90	790	300	165	395	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	466	495	59	212	339	109	102	898	309	188	449	204
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	362	665	563	244	391	126	128	528	181	220	607	273
Arrive On Green	0.21	0.36	0.36	0.14	0.29	0.29	0.07	0.21	0.21	0.12	0.26	0.26
Sat Flow, veh/h	1767	1856	1572	1767	1345	432	1767	2576	883	1767	2362	1064
Grp Volume(v), veh/h	466	495	59	212	0	448	102	614	593	188	334	319
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1767	0	1777	1767	1763	1697	1767	1763	1664
Q Serve(g_s), s	20.0	22.8	2.4	11.5	0.0	23.3	5.5	20.0	20.0	10.2	16.9	17.2
Cycle Q Clear(g_c), s	20.0	22.8	2.4	11.5	0.0	23.3	5.5	20.0	20.0	10.2	16.9	17.2
Prop In Lane	1.00		1.00	1.00		0.24	1.00		0.52	1.00		0.64
Lane Grp Cap(c), veh/h	362	665	563	244	0	517	128	362	348	220	453	427
V/C Ratio(X)	1.29	0.74	0.10	0.87	0.00	0.87	0.80	1.70	1.71	0.86	0.74	0.75
Avail Cap(c_a), veh/h	362	742	629	362	0	729	362	362	348	362	723	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	27.4	20.9	41.2	0.0	32.8	44.5	38.8	38.8	41.8	33.2	33.3
Incr Delay (d2), s/veh	147.9	3.9	0.1	10.0	0.0	8.5	4.2	325.3	329.5	5.2	2.9	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	23.5	10.6	0.9	5.7	0.0	11.1	2.5	40.8	39.7	4.5	7.2	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	186.7	31.3	21.0	51.1	0.0	41.2	48.7	364.0	368.2	47.0	36.1	36.5
LnGrp LOS	F	C	C	D	A	D	D	F	F	D	D	D
Approach Vol, veh/h		1020			660			1309			841	
Approach Delay, s/veh		101.7			44.4			341.4			38.7	
Approach LOS		F			D			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	33.4	11.1	29.0	17.4	39.9	16.1	24.0
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	39.0	20.0	20.0
Max Q Clear Time (g_c+I1), s	22.0	25.3	7.5	19.2	13.5	24.8	12.2	22.0
Green Ext Time (p_c), s	0.0	3.1	0.0	4.4	0.0	3.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	159.9
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	851	559	6	8	30
Future Vol, veh/h	50	851	559	6	8	30
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	60	1025	673	7	10	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	682	0	-	0	1824	679
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	1145	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	916	-	-	-	85	453
Stage 1	-	-	-	-	506	-
Stage 2	-	-	-	-	305	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	914	-	-	-	72	452
Mov Cap-2 Maneuver	-	-	-	-	72	-
Stage 1	-	-	-	-	428	-
Stage 2	-	-	-	-	304	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	26.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	914	-	-	-	214
HCM Lane V/C Ratio	0.066	-	-	-	0.214
HCM Control Delay (s)	9.2	0	-	-	26.3
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	814	495	0	5	30
Future Vol, veh/h	40	814	495	0	5	30
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	51	1044	635	0	6	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	640	0	-	0	1786	640
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	1146	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	949	-	-	-	90	477
Stage 1	-	-	-	-	527	-
Stage 2	-	-	-	-	304	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	944	-	-	-	78	475
Mov Cap-2 Maneuver	-	-	-	-	78	-
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	302	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	20.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	944	-	-	-	275
HCM Lane V/C Ratio	0.054	-	-	-	0.163
HCM Control Delay (s)	9	0	-	-	20.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	739	455	0	5	30
Future Vol, veh/h	30	739	455	0	5	30
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	924	569	0	6	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	574	0	-	0	1574	574
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	1000	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	999	-	-	-	121	518
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	356	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	994	-	-	-	110	516
Mov Cap-2 Maneuver	-	-	-	-	110	-
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	354	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	994	-	-	-	338
HCM Lane V/C Ratio	0.038	-	-	-	0.129
HCM Control Delay (s)	8.8	0	-	-	17.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	694	425	0	0	30
Future Vol, veh/h	50	694	425	0	0	30
Conflicting Peds, #/hr	7	0	0	7	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	70	977	599	0	0	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	606	0	-	0	1723	606
Stage 1	-	-	-	-	606	-
Stage 2	-	-	-	-	1117	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	967	-	-	-	97	495
Stage 1	-	-	-	-	543	-
Stage 2	-	-	-	-	311	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	961	-	-	-	80	492
Mov Cap-2 Maneuver	-	-	-	-	80	-
Stage 1	-	-	-	-	453	-
Stage 2	-	-	-	-	309	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	13
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	961	-	-	-	492
HCM Lane V/C Ratio	0.073	-	-	-	0.086
HCM Control Delay (s)	9	0	-	-	13
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	624	395	0	0	30
Future Vol, veh/h	70	624	395	0	0	30
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	84	752	476	0	0	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	480	0	-	0	1400	480
Stage 1	-	-	-	-	480	-
Stage 2	-	-	-	-	920	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1093	-	-	-	156	590
Stage 1	-	-	-	-	627	-
Stage 2	-	-	-	-	392	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1089	-	-	-	134	588
Mov Cap-2 Maneuver	-	-	-	-	134	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	390	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1089	-	-	-	588
HCM Lane V/C Ratio	0.077	-	-	-	0.061
HCM Control Delay (s)	8.6	0	-	-	11.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2

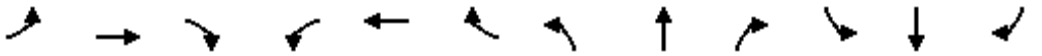
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	594	375	0	0	20
Future Vol, veh/h	30	594	375	0	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	42	42	42	42	42	42
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	71	1414	893	0	0	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	893	0	-	0	2449	893
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	1556	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	768	-	-	-	35	343
Stage 1	-	-	-	-	403	-
Stage 2	-	-	-	-	193	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	768	-	-	-	20	343
Mov Cap-2 Maneuver	-	-	-	-	20	-
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	193	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	768	-	-	-	343
HCM Lane V/C Ratio	0.093	-	-	-	0.139
HCM Control Delay (s)	10.2	0	-	-	17.2
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	529	0	60	5	5	10	40	358	20	5	421	321
Future Volume (veh/h)	529	0	60	5	5	10	40	358	20	5	421	321
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	557	0	25	5	5	6	42	377	20	5	443	279
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	729	0	28	291	293	310	101	581	31	17	528	448
Arrive On Green	0.46	0.00	0.46	0.46	0.46	0.46	0.06	0.32	0.32	0.01	0.28	0.28
Sat Flow, veh/h	1375	0	62	489	642	678	1810	1788	95	1810	1900	1610
Grp Volume(v), veh/h	582	0	0	16	0	0	42	0	397	5	443	279
Grp Sat Flow(s),veh/h/ln	1437	0	0	1809	0	0	1810	0	1883	1810	1900	1610
Q Serve(g_s), s	25.5	0.0	0.0	0.0	0.0	0.0	1.6	0.0	12.6	0.2	15.3	10.6
Cycle Q Clear(g_c), s	25.8	0.0	0.0	0.3	0.0	0.0	1.6	0.0	12.6	0.2	15.3	10.6
Prop In Lane	0.96		0.04	0.31		0.37	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	757	0	0	894	0	0	101	0	611	17	528	448
V/C Ratio(X)	0.77	0.00	0.00	0.02	0.00	0.00	0.42	0.00	0.65	0.30	0.84	0.62
Avail Cap(c_a), veh/h	1292	0	0	919	0	0	829	0	1563	699	1577	1337
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.3	0.0	0.0	10.4	0.0	0.0	31.9	0.0	20.2	34.4	23.7	22.0
Incr Delay (d2), s/veh	1.7	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.4	3.6	1.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	0.0	0.0	0.1	0.0	0.0	0.7	0.0	5.1	0.1	6.4	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.9	0.0	0.0	10.4	0.0	0.0	32.9	0.0	20.6	38.0	25.1	22.5
LnGrp LOS	B	A	A	B	A	A	C	A	C	D	C	C
Approach Vol, veh/h		582			16			439			727	
Approach Delay, s/veh		18.9			10.4			21.8			24.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	27.7		36.9	8.5	24.4		36.9				
Change Period (Y+Rc), s	4.6	5.0		5.0	4.6	5.0		* 5				
Max Green Setting (Gmax), s	27.0	58.0		58.0	32.0	58.0		* 33				
Max Q Clear Time (g_c+I1), s	2.2	14.6		27.8	3.6	17.3		2.3				
Green Ext Time (p_c), s	0.0	1.6		4.1	0.0	2.1		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		21.7
HCM 6th LOS		C

Notes

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

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	40	378	10	30	521
Future Vol, veh/h	20	40	378	10	30	521
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	22	43	406	11	32	560

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1036	412	0	0	417	0
Stage 1	412	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	253	633	-	-	1126	-
Stage 1	662	-	-	-	-	-
Stage 2	528	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	246	633	-	-	1126	-
Mov Cap-2 Maneuver	246	-	-	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	528	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.3	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	415	1126	-
HCM Lane V/C Ratio	-	-	0.155	0.029	-
HCM Control Delay (s)	-	-	15.3	8.3	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

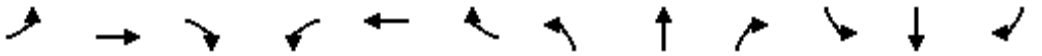
Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	50	338	60	70	471
Future Vol, veh/h	30	50	338	60	70	471
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	-	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	33	54	367	65	76	512

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1064	400	0	0	432	0
Stage 1	400	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	244	643	-	-	1112	-
Stage 1	671	-	-	-	-	-
Stage 2	506	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	227	643	-	-	1112	-
Mov Cap-2 Maneuver	227	-	-	-	-	-
Stage 1	625	-	-	-	-	-
Stage 2	506	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.8	0	1.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	227	643	1112	-
HCM Lane V/C Ratio	-	-	0.144	0.085	0.068	-
HCM Control Delay (s)	-	-	23.5	11.1	8.5	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.3	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	5	40	20	5	90	30	2067	10	30	1838	200
Future Volume (veh/h)	210	5	40	20	5	90	30	2067	10	30	1838	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	250	6	42	24	6	5	36	2461	6	36	2188	131
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	278	5	38	249	61	44	45	2089	908	45	2089	900
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.03	0.63	0.63	0.03	0.63	0.63
Sat Flow, veh/h	1143	27	192	1014	307	220	1654	3300	1434	1654	3300	1422
Grp Volume(v), veh/h	298	0	0	35	0	0	36	2461	6	36	2188	131
Grp Sat Flow(s),veh/h/ln	1362	0	0	1541	0	0	1654	1650	1434	1654	1650	1422
Q Serve(g_s), s	22.7	0.0	0.0	0.0	0.0	0.0	2.7	80.0	0.2	2.7	80.0	4.7
Cycle Q Clear(g_c), s	25.0	0.0	0.0	2.3	0.0	0.0	2.7	80.0	0.2	2.7	80.0	4.7
Prop In Lane	0.84		0.14	0.69		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	322	0	0	353	0	0	45	2089	908	45	2089	900
V/C Ratio(X)	0.93	0.00	0.00	0.10	0.00	0.00	0.81	1.18	0.01	0.81	1.05	0.15
Avail Cap(c_a), veh/h	322	0	0	353	0	0	196	2089	908	196	2089	900
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	0.0	0.0	41.6	0.0	0.0	61.2	23.2	8.6	61.2	23.2	9.4
Incr Delay (d2), s/veh	31.3	0.0	0.0	0.0	0.0	0.0	11.9	85.6	0.0	11.9	33.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	0.0	0.0	0.9	0.0	0.0	1.3	50.1	0.1	1.3	35.1	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.9	0.0	0.0	41.6	0.0	0.0	73.1	108.8	8.6	73.1	56.7	9.4
LnGrp LOS	F	A	A	D	A	A	E	F	A	E	F	A
Approach Vol, veh/h		298			35			2503			2355	
Approach Delay, s/veh		82.9			41.6			108.0			54.3	
Approach LOS		F			D			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	88.0		30.0	8.4	88.0		30.0				
Change Period (Y+Rc), s	* 5	8.0		* 5	* 5	8.0		* 5				
Max Green Setting (Gmax), s	* 15	80.0		* 25	* 15	80.0		* 25				
Max Q Clear Time (g_c+I1), s	4.7	82.0		27.0	4.7	82.0		4.3				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		81.8	
HCM 6th LOS		F	

Notes

User approved pedestrian interval to be less than phase max green.

* 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	50	22	91	30	100	31	699	121	150	580	60
Future Volume (veh/h)	90	50	22	91	30	100	31	699	121	150	580	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	103	57	4	105	34	23	36	803	124	172	667	62
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	184	144	10	185	158	134	97	1228	190	217	1530	142
Arrive On Green	0.10	0.08	0.08	0.10	0.08	0.08	0.05	0.40	0.40	0.12	0.46	0.46
Sat Flow, veh/h	1795	1740	122	1795	1885	1598	1795	3110	480	1795	3313	308
Grp Volume(v), veh/h	103	0	61	105	34	23	36	462	465	172	360	369
Grp Sat Flow(s),veh/h/ln	1795	0	1863	1795	1885	1598	1795	1791	1799	1795	1791	1830
Q Serve(g_s), s	2.9	0.0	1.7	3.0	0.9	0.7	1.0	11.3	11.3	5.0	7.3	7.3
Cycle Q Clear(g_c), s	2.9	0.0	1.7	3.0	0.9	0.7	1.0	11.3	11.3	5.0	7.3	7.3
Prop In Lane	1.00		0.07	1.00		1.00	1.00		0.27	1.00		0.17
Lane Grp Cap(c), veh/h	184	0	154	185	158	134	97	707	711	217	827	845
V/C Ratio(X)	0.56	0.00	0.40	0.57	0.22	0.17	0.37	0.65	0.65	0.79	0.44	0.44
Avail Cap(c_a), veh/h	334	0	763	502	773	655	401	1168	1173	401	1168	1193
HCM Platoon Ratio	1.00	1.00	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	22.9	0.0	23.3	22.9	22.9	22.9	24.5	13.2	13.2	22.9	9.7	9.7
Incr Delay (d2), s/veh	1.0	0.0	1.6	1.0	0.3	0.2	0.9	1.5	1.5	2.5	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.8	1.2	0.4	0.3	0.4	3.7	3.7	2.0	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	0.0	25.0	23.9	23.2	23.1	25.4	14.7	14.7	25.4	10.3	10.2
LnGrp LOS	C	A	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		164			162			963			901	
Approach Delay, s/veh		24.3			23.7			15.1			13.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	26.2	9.0	8.5	6.4	29.8	9.0	8.5
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	12.0	35.0	15.0	22.0	12.0	35.0	10.0	22.0
Max Q Clear Time (g_c+I1), s	7.0	13.3	5.0	3.7	3.0	9.3	4.9	2.9
Green Ext Time (p_c), s	0.0	7.9	0.1	0.2	0.0	6.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	10	13	83	5	60	12	781	92	90	593	5
Future Volume (veh/h)	5	10	13	83	5	60	12	781	92	90	593	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	11	0	93	6	3	13	878	96	101	666	6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	43	36	185	135	68	41	1397	153	192	1866	17
Arrive On Green	0.01	0.02	0.00	0.10	0.12	0.12	0.02	0.43	0.43	0.11	0.52	0.52
Sat Flow, veh/h	1781	1870	1585	1781	1176	588	1781	3230	353	1781	3608	32
Grp Volume(v), veh/h	6	11	0	93	0	9	13	483	491	101	328	344
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1764	1781	1777	1806	1781	1777	1864
Q Serve(g_s), s	0.2	0.3	0.0	2.4	0.0	0.2	0.3	10.2	10.2	2.6	5.2	5.2
Cycle Q Clear(g_c), s	0.2	0.3	0.0	2.4	0.0	0.2	0.3	10.2	10.2	2.6	5.2	5.2
Prop In Lane	1.00		1.00	1.00		0.33	1.00		0.20	1.00		0.02
Lane Grp Cap(c), veh/h	20	43	36	185	0	203	41	769	781	192	919	964
V/C Ratio(X)	0.30	0.26	0.00	0.50	0.00	0.04	0.31	0.63	0.63	0.53	0.36	0.36
Avail Cap(c_a), veh/h	742	818	693	742	0	772	742	1295	1317	742	1295	1358
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	23.1	0.0	20.4	0.0	18.9	23.1	10.6	10.6	20.3	6.9	6.9
Incr Delay (d2), s/veh	3.1	4.5	0.0	0.8	0.0	0.1	1.6	1.2	1.2	0.8	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.0	1.0	0.0	0.1	0.1	2.9	3.0	0.9	1.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	27.6	0.0	21.1	0.0	19.0	24.7	11.8	11.8	21.1	7.2	7.2
LnGrp LOS	C	C	A	C	A	B	C	B	B	C	A	A
Approach Vol, veh/h		17			102			987			773	
Approach Delay, s/veh		27.2			21.0			12.0			9.0	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	25.8	8.5	5.1	4.6	29.8	4.0	9.5
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	20.0	35.0	20.0	21.0	20.0	35.0	20.0	21.0
Max Q Clear Time (g_c+I1), s	4.6	12.2	4.4	2.3	2.3	7.2	2.2	2.2
Green Ext Time (p_c), s	0.1	8.6	0.1	0.0	0.0	5.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	30	1000	40	20	769
Future Vol, veh/h	70	30	1000	40	20	769
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	81	35	1163	47	23	894

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1680	605	0	0	1210	0
Stage 1	1187	-	-	-	-	-
Stage 2	493	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	86	441	-	-	572	-
Stage 1	252	-	-	-	-	-
Stage 2	579	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	83	441	-	-	572	-
Mov Cap-2 Maneuver	83	-	-	-	-	-
Stage 1	242	-	-	-	-	-
Stage 2	579	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	131.9	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	83	441	572	-
HCM Lane V/C Ratio	-	-	0.981	0.079	0.041	-
HCM Control Delay (s)	-	-	182.4	13.9	11.6	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	5.4	0.3	0.1	-

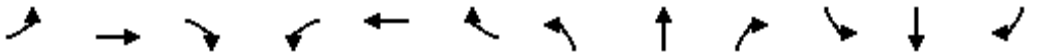
Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	1020	100	5	804
Future Vol, veh/h	5	5	1020	100	5	804
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	6	6	1200	118	6	946

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1744	659	0	0	1318	0
Stage 1	1259	-	-	-	-	-
Stage 2	485	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	77	404	-	-	515	-
Stage 1	229	-	-	-	-	-
Stage 2	582	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	75	404	-	-	515	-
Mov Cap-2 Maneuver	75	-	-	-	-	-
Stage 1	223	-	-	-	-	-
Stage 2	582	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	36.2	0	0.2
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	127	515	-
HCM Lane V/C Ratio	-	-	0.093	0.011	-
HCM Control Delay (s)	-	-	36.2	12.1	0.1
HCM Lane LOS	-	-	E	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	20	104	10	10	20	162	1070	90	30	739	40
Future Volume (veh/h)	30	20	104	10	10	20	162	1070	90	30	739	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	37	24	17	12	12	6	198	1305	56	37	901	21
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	67	48	202	78	39	195	2223	992	71	1977	882
Arrive On Green	0.07	0.07	0.07	0.07	0.07	0.07	0.11	0.63	0.63	0.04	0.56	0.56
Sat Flow, veh/h	1395	1019	722	1366	1176	588	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	37	0	41	12	0	18	198	1305	56	37	901	21
Grp Sat Flow(s),veh/h/ln	1395	0	1740	1366	0	1764	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.3	0.0	1.1	0.4	0.0	0.5	5.5	10.9	0.7	1.0	7.6	0.3
Cycle Q Clear(g_c), s	1.8	0.0	1.1	1.6	0.0	0.5	5.5	10.9	0.7	1.0	7.6	0.3
Prop In Lane	1.00		0.41	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	222	0	115	202	0	116	195	2223	992	71	1977	882
V/C Ratio(X)	0.17	0.00	0.36	0.06	0.00	0.15	1.02	0.59	0.06	0.52	0.46	0.02
Avail Cap(c_a), veh/h	1044	0	1141	1008	0	1157	195	2223	992	177	1977	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	0.0	22.5	23.2	0.0	22.2	22.4	5.6	3.7	23.7	6.6	5.0
Incr Delay (d2), s/veh	0.4	0.0	1.9	0.1	0.0	0.6	69.0	1.1	0.1	5.7	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.5	0.1	0.0	0.2	5.7	2.1	0.1	0.5	1.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.4	0.0	24.3	23.3	0.0	22.8	91.4	6.7	3.8	29.4	7.4	5.1
LnGrp LOS	C	A	C	C	A	C	F	A	A	C	A	A
Approach Vol, veh/h		78			30			1559			959	
Approach Delay, s/veh		23.9			23.0			17.4			8.2	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	36.0		7.8	10.0	32.5		7.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	28.5		33.0	5.5	28.0		33.0				
Max Q Clear Time (g_c+I1), s	3.0	12.9		3.8	7.5	9.6		3.6				
Green Ext Time (p_c), s	0.0	8.0		0.3	0.0	5.6		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		14.3	
HCM 6th LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	20	0	40	5	1282	40	40	818	5
Future Volume (veh/h)	5	5	5	20	0	40	5	1282	40	40	818	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	6	6	0	23	0	6	6	1491	46	47	951	6
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	51	54	0	64	0	17	20	2009	62	111	2167	14
Arrive On Green	0.03	0.03	0.00	0.05	0.00	0.05	0.01	0.58	0.58	0.06	0.60	0.60
Sat Flow, veh/h	1767	1856	0	1366	0	356	1767	3489	107	1767	3592	23
Grp Volume(v), veh/h	6	6	0	29	0	0	6	752	785	47	467	490
Grp Sat Flow(s),veh/h/ln	1767	1856	0	1722	0	0	1767	1763	1833	1767	1763	1851
Q Serve(g_s), s	0.2	0.2	0.0	1.0	0.0	0.0	0.2	19.3	19.5	1.6	8.8	8.8
Cycle Q Clear(g_c), s	0.2	0.2	0.0	1.0	0.0	0.0	0.2	19.3	19.5	1.6	8.8	8.8
Prop In Lane	1.00		0.00	0.79		0.21	1.00		0.06	1.00		0.01
Lane Grp Cap(c), veh/h	51	54	0	81	0	0	20	1015	1056	111	1063	1117
V/C Ratio(X)	0.12	0.11	0.00	0.36	0.00	0.00	0.31	0.74	0.74	0.42	0.44	0.44
Avail Cap(c_a), veh/h	576	605	0	561	0	0	288	1149	1195	432	1149	1207
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	29.0	0.0	28.3	0.0	0.0	30.1	9.6	9.6	27.7	6.6	6.6
Incr Delay (d2), s/veh	0.4	0.3	0.0	1.0	0.0	0.0	3.2	2.8	2.7	0.9	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.4	0.0	0.0	0.1	5.6	5.8	0.6	2.2	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.4	29.4	0.0	29.3	0.0	0.0	33.3	12.4	12.4	28.6	7.1	7.0
LnGrp LOS	C	C	A	C	A	A	C	B	B	C	A	A
Approach Vol, veh/h		12			29			1543			1004	
Approach Delay, s/veh		29.4			29.3			12.5			8.1	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.4	40.3		6.8	5.7	42.0		6.9
Change Period (Y+Rc), s	3.5	5.0		5.0	5.0	5.0		4.0
Max Green Setting (Gmax), s	15.0	40.0		20.0	10.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	3.6	21.5		2.2	2.2	10.8		3.0
Green Ext Time (p_c), s	0.0	13.8		0.0	0.0	10.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	20	1307	41	50	793
Future Vol, veh/h	21	20	1307	41	50	793
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	24	23	1485	47	57	901

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2074	766	0	0	1532	0
Stage 1	1509	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	46	343	-	-	426	-
Stage 1	168	-	-	-	-	-
Stage 2	530	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	40	343	-	-	426	-
Mov Cap-2 Maneuver	40	-	-	-	-	-
Stage 1	145	-	-	-	-	-
Stage 2	530	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	126.3	0	0.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	70	426	-
HCM Lane V/C Ratio	-	-	0.666	0.133	-
HCM Control Delay (s)	-	-	126.3	14.7	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	3	0.5	-

Intersection	
Int Delay, s/veh	25.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	5	20	21	0	20	5	1298	31	40	769	5
Future Vol, veh/h	30	5	20	21	0	20	5	1298	31	40	769	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	90	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	35	6	23	24	0	23	6	1509	36	47	894	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1755	2545	894	2545	2533	773	900	0	0	1545	0	0
Stage 1	988	988	-	1539	1539	-	-	-	-	-	-	-
Stage 2	767	1557	-	1006	994	-	-	-	-	-	-	-
Critical Hdwy	7.345	6.545	6.245	7.345	6.545	6.945	4.145	-	-	4.145	-	-
Critical Hdwy Stg 1	6.145	5.545	-	6.545	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.545	5.545	-	6.145	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.5285	4.0285	3.3285	3.5285	4.0285	3.3285	2.2285	-	-	2.2285	-	-
Pot Cap-1 Maneuver	60	26	337	~ 15	27	341	748	-	-	424	-	-
Stage 1	295	322	-	120	175	-	-	-	-	-	-	-
Stage 2	360	172	-	288	320	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	51	23	337	~ 10	24	341	748	-	-	424	-	-
Mov Cap-2 Maneuver	51	23	-	~ 10	24	-	-	-	-	-	-	-
Stage 1	293	286	-	119	174	-	-	-	-	-	-	-
Stage 2	333	171	-	234	284	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	220.1	$ 1107.8	0	0.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	748	-	-	64	19	424	-	-
HCM Lane V/C Ratio	0.008	-	-	0.999	2.509	0.11	-	-
HCM Control Delay (s)	9.9	-	-	220.3	$ 1107.8	14.5	-	-
HCM Lane LOS	A	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	4.9	6.4	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	117

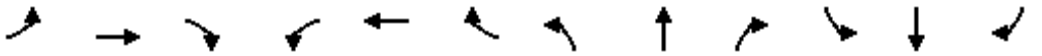
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	264	100	60	966	534	83
Future Vol, veh/h	264	100	60	966	534	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	160	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	293	111	67	1073	593	92

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1310	343	685	0	-	0
Stage 1	639	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	~ 149	650	898	-	-	-
Stage 1	485	-	-	-	-	-
Stage 2	467	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 138	650	898	-	-	-
Mov Cap-2 Maneuver	~ 138	-	-	-	-	-
Stage 1	449	-	-	-	-	-
Stage 2	467	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 643.8	0.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	898	-	176	-	-
HCM Lane V/C Ratio	0.074	-	2.298	-	-
HCM Control Delay (s)	9.3	-	$ 643.8	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0.2	-	33.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	560	5	360	0	260	535	260	220	0
Future Volume (veh/h)	5	5	5	560	5	360	0	260	535	260	220	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	0
Adj Flow Rate, veh/h	5	5	2	606	0	0	0	280	0	258	267	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	0
Cap, veh/h	276	250	83	1170	0		0	491		356	374	0
Arrive On Green	0.32	0.32	0.32	0.32	0.00	0.00	0.00	0.15	0.00	0.21	0.21	0.00
Sat Flow, veh/h	513	772	257	2639	0	1485	0	3416	1485	1668	1752	0
Grp Volume(v), veh/h	12	0	0	606	0	0	0	280	0	258	267	0
Grp Sat Flow(s),veh/h/ln	1542	0	0	1319	0	1485	0	1664	1485	1668	1752	0
Q Serve(g_s), s	0.0	0.0	0.0	9.0	0.0	0.0	0.0	3.6	0.0	6.7	6.6	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	9.3	0.0	0.0	0.0	3.6	0.0	6.7	6.6	0.0
Prop In Lane	0.42		0.17	1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	610	0	0	1170	0		0	491		356	374	0
V/C Ratio(X)	0.02	0.00	0.00	0.52	0.00		0.00	0.57		0.73	0.71	0.00
Avail Cap(c_a), veh/h	738	0	0	2327	0		0	2482		1259	1322	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.7	0.0	0.0	13.7	0.0	0.0	0.0	18.4	0.0	17.0	16.9	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.8	0.0	1.1	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	2.2	0.0	0.0	0.0	1.2	0.0	2.2	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.7	0.0	0.0	14.2	0.0	0.0	0.0	19.2	0.0	18.0	17.9	0.0
LnGrp LOS	B	A	A	B	A		A	B		B	B	A
Approach Vol, veh/h		12			606	A		280	A		525	
Approach Delay, s/veh		10.7			14.2			19.2			18.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.9		19.7		11.8		19.7				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		35.0		35.4		34.6		19.0				
Max Q Clear Time (g_c+I1), s		8.7		11.3		5.6		2.2				
Green Ext Time (p_c), s		1.2		3.8		1.4		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	16.5	
HCM 6th LOS	B	

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	650	30	5	815	80	20	20	5	130	20	90
Future Volume (veh/h)	120	650	30	5	815	80	20	20	5	130	20	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	133	722	31	6	906	81	22	22	0	144	22	16
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	165	1709	73	13	1310	117	245	200	0	442	201	147
Arrive On Green	0.10	0.54	0.54	0.01	0.43	0.43	0.22	0.22	0.00	0.22	0.22	0.22
Sat Flow, veh/h	1640	3192	137	1640	3034	271	587	921	0	1280	927	674
Grp Volume(v), veh/h	133	370	383	6	489	498	44	0	0	144	0	38
Grp Sat Flow(s),veh/h/ln	1640	1636	1693	1640	1636	1669	1508	0	0	1280	0	1601
Q Serve(g_s), s	3.6	6.2	6.3	0.2	11.1	11.1	0.0	0.0	0.0	3.3	0.0	0.9
Cycle Q Clear(g_c), s	3.6	6.2	6.3	0.2	11.1	11.1	0.9	0.0	0.0	4.3	0.0	0.9
Prop In Lane	1.00		0.08	1.00		0.16	0.50		0.00	1.00		0.42
Lane Grp Cap(c), veh/h	165	876	906	13	706	721	445	0	0	442	0	348
V/C Ratio(X)	0.80	0.42	0.42	0.46	0.69	0.69	0.10	0.00	0.00	0.33	0.00	0.11
Avail Cap(c_a), veh/h	731	1423	1472	891	1423	1452	920	0	0	859	0	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.2	6.4	6.4	22.7	10.6	10.6	14.5	0.0	0.0	15.7	0.0	14.4
Incr Delay (d2), s/veh	3.4	0.3	0.3	8.9	1.2	1.2	0.1	0.0	0.0	0.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.3	1.4	0.1	3.0	3.0	0.3	0.0	0.0	1.2	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	6.7	6.7	31.6	11.8	11.8	14.6	0.0	0.0	16.1	0.0	14.6
LnGrp LOS	C	A	A	C	B	B	B	A	A	B	A	B
Approach Vol, veh/h		886			993			44			182	
Approach Delay, s/veh		9.3			11.9			14.6			15.8	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.4	28.6		14.0	8.1	23.9		14.0				
Change Period (Y+Rc), s	3.0	4.0		4.0	3.5	4.0		4.0				
Max Green Setting (Gmax), s	25.0	40.0		25.0	20.5	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.2	8.3		6.3	5.6	13.1		2.9				
Green Ext Time (p_c), s	0.0	4.9		0.6	0.0	6.7		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	825	5	20	970	90	5	0	5	110	5	40
Future Volume (veh/h)	40	825	5	20	970	90	5	0	5	110	5	40
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		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	45	938	6	23	1102	0	6	0	0	129	0	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	109	1668	11	64	1548		19	0	0	398	0	177
Arrive On Green	0.07	0.50	0.50	0.04	0.47	0.00	0.01	0.00	0.00	0.12	0.00	0.12
Sat Flow, veh/h	1654	3361	21	1654	3300	1472	1654	0	0	3309	0	1472
Grp Volume(v), veh/h	45	461	483	23	1102	0	6	0	0	129	0	1
Grp Sat Flow(s),veh/h/ln	1654	1650	1732	1654	1650	1472	1654	0	0	1654	0	1472
Q Serve(g_s), s	1.3	9.3	9.3	0.6	12.8	0.0	0.2	0.0	0.0	1.7	0.0	0.0
Cycle Q Clear(g_c), s	1.3	9.3	9.3	0.6	12.8	0.0	0.2	0.0	0.0	1.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	109	819	860	64	1548		19	0	0	398	0	177
V/C Ratio(X)	0.41	0.56	0.56	0.36	0.71		0.32	0.00	0.00	0.32	0.00	0.01
Avail Cap(c_a), veh/h	690	1205	1265	518	2410		518	0	0	828	0	369
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	8.4	8.4	22.5	10.1	0.0	23.5	0.0	0.0	19.3	0.0	18.6
Incr Delay (d2), s/veh	0.9	0.6	0.6	1.3	0.6	0.0	3.7	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.3	2.4	0.2	3.2	0.0	0.1	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	9.0	9.0	23.7	10.8	0.0	27.2	0.0	0.0	19.5	0.0	18.6
LnGrp LOS	C	A	A	C	B		C	A	A	B	A	B
Approach Vol, veh/h		989			1125	A		6			130	
Approach Delay, s/veh		9.6			11.0			27.2			19.5	
Approach LOS		A			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	27.5		4.0	5.3	28.8		9.8				
Change Period (Y+Rc), s	3.5	5.0		3.5	3.5	5.0		4.0				
Max Green Setting (Gmax), s	20.0	35.0		15.0	15.0	35.0		12.0				
Max Q Clear Time (g_c+I1), s	3.3	14.8		2.2	2.6	11.3		3.7				
Green Ext Time (p_c), s	0.0	7.7		0.0	0.0	6.0		0.1				

Intersection Summary		
HCM 6th Ctrl Delay	10.9	
HCM 6th LOS	B	

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	840	30	90	1020	230	20	5	50	130	5	50
Future Volume (veh/h)	70	840	30	90	1020	230	20	5	50	130	5	50
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	80	955	32	102	1159	244	23	6	4	148	6	4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	142	1731	58	158	1464	306	305	142	94	305	142	94
Arrive On Green	0.09	0.54	0.54	0.10	0.55	0.55	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1640	3226	108	1640	2680	560	1291	964	643	1293	963	642
Grp Volume(v), veh/h	80	484	503	102	704	699	23	0	10	148	0	10
Grp Sat Flow(s),veh/h/ln	1640	1636	1698	1640	1636	1603	1291	0	1606	1293	0	1605
Q Serve(g_s), s	2.8	11.5	11.5	3.5	20.2	20.7	0.9	0.0	0.3	6.5	0.0	0.3
Cycle Q Clear(g_c), s	2.8	11.5	11.5	3.5	20.2	20.7	1.2	0.0	0.3	6.9	0.0	0.3
Prop In Lane	1.00		0.06	1.00		0.35	1.00		0.40	1.00		0.40
Lane Grp Cap(c), veh/h	142	878	911	158	894	876	305	0	236	305	0	236
V/C Ratio(X)	0.56	0.55	0.55	0.65	0.79	0.80	0.08	0.00	0.04	0.49	0.00	0.04
Avail Cap(c_a), veh/h	639	1164	1208	639	1164	1140	640	0	653	816	0	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	9.0	9.0	25.7	10.7	10.8	22.2	0.0	21.6	24.6	0.0	21.6
Incr Delay (d2), s/veh	1.3	0.5	0.5	1.6	2.8	3.1	0.0	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.1	3.2	1.3	5.7	5.8	0.3	0.0	0.1	1.9	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	9.5	9.5	27.4	13.4	13.9	22.2	0.0	21.6	25.0	0.0	21.6
LnGrp LOS	C	A	A	C	B	B	C	A	C	C	A	C
Approach Vol, veh/h		1067			1505			33			158	
Approach Delay, s/veh		10.9			14.6			22.0			24.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	36.7		12.7	9.1	37.3		12.7				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	23.0	42.0		32.0	23.0	42.0		24.0				
Max Q Clear Time (g_c+I1), s	5.5	13.5		8.9	4.8	22.7		3.2				
Green Ext Time (p_c), s	0.0	6.8		0.1	0.0	9.5		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	13.8
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	790	230	0	820	0	0	0	0	1040	0	520
Future Volume (veh/h)	0	790	230	0	820	0	0	0	0	1040	0	520
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1811	0	1826	0				1826	0	1826
Adj Flow Rate, veh/h	0	840	0	0	872	0				1106	0	324
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	5	6	0	5	0				5	0	5
Cap, veh/h	0	1121		0	1121	0				1295	0	594
Arrive On Green	0.00	0.32	0.00	0.00	0.32	0.00				0.38	0.00	0.38
Sat Flow, veh/h	0	3561	1535	0	3652	0				3374	0	1547
Grp Volume(v), veh/h	0	840	0	0	872	0				1106	0	324
Grp Sat Flow(s),veh/h/ln	0	1735	1535	0	1735	0				1687	0	1547
Q Serve(g_s), s	0.0	8.1	0.0	0.0	8.5	0.0				11.3	0.0	6.1
Cycle Q Clear(g_c), s	0.0	8.1	0.0	0.0	8.5	0.0				11.3	0.0	6.1
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1121		0	1121	0				1295	0	594
V/C Ratio(X)	0.00	0.75		0.00	0.78	0.00				0.85	0.00	0.55
Avail Cap(c_a), veh/h	0	4623		0	4623	0				4495	0	2062
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.3	0.0	0.0	11.5	0.0				10.6	0.0	9.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.4	0.0				0.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	0.0	0.0	2.4	0.0				3.0	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.7	0.0	0.0	11.9	0.0				11.2	0.0	9.3
LnGrp LOS	A	B		A	B	A				B	A	A
Approach Vol, veh/h		840	A		872						1430	
Approach Delay, s/veh		11.7			11.9						10.8	
Approach LOS		B			B						B	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	18.1	19.4	18.1
Change Period (Y+Rc), s	* 6	* 5	* 6
Max Green Setting (Gmax), s	* 50	* 50	* 50
Max Q Clear Time (g_c+I1), s	10.1	13.3	10.5
Green Ext Time (p_c), s	1.4	1.1	1.6

Intersection Summary	
HCM 6th Ctrl Delay	11.4
HCM 6th LOS	B

Notes

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

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1600	0	0	1200	170	520
Future Volume (veh/h)	1600	0	0	1200	170	520
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1737	0	0	1737	1737	1737
Adj Flow Rate, veh/h	1720	0	0	1290	158	318
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	11	0	0	11	11	11
Cap, veh/h	1990	0	0	1990	254	452
Arrive On Green	0.60	0.00	0.00	0.60	0.15	0.15
Sat Flow, veh/h	3474	0	0	3474	1654	2944
Grp Volume(v), veh/h	1720	0	0	1290	158	318
Grp Sat Flow(s),veh/h/ln	1650	0	0	1650	1654	1472
Q Serve(g_s), s	19.5	0.0	0.0	11.5	4.0	4.6
Cycle Q Clear(g_c), s	19.5	0.0	0.0	11.5	4.0	4.6
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1990	0	0	1990	254	452
V/C Ratio(X)	0.86	0.00	0.00	0.65	0.62	0.70
Avail Cap(c_a), veh/h	3653	0	0	3653	916	1629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.4	0.0	0.0	5.8	17.9	18.1
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.1	0.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	0.0	0.0	1.8	1.3	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.9	0.0	0.0	6.0	18.8	18.9
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h	1720			1290	476	
Approach Delay, s/veh	7.9			6.0	18.9	
Approach LOS	A			A	B	

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	33.2			33.2	11.9
Change Period (Y+Rc), s	* 6			* 6	5.0
Max Green Setting (Gmax), s	* 50			* 50	25.0
Max Q Clear Time (g_c+I1), s	21.5			13.5	6.6
Green Ext Time (p_c), s	5.7			3.7	0.3

Intersection Summary	
HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	670	1070	380	80	1240	30	240	70	60	90	70	330
Future Volume (veh/h)	670	1070	380	80	1240	30	240	70	60	90	70	330
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	713	1138	300	85	1319	11	255	74	38	85	89	18
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	797	2533	729	112	1694	516	451	151	77	131	138	233
Arrive On Green	0.25	0.53	0.53	0.07	0.36	0.36	0.14	0.14	0.14	0.08	0.08	0.08
Sat Flow, veh/h	3209	4742	1365	1654	4742	1443	3209	1072	550	1654	1737	2944
Grp Volume(v), veh/h	713	1138	300	85	1319	11	255	0	112	85	89	18
Grp Sat Flow(s),veh/h/ln	1605	1581	1365	1654	1581	1443	1605	0	1622	1654	1737	1472
Q Serve(g_s), s	19.5	13.4	11.9	4.6	22.5	0.4	6.8	0.0	5.8	4.5	4.5	0.5
Cycle Q Clear(g_c), s	19.5	13.4	11.9	4.6	22.5	0.4	6.8	0.0	5.8	4.5	4.5	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	797	2533	729	112	1694	516	451	0	228	131	138	233
V/C Ratio(X)	0.90	0.45	0.41	0.76	0.78	0.02	0.57	0.00	0.49	0.65	0.65	0.08
Avail Cap(c_a), veh/h	885	2533	729	454	2084	634	1058	0	535	545	573	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	13.0	12.6	41.7	26.0	18.9	36.5	0.0	36.1	40.7	40.7	38.8
Incr Delay (d2), s/veh	10.9	0.1	0.4	9.8	1.6	0.0	1.1	0.0	1.6	5.3	5.0	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	8.4	4.2	3.3	2.1	8.1	0.1	2.7	0.0	2.4	2.0	2.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.9	13.1	13.0	51.5	27.6	19.0	37.6	0.0	37.7	46.0	45.7	39.0
LnGrp LOS	D	B	B	D	C	B	D	A	D	D	D	D
Approach Vol, veh/h		2151			1415			367			192	
Approach Delay, s/veh		23.3			29.0			37.7			45.2	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	53.4		10.9	26.3	37.3		16.5				
Change Period (Y+Rc), s	4.0	4.8		3.7	3.7	4.8		3.7				
Max Green Setting (Gmax), s	25.0	40.0		30.0	25.1	40.0		30.0				
Max Q Clear Time (g_c+I1), s	6.6	15.4		6.5	21.5	24.5		8.8				
Green Ext Time (p_c), s	0.2	10.0		0.7	1.0	8.0		1.6				

Intersection Summary	
HCM 6th Ctrl Delay	27.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	465

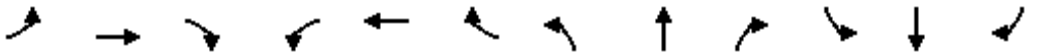
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	150	990	110	20	1070	200	170	30	5	60	5	50
Future Vol, veh/h	150	990	110	20	1070	200	170	30	5	60	5	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	240	-	-	120	-	-	-	-	25	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	11	11	11	11	11	11	11	11	11	11	11	11
Mvmt Flow	153	1010	112	20	1092	204	173	31	5	61	5	51

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1296	0	0	1122	0	0	1961	2708	561	2061	2662	648
Stage 1	-	-	-	-	-	-	1372	1372	-	1234	1234	-
Stage 2	-	-	-	-	-	-	589	1336	-	827	1428	-
Critical Hdwy	4.32	-	-	4.32	-	-	7.72	6.72	7.12	7.72	6.72	7.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Follow-up Hdwy	2.31	-	-	2.31	-	-	3.61	4.11	3.41	3.61	4.11	3.41
Pot Cap-1 Maneuver	485	-	-	569	-	-	~ 34	~ 18	449	~ 28	19	392
Stage 1	-	-	-	-	-	-	~ 142	196	-	174	230	-
Stage 2	-	-	-	-	-	-	440	204	-	313	184	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	485	-	-	569	-	-	~ 15	~ 12	449	-	13	392
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 15	~ 12	-	-	13	-
Stage 1	-	-	-	-	-	-	~ 97	134	-	119	222	-
Stage 2	-	-	-	-	-	-	361	197	-	163	126	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.2	$ 6475	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	14	449	485	-	-	569	-	-	-	107
HCM Lane V/C Ratio	14.577	0.011	0.316	-	-	0.036	-	-	-	0.525
HCM Control Delay (s)	$ 6636.5	13.1	15.8	-	-	11.6	-	-	-	70.9
HCM Lane LOS	F	B	C	-	-	B	-	-	-	F
HCM 95th %tile Q(veh)	26.6	0	1.3	-	-	0.1	-	-	-	2.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	775	40	280	870	535	40	40	20	440	170	370
Future Volume (veh/h)	195	775	40	280	870	535	40	40	20	440	170	370
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		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	217	861	40	311	967	411	44	44	2	339	399	108
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	276	991	46	338	1418	990	109	109	5	417	437	371
Arrive On Green	0.09	0.31	0.31	0.20	0.43	0.43	0.07	0.07	0.07	0.25	0.25	0.25
Sat Flow, veh/h	3209	3183	148	1654	3300	1441	1654	1648	75	1654	1737	1472
Grp Volume(v), veh/h	217	446	455	311	967	411	44	0	46	339	399	108
Grp Sat Flow(s),veh/h/ln	1605	1650	1681	1654	1650	1441	1654	0	1723	1654	1737	1472
Q Serve(g_s), s	6.8	26.1	26.1	18.8	24.1	13.0	2.6	0.0	2.6	19.7	22.8	6.0
Cycle Q Clear(g_c), s	6.8	26.1	26.1	18.8	24.1	13.0	2.6	0.0	2.6	19.7	22.8	6.0
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	276	514	523	338	1418	990	109	0	114	417	437	371
V/C Ratio(X)	0.79	0.87	0.87	0.92	0.68	0.42	0.40	0.00	0.40	0.81	0.91	0.29
Avail Cap(c_a), veh/h	346	622	634	389	1664	1097	437	0	456	462	485	411
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	33.2	33.2	39.8	23.5	7.2	45.7	0.0	45.8	35.9	37.1	30.8
Incr Delay (d2), s/veh	7.1	10.9	10.7	23.6	0.9	0.3	0.9	0.0	0.9	8.7	19.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	11.2	11.4	9.5	8.8	7.3	1.1	0.0	1.1	8.5	11.5	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.9	44.1	43.9	63.4	24.4	7.5	46.6	0.0	46.6	44.7	56.5	31.0
LnGrp LOS	D	D	D	E	C	A	D	A	D	D	E	C
Approach Vol, veh/h		1118			1689			90			846	
Approach Delay, s/veh		45.7			27.5			46.6			48.5	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.8	37.8		29.2	11.8	49.9		11.3				
Change Period (Y+Rc), s	3.0	6.0		3.5	3.0	6.0		4.5				
Max Green Setting (Gmax), s	24.0	38.5		28.5	11.0	51.5		27.0				
Max Q Clear Time (g_c+I1), s	20.8	28.1		24.8	8.8	26.1		4.6				
Green Ext Time (p_c), s	0.0	3.7		0.9	0.0	8.8		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		38.1
HCM 6th LOS		D

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

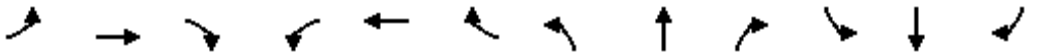
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1230	1680	0	0	5
Future Vol, veh/h	5	1230	1680	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	90	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	13	13	13	13	13
Mvmt Flow	5	1337	1826	0	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1826	0	-	0	2505	913
Stage 1	-	-	-	-	1826	-
Stage 2	-	-	-	-	679	-
Critical Hdwy	4.36	-	-	-	7.06	7.16
Critical Hdwy Stg 1	-	-	-	-	6.06	-
Critical Hdwy Stg 2	-	-	-	-	6.06	-
Follow-up Hdwy	2.33	-	-	-	3.63	3.43
Pot Cap-1 Maneuver	289	-	-	-	20	256
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	437	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	289	-	-	-	20	256
Mov Cap-2 Maneuver	-	-	-	-	20	-
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	437	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	19.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	289	-	-	-	256
HCM Lane V/C Ratio	0.019	-	-	-	0.021
HCM Control Delay (s)	17.7	-	-	-	19.4
HCM Lane LOS	C	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	730	50	5	620	20	10	0	5	30	0	210
Future Volume (veh/h)	110	730	50	5	620	20	10	0	5	30	0	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663
Adj Flow Rate, veh/h	118	785	0	5	667	11	11	0	0	32	0	155
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	16	16	16	16	16	16	16	16	16	16	16	16
Cap, veh/h	524	1648		480	1648	735	410	0	0	463	0	220
Arrive On Green	0.52	0.52	0.00	0.52	0.52	0.52	0.16	0.00	0.00	0.16	0.00	0.16
Sat Flow, veh/h	677	3159	1409	613	3159	1409	973	0	0	1314	0	1409
Grp Volume(v), veh/h	118	785	0	5	667	11	11	0	0	32	0	155
Grp Sat Flow(s),veh/h/ln	677	1580	1409	613	1580	1409	973	0	0	1314	0	1409
Q Serve(g_s), s	3.6	4.4	0.0	0.1	3.6	0.1	0.2	0.0	0.0	0.0	0.0	2.9
Cycle Q Clear(g_c), s	7.2	4.4	0.0	4.6	3.6	0.1	0.7	0.0	0.0	0.5	0.0	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	524	1648		480	1648	735	410	0	0	463	0	220
V/C Ratio(X)	0.23	0.48		0.01	0.40	0.01	0.03	0.00	0.00	0.07	0.00	0.70
Avail Cap(c_a), veh/h	801	2939		731	2939	1311	1806	0	0	2069	0	2016
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.2	4.3	0.0	5.7	4.1	3.2	10.5	0.0	0.0	10.2	0.0	11.2
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.4	4.5	0.0	5.7	4.2	3.2	10.5	0.0	0.0	10.2	0.0	15.2
LnGrp LOS	A	A		A	A	A	B	A	A	B	A	B
Approach Vol, veh/h		903	A		683			11			187	
Approach Delay, s/veh		4.7			4.2			10.5			14.4	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		8.9		19.1		8.9		19.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		40.0		26.0		40.0		26.0				
Max Q Clear Time (g_c+I1), s		2.7		9.2		4.9		6.6				
Green Ext Time (p_c), s		0.0		5.4		0.7		4.0				

Intersection Summary		
HCM 6th Ctrl Delay		5.6
HCM 6th LOS		A

Notes

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

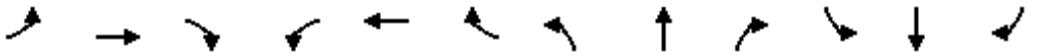
Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	100	10	0	110	20	0
Future Vol, veh/h	100	10	0	110	20	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	12	12	12	12	12	12
Mvmt Flow	125	13	0	138	25	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	138	0	270	132
Stage 1	-	-	-	-	132	-
Stage 2	-	-	-	-	138	-
Critical Hdwy	-	-	4.22	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.308	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	1386	-	698	891
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	865	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1386	-	698	891
Mov Cap-2 Maneuver	-	-	-	-	698	-
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	865	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.3
HCM LOS			B

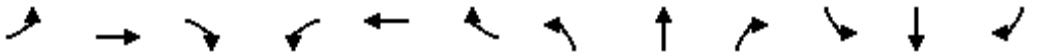
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	698	-	-	1386	-
HCM Lane V/C Ratio	0.036	-	-	-	-
HCM Control Delay (s)	10.3	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	960	390	0	0	0	0	0	0	860	420	0
Future Volume (vph)	0	960	390	0	0	0	0	0	0	860	420	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		11.0								4.0	4.0	
Lane Util. Factor		0.95								0.97	1.00	
Frpb, ped/bikes		1.00								1.00	1.00	
Flpb, ped/bikes		1.00								1.00	1.00	
Frt		0.96								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3374								3433	1863	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3374								3433	1863	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1079	438	0	0	0	0	0	0	966	472	0
RTOR Reduction (vph)	0	61	0	0	0	0	0	0	0	90	0	0
Lane Group Flow (vph)	0	1456	0	0	0	0	0	0	0	876	472	0
Confl. Bikes (#/hr)			1									2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA								Split	NA	
Protected Phases		2								1	1	
Permitted Phases												
Actuated Green, G (s)		35.2								19.8	19.8	
Effective Green, g (s)		35.2								19.8	19.8	
Actuated g/C Ratio		0.50								0.28	0.28	
Clearance Time (s)		11.0								4.0	4.0	
Vehicle Extension (s)		2.0								2.0	2.0	
Lane Grp Cap (vph)		1696								971	526	
v/s Ratio Prot		c0.43								c0.26	0.25	
v/s Ratio Perm												
v/c Ratio		0.86								0.90	0.90	
Uniform Delay, d1		15.2								24.2	24.1	
Progression Factor		1.00								1.14	1.12	
Incremental Delay, d2		5.9								3.7	6.0	
Delay (s)		21.1								31.2	33.0	
Level of Service		C								C	C	
Approach Delay (s)		21.1			0.0			0.0			31.8	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		

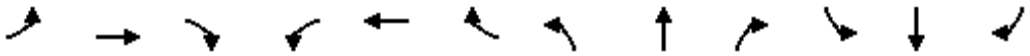
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	430	1440	0	0	0	0	0	850	440
Future Volume (vph)	0	0	0	430	1440	0	0	0	0	0	850	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0	5.0						5.0	5.0
Lane Util. Factor				1.00	0.95						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.99
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1752	3505						3505	1545
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1752	3505						3505	1545
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	500	1674	0	0	0	0	0	988	512
RTOR Reduction (vph)	0	0	0	12	0	0	0	0	0	0	0	96
Lane Group Flow (vph)	0	0	0	488	1674	0	0	0	0	0	988	416
Confl. Peds. (#/hr)												2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						5	
Permitted Phases				6								5
Actuated Green, G (s)				44.0	44.0						16.0	16.0
Effective Green, g (s)				44.0	44.0						16.0	16.0
Actuated g/C Ratio				0.63	0.63						0.23	0.23
Clearance Time (s)				5.0	5.0						5.0	5.0
Vehicle Extension (s)				2.0	2.0						2.0	2.0
Lane Grp Cap (vph)				1101	2203						801	353
v/s Ratio Prot					c0.48						c0.28	
v/s Ratio Perm				0.28								0.27
v/c Ratio				0.44	0.76						1.23	1.18
Uniform Delay, d1				6.7	9.2						27.0	27.0
Progression Factor				0.46	0.54						1.00	1.00
Incremental Delay, d2				0.8	1.6						115.8	105.4
Delay (s)				3.9	6.7						142.8	132.4
Level of Service				A	A						F	F
Approach Delay (s)		0.0			6.0			0.0			139.3	
Approach LOS		A			A			A			F	

Intersection Summary			
HCM 2000 Control Delay	60.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	107.0%	ICU Level of Service	G
Analysis Period (min)	15		

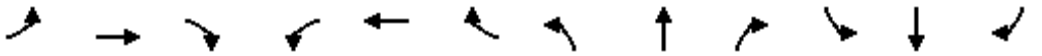
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1330	1160	540	430	0	0	0	0
Future Volume (vph)	0	0	0	0	1330	1160	540	430	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					11.0	11.0	4.0	4.0				
Lane Util. Factor					0.95	1.00	0.97	1.00				
Frpb, ped/bikes					1.00	0.99	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					3539	1562	3433	1863				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					3539	1562	3433	1863				
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)	0	0	0	0	1529	1333	621	494	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	33	95	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1529	1300	526	494	0	0	0	0
Confl. Bikes (#/hr)						3						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type					NA	Perm	Split	NA				
Protected Phases					2		1	1				
Permitted Phases						2						
Actuated Green, G (s)					38.0	38.0	17.0	17.0				
Effective Green, g (s)					38.0	38.0	17.0	17.0				
Actuated g/C Ratio					0.54	0.54	0.24	0.24				
Clearance Time (s)					11.0	11.0	4.0	4.0				
Vehicle Extension (s)					2.0	2.0	2.0	2.0				
Lane Grp Cap (vph)					1921	847	833	452				
v/s Ratio Prot					0.43		0.15	c0.27				
v/s Ratio Perm						c0.83						
v/c Ratio					0.80	1.53	0.63	1.09				
Uniform Delay, d1					12.9	16.0	23.7	26.5				
Progression Factor					1.00	1.00	0.51	0.59				
Incremental Delay, d2					3.5	246.7	1.0	66.2				
Delay (s)					16.4	262.7	13.1	81.7				
Level of Service					B	F	B	F				
Approach Delay (s)		0.0			131.1			43.5			0.0	
Approach LOS		A			F			D			A	

Intersection Summary			
HCM 2000 Control Delay	106.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	107.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	390	1430	0	0	0	0	0	580	260	0	0	0
Future Volume (vph)	390	1430	0	0	0	0	0	580	260	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						5.0	5.0			
Lane Util. Factor	1.00	0.95						0.95	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1736	3471						3471	1553			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1736	3471						3471	1553			
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	453	1663	0	0	0	0	0	674	302	0	0	0
RTOR Reduction (vph)	18	0	0	0	0	0	0	0	93	0	0	0
Lane Group Flow (vph)	435	1663	0	0	0	0	0	674	209	0	0	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA						NA	Perm			
Protected Phases	6	6						5				
Permitted Phases									5			
Actuated Green, G (s)	42.3	42.3						17.7	17.7			
Effective Green, g (s)	42.3	42.3						17.7	17.7			
Actuated g/C Ratio	0.60	0.60						0.25	0.25			
Clearance Time (s)	5.0	5.0						5.0	5.0			
Vehicle Extension (s)	2.0	2.0						2.0	2.0			
Lane Grp Cap (vph)	1049	2097						877	392			
v/s Ratio Prot	0.25	c0.48						c0.19				
v/s Ratio Perm									0.13			
v/c Ratio	0.41	0.79						0.77	0.53			
Uniform Delay, d1	7.3	10.5						24.3	22.6			
Progression Factor	0.03	1.22						1.00	1.00			
Incremental Delay, d2	0.8	1.7						3.7	0.7			
Delay (s)	1.0	14.5						27.9	23.3			
Level of Service	A	B						C	C			
Approach Delay (s)		11.6			0.0			26.5			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	2030	10	90	280	0	0	0	370
Future Volume (veh/h)	0	0	0	0	2030	10	90	280	0	0	0	370
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				0	1870	1900	1870	1870	0	0	0	1870
Adj Flow Rate, veh/h				0	2307	9	102	318	0	0	0	190
Peak Hour Factor				0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				0	2	0	2	2	0	0	0	2
Cap, veh/h				0	0	0	681	369	0	0	0	0
Arrive On Green				0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.00
Sat Flow, veh/h					0		3456	1870	0		0	
Grp Volume(v), veh/h					0.0		102	318	0		0.0	
Grp Sat Flow(s),veh/h/ln							1728	1870	0			
Q Serve(g_s), s							1.7	11.3	0.0			
Cycle Q Clear(g_c), s							1.7	11.3	0.0			
Prop In Lane							1.00		0.00			
Lane Grp Cap(c), veh/h							681	369	0			
V/C Ratio(X)							0.15	0.86	0.00			
Avail Cap(c_a), veh/h							751	515	0			
HCM Platoon Ratio							1.00	1.00	1.00			
Upstream Filter(I)							0.97	0.97	0.00			
Uniform Delay (d), s/veh							22.9	26.8	0.0			
Incr Delay (d2), s/veh							0.0	7.8	0.0			
Initial Q Delay(d3),s/veh							0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln							0.7	5.7	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh							23.0	34.6	0.0			
LnGrp LOS							C	C	A			
Approach Vol, veh/h								420				
Approach Delay, s/veh								31.8				
Approach LOS								C				

Timer - Assigned Phs	3	8
Phs Duration (G+Y+Rc), s	17.6	17.6
Change Period (Y+Rc), s	* 4	* 4
Max Green Setting (Gmax), s	* 15	* 19
Max Q Clear Time (g_c+I1), s	3.7	13.3
Green Ext Time (p_c), s	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	1210	200	0	0	0	0	90	5	0	0	0
Future Volume (veh/h)	280	1210	200	0	0	0	0	90	5	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1841	1841	1841				0	1841	1841			
Adj Flow Rate, veh/h	341	1476	0				0	110	2			
Peak Hour Factor	0.82	0.82	0.82				0.82	0.82	0.82			
Percent Heavy Veh, %	4	4	4				0	4	4			
Cap, veh/h	1354	3882					0	171	3			
Arrive On Green	0.77	0.77	0.00				0.00	0.10	0.10			
Sat Flow, veh/h	1753	5191	0				0	1802	33			
Grp Volume(v), veh/h	341	1476	0				0	0	112			
Grp Sat Flow(s),veh/h/ln	1753	1675	0				0	0	1834			
Q Serve(g_s), s	3.7	6.4	0.0				0.0	0.0	4.0			
Cycle Q Clear(g_c), s	3.7	6.4	0.0				0.0	0.0	4.0			
Prop In Lane	1.00		0.00				0.00		0.02			
Lane Grp Cap(c), veh/h	1354	3882					0	0	174			
V/C Ratio(X)	0.25	0.38					0.00	0.00	0.64			
Avail Cap(c_a), veh/h	1354	3882					0	0	459			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.55	0.55	0.00				0.00	0.00	1.00			
Uniform Delay (d), s/veh	2.2	2.5	0.0				0.0	0.0	29.7			
Incr Delay (d2), s/veh	0.2	0.2	0.0				0.0	0.0	1.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	0.3	0.0				0.0	0.0	1.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.4	2.6	0.0				0.0	0.0	31.1			
LnGrp LOS	A	A					A	A	C			
Approach Vol, veh/h		1817	A					112				
Approach Delay, s/veh		2.6						31.1				
Approach LOS		A						C				

Timer - Assigned Phs	2	8
Phs Duration (G+Y+Rc), s	57.5	10.5
Change Period (Y+Rc), s	* 5	4.0
Max Green Setting (Gmax), s	* 42	17.0
Max Q Clear Time (g_c+I1), s	8.4	6.0
Green Ext Time (p_c), s	7.8	0.2

Intersection Summary	
HCM 6th Ctrl Delay	4.3
HCM 6th LOS	A

Notes

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	720	450	370	1305	40	570	70	100	40	100	140
Future Volume (veh/h)	30	720	450	370	1305	40	570	70	100	40	100	140
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	35	847	147	435	1535	19	671	82	13	47	118	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	800	349	632	2031	886	547	369	310	70	147	125
Arrive On Green	0.02	0.22	0.22	0.71	1.00	1.00	0.16	0.20	0.20	0.04	0.08	0.00
Sat Flow, veh/h	1781	3554	1551	1781	3554	1551	3456	1870	1571	1781	1870	1585
Grp Volume(v), veh/h	35	847	147	435	1535	19	671	82	13	47	118	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1551	1781	1777	1551	1728	1870	1571	1781	1870	1585
Q Serve(g_s), s	2.3	27.0	6.6	16.6	0.0	0.0	19.0	4.4	0.4	3.1	7.4	0.0
Cycle Q Clear(g_c), s	2.3	27.0	6.6	16.6	0.0	0.0	19.0	4.4	0.4	3.1	7.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	44	800	349	632	2031	886	547	369	310	70	147	125
V/C Ratio(X)	0.79	1.06	0.42	0.69	0.76	0.02	1.23	0.22	0.04	0.67	0.80	0.00
Avail Cap(c_a), veh/h	45	800	349	632	2031	886	547	655	550	119	483	409
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.51	0.51	0.51	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.2	46.5	18.3	13.7	0.0	0.0	50.5	40.4	7.7	56.8	54.4	0.0
Incr Delay (d2), s/veh	57.1	48.7	3.7	1.4	1.4	0.0	117.3	0.1	0.0	4.0	3.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	16.7	3.9	4.1	0.4	0.0	17.0	2.0	0.3	1.5	3.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	115.3	95.2	22.0	15.0	1.4	0.0	167.8	40.5	7.7	60.8	58.2	0.0
LnGrp LOS	F	F	C	B	A	A	F	D	A	E	E	A
Approach Vol, veh/h		1029			1989			766			165	
Approach Delay, s/veh		85.4			4.4			151.5			58.9	
Approach LOS		F			A			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	48.6	33.0	24.0	14.4	7.0	74.6	9.7	28.7
Change Period (Y+Rc), s	* 6	* 6	* 5	* 5	* 4	* 6	* 5	* 5
Max Green Setting (Gmax), s	* 23	* 27	* 19	* 31	* 3	* 47	* 8	* 42
Max Q Clear Time (g_c+I1), s	19.6	29.0	21.0	9.4	4.3	2.0	5.1	6.4
Green Ext Time (p_c), s	0.3	0.0	0.0	0.2	0.0	2.3	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	56.3
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* 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)	30	560	270	90	1445	5	240	20	50	5	60	30
Future Volume (veh/h)	30	560	270	90	1445	5	240	20	50	5	60	30
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	38	709	164	114	1829	5	322	0	4	6	76	20
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	44	1691	738	139	1851	808	500	0	304	331	274	72
Arrive On Green	0.05	0.96	0.96	0.08	0.52	0.52	0.19	0.00	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1767	3526	1539	1767	3526	1540	2579	0	1572	1401	1416	373
Grp Volume(v), veh/h	38	709	164	114	1829	5	322	0	4	6	0	96
Grp Sat Flow(s),veh/h/ln	1767	1763	1539	1767	1763	1540	1289	0	1572	1401	0	1788
Q Serve(g_s), s	2.6	1.7	0.7	7.6	61.5	0.2	14.6	0.0	0.2	0.4	0.0	5.5
Cycle Q Clear(g_c), s	2.6	1.7	0.7	7.6	61.5	0.2	20.1	0.0	0.2	0.4	0.0	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	44	1691	738	139	1851	808	500	0	304	331	0	346
V/C Ratio(X)	0.86	0.42	0.22	0.82	0.99	0.01	0.64	0.00	0.01	0.02	0.00	0.28
Avail Cap(c_a), veh/h	44	1691	738	221	1851	808	819	0	498	504	0	566
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	0.55	0.55	0.55	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.8	1.3	1.3	54.4	28.1	13.6	49.8	0.0	39.2	39.2	0.0	41.3
Incr Delay (d2), s/veh	68.6	0.6	0.5	3.4	13.0	0.0	1.4	0.0	0.0	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.5	0.3	3.4	25.8	0.1	4.8	0.0	0.1	0.1	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	125.4	1.9	1.8	57.8	41.1	13.6	51.2	0.0	39.2	39.2	0.0	41.7
LnGrp LOS	F	A	A	E	D	B	D	A	D	D	A	D
Approach Vol, veh/h		911			1948			326			102	
Approach Delay, s/veh		7.0			42.0			51.1			41.6	
Approach LOS		A			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.5	63.5		28.2	9.0	69.0		28.2
Change Period (Y+Rc), s	* 5	6.0		* 5	6.0	* 6		* 5
Max Green Setting (Gmax), s	* 15	51.0		* 38	3.0	* 63		* 38
Max Q Clear Time (g_c+I1), s	9.6	3.7		7.5	4.6	63.5		22.1
Green Ext Time (p_c), s	0.1	1.4		0.5	0.0	0.0		1.1

Intersection Summary	
HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

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)	230	280	105	220	770	170	320	720	110	80	720	450
Future Volume (veh/h)	230	280	105	220	770	170	320	720	110	80	720	450
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	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	258	315	89	247	865	179	360	809	116	90	809	471
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	323	736	324	278	958	427	432	1261	562	115	1046	615
Arrive On Green	0.09	0.21	0.21	0.16	0.27	0.27	0.13	0.36	0.36	0.06	0.30	0.30
Sat Flow, veh/h	3428	3526	1552	1767	3526	1572	3428	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	258	315	89	247	865	179	360	809	116	90	809	471
Grp Sat Flow(s),veh/h/ln	1714	1763	1552	1767	1763	1572	1714	1763	1572	1767	1763	1572
Q Serve(g_s), s	7.7	8.1	5.0	14.2	24.6	9.7	10.7	19.9	5.3	5.2	21.8	27.1
Cycle Q Clear(g_c), s	7.7	8.1	5.0	14.2	24.6	9.7	10.7	19.9	5.3	5.2	21.8	27.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	323	736	324	278	958	427	432	1261	562	115	1046	615
V/C Ratio(X)	0.80	0.43	0.27	0.89	0.90	0.42	0.83	0.64	0.21	0.79	0.77	0.77
Avail Cap(c_a), veh/h	1318	1356	597	340	1356	605	659	1261	562	340	1356	753
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	35.8	34.5	42.9	36.6	31.1	44.4	27.9	23.2	47.9	33.4	27.5
Incr Delay (d2), s/veh	1.7	0.1	0.2	18.8	5.2	0.2	3.3	0.9	0.1	4.4	1.5	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.3	1.8	7.3	10.4	3.6	4.6	8.0	1.9	2.4	9.0	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	35.9	34.7	61.7	41.8	31.4	47.7	28.7	23.2	52.3	34.9	30.5
LnGrp LOS	D	D	C	E	D	C	D	C	C	D	C	C
Approach Vol, veh/h		662			1291			1285			1370	
Approach Delay, s/veh		40.4			44.2			33.6			34.5	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.4	28.7	17.1	36.9	14.8	35.3	10.7	43.2
Change Period (Y+Rc), s	* 5	7.0	* 4	* 6	* 5	7.0	* 4	* 6
Max Green Setting (Gmax), s	* 20	40.0	* 20	* 40	* 40	40.0	* 20	* 30
Max Q Clear Time (g_c+I1), s	16.2	10.1	12.7	29.1	9.7	26.6	7.2	21.9
Green Ext Time (p_c), s	0.1	0.6	0.4	1.8	0.1	1.6	0.1	1.4

Intersection Summary	
HCM 6th Ctrl Delay	37.8
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	150	220	30	500	5	420	10	5	10	20	240
Future Volume (veh/h)	100	150	220	30	500	5	420	10	5	10	20	240
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1811	1811	1826	1826	1811	1811	1811	1826	1811	1811
Adj Flow Rate, veh/h	108	161	109	32	538	2	452	11	2	11	22	68
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	6	6	5	5	6	6	6	5	6	6
Cap, veh/h	134	761	640	51	674	560	555	619	113	636	162	500
Arrive On Green	0.08	0.42	0.42	0.03	0.37	0.37	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1739	1826	1535	1725	1826	1515	1265	1491	271	1368	390	1205
Grp Volume(v), veh/h	108	161	109	32	538	2	452	0	13	11	0	90
Grp Sat Flow(s),veh/h/ln	1739	1826	1535	1725	1826	1515	1265	0	1762	1368	0	1594
Q Serve(g_s), s	6.0	5.5	4.4	1.8	25.7	0.1	33.7	0.0	0.4	0.5	0.0	3.4
Cycle Q Clear(g_c), s	6.0	5.5	4.4	1.8	25.7	0.1	37.1	0.0	0.4	0.9	0.0	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		0.76
Lane Grp Cap(c), veh/h	134	761	640	51	674	560	555	0	732	636	0	662
V/C Ratio(X)	0.80	0.21	0.17	0.62	0.80	0.00	0.81	0.00	0.02	0.02	0.00	0.14
Avail Cap(c_a), veh/h	141	761	640	113	674	560	709	0	947	802	0	856
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.4	18.2	17.9	46.9	27.6	19.5	29.2	0.0	16.8	17.1	0.0	17.7
Incr Delay (d2), s/veh	26.9	0.6	0.6	11.8	9.5	0.0	5.8	0.0	0.0	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	3.4	2.2	1.5	0.9	11.8	0.0	10.7	0.0	0.2	0.1	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.2	18.9	18.5	58.7	37.1	19.5	35.0	0.0	16.8	17.1	0.0	17.8
LnGrp LOS	E	B	B	E	D	B	C	A	B	B	A	B
Approach Vol, veh/h		378			572			465			101	
Approach Delay, s/veh		33.7			38.2			34.4			17.7	
Approach LOS		C			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.4	45.2		45.1	12.0	40.6		45.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.4	37.6		52.5	7.9	36.1		52.5
Max Q Clear Time (g_c+I1), s	3.8	7.5		5.4	8.0	27.7		39.1
Green Ext Time (p_c), s	0.0	1.1		0.6	0.0	1.9		1.5

Intersection Summary		
HCM 6th Ctrl Delay	34.6	
HCM 6th LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	520	100	240	905	110	60	10	90	30	10	20
Future Volume (veh/h)	30	520	100	240	905	110	60	10	90	30	10	20
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	33	565	63	261	984	115	65	11	19	22	26	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	83	1420	623	371	1472	172	219	230	364	153	161	0
Arrive On Green	0.05	0.42	0.42	0.11	0.48	0.48	0.13	0.13	0.13	0.09	0.09	0.00
Sat Flow, veh/h	1711	3413	1497	3319	3069	359	1711	1796	1516	1711	1796	0
Grp Volume(v), veh/h	33	565	63	261	547	552	65	11	19	22	26	0
Grp Sat Flow(s),veh/h/ln	1711	1706	1497	1659	1706	1722	1711	1796	1516	1711	1796	0
Q Serve(g_s), s	1.2	7.5	1.7	4.9	15.8	15.8	2.2	0.3	0.6	0.8	0.9	0.0
Cycle Q Clear(g_c), s	1.2	7.5	1.7	4.9	15.8	15.8	2.2	0.3	0.6	0.8	0.9	0.0
Prop In Lane	1.00		1.00	1.00		0.21	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	83	1420	623	371	818	825	219	230	364	153	161	0
V/C Ratio(X)	0.40	0.40	0.10	0.70	0.67	0.67	0.30	0.05	0.05	0.14	0.16	0.00
Avail Cap(c_a), veh/h	797	2120	930	1031	1060	1069	319	335	453	797	837	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.7	13.2	11.5	27.6	12.8	12.8	25.5	24.6	18.8	27.0	27.1	0.0
Incr Delay (d2), s/veh	1.1	0.4	0.2	0.9	2.1	2.1	0.3	0.0	0.0	0.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.6	0.5	1.9	5.5	5.5	0.9	0.1	0.2	0.3	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	13.5	11.6	28.5	14.9	14.9	25.7	24.7	18.9	27.2	27.3	0.0
LnGrp LOS	C	B	B	C	B	B	C	C	B	C	C	A
Approach Vol, veh/h		661			1360			95			48	
Approach Delay, s/veh		14.2			17.5			24.2			27.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.2	31.0		9.9	7.1	35.1		12.3
Change Period (Y+Rc), s	4.0	* 4.2		4.1	4.0	* 4.2		4.1
Max Green Setting (Gmax), s	20.0	* 40		30.0	30.0	* 40		12.0
Max Q Clear Time (g_c+I1), s	6.9	9.5		2.9	3.2	17.8		4.2
Green Ext Time (p_c), s	0.4	8.2		0.1	0.0	13.1		0.1

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
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)	0	550	90	210	795	0	0	0	0	630	5	460
Future Volume (veh/h)	0	550	90	210	795	0	0	0	0	630	5	460
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1841	1841	1841	0				1841	1841	1841
Adj Flow Rate, veh/h	0	598	26	228	864	0				689	0	295
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	4	4	4	4	0				4	4	4
Cap, veh/h	0	1008	442	871	2176	0				808	0	719
Arrive On Green	0.00	0.29	0.29	0.08	0.21	0.00				0.23	0.00	0.23
Sat Flow, veh/h	0	3589	1533	3401	3589	0				3506	0	3120
Grp Volume(v), veh/h	0	598	26	228	864	0				689	0	295
Grp Sat Flow(s),veh/h/ln	0	1749	1533	1700	1749	0				1753	0	1560
Q Serve(g_s), s	0.0	8.7	0.7	3.7	12.6	0.0				11.1	0.0	4.7
Cycle Q Clear(g_c), s	0.0	8.7	0.7	3.7	12.6	0.0				11.1	0.0	4.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1008	442	871	2176	0				808	0	719
V/C Ratio(X)	0.00	0.59	0.06	0.26	0.40	0.00				0.85	0.00	0.41
Avail Cap(c_a), veh/h	0	1008	442	871	2176	0				1010	0	899
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.95	0.95	0.76	0.76	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.0	15.2	21.8	13.9	0.0				21.7	0.0	19.3
Incr Delay (d2), s/veh	0.0	2.4	0.2	0.1	0.4	0.0				5.0	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
%ile BackOfQ(50%),veh/ln	0.0	3.4	0.3	1.4	5.8	0.0				4.5	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.5	15.4	21.9	14.3	0.0				26.7	0.0	19.4
LnGrp LOS	A	C	B	C	B	A				C	A	B
Approach Vol, veh/h		624			1092						984	
Approach Delay, s/veh		20.3			15.9						24.6	
Approach LOS		C			B						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.7	21.6		17.7		41.3
Change Period (Y+Rc), s	4.6	* 4.6		4.1		4.6
Max Green Setting (Gmax), s	10.0	* 17		17.0		33.0
Max Q Clear Time (g_c+I1), s	15.7	10.7		13.1		14.6
Green Ext Time (p_c), s	0.3	1.0		0.5		2.2

Intersection Summary	
HCM 6th Ctrl Delay	20.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

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)	180	1000	0	0	865	530	140	5	240	0	0	0
Future Volume (veh/h)	180	1000	0	0	865	530	140	5	240	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1826	1826	0	0	1826	1826	1826	1826	1826			
Adj Flow Rate, veh/h	202	1124	0	0	972	363	161	0	119			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	5	5	0	0	5	5	5	5	5			
Cap, veh/h	1216	2544	0	0	1000	446	392	0	174			
Arrive On Green	0.72	1.00	0.00	0.00	0.29	0.29	0.11	0.00	0.11			
Sat Flow, veh/h	3374	3561	0	0	3561	1547	3478	0	1547			
Grp Volume(v), veh/h	202	1124	0	0	972	363	161	0	119			
Grp Sat Flow(s),veh/h/ln	1687	1735	0	0	1735	1547	1739	0	1547			
Q Serve(g_s), s	1.1	0.0	0.0	0.0	16.3	12.9	2.5	0.0	4.4			
Cycle Q Clear(g_c), s	1.1	0.0	0.0	0.0	16.3	12.9	2.5	0.0	4.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	1216	2544	0	0	1000	446	392	0	174			
V/C Ratio(X)	0.17	0.44	0.00	0.00	0.97	0.81	0.41	0.00	0.68			
Avail Cap(c_a), veh/h	1216	2544	0	0	1000	446	884	0	393			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.73	0.73	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	5.4	0.0	0.0	0.0	20.8	19.5	24.4	0.0	25.2			
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	22.5	15.0	0.3	0.0	1.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.0	0.0	8.9	5.9	1.0	0.0	1.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.5	0.4	0.0	0.0	43.3	34.5	24.6	0.0	26.9			
LnGrp LOS	A	A	A	A	D	C	C	A	C			
Approach Vol, veh/h		1326			1335			280				
Approach Delay, s/veh		1.2			40.9			25.6				
Approach LOS		A			D			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		48.3			26.3	22.0		10.7				
Change Period (Y+Rc), s		* 5			* 5	* 5		4.1				
Max Green Setting (Gmax), s		* 35			* 12	* 17		15.0				
Max Q Clear Time (g_c+I1), s		2.0			3.1	18.3		6.4				
Green Ext Time (p_c), s		3.3			0.4	0.0		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
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)	70	970	40	30	1075	20	270	60	20	40	5	50
Future Volume (veh/h)	70	970	40	30	1075	20	270	60	20	40	5	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	81	1128	46	35	1250	22	201	228	18	47	6	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	211	1634	67	65	1560	27	322	309	24	77	10	135
Arrive On Green	0.06	0.48	0.48	0.04	0.44	0.44	0.18	0.18	0.18	0.05	0.05	0.00
Sat Flow, veh/h	3401	3424	140	1753	3515	62	1753	1683	133	1563	200	2745
Grp Volume(v), veh/h	81	576	598	35	622	650	201	0	246	53	0	0
Grp Sat Flow(s),veh/h/ln	1700	1749	1815	1753	1749	1829	1753	0	1816	1763	0	1373
Q Serve(g_s), s	1.4	15.3	15.3	1.2	18.3	18.3	6.3	0.0	7.6	1.8	0.0	0.0
Cycle Q Clear(g_c), s	1.4	15.3	15.3	1.2	18.3	18.3	6.3	0.0	7.6	1.8	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.03	1.00		0.07	0.89		1.00
Lane Grp Cap(c), veh/h	211	835	866	65	776	812	322	0	334	86	0	135
V/C Ratio(X)	0.38	0.69	0.69	0.54	0.80	0.80	0.62	0.00	0.74	0.61	0.00	0.00
Avail Cap(c_a), veh/h	1140	1026	1065	588	1026	1073	735	0	761	739	0	1151
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.9	12.1	12.2	28.2	14.3	14.3	22.4	0.0	23.0	27.8	0.0	0.0
Incr Delay (d2), s/veh	0.4	1.3	1.2	2.6	3.0	2.9	0.7	0.0	1.2	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	5.1	5.2	0.5	6.5	6.8	2.5	0.0	3.2	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.3	13.4	13.4	30.8	17.4	17.2	23.2	0.0	24.2	30.4	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	C	A	C	C	A	A
Approach Vol, veh/h		1255			1307			447			53	
Approach Delay, s/veh		14.3			17.7			23.7			30.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	32.6		6.9	7.2	30.6		15.0				
Change Period (Y+Rc), s	3.0	4.1		4.0	3.5	4.1		4.0				
Max Green Setting (Gmax), s	20.0	35.0		25.0	20.0	35.0		25.0				
Max Q Clear Time (g_c+I1), s	3.2	17.3		3.8	3.4	20.3		9.6				
Green Ext Time (p_c), s	0.0	6.1		0.1	0.1	6.2		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

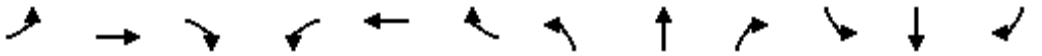
Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	990	30	40	1100	5	20	0	30	0	0	5
Future Vol, veh/h	10	990	30	40	1100	5	20	0	30	0	0	5
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	245	-	-	-	-	-	35	-	-	-	-	85
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	12	1165	35	47	1294	6	24	0	35	0	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1300	0	0	1202	0	0	1950	2603	602	1998	2617	650
Stage 1	-	-	-	-	-	-	1209	1209	-	1391	1391	-
Stage 2	-	-	-	-	-	-	741	1394	-	607	1226	-
Critical Hdwy	4.18	-	-	4.18	-	-	7.58	6.58	6.98	7.58	6.58	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Follow-up Hdwy	2.24	-	-	2.24	-	-	3.54	4.04	3.34	3.54	4.04	3.34
Pot Cap-1 Maneuver	518	-	-	565	-	-	38	24	438	35	23	407
Stage 1	-	-	-	-	-	-	191	250	-	147	204	-
Stage 2	-	-	-	-	-	-	370	203	-	445	245	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	518	-	-	564	-	-	28	16	437	24	16	407
Mov Cap-2 Maneuver	-	-	-	-	-	-	28	16	-	24	16	-
Stage 1	-	-	-	-	-	-	186	244	-	144	143	-
Stage 2	-	-	-	-	-	-	255	142	-	400	239	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	136.8	14
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	28	437	518	-	-	564	-	-	-	407
HCM Lane V/C Ratio	0.84	0.081	0.023	-	-	0.083	-	-	-	0.014
HCM Control Delay (s)	$ 321.1	14	12.1	-	-	12	-	-	0	14
HCM Lane LOS	F	B	B	-	-	B	-	-	A	B
HCM 95th %tile Q(veh)	2.7	0.3	0.1	-	-	0.3	-	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	630	180	50	815	140	130	120	30	180	350	200
Future Volume (veh/h)	210	630	180	50	815	140	130	120	30	180	350	200
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		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	236	708	165	56	916	46	146	135	4	202	393	109
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	284	1103	257	90	984	430	188	582	256	249	545	150
Arrive On Green	0.16	0.39	0.39	0.05	0.28	0.28	0.11	0.16	0.16	0.14	0.20	0.20
Sat Flow, veh/h	1767	2835	660	1767	3526	1539	1767	3526	1552	1767	2728	748
Grp Volume(v), veh/h	236	440	433	56	916	46	146	135	4	202	252	250
Grp Sat Flow(s),veh/h/ln	1767	1763	1732	1767	1763	1539	1767	1763	1552	1767	1763	1713
Q Serve(g_s), s	7.6	12.0	12.0	1.8	15.0	1.3	4.8	2.0	0.1	6.6	7.9	8.1
Cycle Q Clear(g_c), s	7.6	12.0	12.0	1.8	15.0	1.3	4.8	2.0	0.1	6.6	7.9	8.1
Prop In Lane	1.00		0.38	1.00		1.00	1.00		1.00	1.00		0.44
Lane Grp Cap(c), veh/h	284	686	674	90	984	430	188	582	256	249	352	343
V/C Ratio(X)	0.83	0.64	0.64	0.62	0.93	0.11	0.78	0.23	0.02	0.81	0.72	0.73
Avail Cap(c_a), veh/h	344	686	674	254	984	430	598	1432	630	374	507	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	14.7	14.7	27.5	20.7	15.8	25.7	21.4	20.7	24.6	22.1	22.1
Incr Delay (d2), s/veh	11.4	1.6	1.6	2.6	14.6	0.0	2.6	0.1	0.0	4.5	1.0	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	3.8	4.3	4.3	0.8	7.4	0.4	2.0	0.8	0.0	2.8	3.1	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	16.3	16.3	30.1	35.3	15.9	28.4	21.5	20.7	29.1	23.1	23.4
LnGrp LOS	D	B	B	C	D	B	C	C	C	C	C	C
Approach Vol, veh/h		1109			1018			285			704	
Approach Delay, s/veh		20.4			34.2			25.0			25.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	21.0	11.3	14.3	6.0	27.5	9.3	16.3
Change Period (Y+Rc), s	3.0	4.5	3.0	4.5	3.0	4.5	3.0	4.5
Max Green Setting (Gmax), s	11.5	16.5	12.5	24.0	8.5	18.5	20.0	17.0
Max Q Clear Time (g_c+I1), s	9.6	17.0	8.6	4.0	3.8	14.0	6.8	10.1
Green Ext Time (p_c), s	0.1	0.0	0.1	0.5	0.0	1.6	0.1	1.2

Intersection Summary	
HCM 6th Ctrl Delay	26.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

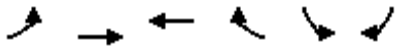
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	520	160	420	1170	170	160	20	130	50	40	30
Future Volume (veh/h)	20	520	160	420	1170	170	160	20	130	50	40	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	21	542	140	438	1219	170	167	21	18	52	42	1
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	61	737	190	456	1522	211	213	213	180	121	116	98
Arrive On Green	0.03	0.27	0.27	0.26	0.49	0.49	0.12	0.11	0.11	0.07	0.06	0.06
Sat Flow, veh/h	1767	2772	713	1767	3108	432	1767	1856	1569	1767	1856	1569
Grp Volume(v), veh/h	21	344	338	438	689	700	167	21	18	52	42	1
Grp Sat Flow(s),veh/h/ln	1767	1763	1722	1767	1763	1777	1767	1856	1569	1767	1856	1569
Q Serve(g_s), s	0.7	10.3	10.4	14.2	19.0	19.3	5.3	0.6	0.6	1.6	1.3	0.0
Cycle Q Clear(g_c), s	0.7	10.3	10.4	14.2	19.0	19.3	5.3	0.6	0.6	1.6	1.3	0.0
Prop In Lane	1.00		0.41	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	61	469	458	456	863	870	213	213	180	121	116	98
V/C Ratio(X)	0.34	0.73	0.74	0.96	0.80	0.80	0.78	0.10	0.10	0.43	0.36	0.01
Avail Cap(c_a), veh/h	456	1214	1186	456	1214	1224	609	639	540	456	639	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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.4	19.4	19.5	21.2	12.4	12.5	24.8	23.0	23.0	26.0	26.1	25.5
Incr Delay (d2), s/veh	1.2	0.8	0.9	31.6	1.7	1.8	2.4	0.1	0.1	0.9	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.8	3.8	9.2	6.2	6.4	2.2	0.2	0.2	0.7	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	20.3	20.4	52.9	14.1	14.3	27.2	23.1	23.1	26.9	26.8	25.5
LnGrp LOS	C	C	C	D	B	B	C	C	C	C	C	C
Approach Vol, veh/h		703			1827			206			95	
Approach Delay, s/veh		20.6			23.4			26.4			26.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	33.4	11.0	7.6	19.0	20.4	8.0	10.7
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	15.0	40.0	20.0	20.0	15.0	40.0	15.0	20.0
Max Q Clear Time (g_c+I1), s	2.7	21.3	7.3	3.3	16.2	12.4	3.6	2.6
Green Ext Time (p_c), s	0.0	6.3	0.2	0.1	0.0	2.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	23.1
HCM 6th LOS	C

Notes

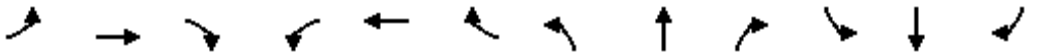
User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	240	460	1210	110	140	430
Future Volume (veh/h)	240	460	1210	110	140	430
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	261	500	1315	115	152	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	334	2651	1603	140	203	181
Arrive On Green	0.19	0.75	0.48	0.48	0.11	0.11
Sat Flow, veh/h	1781	3647	3400	288	1781	1585
Grp Volume(v), veh/h	261	500	705	725	152	37
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1818	1781	1585
Q Serve(g_s), s	9.5	2.8	23.0	23.2	5.6	1.4
Cycle Q Clear(g_c), s	9.5	2.8	23.0	23.2	5.6	1.4
Prop In Lane	1.00			0.16	1.00	1.00
Lane Grp Cap(c), veh/h	334	2651	861	881	203	181
V/C Ratio(X)	0.78	0.19	0.82	0.82	0.75	0.20
Avail Cap(c_a), veh/h	918	2651	916	937	643	572
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	26.2	2.5	14.9	15.0	29.1	27.3
Incr Delay (d2), s/veh	5.6	0.0	6.0	6.1	4.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.6	9.6	10.0	2.6	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.8	2.6	20.9	21.1	33.2	27.7
LnGrp LOS	C	A	C	C	C	C
Approach Vol, veh/h		761	1430		189	
Approach Delay, s/veh		12.6	21.0		32.1	
Approach LOS		B	C		C	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	55.6		12.2	17.7	37.9
Change Period (Y+Rc), s	5.0		4.5	5.0	5.0
Max Green Setting (Gmax), s	35.0		24.5	35.0	35.0
Max Q Clear Time (g_c+I1), s	4.8		7.6	11.5	25.2
Green Ext Time (p_c), s	5.3		0.4	1.3	7.7

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	100	300	290	600	50	290	470	40	95	770	430
Future Volume (veh/h)	200	100	300	290	600	50	290	470	40	95	770	430
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	227	114	101	330	682	55	330	534	40	108	875	425
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	294	454	385	398	908	73	397	1284	96	135	1224	546
Arrive On Green	0.09	0.24	0.24	0.12	0.27	0.27	0.12	0.39	0.39	0.08	0.35	0.35
Sat Flow, veh/h	3428	1856	1572	3428	3304	266	3428	3325	249	1767	3526	1572
Grp Volume(v), veh/h	227	114	101	330	364	373	330	283	291	108	875	425
Grp Sat Flow(s),veh/h/ln	1714	1856	1572	1714	1763	1807	1714	1763	1811	1767	1763	1572
Q Serve(g_s), s	6.2	4.8	5.0	9.1	18.2	18.2	9.1	11.3	11.3	5.8	20.8	23.3
Cycle Q Clear(g_c), s	6.2	4.8	5.0	9.1	18.2	18.2	9.1	11.3	11.3	5.8	20.8	23.3
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	294	454	385	398	485	497	397	681	700	135	1224	546
V/C Ratio(X)	0.77	0.25	0.26	0.83	0.75	0.75	0.83	0.41	0.42	0.80	0.72	0.78
Avail Cap(c_a), veh/h	498	558	473	1102	841	862	711	859	883	293	1572	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	29.3	29.4	41.7	31.9	31.9	41.7	21.6	21.6	43.8	27.3	28.2
Incr Delay (d2), s/veh	1.6	0.3	0.4	1.7	2.8	2.8	1.8	0.5	0.5	4.0	1.3	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.2	1.8	3.9	8.0	8.3	3.8	4.4	4.6	2.6	8.3	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.8	29.6	29.8	43.4	34.8	34.7	43.5	22.1	22.1	47.8	28.6	32.8
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		442			1067			904			1408	
Approach Delay, s/veh		37.4			37.4			29.9			31.3	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	31.5	15.2	37.5	15.2	28.6	11.4	41.2
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	14.0	46.0	20.0	43.0	31.0	29.0	16.0	47.0
Max Q Clear Time (g_c+I1), s	8.2	20.2	11.1	25.3	11.1	7.0	7.8	13.3
Green Ext Time (p_c), s	0.0	6.3	0.1	8.2	0.1	1.1	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	33.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	215	860	5	5	80
Future Vol, veh/h	20	215	860	5	5	80
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	24	259	1036	6	6	96

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1044	0	-	0	1348	1041
Stage 1	-	-	-	-	1041	-
Stage 2	-	-	-	-	307	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	670	-	-	-	167	281
Stage 1	-	-	-	-	342	-
Stage 2	-	-	-	-	748	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	669	-	-	-	159	280
Mov Cap-2 Maneuver	-	-	-	-	159	-
Stage 1	-	-	-	-	327	-
Stage 2	-	-	-	-	747	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	26.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	669	-	-	-	268
HCM Lane V/C Ratio	0.036	-	-	-	0.382
HCM Control Delay (s)	10.6	0	-	-	26.5
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	1.7

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	170	825	5	5	40
Future Vol, veh/h	20	170	825	5	5	40
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	26	218	1058	6	6	51

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1069	0	-	0	1336	1066
Stage 1	-	-	-	-	1066	-
Stage 2	-	-	-	-	270	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	656	-	-	-	170	271
Stage 1	-	-	-	-	332	-
Stage 2	-	-	-	-	778	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	653	-	-	-	161	270
Mov Cap-2 Maneuver	-	-	-	-	161	-
Stage 1	-	-	-	-	315	-
Stage 2	-	-	-	-	774	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	23.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	653	-	-	-	251
HCM Lane V/C Ratio	0.039	-	-	-	0.23
HCM Control Delay (s)	10.7	0	-	-	23.6
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	120	790	5	5	40
Future Vol, veh/h	20	120	790	5	5	40
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	150	988	6	6	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	999	0	-	0	1196	996
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	200	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	693	-	-	-	206	297
Stage 1	-	-	-	-	357	-
Stage 2	-	-	-	-	834	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	690	-	-	-	196	296
Mov Cap-2 Maneuver	-	-	-	-	196	-
Stage 1	-	-	-	-	341	-
Stage 2	-	-	-	-	830	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	21.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	690	-	-	-	280
HCM Lane V/C Ratio	0.036	-	-	-	0.201
HCM Control Delay (s)	10.4	0	-	-	21.1
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	110	745	5	10	50
Future Vol, veh/h	15	110	745	5	10	50
Conflicting Peds, #/hr	7	0	0	7	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	21	155	1049	7	14	70

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1063	0	-	0	1257	1060
Stage 1	-	-	-	-	1060	-
Stage 2	-	-	-	-	197	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	652	-	-	-	188	271
Stage 1	-	-	-	-	332	-
Stage 2	-	-	-	-	834	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	648	-	-	-	179	269
Mov Cap-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	318	-
Stage 2	-	-	-	-	828	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	26.8
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	648	-	-	-	248
HCM Lane V/C Ratio	0.033	-	-	-	0.341
HCM Control Delay (s)	10.7	0	-	-	26.8
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	1.4

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	100	5	0	610	5	90	5	0	10	0	50
Future Vol, veh/h	15	100	5	0	610	5	90	5	0	10	0	50
Conflicting Peds, #/hr	4	0	0	0	0	4	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	89	89	83	83	89	89	89	83	89	83
Heavy Vehicles, %	0	0	6	6	0	0	6	6	6	0	6	0
Mvmt Flow	18	120	6	0	735	6	101	6	0	12	0	60

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	745	0	0	126	0	0	927	904	123	904	904	742
Stage 1	-	-	-	-	-	-	159	159	-	742	742	-
Stage 2	-	-	-	-	-	-	768	745	-	162	162	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.16	6.56	6.26	7.1	6.56	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.56	-	6.1	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.56	-	6.1	5.56	-
Follow-up Hdwy	2.2	-	-	2.254	-	-	3.554	4.054	3.354	3.5	4.054	3.3
Pot Cap-1 Maneuver	872	-	-	1436	-	-	245	273	917	260	273	419
Stage 1	-	-	-	-	-	-	834	759	-	411	416	-
Stage 2	-	-	-	-	-	-	388	415	-	845	756	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	869	-	-	1436	-	-	206	266	917	251	266	417
Mov Cap-2 Maneuver	-	-	-	-	-	-	206	266	-	251	266	-
Stage 1	-	-	-	-	-	-	816	742	-	400	414	-
Stage 2	-	-	-	-	-	-	332	413	-	820	739	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0	39.2	16.8
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	208	869	-	-	1436	-	-	376
HCM Lane V/C Ratio	0.513	0.021	-	-	-	-	-	0.192
HCM Control Delay (s)	39.2	9.2	0	-	0	-	-	16.8
HCM Lane LOS	E	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	2.6	0.1	-	-	0	-	-	0.7

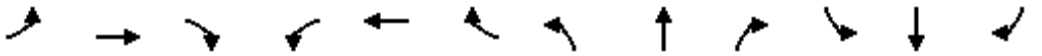
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	95	565	5	10	50
Future Vol, veh/h	15	95	565	5	10	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	107	635	6	11	56

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	641	0	-	0	779	638
Stage 1	-	-	-	-	638	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	953	-	-	-	367	480
Stage 1	-	-	-	-	530	-
Stage 2	-	-	-	-	891	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	953	-	-	-	360	480
Mov Cap-2 Maneuver	-	-	-	-	360	-
Stage 1	-	-	-	-	520	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	953	-	-	-	455
HCM Lane V/C Ratio	0.018	-	-	-	0.148
HCM Control Delay (s)	8.8	0	-	-	14.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	0	40	5	0	5	60	540	5	5	370	510
Future Volume (veh/h)	250	0	40	5	0	5	60	540	5	5	370	510
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	263	0	0	5	0	0	63	568	5	5	389	360
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	532	0	0	593	0	0	159	720	6	17	1100	491
Arrive On Green	0.24	0.00	0.00	0.24	0.00	0.00	0.09	0.38	0.38	0.01	0.30	0.30
Sat Flow, veh/h	1443	0	0	1694	0	0	1810	1880	17	1810	3610	1610
Grp Volume(v), veh/h	263	0	0	5	0	0	63	0	573	5	389	360
Grp Sat Flow(s),veh/h/ln	1443	0	0	1694	0	0	1810	0	1897	1810	1805	1610
Q Serve(g_s), s	6.7	0.0	0.0	0.0	0.0	0.0	1.3	0.0	10.7	0.1	3.4	8.1
Cycle Q Clear(g_c), s	6.8	0.0	0.0	0.1	0.0	0.0	1.3	0.0	10.7	0.1	3.4	8.1
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	532	0	0	593	0	0	159	0	727	17	1100	491
V/C Ratio(X)	0.49	0.00	0.00	0.01	0.00	0.00	0.40	0.00	0.79	0.29	0.35	0.73
Avail Cap(c_a), veh/h	2257	0	0	1423	0	0	1440	0	2737	1215	5208	2323
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.0	0.0	0.0	11.5	0.0	0.0	17.3	0.0	11.0	19.8	10.9	12.5
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.7	3.4	0.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	0.0	0.0	0.0	0.5	0.0	3.3	0.1	1.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.7	0.0	0.0	11.5	0.0	0.0	17.9	0.0	11.7	23.2	11.0	13.3
LnGrp LOS	B	A	A	B	A	A	B	A	B	C	B	B
Approach Vol, veh/h		263			5			636			754	
Approach Delay, s/veh		14.7			11.5			12.3			12.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	20.4		14.8	8.1	17.2		14.8				
Change Period (Y+Rc), s	4.6	5.0		5.0	4.6	5.0		* 5				
Max Green Setting (Gmax), s	27.0	58.0		58.0	32.0	58.0		* 33				
Max Q Clear Time (g_c+I1), s	2.1	12.7		8.8	3.3	10.1		2.1				
Green Ext Time (p_c), s	0.0	2.5		1.6	0.1	2.2		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		12.6
HCM 6th LOS		B

Notes

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

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	30	595	5	40	320
Future Vol, veh/h	10	30	595	5	40	320
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	11	32	640	5	43	344

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1073	643	0	0	645	0
Stage 1	643	-	-	-	-	-
Stage 2	430	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	241	468	-	-	926	-
Stage 1	518	-	-	-	-	-
Stage 2	650	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	230	468	-	-	926	-
Mov Cap-2 Maneuver	230	-	-	-	-	-
Stage 1	494	-	-	-	-	-
Stage 2	650	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.9	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	372	926	-
HCM Lane V/C Ratio	-	-	0.116	0.046	-
HCM Control Delay (s)	-	-	15.9	9.1	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

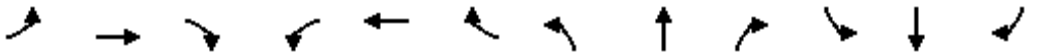
Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	80	520	40	40	290
Future Vol, veh/h	70	80	520	40	40	290
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	-	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	76	87	565	43	43	315

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	988	587	0	0	608	0
Stage 1	587	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	271	504	-	-	956	-
Stage 1	550	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	259	504	-	-	956	-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	525	-	-	-	-	-
Stage 2	670	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.7	0	1.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	259	504	956	-
HCM Lane V/C Ratio	-	-	0.294	0.173	0.045	-
HCM Control Delay (s)	-	-	24.6	13.6	8.9	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	1.2	0.6	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	560	80	80	20	70	50	100	2480	20	110	2260	460
Future Volume (veh/h)	560	80	80	20	70	50	100	2480	20	110	2260	460
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	667	95	91	24	83	42	119	2952	12	131	2690	315
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	198	21	21	62	188	86	141	1948	846	153	1973	849
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.08	0.59	0.59	0.09	0.60	0.60
Sat Flow, veh/h	816	116	111	170	1022	468	1654	3300	1433	1654	3300	1421
Grp Volume(v), veh/h	853	0	0	149	0	0	119	2952	12	131	2690	315
Grp Sat Flow(s),veh/h/ln	1043	0	0	1659	0	0	1654	1650	1433	1654	1650	1421
Q Serve(g_s), s	14.1	0.0	0.0	0.0	0.0	0.0	9.6	80.0	0.5	10.6	81.0	15.5
Cycle Q Clear(g_c), s	25.0	0.0	0.0	10.9	0.0	0.0	9.6	80.0	0.5	10.6	81.0	15.5
Prop In Lane	0.78		0.11	0.16		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	0	0	337	0	0	141	1948	846	153	1973	849
V/C Ratio(X)	3.56	0.00	0.00	0.44	0.00	0.00	0.85	1.52	0.01	0.86	1.36	0.37
Avail Cap(c_a), veh/h	240	0	0	337	0	0	183	1948	846	183	1973	849
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.8	0.0	0.0	49.5	0.0	0.0	61.1	27.8	11.5	60.6	27.3	14.1
Incr Delay (d2), s/veh	1161.3	0.0	0.0	0.3	0.0	0.0	19.6	234.5	0.0	24.4	167.0	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	85.7	0.0	0.0	4.6	0.0	0.0	4.7	90.6	0.1	5.3	73.1	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1220.2	0.0	0.0	49.9	0.0	0.0	80.7	262.3	11.5	85.0	194.3	14.2
LnGrp LOS	F	A	A	D	A	A	F	F	B	F	F	B
Approach Vol, veh/h		853			149			3083			3136	
Approach Delay, s/veh		1220.2			49.9			254.3			171.6	
Approach LOS		F			D			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.5	88.0		30.0	16.5	89.0		30.0				
Change Period (Y+Rc), s	* 5	8.0		* 5	* 5	8.0		* 5				
Max Green Setting (Gmax), s	* 15	80.0		* 25	* 15	80.0		* 25				
Max Q Clear Time (g_c+I1), s	12.6	82.0		27.0	11.6	83.0		12.9				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.4				

Intersection Summary		
HCM 6th Ctrl Delay	328.3	
HCM 6th LOS	F	

Notes

User approved pedestrian interval to be less than phase max green.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	30	20	140	50	210	20	940	70	100	910	120
Future Volume (veh/h)	100	30	20	140	50	210	20	940	70	100	910	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	115	34	0	161	57	13	23	1080	74	115	1046	129
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	181	127	0	206	153	129	67	1518	104	181	1636	202
Arrive On Green	0.10	0.07	0.00	0.11	0.08	0.08	0.04	0.45	0.45	0.10	0.51	0.51
Sat Flow, veh/h	1795	1885	0	1795	1885	1598	1795	3401	233	1795	3209	395
Grp Volume(v), veh/h	115	34	0	161	57	13	23	568	586	115	583	592
Grp Sat Flow(s),veh/h/ln	1795	1885	0	1795	1885	1598	1795	1791	1843	1795	1791	1814
Q Serve(g_s), s	3.6	1.0	0.0	5.1	1.7	0.4	0.7	15.2	15.2	3.6	14.0	14.0
Cycle Q Clear(g_c), s	3.6	1.0	0.0	5.1	1.7	0.4	0.7	15.2	15.2	3.6	14.0	14.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.13	1.00		0.22
Lane Grp Cap(c), veh/h	181	127	0	206	153	129	67	799	823	181	913	925
V/C Ratio(X)	0.64	0.27	0.00	0.78	0.37	0.10	0.34	0.71	0.71	0.64	0.64	0.64
Avail Cap(c_a), veh/h	304	703	0	457	703	596	365	1063	1094	365	1063	1077
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	26.1	0.0	25.4	25.7	25.1	27.7	13.2	13.2	25.5	10.5	10.5
Incr Delay (d2), s/veh	1.4	1.1	0.0	2.5	0.6	0.1	1.1	1.9	1.9	1.4	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.5	0.0	2.2	0.8	0.2	0.3	5.0	5.2	1.4	4.2	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	27.3	0.0	27.9	26.2	25.2	28.8	15.2	15.1	26.9	11.8	11.8
LnGrp LOS	C	C	A	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		149			231			1177			1290	
Approach Delay, s/veh		27.0			27.3			15.4			13.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	31.3	10.3	8.0	5.7	35.1	9.4	8.8
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	12.0	35.0	15.0	22.0	12.0	35.0	10.0	22.0
Max Q Clear Time (g_c+I1), s	5.6	17.2	7.1	3.0	2.7	16.0	5.6	3.7
Green Ext Time (p_c), s	0.0	9.1	0.1	0.1	0.0	9.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	5	5	110	5	100	5	970	40	60	1020	5
Future Volume (veh/h)	20	5	5	110	5	100	5	970	40	60	1020	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	6	0	124	6	6	6	1090	43	67	1146	6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	26	22	203	78	78	20	1646	65	150	1977	10
Arrive On Green	0.04	0.01	0.00	0.11	0.09	0.09	0.01	0.47	0.47	0.08	0.55	0.55
Sat Flow, veh/h	1781	1870	1585	1781	858	858	1781	3485	137	1781	3624	19
Grp Volume(v), veh/h	22	6	0	124	0	12	6	556	577	67	562	590
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1716	1781	1777	1845	1781	1777	1866
Q Serve(g_s), s	0.6	0.2	0.0	3.4	0.0	0.3	0.2	12.2	12.2	1.8	10.7	10.7
Cycle Q Clear(g_c), s	0.6	0.2	0.0	3.4	0.0	0.3	0.2	12.2	12.2	1.8	10.7	10.7
Prop In Lane	1.00		1.00	1.00		0.50	1.00		0.07	1.00		0.01
Lane Grp Cap(c), veh/h	66	26	22	203	0	157	20	839	872	150	969	1018
V/C Ratio(X)	0.34	0.23	0.00	0.61	0.00	0.08	0.30	0.66	0.66	0.45	0.58	0.58
Avail Cap(c_a), veh/h	702	774	656	702	0	710	702	1226	1273	702	1226	1287
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	24.7	0.0	21.4	0.0	21.1	24.9	10.3	10.3	22.1	7.7	7.7
Incr Delay (d2), s/veh	1.1	6.1	0.0	1.1	0.0	0.3	3.1	1.3	1.2	0.8	0.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.0	1.4	0.0	0.1	0.1	3.4	3.5	0.7	2.5	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.9	30.9	0.0	22.5	0.0	21.4	28.0	11.6	11.5	22.9	8.5	8.4
LnGrp LOS	C	C	A	C	A	C	C	B	B	C	A	A
Approach Vol, veh/h		28			136			1139			1219	
Approach Delay, s/veh		26.2			22.4			11.6			9.2	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	29.0	9.3	4.7	4.1	32.7	5.4	8.6
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	20.0	35.0	20.0	21.0	20.0	35.0	20.0	21.0
Max Q Clear Time (g_c+I1), s	3.8	14.2	5.4	2.2	2.2	12.7	2.6	2.3
Green Ext Time (p_c), s	0.1	9.8	0.1	0.0	0.0	10.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	7.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	20	1030	90	30	1200
Future Vol, veh/h	50	20	1030	90	30	1200
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	23	1198	105	35	1395

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2019	652	0	0	1303	0
Stage 1	1251	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 51	411	-	-	527	-
Stage 1	233	-	-	-	-	-
Stage 2	418	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 48	411	-	-	527	-
Mov Cap-2 Maneuver	~ 48	-	-	-	-	-
Stage 1	218	-	-	-	-	-
Stage 2	418	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	243.5	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	48	411	527	-
HCM Lane V/C Ratio	-	-	1.211	0.057	0.066	-
HCM Control Delay (s)	-	-	$ 335.2	14.3	12.3	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	5.3	0.2	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	358.7

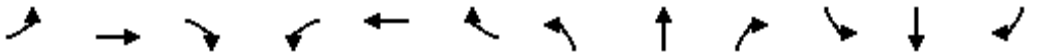
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	170	20	1130	5	35	1010
Future Vol, veh/h	170	20	1130	5	35	1010
Conflicting Peds, #/hr	250	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	200	24	1329	6	41	1188

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2258	668	0	0	1335	0
Stage 1	1332	-	-	-	-	-
Stage 2	926	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	~ 34	398	-	-	507	-
Stage 1	209	-	-	-	-	-
Stage 2	344	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 20	398	-	-	507	-
Mov Cap-2 Maneuver	~ 20	-	-	-	-	-
Stage 1	~ 159	-	-	-	-	-
Stage 2	262	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 4465	0	1.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	22	507	-
HCM Lane V/C Ratio	-	-	10.16	0.081	-
HCM Control Delay (s)	-	-	$ 4465	12.7	1.4
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	28.2	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	5	190	120	30	130	200	855	20	20	930	230
Future Volume (veh/h)	150	5	190	120	30	130	200	855	20	20	930	230
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	6	70	146	37	13	244	1043	11	24	1134	180
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	337	25	286	310	256	90	291	2061	919	48	1576	703
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.16	0.58	0.58	0.03	0.44	0.44
Sat Flow, veh/h	1355	127	1478	1323	1322	465	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	183	0	76	146	0	50	244	1043	11	24	1134	180
Grp Sat Flow(s),veh/h/ln	1355	0	1604	1323	0	1787	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	8.8	0.0	2.7	7.1	0.0	1.6	9.0	11.8	0.2	0.9	17.6	4.8
Cycle Q Clear(g_c), s	10.3	0.0	2.7	9.8	0.0	1.6	9.0	11.8	0.2	0.9	17.6	4.8
Prop In Lane	1.00		0.92	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	337	0	311	310	0	346	291	2061	919	48	1576	703
V/C Ratio(X)	0.54	0.00	0.24	0.47	0.00	0.14	0.84	0.51	0.01	0.50	0.72	0.26
Avail Cap(c_a), veh/h	736	0	783	699	0	872	356	2061	919	145	1576	703
HCM Platoon Ratio	1.00	1.00	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	26.9	0.0	23.1	27.2	0.0	22.6	27.4	8.4	6.0	32.5	15.4	11.8
Incr Delay (d2), s/veh	1.4	0.0	0.4	1.1	0.0	0.2	13.8	0.9	0.0	7.9	2.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	1.0	2.1	0.0	0.6	4.5	3.5	0.1	0.5	6.4	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.3	0.0	23.5	28.4	0.0	22.8	41.2	9.3	6.0	40.4	18.2	12.7
LnGrp LOS	C	A	C	C	A	C	D	A	A	D	B	B
Approach Vol, veh/h		259			196			1298			1338	
Approach Delay, s/veh		26.9			26.9			15.3			17.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	43.7		17.6	15.5	34.5		17.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	38.0		33.0	13.5	30.0		33.0				
Max Q Clear Time (g_c+I1), s	2.9	13.8		12.3	11.0	19.6		11.8				
Green Ext Time (p_c), s	0.0	7.4		0.9	0.2	5.6		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		18.1	
HCM 6th LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	30	5	140	5	940	10	20	1220	5
Future Volume (veh/h)	5	5	5	30	5	140	5	940	10	20	1220	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	6	6	0	35	6	5	6	1093	12	23	1419	6
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	51	54	0	87	15	12	20	2022	22	66	2040	9
Arrive On Green	0.03	0.03	0.00	0.07	0.07	0.07	0.01	0.57	0.57	0.04	0.57	0.57
Sat Flow, veh/h	1767	1856	0	1335	229	191	1767	3571	39	1767	3600	15
Grp Volume(v), veh/h	6	6	0	46	0	0	6	540	565	23	695	730
Grp Sat Flow(s),veh/h/ln	1767	1856	0	1754	0	0	1767	1763	1847	1767	1763	1853
Q Serve(g_s), s	0.2	0.2	0.0	1.5	0.0	0.0	0.2	11.1	11.1	0.7	16.3	16.4
Cycle Q Clear(g_c), s	0.2	0.2	0.0	1.5	0.0	0.0	0.2	11.1	11.1	0.7	16.3	16.4
Prop In Lane	1.00		0.00	0.76		0.11	1.00		0.02	1.00		0.01
Lane Grp Cap(c), veh/h	51	54	0	115	0	0	20	998	1046	66	999	1050
V/C Ratio(X)	0.12	0.11	0.00	0.40	0.00	0.00	0.31	0.54	0.54	0.35	0.70	0.70
Avail Cap(c_a), veh/h	609	640	0	605	0	0	305	1216	1274	457	1216	1278
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.4	27.4	0.0	26.0	0.0	0.0	28.4	7.9	7.9	27.2	9.0	9.0
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.8	0.0	0.0	3.2	0.8	0.7	1.2	1.9	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.6	0.0	0.0	0.1	2.9	3.0	0.3	4.5	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.8	27.8	0.0	26.8	0.0	0.0	31.6	8.6	8.6	28.4	10.9	10.8
LnGrp LOS	C	C	A	C	A	A	C	A	A	C	B	B
Approach Vol, veh/h		12			46			1111			1448	
Approach Delay, s/veh		27.8			26.8			8.7			11.1	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.7	37.8		6.7	5.6	37.9		7.8
Change Period (Y+Rc), s	3.5	5.0		5.0	5.0	5.0		4.0
Max Green Setting (Gmax), s	15.0	40.0		20.0	10.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	2.7	13.1		2.2	2.2	18.4		3.5
Green Ext Time (p_c), s	0.0	12.4		0.0	0.0	14.5		0.1

Intersection Summary	
HCM 6th Ctrl Delay	10.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	45.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	120	40	915	30	30	1225
Future Vol, veh/h	120	40	915	30	30	1225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	136	45	1040	34	34	1392

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1821	537	0	0	1074	0
Stage 1	1057	-	-	-	-	-
Stage 2	764	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	~ 68	486	-	-	639	-
Stage 1	293	-	-	-	-	-
Stage 2	418	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 64	486	-	-	639	-
Mov Cap-2 Maneuver	~ 64	-	-	-	-	-
Stage 1	277	-	-	-	-	-
Stage 2	418	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 667.5	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	82	639	-
HCM Lane V/C Ratio	-	-	2.217	0.053	-
HCM Control Delay (s)	-	-	$ 667.5	11	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	16.6	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	13

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	0	20	5	230	20	710	5	20	1275	50
Future Vol, veh/h	5	0	0	20	5	230	20	710	5	20	1275	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	6	0	0	23	6	267	23	826	6	23	1483	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2020	2436	771	1663	2462	416	1541	0	0	832	0	0
Stage 1	1558	1558	-	875	875	-	-	-	-	-	-	-
Stage 2	462	878	-	788	1587	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	34	31	341	63	30	583	422	-	-	790	-	-
Stage 1	116	170	-	308	363	-	-	-	-	-	-	-
Stage 2	546	362	-	348	165	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	15	28	341	59	28	583	422	-	-	790	-	-
Mov Cap-2 Maneuver	15	28	-	59	28	-	-	-	-	-	-	-
Stage 1	110	165	-	291	343	-	-	-	-	-	-	-
Stage 2	275	342	-	338	160	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 353.9	110.5	0.4	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	422	-	-	15	280	790	-	-
HCM Lane V/C Ratio	0.055	-	-	0.388	1.059	0.029	-	-
HCM Control Delay (s)	14	-	-	$ 353.9	110.5	9.7	-	-
HCM Lane LOS	B	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1	11.6	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	235.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	20	40	110	20	30	90	540	140	80	810	200
Future Vol, veh/h	50	20	40	110	20	30	90	540	140	80	810	200
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	160	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	89	90	89	89	89	90	90	89	89	90	90
Heavy Vehicles, %	3	6	3	6	6	6	3	3	6	6	3	3
Mvmt Flow	56	22	44	124	22	34	100	600	157	90	900	222

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1702	2148	561	1520	2181	379	1122	0	0	757	0	0
Stage 1	1191	1191	-	879	879	-	-	-	-	-	-	-
Stage 2	511	957	-	641	1302	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.62	6.96	7.62	6.62	7.02	4.16	-	-	4.22	-	-
Critical Hdwy Stg 1	6.56	5.62	-	6.62	5.62	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.62	-	6.62	5.62	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.06	3.33	3.56	4.06	3.36	2.23	-	-	2.26	-	-
Pot Cap-1 Maneuver	59	45	468	~ 78	43	608	613	-	-	824	-	-
Stage 1	197	251	-	301	354	-	-	-	-	-	-	-
Stage 2	511	325	-	420	222	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 20	34	468	~ 27	32	608	613	-	-	824	-	-
Mov Cap-2 Maneuver	~ 20	34	-	~ 27	32	-	-	-	-	-	-	-
Stage 1	165	224	-	252	296	-	-	-	-	-	-	-
Stage 2	373	272	-	305	198	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	1361.7	$ 2163	1.4	0.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	613	-	-	35	34	824	-	-
HCM Lane V/C Ratio	0.163	-	-	3.499	5.288	0.109	-	-
HCM Control Delay (s)	12	-	-	$ 1361.7	$ 2163	9.9	-	-
HCM Lane LOS	B	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	14.2	21.4	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	85	0	30	560	0	0	0	10	0	5	30
Future Vol, veh/h	5	85	0	30	560	0	0	0	10	0	5	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	6	6	6	6	6	6	6	6	6	6	6	6
Mvmt Flow	6	96	0	34	629	0	0	0	11	0	6	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	629	0	0	96	0	0	825	805	96	811	805	629
Stage 1	-	-	-	-	-	-	108	108	-	697	697	-
Stage 2	-	-	-	-	-	-	717	697	-	114	108	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.16	6.56	6.26	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.56	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.56	-	6.16	5.56	-
Follow-up Hdwy	2.254	-	-	2.254	-	-	3.554	4.054	3.354	3.554	4.054	3.354
Pot Cap-1 Maneuver	934	-	-	1473	-	-	287	311	950	293	311	475
Stage 1	-	-	-	-	-	-	888	798	-	425	437	-
Stage 2	-	-	-	-	-	-	414	437	-	881	798	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	934	-	-	1473	-	-	255	298	950	280	298	475
Mov Cap-2 Maneuver	-	-	-	-	-	-	255	298	-	280	298	-
Stage 1	-	-	-	-	-	-	882	792	-	422	422	-
Stage 2	-	-	-	-	-	-	366	422	-	864	792	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.4	8.8	14
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	950	934	-	-	1473	-	-	438
HCM Lane V/C Ratio	0.012	0.006	-	-	0.023	-	-	0.09
HCM Control Delay (s)	8.8	8.9	0	-	7.5	0	-	14
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-	-	0.3

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	107	73	190	17
Demand Flow Rate, veh/h	113	77	202	18
Vehicles Circulating, veh/h	119	238	54	803
Vehicles Exiting, veh/h	702	18	178	12
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.9	4.1	4.2	6.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	113	77	202	18
Cap Entry Lane, veh/h	1222	1082	1306	608
Entry HV Adj Factor	0.944	0.948	0.942	0.926
Flow Entry, veh/h	107	73	190	17
Cap Entry, veh/h	1154	1026	1230	563
V/C Ratio	0.092	0.071	0.155	0.030
Control Delay, s/veh	3.9	4.1	4.2	6.7
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	SW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	539
Demand Flow Rate, veh/h	571
Vehicles Circulating, veh/h	244
Vehicles Exiting, veh/h	71
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	10.1
Approach LOS	B

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	571
Cap Entry Lane, veh/h	1076
Entry HV Adj Factor	0.944
Flow Entry, veh/h	539
Cap Entry, veh/h	1016
V/C Ratio	0.531
Control Delay, s/veh	10.1
LOS	B
95th %tile Queue, veh	3

Intersection	
Intersection Delay, s/veh	5.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	22	225	68	292
Demand Flow Rate, veh/h	23	238	71	310
Vehicles Circulating, veh/h	549	65	0	245
Vehicles Exiting, veh/h	6	6	572	59
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.1	4.5	3.1	6.4
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	23	238	71	310
Cap Entry Lane, veh/h	788	1291	1380	1075
Entry HV Adj Factor	0.957	0.945	0.953	0.943
Flow Entry, veh/h	22	225	68	292
Cap Entry, veh/h	754	1221	1315	1014
V/C Ratio	0.029	0.184	0.051	0.288
Control Delay, s/veh	5.1	4.5	3.1	6.4
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	1

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	80	90	0	30	120
Future Vol, veh/h	0	80	90	0	30	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	6	6	6	6	6	6
Mvmt Flow	0	90	101	0	34	135

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	304	101	0	0	101	0
Stage 1	101	-	-	-	-	-
Stage 2	203	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.16	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.254	-
Pot Cap-1 Maneuver	680	943	-	-	1467	-
Stage 1	913	-	-	-	-	-
Stage 2	822	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	663	943	-	-	1467	-
Mov Cap-2 Maneuver	663	-	-	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	822	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	1.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	943	1467	-
HCM Lane V/C Ratio	-	-	0.095	0.023	-
HCM Control Delay (s)	-	-	9.2	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	30	60	210	40	80
Future Vol, veh/h	40	30	60	210	40	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	6	6	6	6	6	6
Mvmt Flow	45	34	67	236	45	90

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	365	185	0	0	303	0
Stage 1	185	-	-	-	-	-
Stage 2	180	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.16	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.254	-
Pot Cap-1 Maneuver	627	847	-	-	1235	-
Stage 1	837	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	603	847	-	-	1235	-
Mov Cap-2 Maneuver	603	-	-	-	-	-
Stage 1	805	-	-	-	-	-
Stage 2	841	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	688	1235	-
HCM Lane V/C Ratio	-	-	0.114	0.036	-
HCM Control Delay (s)	-	-	10.9	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	0	270	10	0	120
Future Vol, veh/h	60	0	270	10	0	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	6	6	6	6	6	6
Mvmt Flow	67	0	303	11	0	135

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	444	309	0	0	314	0
Stage 1	309	-	-	-	-	-
Stage 2	135	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.16	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.254	-
Pot Cap-1 Maneuver	564	722	-	-	1224	-
Stage 1	736	-	-	-	-	-
Stage 2	882	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	564	722	-	-	1224	-
Mov Cap-2 Maneuver	564	-	-	-	-	-
Stage 1	736	-	-	-	-	-
Stage 2	882	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	564	1224	-
HCM Lane V/C Ratio	-	-	0.12	-	-
HCM Control Delay (s)	-	-	12.2	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	40.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	390	70	210	180	30	150
Future Vol, veh/h	390	70	210	180	30	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	6	6	6	6	6	6
Mvmt Flow	438	79	236	202	34	169

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	574	337	0	0	438	0
Stage 1	337	-	-	-	-	-
Stage 2	237	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.16	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.254	-
Pot Cap-1 Maneuver	474	696	-	-	1101	-
Stage 1	714	-	-	-	-	-
Stage 2	793	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	458	696	-	-	1101	-
Mov Cap-2 Maneuver	458	-	-	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	793	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	90.2	0	1.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	483	1101	-
HCM Lane V/C Ratio	-	-	1.07	0.031	-
HCM Control Delay (s)	-	-	90.2	8.4	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	16.2	0.1	-

Intersection	
Intersection Delay, s/veh	17.6
Intersection LOS	C

Approach	WB	NB	SB
Entry Lanes	1	2	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	630	585	607
Demand Flow Rate, veh/h	668	620	644
Vehicles Circulating, veh/h	382	12	584
Vehicles Exiting, veh/h	251	1216	466
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	17.2	4.7	30.5
Approach LOS	C	A	D

Lane	Left	Left	Right	Left
Designated Moves	LR	LT	R	LT
Assumed Moves	LR	LT	R	LT
RT Channelized				
Lane Util	1.000	0.616	0.384	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.544	4.544	4.976
Entry Flow, veh/h	668	382	238	644
Cap Entry Lane, veh/h	935	1405	1405	761
Entry HV Adj Factor	0.943	0.943	0.945	0.943
Flow Entry, veh/h	630	360	225	607
Cap Entry, veh/h	881	1325	1328	717
V/C Ratio	0.715	0.272	0.169	0.847
Control Delay, s/veh	17.2	5.1	4.1	30.5
LOS	C	A	A	D
95th %tile Queue, veh	6	1	1	10

Intersection	
Intersection Delay, s/veh	43.6
Intersection LOS	E

Approach	EB	WB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	1382	944	1146
Demand Flow Rate, veh/h	1465	1000	1215
Vehicles Circulating, veh/h	119	524	905
Vehicles Exiting, veh/h	2001	1060	619
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	12.0	72.8	57.7
Approach LOS	B	F	F

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	LTR	LTR	R	LTR	R
Assumed Moves	L	TR	LT	R	LTR	R
RT Channelized						
Lane Util	0.358	0.642	0.905	0.095	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	524	941	905	95	571	644
Cap Entry Lane, veh/h	1210	1283	834	910	587	658
Entry HV Adj Factor	0.943	0.943	0.943	0.947	0.943	0.943
Flow Entry, veh/h	494	888	854	90	539	607
Cap Entry, veh/h	1141	1211	786	862	554	621
V/C Ratio	0.433	0.733	1.086	0.104	0.973	0.979
Control Delay, s/veh	7.7	14.3	79.9	5.2	58.9	56.7
LOS	A	B	F	A	F	F
95th %tile Queue, veh	2	7	23	0	13	14

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	0	600	5	400	0	340	660	350	270	5
Future Volume (veh/h)	5	5	0	600	5	400	0	340	660	350	270	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	5	5	0	649	0	0	0	366	0	335	347	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	312	279	0	1108	0		0	565		420	435	5
Arrive On Green	0.32	0.32	0.00	0.32	0.00	0.00	0.00	0.17	0.00	0.25	0.25	0.25
Sat Flow, veh/h	674	863	0	2643	0	1485	0	3416	1485	1668	1728	20
Grp Volume(v), veh/h	10	0	0	649	0	0	0	366	0	335	0	351
Grp Sat Flow(s),veh/h/ln	1537	0	0	1322	0	1485	0	1664	1485	1668	0	1748
Q Serve(g_s), s	0.0	0.0	0.0	12.3	0.0	0.0	0.0	5.9	0.0	10.7	0.0	10.7
Cycle Q Clear(g_c), s	0.2	0.0	0.0	12.5	0.0	0.0	0.0	5.9	0.0	10.7	0.0	10.7
Prop In Lane	0.50		0.00	1.00		1.00	0.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	591	0	0	1108	0		0	565		420	0	440
V/C Ratio(X)	0.02	0.00	0.00	0.59	0.00		0.00	0.65		0.80	0.00	0.80
Avail Cap(c_a), veh/h	605	0	0	1892	0		0	2015		1021	0	1070
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	0.0	17.3	0.0	0.0	0.0	22.1	0.0	20.0	0.0	20.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.9	0.0	1.3	0.0	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	0.1	0.0	0.0	3.3	0.0	0.0	0.0	2.1	0.0	3.7	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	0.0	0.0	18.0	0.0	0.0	0.0	23.1	0.0	21.3	0.0	21.3
LnGrp LOS	B	A	A	B	A		A	C		C	A	C
Approach Vol, veh/h		10			649	A		366	A		686	
Approach Delay, s/veh		13.2			18.0			23.1			21.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.4		23.1		14.7		23.1				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		35.0		35.4		34.6		19.0				
Max Q Clear Time (g_c+I1), s		12.7		14.5		7.9		2.2				
Green Ext Time (p_c), s		1.7		3.9		1.9		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	20.4	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	865	20	5	825	200	50	40	5	160	20	130
Future Volume (veh/h)	130	865	20	5	825	200	50	40	5	160	20	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	144	961	21	6	917	201	56	44	4	178	22	21
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	179	1901	42	13	1251	274	233	152	11	407	158	151
Arrive On Green	0.11	0.58	0.58	0.01	0.47	0.47	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1640	3271	71	1640	2662	583	639	778	57	1250	810	773
Grp Volume(v), veh/h	144	481	501	6	563	555	104	0	0	178	0	43
Grp Sat Flow(s),veh/h/ln	1640	1636	1707	1640	1636	1609	1474	0	0	1250	0	1583
Q Serve(g_s), s	4.4	8.9	8.9	0.2	14.2	14.3	1.2	0.0	0.0	2.9	0.0	1.1
Cycle Q Clear(g_c), s	4.4	8.9	8.9	0.2	14.2	14.3	2.9	0.0	0.0	5.8	0.0	1.1
Prop In Lane	1.00		0.04	1.00		0.36	0.54		0.04	1.00		0.49
Lane Grp Cap(c), veh/h	179	951	992	13	769	756	397	0	0	407	0	310
V/C Ratio(X)	0.80	0.51	0.51	0.46	0.73	0.73	0.26	0.00	0.00	0.44	0.00	0.14
Avail Cap(c_a), veh/h	658	1280	1336	802	1280	1259	816	0	0	774	0	774
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.2	6.3	6.3	25.2	10.9	10.9	17.6	0.0	0.0	18.7	0.0	17.0
Incr Delay (d2), s/veh	3.2	0.4	0.4	9.0	1.4	1.4	0.3	0.0	0.0	0.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.9	2.0	0.1	3.9	3.8	1.0	0.0	0.0	1.8	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	6.8	6.7	34.2	12.3	12.3	18.0	0.0	0.0	19.4	0.0	17.2
LnGrp LOS	C	A	A	C	B	B	B	A	A	B	A	B
Approach Vol, veh/h		1126			1124			104			221	
Approach Delay, s/veh		9.1			12.4			18.0			19.0	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.4	33.7		14.0	9.1	28.0		14.0				
Change Period (Y+Rc), s	3.0	4.0		4.0	3.5	4.0		4.0				
Max Green Setting (Gmax), s	25.0	40.0		25.0	20.5	40.0		25.0				
Max Q Clear Time (g_c+I1), s	12.2	10.9		7.8	6.4	16.3		4.9				
Green Ext Time (p_c), s	0.0	6.8		0.7	0.0	7.8		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		11.8	
HCM 6th LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	1010	10	20	970	310	20	5	20	280	10	140
Future Volume (veh/h)	110	1010	10	20	970	310	20	5	20	280	10	140
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		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	125	1148	11	23	1102	0	23	6	0	326	0	10
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	174	1694	16	62	1446		60	16	0	443	0	197
Arrive On Green	0.11	0.51	0.51	0.04	0.44	0.00	0.05	0.05	0.00	0.13	0.00	0.13
Sat Flow, veh/h	1654	3348	32	1654	3300	1472	1325	346	0	3309	0	1472
Grp Volume(v), veh/h	125	566	593	23	1102	0	29	0	0	326	0	10
Grp Sat Flow(s),veh/h/ln	1654	1650	1730	1654	1650	1472	1671	0	0	1654	0	1472
Q Serve(g_s), s	4.2	14.9	14.9	0.8	16.2	0.0	1.0	0.0	0.0	5.5	0.0	0.3
Cycle Q Clear(g_c), s	4.2	14.9	14.9	0.8	16.2	0.0	1.0	0.0	0.0	5.5	0.0	0.3
Prop In Lane	1.00		0.02	1.00		1.00	0.79		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	174	835	875	62	1446		75	0	0	443	0	197
V/C Ratio(X)	0.72	0.68	0.68	0.37	0.76		0.38	0.00	0.00	0.74	0.00	0.05
Avail Cap(c_a), veh/h	574	1002	1050	430	2004		435	0	0	689	0	306
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.0	10.7	10.7	27.1	13.7	0.0	26.7	0.0	0.0	24.0	0.0	21.8
Incr Delay (d2), s/veh	2.1	1.4	1.4	1.4	1.2	0.0	1.2	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	4.3	4.5	0.3	4.9	0.0	0.4	0.0	0.0	2.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	12.1	12.1	28.5	14.8	0.0	27.9	0.0	0.0	24.9	0.0	21.8
LnGrp LOS	C	B	B	C	B		C	A	A	C	A	C
Approach Vol, veh/h		1284			1125	A		29			336	
Approach Delay, s/veh		13.6			15.1			27.9			24.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	30.3		6.1	5.7	34.2		11.7				
Change Period (Y+Rc), s	3.5	5.0		3.5	3.5	5.0		4.0				
Max Green Setting (Gmax), s	20.0	35.0		15.0	15.0	35.0		12.0				
Max Q Clear Time (g_c+I1), s	6.2	18.2		3.0	2.8	16.9		7.5				
Green Ext Time (p_c), s	0.1	7.0		0.0	0.0	7.1		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1230	30	80	1160	130	30	5	140	210	5	110
Future Volume (veh/h)	50	1230	30	80	1160	130	30	5	140	210	5	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722	1722
Adj Flow Rate, veh/h	57	1398	33	91	1318	140	34	6	31	239	6	24
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	12	12	12	12	12	12	12	12	12	12	12	12
Cap, veh/h	108	1647	39	133	1548	164	377	57	293	370	70	281
Arrive On Green	0.07	0.50	0.50	0.08	0.52	0.52	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1640	3264	77	1640	2977	315	1269	243	1254	1262	301	1203
Grp Volume(v), veh/h	57	700	731	91	721	737	34	0	37	239	0	30
Grp Sat Flow(s),veh/h/ln	1640	1636	1705	1640	1636	1655	1269	0	1496	1262	0	1504
Q Serve(g_s), s	2.4	26.7	26.8	3.9	27.3	27.8	1.6	0.0	1.4	13.2	0.0	1.1
Cycle Q Clear(g_c), s	2.4	26.7	26.8	3.9	27.3	27.8	2.7	0.0	1.4	14.6	0.0	1.1
Prop In Lane	1.00		0.05	1.00		0.19	1.00		0.84	1.00		0.80
Lane Grp Cap(c), veh/h	108	826	860	133	851	861	377	0	350	370	0	351
V/C Ratio(X)	0.53	0.85	0.85	0.68	0.85	0.86	0.09	0.00	0.11	0.65	0.00	0.09
Avail Cap(c_a), veh/h	523	953	993	523	953	964	502	0	498	635	0	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.6	15.5	15.5	32.2	14.9	15.0	22.7	0.0	21.7	27.5	0.0	21.6
Incr Delay (d2), s/veh	1.5	6.5	6.3	2.3	6.7	7.1	0.0	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	9.5	9.9	1.5	9.7	10.0	0.4	0.0	0.5	3.8	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	21.9	21.8	34.5	21.5	22.0	22.7	0.0	21.8	28.2	0.0	21.6
LnGrp LOS	C	C	C	C	C	C	C	A	C	C	A	C
Approach Vol, veh/h		1488			1549			71			269	
Approach Delay, s/veh		22.3			22.5			22.2			27.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.9	41.4		20.9	8.8	42.5		20.9
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0
Max Green Setting (Gmax), s	23.0	42.0		32.0	23.0	42.0		24.0
Max Q Clear Time (g_c+I1), s	5.9	28.8		16.6	4.4	29.8		4.7
Green Ext Time (p_c), s	0.0	7.6		0.2	0.0	7.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	22.8
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1340	240	0	1120	0	0	0	0	740	0	250
Future Volume (veh/h)	0	1340	240	0	1120	0	0	0	0	740	0	250
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1811	0	1826	0				1826	0	1826
Adj Flow Rate, veh/h	0	1426	0	0	1191	0				787	0	90
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	5	6	0	5	0				5	0	5
Cap, veh/h	0	1643		0	1643	0				942	0	432
Arrive On Green	0.00	0.47	0.00	0.00	0.47	0.00				0.28	0.00	0.28
Sat Flow, veh/h	0	3561	1535	0	3652	0				3374	0	1547
Grp Volume(v), veh/h	0	1426	0	0	1191	0				787	0	90
Grp Sat Flow(s),veh/h/ln	0	1735	1535	0	1735	0				1687	0	1547
Q Serve(g_s), s	0.0	16.3	0.0	0.0	12.2	0.0				9.8	0.0	2.0
Cycle Q Clear(g_c), s	0.0	16.3	0.0	0.0	12.2	0.0				9.8	0.0	2.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1643		0	1643	0				942	0	432
V/C Ratio(X)	0.00	0.87		0.00	0.72	0.00				0.84	0.00	0.21
Avail Cap(c_a), veh/h	0	3898		0	3898	0				3791	0	1739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	10.5	0.0	0.0	9.4	0.0				15.1	0.0	12.3
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.2	0.0				0.8	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
%ile BackOfQ(50%),veh/ln	0.0	4.0	0.0	0.0	3.1	0.0				3.2	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.0	0.0	0.0	9.6	0.0				15.9	0.0	12.4
LnGrp LOS	A	B		A	A	A				B	A	B
Approach Vol, veh/h		1426	A		1191						877	
Approach Delay, s/veh		11.0			9.6						15.5	
Approach LOS		B			A						B	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	27.1	17.4	27.1
Change Period (Y+Rc), s	* 6	* 5	* 6
Max Green Setting (Gmax), s	* 50	* 50	* 50
Max Q Clear Time (g_c+I1), s	18.3	11.8	14.2
Green Ext Time (p_c), s	2.7	0.7	2.4

Intersection Summary	
HCM 6th Ctrl Delay	11.7
HCM 6th LOS	B

Notes

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

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1670	0	0	1520	210	670
Future Volume (veh/h)	1670	0	0	1520	210	670
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1737	0	0	1737	1737	1737
Adj Flow Rate, veh/h	1796	0	0	1634	205	411
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	11	0	0	11	11	11
Cap, veh/h	2023	0	0	2023	296	527
Arrive On Green	0.61	0.00	0.00	0.61	0.18	0.18
Sat Flow, veh/h	3474	0	0	3474	1654	2944
Grp Volume(v), veh/h	1796	0	0	1634	205	411
Grp Sat Flow(s),veh/h/ln	1650	0	0	1650	1654	1472
Q Serve(g_s), s	24.4	0.0	0.0	20.1	6.1	7.0
Cycle Q Clear(g_c), s	24.4	0.0	0.0	20.1	6.1	7.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2023	0	0	2023	296	527
V/C Ratio(X)	0.89	0.00	0.00	0.81	0.69	0.78
Avail Cap(c_a), veh/h	3123	0	0	3123	783	1393
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.7	0.0	0.0	7.8	20.3	20.7
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.5	1.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	0.0	3.9	2.1	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.2	0.0	0.0	8.3	21.4	21.7
LnGrp LOS	B	A	A	A	C	C
Approach Vol, veh/h	1796			1634	616	
Approach Delay, s/veh	10.2			8.3	21.6	
Approach LOS	B			A	C	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	38.4				38.4	14.4
Change Period (Y+Rc), s	* 6				* 6	5.0
Max Green Setting (Gmax), s	* 50				* 50	25.0
Max Q Clear Time (g_c+I1), s	26.4				22.1	9.0
Green Ext Time (p_c), s	6.0				5.3	0.4

Intersection Summary		
HCM 6th Ctrl Delay		11.2
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	650	1410	280	80	1460	90	410	190	60	140	80	710
Future Volume (veh/h)	650	1410	280	80	1460	90	410	190	60	140	80	710
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	691	1500	229	85	1553	50	436	202	55	117	130	269
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	679	2284	653	107	1599	486	627	256	70	202	212	359
Arrive On Green	0.21	0.48	0.48	0.06	0.34	0.34	0.20	0.20	0.20	0.12	0.12	0.12
Sat Flow, veh/h	3209	4742	1357	1654	4742	1442	3209	1309	356	1654	1737	2944
Grp Volume(v), veh/h	691	1500	229	85	1553	50	436	0	257	117	130	269
Grp Sat Flow(s),veh/h/ln	1605	1581	1357	1654	1581	1442	1605	0	1666	1654	1737	1472
Q Serve(g_s), s	25.1	28.5	12.5	6.0	38.3	2.8	15.0	0.0	17.4	7.9	8.4	10.5
Cycle Q Clear(g_c), s	25.1	28.5	12.5	6.0	38.3	2.8	15.0	0.0	17.4	7.9	8.4	10.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	679	2284	653	107	1599	486	627	0	325	202	212	359
V/C Ratio(X)	1.02	0.66	0.35	0.79	0.97	0.10	0.70	0.00	0.79	0.58	0.61	0.75
Avail Cap(c_a), veh/h	679	2284	653	349	1599	486	812	0	421	418	439	745
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	23.3	19.2	54.7	38.7	27.0	44.5	0.0	45.4	49.2	49.4	50.3
Incr Delay (d2), s/veh	39.0	0.7	0.3	12.4	16.1	0.1	1.8	0.0	7.5	2.6	2.9	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.4	10.2	3.8	2.8	16.6	1.0	6.2	0.0	7.9	3.4	3.8	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.8	24.0	19.5	67.1	54.9	27.1	46.2	0.0	52.9	51.8	52.3	53.5
LnGrp LOS	F	C	B	E	D	C	D	A	D	D	D	D
Approach Vol, veh/h		2420			1688			693			516	
Approach Delay, s/veh		41.2			54.7			48.7			52.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.7	61.9		18.2	28.8	44.8		26.9
Change Period (Y+Rc), s	4.0	4.8		3.7	3.7	4.8		3.7
Max Green Setting (Gmax), s	25.0	40.0		30.0	25.1	40.0		30.0
Max Q Clear Time (g_c+I1), s	19.0	30.5		12.5	27.1	40.3		19.4
Green Ext Time (p_c), s	0.2	6.8		2.0	0.0	0.0		2.6

Intersection Summary	
HCM 6th Ctrl Delay	47.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.8

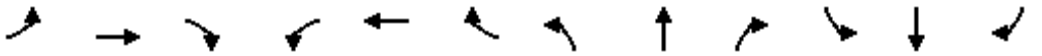
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	130	1430	50	20	1370	170	20	5	30	200	5	140
Future Vol, veh/h	130	1430	50	20	1370	170	20	5	30	200	5	140
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	240	-	-	120	-	-	-	-	25	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	11	11	11	11	11	11	11	11	11	11	11	11
Mvmt Flow	133	1459	51	20	1398	173	20	5	31	204	5	143

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1571	0	0	1510	0	0	2493	3362	755	2523	3301	786
Stage 1	-	-	-	-	-	-	1751	1751	-	1525	1525	-
Stage 2	-	-	-	-	-	-	742	1611	-	998	1776	-
Critical Hdwy	4.32	-	-	4.32	-	-	7.72	6.72	7.12	7.72	6.72	7.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.72	5.72	-	6.72	5.72	-
Follow-up Hdwy	2.31	-	-	2.31	-	-	3.61	4.11	3.41	3.61	4.11	3.41
Pot Cap-1 Maneuver	376	-	-	397	-	-	~ 13	6	332	~ 12	7	316
Stage 1	-	-	-	-	-	-	81	125	-	~ 113	164	-
Stage 2	-	-	-	-	-	-	354	148	-	245	122	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	376	-	-	397	-	-	-	~ 4	332	-	~ 4	316
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 4	-	-	~ 4	-
Stage 1	-	-	-	-	-	-	52	81	-	~ 73	156	-
Stage 2	-	-	-	-	-	-	178	141	-	~ 135	79	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0.2		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	332	376	-	-	397	-	-	-	86
HCM Lane V/C Ratio	-	0.092	0.353	-	-	0.051	-	-	-	1.72
HCM Control Delay (s)	-	16.9	19.7	-	-	14.6	-	-	-	$ 451.2
HCM Lane LOS	-	C	C	-	-	B	-	-	-	F
HCM 95th %tile Q(veh)	-	0.3	1.6	-	-	0.2	-	-	-	12.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	445	1175	30	50	1105	540	90	200	60	570	120	325
Future Volume (veh/h)	445	1175	30	50	1105	540	90	200	60	570	120	325
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.96	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	494	1306	32	56	1228	460	100	222	56	728	0	75
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	364	1347	33	61	1100	816	309	250	63	776	0	345
Arrive On Green	0.11	0.41	0.41	0.04	0.33	0.33	0.19	0.19	0.19	0.23	0.00	0.23
Sat Flow, veh/h	3209	3285	80	1654	3300	1413	1654	1338	338	3309	0	1472
Grp Volume(v), veh/h	494	655	683	56	1228	460	100	0	278	728	0	75
Grp Sat Flow(s),veh/h/ln	1605	1650	1715	1654	1650	1413	1654	0	1676	1654	0	1472
Q Serve(g_s), s	15.5	53.1	53.2	4.6	45.5	28.5	7.1	0.0	22.1	29.5	0.0	5.6
Cycle Q Clear(g_c), s	15.5	53.1	53.2	4.6	45.5	28.5	7.1	0.0	22.1	29.5	0.0	5.6
Prop In Lane	1.00		0.05	1.00		1.00	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	364	677	704	61	1100	816	309	0	313	776	0	345
V/C Ratio(X)	1.36	0.97	0.97	0.92	1.12	0.56	0.32	0.00	0.89	0.94	0.00	0.22
Avail Cap(c_a), veh/h	364	677	704	61	1100	816	400	0	405	800	0	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	60.5	39.4	39.4	65.6	45.5	18.9	48.1	0.0	54.1	51.3	0.0	42.1
Incr Delay (d2), s/veh	177.2	26.8	26.6	88.7	65.1	0.9	0.6	0.0	17.3	18.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.1	25.3	26.3	3.4	27.9	15.0	3.0	0.0	10.8	13.8	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	237.7	66.2	66.0	154.3	110.6	19.8	48.7	0.0	71.5	69.4	0.0	42.4
LnGrp LOS	F	E	E	F	F	B	D	A	E	E	A	D
Approach Vol, veh/h		1832			1744			378			803	
Approach Delay, s/veh		112.4			88.0			65.4			66.9	
Approach LOS		F			F			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.0	50.0		36.5	9.5	60.5		30.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	15.5	45.5		33.0	5.0	56.0		33.0				
Max Q Clear Time (g_c+I1), s	17.5	47.5		31.5	6.6	55.2		24.1				
Green Ext Time (p_c), s	0.0	0.0		0.6	0.0	0.6		1.3				

Intersection Summary			
HCM 6th Ctrl Delay		92.1	
HCM 6th LOS		F	

Notes

User approved volume balancing among the lanes for turning movement.

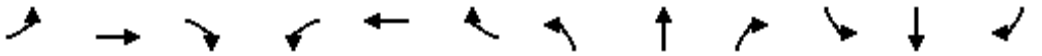
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1800	1690	0	0	5
Future Vol, veh/h	5	1800	1690	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	90	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	13	13	13	13	13
Mvmt Flow	5	1957	1837	0	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1837	0	-	0	2826	919
Stage 1	-	-	-	-	1837	-
Stage 2	-	-	-	-	989	-
Critical Hdwy	4.36	-	-	-	7.06	7.16
Critical Hdwy Stg 1	-	-	-	-	6.06	-
Critical Hdwy Stg 2	-	-	-	-	6.06	-
Follow-up Hdwy	2.33	-	-	-	3.63	3.43
Pot Cap-1 Maneuver	286	-	-	-	12	253
Stage 1	-	-	-	-	99	-
Stage 2	-	-	-	-	297	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	286	-	-	-	12	253
Mov Cap-2 Maneuver	-	-	-	-	12	-
Stage 1	-	-	-	-	97	-
Stage 2	-	-	-	-	297	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	19.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	286	-	-	-	253
HCM Lane V/C Ratio	0.019	-	-	-	0.021
HCM Control Delay (s)	17.8	-	-	-	19.5
HCM Lane LOS	C	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	680	40	5	820	20	50	5	5	20	5	140
Future Volume (veh/h)	200	680	40	5	820	20	50	5	5	20	5	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.92	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663	1663
Adj Flow Rate, veh/h	215	731	0	5	882	13	54	5	1	22	5	120
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	16	16	16	16	16	16	16	16	16	16	16	16
Cap, veh/h	460	1972		525	1972	880	308	21	2	315	51	185
Arrive On Green	0.62	0.62	0.00	0.62	0.62	0.62	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	553	3159	1409	644	3159	1409	928	161	18	1044	392	1409
Grp Volume(v), veh/h	215	731	0	5	882	13	60	0	0	27	0	120
Grp Sat Flow(s),veh/h/ln	553	1580	1409	644	1580	1409	1108	0	0	1436	0	1409
Q Serve(g_s), s	12.2	4.2	0.0	0.1	5.4	0.1	1.4	0.0	0.0	0.0	0.0	3.0
Cycle Q Clear(g_c), s	17.5	4.2	0.0	4.3	5.4	0.1	2.0	0.0	0.0	0.5	0.0	3.0
Prop In Lane	1.00		1.00	1.00		1.00	0.90		0.02	0.81		1.00
Lane Grp Cap(c), veh/h	460	1972		525	1972	880	331	0	0	366	0	185
V/C Ratio(X)	0.47	0.37		0.01	0.45	0.01	0.18	0.00	0.00	0.07	0.00	0.65
Avail Cap(c_a), veh/h	507	2235		579	2235	997	1441	0	0	1623	0	1534
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.2	3.4	0.0	4.4	3.6	2.6	14.8	0.0	0.0	14.1	0.0	15.2
Incr Delay (d2), s/veh	0.7	0.1	0.0	0.0	0.2	0.0	0.3	0.0	0.0	0.1	0.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.1	0.0	0.0	0.1	0.0	0.4	0.0	0.0	0.2	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.9	3.5	0.0	4.4	3.8	2.6	15.0	0.0	0.0	14.2	0.0	19.0
LnGrp LOS	A	A		A	A	A	B	A	A	B	A	B
Approach Vol, veh/h		946	A		900			60			147	
Approach Delay, s/veh		4.7			3.7			15.0			18.1	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.3		27.4		9.3		27.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		40.0		26.0		40.0		26.0				
Max Q Clear Time (g_c+I1), s		4.0		19.5		5.0		7.4				
Green Ext Time (p_c), s		0.3		3.4		0.5		5.5				

Intersection Summary												
HCM 6th Ctrl Delay			5.6									
HCM 6th LOS			A									

Notes

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

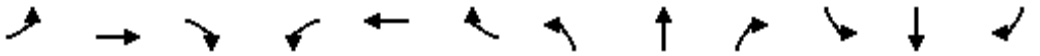
Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	130	20	0	120	5	0
Future Vol, veh/h	130	20	0	120	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	12	12	12	12	12	12
Mvmt Flow	163	25	0	150	6	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	188	0	326	176
Stage 1	-	-	-	-	176	-
Stage 2	-	-	-	-	150	-
Critical Hdwy	-	-	4.22	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.308	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	1328	-	648	842
Stage 1	-	-	-	-	831	-
Stage 2	-	-	-	-	854	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1328	-	648	842
Mov Cap-2 Maneuver	-	-	-	-	648	-
Stage 1	-	-	-	-	831	-
Stage 2	-	-	-	-	854	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.6
HCM LOS			B

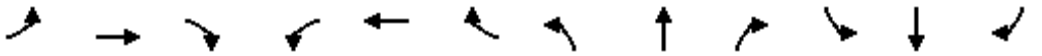
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	648	-	-	1328	-
HCM Lane V/C Ratio	0.01	-	-	-	-
HCM Control Delay (s)	10.6	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1460	550	0	0	0	0	0	0	990	370	0
Future Volume (vph)	0	1460	550	0	0	0	0	0	0	990	370	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		11.0								4.0	4.0	
Lane Util. Factor		0.95								0.97	1.00	
Frpb, ped/bikes		1.00								1.00	1.00	
Flpb, ped/bikes		1.00								1.00	1.00	
Frt		0.96								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		3382								3433	1863	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		3382								3433	1863	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1640	618	0	0	0	0	0	0	1112	416	0
RTOR Reduction (vph)	0	56	0	0	0	0	0	0	0	89	0	0
Lane Group Flow (vph)	0	2202	0	0	0	0	0	0	0	1023	416	0
Confl. Bikes (#/hr)			1									2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA								Split	NA	
Protected Phases		2								1	1	
Permitted Phases												
Actuated Green, G (s)		35.0								20.0	20.0	
Effective Green, g (s)		35.0								20.0	20.0	
Actuated g/C Ratio		0.50								0.29	0.29	
Clearance Time (s)		11.0								4.0	4.0	
Vehicle Extension (s)		2.0								2.0	2.0	
Lane Grp Cap (vph)		1691								980	532	
v/s Ratio Prot		c0.65								c0.30	0.22	
v/s Ratio Perm												
v/c Ratio		1.30								1.04	0.78	
Uniform Delay, d1		17.5								25.0	23.0	
Progression Factor		1.00								1.11	1.12	
Incremental Delay, d2		140.4								23.0	0.7	
Delay (s)		157.9								50.8	26.4	
Level of Service		F								D	C	
Approach Delay (s)		157.9			0.0			0.0			44.2	
Approach LOS		F			A			A			D	

Intersection Summary			
HCM 2000 Control Delay	112.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	121.5%	ICU Level of Service	H
Analysis Period (min)	15		

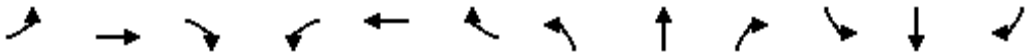
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	380	1250	0	0	0	0	0	980	440
Future Volume (vph)	0	0	0	380	1250	0	0	0	0	0	980	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0	5.0						5.0	5.0
Lane Util. Factor				1.00	0.95						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.99
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1752	3505						3505	1545
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1752	3505						3505	1545
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	442	1453	0	0	0	0	0	1140	512
RTOR Reduction (vph)	0	0	0	12	0	0	0	0	0	0	0	96
Lane Group Flow (vph)	0	0	0	430	1453	0	0	0	0	0	1140	416
Confl. Peds. (#/hr)												2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						5	
Permitted Phases				6								5
Actuated Green, G (s)				44.0	44.0						16.0	16.0
Effective Green, g (s)				44.0	44.0						16.0	16.0
Actuated g/C Ratio				0.63	0.63						0.23	0.23
Clearance Time (s)				5.0	5.0						5.0	5.0
Vehicle Extension (s)				2.0	2.0						2.0	2.0
Lane Grp Cap (vph)				1101	2203						801	353
v/s Ratio Prot					c0.41						c0.33	
v/s Ratio Perm				0.25								0.27
v/c Ratio				0.39	0.66						1.42	1.18
Uniform Delay, d1				6.4	8.2						27.0	27.0
Progression Factor				0.41	0.42						1.00	1.00
Incremental Delay, d2				0.8	1.2						197.7	105.4
Delay (s)				3.4	4.6						224.7	132.4
Level of Service				A	A						F	F
Approach Delay (s)		0.0			4.3			0.0			196.1	
Approach LOS		A			A			A			F	

Intersection Summary			
HCM 2000 Control Delay	93.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

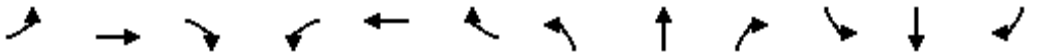
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1230	1040	400	470	0	0	0	0
Future Volume (vph)	0	0	0	0	1230	1040	400	470	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					11.0	11.0	4.0	4.0				
Lane Util. Factor					0.95	1.00	0.97	1.00				
Frpb, ped/bikes					1.00	0.99	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					3539	1562	3433	1863				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					3539	1562	3433	1863				
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)	0	0	0	0	1414	1195	460	540	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	25	95	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1414	1170	365	540	0	0	0	0
Confl. Bikes (#/hr)						3						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type					NA	Perm	Split	NA				
Protected Phases					2		1	1				
Permitted Phases						2						
Actuated Green, G (s)					38.0	38.0	17.0	17.0				
Effective Green, g (s)					38.0	38.0	17.0	17.0				
Actuated g/C Ratio					0.54	0.54	0.24	0.24				
Clearance Time (s)					11.0	11.0	4.0	4.0				
Vehicle Extension (s)					2.0	2.0	2.0	2.0				
Lane Grp Cap (vph)					1921	847	833	452				
v/s Ratio Prot					0.40		0.11	c0.29				
v/s Ratio Perm						c0.75						
v/c Ratio					0.74	1.38	0.44	1.19				
Uniform Delay, d1					12.2	16.0	22.5	26.5				
Progression Factor					1.00	1.00	0.55	0.69				
Incremental Delay, d2					2.6	178.9	0.1	105.6				
Delay (s)					14.7	194.9	12.5	123.7				
Level of Service					B	F	B	F				
Approach Delay (s)		0.0			97.3			72.6			0.0	
Approach LOS		A			F			E			A	

Intersection Summary			
HCM 2000 Control Delay	90.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	460	1990	0	0	0	0	0	410	400	0	0	0
Future Volume (vph)	460	1990	0	0	0	0	0	410	400	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						5.0	5.0			
Lane Util. Factor	1.00	0.95						0.95	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1736	3471						3471	1553			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1736	3471						3471	1553			
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	535	2314	0	0	0	0	0	477	465	0	0	0
RTOR Reduction (vph)	49	0	0	0	0	0	0	0	92	0	0	0
Lane Group Flow (vph)	486	2314	0	0	0	0	0	477	373	0	0	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA						NA	Perm			
Protected Phases	6	6						5				
Permitted Phases									5			
Actuated Green, G (s)	41.3	41.3						18.7	18.7			
Effective Green, g (s)	41.3	41.3						18.7	18.7			
Actuated g/C Ratio	0.59	0.59						0.27	0.27			
Clearance Time (s)	5.0	5.0						5.0	5.0			
Vehicle Extension (s)	2.0	2.0						2.0	2.0			
Lane Grp Cap (vph)	1024	2047						927	414			
v/s Ratio Prot	0.28	c0.67						0.14				
v/s Ratio Perm									c0.24			
v/c Ratio	0.47	1.13						0.51	0.90			
Uniform Delay, d1	8.2	14.4						21.8	24.8			
Progression Factor	0.00	0.99						1.00	1.00			
Incremental Delay, d2	0.1	59.4						0.2	21.9			
Delay (s)	0.1	73.6						22.0	46.7			
Level of Service	A	E						C	D			
Approach Delay (s)		59.8			0.0			34.2			0.0	
Approach LOS		E			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	53.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	127.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	1820	5	200	300	0	0	0	250
Future Volume (veh/h)	0	0	0	0	1820	5	200	300	0	0	0	250
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				0	1870	1900	1870	1870	0	0	0	1870
Adj Flow Rate, veh/h				0	2068	6	227	341	0	0	0	173
Peak Hour Factor				0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				0	2	0	2	2	0	0	0	2
Cap, veh/h				0	0	0	723	391	0	0	0	0
Arrive On Green				0.00	0.00	0.00	0.21	0.21	0.00	0.00	0.00	0.00
Sat Flow, veh/h					0		3456	1870	0		0	
Grp Volume(v), veh/h					0.0		227	341	0		0.0	
Grp Sat Flow(s),veh/h/ln							1728	1870	0			
Q Serve(g_s), s							3.8	12.2	0.0			
Cycle Q Clear(g_c), s							3.8	12.2	0.0			
Prop In Lane							1.00		0.00			
Lane Grp Cap(c), veh/h							723	391	0			
V/C Ratio(X)							0.31	0.87	0.00			
Avail Cap(c_a), veh/h							751	515	0			
HCM Platoon Ratio							1.00	1.00	1.00			
Upstream Filter(I)							0.88	0.88	0.00			
Uniform Delay (d), s/veh							23.1	26.4	0.0			
Incr Delay (d2), s/veh							0.1	9.0	0.0			
Initial Q Delay(d3),s/veh							0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln							1.5	6.2	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh							23.2	35.4	0.0			
LnGrp LOS							C	D	A			
Approach Vol, veh/h								568				
Approach Delay, s/veh								30.5				
Approach LOS								C				

Timer - Assigned Phs	3	8
Phs Duration (G+Y+Rc), s	18.4	18.4
Change Period (Y+Rc), s	* 4	* 4
Max Green Setting (Gmax), s	* 15	* 19
Max Q Clear Time (g_c+I1), s	5.8	14.2
Green Ext Time (p_c), s	0.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	30.5
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)	300	1930	160	0	0	0	0	200	10	0	0	0
Future Volume (veh/h)	300	1930	160	0	0	0	0	200	10	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1841	1841	1841				0	1841	1841			
Adj Flow Rate, veh/h	366	2354	0				0	244	8			
Peak Hour Factor	0.82	0.82	0.82				0.82	0.82	0.82			
Percent Heavy Veh, %	4	4	4				0	4	4			
Cap, veh/h	1223	3505					0	301	10			
Arrive On Green	0.70	0.70	0.00				0.00	0.17	0.17			
Sat Flow, veh/h	1753	5191	0				0	1772	58			
Grp Volume(v), veh/h	366	2354	0				0	0	252			
Grp Sat Flow(s),veh/h/ln	1753	1675	0				0	0	1830			
Q Serve(g_s), s	5.4	18.1	0.0				0.0	0.0	9.0			
Cycle Q Clear(g_c), s	5.4	18.1	0.0				0.0	0.0	9.0			
Prop In Lane	1.00		0.00				0.00		0.03			
Lane Grp Cap(c), veh/h	1223	3505					0	0	311			
V/C Ratio(X)	0.30	0.67					0.00	0.00	0.81			
Avail Cap(c_a), veh/h	1223	3505					0	0	457			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00				0.00	0.00	1.00			
Uniform Delay (d), s/veh	3.9	5.9	0.0				0.0	0.0	27.2			
Incr Delay (d2), s/veh	0.1	0.1	0.0				0.0	0.0	4.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.8	2.5	0.0				0.0	0.0	4.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.0	5.9	0.0				0.0	0.0	31.2			
LnGrp LOS	A	A					A	A	C			
Approach Vol, veh/h		2720	A					252				
Approach Delay, s/veh		5.7						31.2				
Approach LOS		A						C				
Timer - Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		52.4						15.6				
Change Period (Y+Rc), s		* 5						4.0				
Max Green Setting (Gmax), s		* 42						17.0				
Max Q Clear Time (g_c+I1), s		20.1						11.0				
Green Ext Time (p_c), s		13.0						0.5				
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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	1210	590	230	990	40	700	80	360	30	70	140
Future Volume (veh/h)	140	1210	590	230	990	40	700	80	360	30	70	140
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	165	1424	360	271	1165	16	824	94	170	35	82	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1218	532	473	1857	811	617	379	318	57	105	89
Arrive On Green	0.10	0.34	0.34	0.27	0.52	0.52	0.18	0.20	0.20	0.03	0.06	0.00
Sat Flow, veh/h	1781	3554	1552	1781	3554	1551	3456	1870	1571	1781	1870	1585
Grp Volume(v), veh/h	165	1424	360	271	1165	16	824	94	170	35	82	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1552	1781	1777	1551	1728	1870	1571	1781	1870	1585
Q Serve(g_s), s	12.9	48.0	16.9	18.5	32.6	0.7	25.0	5.9	7.7	2.7	6.1	0.0
Cycle Q Clear(g_c), s	12.9	48.0	16.9	18.5	32.6	0.7	25.0	5.9	7.7	2.7	6.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1218	532	473	1857	811	617	379	318	57	105	89
V/C Ratio(X)	0.93	1.17	0.68	0.57	0.63	0.02	1.34	0.25	0.53	0.62	0.78	0.00
Avail Cap(c_a), veh/h	178	1218	532	473	1857	811	617	655	550	89	414	351
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.5	46.0	14.6	44.5	23.7	16.1	57.5	46.9	16.1	66.9	65.2	0.0
Incr Delay (d2), s/veh	46.0	85.1	6.8	0.9	1.3	0.0	161.7	0.1	0.5	4.0	4.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	34.3	6.8	8.0	13.0	0.3	24.7	2.8	2.8	1.3	3.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.5	131.1	21.4	45.4	25.0	16.2	219.2	47.0	16.6	70.9	70.0	0.0
LnGrp LOS	F	F	C	D	C	B	F	D	B	E	E	A
Approach Vol, veh/h		1949			1452			1088			117	
Approach Delay, s/veh		108.9			28.7			172.7			70.3	
Approach LOS		F			C			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	54.0	30.0	12.8	18.0	79.2	9.5	33.4
Change Period (Y+Rc), s	* 6	* 6	* 5	* 5	* 4	* 6	* 5	* 5
Max Green Setting (Gmax), s	* 16	* 48	* 25	* 31	* 14	* 50	* 7	* 49
Max Q Clear Time (g_c+I1), s	20.5	50.0	27.0	8.1	14.9	34.6	4.7	9.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	1.5	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	97.7
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* 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)	40	1380	180	20	1010	10	210	10	30	5	20	40
Future Volume (veh/h)	40	1380	180	20	1010	10	210	10	30	5	20	40
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	51	1747	184	25	1278	12	275	0	1	6	25	3
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	260	2596	1134	31	2115	924	427	0	207	236	214	26
Arrive On Green	0.29	1.00	1.00	0.02	0.60	0.60	0.13	0.00	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1767	3526	1539	1767	3526	1540	2742	0	1572	1405	1625	195
Grp Volume(v), veh/h	51	1747	184	25	1278	12	275	0	1	6	0	28
Grp Sat Flow(s),veh/h/ln	1767	1763	1539	1767	1763	1540	1371	0	1572	1405	0	1820
Q Serve(g_s), s	3.0	0.0	0.0	2.0	31.8	0.4	13.8	0.0	0.1	0.5	0.0	1.9
Cycle Q Clear(g_c), s	3.0	0.0	0.0	2.0	31.8	0.4	15.7	0.0	0.1	0.5	0.0	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	260	2596	1134	31	2115	924	427	0	207	236	0	240
V/C Ratio(X)	0.20	0.67	0.16	0.80	0.60	0.01	0.64	0.00	0.00	0.03	0.00	0.12
Avail Cap(c_a), veh/h	260	2596	1134	76	2115	924	673	0	348	363	0	403
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.47	0.47	0.47	0.72	0.72	0.72	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.2	0.0	0.0	68.5	17.6	11.3	60.5	0.0	52.8	53.0	0.0	53.6
Incr Delay (d2), s/veh	0.1	0.7	0.1	11.9	0.9	0.0	1.6	0.0	0.0	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.2	0.0	1.0	11.8	0.1	4.9	0.0	0.0	0.2	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.3	0.7	0.1	80.4	18.5	11.3	62.1	0.0	52.8	53.0	0.0	53.8
LnGrp LOS	D	A	A	F	B	B	E	A	D	D	A	D
Approach Vol, veh/h		1982			1315			276			34	
Approach Delay, s/veh		1.7			19.6			62.1			53.7	
Approach LOS		A			B			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.5	109.1		23.4	26.6	90.0		23.4
Change Period (Y+Rc), s	* 5	6.0		* 5	6.0	* 6		* 5
Max Green Setting (Gmax), s	* 6	87.0		* 31	9.0	* 84		* 31
Max Q Clear Time (g_c+I1), s	4.0	2.0		3.9	5.0	33.8		17.7
Green Ext Time (p_c), s	0.0	4.7		0.1	0.0	17.0		0.8

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

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)	360	740	315	200	540	110	180	870	180	150	800	320
Future Volume (veh/h)	360	740	315	200	540	110	180	870	180	150	800	320
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	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	404	831	334	225	607	115	202	978	194	169	899	259
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	471	927	408	218	879	392	247	1038	463	164	1110	711
Arrive On Green	0.14	0.26	0.26	0.12	0.25	0.25	0.07	0.29	0.29	0.09	0.31	0.31
Sat Flow, veh/h	3428	3526	1552	1767	3526	1572	3428	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	404	831	334	225	607	115	202	978	194	169	899	259
Grp Sat Flow(s),veh/h/ln	1714	1763	1552	1767	1763	1572	1714	1763	1572	1767	1763	1572
Q Serve(g_s), s	11.2	22.1	19.6	12.0	15.2	5.8	5.6	26.3	9.6	9.0	22.8	10.5
Cycle Q Clear(g_c), s	11.2	22.1	19.6	12.0	15.2	5.8	5.6	26.3	9.6	9.0	22.8	10.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	471	927	408	218	879	392	247	1038	463	164	1110	711
V/C Ratio(X)	0.86	0.90	0.82	1.03	0.69	0.29	0.82	0.94	0.42	1.03	0.81	0.36
Avail Cap(c_a), veh/h	635	1198	527	218	980	437	247	1052	469	164	1125	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	34.5	33.6	42.6	33.1	29.5	44.4	33.5	27.6	44.1	30.6	17.4
Incr Delay (d2), s/veh	6.9	6.4	6.0	69.1	1.4	0.2	17.8	15.5	0.2	79.1	4.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	9.4	7.6	9.1	6.1	2.1	2.9	12.7	3.5	7.4	9.6	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	40.9	39.6	111.7	34.4	29.7	62.3	49.0	27.8	123.2	34.7	17.6
LnGrp LOS	D	D	D	F	C	C	E	D	C	F	C	B
Approach Vol, veh/h		1569			947			1374			1327	
Approach Delay, s/veh		42.4			52.2			47.9			42.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	32.6	11.0	36.6	18.3	31.2	13.0	34.6
Change Period (Y+Rc), s	* 5	7.0	* 4	* 6	* 5	7.0	* 4	* 6
Max Green Setting (Gmax), s	* 12	33.0	* 7	* 31	* 18	27.0	* 9	* 29
Max Q Clear Time (g_c+I1), s	14.0	24.1	7.6	24.8	13.2	17.2	11.0	28.3
Green Ext Time (p_c), s	0.0	1.5	0.0	1.5	0.1	1.0	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	45.7
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	360	480	20	270	5	440	20	30	5	20	140
Future Volume (veh/h)	230	360	480	20	270	5	440	20	30	5	20	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1811	1811	1826	1826	1811	1811	1811	1826	1811	1811
Adj Flow Rate, veh/h	247	387	267	22	290	2	473	22	7	5	22	35
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	6	6	5	5	6	6	6	5	6	6
Cap, veh/h	251	831	699	38	609	505	557	524	167	589	251	399
Arrive On Green	0.14	0.46	0.46	0.02	0.33	0.33	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1739	1826	1535	1725	1826	1515	1304	1317	419	1348	629	1001
Grp Volume(v), veh/h	247	387	267	22	290	2	473	0	29	5	0	57
Grp Sat Flow(s),veh/h/ln	1739	1826	1535	1725	1826	1515	1304	0	1736	1348	0	1631
Q Serve(g_s), s	15.4	15.9	12.5	1.4	13.7	0.1	38.6	0.0	1.1	0.2	0.0	2.4
Cycle Q Clear(g_c), s	15.4	15.9	12.5	1.4	13.7	0.1	41.0	0.0	1.1	1.4	0.0	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		0.61
Lane Grp Cap(c), veh/h	251	831	699	38	609	505	557	0	691	589	0	650
V/C Ratio(X)	0.98	0.47	0.38	0.57	0.48	0.00	0.85	0.00	0.04	0.01	0.00	0.09
Avail Cap(c_a), veh/h	251	831	699	92	609	505	571	0	710	603	0	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.5	20.5	19.5	52.7	28.7	24.2	33.2	0.0	20.0	20.5	0.0	20.4
Incr Delay (d2), s/veh	52.4	1.9	1.6	12.6	2.7	0.0	11.4	0.0	0.0	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	9.9	6.5	4.3	0.7	6.0	0.0	13.6	0.0	0.5	0.1	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.9	22.4	21.1	65.3	31.4	24.2	44.6	0.0	20.1	20.5	0.0	20.5
LnGrp LOS	F	C	C	E	C	C	D	A	C	C	A	C
Approach Vol, veh/h		901			314			502			62	
Approach Delay, s/veh		43.0			33.7			43.2			20.5	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.9	54.1		47.9	20.2	40.8		47.9
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.8	46.2		44.5	15.7	36.3		44.5
Max Q Clear Time (g_c+I1), s	3.4	17.9		4.4	17.4	15.7		43.0
Green Ext Time (p_c), s	0.0	2.9		0.3	0.0	1.3		0.3

Intersection Summary	
HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	630	260	510	670	120	310	30	620	40	20	30
Future Volume (veh/h)	30	630	260	510	670	120	310	30	620	40	20	30
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	33	685	196	554	728	121	337	33	402	33	36	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	76	964	422	628	1246	207	419	440	660	161	164	5
Arrive On Green	0.04	0.28	0.28	0.19	0.43	0.43	0.24	0.24	0.24	0.09	0.09	0.09
Sat Flow, veh/h	1711	3413	1494	3319	2917	485	1711	1796	1519	1711	1739	48
Grp Volume(v), veh/h	33	685	196	554	426	423	337	33	402	33	0	37
Grp Sat Flow(s),veh/h/ln	1711	1706	1494	1659	1706	1695	1711	1796	1519	1711	0	1788
Q Serve(g_s), s	1.6	15.6	9.4	14.1	16.5	16.5	16.0	1.2	17.6	1.5	0.0	1.7
Cycle Q Clear(g_c), s	1.6	15.6	9.4	14.1	16.5	16.5	16.0	1.2	17.6	1.5	0.0	1.7
Prop In Lane	1.00		1.00	1.00		0.29	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	76	964	422	628	729	724	419	440	660	161	0	168
V/C Ratio(X)	0.44	0.71	0.46	0.88	0.58	0.58	0.80	0.08	0.61	0.21	0.00	0.22
Avail Cap(c_a), veh/h	138	1168	511	691	801	796	653	685	867	653	0	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.3	27.9	25.6	34.1	18.9	18.9	30.7	25.1	18.9	36.2	0.0	36.2
Incr Delay (d2), s/veh	1.5	2.5	1.7	11.3	1.7	1.7	1.9	0.0	0.3	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	6.4	3.4	6.4	6.4	6.4	6.5	0.5	5.8	0.6	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	30.4	27.3	45.5	20.6	20.6	32.6	25.2	19.2	36.4	0.0	36.5
LnGrp LOS	D	C	C	D	C	C	C	C	B	D	A	D
Approach Vol, veh/h		914			1403			772			70	
Approach Delay, s/veh		30.1			30.4			25.3			36.5	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.4	28.6		12.2	7.8	41.2		25.3
Change Period (Y+Rc), s	4.0	* 4.2		4.1	4.0	* 4.2		4.1
Max Green Setting (Gmax), s	18.0	* 30		33.0	7.0	* 41		33.0
Max Q Clear Time (g_c+I1), s	6.1	17.6		3.7	3.6	18.5		19.6
Green Ext Time (p_c), s	0.3	6.6		0.1	0.0	9.9		1.2

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

Notes

User approved pedestrian interval to be less than phase max green.
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)	0	1170	120	300	680	0	0	0	0	750	5	620
Future Volume (veh/h)	0	1170	120	300	680	0	0	0	0	750	5	620
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1841	1841	1841	0				1841	1841	1841
Adj Flow Rate, veh/h	0	1272	50	326	739	0				819	0	403
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	4	4	4	4	0				4	4	4
Cap, veh/h	0	1357	596	425	2067	0				917	0	816
Arrive On Green	0.00	0.39	0.39	0.25	1.00	0.00				0.26	0.00	0.26
Sat Flow, veh/h	0	3589	1535	3401	3589	0				3506	0	3120
Grp Volume(v), veh/h	0	1272	50	326	739	0				819	0	403
Grp Sat Flow(s),veh/h/ln	0	1749	1535	1700	1749	0				1753	0	1560
Q Serve(g_s), s	0.0	20.6	1.2	5.2	0.0	0.0				13.3	0.0	6.5
Cycle Q Clear(g_c), s	0.0	20.6	1.2	5.2	0.0	0.0				13.3	0.0	6.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1357	596	425	2067	0				917	0	816
V/C Ratio(X)	0.00	0.94	0.08	0.77	0.36	0.00				0.89	0.00	0.49
Avail Cap(c_a), veh/h	0	1357	596	425	2067	0				945	0	841
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.65	0.65	0.78	0.78	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.4	11.4	21.3	0.0	0.0				21.0	0.0	18.5
Incr Delay (d2), s/veh	0.0	9.6	0.2	6.5	0.4	0.0				10.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.7	0.4	2.1	0.1	0.0				6.0	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	26.9	11.6	27.9	0.4	0.0				31.2	0.0	18.6
LnGrp LOS	A	C	B	C	A	A				C	A	B
Approach Vol, veh/h		1322			1065						1222	
Approach Delay, s/veh		26.4			8.8						27.1	
Approach LOS		C			A						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.0	27.5		19.5		39.5
Change Period (Y+Rc), s	4.6	* 4.6		4.1		4.6
Max Green Setting (Gmax), s	6.7	* 23		15.9		34.1
Max Q Clear Time (g_c+I1), s	7.2	22.6		15.3		2.0
Green Ext Time (p_c), s	0.0	0.1		0.2		1.9

Intersection Summary	
HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

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)	450	1470	0	0	860	980	120	0	350	0	0	0
Future Volume (veh/h)	450	1470	0	0	860	980	120	0	350	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1826	1826	0	0	1826	1826	1826	1826	1826			
Adj Flow Rate, veh/h	506	1652	0	0	966	643	135	0	281			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	5	5	0	0	5	5	5	5	5			
Cap, veh/h	924	2837	0	0	1593	711	584	0	260			
Arrive On Green	0.55	1.00	0.00	0.00	0.46	0.46	0.17	0.00	0.17			
Sat Flow, veh/h	3374	3561	0	0	3561	1547	3478	0	1547			
Grp Volume(v), veh/h	506	1652	0	0	966	643	135	0	281			
Grp Sat Flow(s),veh/h/ln	1687	1735	0	0	1735	1547	1739	0	1547			
Q Serve(g_s), s	5.7	0.0	0.0	0.0	12.3	22.7	2.0	0.0	9.9			
Cycle Q Clear(g_c), s	5.7	0.0	0.0	0.0	12.3	22.7	2.0	0.0	9.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	924	2837	0	0	1593	711	584	0	260			
V/C Ratio(X)	0.55	0.58	0.00	0.00	0.61	0.90	0.23	0.00	1.08			
Avail Cap(c_a), veh/h	924	2837	0	0	1593	711	584	0	260			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.26	0.26	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	11.0	0.0	0.0	0.0	12.0	14.8	21.3	0.0	24.5			
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.0	1.7	17.2	0.1	0.0	79.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	0.1	0.0	0.0	4.2	9.7	0.8	0.0	9.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.2	0.2	0.0	0.0	13.7	31.9	21.3	0.0	104.0			
LnGrp LOS	B	A	A	A	B	C	C	A	F			
Approach Vol, veh/h		2158			1609			416				
Approach Delay, s/veh		2.8			21.0			77.2				
Approach LOS		A			C			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		53.3			21.2	32.1		14.0				
Change Period (Y+Rc), s		* 5			* 5	* 5		4.1				
Max Green Setting (Gmax), s		* 40			* 8.5	* 27		9.9				
Max Q Clear Time (g_c+I1), s		2.0			7.7	24.7		11.9				
Green Ext Time (p_c), s		5.9			0.2	1.1		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
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)	340	1360	160	60	1190	120	350	50	40	80	150	300
Future Volume (veh/h)	340	1360	160	60	1190	120	350	50	40	80	150	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	395	1581	178	70	1384	133	252	275	39	93	174	194
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	438	1568	174	69	1304	125	347	312	44	88	165	384
Arrive On Green	0.13	0.49	0.49	0.04	0.40	0.40	0.20	0.20	0.20	0.14	0.14	0.14
Sat Flow, veh/h	3401	3172	353	1753	3221	308	1753	1576	224	630	1179	2745
Grp Volume(v), veh/h	395	862	897	70	748	769	252	0	314	267	0	194
Grp Sat Flow(s),veh/h/ln	1700	1749	1776	1753	1749	1780	1753	0	1800	1809	0	1373
Q Serve(g_s), s	16.0	68.7	69.0	5.5	56.5	56.5	18.8	0.0	23.7	19.5	0.0	9.1
Cycle Q Clear(g_c), s	16.0	68.7	69.0	5.5	56.5	56.5	18.8	0.0	23.7	19.5	0.0	9.1
Prop In Lane	1.00		0.20	1.00		0.17	1.00		0.12	0.35		1.00
Lane Grp Cap(c), veh/h	438	864	878	69	708	721	347	0	356	253	0	384
V/C Ratio(X)	0.90	1.00	1.02	1.01	1.06	1.07	0.73	0.00	0.88	1.06	0.00	0.51
Avail Cap(c_a), veh/h	439	864	878	69	708	721	414	0	425	253	0	384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.9	35.2	35.3	67.0	41.5	41.5	52.5	0.0	54.4	60.0	0.0	55.6
Incr Delay (d2), s/veh	21.4	30.0	35.8	112.1	49.6	52.9	5.1	0.0	17.0	72.3	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	35.3	37.4	4.6	33.5	34.8	8.9	0.0	12.5	14.1	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.3	65.2	71.1	179.1	91.2	94.4	57.6	0.0	71.4	132.3	0.0	56.7
LnGrp LOS	F	E	F	F	F	F	E	A	E	F	A	E
Approach Vol, veh/h		2154			1587			566			461	
Approach Delay, s/veh		70.6			96.6			65.3			100.5	
Approach LOS		E			F			E			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.0	73.5		24.0	22.5	61.0		32.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.5	69.0		19.5	18.0	56.5		33.0
Max Q Clear Time (g_c+I1), s	7.5	71.0		21.5	18.0	58.5		25.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		1.7

Intersection Summary	
HCM 6th Ctrl Delay	81.5
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.5

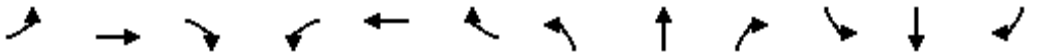
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	1380	60	50	1280	50	20	5	160	10	5	70
Future Vol, veh/h	40	1380	60	50	1280	50	20	5	160	10	5	70
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	245	-	-	-	-	-	35	-	-	-	-	85
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	47	1624	71	59	1506	59	24	6	188	12	6	82

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1565	0	0	1697	0	0	2630	3439	850	2563	3445	783
Stage 1	-	-	-	-	-	-	1756	1756	-	1654	1654	-
Stage 2	-	-	-	-	-	-	874	1683	-	909	1791	-
Critical Hdwy	4.18	-	-	4.18	-	-	7.58	6.58	6.98	7.58	6.58	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.58	5.58	-	6.58	5.58	-
Follow-up Hdwy	2.24	-	-	2.24	-	-	3.54	4.04	3.34	3.54	4.04	3.34
Pot Cap-1 Maneuver	409	-	-	363	-	-	~ 11	7	300	13	6	332
Stage 1	-	-	-	-	-	-	86	134	-	100	151	-
Stage 2	-	-	-	-	-	-	307	146	-	292	129	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	409	-	-	362	-	-	-	0	299	-	0	332
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	0	-
Stage 1	-	-	-	-	-	-	76	118	-	89	0	-
Stage 2	-	-	-	-	-	-	-	0	-	91	114	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.6		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	299	409	-	-	362	-	-	-	332
HCM Lane V/C Ratio	-	0.649	0.115	-	-	0.162	-	-	-	0.248
HCM Control Delay (s)	-	36.8	14.9	-	-	16.9	-	-	-	19.4
HCM Lane LOS	-	E	B	-	-	C	-	-	-	C
HCM 95th %tile Q(veh)	-	4.2	0.4	-	-	0.6	-	-	-	1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	420	940	190	70	800	320	330	430	50	250	380	250
Future Volume (veh/h)	420	940	190	70	800	320	330	430	50	250	380	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	472	1056	195	79	899	187	371	483	9	281	427	160
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	409	1280	236	98	901	393	323	769	340	302	517	192
Arrive On Green	0.23	0.43	0.43	0.06	0.26	0.26	0.18	0.22	0.22	0.17	0.21	0.21
Sat Flow, veh/h	1767	2970	547	1767	3526	1538	1767	3526	1557	1767	2510	931
Grp Volume(v), veh/h	472	626	625	79	899	187	371	483	9	281	298	289
Grp Sat Flow(s),veh/h/ln	1767	1763	1754	1767	1763	1538	1767	1763	1557	1767	1763	1678
Q Serve(g_s), s	33.5	45.3	45.6	6.4	36.9	14.9	26.5	18.0	0.7	22.7	23.4	23.9
Cycle Q Clear(g_c), s	33.5	45.3	45.6	6.4	36.9	14.9	26.5	18.0	0.7	22.7	23.4	23.9
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		0.55
Lane Grp Cap(c), veh/h	409	760	756	98	901	393	323	769	340	302	363	346
V/C Ratio(X)	1.15	0.82	0.83	0.80	1.00	0.48	1.15	0.63	0.03	0.93	0.82	0.83
Avail Cap(c_a), veh/h	409	760	756	99	901	393	323	886	391	306	426	406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	36.3	36.4	67.6	53.9	45.7	59.2	51.3	44.5	59.2	55.0	55.1
Incr Delay (d2), s/veh	94.0	7.3	7.6	36.5	29.5	0.9	96.2	1.1	0.0	33.6	10.7	12.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.5	20.7	20.8	3.9	19.9	5.8	20.4	8.1	0.3	12.9	11.4	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	149.7	43.6	44.0	104.1	83.4	46.6	155.4	52.4	44.6	92.8	65.7	67.5
LnGrp LOS	F	D	D	F	F	D	F	D	D	F	E	E
Approach Vol, veh/h		1723			1165			863			868	
Approach Delay, s/veh		72.8			78.9			96.6			75.0	
Approach LOS		E			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	38.0	41.5	29.2	36.1	12.6	66.9	31.0	34.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	33.5	37.0	25.1	36.4	8.1	62.4	26.5	35.0
Max Q Clear Time (g_c+I1), s	35.5	38.9	24.7	20.0	8.4	47.6	28.5	25.9
Green Ext Time (p_c), s	0.0	0.0	0.0	2.8	0.0	7.3	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	79.2
HCM 6th LOS	E

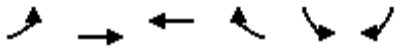
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1210	150	210	980	90	230	20	340	130	10	30
Future Volume (veh/h)	40	1210	150	210	980	90	230	20	340	130	10	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	42	1260	148	219	1021	89	240	21	87	135	10	1
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	95	1451	170	258	1801	157	280	158	133	169	41	35
Arrive On Green	0.05	0.46	0.46	0.15	0.55	0.55	0.16	0.08	0.08	0.10	0.02	0.02
Sat Flow, veh/h	1767	3178	372	1767	3281	286	1767	1856	1567	1767	1856	1567
Grp Volume(v), veh/h	42	697	711	219	548	562	240	21	87	135	10	1
Grp Sat Flow(s),veh/h/ln	1767	1763	1787	1767	1763	1804	1767	1856	1567	1767	1856	1567
Q Serve(g_s), s	1.8	27.8	28.2	9.5	16.0	16.0	10.4	0.8	4.2	5.9	0.4	0.0
Cycle Q Clear(g_c), s	1.8	27.8	28.2	9.5	16.0	16.0	10.4	0.8	4.2	5.9	0.4	0.0
Prop In Lane	1.00		0.21	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	95	805	816	258	968	990	280	158	133	169	41	35
V/C Ratio(X)	0.44	0.87	0.87	0.85	0.57	0.57	0.86	0.13	0.65	0.80	0.24	0.03
Avail Cap(c_a), veh/h	158	989	1003	316	1146	1173	361	663	560	270	568	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	19.2	19.2	32.6	11.6	11.6	32.1	33.2	34.8	34.7	37.7	37.5
Incr Delay (d2), s/veh	1.2	6.0	6.3	14.1	0.2	0.2	12.4	0.1	2.0	3.3	1.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	11.4	11.8	4.9	5.4	5.5	5.2	0.4	1.6	2.6	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.2	25.1	25.6	46.8	11.8	11.8	44.5	33.3	36.8	38.0	38.8	37.6
LnGrp LOS	D	C	C	D	B	B	D	C	D	D	D	D
Approach Vol, veh/h		1450			1329			348			146	
Approach Delay, s/veh		25.7			17.5			41.9			38.0	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	48.1	16.4	5.7	15.5	40.8	11.5	10.7
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	51.0	16.0	24.0	14.0	44.0	12.0	28.0
Max Q Clear Time (g_c+I1), s	3.8	18.0	12.4	2.4	11.5	30.2	7.9	6.2
Green Ext Time (p_c), s	0.0	5.1	0.1	0.0	0.1	5.6	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	24.7
HCM 6th LOS	C

Notes

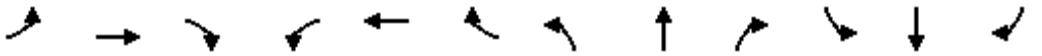
User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	400	1120	900	180	170	340
Future Volume (veh/h)	400	1120	900	180	170	340
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	435	1217	978	181	185	31
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	486	2612	1169	216	229	204
Arrive On Green	0.27	0.73	0.39	0.39	0.13	0.13
Sat Flow, veh/h	1781	3647	3087	553	1781	1585
Grp Volume(v), veh/h	435	1217	580	579	185	31
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1770	1781	1585
Q Serve(g_s), s	16.4	9.6	20.6	20.6	7.0	1.2
Cycle Q Clear(g_c), s	16.4	9.6	20.6	20.6	7.0	1.2
Prop In Lane	1.00			0.31	1.00	1.00
Lane Grp Cap(c), veh/h	486	2612	694	691	229	204
V/C Ratio(X)	0.90	0.47	0.84	0.84	0.81	0.15
Avail Cap(c_a), veh/h	537	2804	739	736	268	239
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	24.4	3.7	19.2	19.2	29.5	27.0
Incr Delay (d2), s/veh	17.2	0.2	8.3	8.5	13.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	2.3	9.5	9.5	3.8	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.6	3.9	27.5	27.7	43.1	27.2
LnGrp LOS	D	A	C	C	D	C
Approach Vol, veh/h		1652	1159		216	
Approach Delay, s/veh		13.8	27.6		40.8	
Approach LOS		B	C		D	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	56.2		13.5	24.0	32.2
Change Period (Y+Rc), s	5.0		4.5	5.0	5.0
Max Green Setting (Gmax), s	55.0		10.5	21.0	29.0
Max Q Clear Time (g_c+I1), s	11.6		9.0	18.4	22.6
Green Ext Time (p_c), s	18.6		0.1	0.6	4.6

Intersection Summary	
HCM 6th Ctrl Delay	21.0
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	520	320	450	80	200	90	510	970	230	260	680	370
Future Volume (veh/h)	520	320	450	80	200	90	510	970	230	260	680	370
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	591	364	187	91	227	87	580	1102	245	295	773	362
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	640	468	396	180	296	110	628	1192	263	261	1340	598
Arrive On Green	0.19	0.25	0.25	0.05	0.12	0.12	0.18	0.42	0.42	0.15	0.38	0.38
Sat Flow, veh/h	3428	1856	1572	3428	2513	934	3428	2870	634	1767	3526	1572
Grp Volume(v), veh/h	591	364	187	91	157	157	580	675	672	295	773	362
Grp Sat Flow(s),veh/h/ln	1714	1856	1572	1714	1763	1685	1714	1763	1741	1767	1763	1572
Q Serve(g_s), s	21.8	23.4	13.0	3.3	11.1	11.6	21.4	46.6	47.3	19.0	22.4	23.8
Cycle Q Clear(g_c), s	21.8	23.4	13.0	3.3	11.1	11.6	21.4	46.6	47.3	19.0	22.4	23.8
Prop In Lane	1.00		1.00	1.00		0.55	1.00		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	640	468	396	180	208	199	628	732	723	261	1340	598
V/C Ratio(X)	0.92	0.78	0.47	0.51	0.76	0.79	0.92	0.92	0.93	1.13	0.58	0.61
Avail Cap(c_a), veh/h	961	664	563	347	316	302	934	755	746	261	1340	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	44.7	40.8	59.2	54.9	55.1	51.6	35.6	35.8	54.7	31.6	32.1
Incr Delay (d2), s/veh	8.0	4.3	1.1	0.8	6.6	9.0	8.5	16.6	18.0	94.8	0.7	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	11.4	5.0	1.5	5.4	5.5	9.7	22.3	22.6	15.1	9.3	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	49.0	41.8	60.1	61.5	64.1	60.0	52.1	53.8	149.5	32.3	34.0
LnGrp LOS	E	D	D	E	E	E	E	D	D	F	C	C
Approach Vol, veh/h		1142			405			1927			1430	
Approach Delay, s/veh		53.2			62.2			55.1			56.9	
Approach LOS		D			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.0	20.1	27.5	52.8	10.7	37.4	23.0	57.3
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	36.0	23.0	35.0	39.0	13.0	46.0	19.0	55.0
Max Q Clear Time (g_c+I1), s	23.8	13.6	23.4	25.8	5.3	25.4	21.0	49.3
Green Ext Time (p_c), s	0.2	1.5	0.2	6.0	0.0	3.6	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	55.8
HCM 6th LOS	E

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	760	340	5	5	30
Future Vol, veh/h	50	760	340	5	5	30
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	60	916	410	6	6	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	418	0	-	0	1451	415
Stage 1	-	-	-	-	415	-
Stage 2	-	-	-	-	1036	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1146	-	-	-	145	640
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	344	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1144	-	-	-	129	639
Mov Cap-2 Maneuver	-	-	-	-	129	-
Stage 1	-	-	-	-	596	-
Stage 2	-	-	-	-	343	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1144	-	-	-	408
HCM Lane V/C Ratio	0.053	-	-	-	0.103
HCM Control Delay (s)	8.3	0	-	-	14.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	710	315	5	10	30
Future Vol, veh/h	40	710	315	5	10	30
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	51	910	404	6	13	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	415	0	-	0	1424	412
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	1012	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1149	-	-	-	150	642
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	353	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1144	-	-	-	135	639
Mov Cap-2 Maneuver	-	-	-	-	135	-
Stage 1	-	-	-	-	607	-
Stage 2	-	-	-	-	351	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1144	-	-	-	331
HCM Lane V/C Ratio	0.045	-	-	-	0.155
HCM Control Delay (s)	8.3	0	-	-	17.9
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	665	290	5	5	30
Future Vol, veh/h	30	665	290	5	5	30
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	831	363	6	6	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	374	0	-	0	1278	371
Stage 1	-	-	-	-	371	-
Stage 2	-	-	-	-	907	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1184	-	-	-	183	675
Stage 1	-	-	-	-	698	-
Stage 2	-	-	-	-	394	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1178	-	-	-	170	672
Mov Cap-2 Maneuver	-	-	-	-	170	-
Stage 1	-	-	-	-	653	-
Stage 2	-	-	-	-	392	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1178	-	-	-	473
HCM Lane V/C Ratio	0.032	-	-	-	0.092
HCM Control Delay (s)	8.2	0	-	-	13.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	635	275	15	10	20
Future Vol, veh/h	35	635	275	15	10	20
Conflicting Peds, #/hr	7	0	0	7	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	49	894	387	21	14	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	415	0	-	0	1397	405
Stage 1	-	-	-	-	405	-
Stage 2	-	-	-	-	992	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1139	-	-	-	155	644
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	357	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1131	-	-	-	140	640
Mov Cap-2 Maneuver	-	-	-	-	140	-
Stage 1	-	-	-	-	609	-
Stage 2	-	-	-	-	355	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	19.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1131	-	-	-	292
HCM Lane V/C Ratio	0.044	-	-	-	0.145
HCM Control Delay (s)	8.3	0	-	-	19.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	570	40	0	250	15	20	0	0	10	0	20
Future Vol, veh/h	35	570	40	0	250	15	20	0	0	10	0	20
Conflicting Peds, #/hr	4	0	0	0	0	4	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	89	89	83	83	89	89	89	83	89	83
Heavy Vehicles, %	0	0	6	6	0	0	6	6	6	0	6	0
Mvmt Flow	42	687	45	0	301	18	22	0	0	12	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	323	0	0	732	0	0	1116	1117	710	1108	1130	314
Stage 1	-	-	-	-	-	-	794	794	-	314	314	-
Stage 2	-	-	-	-	-	-	322	323	-	794	816	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.16	6.56	6.26	7.1	6.56	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.56	-	6.1	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.56	-	6.1	5.56	-
Follow-up Hdwy	2.2	-	-	2.254	-	-	3.554	4.054	3.354	3.5	4.054	3.3
Pot Cap-1 Maneuver	1248	-	-	855	-	-	182	204	427	189	200	731
Stage 1	-	-	-	-	-	-	376	394	-	701	649	-
Stage 2	-	-	-	-	-	-	682	643	-	384	385	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1243	-	-	855	-	-	168	192	427	180	188	728
Mov Cap-2 Maneuver	-	-	-	-	-	-	168	192	-	180	188	-
Stage 1	-	-	-	-	-	-	355	372	-	658	646	-
Stage 2	-	-	-	-	-	-	659	640	-	362	363	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	29.7	16.1
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	168	1243	-	-	855	-	-	361
HCM Lane V/C Ratio	0.134	0.034	-	-	-	-	-	0.1
HCM Control Delay (s)	29.7	8	0	-	0	-	-	16.1
HCM Lane LOS	D	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	545	245	20	10	20
Future Vol, veh/h	35	545	245	20	10	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	39	612	275	22	11	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	297	0	-	0	976	286
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	690	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1276	-	-	-	281	758
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	502	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1276	-	-	-	268	758
Mov Cap-2 Maneuver	-	-	-	-	268	-
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	502	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1276	-	-	-	471
HCM Lane V/C Ratio	0.031	-	-	-	0.072
HCM Control Delay (s)	7.9	0	-	-	13.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	590	0	60	5	5	10	60	400	20	5	450	360
Future Volume (veh/h)	590	0	60	5	5	10	60	400	20	5	450	360
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	621	0	28	5	5	6	63	421	20	5	474	254
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	792	0	31	317	320	340	131	488	23	17	752	335
Arrive On Green	0.50	0.00	0.50	0.50	0.50	0.50	0.07	0.27	0.27	0.01	0.21	0.21
Sat Flow, veh/h	1374	0	62	493	641	680	1810	1799	85	1810	3610	1610
Grp Volume(v), veh/h	649	0	0	16	0	0	63	0	441	5	474	254
Grp Sat Flow(s),veh/h/ln	1436	0	0	1814	0	0	1810	0	1885	1810	1805	1610
Q Serve(g_s), s	27.1	0.0	0.0	0.0	0.0	0.0	2.2	0.0	14.8	0.2	7.9	9.8
Cycle Q Clear(g_c), s	27.4	0.0	0.0	0.3	0.0	0.0	2.2	0.0	14.8	0.2	7.9	9.8
Prop In Lane	0.96		0.04	0.31		0.37	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	823	0	0	977	0	0	131	0	511	17	752	335
V/C Ratio(X)	0.79	0.00	0.00	0.02	0.00	0.00	0.48	0.00	0.86	0.30	0.63	0.76
Avail Cap(c_a), veh/h	1058	0	0	1251	0	0	199	0	690	194	1311	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.1	0.0	0.0	8.4	0.0	0.0	29.6	0.0	23.0	32.7	23.9	24.7
Incr Delay (d2), s/veh	3.1	0.0	0.0	0.0	0.0	0.0	1.0	0.0	6.7	3.6	0.3	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	8.0	0.0	0.0	0.1	0.0	0.0	1.0	0.0	6.9	0.1	3.1	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.2	0.0	0.0	8.4	0.0	0.0	30.6	0.0	29.7	36.3	24.3	26.0
LnGrp LOS	B	A	A	A	A	A	C	A	C	D	C	C
Approach Vol, veh/h		649			16			504			733	
Approach Delay, s/veh		18.2			8.4			29.8			25.0	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	23.0		38.1	9.4	18.8		38.1				
Change Period (Y+Rc), s	4.6	5.0		5.0	4.6	5.0		* 5				
Max Green Setting (Gmax), s	7.1	24.3		44.0	7.3	24.1		* 44				
Max Q Clear Time (g_c+I1), s	2.2	16.8		29.4	4.2	11.8		2.3				
Green Ext Time (p_c), s	0.0	1.1		3.8	0.0	2.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		23.8	
HCM 6th LOS		C	

Notes

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

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	50	430	10	30	550
Future Vol, veh/h	20	50	430	10	30	550
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	22	54	462	11	32	591

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1123	468	0	0	473	0
Stage 1	468	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	224	589	-	-	1073	-
Stage 1	624	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	217	589	-	-	1073	-
Mov Cap-2 Maneuver	217	-	-	-	-	-
Stage 1	605	-	-	-	-	-
Stage 2	511	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.2	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	395	1073	-
HCM Lane V/C Ratio	-	-	0.191	0.03	-
HCM Control Delay (s)	-	-	16.2	8.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

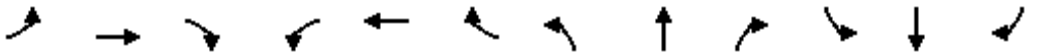
Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	80	360	60	80	490
Future Vol, veh/h	40	80	360	60	80	490
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	-	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	43	87	391	65	87	533

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1131	424	0	0	456	0
Stage 1	424	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	222	624	-	-	1089	-
Stage 1	654	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	204	624	-	-	1089	-
Mov Cap-2 Maneuver	204	-	-	-	-	-
Stage 1	602	-	-	-	-	-
Stage 2	483	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	204	624	1089	-
HCM Lane V/C Ratio	-	-	0.213	0.139	0.08	-
HCM Control Delay (s)	-	-	27.4	11.7	8.6	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.5	0.3	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	770	90	130	30	110	170	100	2480	20	90	2240	790
Future Volume (veh/h)	770	90	130	30	110	170	100	2480	20	90	2240	790
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	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	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	917	107	150	36	131	164	119	2952	12	107	2667	760
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, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	333	34	47	85	299	352	55	1408	610	44	1386	593
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.03	0.43	0.43	0.03	0.42	0.42
Sat Flow, veh/h	680	79	111	138	701	824	1654	3300	1430	1654	3300	1411
Grp Volume(v), veh/h	1174	0	0	331	0	0	119	2952	12	107	2667	760
Grp Sat Flow(s),veh/h/ln	871	0	0	1663	0	0	1654	1650	1430	1654	1650	1411
Q Serve(g_s), s	41.9	0.0	0.0	0.0	0.0	0.0	5.0	64.0	0.7	4.0	63.0	63.0
Cycle Q Clear(g_c), s	64.0	0.0	0.0	22.1	0.0	0.0	5.0	64.0	0.7	4.0	63.0	63.0
Prop In Lane	0.78		0.13	0.11		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	414	0	0	736	0	0	55	1408	610	44	1386	593
V/C Ratio(X)	2.83	0.00	0.00	0.45	0.00	0.00	2.16	2.10	0.02	2.43	1.92	1.28
Avail Cap(c_a), veh/h	414	0	0	736	0	0	55	1408	610	44	1386	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	0.0	0.0	31.1	0.0	0.0	72.5	43.0	24.9	73.0	43.5	43.5
Incr Delay (d2), s/veh	831.4	0.0	0.0	0.2	0.0	0.0	576.1	495.8	0.0	704.7	418.5	139.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	111.9	0.0	0.0	8.9	0.0	0.0	10.9	121.4	0.2	10.3	104.6	43.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	882.5	0.0	0.0	31.2	0.0	0.0	648.6	538.8	24.9	777.7	462.0	183.0
LnGrp LOS	F	A	A	C	A	A	F	F	C	F	F	F
Approach Vol, veh/h		1174			331			3083			3534	
Approach Delay, s/veh		882.5			31.2			541.1			411.6	
Approach LOS		F			C			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	72.0		69.0	10.0	71.0		69.0				
Change Period (Y+Rc), s	* 5	8.0		* 5	* 5	8.0		* 5				
Max Green Setting (Gmax), s	* 4	64.0		* 64	* 5	63.0		* 64				
Max Q Clear Time (g_c+I1), s	6.0	66.0		66.0	7.0	65.0		24.1				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		1.7				

Intersection Summary		
HCM 6th Ctrl Delay		513.3
HCM 6th LOS		F

Notes

User approved pedestrian interval to be less than phase max green.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	40	20	120	50	110	30	990	150	150	1010	70
Future Volume (veh/h)	100	40	20	120	50	110	30	990	150	150	1010	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	115	46	0	138	57	4	34	1138	161	172	1161	75
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	170	127	0	178	136	115	89	1470	207	214	1831	118
Arrive On Green	0.09	0.07	0.00	0.10	0.07	0.07	0.05	0.47	0.47	0.12	0.54	0.54
Sat Flow, veh/h	1795	1885	0	1795	1885	1598	1795	3151	445	1795	3416	220
Grp Volume(v), veh/h	115	46	0	138	57	4	34	645	654	172	608	628
Grp Sat Flow(s),veh/h/ln	1795	1885	0	1795	1885	1598	1795	1791	1805	1795	1791	1845
Q Serve(g_s), s	4.0	1.5	0.0	4.8	1.9	0.2	1.2	19.4	19.6	6.0	15.4	15.4
Cycle Q Clear(g_c), s	4.0	1.5	0.0	4.8	1.9	0.2	1.2	19.4	19.6	6.0	15.4	15.4
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.25	1.00		0.12
Lane Grp Cap(c), veh/h	170	127	0	178	136	115	89	835	842	214	960	989
V/C Ratio(X)	0.68	0.36	0.00	0.77	0.42	0.03	0.38	0.77	0.78	0.81	0.63	0.63
Avail Cap(c_a), veh/h	278	642	0	417	642	544	334	971	979	334	971	1000
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.3	28.8	0.0	28.4	28.7	27.9	29.7	14.4	14.4	27.7	10.5	10.5
Incr Delay (d2), s/veh	1.8	1.7	0.0	2.7	0.8	0.0	1.0	3.8	3.9	3.6	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.7	0.0	2.2	0.9	0.1	0.5	6.9	7.1	2.5	4.8	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.0	30.5	0.0	31.1	29.4	27.9	30.7	18.2	18.3	31.3	12.1	12.1
LnGrp LOS	C	C	A	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		161			199			1333			1408	
Approach Delay, s/veh		30.2			30.5			18.5			14.4	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	35.1	9.9	8.4	6.7	39.6	9.6	8.7
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	12.0	35.0	15.0	22.0	12.0	35.0	10.0	22.0
Max Q Clear Time (g_c+I1), s	8.0	21.6	6.8	3.5	3.2	17.4	6.0	3.9
Green Ext Time (p_c), s	0.0	8.6	0.1	0.1	0.0	9.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	18.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	10	10	80	5	60	10	1130	90	90	1060	5
Future Volume (veh/h)	5	10	10	80	5	60	10	1130	90	90	1060	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	11	0	90	6	3	11	1270	97	101	1191	6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	42	36	165	122	61	35	1706	130	173	2130	11
Arrive On Green	0.01	0.02	0.00	0.09	0.10	0.10	0.02	0.51	0.51	0.10	0.59	0.59
Sat Flow, veh/h	1781	1870	1585	1781	1176	588	1781	3346	255	1781	3625	18
Grp Volume(v), veh/h	6	11	0	90	0	9	11	673	694	101	584	613
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1764	1781	1777	1824	1781	1777	1867
Q Serve(g_s), s	0.2	0.3	0.0	2.8	0.0	0.3	0.4	17.2	17.3	3.1	11.6	11.6
Cycle Q Clear(g_c), s	0.2	0.3	0.0	2.8	0.0	0.3	0.4	17.2	17.3	3.1	11.6	11.6
Prop In Lane	1.00		1.00	1.00		0.33	1.00		0.14	1.00		0.01
Lane Grp Cap(c), veh/h	20	42	36	165	0	184	35	906	930	173	1044	1097
V/C Ratio(X)	0.30	0.26	0.00	0.54	0.00	0.05	0.31	0.74	0.75	0.58	0.56	0.56
Avail Cap(c_a), veh/h	618	682	578	618	0	643	618	1080	1108	618	1080	1134
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.3	27.7	0.0	25.0	0.0	23.2	27.9	11.1	11.2	24.9	7.3	7.3
Incr Delay (d2), s/veh	3.1	4.6	0.0	1.0	0.0	0.2	1.9	2.7	2.7	1.2	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.0	1.2	0.0	0.1	0.2	5.3	5.5	1.2	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.4	32.3	0.0	26.0	0.0	23.4	29.7	13.8	13.9	26.0	8.1	8.1
LnGrp LOS	C	C	A	C	A	C	C	B	B	C	A	A
Approach Vol, veh/h		17			99			1378			1298	
Approach Delay, s/veh		32.0			25.8			14.0			9.5	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	34.4	8.8	5.3	4.6	38.8	4.1	10.0
Change Period (Y+Rc), s	3.5	5.0	3.5	4.0	3.5	5.0	3.5	4.0
Max Green Setting (Gmax), s	20.0	35.0	20.0	21.0	20.0	35.0	20.0	21.0
Max Q Clear Time (g_c+I1), s	5.1	19.3	4.8	2.3	2.4	13.6	2.2	2.3
Green Ext Time (p_c), s	0.1	10.0	0.1	0.0	0.0	10.5	0.0	0.0

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

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	61.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	100	30	1280	60	40	1170
Future Vol, veh/h	100	30	1280	60	40	1170
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	116	35	1488	70	47	1360

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2297	779	0	0	1558	0
Stage 1	1523	-	-	-	-	-
Stage 2	774	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 33	339	-	-	421	-
Stage 1	166	-	-	-	-	-
Stage 2	415	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 29	339	-	-	421	-
Mov Cap-2 Maneuver	~ 29	-	-	-	-	-
Stage 1	147	-	-	-	-	-
Stage 2	415	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $	1259.6	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	29	339	421	-
HCM Lane V/C Ratio	-	-	4.01	0.103	0.11	-
HCM Control Delay (s)	-	-	$ 1632.5	16.8	14.6	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	14	0.3	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

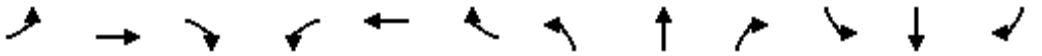
Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	10	1220	140	5	1310
Future Vol, veh/h	5	10	1220	140	5	1310
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	6	12	1435	165	6	1541

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2301	800	0	0	1600	0
Stage 1	1518	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	32	326	-	-	401	-
Stage 1	166	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	29	326	-	-	401	-
Mov Cap-2 Maneuver	29	-	-	-	-	-
Stage 1	149	-	-	-	-	-
Stage 2	408	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	68.3	0	0.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	74	401	-
HCM Lane V/C Ratio	-	-	0.238	0.015	-
HCM Control Delay (s)	-	-	68.3	14.1	0.7
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	30	240	40	10	50	220	1160	180	90	1095	130
Future Volume (veh/h)	150	30	240	40	10	50	220	1160	180	90	1095	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	183	37	137	49	12	5	268	1415	75	110	1335	104
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	324	61	226	184	220	92	308	2053	916	139	1717	766
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.17	0.58	0.58	0.08	0.48	0.48
Sat Flow, veh/h	1396	348	1290	1211	1254	522	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	183	0	174	49	0	17	268	1415	75	110	1335	104
Grp Sat Flow(s),veh/h/ln	1396	0	1638	1211	0	1776	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.1	0.0	7.9	3.1	0.0	0.6	11.7	22.4	1.7	4.9	24.9	2.9
Cycle Q Clear(g_c), s	10.7	0.0	7.9	11.0	0.0	0.6	11.7	22.4	1.7	4.9	24.9	2.9
Prop In Lane	1.00		0.79	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	324	0	288	184	0	312	308	2053	916	139	1717	766
V/C Ratio(X)	0.57	0.00	0.60	0.27	0.00	0.05	0.87	0.69	0.08	0.79	0.78	0.14
Avail Cap(c_a), veh/h	653	0	674	470	0	731	344	2053	916	160	1717	766
HCM Platoon Ratio	1.00	1.00	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	32.0	0.0	30.5	35.5	0.0	27.5	32.3	11.9	7.5	36.3	17.1	11.5
Incr Delay (d2), s/veh	1.5	0.0	2.0	0.8	0.0	0.1	19.3	1.9	0.2	20.2	3.5	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	3.3	0.0	3.0	0.9	0.0	0.3	6.3	7.4	0.5	2.8	9.3	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.5	0.0	32.5	36.3	0.0	27.6	51.6	13.8	7.7	56.5	20.7	11.8
LnGrp LOS	C	A	C	D	A	C	D	B	A	E	C	B
Approach Vol, veh/h		357			66			1758			1549	
Approach Delay, s/veh		33.0			34.1			19.3			22.6	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	50.8		18.6	18.3	43.2		18.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.2	46.3		33.0	15.5	38.0		33.0				
Max Q Clear Time (g_c+I1), s	6.9	24.4		12.7	13.7	26.9		13.0				
Green Ext Time (p_c), s	0.0	10.7		1.4	0.1	6.6		0.2				

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	20	0	40	5	1535	40	40	1330	5
Future Volume (veh/h)	5	5	5	20	0	40	5	1535	40	40	1330	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	6	6	0	23	0	0	6	1785	46	47	1547	6
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	53	55	0	65	0	0	19	2424	62	94	2582	10
Arrive On Green	0.03	0.03	0.00	0.04	0.00	0.00	0.01	0.69	0.69	0.05	0.72	0.72
Sat Flow, veh/h	1767	1856	0	1767	0	0	1767	3510	90	1767	3602	14
Grp Volume(v), veh/h	6	6	0	23	0	0	6	893	938	47	757	796
Grp Sat Flow(s),veh/h/ln	1767	1856	0	1767	0	0	1767	1763	1837	1767	1763	1853
Q Serve(g_s), s	0.3	0.3	0.0	1.2	0.0	0.0	0.3	29.3	29.8	2.4	19.7	19.7
Cycle Q Clear(g_c), s	0.3	0.3	0.0	1.2	0.0	0.0	0.3	29.3	29.8	2.4	19.7	19.7
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.05	1.00		0.01
Lane Grp Cap(c), veh/h	53	55	0	65	0	0	19	1218	1269	94	1264	1328
V/C Ratio(X)	0.11	0.11	0.00	0.35	0.00	0.00	0.31	0.73	0.74	0.50	0.60	0.60
Avail Cap(c_a), veh/h	479	502	0	479	0	0	134	1440	1500	136	1413	1485
HCM Platoon Ratio	1.00	1.00	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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	43.6	0.0	43.4	0.0	0.0	45.3	8.9	9.0	42.5	6.5	6.5
Incr Delay (d2), s/veh	0.4	0.3	0.0	1.2	0.0	0.0	3.4	2.1	2.1	1.5	0.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.5	0.0	0.0	0.1	8.6	9.1	1.0	5.2	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.0	43.9	0.0	44.6	0.0	0.0	48.7	11.0	11.1	44.0	7.4	7.3
LnGrp LOS	D	D	A	D	A	A	D	B	B	D	A	A
Approach Vol, veh/h		12			23			1837			1600	
Approach Delay, s/veh		43.9			44.6			11.2			8.4	
Approach LOS		D			D			B			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.4	68.8		7.7	6.0	71.2		7.4
Change Period (Y+Rc), s	3.5	5.0		5.0	5.0	5.0		4.0
Max Green Setting (Gmax), s	7.1	75.4		25.0	7.0	74.0		25.0
Max Q Clear Time (g_c+I1), s	4.4	31.8		2.3	2.3	21.7		3.2
Green Ext Time (p_c), s	0.0	32.0		0.0	0.0	28.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	62.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	40	1540	80	80	1275
Future Vol, veh/h	50	40	1540	80	80	1275
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	85	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	57	45	1750	91	91	1449

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2703	921	0	0	1841	0
Stage 1	1796	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	~ 17	271	-	-	322	-
Stage 1	117	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 12	271	-	-	322	-
Mov Cap-2 Maneuver	~ 12	-	-	-	-	-
Stage 1	84	-	-	-	-	-
Stage 2	352	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 2112.1	0	1.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	21	322	-
HCM Lane V/C Ratio	-	-	4.87	0.282	-
HCM Control Delay (s)	-	-	$ 2112.1	20.5	-
HCM Lane LOS	-	-	F	C	-
HCM 95th %tile Q(veh)	-	-	13.1	1.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	36.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	5	20	20	0	20	5	1570	30	50	1270	5
Future Vol, veh/h	30	5	20	20	0	20	5	1570	30	50	1270	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	95	-	-	90	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	35	6	23	23	0	23	6	1826	35	58	1477	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2518	3466	1477	3467	3455	931	1483	0	0	1861	0	0
Stage 1	1593	1593	-	1856	1856	-	-	-	-	-	-	-
Stage 2	925	1873	-	1611	1599	-	-	-	-	-	-	-
Critical Hdwy	7.345	6.545	6.245	7.345	6.545	6.945	4.145	-	-	4.145	-	-
Critical Hdwy Stg 1	6.145	5.545	-	6.545	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.545	5.545	-	6.145	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.5285	4.0285	3.3285	3.5285	4.0285	3.3285	2.2285	-	-	2.2285	-	-
Pot Cap-1 Maneuver	~ 16	6	153	~ 3	7	268	448	-	-	319	-	-
Stage 1	133	165	-	76	122	-	-	-	-	-	-	-
Stage 2	289	119	-	130	164	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 12	~ 5	153	-	6	268	448	-	-	319	-	-
Mov Cap-2 Maneuver	~ 12	~ 5	-	-	6	-	-	-	-	-	-	-
Stage 1	131	135	-	75	120	-	-	-	-	-	-	-
Stage 2	260	117	-	86	134	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	1979.1		0	0.7
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	448	-	-	15	-	319	-	-
HCM Lane V/C Ratio	0.013	-	-	4.264	-	0.182	-	-
HCM Control Delay (s)	13.1	-	-	$ 1979.1	-	18.8	-	-
HCM Lane LOS	B	-	-	F	-	C	-	-
HCM 95th %tile Q(veh)	0	-	-	8.8	-	0.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

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	260	30	100	270	30	140	60	900	220	90	650	160
Future Vol, veh/h	260	30	100	270	30	140	60	900	220	90	650	160
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	160	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	89	90	89	89	89	90	90	89	89	90	90
Heavy Vehicles, %	3	6	3	6	6	6	3	3	6	6	3	3
Mvmt Flow	289	34	111	303	34	157	67	1000	247	101	722	178

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1664	2394	450	1838	2360	624	900	0	0	1247	0	0
Stage 1	1013	1013	-	1258	1258	-	-	-	-	-	-	-
Stage 2	651	1381	-	580	1102	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.62	6.96	7.62	6.62	7.02	4.16	-	-	4.22	-	-
Critical Hdwy Stg 1	6.56	5.62	-	6.62	5.62	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.62	-	6.62	5.62	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.06	3.33	3.56	4.06	3.36	2.23	-	-	2.26	-	-
Pot Cap-1 Maneuver	~ 63	~ 31	554	~ 45	~ 33	419	744	-	-	532	-	-
Stage 1	~ 254	306	-	~ 175	233	-	-	-	-	-	-	-
Stage 2	421	203	-	457	277	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 23	554	-	~ 24	419	744	-	-	532	-	-
Mov Cap-2 Maneuver	-	~ 23	-	-	~ 24	-	-	-	-	-	-	-
Stage 1	~ 231	248	-	~ 159	212	-	-	-	-	-	-	-
Stage 2	~ 201	185	-	~ 256	224	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.5	1.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	744	-	-	-	-	532	-	-
HCM Lane V/C Ratio	0.09	-	-	-	-	0.19	-	-
HCM Control Delay (s)	10.3	-	-	-	-	13.3	-	-
HCM Lane LOS	B	-	-	-	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-	-	0.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

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	30	435	0	5	180	0	0	0	5	0	0	10
Future Vol, veh/h	30	435	0	5	180	0	0	0	5	0	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	6	6	6	6	6	6	6	6	6	6	6	6
Mvmt Flow	34	489	0	6	202	0	0	0	6	0	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	202	0	0	489	0	0	777	771	489	774	771	202
Stage 1	-	-	-	-	-	-	557	557	-	214	214	-
Stage 2	-	-	-	-	-	-	220	214	-	560	557	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.16	6.56	6.26	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.56	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.56	-	6.16	5.56	-
Follow-up Hdwy	2.254	-	-	2.254	-	-	3.554	4.054	3.354	3.554	4.054	3.354
Pot Cap-1 Maneuver	1346	-	-	1054	-	-	309	326	571	311	326	829
Stage 1	-	-	-	-	-	-	508	506	-	779	718	-
Stage 2	-	-	-	-	-	-	773	718	-	506	506	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1346	-	-	1054	-	-	295	313	571	298	313	829
Mov Cap-2 Maneuver	-	-	-	-	-	-	295	313	-	298	313	-
Stage 1	-	-	-	-	-	-	490	488	-	752	714	-
Stage 2	-	-	-	-	-	-	758	714	-	483	488	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	11.4	9.4
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	571	1346	-	-	1054	-	-	829
HCM Lane V/C Ratio	0.01	0.025	-	-	0.005	-	-	0.014
HCM Control Delay (s)	11.4	7.7	0	-	8.4	0	-	9.4
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0

Intersection	
Intersection Delay, s/veh	6.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	495	22	129	22
Demand Flow Rate, veh/h	525	23	137	24
Vehicles Circulating, veh/h	60	465	382	255
Vehicles Exiting, veh/h	219	54	203	12
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	4.7	5.5	3.8
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	525	23	137	24
Cap Entry Lane, veh/h	1298	859	935	1064
Entry HV Adj Factor	0.943	0.943	0.944	0.930
Flow Entry, veh/h	495	22	129	22
Cap Entry, veh/h	1224	810	882	989
V/C Ratio	0.404	0.027	0.147	0.023
Control Delay, s/veh	6.9	4.7	5.5	3.8
LOS	A	A	A	A
95th %tile Queue, veh	2	0	1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	SW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	152
Demand Flow Rate, veh/h	161
Vehicles Circulating, veh/h	106
Vehicles Exiting, veh/h	382
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	4.2
Approach LOS	A

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	161
Cap Entry Lane, veh/h	1238
Entry HV Adj Factor	0.944
Flow Entry, veh/h	152
Cap Entry, veh/h	1169
V/C Ratio	0.130
Control Delay, s/veh	4.2
LOS	A
95th %tile Queue, veh	0

Intersection	
Intersection Delay, s/veh	4.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	6	67	359	79
Demand Flow Rate, veh/h	6	71	381	84
Vehicles Circulating, veh/h	155	274	0	83
Vehicles Exiting, veh/h	12	107	161	262
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.1	4.3	5.2	3.6
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	6	71	381	84
Cap Entry Lane, veh/h	1178	1043	1380	1268
Entry HV Adj Factor	1.000	0.944	0.943	0.943
Flow Entry, veh/h	6	67	359	79
Cap Entry, veh/h	1178	985	1301	1196
V/C Ratio	0.005	0.068	0.276	0.066
Control Delay, s/veh	3.1	4.3	5.2	3.6
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	0

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	20	95	0	70	100
Future Vol, veh/h	0	20	95	0	70	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	6	6	6	6	6	6
Mvmt Flow	0	22	107	0	79	112

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	377	107	0	0	107	0
Stage 1	107	-	-	-	-	-
Stage 2	270	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.16	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.254	-
Pot Cap-1 Maneuver	617	936	-	-	1459	-
Stage 1	907	-	-	-	-	-
Stage 2	766	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	581	936	-	-	1459	-
Mov Cap-2 Maneuver	581	-	-	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	766	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	3.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	936	1459	-
HCM Lane V/C Ratio	-	-	0.024	0.054	-
HCM Control Delay (s)	-	-	8.9	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	5	90	30	20	80
Future Vol, veh/h	20	5	90	30	20	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	6	6	6	6	6	6
Mvmt Flow	22	6	101	34	22	90

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	252	118	0	0	135	0
Stage 1	118	-	-	-	-	-
Stage 2	134	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.16	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.254	-
Pot Cap-1 Maneuver	728	923	-	-	1425	-
Stage 1	897	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	716	923	-	-	1425	-
Mov Cap-2 Maneuver	716	-	-	-	-	-
Stage 1	883	-	-	-	-	-
Stage 2	883	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	1.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	750	1425	-
HCM Lane V/C Ratio	-	-	0.037	0.016	-
HCM Control Delay (s)	-	-	10	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	0	120	50	0	100
Future Vol, veh/h	40	0	120	50	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	6	6	6	6	6	6
Mvmt Flow	45	0	135	56	0	112

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	275	163	0	0	191	0
Stage 1	163	-	-	-	-	-
Stage 2	112	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.16	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.254	-
Pot Cap-1 Maneuver	706	871	-	-	1359	-
Stage 1	856	-	-	-	-	-
Stage 2	903	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	706	871	-	-	1359	-
Mov Cap-2 Maneuver	706	-	-	-	-	-
Stage 1	856	-	-	-	-	-
Stage 2	903	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	706	1359	-
HCM Lane V/C Ratio	-	-	0.064	-	-
HCM Control Delay (s)	-	-	10.4	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	42.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	400	40	130	470	40	100
Future Vol, veh/h	400	40	130	470	40	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	6	6	6	6	6	6
Mvmt Flow	449	45	146	528	45	112

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	612	410	0	0	674	0
Stage 1	410	-	-	-	-	-
Stage 2	202	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.16	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.254	-
Pot Cap-1 Maneuver	450	633	-	-	899	-
Stage 1	661	-	-	-	-	-
Stage 2	822	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 426	633	-	-	899	-
Mov Cap-2 Maneuver	~ 426	-	-	-	-	-
Stage 1	626	-	-	-	-	-
Stage 2	822	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	112	0	2.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	439	899	-
HCM Lane V/C Ratio	-	-	1.126	0.05	-
HCM Control Delay (s)	-	-	112	9.2	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	17.5	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	14.0
Intersection LOS	B

Approach	WB	NB	SB
Entry Lanes	1	2	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	495	1213	562
Demand Flow Rate, veh/h	525	1285	596
Vehicles Circulating, veh/h	678	36	489
Vehicles Exiting, veh/h	643	1049	714
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	24.6	7.6	18.5
Approach LOS	C	A	C

Lane	Left	Left	Right	Left
Designated Moves	LR	LT	R	LT
Assumed Moves	LR	LT	R	LT
RT Channelized				
Lane Util	1.000	0.528	0.472	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.544	4.544	4.976
Entry Flow, veh/h	525	678	607	596
Cap Entry Lane, veh/h	691	1374	1374	838
Entry HV Adj Factor	0.943	0.943	0.944	0.943
Flow Entry, veh/h	495	640	573	562
Cap Entry, veh/h	652	1297	1297	791
V/C Ratio	0.760	0.493	0.442	0.711
Control Delay, s/veh	24.6	7.9	7.2	18.5
LOS	C	A	A	C
95th %tile Queue, veh	7	3	2	6

Intersection	
Intersection Delay, s/veh	184.5
Intersection LOS	F

Approach	EB	WB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	2022	1134	988
Demand Flow Rate, veh/h	2143	1202	1048
Vehicles Circulating, veh/h	119	1167	1083
Vehicles Exiting, veh/h	2012	1095	1286
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	25.4	572.0	65.2
Approach LOS	D	F	F

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	LTR	LTR	R	LTR	R
Assumed Moves	L	LTR	LT	R	LTR	R
RT Channelized						
Lane Util	0.530	0.470	0.901	0.099	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	1136	1007	1083	119	493	555
Cap Entry Lane, veh/h	1210	1283	461	527	498	566
Entry HV Adj Factor	0.943	0.944	0.943	0.941	0.942	0.943
Flow Entry, veh/h	1072	950	1022	112	464	524
Cap Entry, veh/h	1141	1211	435	496	470	534
V/C Ratio	0.939	0.785	2.347	0.226	0.989	0.981
Control Delay, s/veh	33.1	16.7	633.6	10.5	68.6	62.2
LOS	D	C	F	B	F	F
95th %tile Queue, veh	16	9	78	1	13	13

HCM 6th Edition: Freeway Diverge Segment

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Off Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Geometric Data

	Freeway	Off Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Deceleration Length, LD	1,500	100	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	Off Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	Off Ramp	
Volume, V	1,724	478	vph
Peak Hour Factor, PHF	0.84	0.93	
Total Trucks	7.0%	11.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.901	
Flow Rate, v_p	2,196	571	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Off Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	2,196	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	2,196	4,638	pcph	0.47
Exiting General Purpose Lanes	1,626	4,638	pcph	0.35
Off Ramp	571	2,100	pcph	0.27
Ramp Influence Area	2,196	4,400	pcph	0.50

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	22.2	pcpmpl
Level of Service, LOS	C	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.349	
Average Speed in Ramp Influence Area, S_R	54.9	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	54.9	mph
Density across All Lanes, D	22.2	pcpmpl

Freeway Basic Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway
Alternative	Existing Conditions
Time Period	AM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	1,850	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar	Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe	Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident	Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	1,246	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.84		Flow Rate, v_p	794	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.34	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	61.9	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	12.8	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	B	

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Loop On Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	35	mph
Segment Length, L / Acceleration Length, LA	990	250	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	1,246	221	vph
Peak Hour Factor, PHF	0.84	0.93	
Total Trucks	7.0%	11.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.901	
Flow Rate, v_p	1,587	264	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Loop On Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	1,587	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	1,587	4,638	pcph	0.34
Exiting General Purpose Lanes	1,851	4,638	pcph	0.40
On Ramp	264	2,000	pcph	0.13
Ramp Influence Area	1,851	4,600	pcph	0.40

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	18.3	pcpmpl
Level of Service, LOS	B	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.328	
Average Speed in Ramp Influence Area, S_R	55.4	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	55.4	mph
Density across All Lanes, D	18.3	pcpmpl

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Slip On Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Acceleration Length, LA	1,500	150	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp	
Driver Population	Familiar	Familiar	
Weather Type	Non-severe	Non-severe	
Incident Type	No incident	No incident	
Capacity Adjustment Factor, CAF	1.00	1.00	
Demand Adjustment Factor, DAF	1.00	1.00	

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	1,467	555	vph
Peak Hour Factor, PHF	0.84	0.93	
Total Trucks	7.0%	11.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.901	
Flow Rate, v_p	1,869	662	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Slip On Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	1,869	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	1,869	4,638	pcph	0.40
Exiting General Purpose Lanes	2,531	4,638	pcph	0.55
On Ramp	662	2,100	pcph	0.32
Ramp Influence Area	2,531	4,600	pcph	0.55

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	24.0	pcpmpl
Level of Service, LOS	C	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.357	
Average Speed in Ramp Influence Area, S_R	54.8	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	54.8	mph
Density across All Lanes, D	24.0	pcpmpl

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	E 20th Off Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Geometric Data

	Freeway	Off Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Deceleration Length, LD	650	125	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	Off Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	Off Ramp	
Volume, V	2,022	185	vph
Peak Hour Factor, PHF	0.84	0.89	
Total Trucks	7.0%	5.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.952	
Flow Rate, v_p	2,576	218	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	E 20th Off Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	2,576	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	2,576	4,638	pcph	0.56
Exiting General Purpose Lanes	2,357	4,638	pcph	0.51
Off Ramp	218	2,100	pcph	0.10
Ramp Influence Area	2,576	4,400	pcph	0.59

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	25.3	pcpmpl
Level of Service, LOS	C	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.318	
Average Speed in Ramp Influence Area, S_R	55.6	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	55.6	mph
Density across All Lanes, D	25.3	pcpmpl

Freeway Basic Report

Project	Valley's Edge
Freeway	NB 99
Segment	E 20th
Alternative	Existing Conditions
Time Period	AM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	665	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar	Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe	Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident	Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	1,837	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.84		Flow Rate, v_p	1,170	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.50	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	61.9	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	18.9	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	C	

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	E 20th On Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Acceleration Length, LA	1,500	250	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp	
Driver Population	Familiar	Familiar	
Weather Type	Non-severe	Non-severe	
Incident Type	No incident	No incident	
Capacity Adjustment Factor, CAF	1.00	1.00	
Demand Adjustment Factor, DAF	1.00	1.00	

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	1,837	538	vph
Peak Hour Factor, PHF	0.84	0.89	
Total Trucks	7.0%	5.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.952	
Flow Rate, v_p	2,340	635	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	E 20th On Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	2,340	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	2,340	4,638	pcph	0.50
Exiting General Purpose Lanes	2,975	4,638	pcph	0.64
On Ramp	635	2,100	pcph	0.30
Ramp Influence Area	2,975	4,600	pcph	0.65

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	26.9	pcpmpl
Level of Service, LOS	C	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.375	
Average Speed in Ramp Influence Area, S_R	54.4	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	54.4	mph
Density across All Lanes, D	26.9	pcpmpl

HCM 6th Edition: Freeway Diverge Segment

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	SR 32 Off Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Geometric Data

	Freeway	Off Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Deceleration Length, LD	1,165	130	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	Off Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	Off Ramp	
Volume, V	2,375	529	vph
Peak Hour Factor, PHF	0.84	0.82	
Total Trucks	7.0%	4.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.962	
Flow Rate, v_p	3,025	671	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	SR 32 Off Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	3,025	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	3,025	4,638	pcph	0.65
Exiting General Purpose Lanes	2,354	4,638	pcph	0.51
Off Ramp	671	2,100	pcph	0.32
Ramp Influence Area	3,025	4,400	pcph	0.69

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	29.1	pcpmpl
Level of Service, LOS	D	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.358	
Average Speed in Ramp Influence Area, S_R	54.8	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	54.8	mph
Density across All Lanes, D	29.1	pcpmpl

Freeway Basic Report

Project	Valley's Edge
Freeway	NB 99
Segment	Southgate to Skyway
Alternative	Existing Conditions
Time Period	PM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	1,900	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar	Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe	Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident	Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	2,209	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.95		Flow Rate, v_p	1,244	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.54	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	61.9	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	20.1	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	C	

HCM 6th Edition: Freeway Diverge Segment

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Off Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Geometric Data

	Freeway	Off Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Deceleration Length, LD	1,500	100	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	Off Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	Off Ramp	
Volume, V	2,209	587	vph
Peak Hour Factor, PHF	0.95	0.97	
Total Trucks	7.0%	4.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.962	
Flow Rate, v_p	2,488	629	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Off Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	2,488	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	2,488	4,638	pcph	0.54
Exiting General Purpose Lanes	1,859	4,638	pcph	0.40
Off Ramp	629	2,100	pcph	0.30
Ramp Influence Area	2,488	4,400	pcph	0.57

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	24.7	pcpmpl
Level of Service, LOS	C	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.355	
Average Speed in Ramp Influence Area, S_R	54.8	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	54.8	mph
Density across All Lanes, D	24.7	pcpmpl

Freeway Basic Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway
Alternative	Existing Conditions
Time Period	PM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	1,850	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar	Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe	Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident	Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	1,622	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.95		Flow Rate, v_p	913	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.39	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	61.9	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	14.8	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	B	

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Loop On Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	35	mph
Segment Length, L / Acceleration Length, LA	990	250	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp	
Driver Population	Familiar	Familiar	
Weather Type	Non-severe	Non-severe	
Incident Type	No incident	No incident	
Capacity Adjustment Factor, CAF	1.00	1.00	
Demand Adjustment Factor, DAF	1.00	1.00	

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	1,622	404	vph
Peak Hour Factor, PHF	0.95	0.97	
Total Trucks	7.0%	4.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.962	
Flow Rate, v_p	1,827	433	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Loop On Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	1,827	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	1,827	4,638	pcph	0.39
Exiting General Purpose Lanes	2,260	4,638	pcph	0.49
On Ramp	433	2,000	pcph	0.22
Ramp Influence Area	2,260	4,600	pcph	0.49

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	21.4	pcpmpl
Level of Service, LOS	C	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.341	
Average Speed in Ramp Influence Area, S_R	55.1	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	55.1	mph
Density across All Lanes, D	21.4	pcpmpl

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Slip On Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Acceleration Length, LA	1,500	150	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp	
Driver Population	Familiar	Familiar	
Weather Type	Non-severe	Non-severe	
Incident Type	No incident	No incident	
Capacity Adjustment Factor, CAF	1.00	1.00	
Demand Adjustment Factor, DAF	1.00	1.00	

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	2,026	797	vph
Peak Hour Factor, PHF	0.95	0.97	
Total Trucks	7.0%	4.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.962	
Flow Rate, v_p	2,282	855	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Slip On Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	2,282	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	2,282	4,638	pcph	0.49
Exiting General Purpose Lanes	3,136	4,638	pcph	0.68
On Ramp	855	2,100	pcph	0.41
Ramp Influence Area	3,136	4,600	pcph	0.68

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	28.7	pcpmpl
Level of Service, LOS	D	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.397	
Average Speed in Ramp Influence Area, S_R	54.0	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	54.0	mph
Density across All Lanes, D	28.7	pcpmpl

HCM 6th Edition: Freeway Diverge Segment

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	E 20th Off Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Geometric Data

	Freeway	Off Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Deceleration Length, LD	650	125	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	Off Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	Off Ramp	
Volume, V	2,823	289	vph
Peak Hour Factor, PHF	0.95	0.98	
Total Trucks	7.0%	1.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.990	
Flow Rate, v_p	3,180	298	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	E 20th Off Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	3,180	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	3,180	4,638	pcph	0.69
Exiting General Purpose Lanes	2,882	4,638	pcph	0.62
Off Ramp	298	2,100	pcph	0.14
Ramp Influence Area	3,180	4,400	pcph	0.72

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	30.5	pcpmpl
Level of Service, LOS	D	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.325	
Average Speed in Ramp Influence Area, S_R	55.4	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	55.4	mph
Density across All Lanes, D	30.5	pcpmpl

Freeway Basic Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway
Alternative	Existing Conditions
Time Period	PM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	1,850	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar	Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe	Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident	Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	1,622	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.95		Flow Rate, v_p	913	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.39	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	61.9	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	14.8	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	B	

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	E 20th On Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Acceleration Length, LA	1,500	250	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	2,534	1,133	vph
Peak Hour Factor, PHF	0.95	0.98	
Total Trucks	7.0%	1.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.990	
Flow Rate, v_p	2,854	1,168	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	E 20th On Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	2,854	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	2,854	4,638	pcph	0.62
Exiting General Purpose Lanes	4,022	4,638	pcph	0.87
On Ramp	1,168	2,100	pcph	0.56
Ramp Influence Area	4,022	4,600	pcph	0.87

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	34.8	pcpmpl
Level of Service, LOS	D	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.516	
Average Speed in Ramp Influence Area, S_R	51.6	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	51.6	mph
Density across All Lanes, D	34.8	pcpmpl

HCM 6th Edition: Freeway Diverge Segment

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	SR 32 Off Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Geometric Data

	Freeway	Off Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Deceleration Length, LD	1,165	130	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	Off Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	Off Ramp	
Volume, V	3,667	518	vph
Peak Hour Factor, PHF	0.95	0.96	
Total Trucks	7.0%	1.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.990	
Flow Rate, v_p	4,130	545	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	SR 32 Off Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	4,130	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	4,130	4,638	pcph	0.89
Exiting General Purpose Lanes	3,585	4,638	pcph	0.77
Off Ramp	545	2,100	pcph	0.26
Ramp Influence Area	4,130	4,400	pcph	0.94

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	38.6	pcpmpl
Level of Service, LOS	E	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.347	
Average Speed in Ramp Influence Area, S_R	55.0	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	55.0	mph
Density across All Lanes, D	38.6	pcpmpl

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	SR 32 On Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Acceleration Length, LA	1,130	230	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp	
Driver Population	Familiar	Familiar	
Weather Type	Non-severe	Non-severe	
Incident Type	No incident	No incident	
Capacity Adjustment Factor, CAF	1.00	1.00	
Demand Adjustment Factor, DAF	1.00	1.00	

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	2,732	601	vph
Peak Hour Factor, PHF	0.84	0.89	
Total Trucks	7.0%	2.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.980	
Flow Rate, v_p	3,480	689	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp	0		
Distance to Adjacent Ramp	0		ft
Volume on Adjacent Ramp	0		pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	SR 32 On Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	3,480	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	3,480	4,638	pcph	0.75
Exiting General Purpose Lanes	4,169	4,638	pcph	0.90
On Ramp	689	2,100	pcph	0.33
Ramp Influence Area	4,169	4,600	pcph	0.91

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	36.3	pcpmpl
Level of Service, LOS	E	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.552	
Average Speed in Ramp Influence Area, S_R	50.9	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	50.9	mph
Density across All Lanes, D	36.3	pcpmpl

HCM 6th Edition: Freeway Diverge Segment

Freeway Diverge Report

Project	Valley's Edge
Freeway	SB 99
Segment	E 20th St Off Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Geometric Data

	Freeway	Off Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Deceleration Length, LD	1,500	125	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	Off Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	Off Ramp	
Volume, V	3,333	881	vph
Peak Hour Factor, PHF	0.84	0.92	
Total Trucks	7.0%	4.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.962	
Flow Rate, v_p	4,246	996	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Diverge Report

Project	Valley's Edge
Freeway	SB 99
Segment	E 20th St Off Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	4,246	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	4,246	4,638	pcph	0.92
Exiting General Purpose Lanes	3,250	4,638	pcph	0.70
Off Ramp	996	2,100	pcph	0.47
Ramp Influence Area	4,246	4,400	pcph	0.96

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	39.6	pcpmpl
Level of Service, LOS	E	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.388	
Average Speed in Ramp Influence Area, S_R	54.2	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	54.2	mph
Density across All Lanes, D	39.6	pcpmpl

Freeway Basic Report

Project	Valley's Edge
Freeway	SB 99
Segment	E 20th St
Alternative	Existing Conditions
Time Period	AM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	2,500	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar	Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe	Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident	Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	2,452	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.84		Flow Rate, v_p	1,562	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.67	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	61.9	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	25.2	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	C	

HCM 6th Edition: Freeway Diverge Segment

Freeway Diverge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Off Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Geometric Data

	Freeway	Off Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Deceleration Length, LD	1,500	170	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	Off Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	Off Ramp	
Volume, V	2,634	1,244	vph
Peak Hour Factor, PHF	0.84	0.94	
Total Trucks	7.0%	5.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.952	
Flow Rate, v_p	3,355	1,390	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Diverge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Off Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	3,355	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	3,355	4,638	pcph	0.72
Exiting General Purpose Lanes	1,966	4,638	pcph	0.42
Off Ramp	1,390	2,100	pcph	0.66
Ramp Influence Area	3,355	4,400	pcph	0.76

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	31.6	pcpmpl
Level of Service, LOS	D	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.423	
Average Speed in Ramp Influence Area, S_R	53.5	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	53.5	mph
Density across All Lanes, D	31.6	pcpmpl

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	E 20th St On Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Acceleration Length, LA	335	375	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	2,452	182	vph
Peak Hour Factor, PHF	0.84	0.92	
Total Trucks	7.0%	4.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.962	
Flow Rate, v_p	3,123	206	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	E 20th St On Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	3,123	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	3,123	4,638	pcph	0.67
Exiting General Purpose Lanes	3,329	4,638	pcph	0.72
On Ramp	206	2,100	pcph	0.10
Ramp Influence Area	3,329	4,600	pcph	0.72

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	29.1	pcpmpl
Level of Service, LOS	D	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.396	
Average Speed in Ramp Influence Area, S_R	54.0	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	54.0	mph
Density across All Lanes, D	29.1	pcpmpl

Freeway Basic Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway
Alternative	Existing Conditions
Time Period	AM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	1,960	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar	Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe	Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident	Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	1,390	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.84		Flow Rate, v_p	885	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.38	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	61.9	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	14.3	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	B	

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Loop On Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	35	mph
Segment Length, L / Acceleration Length, LA	1,050	440	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	1,390	218	vph
Peak Hour Factor, PHF	0.84	0.94	
Total Trucks	7.0%	5.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.952	
Flow Rate, v_p	1,771	244	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Loop On Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	1,771	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	1,771	4,638	pcph	0.38
Exiting General Purpose Lanes	2,014	4,638	pcph	0.43
On Ramp	244	2,000	pcph	0.12
Ramp Influence Area	2,014	4,600	pcph	0.44

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	18.4	pcpmpl
Level of Service, LOS	B	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.319	
Average Speed in Ramp Influence Area, S_R	55.5	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	55.5	mph
Density across All Lanes, D	18.4	pcpmpl

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Slip On Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Acceleration Length, LA	1,500	345	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	1,608	211	vph
Peak Hour Factor, PHF	0.84	0.94	
Total Trucks	7.0%	5.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.952	
Flow Rate, v_p	2,048	236	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Slip On Ramp
Alternative	Existing Conditions
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	2,048	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	2,048	4,638	pcph	0.44
Exiting General Purpose Lanes	2,284	4,638	pcph	0.49
On Ramp	236	2,100	pcph	0.11
Ramp Influence Area	2,284	4,600	pcph	0.50

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	21.1	pcpmpl
Level of Service, LOS	C	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.328	
Average Speed in Ramp Influence Area, S_R	55.4	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	55.4	mph
Density across All Lanes, D	21.1	pcpmpl

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	SR 32 On Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Acceleration Length, LA	1,130	230	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp	
Driver Population	Familiar	Familiar	
Weather Type	Non-severe	Non-severe	
Incident Type	No incident	No incident	
Capacity Adjustment Factor, CAF	1.00	1.00	
Demand Adjustment Factor, DAF	1.00	1.00	

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	2,630	639	vph
Peak Hour Factor, PHF	0.95	0.95	
Total Trucks	5.0%	1.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.952	0.990	
Flow Rate, v_p	2,907	679	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp	0		
Distance to Adjacent Ramp	0		ft
Volume on Adjacent Ramp	0		pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	SR 32 On Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	2,907	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	2,907	4,638	pcph	0.63
Exiting General Purpose Lanes	3,586	4,638	pcph	0.77
On Ramp	679	2,100	pcph	0.32
Ramp Influence Area	3,586	4,600	pcph	0.78

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	31.8	pcpmpl
Level of Service, LOS	D	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.441	
Average Speed in Ramp Influence Area, S_R	53.1	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	53.1	mph
Density across All Lanes, D	31.8	pcpmpl

HCM 6th Edition: Freeway Diverge Segment

Freeway Diverge Report

Project	Valley's Edge
Freeway	SB 99
Segment	E 20th St Off Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Geometric Data

	Freeway	Off Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Deceleration Length, LD	1,500	125	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	Off Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	Off Ramp	
Volume, V	3,269	1,278	vph
Peak Hour Factor, PHF	0.95	0.97	
Total Trucks	7.0%	1.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.990	
Flow Rate, v_p	3,682	1,331	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Diverge Report

Project	Valley's Edge
Freeway	SB 99
Segment	E 20th St Off Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	3,682	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	3,682	4,638	pcph	0.79
Exiting General Purpose Lanes	2,351	4,638	pcph	0.51
Off Ramp	1,331	2,100	pcph	0.63
Ramp Influence Area	3,682	4,400	pcph	0.84

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	34.8	pcpmpl
Level of Service, LOS	D	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.418	
Average Speed in Ramp Influence Area, S_R	53.6	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	53.6	mph
Density across All Lanes, D	34.8	pcpmpl

Freeway Basic Report

Project	Valley's Edge
Freeway	SB 99
Segment	E 20th St
Alternative	Existing Conditions
Time Period	PM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	2,500	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar	Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe	Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident	Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	1,991	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.95		Flow Rate, v_p	1,121	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.48	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	61.9	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	18.1	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	C	

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	E 20th St On Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Acceleration Length, LA	335	375	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	1,991	260	vph
Peak Hour Factor, PHF	0.95	0.97	
Total Trucks	7.0%	1.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.990	
Flow Rate, v_p	2,242	271	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	E 20th St On Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	2,242	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	2,242	4,638	pcph	0.48
Exiting General Purpose Lanes	2,513	4,638	pcph	0.54
On Ramp	271	2,100	pcph	0.13
Ramp Influence Area	2,513	4,600	pcph	0.55

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	22.7	pcpmpl
Level of Service, LOS	C	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.335	
Average Speed in Ramp Influence Area, S_R	55.2	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	55.2	mph
Density across All Lanes, D	22.7	pcpmpl

Freeway Diverge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Off Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Geometric Data

	Freeway	Off Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Deceleration Length, LD	1,500	170	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	Off Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	Off Ramp	
Volume, V	2,251	846	vph
Peak Hour Factor, PHF	0.95	0.96	
Total Trucks	7.0%	4.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.962	
Flow Rate, v_p	2,535	917	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Diverge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Off Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	2,535	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	2,535	4,638	pcph	0.55
Exiting General Purpose Lanes	1,619	4,638	pcph	0.35
Off Ramp	917	2,100	pcph	0.44
Ramp Influence Area	2,535	4,400	pcph	0.58

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	24.5	pcpmpl
Level of Service, LOS	C	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.380	
Average Speed in Ramp Influence Area, S_R	54.3	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	54.3	mph
Density across All Lanes, D	24.5	pcpmpl

Freeway Basic Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway
Alternative	Existing Conditions
Time Period	PM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	1,960	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar	Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe	Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident	Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	1,405	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.95		Flow Rate, v_p	791	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.34	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	61.9	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	12.8	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	B	

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Loop On Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	35	mph
Segment Length, L / Acceleration Length, LA	1,050	440	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp	
Driver Population	Familiar	Familiar	
Weather Type	Non-severe	Non-severe	
Incident Type	No incident	No incident	
Capacity Adjustment Factor, CAF	1.00	1.00	
Demand Adjustment Factor, DAF	1.00	1.00	

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	1,405	377	vph
Peak Hour Factor, PHF	0.95	0.96	
Total Trucks	7.0%	4.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.962	
Flow Rate, v_p	1,582	408	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Loop On Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	1,582	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	1,582	4,638	pcph	0.34
Exiting General Purpose Lanes	1,991	4,638	pcph	0.43
On Ramp	408	2,000	pcph	0.20
Ramp Influence Area	1,991	4,600	pcph	0.43

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	18.1	pcpmpl
Level of Service, LOS	B	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.319	
Average Speed in Ramp Influence Area, S_R	55.6	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	55.6	mph
Density across All Lanes, D	18.1	pcpmpl

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Slip On Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Acceleration Length, LA	1,500	345	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	1,782	199	vph
Peak Hour Factor, PHF	0.95	0.96	
Total Trucks	7.0%	4.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.962	
Flow Rate, v_p	2,007	216	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Slip On Ramp
Alternative	Existing Conditions
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	2,007	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	2,007	4,638	pcph	0.43
Exiting General Purpose Lanes	2,223	4,638	pcph	0.48
On Ramp	216	2,100	pcph	0.10
Ramp Influence Area	2,223	4,600	pcph	0.48

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	20.6	pcpmpl
Level of Service, LOS	C	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.326	
Average Speed in Ramp Influence Area, S_R	55.4	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	55.4	mph
Density across All Lanes, D	20.6	pcpmpl

Freeway Basic Report

Project	Valley's Edge
Freeway	SB 99
Segment	South of Skyway
Alternative	Existing Conditions
Time Period	PM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	2,135	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar	Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe	Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident	Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	1,981	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.95		Flow Rate, v_p	1,116	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.48	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	61.9	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	18.0	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	C	

Freeway Basic Report

Project	Valley's Edge
Freeway	NB 99
Segment	Southgate to Skyway
Alternative	Cumulative + Project
Time Period	AM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	1,900	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar		Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe		Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident		Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	3,090	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.84		Flow Rate, v_p	1,968	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.85	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	58.7	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	33.5	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	D	

HCM 6th Edition: Freeway Diverge Segment

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Off Ramp
Alternative	Cumulative + Project
Time Period	AM Peak Hour

Geometric Data

	Freeway	Off Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Deceleration Length, LD	1,500	100	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	Off Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	Off Ramp	
Volume, V	3,090	690	vph
Peak Hour Factor, PHF	0.84	0.93	
Total Trucks	7.0%	11.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.901	
Flow Rate, v_p	3,936	824	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Off Ramp
Alternative	Cumulative + Project
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	3,936	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	3,936	4,638	pcph	0.85
Exiting General Purpose Lanes	3,113	4,638	pcph	0.67
Off Ramp	824	2,100	pcph	0.39
Ramp Influence Area	3,936	4,400	pcph	0.89

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	37.2	pcpmpl
Level of Service, LOS	E	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.372	
Average Speed in Ramp Influence Area, S_R	54.5	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	54.5	mph
Density across All Lanes, D	37.2	pcpmpl

Freeway Basic Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway
Alternative	Cumulative + Project
Time Period	AM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	1,850	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar		Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe		Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident		Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	2,400	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.84		Flow Rate, v_p	1,529	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.66	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	61.9	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	24.7	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	C	

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Loop On Ramp
Alternative	Cumulative + Project
Time Period	AM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	35	mph
Segment Length, L / Acceleration Length, LA	990	250	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	2,400	230	vph
Peak Hour Factor, PHF	0.84	0.93	
Total Trucks	7.0%	11.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.901	
Flow Rate, v_p	3,057	275	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Loop On Ramp
Alternative	Cumulative + Project
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	3,057	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	3,057	4,638	pcph	0.66
Exiting General Purpose Lanes	3,332	4,638	pcph	0.72
On Ramp	275	2,000	pcph	0.14
Ramp Influence Area	3,332	4,600	pcph	0.72

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	29.8	pcpmpl
Level of Service, LOS	D	

Segment Speed, Flow, and Density

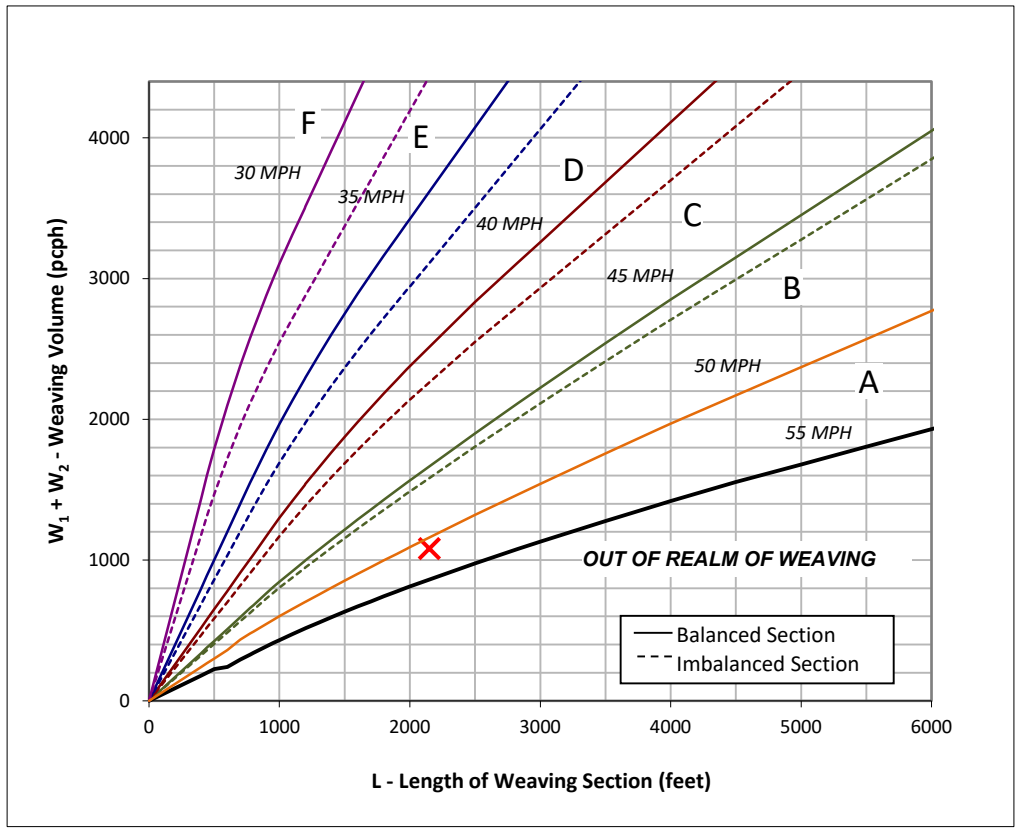
Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.413	
Average Speed in Ramp Influence Area, S_R	53.7	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	53.7	mph
Density across All Lanes, D	29.8	pcpmpl

Leisch Method for Weaving Analysis

Data Input		
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	2,150

Project Information	
Project	Valley's Edge
Scenario	Cumulative + Project
Freeway	NB 99
On-ramp	Skyway Slip On Ramp
Off-ramp	E 20th Off Ramp

	Total Weaving Section (V)	On-ramp to Mainline (W_1)	Mainline to Off-ramp (W_2)
Volume (vph)*	3,240	610	385
Truck Percentage	7.5%	11.0%	5.0%
PCE for Trucks	2.0	2.0	2.0
Volume (pcph)	3,484	677	404



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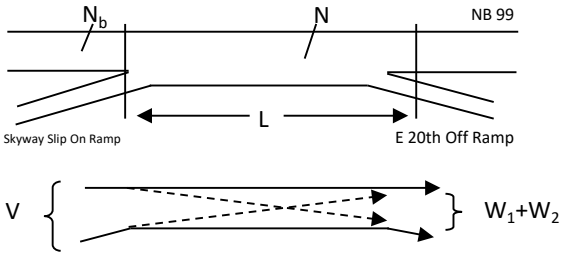


Capacity Analysis

1. Is the weaving section balanced (Y / N)?	N
If optional exit lane, then "Y". Otherwise "N".	
2. In the chart to the left, which two speed curves is the red "x" between?	**50 MPH** and **55 MPH**
If left of the 30 MPH curve, LOS is F. Select "-".	
If below the 55 MPH curve, out of the realm of weaving.	
3. Interpolated Weaving Speed (S_w, mph)	51.3
4. Weaving Intensity Factor (k)	1.00
5. Service Volume (SV, pcph)	
SV = (1/N)*[V + (k - 1)*min(W_1, W_2)]	1,161
6. Level of Service (LOS)	C

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections* , Jack E. Leisch & Associates, September 1983 and *Highway Design Manual* , California Department of Transportation, 2014

Freeway Basic Report

Project	Valley's Edge
Freeway	NB 99
Segment	E 20th
Alternative	Cumulative + Project
Time Period	AM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	3,150	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar		Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe		Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident		Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	2,855	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.84		Flow Rate, v_p	1,818	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.78	

General Purpose Lanes - Speed and Density

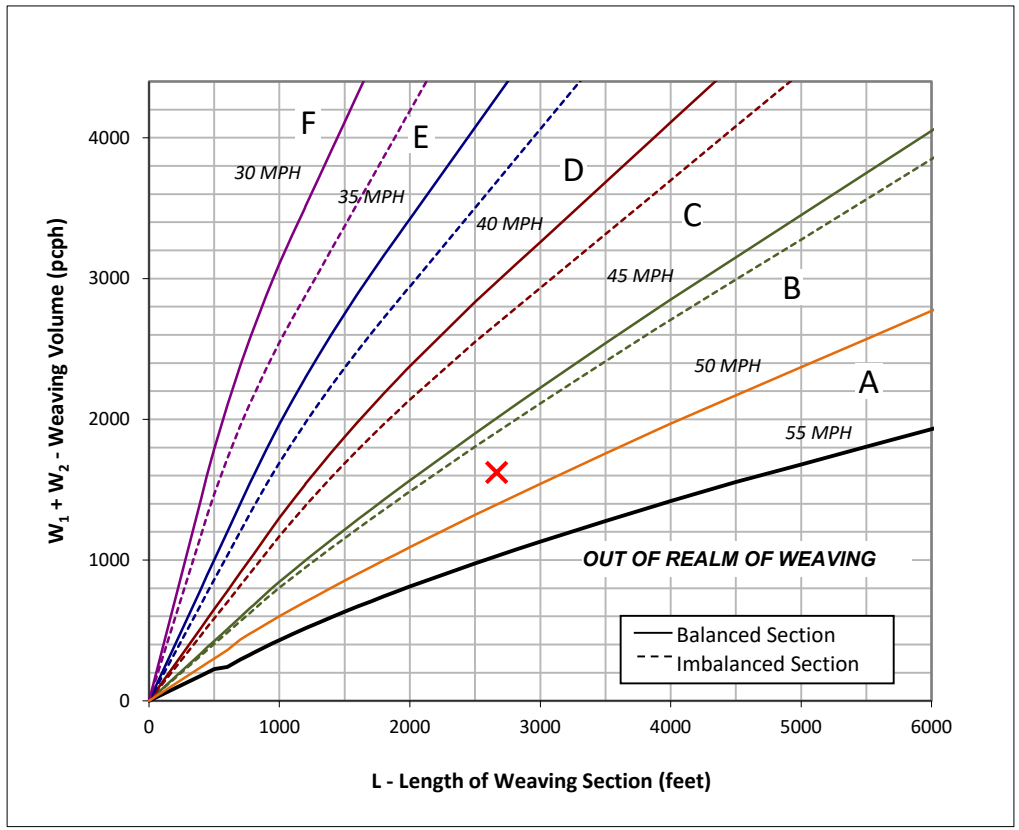
Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	60.5	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	30.1	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	D	

Leisch Method for Weaving Analysis

Data Input		
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	2,665

Project Information	
Project	Valley's Edge
Scenario	Cumulative + Project
Freeway	NB 99
On-ramp	E 20th On Ramp
Off-ramp	SR 32 On Ramp

	Total Weaving Section (V)	On-ramp to Mainline (W_1)	Mainline to Off-ramp (W_2)
Volume (vph)*	3,570	715	840
Truck Percentage	5.9%	5.0%	4.0%
PCE for Trucks	2.0	2.0	2.0
Volume (pcph)	3,780	751	874



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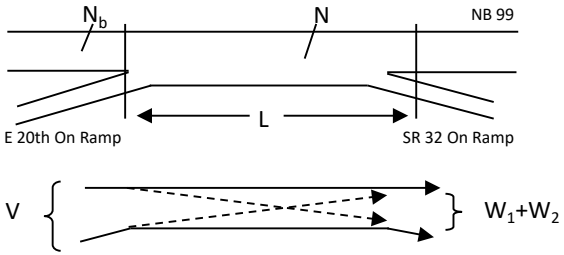


Capacity Analysis

1. Is the weaving section balanced (Y / N)?	N
If optional exit lane, then "Y". Otherwise "N".	
2. In the chart to the left, which two speed curves is the red "x" between?	**45 MPH** and **50 MPH**
If left of the 30 MPH curve, LOS is F. Select "-".	
If below the 55 MPH curve, out of the realm of weaving.	
3. Interpolated Weaving Speed (S_w, mph)	47.8
4. Weaving Intensity Factor (k)	1.27
5. Service Volume (SV, pcph)	
SV = (1/N)*[V + (k - 1)*min(W_1, W_2)]	1,329
6. Level of Service (LOS)	D

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections* , Jack E. Leisch & Associates, September 1983 and *Highway Design Manual* , California Department of Transportation, 2014

Freeway Basic Report

Project	Valley's Edge
Freeway	NB 99
Segment	Southgate to Skyway
Alternative	Cumulative + Project
Time Period	PM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	1,900	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar		Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe		Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident		Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	3,420	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.95		Flow Rate, v_p	1,926	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.83	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	59.2	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	32.5	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	D	

HCM 6th Edition: Freeway Diverge Segment

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Off Ramp
Alternative	Cumulative + Project
Time Period	PM Peak Hour

Geometric Data

	Freeway	Off Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Deceleration Length, LD	1,500	100	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	Off Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	Off Ramp	
Volume, V	3,420	880	vph
Peak Hour Factor, PHF	0.95	0.97	
Total Trucks	7.0%	4.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.962	
Flow Rate, v_p	3,852	944	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Diverge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Off Ramp
Alternative	Cumulative + Project
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	3,852	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	3,852	4,638	pcph	0.83
Exiting General Purpose Lanes	2,908	4,638	pcph	0.63
Off Ramp	944	2,100	pcph	0.45
Ramp Influence Area	3,852	4,400	pcph	0.88

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	36.5	pcpmpl
Level of Service, LOS	E	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.383	
Average Speed in Ramp Influence Area, S_R	54.3	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	54.3	mph
Density across All Lanes, D	36.5	pcpmpl

Freeway Basic Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway
Alternative	Cumulative + Project
Time Period	PM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	1,850	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar		Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe		Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident		Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	2,540	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.95		Flow Rate, v_p	1,430	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.62	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	61.9	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	23.1	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	C	

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Loop On Ramp
Alternative	Cumulative + Project
Time Period	PM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	35	mph
Segment Length, L / Acceleration Length, LA	990	250	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	2,540	410	vph
Peak Hour Factor, PHF	0.95	0.97	
Total Trucks	7.0%	4.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.962	
Flow Rate, v_p	2,861	440	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	NB 99
Segment	Skyway Loop On Ramp
Alternative	Cumulative + Project
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	2,861	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	2,861	4,638	pcph	0.62
Exiting General Purpose Lanes	3,300	4,638	pcph	0.71
On Ramp	440	2,000	pcph	0.22
Ramp Influence Area	3,300	4,600	pcph	0.72

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	29.5	pcpmpl
Level of Service, LOS	D	

Segment Speed, Flow, and Density

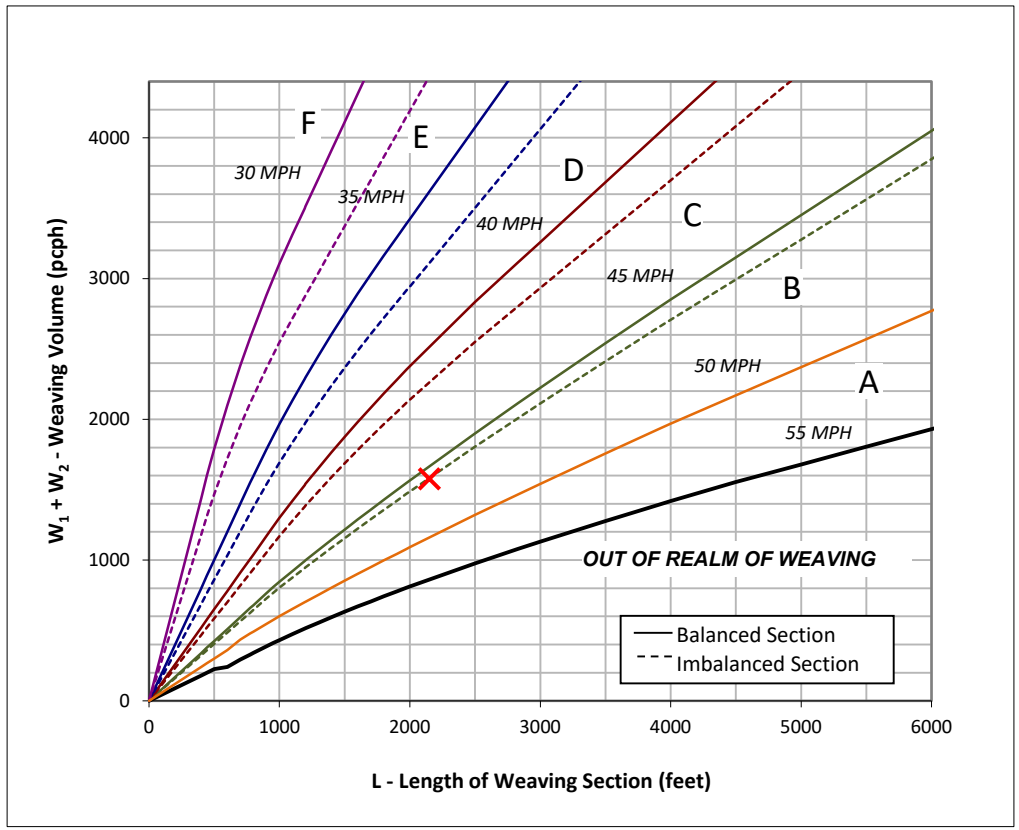
Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.409	
Average Speed in Ramp Influence Area, S_R	53.8	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	53.8	mph
Density across All Lanes, D	29.5	pcpmpl

Leisch Method for Weaving Analysis

Data Input		
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	2,150

Project Information	
Project	Valley's Edge
Scenario	Cumulative + Project
Freeway	NB 99
On-ramp	Skyway Slip On Ramp
Off-ramp	E 20th Off Ramp

	Total Weaving Section (V)	On-ramp to Mainline (W_1)	Mainline to Off-ramp (W_2)
Volume (vph)*	4,010	1,060	470
Truck Percentage	5.5%	4.0%	1.0%
PCE for Trucks	2.0	2.0	2.0
Volume (pcph)	4,231	1,102	475



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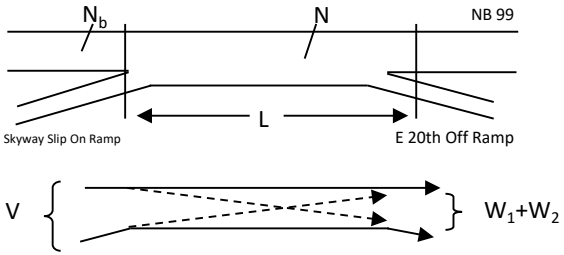


Capacity Analysis

1. Is the weaving section balanced (Y / N)? *If optional exit lane, then "Y". Otherwise "N".*	N
2. In the chart to the left, which two speed curves is the red "x" between?	**45 MPH** and **50 MPH**
If left of the 30 MPH curve, LOS is F. Select "-".	
If below the 55 MPH curve, out of the realm of weaving.	
3. Interpolated Weaving Speed (S_w, mph)	45.1
4. Weaving Intensity Factor (k)	1.81
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	1,538
6. Level of Service (LOS)	D

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections* , Jack E. Leisch & Associates, September 1983 and *Highway Design Manual* , California Department of Transportation, 2014

Freeway Basic Report

Project	Valley's Edge
Freeway	NB 99
Segment	E 20th
Alternative	Cumulative + Project
Time Period	PM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	665	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar		Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe		Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident		Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	3,540	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.95		Flow Rate, v_p	1,994	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.86	

General Purpose Lanes - Speed and Density

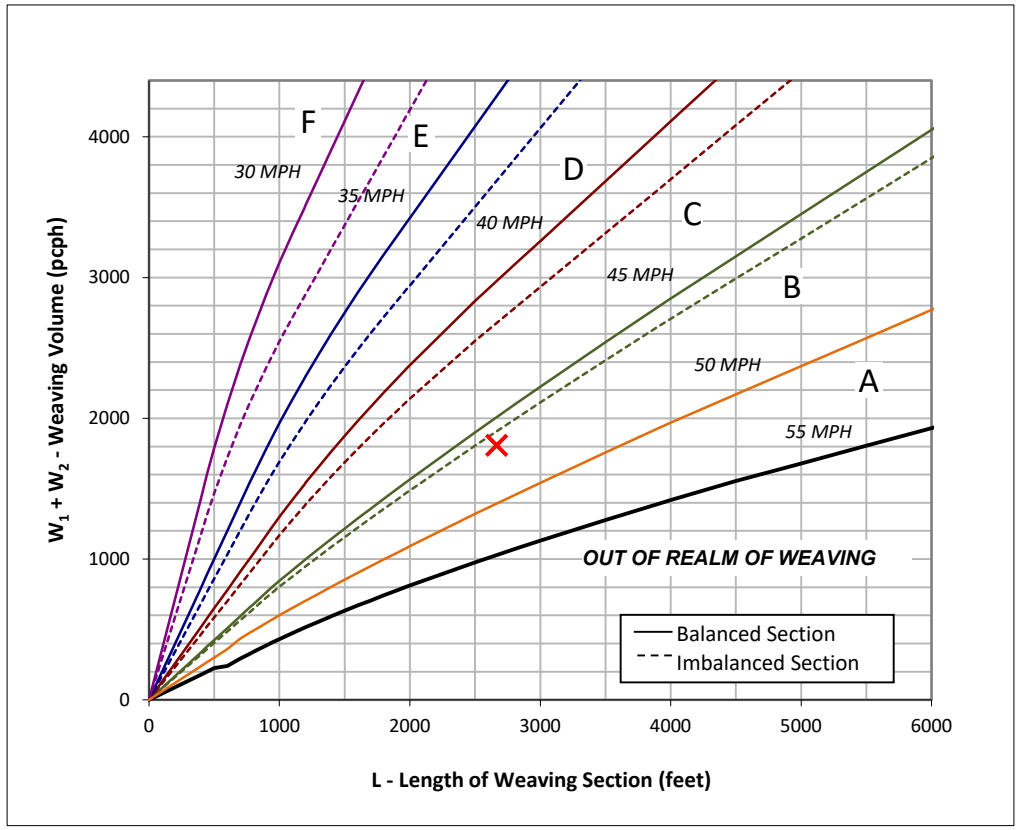
Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	58.3	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	34.2	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	D	

Leisch Method for Weaving Analysis

Data Input		
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	2,665

Project Information	
Project	Valley's Edge
Scenario	Cumulative + Project
Freeway	NB 99
On-ramp	E 20th On Ramp
Off-ramp	SR 32 On Ramp

	Total Weaving Section (V)	On-ramp to Mainline (W_1)	Mainline to Off-ramp (W_2)
Volume (vph)*	4,520	980	810
Truck Percentage	4.6%	1.0%	1.0%
PCE for Trucks	2.0	2.0	2.0
Volume (pcph)	4,729	990	818



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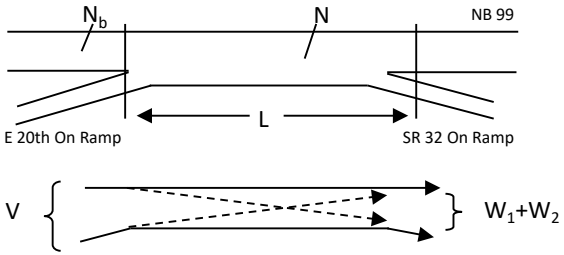


Capacity Analysis

1. Is the weaving section balanced (Y / N)?	N
If optional exit lane, then "Y". Otherwise "N".	
2. In the chart to the left, which two speed curves is the red "x" between?	**45 MPH** and **50 MPH**
If left of the 30 MPH curve, LOS is F. Select "-".	
If below the 55 MPH curve, out of the realm of weaving.	
3. Interpolated Weaving Speed (S_w, mph)	46.0
4. Weaving Intensity Factor (k)	1.61
5. Service Volume (SV, pcph)	
SV = (1/N)*[V + (k - 1)*min(W_1, W_2)]	1,742
6. Level of Service (LOS)	E

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

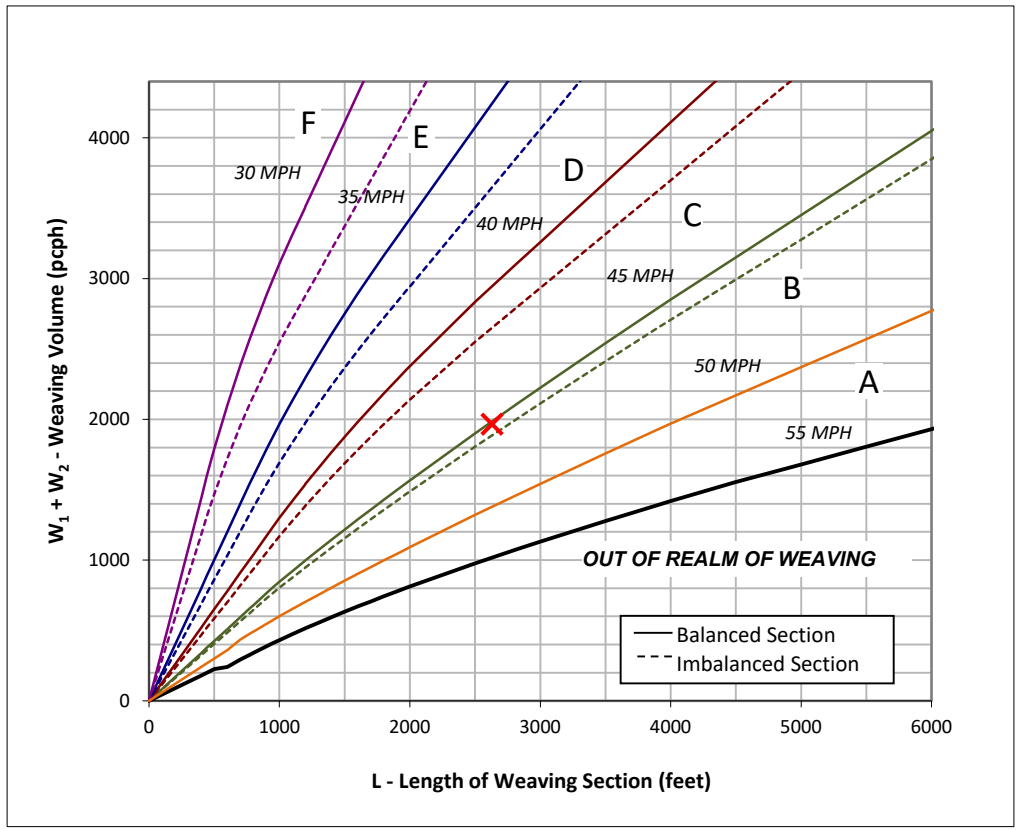
Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections* , Jack E. Leisch & Associates, September 1983 and *Highway Design Manual* , California Department of Transportation, 2014

Leisch Method for Weaving Analysis

Data Input		
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	2,630

Project Information	
Project	Valley's Edge
Scenario	Cumulative + Project
Freeway	SB 99
On-ramp	SR 32 On Ramp
Off-ramp	E 20th Off Ramp

	Total Weaving Section (V)	On-ramp to Mainline (W_1)	Mainline to Off-ramp (W_2)
Volume (vph)*	4,405	810	1,095
Truck Percentage	5.3%	2.0%	4.0%
PCE for Trucks	2.0	2.0	2.0
Volume (pcph)	4,640	826	1,139



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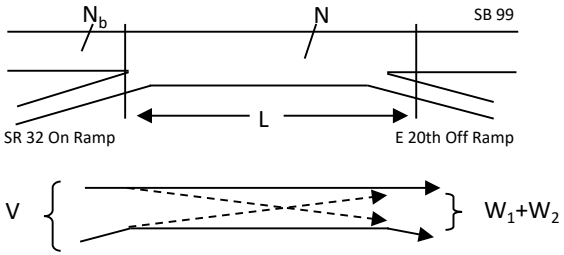


Capacity Analysis

1. Is the weaving section balanced (Y / N)?	N
If optional exit lane, then "Y". Otherwise "N".	
2. In the chart to the left, which two speed curves is the red "x" between?	**40 MPH** and **45 MPH**
If left of the 30 MPH curve, LOS is F. Select "-".	
If below the 55 MPH curve, out of the realm of weaving.	
3. Interpolated Weaving Speed (S_w, mph)	44.5
4. Weaving Intensity Factor (k)	1.95
5. Service Volume (SV, pcph)	
SV = (1/N)*[V + (k - 1)*min(W_1, W_2)]	1,808
6. Level of Service (LOS)	E

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections* , Jack E. Leisch & Associates, September 1983 and *Highway Design Manual* , California Department of Transportation, 2014

Freeway Basic Report

Project	Valley's Edge
Freeway	SB 99
Segment	E 20th St
Alternative	Cumulative + Project
Time Period	AM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	2,500	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar		Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe		Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident		Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	3,310	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.84		Flow Rate, v_p	2,108	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.91	

General Purpose Lanes - Speed and Density

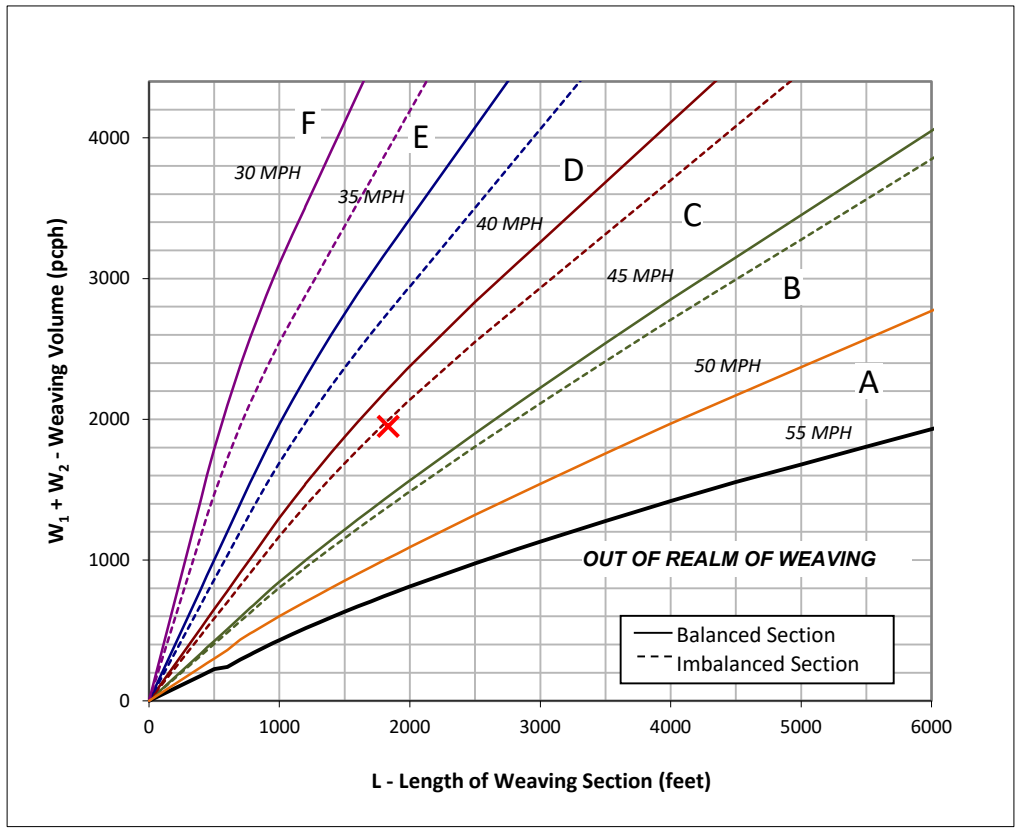
Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	56.3	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	37.4	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	E	

Leisch Method for Weaving Analysis

Data Input		
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	1,835

Project Information	
Project	Valley's Edge
Scenario	Cumulative + Project
Freeway	SB 99
On-ramp	E 20th St On Ramp
Off-ramp	Skyway Off Ramp

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,610	Volume (vph)*	300	Volume (vph)*	1,560
Truck Percentage	5.9%	Truck Percentage	4.0%	Truck Percentage	5.0%
PCE for Trucks	2.0	PCE for Trucks	2.0	PCE for Trucks	2.0
Volume (pcph)	3,823	Volume (pcph)	312	Volume (pcph)	1,638



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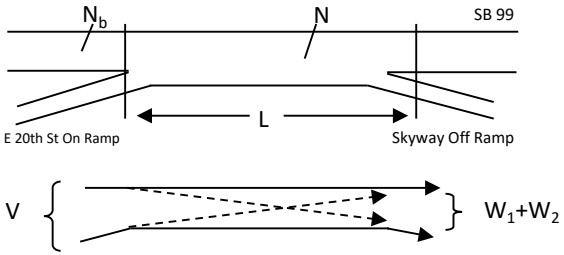


Capacity Analysis

1. Is the weaving section balanced (Y / N)?	N
If optional exit lane, then "Y". Otherwise "N".	
2. In the chart to the left, which two speed curves is the red "x" between?	**40 MPH** and **45 MPH**
If left of the 30 MPH curve, LOS is F. Select "-".	
If below the 55 MPH curve, out of the realm of weaving.	
3. Interpolated Weaving Speed (S_w, mph)	40.4
4. Weaving Intensity Factor (k)	3.00
5. Service Volume (SV, pcph)	
SV = (1/N)*[V + (k - 1)*min(W_1, W_2)]	1,482
6. Level of Service (LOS)	D

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections* , Jack E. Leisch & Associates, September 1983 and *Highway Design Manual* , California Department of Transportation, 2014

Freeway Basic Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway
Alternative	Cumulative + Project
Time Period	AM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	2,835	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar		Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe		Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident		Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	2,050	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.84		Flow Rate, v_p	1,306	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.56	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	61.9	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	21.1	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	C	

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Loop On Ramp
Alternative	Cumulative + Project
Time Period	AM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	35	mph
Segment Length, L / Acceleration Length, LA	2,835	440	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	2,050	550	vph
Peak Hour Factor, PHF	0.84	0.94	
Total Trucks	7.0%	5.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.952	
Flow Rate, v_p	2,611	614	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Loop On Ramp
Alternative	Cumulative + Project
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	2,611	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	2,611	4,638	pcph	0.56
Exiting General Purpose Lanes	3,226	4,638	pcph	0.70
On Ramp	614	2,000	pcph	0.31
Ramp Influence Area	3,226	4,600	pcph	0.70

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	27.7	pcpmpl
Level of Service, LOS	C	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.388	
Average Speed in Ramp Influence Area, S_R	54.2	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	54.2	mph
Density across All Lanes, D	27.7	pcpmpl

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Slip On Ramp
Alternative	Cumulative + Project
Time Period	AM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Acceleration Length, LA	1,500	345	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	2,600	230	vph
Peak Hour Factor, PHF	0.84	0.94	
Total Trucks	7.0%	5.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.952	
Flow Rate, v_p	3,312	257	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Slip On Ramp
Alternative	Cumulative + Project
Time Period	AM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	3,312	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	3,312	4,638	pcph	0.71
Exiting General Purpose Lanes	3,569	4,638	pcph	0.77
On Ramp	257	2,100	pcph	0.12
Ramp Influence Area	3,569	4,600	pcph	0.78

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	31.1	pcpmpl
Level of Service, LOS	D	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.428	
Average Speed in Ramp Influence Area, S_R	53.4	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	53.4	mph
Density across All Lanes, D	31.1	pcpmpl

Freeway Basic Report

Project	Valley's Edge
Freeway	SB 99
Segment	South of Skyway
Alternative	Cumulative + Project
Time Period	AM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	2,135	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar		Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe		Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident		Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	2,830	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.84		Flow Rate, v_p	1,802	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.78	

General Purpose Lanes - Speed and Density

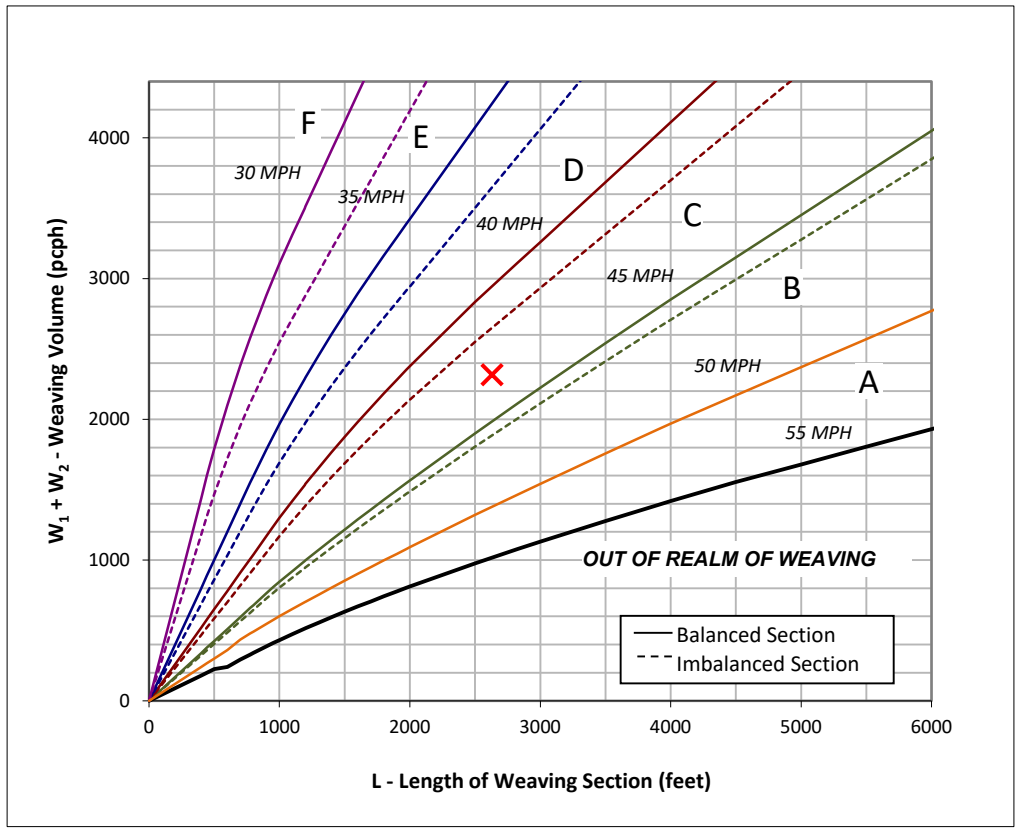
Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	60.6	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	29.7	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	D	

Leisch Method for Weaving Analysis

Data Input		
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	2,630

Project Information	
Project	Valley's Edge
Scenario	Cumulative + Project
Freeway	SB 99
On-ramp	SR 32 On Ramp
Off-ramp	E 20th Off Ramp

	Total Weaving Section (V)	On-ramp to Mainline (W_1)	Mainline to Off-ramp (W_2)
Volume (vph)*	4,215	920	1,375
Truck Percentage	3.7%	1.0%	1.0%
PCE for Trucks	2.0	2.0	2.0
Volume (pcph)	4,372	929	1,389



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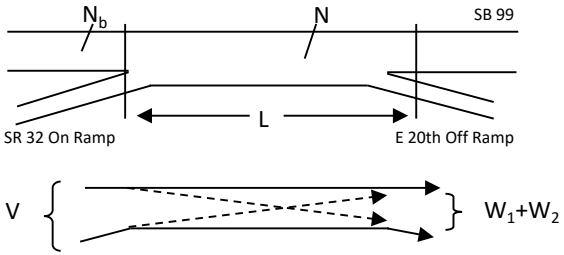


Capacity Analysis

1. Is the weaving section balanced (Y / N)?	N
If optional exit lane, then "Y". Otherwise "N".	
2. In the chart to the left, which two speed curves is the red "x" between?	**40 MPH** and **45 MPH**
If left of the 30 MPH curve, LOS is F. Select "-".	
If below the 55 MPH curve, out of the realm of weaving.	
3. Interpolated Weaving Speed (S_w, mph)	42.2
4. Weaving Intensity Factor (k)	2.31
5. Service Volume (SV, pcph)	
SV = (1/N)*[V + (k - 1)*min(W_1, W_2)]	1,864
6. Level of Service (LOS)	E

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections* , Jack E. Leisch & Associates, September 1983 and *Highway Design Manual* , California Department of Transportation, 2014

Freeway Basic Report

Project	Valley's Edge
Freeway	SB 99
Segment	E 20th St
Alternative	Cumulative + Project
Time Period	PM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	2,500	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar		Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe		Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident		Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	2,840	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.95		Flow Rate, v_p	1,599	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.69	

General Purpose Lanes - Speed and Density

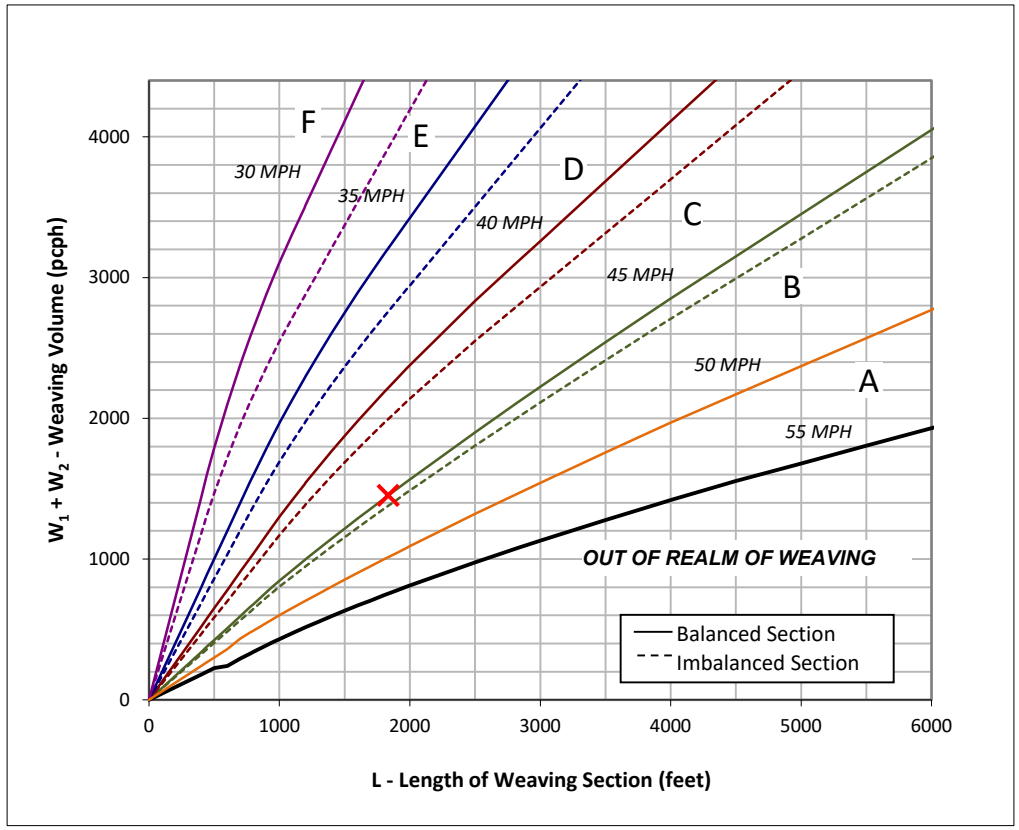
Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	61.8	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	25.9	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	C	

Leisch Method for Weaving Analysis

Data Input		
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	1,835

Project Information	
Project	Valley's Edge
Scenario	Cumulative + Project
Freeway	SB 99
On-ramp	E 20th St On Ramp
Off-ramp	Skyway Off Ramp

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,260	Volume (vph)*	420	Volume (vph)*	990
Truck Percentage	5.3%	Truck Percentage	1.0%	Truck Percentage	4.0%
PCE for Trucks	2.0	PCE for Trucks	2.0	PCE for Trucks	2.0
Volume (pcph)	3,433	Volume (pcph)	424	Volume (pcph)	1,030



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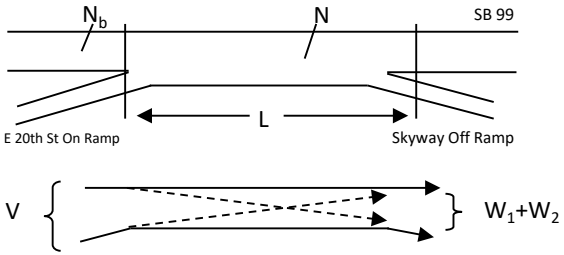


Capacity Analysis

1. Is the weaving section balanced (Y / N)?	N
If optional exit lane, then "Y". Otherwise "N".	
2. In the chart to the left, which two speed curves is the red "x" between?	**40 MPH** and **45 MPH**
If left of the 30 MPH curve, LOS is F. Select "-".	
If below the 55 MPH curve, out of the realm of weaving.	
3. Interpolated Weaving Speed (S_w, mph)	44.4
4. Weaving Intensity Factor (k)	2.05
5. Service Volume (SV, pcph)	
SV = (1/N)*[V + (k - 1)*min(W_1, W_2)]	1,293
6. Level of Service (LOS)	D

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections* , Jack E. Leisch & Associates, September 1983 and *Highway Design Manual* , California Department of Transportation, 2014

Freeway Basic Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway
Alternative	Cumulative + Project
Time Period	PM Peak Hour

Entering General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	1,960	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

Entering General Purpose Lanes - Adjustment Factors

Driver Population	Familiar	Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe	Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident	Demand Adjustment Factor, DAF	1.00

Entering General Purpose Lanes - Demand and Capacity

Volume, V	2,270	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.95		Flow Rate, v_p	1,278	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.55	

Entering General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	61.9	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	20.7	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	C	

Segment General Purpose Lanes - Capacity, Speed, and Density

General Purpose Lanes, N	2	ln	Average Speed, S	61.9	mph
Adjusted Capacity, cadj	2,319	pcphpl	Density, D	24.3	pcphpl
Flow Rate, vp	1,506	pcphpl	Level of Service, LOS	C	
Volume-to-Capacity Ratio, v/c	0.65				

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Loop On Ramp
Alternative	Cumulative + Project
Time Period	PM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	35	mph
Segment Length, L / Acceleration Length, LA	1,050	440	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	2,690	420	vph
Peak Hour Factor, PHF	0.95	0.96	
Total Trucks	7.0%	4.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.962	
Flow Rate, v_p	3,030	455	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Loop On Ramp
Alternative	Cumulative + Project
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	3,030	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	3,030	4,638	pcph	0.65
Exiting General Purpose Lanes	3,485	4,638	pcph	0.75
On Ramp	455	2,000	pcph	0.23
Ramp Influence Area	3,485	4,600	pcph	0.76

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	29.8	pcpmpl
Level of Service, LOS	D	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.417	
Average Speed in Ramp Influence Area, S_R	53.6	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	53.6	mph
Density across All Lanes, D	29.8	pcpmpl

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Slip On Ramp
Alternative	Cumulative + Project
Time Period	PM Peak Hour

Geometric Data

	Freeway	On Ramp	
Number of Lanes, N	2	1	
Free-Flow Speed, FFS	61.9	45	mph
Segment Length, L / Acceleration Length, LA	1,500	345	ft
Terrain Type	Level	Level	
Percent Grade	-	-	
Grade Length	-	-	ft
Segment Type / Ramp Type	Freeway	Right	

Adjustment Factors

	Freeway	On Ramp
Driver Population	Familiar	Familiar
Weather Type	Non-severe	Non-severe
Incident Type	No incident	No incident
Capacity Adjustment Factor, CAF	1.00	1.00
Demand Adjustment Factor, DAF	1.00	1.00

Volume Data

Junction Components	Freeway	On Ramp	
Volume, V	3,110	240	vph
Peak Hour Factor, PHF	0.95	0.96	
Total Trucks	7.0%	4.0%	
Single Unit/Tractor-Trailer Mix	-	-	
Passenger Car Equivalent, E_T	2.0	2.0	
Heavy Vehicle Adjustment, f_{HV}	0.935	0.962	
Flow Rate, v_p	3,503	260	pcph

Adjacent Ramp Data

	Upstream	Downstream	
Adjacent Ramp Meeting Criteria	No	No	
Type of Adjacent Ramp			
Distance to Adjacent Ramp			ft
Volume on Adjacent Ramp			pcph

Freeway Merge Report

Project	Valley's Edge
Freeway	SB 99
Segment	Skyway Slip On Ramp
Alternative	Cumulative + Project
Time Period	PM Peak Hour

Estimation of Volume in Ramp Influence Area

Adjacent Upstream On-ramp Equilibrium Distance, L_{EQ}		ft
Adjacent Downstream On-ramp Equilibrium Distance, L_{EQ}		ft
Proportion of Freeway Vehicles in Lanes 1 and 2, P_{FM} or P_{FD}	1.000	
Flow Rate in Lanes 1 and 2, v_{12}	3,503	pcph

Capacity Checks

	Flow	Capacity		V/C Ratio
Entering General Purpose Lanes	3,503	4,638	pcph	0.76
Exiting General Purpose Lanes	3,763	4,638	pcph	0.81
On Ramp	260	2,100	pcph	0.12
Ramp Influence Area	3,763	4,600	pcph	0.82

Ramp Influence Area Density and Level of Service

Density in Ramp Influence Area, D_R	32.6	pcpmpl
Level of Service, LOS	D	

Segment Speed, Flow, and Density

Speed Adjustment Factor, SAF	1.00	
Speed Index, M_S or D_S	0.458	
Average Speed in Ramp Influence Area, S_R	52.8	mph
Average Flow in Outer Lanes, v_{OA}		pcphpl
Average Speed in Outer Lanes, S_O		mph
Average Speed for Segment, S	52.8	mph
Density across All Lanes, D	32.6	pcpmpl

Freeway Basic Report

Project	Valley's Edge
Freeway	SB 99
Segment	South of Skyway
Alternative	Cumulative + Project
Time Period	PM Peak Hour

General Purpose Lanes - Geometric Data

General Purpose Lanes, N	2	ln	Terrain Type	Level	
Segment Length, L	2,135	ft	Percent Grade	-	
Base Free Flow Speed, BFFS	70.0	mph	Grade Length	-	mi
Lane Width	12.0	ft	Total Ramp Density, TRD	3.00	ramps/mi
Right Side Lateral Clearance	6.0	ft	Free Flow Speed, FFS	61.9	mph

General Purpose Lanes - Adjustment Factors

Driver Population	Familiar	Speed Adjustment Factor, SAF	1.00
Weather Type	Non-severe	Capacity Adjustment Factor, CAF	1.00
Incident Type	No incident	Demand Adjustment Factor, DAF	1.00

General Purpose Lanes - Demand and Capacity

Volume, V	3,350	vph	Heavy Vehicle Adjustment Factor, f_{HV}	0.935	
Peak Hour Factor, PHF	0.95		Flow Rate, v_p	1,887	pcphpl
Total Trucks	7.0%		Capacity, c	2,319	pcphpl
Single Unit/Tractor-Trailer Mix	-		Adjusted Capacity, c_{adj}	2,319	pcphpl
Passenger Car Equivalent, E_T	2.0		Volume-to-Capacity Ratio, v/c	0.81	

General Purpose Lanes - Speed and Density

Measured or Base FFS	Base		Adjusted Free Flow Speed, FFS_{adj}	61.9	mph
Lane Width Adjustment, f_{LW}	0.0	mph	Average Speed, S	59.7	mph
Right Lateral Clearance Adjustment, f_{RLC}	0.0	mph	Density, D	31.6	pcpmpl
Total Ramp Density Adjustment	8.1	mph	Level of Service, LOS	D	

Appendix C: Trip Generation Memo

FEHR PEERS
Improving Communities Since 1985

MEMORANDUM

Date: February 26, 2020

To: Bikram Kahlon, Mike Sawley – City of Chico

Cc: Brian Bergfalk – Bergfalk Land Group, LLC
Ravi Narayanan – Mott MacDonald
Christine Kronenberg – Dudek
Adrienne Graham, AICP

From: David B. Robinson, Carly Panos – Fehr & Peers

Subject: **Valley's Edge Specific Plan – Project Travel Characteristics (Trip Generation & Distribution)**

RS19-3793

Fehr & Peers prepared the vehicle trip generation and distribution for the proposed Valley's Edge Specific Plan in the City of Chico. This memorandum describes the proposed project and outlines the methodology used to develop the project trip generation and trip distribution, presents the project travel characteristics, and outlines the next steps in the transportation analysis.

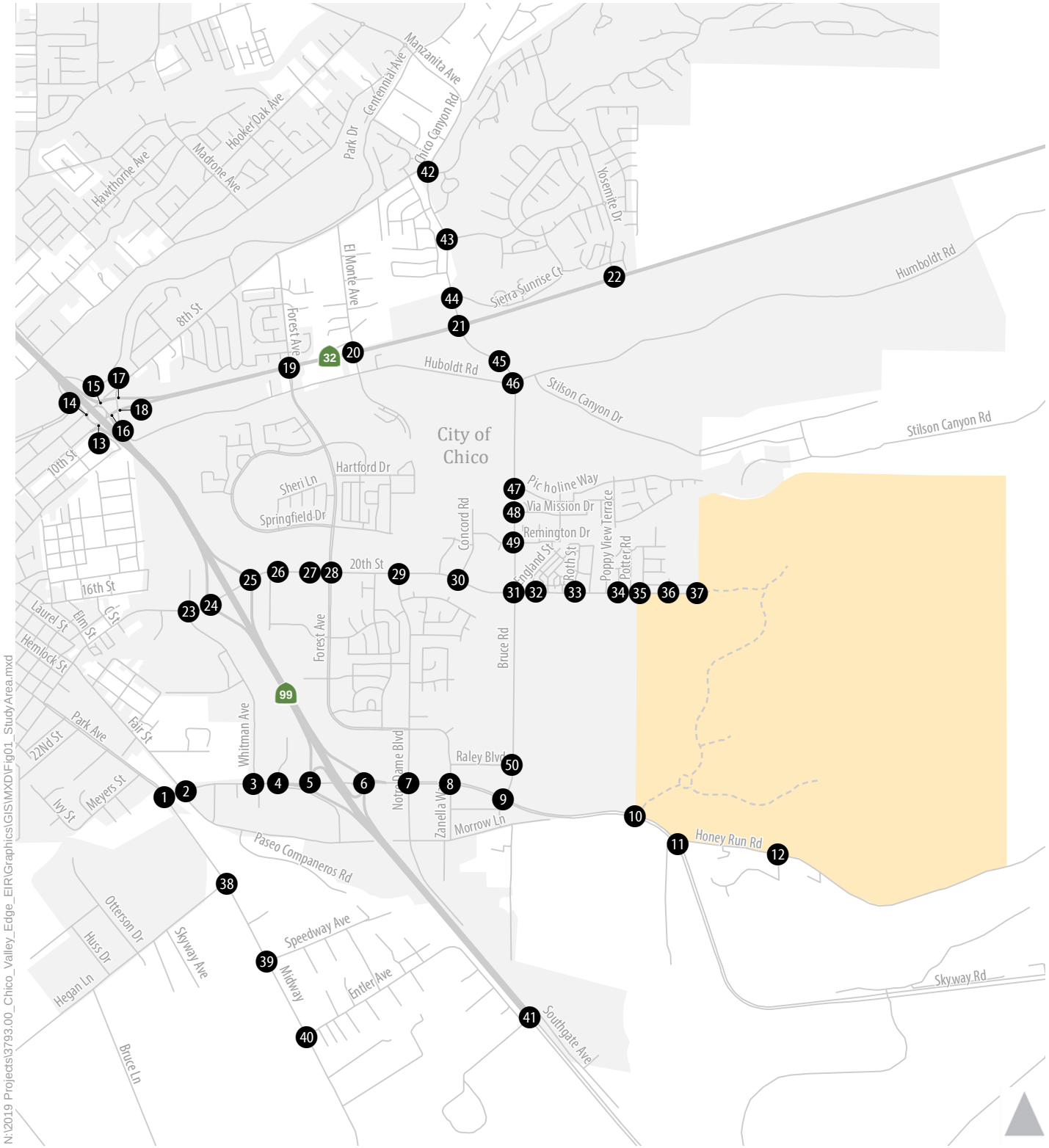
Proposed Project

The Valley's Edge Specific Plan is proposed on about 1,448 acres located east of the Steve Harrison Bike Path, north of Skyway Road and Honey Run Road, and south of E 20th Street. Figure 1 shows the location of the Valley's Edge Specific Plan, the study area, and the off-site study intersections. Figure 2 shows the location of on-site study intersections.

Primary project access is provided by connections to E 20th Street and Skyway Road. A separate access is proposed on Honey Run Road that would provide access for 25 single family dwelling units in the southern portion of the project.

Table 1 summarizes Valley's Edge Specific Plan land use. The project includes residential, employment, institutional, and open space uses. To support the analysis of the proposed project, the applicant team provided more definition of the residential and employment land uses (see Table 1). Residential land uses were disaggregated into single family (market), single family (senior adult), and multi-family categories and employment land uses were disaggregated to retail, general office, and medical office categories.

The project also includes a school site and a community park. An elementary school was assumed for the school site based on the enrollment level (i.e., 500 students) provided by the applicant. The community park is described as an active park with fields to support youth and recreational sports.



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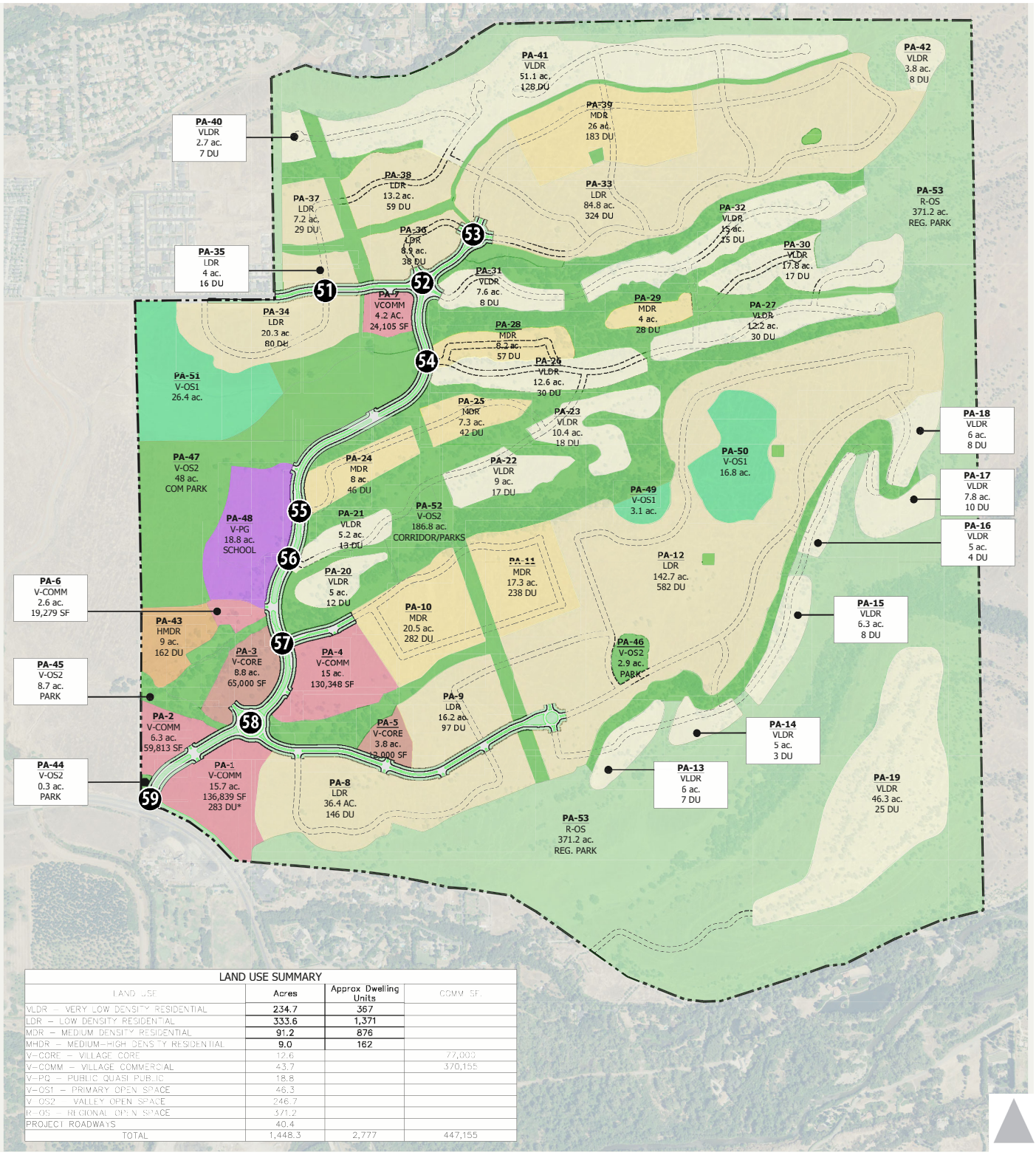
1 Study Intersection

Project Site

Figure 1

Study Area and Off-Site Study Intersections



LAND USE SUMMARY

LAND USE	Acres	Approx Dwelling Units	COMM SF
VLDR – VERY LOW DENSITY RESIDENTIAL	234.7	367	
LDR – LOW DENSITY RESIDENTIAL	333.6	1,371	
MDR – MEDIUM DENSITY RESIDENTIAL	91.2	876	
MHDR – MEDIUM-HIGH DENSITY RESIDENTIAL	9.0	162	
V-CORE – VILLAGE CORE	12.6		77,003
V-COMM – VILLAGE COMMERCIAL	43.7		370,155
V-PQ – PUBLIC QUASI PUBLIC	18.8		
V-OS1 – PRIMARY OPEN SPACE	46.3		
V-OS2 – VALLEY OPEN SPACE	246.7		
R-OS – REGIONAL OPEN SPACE	371.2		
PROJECT ROADWAYS	40.4		
TOTAL	1,448.3	2,777	447,155

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(XX) On-Site Study Intersection

Figure 2

On-Site Study Intersections

Table 1 - Valley's Edge Specific Plan Land Use

				Land Use Detail[1]							
				Residential (Dwelling Units)			Employment (Square Feet)			Institutional (Students)	Open Space (Fields)
				Single Family				Office			
Land Use	Type	Description	Acres	Market	Senior Adult	Multi-Family	Retail	General	Medical	Elementary School	Community Park
Residential	VLDR	Very Low Density Residential	234.7	328	40						
	LDR	Low Density Residential	333.6	546	825						
	MDR	Medium Density Residential	91.2	356	520						
	MHDR	Medium-High Density Residential	9.0			162					
Employment	V-COMM	Village Commercial	56.3				39,000	272,155	136,000		
Institutional	V-PQ	Public Quasi Public	18.8							500	
Open Space	V-OS1	Primary Open Space	46.3								
	V-OS2	Valley Open Space	246.7								7
	R-OS	Regional Open Space	371.2								
Infrastructure		Project Roadways	40.4								
		Total	**1,448.3**	**1,230**	**1,385**	**162**	**39,000**	**272,155**	**136,000**	**500**	**7**
				2,777			**447,155**				

Notes:

[1]Detailed land use provided by applicant team (Transmitted via email on February 7, 2020 by Mike Sawley at City of Chico)

Source: Fehr & Peers, 2020

Vehicle Trip Generation Methodology

The following outlines the methodology used to estimate the proposed vehicle trip generation.

Vehicle Trip Generation

Fehr & Peers prepared trip generation estimates for the project based on trip rates presented in the ITE Trip Generation Manual, 10th Edition (Institute of Transportation Engineers), with adjustments to account for internal trip capture, and external trips made by walk, bike, and transit. We used MXD+ to estimate internal trip capture. The MXD+ method combines the NCHRP 684 and EPA MXD method for analyzing trip generation at mixed-used developments.

NCHRP 684

In 2011, the Transportation Research Board published National Cooperative Highway Research Program (NCHRP) Report 684 titled *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*. The study analyzed internal capture relationships at six mixed-use sites and examined the travel interactions among six individual types of MXD land uses: office, retail, restaurant, residential, cinema, and hotel. This research served as the basis for the recommended mixed-use trip generation method in the 3rd Edition of the *Trip Generation Handbook*.

EPA MXD

In a separate effort, a 2011 study sponsored by the EPA[1] investigated trip generation for trips produced and attracted by mixed-use developments (MXDs) in Atlanta, Boston, Houston, Portland, Sacramento and Seattle. The 239 identified MXDs ranged from compact infill sites near the region's core to low-rise freeway oriented developments. They varied in population and employment densities, mix of jobs and housing, and presence or absence of transit. In total, the MXD sample for the six regions provided household survey data on almost 36,000 person trips.

The analysis found that one or more variables in each of six "D" categories were statistically significant predictors of internal capture, external walking, and external transit use. Specifically, an MXD's external vehicle trip generation was influenced by: density, diversity, design, distance to transit, destination accessibility, development scale, and demographics.

[1], *Traffic Generated by Mixed-Use Developments—A Six-Region Study Using Consistent Built Environmental Measures* (Ewing et al, ASCE UP0146, Sept 2011).

MXD+

The NCHRP 684 method and EPA MXD method each derive from different research approaches and produce different methods of analyzing trip generation at mixed-use developments. In 2013, Fehr & Peers along with the American Planning Association (APA) prepared a Planning Advisory Service (PAS)[2] that combined the findings of both research efforts into a single method.

The resulting MXD+ method blends the predictive equations from the NCHRP 684 method and the EPA MXD model to better utilize the strengths, and minimize the weaknesses, of each approach. Refer to the APA PAS report (page 14) referenced above for more information on the validation summary statistics. Attachment A includes the evaluation of the applicability of MXD+ for this application, inputs to MXD+, and MXD+ outputs.

Vehicle Trip Generation Estimate

Table 2 summarizes the land use categories used to estimate the project's trip generation, effective trip generation rates, calculated daily, AM peak hour, and PM peak hour trip generation, internal trip capture, and external walk, bike, and transit trips. Attachment B includes detailed trip generation rates and equations used in the estimate.

The project is estimated to generate 29,136 daily, 2,324 AM peak hour, and 2,874 PM peak hour vehicle trips. Of these trips, about 21 percent of the daily trip generation and about 26 percent of both the AM and PM peak hour trip generation will be internalized (i.e., not leave the project)[3]. In addition, about 1 percent of daily trip generation, 1.5 percent of AM peak hour, and 1 percent of PM peak hour trips will be external walk and bike trips.

Accounting for all reductions, the project is estimated to generate 23,162 daily, 1,713 AM peak hour, and 2,139 PM peak hour external vehicle trips.

[2] Walters, Jerry et al. "Getting Trip Generation Right – Eliminating the Bias Against Mixed Use Development". American Planning Association. May 2013.

[3] This level of internalization is consistent with the output produced by the modified version of the BCAG regional travel demand model, which produced an internalization of about 20% under daily conditions, using a select zone assignment methodology.

Table 2 - Valley's Edge Specific Plan Trip Generation														
				Rates[3]			Trip Generation							
								AM			PM			
Land Use	Units	ITE Code	Quantity	Daily	AM	PM	Daily	In	Out	Total	In	Out	Total
Single-Family Detached Housing (Adj Streets, 7-9A, 4-6P)	Dwelling Units	210	1,230	8.51	0.71	0.92	10,463	220	659	878	712	418	1,130
Multifamily Housing Low Rise (Adj Streets, 7-9A, 4-6P)	Dwelling Units	220	162	7.31	0.46	0.56	1,184	17	58	75	57	34	91
Senior Adult Housing - Detached (Adj Streets, 7-9A, 4-6P)	Dwelling Units	251	1,385	4.27	0.24	0.30	5,914	110	222	332	254	162	416
Shopping Center (Adj Street, 7-9A, 4-6P)	1000 Sq. Ft.	820	39.0	81.26	0.95	6.95	3,169	23	14	37	130	141	271
General Office Building (Adj Streets, 7-9A, 4-6P)[1]	1000 Sq. Ft. FLA	710	272.0	8.19	1.04	1.08	2,228	243	39	282	47	248	295
Medical-Dental Office Building (Adj Streets, 7-9A, 4-6P)	1000 Sq. Ft. FLA	720	136.0	34.80	2.78	3.46	4,733	295	83	378	132	339	471
Elementary School (Adj Streets, 7-9A, 4-6P)	Students	520	500	1.89	0.67	0.17	945	181	154	335	41	44	85
Soccer Complex (Adj Streets, 7-9A, 4-6P)[2]	Fields	488	7	71.33	0.99	16.43	500	4	3	7	76	39	115
Total Project Vehicle Trips							**29,136**	**1,093**	**1,232**	**2,324**	**1,449**	**1,425**	**2,874**
Reductions													
Internal Capture							-5,702	-272	-306	-578	-356	-350	-706
External Walk, Bike, Transit Trips							-272	-16	-17	-33	-15	-14	-29
Total Reductions							-5,974	-288	-323	-611	-371	-364	-735
New Net External Project Vehicle Trips							**23,162**	**805**	**909**	**1,713**	**1,078**	**1,061**	**2,139**

Sources:

[1]General Office Building - Review of the weekday daily dataset for General Office Building (710) category indicates that 60 percent of data points were collected in the 1980s. Therefore, a weighted average trip generation rate was derived using the ITE 10th Edition Trip Generation Manual WebApp, based on 18 data points from 2000-2016 (i.e., excluding the older data points from the 1980s). The weighted average trip generation rate based on the more recent data is 8.19 daily vehicles trips per 1,000 square feet.

[2]Trip generation for the 48-acre community park (which consists of 18-acres of passive space and 30-acres of active space, per City of Chico) was estimated using the ITE Soccer Complex (488). The number of fields was estimated based on observed field density at similarly sized parks in Sacramento County and the City of Davis. The measured field density of these parks was 4.12 acres per field and included a combination of full-sized and youth fields.

[3]Trip generation rates calculated based on estimated trip generation and quantity of land use, since many of the trip generation estimates were calculated using trip generation equations, consistent with recommended practice.

ITE Trip Generation Manual, 10th Edition

Fehr & Peers, 2020

Vehicle Trip Distribution Methodology

The following outlines the methodology used to estimate the proposed project vehicle trip distribution.

Vehicle Trip Distribution

The vehicle trip distribution is based on a review of existing traffic counts and a select zone analysis using a modified version of the Butte County travel demand forecasting (TDF) model maintained by BCAG. A select zone analysis is a travel modeling technique used to track trips from a project (i.e., group of traffic analysis zones) through the transportation network during the traffic assignment step.

We made the following modifications to the Butte County model:

- Added the Valley's Edge Specific Plan (i.e., traffic analysis zones and roadway network)
- Added traffic analysis zone (TAZ) detail in the study area (i.e., split TAZs)
- Added roadway network detail, corresponding to added TAZ detail
- Removed land use in Town of Paradise to reflect post Camp Fire conditions

Vehicle Trip Distribution

The expected distribution of external vehicle trips under daily and peak hour conditions are shown on Figures 3 and 4, respectively. The distribution shown on Figures 3 and 4 are applicable under near-term conditions. Under cumulative conditions, the distribution will change due to local-area roadway network changes like the construction of the SR 99/Southgate Avenue interchange (and associated local roadway connections), the rebuilding of Paradise, and other growth in the City of Chico and Butte County. These changes will be captured using the modified version of the Butte County TDF model to develop cumulative scenario traffic volume forecasts.

As shown on Figure 3, on a daily basis, about 70 percent of external project trips would use Skyway Road and 30 percent would use E. 20th Street. Of these trips, 16 percent are distributed to SR 99 north of SR 32 and 10 percent are distributed to SR 99 south of Skyway Road. VMT analysis is conducted for daily conditions.

As shown on Figure 4, during peak hours, about 60 percent of external project trips would use Skyway Road and 40 percent would use E. 20th Street. Of these trips, 25 percent are distributed to SR 99 north of SR 32 and 18 percent are distributed to SR 99 south of Skyway Road. Intersection operations analysis is conducted for peak hour conditions.

The project trip distribution to Skyway and E. 20th is different for daily and peak hour conditions and is largely a function of the location of land use (i.e., land use massing). Although the southern portion of the project site includes senior adult housing, it also includes most of the commercial land use. On a daily basis, about 70% of total trip generation is focused at the Skyway access. However, the influence of the senior adult housing is less during the peak hours, so the distribution to Skyway is lower at 60%.

To evaluate the reasonableness of the external vehicle trip distribution to SR 99, we compared the distribution to data from the 2012 California Household Travel Survey (CHTS). Specifically, we compared the percentage of home-based work (HBW) and home-based other (HBO) trips from the 2012 CHTS that are external to Butte County to the distribution produced by the select zone assignment from the modified version of the Butte County TDF model, used to develop the trip distribution.

According to the 2012 CHTS, HBW and HBO trips represent about 69 percent of travel in Butte County. Of these trips, about 25 percent are external; meaning that one end of the trip begins or ends outside of Butte County. Of the external share, about 10 percent[4] of the trips use SR 99/SR 70, with about 3 percent using SR 99 to the north and about 4 percent using SR 99 and 3 percent using SR 70 to the south. The select zone assignment from the modified version of the Butte County TDF model is consistent with these percentages north and south of the City of Chico. Attachment C includes 2012 CHTS data summaries that compare trip lengths for the City of Chico to Butte County (i.e., as a whole) and unincorporated Butte County.

Table 3 compares average trip lengths by trip purpose from for the City of Chico to Butte County (2012 CHTS).

Table 3 - Trip Length by Trip Purpose (2012 CHTS)

	Area		
		Butte County	
Trip Purpose	**Chico**	**All**	**Unincorporated**
Home-Based Other	8.26	8.14	9.01
Non Home-Based	9.27	9.14	14.11
Home-Based Shop	5.39	4.51	5.82
Home-Based School	2.21	3.17	3.95
Home-Based Work	7.35	7.96	9.22
Home-Based College	42.04	34.09	-
Work-Based Other	5.55	7.93	14.14
All	7.98	7.87	9.51

Source: 2012 California Household Travel Survey (CHTS)
Fehr & Peers, 2020

[4] The external share of HBW and HBO trips to SR 99/SR 70 was estimated based on the relative amount of all travel on roadways providing access to originations and destinations outside of Butte County.

As Shown in Table 3, Chico has the shortest home-based work and home-based school trip lengths compared to Butte County. The home-based shop trip length for Chico is shorter than similar trips made by residents in the unincorporated county, but longer than the average for Butte County as a whole. This suggests that shopping trips in other incorporated communities are shorter (i.e., more convenient) than in the City of Chico for most residents.

Table 4 compares the trip length distribution for the City of Chico to Butte County. As shown, compared to Butte County, residents of Chico make shorter trips with 72% of all trips made by residents in the City of Chico having a trip length of five miles or less, which confirms the daily external trip distribution (i.e., relative to the City of Chico) shown on Figure 3 that will be used for the VMT analysis. Trips greater than five miles represent 28% of all trips made by Chico residents. On Figure 3, 33% of external trips are distributed to gateways that provide access to destinations greater than five miles from Chico.

Table 4 - Trip Length Distribution (2012 CHTS)

Trip Length (Miles)	Area		
		Butte County	
	Chico	All	Unincorporated
All Trips			
0 to 5	72%	68%	50%
> 5	28%	32%	50%
Total	100%	100%	100%
Home-Based Work Trips			
0 to 5	54%	51%	39%
> 5	46%	49%	61%
Total	100%	100%	100%

Source: 2012 California Household Travel Survey (CHTS)
Fehr & Peers, 2020

Home-based work trips show a similar trend. However, compared to all trips, only 54% of home-based work trips made by residents in the City of Chico have a trip length of five miles or less. Consequently, 46% of all home-based work trips made by Chico residents are longer than five miles. This means that more travel outside of the local Chico area is necessary during the AM and PM peak hours (i.e., typical work commute times). The trip distribution for peak hour conditions, which is shown on Figure 4, reflects this behavior with a larger share of project traffic expected to use SR 99 and other facilities that provide regional access. On Figure 4, 53% of external trips are distributed to gateways that provide access to destinations greater than five miles from Chico.

Figure 3

Project Trip Distribution Daily Conditions

x% Trip Distribution Percentage

x% Project Site Trip Distribution Percentage

Figure 4

Project Trip Distribution Peak Hour Conditions

Next Steps

The following outlines next steps in the transportation analysis:

- VMT Methodology Memorandum – Prepare and submit VMT Analysis methodology memorandum
- Model Validation Memorandum – Prepare and submit memorandum documenting base year model calibration and validation
- Operations Methodology Memorandum – Prepare and submit memorandum documenting traffic operations analysis methodology and assumptions memorandum
- Forecasting Memorandum – Prepare and submit memorandum documenting travel demand forecasting methodology and forecasts, including VMT
- Traffic Operations Memorandum – Prepare and submit memorandum documenting existing and cumulative traffic operations analysis with and without the proposed project

MainStreet MXD+

Legend

User Input

Auto Calculated

Help

Email Support

Feedback

FEHR PEERS

Page Zero - Is MXD+ Appropriate for my Project?

The "Page Zero" spreadsheet allows the analyst to determine if MXD+ is apropriate to use for their project. Page Zero compares the basic characteristics of a proposed project against a database of over 250 mixed-use sites used to derive the MXD+ methodology. If the proposed project is statistically similar (in terms of population, employment, size, and density) to the 250 sites, it is assumed that MXD+ will produce reasonable results for the proposed project.

A Page Zero analysis should take roughly 15 to 30 minutes to complete.
Please contact the MXD+ team with questions or comments.

Project Information

Project Name	Valley's Edge SP	Scenario Name	Plus Project

Developed Area (acres)	1448.30

Simple Land Use Plan

Residential Land Use

	Dwelling Units	Density (person/HH)
Single Family	2615	2.5
Multi Family	162	2.5

Commercial Land Use

	KSF	Density (jobs/KSF)
Retail	39.0	2.2
Office	408.0	4.0
Industrial	0.0	1.0

Other Jobs (not listed above)	20

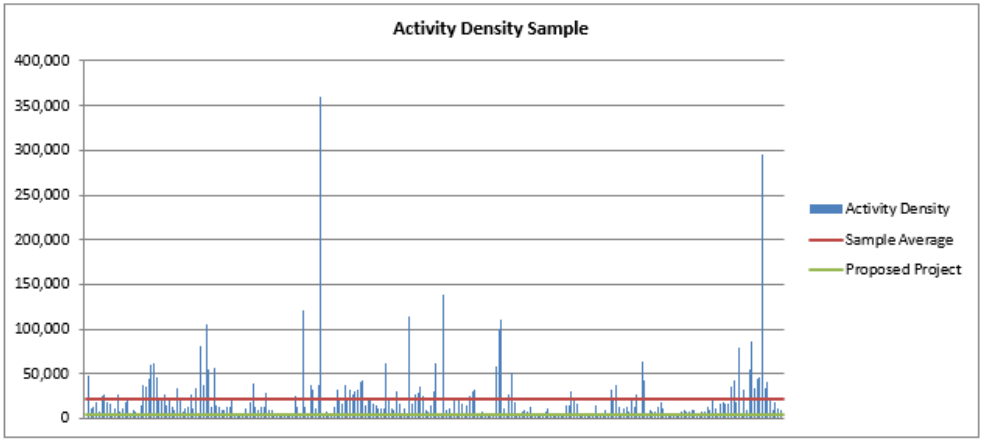
Results

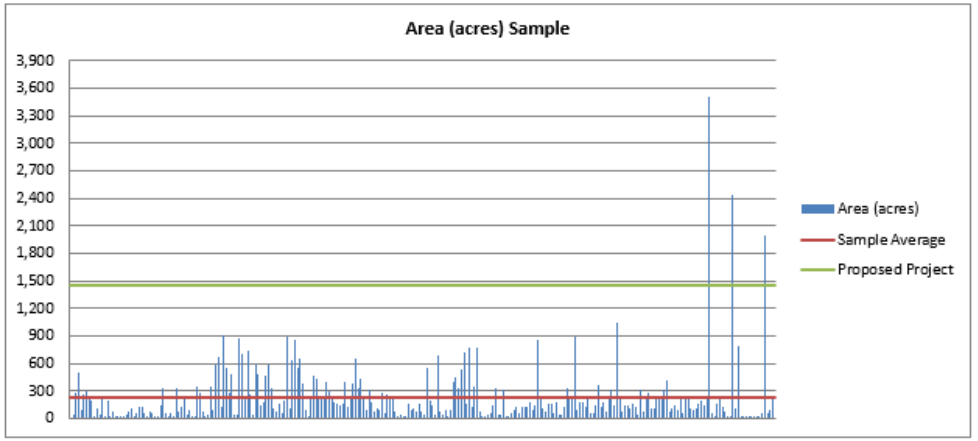
Comparison of proposed project against MXD+ model development sites

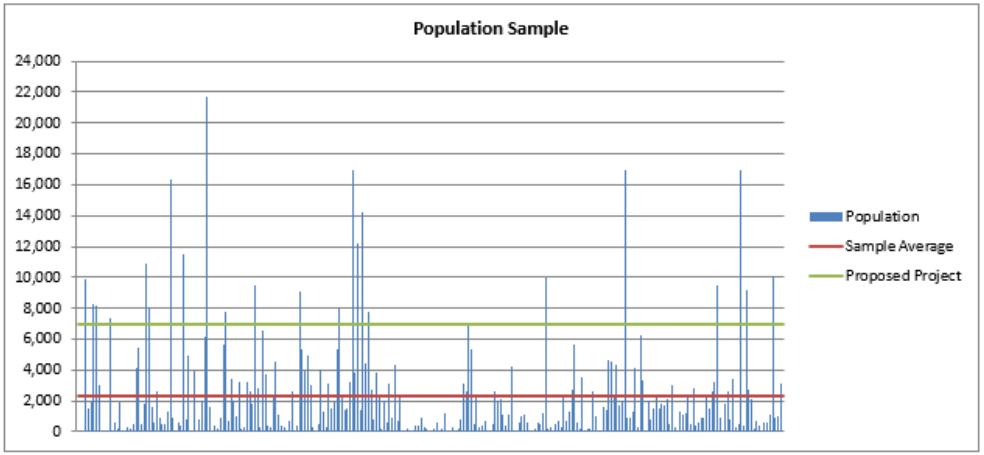
	Value	Within Bounds?	Within 2 σ of average?
Activity Density	3,836	YES	YES
Area (Acres)	1,448.3	YES	NO
Population	6,943	YES	YES
Employment	1,738	YES	YES

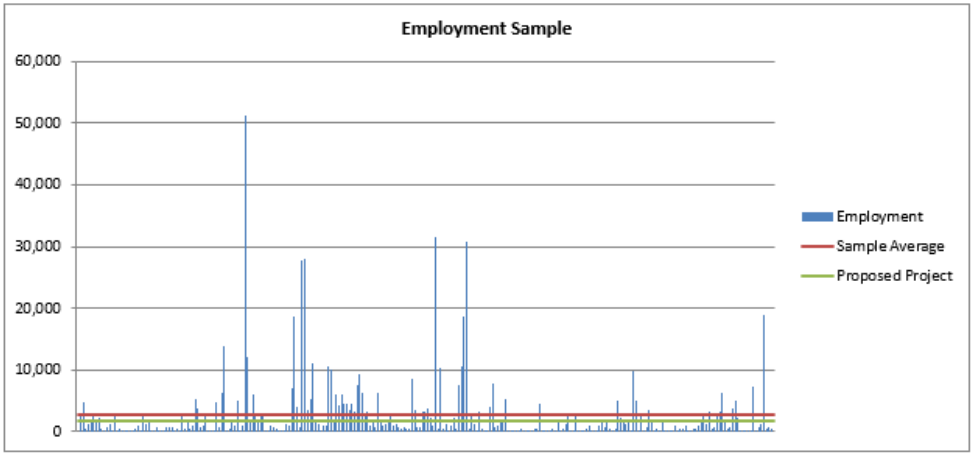
Bounds Score	4
σ Score	3

Recommendation	**MXD+ is appropriate as is**


Activity Density Sample
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
Activity Density
Sample Average
Proposed Project


Area (acres) Sample
3,900
3,600
3,300
3,000
2,700
2,400
2,100
1,800
1,500
1,200
900
600
300
0
Area (acres)
Sample Average
Proposed Project


Population Sample
24,000
22,000
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Population
Sample Average
Proposed Project


Employment Sample
60,000
50,000
40,000
30,000
20,000
10,000
0
Employment
Sample Average
Proposed Project

Results Summary | **ITE Results** | ITE Handbook Results | MXD+ Results

ITE Vehicle Trip Generation by Land Use											
FP Category	**ITE Land Use**	**ITE Code**	**Units**	**Quantity**	**Daily Total**	**AM In**	**AM Out**	**AM Total**	**PM In**	**PM Out**	**PM Total**
Residential	(210) - Single-Family Detached Housing (Adj Streets, 7-9A, 4-6P)	210	Dwelling Units	1,230	10,463	220	659	878	712	418	1,130
Residential	(220) - Multifamily Housing Low Rise (Adj Streets, 7-9A, 4-6P)	220	Dwelling Units	162	1,184	17	58	75	57	34	91
Residential	(251) - Senior Adult Housing - Detached (Adj Streets, 7-9A, 4-6P)	251	Dwelling Units	1,385	5,914	110	222	332	254	162	416
School	(520) - Elementary School (Adj Streets, 7-9A, 4-6P)	520	Students	500	945	181	154	335	41	44	85
Office	Custom	000	Custom	272	2,228	243	39	282	47	248	295
Retail	(820) - Shopping Center (Adj Street, 7-9A, 4-6P)	820	1,000 Sq. Ft	39	3,169	23	14	37	130	141	271
Office	(720) - Medical-Dental Office Building (Adj Streets, 7-9A, 4-6P)	720	1,000 Sq. Ft	136	4,733	295	83	378	132	339	471
Other	Custom	000	Custom	7	500	4	3	7	76	39	115
TOTAL					29,136	1,093	1,232	2,324	1,449	1,425	2,874

Project Name	Valley's Edge	Scenario Creator	Scenario Creator

Scenario Information

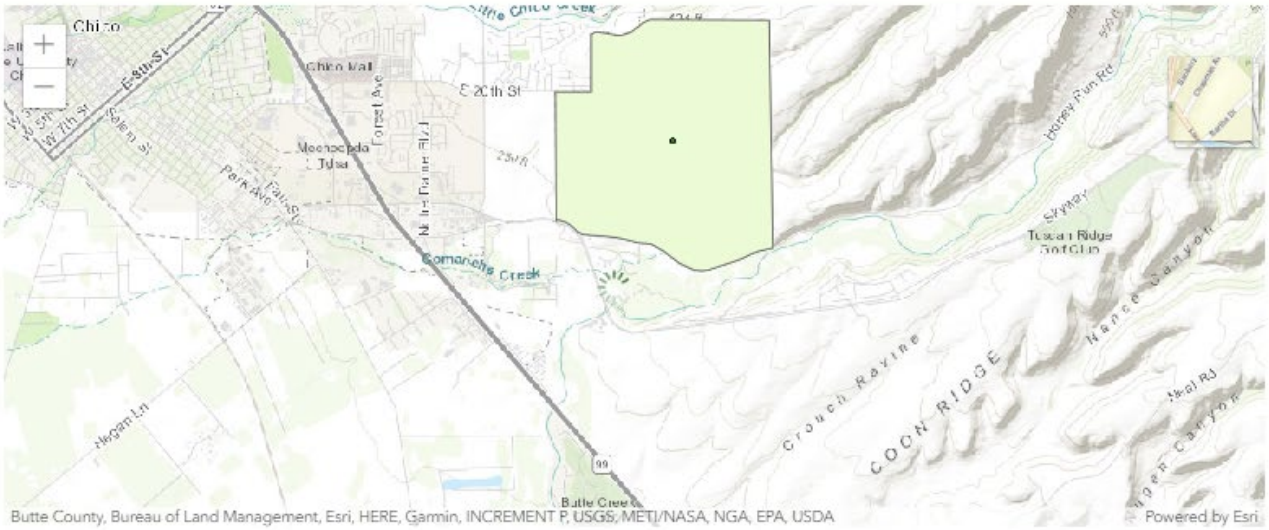
Scenario Name	PP_Updated_Trip_Gen	Year of Analysis	2040
Scenario Description	Scenario Description		
Developed Area (GIS Acres)	1445.72	Transit Available?	No
Developed Area (user-defined)	1448.3	Located in CBD or TOD?	No
Proportion (%) of HHs within 1/4 mile of transit	20	Is this a Project Level or Program Level Scenario?	Project

Location

Scenario Location Tools

Edit Scenario Boundary

Layer Controls



Project Name: Valley's Edge

Scenario Name: PP_Updated_Trip_Gen

Surrounding Area | Site Demographics | Auto Trip Length | Average Vehicle Occupancy | Proximity Table | Advanced Input

Employment | Household Size | Vehicle Ownership | Number of Intersections

		Source	Model
Empl. within 1 mile	2500	custom	custom
Empl. within 30 minutes transit (as % share of regional empl.)	10	custom	custom

Project Name: Valley's Edge

Scenario Name: PP_Updated_Trip_Gen

Surrounding Area | Site Demographics | Auto Trip Length | Average Vehicle Occupancy | Proximity Table | Advanced Input

Household Size | Vehicle Ownership

		Source	Model
Surrounding Household Size	2.5	custom	custom

Project Name: Valley's Edge

Scenario Name: PP_Updated_Trip_Gen

Surrounding Area | Site Demographics | Auto Trip Length | Average Vehicle Occupancy | Proximity Table | Advanced Input

		Source	Model
Home Base Work	7.8	CHTS Region 2012: Internal-Internal Mean	HHSurvey_CHTS2012
Home Base Other	8.3	CHTS Region 2012: All Mean	HHSurvey_CHTS2012
Non-Home Based	7.7	CHTS Region 2012: All Mean	HHSurvey_CHTS2012

Project Name	Valley's Edge	Scenario Name	PP_Updated_Trip_Gen

Surrounding Area | Site Demographics | Auto Trip Length | **Average Vehicle Occupancy** | Proximity Table | Advanced Input

Home Base Work	1	Source	NCHRP 758	Model	NCHRP 758
Home Base Other	1	Source	NCHRP 758	Model	NCHRP 758
Non-Home Based	1	Source	NCHRP 758	Model	NCHRP 758

Surrounding Area | Site Demographics | Auto Trip Length | Average Vehicle Occupancy | Proximity Table | **Advanced Input**

Additional Reduction | **Trip Purpose Splits** | Site Specific Internalizaion | Internal Capture Mode Share

Note: The model incorporates the following trip purpose split values.
These values are based on guidance from NCHRP 716, Travel Demand Forecasting: Parameters and Techniques.

	Daily						AM						PM					
	Productions			Attractions			Productions			Attractions			Productions			Attractions		
Land Use	**HBW**	**HBO**	**NHB**	**HBW**	**HBO**	**NHB**	**HBW**	**HBO**	**NHB**	**HBW**	**HBO**	**NHB**	**HBW**	**HBO**	**NHB**	**HBW**	**HBO**	**NHB**
Residential	23%	60%	0%	0%	11%	6%	46%	45%	0%	0%	8%	1%	31%	53%	0%	0%	10%	7%
Office	0%	0%	15%	35%	35%	15%	0%	0%	15%	35%	35%	15%	0%	0%	15%	35%	35%	15%
Retail	0%	0%	15%	10%	60%	15%	0%	0%	15%	10%	60%	15%	0%	0%	15%	10%	60%	15%
Restaurant	0%	0%	15%	10%	60%	15%	0%	0%	15%	10%	60%	15%	0%	0%	15%	10%	60%	15%
Cinema	0%	0%	15%	10%	60%	15%	0%	0%	15%	10%	60%	15%	0%	0%	15%	10%	60%	15%
Hotel	0%	0%	15%	10%	60%	15%	0%	0%	15%	10%	60%	15%	0%	0%	15%	10%	60%	15%
School	0%	0%	13%	10%	64%	13%	0%	0%	13%	10%	64%	13%	0%	0%	13%	10%	64%	13%
Other	0%	0%	10%	60%	20%	10%	0%	0%	10%	60%	20%	10%	0%	0%	10%	60%	20%	10%

Project Name: Valley's Edge

Scenario Name: PP_Updated_Trip_Gen

Scenario ID: 2548_4

Model Output

Select Trip Generation Units

Vehicle Trips | Person Trips

Results Summary | ITE Results | ITE Handbook Results | MXD+ Results

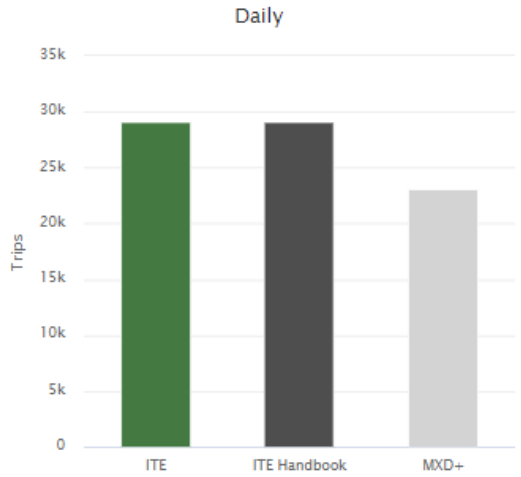
Basic Output

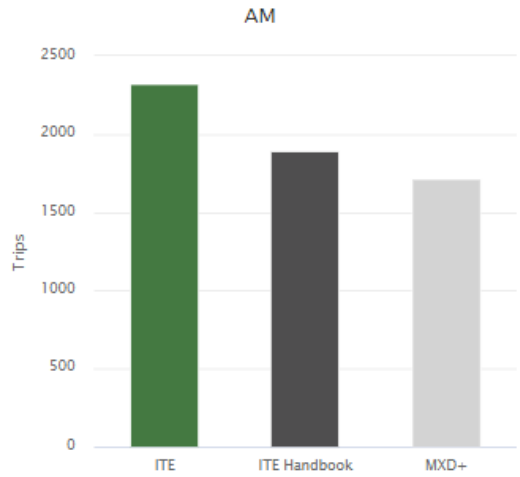
External Vehicle Trip Generation			
Methodology	Daily	AM Peak Hour	PM Peak Hour
ITE	29,134	2,326	2,875
ITE Handbook (without Proximity Adjustment)	29,134	1,897	2,540
MXD+	23,160	1,715	2,140

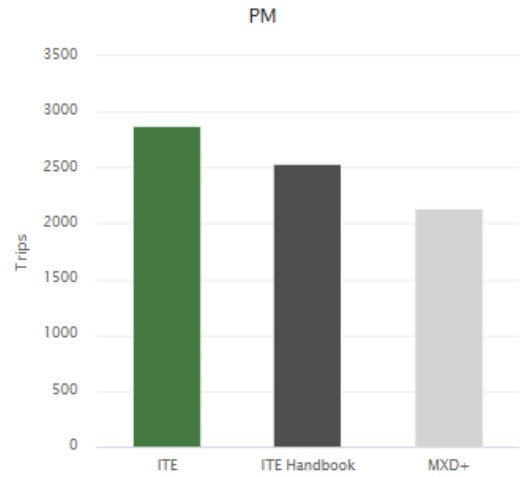
External VMT			
Methodology	Daily	AM Peak Hour	PM Peak Hour
ITE	233,072	18,608	23,000
ITE Handbook (without Proximity Adjustment)	233,072	15,176	20,320
MXD+	185,280	13,720	17,120

Methodology Comparison

External Trip Generation Comparison Charts







Advanced Output

MXD+ Vehicle Trip Generation Reductions			
	Daily	AM	PM
Internal Capture	5,702	578	706
Shift to Transit	0	0	0
Shift to Walk/Bike	272	33	29

MXD+ Vehicle Trip Generation Reduction Percent			
	Daily	AM	PM
Internal Capture	19.6%	24.8%	24.6%
Shift to Transit	0%	0%	0%
Shift to Walk/Bike	0.9%	1.4%	1%

Advanced Output

Advanced MXD+ Results

Predicted Probabilities	Daily			AM			PM		
Productions	HBW	HBO	NHB	HBW	HBO	NHB	HBW	HBO	NHB
Internal Capture	5.41%	23.56%	26.43%	7.81%	34.02%	38.15%	7.19%	31.31%	35.11%
Walking External	2.58%	0.60%	0.46%	3.40%	0.79%	0.46%	2.58%	0.60%	0.46%
Transit External	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Attractions	HBW	HBO	NHB	HBW	HBO	NHB	HBW	HBO	NHB
Internal Capture	5.19%	22.92%	26.43%	7.81%	34.02%	38.15%	7.19%	31.31%	35.11%
Walking External	2.67%	0.62%	0.46%	3.52%	0.82%	0.46%	2.67%	0.62%	0.46%
Transit External	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Number of Trips	Daily			AM			PM		
Productions	HBW	HBO	NHB	HBW	HBO	NHB	HBW	HBO	NHB
Internal Capture	192	2071	588	34	195	60	32	239	82
Walking External	97	51	5	19	3	0	12	4	0
Transit External	0	0	0	0	0	0	0	0	0
Attractions	HBW	HBO	NHB	HBW	HBO	NHB	HBW	HBO	NHB
Internal Capture	192	2071	588	34	195	60	32	239	82
Walking External	79	30	10	8	3	0	9	3	1
Transit External	0	0	0	0	0	0	0	0	0

ITE Vehicle Trip Generation by Trip Purpose

Daily (Total)	HBW	HBO	NHB	Total
Productions	3,962	10,614	1,692	16,268
Attractions	3,147	6,961	2,758	12,866
Total	7,109	17,575	4,450	29,134

AM (Total)	HBW	HBO	NHB	Total
Productions	590	574	150	1,314
Attractions	273	572	167	1,012
Total	863	1,146	317	2,326

PM (Total)	HBW	HBO	NHB	Total
Productions	509	862	179	1,550
Attractions	372	664	289	1,325
Total	881	1,526	468	2,875

Notes

1. DU = dwelling units. KSF = 1000 square feet
2. ITE Trip Generation land use category (210) - Single-Family Detached Housing (Adj Streets, 7-9A, 4-6P)
   Daily: Ln(T) = 0.92 * ln(X) + 2.71
   AM Peak Hour: T = 0.71(X) + 4.80 (25% in, 75% out)
   PM Peak Hour: Ln(T) = 0.96 * ln(X) + 0.20 (63% in, 37% out)
3. ITE Trip Generation land use category (220) - Multifamily Housing Low Rise (Adj Streets, 7-9A, 4-6P)
   Daily: T = 7.56(X) + -40.86
   AM Peak Hour: Ln(T) = 0.95 * ln(X) + -0.51 (20% in, 80% out)
   PM Peak Hour: Ln(T) = 0.89 * ln(X) + -0.02 (65% in, 35% out)
4. ITE Trip Generation land use category (251) - Senior Adult Housing - Detached (Adj Streets, 7-9A, 4-6P)
   Daily: T = 4.27(X)
   AM Peak Hour: T = 0.24(X) (35% in, 65% out)
   PM Peak Hour: T = 0.30(X) (61% in, 39% out)
5. ITE Trip Generation land use category (820) - Shopping Center (Adj Street, 7-9A, 4-6P)
   Daily: Ln(T) = 0.68 * ln(X) + 5.57
   AM Peak Hour: T = 0.94(X) (62% in, 38% out)
   PM Peak Hour: Ln(T) = 0.74 * ln(X) + 2.89 (48% in, 52% out)
6. ITE Trip Generation land use category (710) - General Office Building (Adj Streets, 7-9A, 4-6P)
   Daily: T = 8.19(X)
   AM Peak Hour: T = 0.94(X) + 26.49 (88% in, 12% out)
   PM Peak Hour: Ln(T) = 0.95 * ln(X) + 0.36 (17% in, 83% out)

   General Office Building - Review of the weekday daily dataset for General Office Building (710) category indicates that 60 percent of data points were collected in the 1980s. Therefore, a weighted average trip generation rate was derived using the ITE 10th Edition Trip Generation Manual WebApp, based on 18 data points from 2000-2016 (i.e., excluding the older data points from the 1980s). The weighted average trip generation rate based on the more recent data is 8.19 daily vehicles trips per 1,000 square feet.

7. ITE Trip Generation land use category (720) - Medical-Dental Office Building (Adj Streets, 7-9A, 4-6P)
   Daily: T = 34.80(X)
   AM Peak Hour: T = 2.78(X) (79% in, 21% out)
   PM Peak Hour: T = 3.46(X) (34% in, 66% out)
8. ITE Trip Generation land use category (520) - Elementary School (Adj Streets, 7-9A, 4-6P)
   Daily: T = 1.89(X)
   AM Peak Hour: T = 0.67(X) (0% in, 0% out)
   PM Peak Hour: T = 0.17(X) (45% in, 55% out)
9. ITE Trip Generation land use category (488) - Soccer Complex (Adj Streets, 7-9A, 4-6P)
   Daily: T = 26.03(X)
   AM Peak Hour: T = 0.99(X) (57% in, 43% out)
   PM Peak Hour: T = 16.43(X) (67% in, 33% out)
10. Reductions based on application of MXD+ model:
    Total Reductions: Daily = 20.5%, AM Peak Hour = 26.2%, PM Peak Hour = 25.6%
    Internal Capture: Daily = 19.6%, AM Peak Hour = 24.8%, PM Peak Hour = 24.6%
    External Walk, Bike, and Transit: Daily = 0.9%, AM Peak Hour = 1.4%, PM Peak Hour = 1.0%

Sources:
ITE Trip Generation Manual, 10th Edition
Fehr & Peers

Origin	Purpose	Number of Trips	Average Trip Distance	Note
Butte County	HBO	1073	8.14	Home-Based Other
Butte County	NHB	658	9.14	Non Home-Based
Butte County	HBS	328	4.51	Home-Based Shop
Butte County	HBK	89	3.17	Home-Based School
Butte County	HBW	320	7.96	Home-Based Work
Butte County	HBC	22	34.09	Home-Based College
Butte County	WBO	210	7.93	Work-Based Other
Total		2700		
Unincorporated Butte County	HBO	90	9.01	
Unincorporated Butte County	NHB	37	14.11	
Unincorporated Butte County	HBS	16	5.82	
Unincorporated Butte County	HBK	17	3.95	
Unincorporated Butte County	HBW	36	9.22	
Unincorporated Butte County	HBC	-	-	
Unincorporated Butte County	WBO	12	14.14	
Total		208		
Chico	HBO	460	8.26	
Chico	NHB	370	9.27	
Chico	HBS	182	5.39	
Chico	HBK	23	2.21	
Chico	HBW	144	7.35	
Chico	HBC	16	42.04	
Chico	WBO	116	5.55	
Total		1311		

CHTS

Name of the Origin	Average Trip Length
Butte County	7.87
Chico	7.98
Unincorporated Butte County	9.51

Butte County:

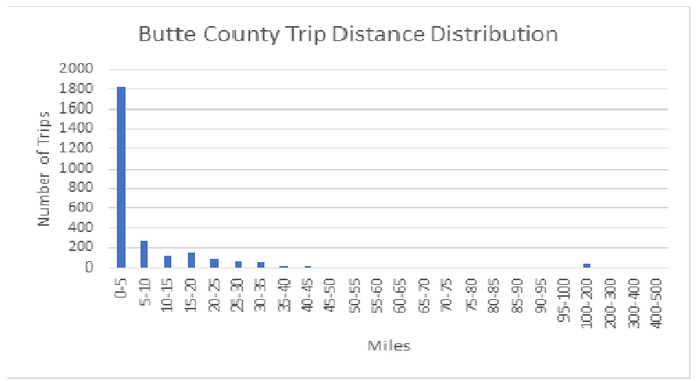
Trip Length (Miles)	Number of Trips		
0-5	1820	1820	68%
5-10	271	870	32%
15-20	112		
15-20	153		
20-25	86		
25-30	61		
30-35	49		
35-40	22		
40-45	17		
45-50	11		
50-55	4		
55-60	3		
60-65	1		
65-70	9		
70-75	5		
75-80	2		
80-85	6		
85-90	11		
90-95	7		
95-100	1		
100-200	31		
200-300	6		
300-400	0		
400-500	2	2690	

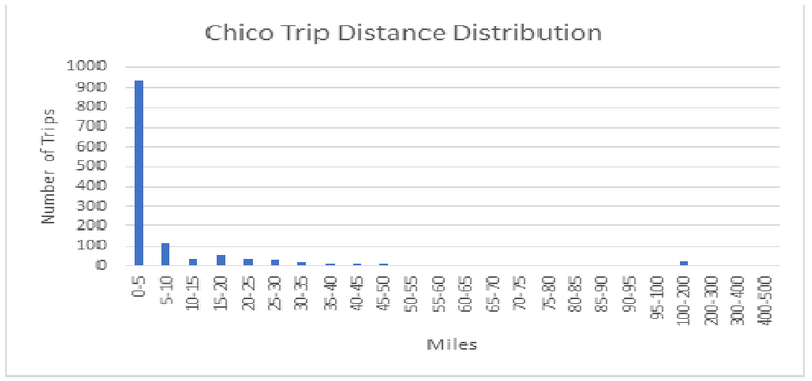
Chico

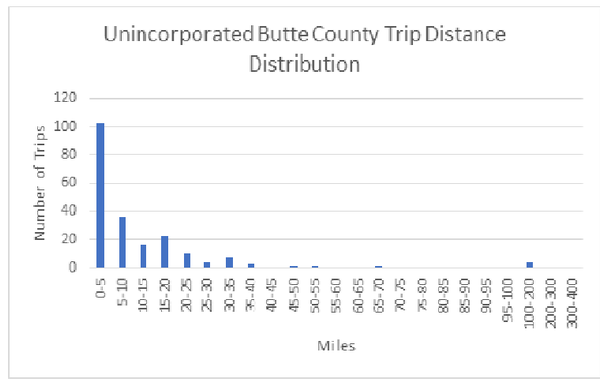
Trip Length (Miles)	Number of Trips		
0-5	939	939	72%
5-10	116	371	28%
15-20	36		
15-20	57		
20-25	37		
25-30	32		
30-35	18		
35-40	13		
40-45	7		
45-50	9		
50-55	2		
55-60	1		
60-65	1		
65-70	5		
70-75	3		
75-80	2		
80-85	4		
85-90	2		
90-95	3		
95-100	1		
100-200	20		
200-300	2		
300-400	0		
400-500	0	1310	

Unincorporated Butte County

Trip Length (Miles)	Number of Trips		
0-5	103	103	50%
5-10	36	103	50%
15-20	16		
15-20	23		
20-25	10		
25-30	3		
30-35	7		
35-40	2		
40-45	0		
45-50	1		
50-55	1		
55-60	0		
60-65	0		
65-70	1		
70-75	0		
75-80	0		
80-85	0		
85-90	0		
90-95	0		
95-100	0		
100-200	3		
200-300	0		
300-400	0		
400-500	0	206	

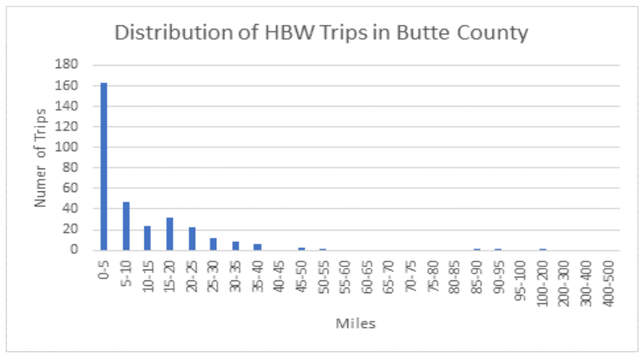






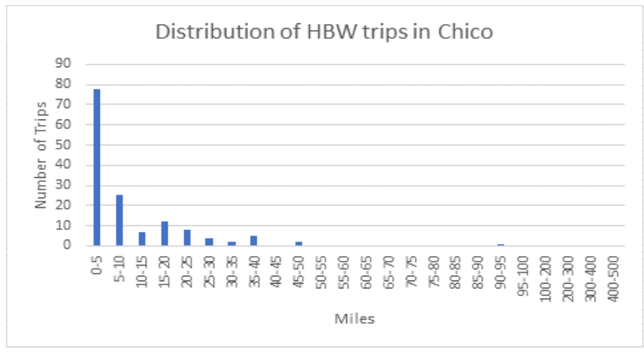
Butte County

Trip Length	Number of Trips		
0-5	163	163	51%
5-10	47	157	49%
15-20	24		
15-20	32		
20-25	22		
25-30	12		
30-35	8		
35-40	6		
40-45	0		
45-50	2		
50-55	1		
55-60	0		
60-65	0		
65-70	0		
70-75	0		
75-80	0		
80-85	0		
85-90	1		
90-95	1		
95-100	0		
100-200	1		
200-300	0		
300-400	0		
400-500	0	320	



Chico:

Trip Length	Number of Trips		
0-5	78	78	54%
5-10	25	66	46%
15-20	7		
15-20	12		
20-25	8		
25-30	4		
30-35	2		
35-40	5		
40-45	0		
45-50	2		
50-55	0		
55-60	0		
60-65	0		
65-70	0		
70-75	0		
75-80	0		
80-85	0		
85-90	0		
90-95	1		
95-100	0		
100-200	0		
200-300	0		
300-400	0		
400-500	0	144	



Unincorporated Butte County

Trip Length	Number of Trips		
0-5	14	14	39%
5-10	4	22	61%
15-20	7		
15-20	4		
20-25	3		
25-30	3		
30-35	0		
35-40	1		
40-45	0		
45-50	0		
50-55	0		
55-60	0		
60-65	0		
65-70	0		
70-75	0		
75-80	0		
80-85	0		
85-90	0		
90-95	0		
95-100	0		
100-200	0		
200-300	0		
300-400	0		
400-500	0	36