Appendix A

Transportation Assessment

FEHR PEERS

MEMORANDUM

Date: January 22, 2014

To: Dennis Dornan, Perkins + Will

From: Kathrin Tellez and Kristen Carnarius, Fehr and Peers

Subject: Downtown Concord Specific Plan – Transportation Assessment

WC13-3010

Fehr & Peers evaluated transportation conditions in Downtown Concord as part of the Downtown Specific Plan (DSP) project. The Specific Plan refines the vision set for Downtown Concord within the General Plan and provides guidance for future development to achieve goals set forth in the Specific Plan, including expanding transportation options, providing a variety of housing types, and increasing employment opportunities. The boundary of the DSP area is shown on **Figure 1**.

This assessment expands on the Transportation and Circulation chapter of the Downtown Concord Specific Plan Existing Conditions report dated March 28, 2013, and the Draft Specific Plan document dated September 17, 2013. No specific development projects would occur as a result of the adoption of the DSP; future developments, when proposed, would be subject to City review and approval. The purpose of this assessment is to compare the level of development contemplated within the DSP to the General Plan, and evaluate the existing and future transportation system with development levels contemplated within the Specific Plan in conjunction with transportation system enhancements proposed within the DSP area.

INTRODUCTION AND PROJECT DESCRIPTION

Although no development is currently proposed to occur as part of the Specific Plan, it is envisioned that based on the zoning allowed under the General Plan, approximately 4,000 new dwelling units, and approximately 1,500,000 square feet of office uses could be constructed in the downtown area. It is anticipated that there would be a net-decrease in retail square footage as some parcels are redeveloped.

Potential changes to the transportation system are also contemplated as part of this plan, including provision of buffered bicycle lanes on Clayton Road and Concord Boulevard, restriping of Concord Avenue/Galindo Boulevard to reallocate the right-of-way and potentially add bicycle lanes to a portion of the roadway, modifying traffic signal cycle lengths to decrease pedestrian delay, installing pedestrian signals across major arterials, and prioritizing pedestrian travel through certain zones of the downtown area.

The following describes the existing conditions within the Downtown Specific Plan area, discusses the transportation characteristics of the proposed Specific Plan, and then presents an assessment of existing and future conditions with transportation system changes envisioned as part of the Specific Plan.

EXISTING CONDITIONS

The following provides information related to the existing transportation conditions in the DSP area based on the Transportation and Circulation chapter of the Existing Conditions report dated March 28, 2013.

Figure 2 illustrates the roadway system based on the roadway designations identified in the Concord 2030 General Plan (adopted 10/2/07; last amended 7/10/12). Three freeways provide regional access to the SPA: Interstate 680 (I-680), State Route 242 (SR 242) and State Route 4. I-680 is approximately 1.5 miles to the west and SR 4 is approximately 2 miles to the north of the SPA. SR 242 forms the western boundary of the Plan area. Concord's roadway system connects with Pittsburg to the northeast, Martinez and Pleasant Hill to the west, Walnut Creek to the south, and Clayton to the east.

The Concord 2030 General Plan sets its general performance target for vehicle operations at Level of Service[1] (LOS) D. In the Central Business District (CBD), the threshold is LOS E, recognizing the more urban, pedestrian-oriented character of this area and the trade-offs between a high level of vehicle mobility and other modes of travel. The CBD is generally defined as the area from the Downtown to I-680 including the area from Concord Avenue to Clayton Road. The LOS E benchmark also applies in the vicinity of Downtown BART Station, and along the City's transit

[1] The operations of roadway facilities are typically described with the term "level of service" (LOS). LOS is a qualitative description of traffic flow from a vehicle driver's perspective based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels of service are defined ranging from LOS A (best operating conditions) to LOS F (worst operating conditions). Typically, LOS E corresponds to operations "at capacity." When volumes exceed capacity, stop-and-go conditions result and operations are designated as LOS F.

routes, which are generally defined as roads with two or more bus transit lines. Through the Specific Plan Area, these roads include Concord Avenue and Clayton Road.

Routes of Regional Significance are major roadway and freeway corridors serving regional traffic, as identified in Action Plans adopted by the Contra Costa Transportation Authority (CCTA) as part of the countywide Measure J program. Key routes providing regional access to the Plan Area include I-680, SR 242, SR-4, Ygnacio Valley Road / Kirker Pass Road, Treat Boulevard, and Clayton Road between Treat Boulevard and Kirker Pass Road.

Arterials deliver traffic between the freeways, collector streets, and other major streets between Concord and neighboring jurisdictions. Key arterials in SPA include East Street, Clayton Road, Concord Boulevard, Port Chicago Highway, Concord Avenue, Galindo Street, Monument Boulevard and Willow Pass Road.

Collectors link arterials to neighborhood or local streets. Key collectors in the vicinity of the Plan Area are Grant Street, Mt Diablo Street, Colfax Street, Salvio Street, Pacheco Street, and Bonifacio Street.

Local Streets provide direct access to adjacent properties. Key local streets connecting the BART area to downtown Concord are Park Street, Oak Street, Oakland Street, and Laguna Street.

Transit network

The DSP area is served by both commuter rail and bus service, as shown on **Figure *3*.** The area within a half-mile perimeter of the BART station is located within a Transit Overlay District. Development standards in this area are intended to provide a concentrated mixture of residential and commercial uses in a pedestrian environment well served by BART. Specific uses that tend to be auto-dominated are prohibited and off-street parking requirements are less than for similar projects not served by BART.

The Concord BART station is located roughly one-third of a mile south of the Todos Santos Plaza, and sits on a triangular parcel. The station is served by the Pittsburg/Bay Point line, providing direct service to the San Francisco International Airport (SFO) via downtown San Francisco, with train frequency from 20 minutes on weekends, 15 minutes on off-peak weekday, to five to eight minutes during the peak commute hours.

The CCCTA (the 'County Connection') provides bus service throughout Central Contra Costa County. Weekday fixed route service includes 24 routes and seven express routes, and ten

weekend routes. Paratransit service is also provided. Fixed route service is generally provided from 6:00 AM to 9:00 PM on weekdays, and from 9:00 AM to 7:00 PM on weekends.

Eleven lines serve the City of Concord, ten of which converge on the Concord BART station. These routes provide local service (including school routes), BART feeder service, and regional connectivity linking Concord to adjacent communities. Through the SPA, the routes operate primarily along Galindo Street/Concord Avenue, Grant Street, East Street, and Port Chicago Highway. Buses enter the dedicated terminal area at the BART station via an entrance on Mt. Diablo Street at Laguna Street and exit onto Park Street.

The Concord BART Station is also the terminus for Tri-Delta transit Route 201, which connects Pittsburg/Bay Point BART station to the Concord BART station, and operates with 30 minute headways during the morning and evening peak periods. There are only two stops in Concord, one at East Street at Bacon Street, and another at the Concord BART Station.

Bicycle Access and Circulation

Given the topography and climate of Concord, bicycling is a viable alternative to the single occupancy vehicle for both recreational and non-recreational trips. The *Concord 2030 General Plan* identifies the following bicycle facility types:

- ***Class 1 Bicycle Trails*** are similar to Caltrans Class I bike paths, offering paved trails that are separated from roadways except at crossings, and may serve multiple users including bicyclists and pedestrians.
- ***Class 3B Bike Routes*** consist of signed routes with edge lines along collector and arterial streets. Edge lines demark a variable width from 3 to 4 feet for bicycle travel, which is less than the minimum bicycle lane width of 5 feet required to qualify for a Caltrans Class II bike lane designation.
- ***Class 3A Bike Facilities*** are similar to Caltrans Class III bike routes, consisting of signed routes on residential streets where motor vehicles are expected to share the road with bicyclists; dedicated lanes are not provided

Limited on-street bicycle facilities exist through the downtown area, requiring bicyclists to travel circuitous routes to the downtown area from the BART station, use unsigned routes, or ride on the sidewalks or in travel lanes. The primary route between the Concord BART station and the downtown area is a Class 3A facility along East Street, between Gil Drive and Concord Blvd, which connects with another Class 3A facility along Bonifacio Street, two blocks north of Todos

Santos Plaza. **Figure 4** illustrates the existing bicycle network and public bicycle parking through the downtown area. Although potential bicycle network enhancements have been proposed as part of the DSP, the City plans to develop a Citywide Bicycle and Pedestrian Master Plan starting in Spring 2014 that will plan for new bicycle facilities on a Citywide basis that will provide connections to the downtown area.

In the downtown area, the City of Concord provides bike racks with space for 86 bikes on the ground floor of the Salvio Street Garage, and 6 spaces via two inverted-u racks at Todos Santos Plaza, along Mt. Diablo Street. Providing additional bicycle parking in the downtown area is a goal of the plan.

Pedestrian Network

The Concord BART Station is a primary pedestrian destination from the Downtown area and surrounding neighborhoods. However, large surface parking lots, multi-lane one-way streets, fast-moving arterial traffic, and discontinuous pedestrian facilities serve as pedestrian barriers. Additionally, narrow sidewalks and long traffic signal cycles can impede pedestrian travel through the downtown area and across major arterials such as Clayton Road and Concord Boulevard. Enhanced wayfinding, decreased pedestrian crossing distances, wider sidewalks, and reduced traffic signal cycles are included as goals and policies within the Downtown Specific Plan.

Parking

Generally, there is a parking surplus throughout the downtown area on typical weekdays. On-street parking is generally available within the core downtown area, although occupancies increase with proximity to Todos Santos Plaza. Off-street parking is available in two public garages. There are numerous private parking lots through the SPA which are not discussed below.

There are 2,335 parking spaces available at Downtown Concord Station with reserved, carpool, long-term, and daily parking. BART parking lots at Concord Station are generally full by 8:00 AM on weekdays. To discourage commuter parking in residential neighborhoods, on-street parking in the residential areas surrounding the BART station is restricted to 4 hours between the hours of 7 AM to 6 PM, Monday through Friday. Vehicles displaying a residential permit are exempt from these restrictions.

The 2012 *Todos Santos Plaza Parking Study* concluded that installing meters or charging for parking was not needed based on current conditions as a parking management tool (i.e. to improve parking turnover or reduce illegal overtime parking) because current parking demand is generally met by current on- and off-street supply. During special events at Todos Santos Plaza, such as summer concerts, it can be difficult to find an available parking space in close proximity to the Plaza, but these periodic difficulties in finding parking demonstrate the popularity of events in Downtown Concord.

All new development would be subject to parking requirements in place at the time of project approvals. The Specific Plan identifies parking requirement reductions for developments within a half-mile of the BART station that could be incorporated into City Code requirements.

Existing Traffic Volumes and Lane Configurations

Based on consultation with City staff and the locations of expected roadway network changes, the following intersections and roadway segments were selected to be evaluated as part of this assessment:

Intersections

1. Concord Avenue / Pacheco Street
2. Galindo Street / Willow Pass Road
3. Galindo Street / Concord Boulevard
4. Galindo Street / Clayton Road
5. Galindo Street/ Laguna Street / Oak Street
6. Fry Way / Clayton Road
7. Oakland Avenue / Clayton Road
8. Galindo Street / Laguna Street

Roadway Segments

1. Clayton Road west of Grant Street
2. Concord Boulevard west of Grant Street
3. Willow Pass Road west of Grant Street

Weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak period intersection turning movement counts were conducted at the study intersections, including counts of pedestrians and bicyclists. 72-hour counts were conducted for weekday conditions on the roadway segments noted above. Counts were conducted on clear days in May 2013 with area schools in session. Counts collected during the school year are representative of typical traffic conditions for the majority of the year, with lower traffic volumes typically experienced on non-school days. For the study intersections, the single hour with the highest traffic volumes during

the count periods was identified. The AM peak hour in the study area is generally from 7:30 to 8:30 AM and the PM peak hour is generally from 5:00 to 6:00 PM.

The existing volumes are presented on **Figure 5** along with the existing lane configuration and traffic control. The traffic count sheets are attached. Existing traffic signal timings were provided by the City of Concord. Field reconnaissance was also performed to verify lane configurations, turn pocket lengths, speed limits, and signal timing and phasing and to observe general roadway operations. Recent 2013 traffic counts were compared to intersection count data collected in 2004. The comparison of traffic counts along the Galindo Street corridor indicates that overall, traffic volumes in the area have increased by approximately 4 percent during the morning peak hour and decreased by approximately 1 percent during the evening peak hour. These changes are within the expected range of daily variation as traffic flows can differ throughout the week, and overall traffic conditions based on the volume comparison are relatively unchanged despite development that has occurred since 2004, such as the Fry's Electronics store, and construction of approximately 450 residential units within the downtown area.

Intersection Operations

The operations of roadway facilities are described with the term "level of service" (LOS) in this study. **Attachment A** describes the LOS analysis methods. The City of Concord strives to maintain Level of Service E for vehicle operations, recognizing that a higher service level for vehicles could degrade travel though the downtown area for other modes of travel. The analysis results presented in this technical memorandum are based on the 2010 *Highway Capacity Manual* (HCM) method, as adopted by the Contra Costa Transportation Authority (CCTA) for use in evaluating intersection operations in March of 2013. The HCM analysis method considers intersection signal timing parameters, in addition to pedestrian and bicycle travel through the intersection, while the analysis results presented in the *General Plan Supplemental Environmental Impact Report* (SEIR) are based on volume-to-capacity ratios using the CCTA LOS method, which was the adopted analysis methodology at the time the SEIR analysis was completed.

Existing operations were evaluated using the method described above for the weekday AM and PM peak hours at the study intersections, as summarized in **Table 1**. The analysis was based on the volumes, lane configurations and traffic control shown on Figure 5. Observed peak hour

factors[2] were used at all intersections for the existing analysis. Pedestrian and bicycle activity was factored into the analysis.

TABLE 1
EXISTING INTERSECTION PEAK HOUR LEVELS OF SERVICE

Location	Control[1]	Peak Hour	HCM2010 Method	
			Delay[2]	LOS
1. Concord Avenue / Pacheco Street	Signal	AM PM	5 9	A A
2. Galindo Street / Willow Pass Road [3]	Signal	AM PM	28 31	C C
3. Galindo Street / Concord Boulevard [3]	Signal	AM PM	21 18	C B
4. Galindo Street / Clayton Road [3]	Signal	AM PM	20 29	B C
5. Galindo Street / Laguna Street / Oak Street	Signal	AM PM	16 13	B B
6. Fry Way / Clayton Road	Signal	AM PM	9 12	A B
7. Oakland Avenue / Clayton Road	Signal	AM PM	28 27	C C
8. Galindo Street / Laguna Street	SSSC	AM PM	0 (15) 0 (15)	A (B) A (B)

Notes:
1. Signal = Signalized intersection, SSSC = side street stop controlled intersection
2. Signalized intersection level of service based on average intersection control delay (in seconds) according to the *Highway Capacity Manual* (Transportation Research Board, 2010). For side-street stop-controlled intersections, delay is reported as intersection average (worst case approach).
3. Periodic spillback of vehicle queues between intersections 2 through 4 can affect vehicle progression on Galindo Street and can result in worse service levels than presented here. MicroSimulation would be needed to fully quantity the effects of vehicle queue spillback on intersection operations.

Source: Fehr & Peers, 2013.

As shown, study intersections generally operate at acceptable service levels. Although the intersections along Galindo Street operate at acceptable service levels, vehicle queue spillback

[2] The relationship between the peak 15-minute flow rate and the full hourly volume is given by the peak-hour factor (PHF) as shown in the following equation: PHF=Hourly volume/(4* volume during the peak 15 minutes of flow). The analysis of level of service is based on peak rates of flow occurring within the peak hour because substantial short-term fluctuations typically occur during an hour.

between intersections can affect operations along the corridor and degrade operations to worse service levels than presented in this memorandum. The City of Concord regularly monitors signal timings through the SPA, and the City as a whole, and makes adjustments to optimize performance of the transportation system.

As described previously, roadway segment counts were conducted over a 3-three day period. Average daily traffic volumes on the study roadways is summarized in **Table 2** and previously on Figure 5, along with the associated level of service based on the daily volume. The three roadway segments operate at an overall level of service D. Average peak hour traffic volumes on these roadways are also summarized in Table 2. The daily traffic volumes based on recent data was compared to data from 2008. Combined volumes have increased on the three roadway segments included in this assessment by approximately 3 percent, with volumes on Willow Pass Road and Clayton Road decreasing and volumes on Concord Boulevard increasing.

Daily and peak hour variation between the three data collection days was calculated to determine how traffic flows might vary through the study area. Based on the three days of data collection, traffic volumes through the study area vary by approximately 1 to 2 percent on a daily basis. On a peak hour basis, traffic volumes are more variable and are dependent on a number of other factors, such as congestion on the regional roadway system that could delay a vehicles arrival to the study area.

TABLE 2
EXISTING WEEKDAY TRAFFIC VOLUMES

Roadway	Daily			AM Peak Hour		PM Peak Hour	
	Average Traffic [1]	Level of Service	Daily Variation [2]	Average Traffic [3]	Variation [2]	Average Volume [4]	Variation [2]
1. Clayton Rd west of Grant St	15,400	D	1.8%	420	2.3%	280	3.5%
2. Concord Blvd west of Grant St	17,200	D	1.0%	290	4.2%	500	0.5%
3. Willow Pass Rd west of Grant St	20,700	D	1.8%	370	2.7%	440	1.7%

Notes:
1. Average daily traffic measured over three weekdays.
2. Standard deviation (as a percent of the average) of the three days of data collection.
3. Average morning peak hour volume from the three weekdays of data collection.
4. Average evening peak hour volume from the three weekdays of data collection

Source: Fehr & Peers, 2013.

PROJECT TRANSPORTATION CHARACTERISTICS

Trip generation refers to the process of estimating the amount of vehicular traffic a project would add to the surrounding roadway system. Estimates are created on a daily basis and for the peak one-hour period during the morning and evening commute periods when traffic volumes on the adjacent streets are highest. Although no specific development is proposed within the Specific Plan area at this time, the purpose of the trip generation assessment below is to provide information about the potential trip generating characteristics of land use development in the downtown area with the Specific Plan, which is consistent with the General Plan.

Traditional analysis methods commonly used by traffic engineers to quantify the vehicle trip making characteristics of development can overestimate vehicle trip generation of mixed-use development, such as would be experienced in Downtown Concord. This is due to an inability of traditional tools to accurately reflect the amount of internal trip linking or the level of trips made by transit, biking, and/or walking within and to a mixed-use site. This can result in increased development costs due to oversized infrastructure, and skewed public perception of the likely impacts of mixed-use development. The most common method used is outlined in the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (9th Edition). This method contains data primarily collected at suburban, single-use, freestanding sites. This limits their applicability to mixed-use development, such as a downtown area. This method does not adequately account for

key variables that influence travel such as development density and scale, location efficiency, land use mix, urban design and transit orientation.

Two significant new research studies provide the opportunity to improve the state of practice. One study sponsored by the US EPA[3] and another by the Transportation Research Board[4] have developed means to improve trip generation estimation for mixed-use development (MXD). The two studies examined over 260 mixed-use development sites throughout the U.S. and, using different approaches, developed new quantification methods. Fehr & Peers has reviewed the two methods, including the basis, capabilities, and appropriate uses of each, to produce a new method (MXD+) that combines the strengths of the two individual methods. MXD+ recognizes that traffic generation by mixed-use and other forms of sustainable development relate closely to the density, diversity, design, destination accessibility, transit proximity, and scale of development. MXD+ improves the accuracy of impact estimation and gives planners a tool to rationally balance land use mix and to incorporate urban design, context compatibility, and transit orientation to create lower-impact development.

The MXD+ methodology starts with ITE trip generation estimates but then adjusts those estimates to account for the mixed-use and environment characteristics. Use of the MXD+ methodology requires more input data than a traditional trip generation application. Data detailing the geographic layout of the site, land use in the surrounding area, and socioeconomic data of both the site and the surrounding area were collected to inform the MXD+ methodology. Model inputs, in addition to land use information, include the number of jobs within a 30 minute transit ride of the DSP area, the expected level of auto-ownership, and average household size. Sources used to collect this data include the Contra Costa Transportation Authority (CCTA) travel demand model, the Metropolitan Transportation Commission (MTC) travel demand model, Census and American Community Survey (ACS), the Bay Area Travel Survey (BATS), and the Specific Plan Options. Detailed information about the variables included in the tool specific to this site are provided in **Attachment B**. Additional information including recent certified EIRs that have used this approach is also included in the attachment.

Table 3 shows the potential level of development that could occur under the DSP. This level of development was compared to the assumptions within the City's General Plan as well as land use growth contained within the Contra Costa County Travel Demand Model (CCTA Model). Based on

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[3] *Traffic Generated by Mixed-Use Developments—A Six-Region Study Using Consistent Built Environmental Measures* (Ewing et al, ASCE UP0146, Sept 2011)

[4] National Cooperative Highway Research Program (NCHRP) Report 684 *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments* (Bochner et al, March 2011)

this review, the level of development contemplated to occur in the DSP area is consistent with the General Plan and the level of development assumed in the regional model.

TABLE 3
POTENTIAL GROWTH IN DOWNTOWN SPECIFIC PLAN AREA

Land Use Type	Units[1]	Existing	Project	Change
Residential				
Single Family	DU	1,360	1,354	(6)
Multi-Family	DU	2,890	6,388	3,498
Townhome	DU	--	518	518
Employment/Service				
General Office	ksf	2,300	3,868	1,568
Manufacturing	ksf	170	170	--
Warehouse	ksf	369	369	--
General Retail	ksf	1,500	1,210	(290)
Movie Theater	Screens	14	14	--

Notes:
1. DU = dwelling units; ksf = 1,000 square feet

Source: Perkins & Will and Fehr & Peers, 2013

Although no development is currently proposed for implementation with the DSP and future development would be subject to City review at the time a development application is filed, the potential level of trip generation with development consistent with the vision of the DSP was calculated based on the method described above as presented in **Table 4**. Estimates were calculated for the existing and future condition for all modes of travel within the DSP area.

TABLE 4
PROJECT TRIP GENERATION

Trip Category	Existing			Project		
	Daily	AM	PM	Daily	AM	PM
ITE External Vehicle Trip Generation Estimate	194,390	15,390	17,810	219,460	18,380	21,080
Trip Reductions						
Internal Capture (All modes)	-38,310	-2,500	-6,520	-46,190	-3,400	-7,550
External Walk/Bike Trips	-13,240	-1,660	-1,060	-17,860	-2,260	-1,490
External Bus Trips	-5,530	-690	-670	-7,040	-920	-930
External BART Trips	-10,670	-1,220	-1,380	-12,170	-1,380	-1,560
Net External Vehicle Trips	**126,640**	**9,320**	**8,180**	**136,200**	**10,420**	**9,550**
Net Change with DSP				9,560	1,100	1,370

Source: Fehr & Peers, January 2014

External vehicle trips represent trips that would interact with roadway facilities outside the Project area. Internal capture represents trips that have both an origin and destination within DSP area, including residents that shop or work within the downtown area, in addition to an office worker that may come from outside the DSP area for one trip, but patronize local establishments such as a restaurant during lunch hour. These trips could be via an automobile or walk/bike trips. External transit, walk, and bike trips represent those trips that visit or leave the site via modes other than automobile.

As shown in Table 4, after considering the interaction of the various land uses with each other and the variety of travel modes, development consistent with the DSP and the General Plan could increase vehicle traffic that leaves the downtown area by approximately 9,560 trips on a daily basis, including 1,100 morning and 1,370 evening peak hour trips.

FUTURE TRAFFIC CONDITIONS

As discussed previously, land use development assumptions presented in the DSP are consistent with the General Plan and the CCTA model. To assess future traffic conditions within the Downtown area, traffic growth projections from the CCTA model were reviewed. The forecasts

reflect conditions with growth projections as contemplated in the Concord's General Plan and Downtown Specific Plan, and include regional growth, such as from development of the Naval Weapons Station and from adjacent communities.

Traffic volumes entering the DSP area are expected to increase by approximately 30 percent on a daily basis, 30 percent during the morning peak period and 20 percent during the evening peak period. To assess future traffic conditions, the daily and peak hour traffic volumes were increased by the percentages noted above, as presented on **Figure 6**.

Intersection and roadways segment operations were evaluated based on the methods described previously and the results are shown in **Table 8** for intersections and **Table 9** for roadway segments. With the projected levels of traffic growth, delay would increase at intersections in the DSP area. However, intersections and roadway segments would continue to operate within service level standards set by the City of Concord for the downtown area.

ANALYSIS OF SPECIFIC PLAN CONDITIONS

The Specific Plan generally retains the existing vehicular circulation system and travel patterns, with some modifications to better accommodate pedestrian and bicycle movement. Conversions of some one-way streets to two way streets were considered for Pacheco Street between Concord Avenue and Mt. Diablo Street, and on Harrison Street between Broadway Street and Concord Avenue. An assessment of this conversion was conducted and is provided as **Attachment C**; the analysis results indicated that conversion from one-way to two-way travel would not result in significantly worsened travel through the corridor for vehicles and would enhance bicycle and pedestrian accessibility within the area. However, given the extensive intersection reconstruction that would be required to avoid worsening conditions for pedestrians, these changes might be better considered as a long-term improvement to be implemented with other land use and network changes in the area.

Road diets are proposed for several roadways within the SPA, including Clayton Road, Concord Boulevard, and Willow Pass Road. Road diets entail taking away a travel lane from vehicles and allocating the right-of-way to other roadway users, such as providing bicycle lanes, widening sidewalks, providing transit only lanes, or other enhancements to better accommodate different modes of travel within the available right-of-way. Based on the traffic volumes on Clayton Road and Concord Boulevard, there is sufficient capacity to accommodate removal of a travel lane (from 5 lanes to 4 lanes) to provide bicycle facilities, and accommodate future growth (see analysis below).

On Willow Pass Road, a road diet was identified as a potential measure at several community meetings. Road diets on four-lane roadways are ideal for roadways carrying upwards of 15,000 to 20,000 vehicles per day. On roadways with average daily traffic volumes between 20,000 and 25,000 there is a greater likelihood that traffic would divert to alternate routes. Based on the level of daily traffic on Willow Pass Road, a road diet would likely result in traffic diverting to parallel roadways, including Clayton Road and Concord Boulevard.

With a road diet, Willow Pass Road would have limited ability to accommodate traffic growth, whether from the SPA or regional growth. Benefits of the road diet would be the ability to provide bike lanes or on-street parking, decreased pedestrian crossing distances across Willow Pass Road, potential for decreased vehicle speeds, and the potential for increased sidewalk width. Preliminary analysis of peak hour operations at the Galindo Street/Willow Pass Road intersection indicates that eliminating a through travel lane on Willow Pass Road at Galindo Street would significantly worsen operations for vehicles and would worsen queue spillback and congestion along the Galindo Street corridor during peak hours. Although no off-peak assessment was conducted, it is expected that off-peak operations would likely remain about the same for vehicles. Benefits for other travel modes would be experienced at all times of day.

This preliminary assessment was conducted based on traffic volumes remaining the same with a road diet; however, a reduction in capacity would likely lead to traffic diverting to parallel streets and some through traffic remaining on the regional transportation facilities, such as SR 242 and SR 4. Further analysis, including an origin/destination study for vehicles currently using the roadway and a more expansive assessment of intersection operations within the area would be needed to assess operations with a road diet.

Specific modifications to vehicle circulation within the Specific Plan Area were evaluated:

1. Eliminate one vehicle travel lane on Clayton Road and Concord Boulevard between Sutter Street and Grant Street to provide buffered bike lanes.

2. Improvements on Galindo Street between Salvio Street and Laguna Street to improve vehicle flow within the existing cross-section.

3. Modifications to the Willow Pass Road at Galindo Street intersection to provide protected left-turn phasing to reduce vehicle conflicts with pedestrians

4. Reduce traffic signal cycle lengths throughout the downtown area, and with a primary focus on intersections within the pedestrian priority zone as described in the Specific Plan.

As modifications have independent utility, intersection operations were evaluated for separately for lane changes and signal timing changes, and then combined for both existing and future conditions, as described below.

- ***Lane Geometry Changes*** – Conditions with lane geometry changes that could occur with reconfiguring intersections within the existing right-of-way on Galindo Street. Specific roadway network changes that were evaluated are summarized in **Table 5**.
- ***Signal Timing Changes*** – Conditions with signal timing changes to decrease pedestrian delay at intersections.
- ***Lane Geometry + Signal Timing Changes*** – Conditions with lane geometry and signal timing changes combined.

TABLE 5
ROADWAY NETWORK CHANGES EVALUATED

Intersection	Lane Change
Galindo Street/Willow Pass Road	• Convert southbound right turn lane to southbound shared through right turn lane • Increase northbound left pocket from 75 feet to 100 feet • Existing protected/permissive phasing modified to be protected only
Galindo Street/Concord Boulevard	• Convert southbound right turn lane and southbound through lane into one shared southbound through right lane • Convert westbound left lane and westbound through lane into one shared westbound through left lane • Remove one northbound left lane
Galindo Street/Clayton Road	• Add one southbound through lane • Remove one northbound left lane • Decrease southbound left pocket from 150 feet to 125 feet

Source: Fehr & Peers, January 2014.

Results of the assessment are presented in **Table 6** and **Table 7** for existing and future intersection operations and in **Table 8** for existing and future roadway segment operations. The

potential roadway network enhancements were evaluated against the following significance criteria:

- The addition of Project traffic causes an intersection to deteriorate from an unacceptable level to an unacceptable level, which is defined as LOS E.
- The Project substantially increases hazards or congestion due to excessive queuing.
- The Project results in inadequate emergency access.
- The Project conflicts with adopted transportation policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Results of the intersection service level assessment indicate that with the potential roadway network changes, operations of the study intersections would remain within the City's level of service standard for vehicles during both the morning and evening peak hours for both existing and future conditions. Detailed intersection level-of-service results are provided in **Attachment D**.

At the Galindo Street/Willow Pass Road intersection, delay would increase with the modification of the traffic signal to provide only protected left-turn phasing for movements from Willow Pass Road to Galindo Street. This modification would reduce pedestrian/vehicle conflicts, as currently vehicles turning left from Willow Pass Road are permitted to travel at the same time as pedestrians across Galindo Street.

Reducing the cycle length of traffic signals in the Downtown area to decrease pedestrian delay is not expected to degrade intersection operations beyond the level of service standard in the existing condition. Currently, cycle lengths on Galindo Street are between 110 and 120 seconds during the morning and evening peak hours. A reduction to between 95 and 100 seconds during peak hours would maintain vehicle levels of service while decreasing pedestrian delay; however, vehicle queue spillback could increase during the peak hours. A comprehensive evaluation of all signalized intersections in the downtown area should be conducted prior to reducing cycle lengths to ensure that vehicle progression is maintained along the corridor. An assessment of off-peak and weekend conditions should also be conducted as it is likely that greater cycle length reductions can be achieved during the mid-day and weekend time periods.

With projected traffic in the future, cycle length reductions of more than 10 seconds would rest in significant queue spillback between intersections on Galindo Street and would require further review as growth occurs within Downtown Concord and the surrounding area.

TABLE 6
EXISTING INTERSECTION PEAK HOUR DELAY AND LEVELS OF SERVICE FOR VEHICLES

Location	Control[1]	Peak Hour	Existing		Lane Changes		Signal Timing		Lane Changes + Signal Timing	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
1. Concord Avenue / Pacheco Street	Signal	AM PM	5 9	A A	5 9	A A	5 8	A A	5 8	A A
2. Galindo Street / Willow Pass Road [3]	Signal	AM PM	28 31	C C	34 36	C D	24 37	C D	24 36	C D
3. Galindo Street / Concord Boulevard [3]	Signal	AM PM	21 18	C B	27 21	C C	16 13	B B	20 16	B B
4. Galindo Street / Clayton Road [3]	Signal	AM PM	20 29	B C	21 30	C C	17 24	B C	18 25	B C
5. Galindo Street / Laguna Street / Oak Street	Signal	AM PM	16 13	B B			17 13	B B	17 14	C C
6. Fry Way / Clayton Road	Signal	AM PM	9 12	A B			9 13	A B	9 12	A B
7. Oakland Avenue / Clayton Road	Signal	AM PM	28 27	C C			28 24	C C	28 24	C C
8. Galindo Street / Laguna Street	SSSC	AM PM	0 (15) 0 (15)	A (B) A (B)			0 (15) 0 (15)	A (B) A (B)	0 (15) 0 (15)	A (B) A (B)

Notes:
1. Signal = Signalized intersection, SSSC = side street stop controlled intersection
2. Signalized intersection level of service based on average intersection control delay (in seconds) according to the *Highway Capacity Manual* (Transportation Research Board, 2010). For side-street stop-controlled intersections, delay is reported as intersection average (worst case approach).
3. Periodic spillback of vehicle queues between intersections 2 through 4 can affect vehicle progression on Galindo Street and can result in worse service levels than presented here. MicroSimulation would be needed to fully quantity the effects of vehicle queue spillback on intersection operations.

Source: Fehr & Peers, January 2014.

TABLE 7
FUTURE INTERSECTION PEAK HOUR DELAY AND LEVELS OF SERVICE FOR VEHICLES

Location	Control[1]	Peak Hour	Future Conditions (including DSP development		Lane Changes		Signal Timing		Lane Changes + Signal Timing	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
1. Concord Avenue / Pacheco Street	Signal	AM PM	7 11	A B	7 11	A B	6 11	A B	6 11	A B
2. Galindo Street / Willow Pass Road [3]	Signal	AM PM	37 41	D D	55 51	D D	40 52	D D	39 47	D D
3. Galindo Street / Concord Boulevard [3]	Signal	AM PM	26 19	C B	41 24	D C	23 17	C B	27 21	C C
4. Galindo Street / Clayton Road [3]	Signal	AM PM	22 36	C D	22 36	C D	20 32	C C	21 32	C C
5. Galindo Street / Laguna Street / Oak Street	Signal	AM PM	22 16	C B			23 24	C C	22 24	C C
6. Fry Way / Clayton Road	Signal	AM PM	11 15	B B			11 14	B B	11 14	B B
7. Oakland Avenue / Clayton Road	Signal	AM PM	61 41	E D			40 34	D C	40 34	D C
8. Galindo Street / Laguna Street	SSSC	AM PM	0 (18) 0 (18)	A (B) A (B)			0 (18) 0 (18)	A (B) A (B)	0 (18) 0 (18)	A (B) A (B)

Notes:
1. Signal = Signalized intersection, SSSC = side street stop controlled intersection
2. Signalized intersection level of service based on average intersection control delay (in seconds) according to the *Highway Capacity Manual* (Transportation Research Board, 2010). For side-street stop-controlled intersections, delay is reported as intersection average (worst case approach).
3. Periodic spillback of vehicle queues between intersections 2 through 4 can affect vehicle progression on Galindo Street and can result in worse service levels than presented here. MicroSimulation would be needed to fully quantity the effects of vehicle queue spillback on intersection operations.

Source: Fehr & Peers, January 2014.

TABLE 8
EXISTING AND FUTURE WEEKDAY TRAFFIC VOLUMES

Roadway	Existing Daily Traffic Conditions					Future Daily Traffic Conditions				
	Average Daily Traffic [1]	Existing Configuration		Alternative Configuration		Average Traffic [2]	Existing Configuration		Alternative Configuration	
		Number of Lanes	Level of Service	Number of Lanes	Level of Service		Number of Lanes	Level of Service	Number of Lanes	Level of Service
1. Clayton Rd west of Grant St	15,400	5	D	4	D	20,020	5	D	4	D
2. Concord Blvd west of Grant St	17,200	5	D	4	D	22,360	5	D	4	D
3. Willow Pass Rd west of Grant St	20,700	4	D	2	F	26,910	4	D	2	F

Notes:
1. Average daily traffic measured over three weekdays.
2. Existing data increased by 30 percent to reflect future conditions with development in the Downtown Specific Plan area and adjacent areas.

Source: Fehr & Peers, January 2014.

VEHICLE MILES OF TRAVEL

The City of Concord adopted a Climate Action Plan (CAP) in 2013 which contains strategies and activities that the City and community can undertake to reduce greenhouse gas emissions produced within the City. As part of the plan preparation, estimates of the vehicle miles of travel (VMT) generated by land uses within the City of Concord were made for a 2005 baseline, 2020 and 2035 without implementation of CAP strategies (business as usual [BAU]). The estimates from the Climate Action Plan are summarized in **Table 9** and were prepared in consultation with City staff by a consultant team lead by ARUP. As documented in the CAP, the estimates were prepared using the CCTA travel demand model, which reflects the existing and planned level of development in Downtown Concord.

TABLE 9
VEHICLE MILES OF TRAVEL SUMMARY

Scenario	Total Citywide Annualized VMT[1]	Downtown Concord Uses (included in Citywide Total)	Downtown Concord as a Percentage of Citywide
Existing (2005)	873,600,000	137,200,000	16%
2020 BAU	907,600,000	142,100,000	16%
2035 BAU	1,290,000,000	142,100,000	11%

Source: City of Concord Citywide Climate Action Plan, March 2013, prepared by ARUP. Fehr & Peers, January 2014.

To assess the VMT generated by the land uses in the downtown area, Fehr & Peers used the CCTA model to calculate daily VMT for existing and potential uses in the downtown area. The daily estimate was converted into an annualized estimate for comparison purposes with the citywide totals, as shown in Table 9. As shown in Table 9, vehicle miles of travel are expected to increase as the City continues to grow. However, the percentage of VMT generated by uses in the downtown area is expected to decrease as a percentage of the citywide total due to redevelopment of the Naval Weapons Station which would increase the number of households and jobs in eastern Concord.

EFFECTS TO OTHER TRAVEL MODES

The DSP contains a number of goals and policies intended to enhance pedestrian, bicycle and transit circulation within and to the downtown area. Specific policies include eliminating the level of service standard for vehicles within the pedestrian priority zone, which would permit

enhancements to the pedestrian right-of-way that might degrade vehicle travel, such as widening sidewalks and providing curb extensions. Bicycle facilities will also be upgraded through the downtown area, including intersections enhancements such as bicycle detection at signalized intersections, additional bicycle parking within the public realm, and development and implementation of a citywide Bicycle Master Plan. A local circulator shuttle connecting the BART station to various destinations within the downtown area with transit stop enhancements will also be further evaluated for its feasibility to encourage greater transit usage through the Downtown area.

As the Downtown Specific Plan contains goals and policies that are aimed to improve pedestrian, bicycle and transit circulation in the downtown area, the impact to alternative travel modes is considered less than significant.

CONCLUSIONS

Results of the transportation assessment for the Downtown Specific Plan show that the land uses contemplated within the Plan Area are consistent with those envisioned within the General Plan. Assessment of intersections and roadway segments within the Plan Area indicates that with the proposed roadway network changes envisioned as part of the Specific Plan, automobile level of service would be maintained within the existing City level of service standard for the CBD, while enhancing travel for other modes.

This completes our assessment of transportation conditions for the Downtown Concord Specific Plan. Please call Kathrin if you have questions.

Attachments:

Figure 1	Downtown Specific Plan Boundary
Figure 2	Existing Roadway Network
Figure 3	Existing Transit Network
Figure 4	Existing and Planned Bicycle Network
Figure 5	Existing Peak Hour and Daily Traffic Volumes
Figure 6	Future Peak Hour and Daily Traffic Volumes
Attachment A	Level of Service Analysis Methods
Attachment B	MXD+ Methodology
Attachment C	Evaluation of the Conversion of Harrison/Bonifacio and Pacheco at Concord Avenue from One-Way to Two-Way Travel (December 2, 2013)
Attachment D	Level of Service Worksheets

ATTACHMENT A – LEVEL OF SERVICE ANALYSIS METHODS

The operations of roadway facilities are described with the term "level of service" (LOS). LOS is a qualitative description of traffic flow from a vehicle driver's perspective based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels of service are defined ranging from LOS A (best vehicle progression) to LOS F (worst vehicle progression). LOS E corresponds to operations "at capacity." When volumes exceed capacity, stop-and-go conditions result and operations are designated as LOS F. Within the SPA, LOS E conditions for vehicles is acceptable – as documented in *Concord 2030 Urban Area General Plan* – since maintaining a higher level of service for vehicles could degrade the roadway system for other users, including pedestrians.

Traffic conditions at the study intersections were evaluated using the Synchro 8.0 software package, which analyzes intersections based on procedures described in the 2010 *Highway Capacity Manual* (HCM). The HCM method calculates control delay at an intersection based on inputs such as traffic volumes, lane geometry, signal phasing and timing, pedestrian crossing times, and peak hour factors. Control delay is defined as the delay directly associated with the traffic control device (i.e., a stop sign or a traffic signal) and specifically includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. These delay estimates are considered meaningful indicators of driver discomfort and frustration, fuel consumption, and lost travel time. The relationships between LOS and control delay for signalized and unsignalized intersections are described in **Table A-1** and **Table A-2**.

For roadway segments, the volume on each roadway was compared to thresholds identified in the *Concord 2030 Urban Area General Plan: Draft Environmental Impact Report*. Thresholds applied to the roadway segments in this assessment are shown in **Table A-3**.

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TABLE A-1:
SIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Delay in Seconds
A	Progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	< 10.0
B	Progression is good, cycle lengths are short, or both. More vehicles stop than with LOS A, causing higher levels of average delay.	> 10.0 to 20.0
C	Higher congestion may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, though many still pass through the intersection without stopping.	> 20.0 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression and long cycle lengths. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	> 35.0 to 55.0
E	This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression and long cycle lengths. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0
F	This level is considered unacceptable with oversaturation, which is when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be contributing factors to such delay levels.	> 80.0

Source: *2010 Highway Capacity Manual*, Technical Procedures, Contra Costa Transportation Authority, 2012.

TABLE A-2:
UNSIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Delay in Seconds
A	Little or no delays	≤ 10.0
B	Short traffic delays	> 10.0 to 15.0
C	Average traffic delays	> 15.0 to 25.0
D	Long traffic delays	> 25.0 to 35.0
E	Very long traffic delays	> 35.0 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

Source: 2010 *Highway Capacity Manual.*

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TABLE A-3:
ANNUAL AVERAGE DAILY VOLUMES FOR SERVICE LEVELS ON ROADWAY SEGMENTS

Class IV (more than 4.5 signalized intersections per mile and within primary City central business district)					
Lanes	**Divided**	**Level of Service**			
		A/B	**C**	**D**	**E**
2	Undivided	--	5,200	13,700	15,000
4	Divided	--	12,300	30,300	31,700
5	Divided	--	15,700	38,050	39,650
6	Divided	--	19,100	45,800	47,600
8	Divided	--	25,900	59,900	62,200

Source: Table 3.3-5 of *Concord 2030 Urban Area General Plan: Draft Environmental Impact Report* and http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/QLOStables2002.pdf.

ATTACHMENT B – MXD+ METHODOLOGY

Current accepted methodologies, such as the Institute of Transportation Engineers (ITE) T*rip Generation* methodology, are primarily based on data collected at suburban, single-use, freestanding sites. These defining characteristics limit their applicability to mixed-use or multi-use development projects, such as the East Pleasanton Specific Plan area. The land use mix, design features, and setting of the East Pleasanton Specific Plan would include characteristics that influence travel behavior differently from typical single-use suburban developments. Thus, traditional data and methodologies, such as ITE, would not accurately estimate the project vehicle trip generation. In response to the limitations in the ITE methodology, and to provide a straightforward and empirically validated method of estimating vehicle trip generation at mixed-use developments, the US Environmental Protection Agency (EPA) sponsored a national study of the trip generation characteristics of multi-use sites. Travel survey data was gathered from 239 mixed-use developments (MXDs) in six major metropolitan regions, and correlated with the characteristics of the sites and their surroundings. The findings indicate that the amount of external traffic generated is affected by a wide variety of factors, each pertaining to one or more of the following characteristics:

- **The relative numbers of residents and jobs on the site** – the better the site jobs/ housing balance, the greater the proportion of commute trips that remain internal.
- **The amount of retail and service use on the site relative to the number of residences** – the greater the degree to which retail and service opportunities match the needs generated by site residents, the greater the internalization of household-generated shopping, personal services and entertainment travel.
- **The amount of retail and service use relative to the number of employees** – the better the balance of employee-oriented retail and service opportunities, the greater the internal capture of lunchtime and after-work dining, shopping and errands by site employees.
- **The overall size of the development** – the larger the scale of the development in terms of acreage and total amounts of residential and commercial use, the greater the likelihood that travel destinations can be satisfied within the site as a whole.
- **The density of development** – the greater the concentration of dwellings and commercial space per acre, the greater the likelihood that the interacting land uses will be near enough together to encourage walking or short-distance internal driving.
- **The internal connectivity for walking or driving among different activities** – measured in terms of the ratio of intersections to total land area within the site directly influences trip internalization and the number of trips made by walking instead of driving.

- **The availability of transit** – the greater the number of jobs within a reasonable travel time via transit, the greater the share of travel likely to occur by transit, and the lower the traffic generation.
- **The number of convenient trip destinations within the immediate area** – the number of retail and other jobs in neighborhoods immediately surrounding the multi-use site reduces the amount of walking to/from the site and reduce traffic generation.

These characteristics were related statistically to the trip behavior observed at the study development sites using Hierarchical Linear Modeling (HLM) techniques. This quantified relationships between characteristics of the MXDs and the likelihood that trips generated by those MXDs will stay internal and/or use modes of transportation other than the private vehicle. These statistical relationships produced equations, known as the EPA MXD model, that allows predicting external vehicle trip reduction as a function of the MXD characteristics. Applying the external vehicle trip reduction percentage to "raw trips", as predicted by ITE, produces an estimate for the number of vehicle trips traveling in or out of the site.

Validation of MXD+ model

Since the conclusion of the EPA sponsored study, Fehr & Peers has been actively enhancing the MXD model to improve sensitivity to various site characteristics, improve peak hour performance, and continue to validate the model against MXDs where data is available.

A set of 27 independent MXD sites across the country that were not included in the initial model development have been tested to validate the model. These sites represent locations where it is expected that traditional data and methodologies, such as ITE, would not accurately estimate the Project vehicle trip generation. **Table B-1** presents the performance of the MXD model against ITE and ITE internalization procedures. Based on all statistical measurements, the MXD model performs better than the ITE recommended procedures for these types of sites.

The MXD model has been approved for use by the EPA[5]. It has also been peer-reviewed in the ASCE Journal of Urban Planning and Development[6], peer-reviewed in a 2012 TRB paper evaluating various smart growth trip generation methodologies[7], recommended by SANDAG for use on mixed-use smart

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[5] Trip Generation Tool for Mixed-Use Developments (2012). www.epa.gov/dced/mxd_tripgeneration.html

[6] "Traffic Generated by Mixed-Use Developments—Six-Region Study Using Consistent Built Environmental Measures." Journal of Urban Planning and Development, 137(3), 248–261.

[7] Shafizadeh, Kevan et al. "Evaluation of the Operation and Accuracy of Available Smart Growth Trip Generation Methodologies for Use in California". Presented at 91st Annual Meeting of the Transportation Research Board, Washington, D.C., 2012.

growth developments[8], promoted in an American Planning Association (APA) Planning Advisory Service (PAS)[9] which recommended it for evaluating traffic generation of mixed-use and other forms of smart growth, including in-fill and transit oriented development. It has also been used successfully in multiple certified EIRs in California (see **Table B-2**).

TABLE B-1
MXD+ MODEL
VALIDATION STATISTICS COMPARISON

Validation Statistic	ITE raw	ITE with internalization	MXD+ model
Daily			
Average Model Error[1]	28%	16%	**2%**
% RMSE[2]	40%	27%	**17%**
R-Squared[3]	0.77	0.89	**0.96**
AM Peak Hour			
Average Model Error	54%	49%	**12%**
% RMSE	54%	53%	**21%**
R-Squared	0.81	0.81	**0.97**
PM Peak Hour			
Average Model Error	49%	35%	**4%**
% RMSE	64%	49%	**15%**
R-Squared	0.40	0.65	**0.97**

1. Average model error measures the difference between the estimated trip generation and the counted trip generation of the 28 survey sites.
2. RMSE stands for percent root mean squared error is a demand assessment of performance of transportation models in that it does not apply average that would allow over-estimates and under-estimates to cancel one another out and it penalizes proportionally more for large errors. A % RMSE of less than 40% is generally considered acceptable in transportation modeling.
3. R-squared is a statistical measure that indicates, in this case, the degree to which each method explains the variation in trip generation among the 27 survey sites. A R-Squared value closer to 1.0 indicates that the method fully explains the variation in trip generation amongst the survey sites and would be suitable to be used for that set of site types.

Source: Fehr & Peers, 2013.

[8] SANDAG Smart Growth Trip Generation and Parking Study. http://www.sandag.org/index.asp?projectid=378&fuseaction=projects.detail

[9] Walters, Jerry et al. "Getting Trip Generation Right – Eliminating the Bias Against Mixed Use Development". American Planning Association. May 2013.

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TABLE B-2
CERTIFIED EIRS USING MXD+ (4Ds) MODEL

Name	Date Published	Jurisdiction	Description	% Reduction
Treasure Island DEIR[1]	July 2010	City of San Francisco	8,000 DUs 140,000 SF retail 100,000 SF office 311,000 SF commercial flex 274,000 SF other	56-61% reduction
Candlestick Point / Hunters Point DEIR[2]	November 2009	City of San Francisco	10,500 DUs 885,000 SF retail 2,650,000 SF office/R&D	44-50% reduction
Parkmerced DEIR[3]	May 2010	City of San Francisco	8,900 DUs 230,000 SF retail 105,000 SF office 164,000 SF other	34-38% reduction
Fairfield Train Station DEIR[4]	December 2010	City of Fairfield	6,790 DUs 150,000 SF retail	25% reduction
Redwood City Downtown Precise Plan DEIR[5]	August 2010	Redwood City	2,500 DUs 221,000 SF retail 275,000 SF office	21-29% reduction
Pittsburg/Bay Point BART Station Master Plan DEIR[6]	June 2011	City of Pittsburg	1,168 DU 95,000 SF retail 50,000 SF office	26-32% reduction
Newhall Ranch Draft EIS/EIR[7]	April 2009	Los Angeles County U.S. Army Corps of Engineers	21,000 DUs 5,500,000 SF commercial	29-33% reduction
Broadway-Valdez District Specific Plan	Published September 2013	City of Oakland	1,796 DUs 1,118,345 SF retail 694,730 SF office 180 Hotel rooms	27-34% reduction
Coliseum City Specific Plan	On-going	City of Oakland	4,102 DUs 506,500 SF retail 6,028,700 SF office/R&D 260 Hotel rooms	37-45% reduction

1. http://sfplanning.org/index.aspx?page=1828#2007_0903E
2. http://sfplanning.org/index.aspx?page=1828#2007_0946E
3. http://sfplanning.org/index.aspx?page=1828#2008_0021E
4. http://www.fairfield.ca.gov/gov/depts/cd/planning/train_station_deir.asp
5. http://www.redwoodcity.org/phed/planning/precise/FINAL-DTPP/EIR.htm
6. http://www.ci.pittsburg.ca.us/index.aspx?page=225
7. http://www.dfg.ca.gov/regions/5/newhall/final/

Source: Fehr and Peers, 2013.

Table B-3 summarizes the input values and data sources for the MXD model for the Downtown Concord Specific Plan.

TABLE B-3
DOWNTOWN CONCORD
MXD+ MODEL INPUTS

Input Variable	Proposed Project	Source
MXD specific inputs		
Project Area (Acres)	618	Specific Plan
Intersections per Square Mile	136	Existing Network
Transit Available at Site	Yes	Project site plan
Average Household Size for Multi-Family Units within and near the Project site	2.5	Specific Plan Existing Conditions Report
Average Vehicles Owned per Dwelling Unit within / near the Project site	1.00/1.70	ACS 5-Year Estimate
Employment within 1 mile of Project site	66,200	MTC and Alameda CTC Travel Demand Models
Employment within a 30 minute trip by transit	75,000	MTC and Alameda CTC Travel Demand Models
Total Regional Employment	3,498,590	MTC and Alameda CTC Travel Demand Models
Land Use Inputs		
Single Family (Dwelling Units)	1,354	Specific Plan
Multi Family (Dwelling Units)	6,388	Specific Plan
Townhouse (Dwelling Units)	518	Specific Plan
Retail (SF)	1,210,000	Specific Plan
Office (SF)	3,868,000	Specific Plan
Light Manufacturing (SF)	170,000	CCTA Model
Warehouse (SF)	369,000	CCTA Model

Source: Fehr & Peers, 2013.

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Attachment C – Evaluation of the Conversion of Harrison/Bonifacio and Pacheco at Concord Avenue from One-Way to Two-Way Travel

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MEMORANDUM

Date: December 2, 2013

To: Ray Kuzbari, City of Concord

From: Kathrin Tellez

Subject: Evaluation of the Conversion of Harrison/Bonifacio and Pacheco at Concord Avenue from One-Way to Two-Way Travel

WC13-3083

Fehr & Peers evaluated the potential to convert Harrison Street/Bonifacio Street and Pacheco Street at Concord Avenue from one-way to two-way operations (Project). The Project was suggested during development of the Downtown Concord Specific Plan, with the goal of improving the connectivity within the Plan area for all modes of travel. This memo presents the assessment of intersection operations for all travel modes, without and with the Project, summarizes potential benefits and disadvantages for all travel modes, and identifies potential intersection modifications that would be recommended with the Project.

The following summarizes the study area and data collection, analysis methods, analysis results, benefits and disadvantages for all travel modes, and conclusions.

STUDY AREA AND DATA COLLECTION

Concord Avenue is a four to six lane arterial roadway that connects State Route 242 with Downtown Concord, where it continues as Galindo Street. It provides for not only regional through travel, but also accommodates trips within the Downtown area. Traffic signals are coordinated along Concord Avenue and generally operate on 120 second cycle lengths. At Concord Avenue, Harrison Street/Bonifacio Street and Pacheco Street form a one-way couplet system, with Harrison Street/Bonifacio Street providing westbound travel and Pacheco Street provides eastbound travel. **Figure 1** displays the study area.

Weekday evening (4:00 to 6:00 PM) peak period intersection turning movement counts were conducted at the Concord Avenue at Pacheco Street intersection, including counts of pedestrians and bicyclists, in May 2013. Older counts traffic counts at the Harrison Street/Bonifacio Street

intersection were used to determine side-street movements at that intersection, and were balanced with the more recent through counts at the Pacheco Street intersection for through volumes on Concord Avenue. The peak hour on Concord Avenue is generally between 5:00 PM to 6:00 PM. **Figure 2** displays the existing intersection volumes in addition to bicycle and pedestrian volumes at the two study intersections.

To estimate conditions with Harrison Street/Bonifacio Street and Pacheco Street converted from one-way to two-way operations, traffic volumes turning to/from each street were reassigned to the roadway network. For this analysis, it was assumed that turning movement demand would evenly distribute between the two intersections; for example, half of the existing demand for the southbound left turn at Pacheco Street would turn left at Bonifacio Street with the Project. The resulting turn movement volumes were then increased by 25 percent as increased mobility might change some driver's travel behavior through the corridor. The resulting volumes used in the analysis are also shown on Figure 2.

ANALYSIS METHODOLOGY

The operations of roadway facilities are described with the term "level of service" (LOS). LOS is a qualitative description of traffic flow from a vehicle driver's perspective based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels of service are defined ranging from LOS A (best vehicle progression) to LOS F (worst vehicle progression). LOS E corresponds to operations "at capacity." When volumes exceed capacity, stop-and-go conditions result and operations are designated as LOS F. Within the Downtown Concord area, LOS E conditions for vehicles is acceptable – as documented in *Concord 2030 Urban Area General Plan* – since maintaining a higher level of service for vehicles could degrade the roadway system for other users, including pedestrians.

Traffic conditions at the study intersections were evaluated using the Synchro 8.0 software package, which analyzes intersections based on procedures described in the 2010 *Highway Capacity Manual* (HCM). The HCM method calculates control delay at an intersection based on inputs such as traffic volumes, lane geometry, signal phasing and timing, pedestrian crossing times, and peak hour factors. Control delay is defined as the delay directly associated with the traffic control device (i.e., a stop sign or a traffic signal) and specifically includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. These delay estimates are considered meaningful indicators of driver discomfort and frustration, fuel consumption, and lost travel time. The relationships between LOS and control delay for vehicles at signalized intersections are described in **Table 1**.

TABLE 1
SIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Delay in Seconds
A	Progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	< 10.0
B	Progression is good, cycle lengths are short, or both. More vehicles stop than with LOS A, causing higher levels of average delay.	> 10.0 to 20.0
C	Higher congestion may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, though many still pass through the intersection without stopping.	> 20.0 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression and long cycle lengths. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	> 35.0 to 55.0
E	This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression and long cycle lengths. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0
F	This level is considered unacceptable with oversaturation, which is when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be contributing factors to such delay levels.	> 80.0

Source: *2010 Highway Capacity Manual*, Technical Procedures, Contra Costa Transportation Authority, 2012.

To evaluate pedestrian and bicycle operations through the intersection, the average delay for bicyclists and pedestrians traveling through the intersection was calculated using methods consistent with the 2010 HCM. These calculations were supplemented by a qualitative assessment of the pedestrian and bicycle experience through the intersection.

ANALYSIS RESULTS

Intersection operations were evaluated for vehicles, bicycles and pedestrians for the existing and with Project conditions. Preliminary analysis was conducted assuming that the east-west movements would operate with split phasing, where eastbound and westbound movements are served by separate signal phases. With this phasing, two-way operations would increase the minimum cycle length, require retiming of intersections along the entire Concord Avenue corridor, and would increase pedestrian and bicycle delay. This was not considered a desirable outcome of the Project. Enhancements at each intersection that would be necessary to convert

the streets to two-way travel, without degrading bicycle and pedestrian travel were developed as summarized in **Table 2** and depicted on **Figure 3**.

TABLE 2
RECOMMENDED INTERSECTION MODIFICATIONS
WITH ONE-WAY TO TWO-WAY CONVERSION

Intersection Component	Concord at Bonifacio/Harrison	Concord at Pacheco
Geometry	• Remove southbound u-turn median opening • Add southbound left and u-turn lane • Remove part of pedestrian island on north crosswalk • Remove one westbound thru lane • Add eastbound lanes (one shared right-thru lane and one left turn pocket)	• Remove one southbound left lane • Add westbound lanes (one shared right-thru and one left-turn only) • Add eastbound left-turn lane (may require widening of Adobe Street) • Add crosswalk to northern leg • Stipe outside southbound lane to accommodate through and right-turn movements
Left-turn Signal Phasing	• Protected left turn phasing for all movements	• Protected left turn phasing for southbound left, eastbound left, and westbound left (northbound left-turn movements would not be accommodated)
Signal Timing	• Actuated-coordinated with 120 second cycle length • No adjustments to pedestrian phasing/clearance time	• Actuated-coordinated with 120 second cycle length • Adjust pedestrian clearance time to accommodate crossing in one stage

Source: Fehr & Peers, 2013

Intersection operations were then evaluated with the volumes presented on Figure 2, and the intersection enhancements described above. Intersection evaluation results are presented in **Table 3** for the Harrison Street/Bonifacio Street intersection and **Table 4** for the Pacheco Street intersection with Concord Avenue.

TABLE 3
CONCORD AVENUE/ HARRISON STREET/BONIFACIO STREET OPERATIONS

Mode	Existing			Existing Plus Project	
	Movement	Delay[1] (sec)	Demand	Delay (sec)	Demand
Vehicle	Intersection Average	18/LOS B	3,070	21/LOS C	3,248
	Westbound	29/LOS C		39/LOS D	
	Eastbound	N/A		40/LOS D	
	Northbound	14/LOS B		15/LOS B	
	Southbound	21/LOS C		23/LOS C	
Bicycle	Intersection Average	17	25	20	25
Pedestrian	Intersection Average	71	55	71	55

Notes:
1. Vehicle delay exactly follows Highway Capacity Manual 2010 methodology; bicycle and pedestrian delay estimated with a modified HCM 2010 methodology

Vehicles and bicyclists experience an average delay of less than 20 seconds at the Bonifacio Street/Concord Avenue intersection, while pedestrians can experience over a minute of delay. With the Project, bicycle and vehicle delay would increase slightly given the additional signal phases, and pedestrian delay would stay the same for Concord/Bonifacio because cycle length and pedestrian clearance times would not change with the Project.

Although average delay for bicyclists has been shown to marginally change with the Project, converting the streets from one-way to two-way travel would have the potential to decrease circuitous travel for bicyclist and reduce delay for bicyclists traveling against the vehicle flow. Bicyclists traveling in the opposite direction of vehicles on Harrison Street, for example, are only able to travel across Concord Avenue at the same time as pedestrians. If a pedestrian had not activated the signal, the bicyclist would need to enter the sidewalk area to activate the pedestrian crossing. In this instance, a bicyclist would experience delays at a similar level to pedestrian delay. Although there is a low instance of this movement occurring, the facility design is likely discouraging potential bicycle travel through the area.

TABLE 4
CONCORD AVENUE/PACHECO STREET OPERATIONS

Mode	Existing			Existing Plus Project	
	Movement	Delay[1] (sec)	Demand	Delay (sec)	Demand
Vehicle	Intersection Average	7/LOS A	2,820	17/LOS B	2,990
	Westbound	N/A		32/LOS C	
	Eastbound	49/LOS D		40/LOS D	
	Northbound	6/LOS A		18/LOS B	
	Southbound	6/LOS A		15/LOS B	
Bicycle	Intersection Average	6	20	16	20
Pedestrian	Intersection Average	81	60	59	60

Notes:
1. Vehicle delay exactly follows Highway Capacity Manual 2010 methodology; bicycle and pedestrian delay estimated with a modified HCM 2010 methodology

Vehicles and bicyclists experience an average delay of less than 10 seconds at the Pacheco Street/Concord Avenue intersection, while pedestrians can experience over a minute of delay. With the Project, bicycle and vehicle delay would increase slightly given the additional signal phases, and pedestrian delay would decrease with the addition of a crosswalk on the northern leg and removal of the two-stage crossing on the southern leg. The skewed crossing increases overall pedestrian crossing distance and results in a two stage crossing, which can significantly increase pedestrian crossing time. Realigning the crosswalk would potentially reduce the overall crossing distance by about 20 feet, and decrease the total crossing time by about six seconds. Although this is a relatively modest decrease, it would enhance pedestrian connectivity in the downtown area.

BENEFITS AND DISADVANTAGES OF TWO-WAY OPERATIONS

Conversion from one-way to two-way operations provides benefits and disadvantages not captured in an analysis of average intersection delay. This section summarizes some of the

benefits and disadvantages to the travel modes analyzed in this memo, as well as to transit riders and general land use effects.

One-way couplets, two parallel streets each serving one travel direction, are roadway network alignments that maximize vehicle throughput and can improve vehicle safety. They have been implemented in many locations where right-of-way is constrained and roadway widening to provide increased vehicle capacity is not feasible. As a consequence, vehicle trips are often indirect and adjacent land uses are not readily accessed. There are also disadvantages to pedestrians, who are adversely affected by potentially high vehicle speeds and auto-dominant environments. There has been a movement in many cities to convert one-way street networks to two-way travel, but there are benefits and disadvantages associated with network conversion, as summarized in **Table 5** for each travel mode.

TABLE 5
TWO-WAY TRAVEL DISADVANTAGES AND ADVANTAGES

Mode	Disadvantage of Two-Way Conversion	Advantage of Two-Way Conversion
Vehicles	• Higher trip serving capacity in a one-way street network • Increased number of vehicle conflict points at the intersection • Reduced vehicle speeds for drivers traveling through downtown • Increased average intersection delay • Constrained right-of-way could affect intersection design	• More direct routing between origins and destination; lower VMT • Less circulation in the area • Reduced driver confusion
Bicyclists	• Increased number of vehicle/bicycle conflict points at intersection • Increased average intersection delay	• More direct routing between origins and destinations • Slower vehicle speeds could improve bicycling environment • Decreased delay for some movements
Pedestrians	• Increased number of pedestrian/vehicle conflict points at intersection • Change in pedestrian delay depends on geometric changes accompanying two-way conversion	• Decreased vehicle speeds could improve walking environment • Potential for decreased delay with changes to signal timing, additional crossing locations, reduced crossing distance
Bus Riders	• Could increase travel time along transit corridors	• Bus stops in both directions are on the same street; less rider confusion • Potential for more direct bus routing

TABLE 5
TWO-WAY TRAVEL DISADVANTAGES AND ADVANTAGES

Mode	Disadvantage of Two-Way Conversion	Advantage of Two-Way Conversion
Land Use	• Land uses and access locations may be designed for one-way travel and conversion is best considered with land use and other roadway network changes	• Higher accessibility and visibility from adjacent roadway system

Sources:
Fehr & Peers, 2013
Gayah, V. Two-Way Street Networks: More Efficient than Previously Thought? Access, 2012
Stemley, J. One-Way Streets Provide Superior Safety and Convenience. ITE Journal, August 1998

CONCLUSION

Analysis results indicate that conversion from one-way to two-way travel would not result in significantly worsened travel through the corridor for vehicles and would enhance bicycle and pedestrian accessibility within the area. However, given the extensive intersection reconstruction that would be required to avoid worsening conditions for pedestrians, these changes might be better considered as a long-term improvement to be implemented with other land use and network changes in the area. Alternative improvements that could enhance pedestrian and bicycle connectivity in the near-term include:

- Reduce cycle lengths along Concord Avenue/Galindo Street and throughout the Downtown area to decrease pedestrian wait time at all signalized intersection. This could be implemented in conjunction with restriping Concord Avenue/Galindo Street to convert some right-turn only lanes to through-right shared lanes which could reduce the potential for vehicle queue spillback through the corridor with reduced cycle lengths
- Contraflow bike lanes on Harrison Street and Bonifacio Street if bicycle facilities are installed on these roadways, with signal modifications to improve bicycle connectivity across Concord Avenue
- Road diet (elimination of a travel lane) on Harrison Street and Bonifacio Street

This concludes our preliminary assessment of the potential conversion of Harrison Street/Bonifacio Street and Pacheco Street at Concord Avenue from one-way to two-way operations. Please call Kathrin if you have questions.

Attachments:

Figure 1 Study Area
Figure 2 Before and After Intersection Volumes and Lane Configurations
Figure 3 Potential Modifications with Two-Way Operations

Figure 1.

Study Area

WC13-3083_1_StudyArea

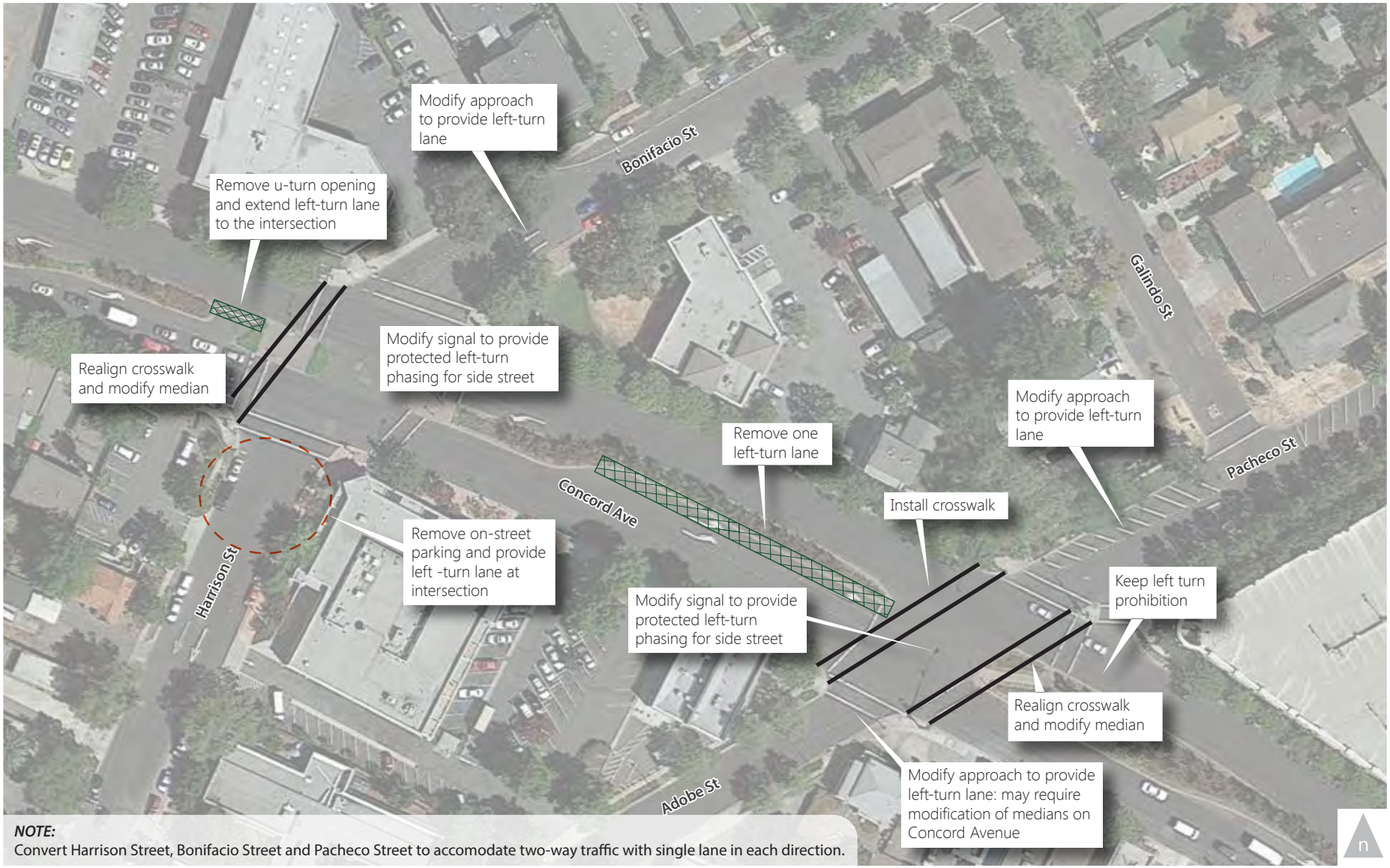
FEHR PEERS

Figure 2.

Before and After Intersection Volumes and Lane Configurations

WC13-3083_2_Vols

FEHR PEERS



NOTE:
Convert Harrison Street, Bonifacio Street and Pacheco Street to accomodate two-way traffic with single lane in each direction.

Figure 3.

Potential Modifications with Two-Way Operations

WC13-3083_3_TwoWayMod

FEHR PEERS

FEHR PEERS

Attachment D – Level of Service Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	16	6	0	0	0	0	1347	72	68	736	7
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				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
Adj Sat Flow, veh/h/ln	190.0	184.5	190.0				0.0	184.5	190.0	181.0	181.0	190.0
Adj Flow Rate, veh/h	16	18	1				0	1497	0	76	818	8
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	3	0				0	3	3	5	5	5
Cap, veh/h	45	51	3				0	3764	0	183	4259	42
Arrive On Green	0.06	0.06	0.06				0.00	0.75	0.00	0.05	0.84	0.84
Sat Flow, veh/h	819	922	51				0	5368	0	3343	5044	49
Grp Volume(v), veh/h	35	0	0				0	1497	0	76	534	292
Grp Sat Flow(s),veh/h/ln	1792	0	0				0	1679	0	1672	1647	1800
Q Serve(g_s), s	1.8	0.0	0.0				0.0	10.1	0.0	2.1	2.9	2.9
Cycle Q Clear(g_c), s	1.8	0.0	0.0				0.0	10.1	0.0	2.1	2.9	2.9
Prop In Lane	0.46		0.03				0.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	99	0	0				0	3764	0	183	2781	1520
V/C Ratio(X)	0.35	0.00	0.00				0.00	0.40	0.00	0.42	0.19	0.19
Avail Cap(c_a), veh/h	388	0	0				0	3764	0	741	2781	1520
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.81	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	0.0	0.0				0.0	4.3	0.0	43.3	1.4	1.4
Incr Delay (d2), s/veh	2.1	0.0	0.0				0.0	0.3	0.0	1.5	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0				0.0	4.7	0.0	1.0	1.3	1.5
LnGrp Delay(d),s/veh	45.2	0.0	0.0				0.0	4.6	0.0	44.8	1.5	1.7
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		35						1497			902	
Approach Delay, s/veh		45.2						4.6			5.2	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		100.3		9.7	9.2	91.1		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		80.0		20.5	21.0	55.0		
Max Q Clear Time (g_c+I1), s		4.9		3.8	4.1	12.1		
Green Ext Time (p_c), s		36.0		0.0	0.2	26.9		

Intersection Summary	
HCM 2010 Ctrl Delay	5.4
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	233	49	162	651	232	95	1101	104	79	596	21
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		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
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	188.1	188.1	188.1	184.5	184.5	190.0	182.7	182.7	182.7
Adj Flow Rate, veh/h	53	253	48	176	708	172	103	1197	113	86	648	23
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	2	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, %	2	2	2	1	1	1	3	3	3	4	4	4
Cap, veh/h	210	689	129	412	1030	450	133	1933	182	111	1396	622
Arrive On Green	0.03	0.23	0.23	0.09	0.29	0.29	0.08	0.41	0.41	0.02	0.13	0.13
Sat Flow, veh/h	1774	2971	555	1792	3574	1561	1757	4674	441	1740	3471	1546
Grp Volume(v), veh/h	53	149	152	176	708	172	103	860	450	86	648	23
Grp Sat Flow(s),veh/h/ln	1774	1770	1756	1792	1787	1561	1757	1679	1758	1740	1736	1546
Q Serve(g_s), s	2.0	6.3	6.5	6.4	15.7	7.9	5.2	18.1	18.1	4.4	15.4	1.2
Cycle Q Clear(g_c), s	2.0	6.3	6.5	6.4	15.7	7.9	5.2	18.1	18.1	4.4	15.4	1.2
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	210	410	407	412	1030	450	133	1388	727	111	1396	622
V/C Ratio(X)	0.25	0.36	0.37	0.43	0.69	0.38	0.78	0.62	0.62	0.77	0.46	0.04
Avail Cap(c_a), veh/h	309	653	648	412	1318	576	373	1388	727	272	1396	622
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80	0.99	0.99	0.99
Uniform Delay (d), s/veh	25.6	28.8	28.9	21.9	28.3	25.5	40.6	20.7	20.7	43.1	29.9	23.7
Incr Delay (d2), s/veh	0.6	0.5	0.6	0.7	1.0	0.5	7.6	1.7	3.2	10.6	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	1.0	3.2	3.2	3.2	7.9	3.4	2.8	8.7	9.4	2.5	7.7	0.5
LnGrp Delay(d),s/veh	26.2	29.4	29.5	22.6	29.3	26.0	48.2	22.3	23.8	53.7	31.0	23.8
LnGrp LOS	C	C	C	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		354			1056			1413			757	
Approach Delay, s/veh		28.9			27.7			24.7			33.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	25.7	10.8	61.5	7.0	30.8	9.7	62.5
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	33.0	19.0	32.0	8.0	33.0	14.0	37.0
Max Q Clear Time (g_c+I1), s	8.4	8.5	7.2	17.4	4.0	17.7	6.4	20.1
Green Ext Time (p_c), s	0.0	8.1	0.2	10.7	0.0	6.5	0.1	12.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	249	1095	450	166	884	0	0	740	76
Number				7	4	14	1	6	16	5	2	12
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		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				184.5	184.5	184.5	182.7	182.7	0.0	190.0	181.0	181.0
Adj Flow Rate, veh/h				259	1141	295	173	921	0	0	771	50
Adj No. of Lanes				1	3	1	2	2	0	0	3	1
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	3	3	4	4	0	5	5	5
Cap, veh/h				509	1458	444	248	2139	0	0	2484	769
Arrive On Green				0.29	0.29	0.29	0.07	0.62	0.00	0.00	1.00	1.00
Sat Flow, veh/h				1757	5036	1532	3375	3563	0	0	5103	1530
Grp Volume(v), veh/h				259	1141	295	173	921	0	0	771	50
Grp Sat Flow(s),veh/h/ln				1757	1679	1532	1688	1736	0	0	1647	1530
Q Serve(g_s), s				12.4	20.9	17.1	5.0	14.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				12.4	20.9	17.1	5.0	14.0	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				509	1458	444	248	2139	0	0	2484	769
V/C Ratio(X)				0.51	0.78	0.67	0.70	0.43	0.00	0.00	0.31	0.07
Avail Cap(c_a), veh/h				672	1927	586	671	2139	0	0	2484	769
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.94	0.94	0.00	0.00	0.89	0.89
Uniform Delay (d), s/veh				29.8	32.8	31.5	45.5	10.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.8	1.6	1.8	3.3	0.6	0.0	0.0	0.3	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
%ile BackOfQ(50%),veh/ln				6.1	9.9	7.4	2.5	6.8	0.0	0.0	0.1	0.0
LnGrp Delay(d),s/veh				30.6	34.4	33.2	48.8	10.7	0.0	0.0	0.3	0.1
LnGrp LOS				C	C	C	D	B			A	A
Approach Vol, veh/h					1695			1094			821	
Approach Delay, s/veh					33.6			16.7			0.3	
Approach LOS					C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	11.4	65.0		33.6		76.4		
Change Period (Y+Rc), s	4.0	5.0		4.5		5.0		
Max Green Setting (Gmax), s	20.0	38.0		38.5		62.0		
Max Q Clear Time (g_c+I1), s	7.0	2.0		22.9		16.0		
Green Ext Time (p_c), s	0.4	17.0		6.2		18.8		

Intersection Summary	
HCM 2010 Ctrl Delay	20.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	134	731	153	0	0	0	0	908	111	254	733	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	182.7	182.7				0.0	182.7	182.7	182.7	182.7	0.0
Adj Flow Rate, veh/h	154	840	113				0	1044	91	292	843	0
Adj No. of Lanes	0	4	1				0	4	1	2	2	0
Peak Hour Factor	0.87	0.87	0.87				0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	4	4				0	4	4	4	4	0
Cap, veh/h	225	1335	353				0	2756	661	585	2301	0
Arrive On Green	0.24	0.24	0.24				0.00	0.44	0.44	0.35	1.00	0.00
Sat Flow, veh/h	937	5556	1469				0	6540	1507	3375	3563	0
Grp Volume(v), veh/h	293	701	113				0	1044	91	292	843	0
Grp Sat Flow(s),veh/h/ln	1780	1571	1469				0	1571	1507	1688	1736	0
Q Serve(g_s), s	14.6	13.0	6.2				0.0	11.0	3.5	6.7	0.0	0.0
Cycle Q Clear(g_c), s	14.6	13.0	6.2				0.0	11.0	3.5	6.7	0.0	0.0
Prop In Lane	0.53		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	428	1132	353				0	2756	661	585	2301	0
V/C Ratio(X)	0.68	0.62	0.32				0.00	0.38	0.14	0.50	0.37	0.00
Avail Cap(c_a), veh/h	644	1706	532				0	2756	661	585	2301	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.93	0.93	0.93	0.93	0.00
Uniform Delay (d), s/veh	33.9	33.2	30.7				0.0	18.5	16.4	28.7	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.6	0.5				0.0	0.4	0.4	0.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	5.7	5.5				0.0	4.8	1.5	3.1	0.1	0.0
LnGrp Delay(d),s/veh	35.8	33.8	31.2				0.0	18.9	16.9	29.3	0.4	0.0
LnGrp LOS	D	C	C					B	B	C	A	
Approach Vol, veh/h		1107						1135			1135	
Approach Delay, s/veh		34.1						18.7			7.8	
Approach LOS		C						B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		81.9		28.1	33.9	48.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		65.0		35.5	17.0	* 43		
Max Q Clear Time (g_c+I1), s		2.0		16.6	8.7	13.0		
Green Ext Time (p_c), s		9.1		0.0	4.3	9.2		

Intersection Summary	
HCM 2010 Ctrl Delay	20.1
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	9	54	8	59	28	94	26	911	85	104	823	30
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3	181.0	181.0	181.0	182.7	182.7	190.0	182.7	182.7	190.0
Adj Flow Rate, veh/h	10	59	-1	64	30	0	28	990	91	113	895	32
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	5	5	5	4	4	4	4	4	4
Cap, veh/h	59	350	351	111	116	99	60	1912	175	144	1576	56
Arrive On Green	0.22	0.22	0.00	0.06	0.06	0.00	0.03	0.41	0.41	0.17	0.92	0.92
Sat Flow, veh/h	268	1581	1583	1723	1810	1538	1740	4630	425	1740	3416	122
Grp Volume(v), veh/h	69	0	-1	64	30	0	28	710	371	113	455	472
Grp Sat Flow(s),veh/h/ln	1849	0	1583	1723	1810	1538	1740	1663	1730	1740	1736	1803
Q Serve(g_s), s	2.5	0.0	0.0	3.0	1.3	0.0	1.3	13.1	13.2	5.1	3.5	3.5
Cycle Q Clear(g_c), s	2.5	0.0	0.0	3.0	1.3	0.0	1.3	13.1	13.2	5.1	3.5	3.5
Prop In Lane	0.14		1.00	1.00		1.00	1.00		0.25	1.00		0.07
Lane Grp Cap(c), veh/h	410	0	351	111	116	99	60	1373	714	144	800	831
V/C Ratio(X)	0.17	0.00	0.00	0.58	0.26	0.00	0.47	0.52	0.52	0.79	0.57	0.57
Avail Cap(c_a), veh/h	662	0	567	241	253	215	275	1373	714	507	800	831
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	25.9	0.0	0.0	37.5	36.7	0.0	39.0	18.1	18.1	33.7	1.9	1.9
Incr Delay (d2), s/veh	0.2	0.0	0.0	4.7	1.2	0.0	5.6	1.4	2.7	8.5	2.7	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	1.6	0.7	0.0	0.7	6.3	6.8	2.8	1.8	1.9
LnGrp Delay(d),s/veh	26.1	0.0	0.0	42.1	37.8	0.0	44.6	19.4	20.8	42.2	4.6	4.5
LnGrp LOS	C			D	D		D	B	C	D	A	A
Approach Vol, veh/h		68			94			1109			1040	
Approach Delay, s/veh		26.5			40.8			20.5			8.6	
Approach LOS		C			D			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.8	70.6		22.7	10.8	66.6		9.8
Change Period (Y+Rc), s	4.0	5.0		4.5	4.0	5.0		4.5
Max Green Setting (Gmax), s	13.0	38.0		29.5	24.0	27.0		11.5
Max Q Clear Time (g_c+I1), s	3.3	5.5		4.5	7.1	15.2		5.0
Green Ext Time (p_c), s	0.0	18.3		0.3	0.2	9.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.2
HCM 2010 LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	97	1068	1287	40	44	114
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	184.5	184.5	186.3	190.0	184.5	184.5
Adj Flow Rate, veh/h	105	1161	1399	31	48	47
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	2	2	3	3
Cap, veh/h	286	4104	3013	67	116	104
Arrive On Green	0.16	0.81	0.59	0.59	0.07	0.07
Sat Flow, veh/h	1757	5202	5281	113	1757	1568
Grp Volume(v), veh/h	105	1161	927	503	48	47
Grp Sat Flow(s),veh/h/ln	1757	1679	1695	1837	1757	1568
Q Serve(g_s), s	4.2	4.4	12.3	12.3	2.1	2.3
Cycle Q Clear(g_c), s	4.2	4.4	12.3	12.3	2.1	2.3
Prop In Lane	1.00			0.06	1.00	1.00
Lane Grp Cap(c), veh/h	286	4104	1998	1082	116	104
V/C Ratio(X)	0.37	0.28	0.46	0.46	0.41	0.45
Avail Cap(c_a), veh/h	286	4104	1998	1082	782	698
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	29.7	1.8	9.3	9.3	35.8	35.9
Incr Delay (d2), s/veh	0.8	0.2	0.8	1.4	2.3	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.0	5.9	6.6	1.1	1.1
LnGrp Delay(d),s/veh	30.5	1.9	10.0	10.7	38.1	38.9
LnGrp LOS	C	A	B	B	D	D
Approach Vol, veh/h		1266	1430		95	
Approach Delay, s/veh		4.3	10.3		38.5	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	48.2	52.0		9.8		100.2		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	13.0	* 47		35.5		65.0		
Max Q Clear Time (g_c+I1), s	6.2	14.3		4.3		6.4		
Green Ext Time (p_c), s	4.2	12.8		0.3		12.1		

Intersection Summary	
HCM 2010 Ctrl Delay	8.5
HCM 2010 LOS	A

Notes

* HCM 2010 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												
Volume (veh/h)	18	568	131	452	1367	9	99	20	143	9	45	12
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.98	0.93		0.92	0.93		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	179.2	179.2	190.0	188.1	188.1	190.0	186.3	186.3	186.3	186.3	186.3	190.0
Adj Flow Rate, veh/h	20	638	54	508	1536	10	111	22	53	10	51	13
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	0
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, %	6	6	6	1	1	1	2	2	2	2	2	2
Cap, veh/h	46	1511	127	626	1759	11	433	566	442	451	425	108
Arrive On Green	0.03	0.33	0.33	0.18	0.48	0.48	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1707	4579	384	3476	3640	24	1238	1863	1455	1224	1400	357
Grp Volume(v), veh/h	20	453	239	508	754	792	111	22	53	10	0	64
Grp Sat Flow(s),veh/h/ln	1707	1631	1700	1738	1787	1876	1238	1863	1455	1224	0	1757
Q Serve(g_s), s	0.9	8.7	8.9	11.3	30.4	30.5	5.7	0.7	2.1	0.5	0.0	2.1
Cycle Q Clear(g_c), s	0.9	8.7	8.9	11.3	30.4	30.5	7.9	0.7	2.1	1.1	0.0	2.1
Prop In Lane	1.00		0.23	1.00		0.01	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	46	1077	561	626	864	907	433	566	442	451	0	534
V/C Ratio(X)	0.44	0.42	0.43	0.81	0.87	0.87	0.26	0.04	0.12	0.02	0.00	0.12
Avail Cap(c_a), veh/h	169	1077	561	905	864	907	486	646	505	504	0	610
HCM Platoon Ratio	1.00	1.00	1.00	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	38.7	21.0	21.1	31.7	18.6	18.6	23.1	19.8	20.3	20.2	0.0	20.3
Incr Delay (d2), s/veh	6.4	0.3	0.5	3.7	11.8	11.4	0.3	0.0	0.1	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.9	4.2	5.8	17.7	18.5	2.0	0.3	0.9	0.2	0.0	1.0
LnGrp Delay(d),s/veh	45.1	21.3	21.6	35.4	30.5	30.0	23.4	19.8	20.4	20.2	0.0	20.4
LnGrp LOS	D	C	C	D	C	C	C	B	C	C		C
Approach Vol, veh/h		712			2054			186			74	
Approach Delay, s/veh		22.1			31.5			22.1			20.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.2	44.0		29.5	19.5	31.6		29.5
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	8.0	39.0		28.0	21.0	26.0		28.0
Max Q Clear Time (g_c+I1), s	2.9	32.5		4.1	13.3	10.9		9.9
Green Ext Time (p_c), s	0.0	5.7		1.0	1.2	12.1		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	28.4
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	30	984	30	0	922
Conflicting Peds, #/hr	0	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	4	4	4
Mvmt Flow	0	33	1070	33	0	1002

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1487	557	0	0	1102	0
Stage 1	1086	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.38	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.14	-
Pot Cap-1 Maneuver	178	410	-	-	344	-
Stage 1	217	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	177	408	-	-	342	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	217	-	-	-	-	-
Stage 2	593	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6		
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	408	342	-
HCM Lane V/C Ratio	-	-	0.08	-	-
HCM Control Delay (s)	-	-	14.6	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												
Volume (veh/h)	40	40	17	0	0	0	0	1191	72	180	1347	35
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94				1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	190.0	190.0				0.0	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	42	42	10				0	1254	0	189	1418	33
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	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	2	2	1	1	1
Cap, veh/h	73	73	17				0	3587	0	267	4231	98
Arrive On Green	0.09	0.09	0.09				0.00	0.71	0.00	0.08	0.82	0.82
Sat Flow, veh/h	809	809	193				0	5421	0	3476	5161	120
Grp Volume(v), veh/h	94	0	0				0	1254	0	189	941	510
Grp Sat Flow(s),veh/h/ln	1810	0	0				0	1695	0	1738	1712	1857
Q Serve(g_s), s	5.3	0.0	0.0				0.0	10.2	0.0	5.6	7.2	7.2
Cycle Q Clear(g_c), s	5.3	0.0	0.0				0.0	10.2	0.0	5.6	7.2	7.2
Prop In Lane	0.45		0.11				0.00		0.00	1.00		0.06
Lane Grp Cap(c), veh/h	164	0	0				0	3587	0	267	2807	1523
V/C Ratio(X)	0.57	0.00	0.00				0.00	0.35	0.00	0.71	0.34	0.34
Avail Cap(c_a), veh/h	401	0	0				0	3587	0	852	2807	1523
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.76	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	0.0	0.0				0.0	6.1	0.0	47.8	2.4	2.4
Incr Delay (d2), s/veh	3.1	0.0	0.0				0.0	0.2	0.0	3.4	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0				0.0	4.8	0.0	2.8	3.5	3.9
LnGrp Delay(d),s/veh	49.4	0.0	0.0				0.0	6.3	0.0	51.2	2.7	3.0
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		94						1254			1640	
Approach Delay, s/veh		49.4						6.3			8.4	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		105.9		14.1	12.2	93.7		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		87.0		23.5	26.0	57.0		
Max Q Clear Time (g_c+I1), s		9.2		7.3	7.6	12.2		
Green Ext Time (p_c), s		46.3		0.0	0.6	32.4		

Intersection Summary	
HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	91	634	124	103	400	195	144	975	241	225	1018	43
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	1.00		0.97	1.00		0.98	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
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	188.1	188.1	188.1	188.1	188.1	190.0	188.1	188.1	188.1
Adj Flow Rate, veh/h	93	647	119	105	408	136	147	995	234	230	1039	33
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	305	792	145	204	951	414	177	1552	364	260	1506	668
Arrive On Green	0.05	0.26	0.26	0.05	0.27	0.27	0.10	0.38	0.38	0.29	0.84	0.84
Sat Flow, veh/h	1792	2993	550	1792	3574	1556	1792	4136	971	1792	3574	1584
Grp Volume(v), veh/h	93	386	380	105	408	136	147	823	406	230	1039	33
Grp Sat Flow(s),veh/h/ln	1792	1787	1756	1792	1787	1556	1792	1712	1683	1792	1787	1584
Q Serve(g_s), s	4.2	22.6	22.7	4.7	10.5	7.8	9.0	22.1	22.1	13.7	12.2	0.4
Cycle Q Clear(g_c), s	4.2	22.6	22.7	4.7	10.5	7.8	9.0	22.1	22.1	13.7	12.2	0.4
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.58	1.00		1.00
Lane Grp Cap(c), veh/h	305	473	465	204	951	414	177	1285	632	260	1506	668
V/C Ratio(X)	0.30	0.82	0.82	0.51	0.43	0.33	0.83	0.64	0.64	0.89	0.69	0.05
Avail Cap(c_a), veh/h	308	529	520	204	1058	460	257	1285	632	450	1506	668
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.81	0.81	0.95	0.95	0.95
Uniform Delay (d), s/veh	28.0	38.5	38.5	30.2	33.9	32.9	49.3	28.7	28.7	38.7	6.0	5.1
Incr Delay (d2), s/veh	0.6	8.8	9.1	2.2	0.3	0.5	11.6	2.0	4.1	9.9	2.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	12.3	12.2	2.5	5.3	3.4	5.0	10.8	11.0	7.4	6.1	0.2
LnGrp Delay(d),s/veh	28.5	47.3	47.6	32.4	34.2	33.4	60.9	30.7	32.7	48.6	8.5	5.2
LnGrp LOS	C	D	D	C	C	C	E	C	C	D	A	A
Approach Vol, veh/h		859			649			1376			1302	
Approach Delay, s/veh		45.4			33.7			34.5			15.5	
Approach LOS		D			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	34.5	15.0	60.5	9.8	34.7	20.2	55.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	33.0	16.0	47.0	6.0	33.0	28.0	35.0
Max Q Clear Time (g_c+I1), s	6.7	24.7	11.0	14.2	6.2	12.5	15.7	24.1
Green Ext Time (p_c), s	0.0	4.8	0.2	22.2	0.0	8.4	0.5	9.2

Intersection Summary	
HCM 2010 Ctrl Delay	30.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	196	732	397	198	953	0	0	1176	60
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.97	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
Adj Sat Flow, veh/h/ln				188.1	188.1	188.1	188.1	188.1	0.0	190.0	188.1	188.1
Adj Flow Rate, veh/h				209	779	245	211	1014	0	0	1251	51
Adj No. of Lanes				1	3	1	2	2	0	0	3	1
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				1	1	1	1	1	0	1	1	1
Cap, veh/h				379	1086	327	292	2494	0	0	2956	902
Arrive On Green				0.21	0.21	0.21	0.08	0.70	0.00	0.00	1.00	1.00
Sat Flow, veh/h				1792	5136	1547	3476	3668	0	0	5305	1567
Grp Volume(v), veh/h				209	779	245	211	1014	0	0	1251	51
Grp Sat Flow(s),veh/h/ln				1792	1712	1547	1738	1787	0	0	1712	1567
Q Serve(g_s), s				10.9	14.8	15.5	6.2	12.5	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				10.9	14.8	15.5	6.2	12.5	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				379	1086	327	292	2494	0	0	2956	902
V/C Ratio(X)				0.55	0.72	0.75	0.72	0.41	0.00	0.00	0.42	0.06
Avail Cap(c_a), veh/h				642	1841	554	797	2494	0	0	2956	902
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.88	0.88	0.00	0.00	0.67	0.67
Uniform Delay (d), s/veh				36.8	38.3	38.6	46.7	6.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				1.3	0.9	3.4	3.0	0.4	0.0	0.0	0.3	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
%ile BackOfQ(50%),veh/ln				5.5	7.1	6.9	3.1	6.2	0.0	0.0	0.1	0.0
LnGrp Delay(d),s/veh				38.1	39.2	42.1	49.7	7.1	0.0	0.0	0.3	0.1
LnGrp LOS				D	D	D	D	A			A	A
Approach Vol, veh/h					1233			1225			1302	
Approach Delay, s/veh					39.6			14.5			0.3	
Approach LOS					D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	12.8	80.6		26.6		93.4		
Change Period (Y+Rc), s	4.0	5.0		4.5		5.0		
Max Green Setting (Gmax), s	24.0	45.0		37.5		73.0		
Max Q Clear Time (g_c+I1), s	8.2	2.0		17.5		14.5		
Green Ext Time (p_c), s	0.6	27.0		4.6		32.1		

Intersection Summary	
HCM 2010 Ctrl Delay	17.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	143	1226	270	0	0	0	0	1011	188	580	805	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3				0.0	188.1	188.1	188.1	188.1	0.0
Adj Flow Rate, veh/h	152	1304	241				0	1076	179	617	856	0
Adj No. of Lanes	0	4	1				0	4	1	2	2	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	1	1	1	1	0
Cap, veh/h	170	1574	396				0	2399	569	828	2335	0
Arrive On Green	0.26	0.26	0.26				0.00	0.37	0.37	0.48	1.00	0.00
Sat Flow, veh/h	648	5989	1507				0	6735	1534	3476	3668	0
Grp Volume(v), veh/h	430	1026	241				0	1076	179	617	856	0
Grp Sat Flow(s),veh/h/ln	1830	1602	1507				0	1618	1534	1738	1787	0
Q Serve(g_s), s	25.6	22.7	15.9				0.0	14.2	9.4	16.3	0.0	0.0
Cycle Q Clear(g_c), s	25.6	22.7	15.9				0.0	14.2	9.4	16.3	0.0	0.0
Prop In Lane	0.35		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	481	1263	396				0	2399	569	828	2335	0
V/C Ratio(X)	0.89	0.81	0.61				0.00	0.45	0.31	0.74	0.37	0.00
Avail Cap(c_a), veh/h	590	1548	486				0	2399	569	828	2335	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.92	0.92	0.88	0.88	0.00
Uniform Delay (d), s/veh	40.2	39.1	36.6				0.0	26.9	25.4	26.8	0.0	0.0
Incr Delay (d2), s/veh	13.9	2.8	1.5				0.0	0.6	1.3	3.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.7	10.3	13.3				0.0	6.4	4.2	8.1	0.1	0.0
LnGrp Delay(d),s/veh	54.1	41.9	38.1				0.0	27.5	26.7	30.1	0.4	0.0
LnGrp LOS	D	D	D					C	C	C	A	
Approach Vol, veh/h		1697						1255			1473	
Approach Delay, s/veh		44.5						27.4			12.8	
Approach LOS		D						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		85.7		34.3	38.7	47.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		74.0		36.5	27.0	* 42		
Max Q Clear Time (g_c+I1), s		2.0		27.6	18.3	16.2		
Green Ext Time (p_c), s		11.7		0.0	5.2	9.5		

Intersection Summary	
HCM 2010 Ctrl Delay	29.1
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	35	34	14	107	40	211	37	966	71	52	923	50
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	184.5	184.5	188.1	188.1	188.1	186.3	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	38	37	-1	116	43	0	40	1050	76	57	1003	53
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	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, %	3	3	3	1	1	1	2	2	2	1	1	1
Cap, veh/h	132	129	227	152	160	136	73	2558	185	88	1854	98
Arrive On Green	0.14	0.14	0.00	0.08	0.08	0.00	0.04	0.53	0.53	0.10	1.00	1.00
Sat Flow, veh/h	912	888	1568	1792	1881	1599	1774	4825	349	1792	3445	182
Grp Volume(v), veh/h	75	0	-1	116	43	0	40	737	389	57	520	536
Grp Sat Flow(s),veh/h/ln	1799	0	1568	1792	1881	1599	1774	1695	1783	1792	1787	1840
Q Serve(g_s), s	3.5	0.0	0.0	6.0	2.0	0.0	2.1	12.3	12.4	2.9	0.0	0.0
Cycle Q Clear(g_c), s	3.5	0.0	0.0	6.0	2.0	0.0	2.1	12.3	12.4	2.9	0.0	0.0
Prop In Lane	0.51		1.00	1.00		1.00	1.00		0.20	1.00		0.10
Lane Grp Cap(c), veh/h	261	0	227	152	160	136	73	1797	945	88	962	990
V/C Ratio(X)	0.29	0.00	0.00	0.76	0.27	0.00	0.55	0.41	0.41	0.64	0.54	0.54
Avail Cap(c_a), veh/h	544	0	474	218	229	195	226	1797	945	228	962	990
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	36.0	0.0	0.0	42.2	40.4	0.0	44.3	13.3	13.3	41.7	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	9.3	0.9	0.0	6.2	0.7	1.3	7.0	2.0	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	1.8	0.0	0.0	3.4	1.1	0.0	1.1	5.9	6.4	1.6	0.5	0.5
LnGrp Delay(d),s/veh	36.6	0.0	0.0	51.5	41.3	0.0	50.5	14.0	14.6	48.7	2.0	1.9
LnGrp LOS	D			D	D		D	B	B	D	A	A
Approach Vol, veh/h		74			159			1166			1113	
Approach Delay, s/veh		37.1			48.8			15.5			4.4	
Approach LOS		D			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.9	81.4		18.2	8.7	80.7		12.5
Change Period (Y+Rc), s	4.0	5.0		4.5	4.0	5.0		4.5
Max Green Setting (Gmax), s	12.0	50.0		28.5	12.0	50.0		11.5
Max Q Clear Time (g_c+I1), s	4.1	2.0		5.5	4.9	14.4		8.0
Green Ext Time (p_c), s	0.0	25.0		0.3	0.0	21.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.3
HCM 2010 LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	177	1654	1037	68	138	213
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	188.1	190.0	188.1	188.1
Adj Flow Rate, veh/h	197	1838	1152	63	153	88
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	364	4073	2684	147	197	176
Arrive On Green	0.20	0.79	0.54	0.54	0.11	0.11
Sat Flow, veh/h	1792	5305	5149	272	1792	1599
Grp Volume(v), veh/h	197	1838	792	423	153	88
Grp Sat Flow(s),veh/h/ln	1792	1712	1712	1828	1792	1599
Q Serve(g_s), s	9.7	11.3	13.6	13.7	8.2	5.1
Cycle Q Clear(g_c), s	9.7	11.3	13.6	13.7	8.2	5.1
Prop In Lane	1.00			0.15	1.00	1.00
Lane Grp Cap(c), veh/h	364	4073	1845	985	197	176
V/C Ratio(X)	0.54	0.45	0.43	0.43	0.77	0.50
Avail Cap(c_a), veh/h	364	4073	1845	985	592	528
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	35.1	3.3	13.6	13.6	42.6	41.2
Incr Delay (d2), s/veh	1.6	0.4	0.7	1.4	6.4	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	4.9	5.4	6.6	7.2	4.4	2.4
LnGrp Delay(d),s/veh	36.7	3.6	14.3	15.0	48.9	43.4
LnGrp LOS	D	A	B	B	D	D
Approach Vol, veh/h		2035	1215		241	
Approach Delay, s/veh		6.8	14.6		46.9	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	46.7	58.0		15.3		104.7		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	20.0	* 53		32.5		78.0		
Max Q Clear Time (g_c+I1), s	11.7	15.7		10.2		13.3		
Green Ext Time (p_c), s	6.9	10.7		0.7		27.8		

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B

Notes

* HCM 2010 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												
Volume (veh/h)	87	1455	134	202	740	35	190	49	422	63	42	45
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	0.95		0.93	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	184.5	184.5	190.0	190.0	190.0	190.0	190.0	190.0	190.0
Adj Flow Rate, veh/h	92	1532	65	213	779	34	200	52	265	66	44	31
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	0
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, %	1	1	1	3	3	3	0	0	0	0	0	0
Cap, veh/h	120	1800	76	544	1536	67	432	569	452	380	303	214
Arrive On Green	0.07	0.36	0.36	0.16	0.45	0.45	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1792	5044	214	3408	3417	149	1284	1900	1508	1043	1013	713
Grp Volume(v), veh/h	92	1040	557	213	399	414	200	52	265	66	0	75
Grp Sat Flow(s),veh/h/ln	1792	1712	1835	1704	1752	1813	1284	1900	1508	1043	0	1726
Q Serve(g_s), s	4.1	22.9	22.9	4.6	13.2	13.3	11.0	1.6	12.2	4.0	0.0	2.6
Cycle Q Clear(g_c), s	4.1	22.9	22.9	4.6	13.2	13.3	13.6	1.6	12.2	5.6	0.0	2.6
Prop In Lane	1.00		0.12	1.00		0.08	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	120	1222	655	544	788	815	432	569	452	380	0	517
V/C Ratio(X)	0.77	0.85	0.85	0.39	0.51	0.51	0.46	0.09	0.59	0.17	0.00	0.15
Avail Cap(c_a), veh/h	286	1344	720	544	788	815	520	699	555	452	0	635
HCM Platoon Ratio	1.00	1.00	1.00	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	37.4	24.2	24.2	30.7	16.0	16.0	25.9	20.6	24.3	22.6	0.0	20.9
Incr Delay (d2), s/veh	9.9	5.0	9.0	2.1	2.3	2.3	0.8	0.1	1.2	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	2.4	11.5	13.1	2.3	6.8	7.1	4.0	0.8	5.2	1.2	0.0	1.2
LnGrp Delay(d),s/veh	47.3	29.3	33.2	32.8	18.3	18.2	26.7	20.6	25.5	22.8	0.0	21.0
LnGrp LOS	D	C	C	C	B	B	C	C	C	C		C
Approach Vol, veh/h		1689			1026			517			141	
Approach Delay, s/veh		31.5			21.3			25.4			21.8	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.4	50.1		29.4	18.0	42.6		29.4
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	13.0	32.0		30.0	13.0	32.0		30.0
Max Q Clear Time (g_c+I1), s	6.1	15.3		7.6	6.6	24.9		15.6
Green Ext Time (p_c), s	0.1	13.5		2.7	0.4	4.2		2.4

Intersection Summary	
HCM 2010 Ctrl Delay	27.1
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	39	1027	18	0	1088
Conflicting Peds, #/hr	0	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	2	1	1
Mvmt Flow	0	42	1116	20	0	1183

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1599	577	0	0	1136	0
Stage 1	1126	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.32	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.11	-
Pot Cap-1 Maneuver	156	398	-	-	339	-
Stage 1	206	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	155	395	-	-	336	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	206	-	-	-	-	-
Stage 2	543	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	395	336	-
HCM Lane V/C Ratio	-	-	0.107	-	-
HCM Control Delay (s)	-	-	15.2	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	16	6	0	0	0	0	1347	72	68	736	7
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				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
Adj Sat Flow, veh/h/ln	190.0	184.5	190.0				0.0	184.5	190.0	181.0	181.0	190.0
Adj Flow Rate, veh/h	16	18	1				0	1497	0	76	818	8
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	3	0				0	3	3	5	5	5
Cap, veh/h	45	51	3				0	3764	0	183	4259	42
Arrive On Green	0.06	0.06	0.06				0.00	0.75	0.00	0.05	0.84	0.84
Sat Flow, veh/h	819	922	51				0	5368	0	3343	5044	49
Grp Volume(v), veh/h	35	0	0				0	1497	0	76	534	292
Grp Sat Flow(s),veh/h/ln	1792	0	0				0	1679	0	1672	1647	1800
Q Serve(g_s), s	1.8	0.0	0.0				0.0	10.1	0.0	2.1	2.9	2.9
Cycle Q Clear(g_c), s	1.8	0.0	0.0				0.0	10.1	0.0	2.1	2.9	2.9
Prop In Lane	0.46		0.03				0.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	99	0	0				0	3764	0	183	2781	1520
V/C Ratio(X)	0.35	0.00	0.00				0.00	0.40	0.00	0.42	0.19	0.19
Avail Cap(c_a), veh/h	388	0	0				0	3764	0	741	2781	1520
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.80	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	0.0	0.0				0.0	4.3	0.0	43.3	1.4	1.4
Incr Delay (d2), s/veh	2.1	0.0	0.0				0.0	0.3	0.0	1.5	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0				0.0	4.7	0.0	1.0	1.3	1.5
LnGrp Delay(d),s/veh	45.2	0.0	0.0				0.0	4.6	0.0	44.8	1.5	1.7
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		35						1497			902	
Approach Delay, s/veh		45.2						4.6			5.2	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		100.3		9.7	9.2	91.1		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		80.0		20.5	21.0	55.0		
Max Q Clear Time (g_c+I1), s		4.9		3.8	4.1	12.1		
Green Ext Time (p_c), s		36.0		0.0	0.2	26.9		

Intersection Summary	
HCM 2010 Ctrl Delay	5.4
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	233	49	162	651	232	95	1101	104	79	596	21
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	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
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	188.1	188.1	188.1	184.5	184.5	190.0	182.7	182.7	190.0
Adj Flow Rate, veh/h	53	253	48	176	708	172	103	1197	113	86	648	23
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	1	1	1	3	3	3	4	4	4
Cap, veh/h	68	703	131	159	1026	448	133	1920	181	111	1975	70
Arrive On Green	0.04	0.24	0.24	0.09	0.29	0.29	0.08	0.41	0.41	0.02	0.13	0.13
Sat Flow, veh/h	1774	2971	555	1792	3574	1561	1757	4674	441	1740	4945	175
Grp Volume(v), veh/h	53	149	152	176	708	172	103	860	450	86	435	236
Grp Sat Flow(s),veh/h/ln	1774	1770	1756	1792	1787	1561	1757	1679	1758	1740	1663	1795
Q Serve(g_s), s	2.7	6.3	6.5	8.0	15.9	8.0	5.2	18.3	18.3	4.4	10.7	10.7
Cycle Q Clear(g_c), s	2.7	6.3	6.5	8.0	15.9	8.0	5.2	18.3	18.3	4.4	10.7	10.7
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.25	1.00		0.10
Lane Grp Cap(c), veh/h	68	419	416	159	1026	448	133	1379	722	111	1328	717
V/C Ratio(X)	0.78	0.36	0.37	1.11	0.69	0.38	0.78	0.62	0.62	0.77	0.33	0.33
Avail Cap(c_a), veh/h	158	648	644	159	1309	572	371	1379	722	270	1328	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80	0.99	0.99	0.99
Uniform Delay (d), s/veh	42.9	28.7	28.7	41.0	28.5	25.7	40.9	21.0	21.0	43.4	28.1	28.2
Incr Delay (d2), s/veh	17.4	0.5	0.5	102.6	1.1	0.5	7.6	1.7	3.2	10.6	0.7	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	1.6	3.2	3.2	8.5	7.9	3.5	2.8	8.8	9.5	2.5	5.0	5.6
LnGrp Delay(d),s/veh	60.3	29.2	29.3	143.6	29.6	26.3	48.5	22.7	24.3	54.0	28.8	29.4
LnGrp LOS	E	C	C	F	C	C	D	C	C	D	C	C
Approach Vol, veh/h		354			1056			1413			757	
Approach Delay, s/veh		33.9			48.1			25.1			31.8	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	26.3	10.8	60.9	7.4	30.9	9.8	61.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	33.0	19.0	32.0	8.0	33.0	14.0	37.0
Max Q Clear Time (g_c+I1), s	10.0	8.5	7.2	12.7	4.7	17.9	6.4	20.3
Green Ext Time (p_c), s	0.0	8.1	0.2	13.1	0.0	6.5	0.1	11.8

Intersection Summary	
HCM 2010 Ctrl Delay	34.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	249	1095	450	166	884	0	0	740	76
Number				7	4	14	1	6	16	5	2	12
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
Adj Sat Flow, veh/h/ln				190.0	184.5	184.5	182.7	182.7	0.0	0.0	181.0	190.0
Adj Flow Rate, veh/h				259	1141	295	173	921	0	0	771	50
Adj No. of Lanes				0	3	1	1	2	0	0	3	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	3	3	4	4	0	0	5	5
Cap, veh/h				272	1293	465	206	2096	0	0	2117	137
Arrive On Green				0.30	0.30	0.30	0.12	0.60	0.00	0.00	0.89	0.89
Sat Flow, veh/h				898	4259	1533	1740	3563	0	0	4904	306
Grp Volume(v), veh/h				519	881	295	173	921	0	0	535	286
Grp Sat Flow(s),veh/h/ln				1800	1679	1533	1740	1736	0	0	1647	1755
Q Serve(g_s), s				29.0	25.4	17.0	10.0	14.7	0.0	0.0	2.6	2.7
Cycle Q Clear(g_c), s				29.0	25.4	17.0	10.0	14.7	0.0	0.0	2.6	2.7
Prop In Lane				0.50		1.00	1.00		0.00	0.00		0.17
Lane Grp Cap(c), veh/h				546	1019	465	206	2096	0	0	1470	783
V/C Ratio(X)				0.95	0.86	0.63	0.84	0.44	0.00	0.00	0.36	0.37
Avail Cap(c_a), veh/h				675	1259	575	339	2096	0	0	1470	783
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.89	0.89	0.00	0.00	0.82	0.82
Uniform Delay (d), s/veh				35.0	33.8	30.8	44.3	11.0	0.0	0.0	3.2	3.2
Incr Delay (d2), s/veh				20.9	5.5	1.6	8.4	0.6	0.0	0.0	0.6	1.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				17.6	12.5	7.4	5.3	7.2	0.0	0.0	1.2	1.4
LnGrp Delay(d),s/veh				55.9	39.2	32.4	52.6	11.6	0.0	0.0	3.8	4.3
LnGrp LOS				E	D	C	D	B			A	A
Approach Vol, veh/h					1695			1094			821	
Approach Delay, s/veh					43.1			18.0			3.9	
Approach LOS					D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	16.2	58.2		35.7		74.3		
Change Period (Y+Rc), s	4.0	5.0		4.5		5.0		
Max Green Setting (Gmax), s	20.0	38.0		38.5		62.0		
Max Q Clear Time (g_c+I1), s	12.0	4.7		31.0		16.7		
Green Ext Time (p_c), s	0.3	16.3		0.0		18.5		

Intersection Summary	
HCM 2010 Ctrl Delay	26.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	134	731	153	0	0	0	0	908	111	254	733	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	182.7	182.7				0.0	182.7	182.7	182.7	182.7	0.0
Adj Flow Rate, veh/h	154	840	113				0	1044	91	292	843	0
Adj No. of Lanes	0	4	1				0	3	1	2	3	0
Peak Hour Factor	0.87	0.87	0.87				0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	4	4				0	4	4	4	4	0
Cap, veh/h	225	1335	353				0	2187	661	585	3306	0
Arrive On Green	0.24	0.24	0.24				0.00	0.44	0.44	0.35	1.00	0.00
Sat Flow, veh/h	937	5556	1469				0	5152	1507	3375	5152	0
Grp Volume(v), veh/h	293	701	113				0	1044	91	292	843	0
Grp Sat Flow(s),veh/h/ln	1780	1571	1469				0	1663	1507	1688	1663	0
Q Serve(g_s), s	14.6	13.0	6.2				0.0	14.6	3.5	6.7	0.0	0.0
Cycle Q Clear(g_c), s	14.6	13.0	6.2				0.0	14.6	3.5	6.7	0.0	0.0
Prop In Lane	0.53		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	428	1132	353				0	2187	661	585	3306	0
V/C Ratio(X)	0.68	0.62	0.32				0.00	0.48	0.14	0.50	0.25	0.00
Avail Cap(c_a), veh/h	644	1706	532				0	2187	661	585	3306	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.93	0.93	0.89	0.89	0.00
Uniform Delay (d), s/veh	33.9	33.2	30.7				0.0	19.5	16.4	28.7	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.6	0.5				0.0	0.7	0.4	0.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	5.7	5.5				0.0	6.8	1.5	3.1	0.1	0.0
LnGrp Delay(d),s/veh	35.8	33.8	31.2				0.0	20.2	16.9	29.3	0.2	0.0
LnGrp LOS	D	C	C					C	B	C	A	
Approach Vol, veh/h		1107						1135			1135	
Approach Delay, s/veh		34.1						20.0			7.6	
Approach LOS		C						B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		81.9		28.1	33.9	48.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		65.0		35.5	17.0	* 43		
Max Q Clear Time (g_c+I1), s		2.0		16.6	8.7	16.6		
Green Ext Time (p_c), s		9.0		0.0	4.3	8.9		

Intersection Summary	
HCM 2010 Ctrl Delay	20.5
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	9	54	8	59	28	94	26	911	85	104	823	30
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3	181.0	181.0	181.0	182.7	182.7	190.0	182.7	182.7	190.0
Adj Flow Rate, veh/h	10	59	-1	64	30	0	28	990	91	113	895	32
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	5	5	5	4	4	4	4	4	4
Cap, veh/h	59	350	351	111	116	99	60	1912	175	144	1576	56
Arrive On Green	0.22	0.22	0.00	0.06	0.06	0.00	0.03	0.41	0.41	0.17	0.92	0.92
Sat Flow, veh/h	268	1581	1583	1723	1810	1538	1740	4630	425	1740	3416	122
Grp Volume(v), veh/h	69	0	-1	64	30	0	28	710	371	113	455	472
Grp Sat Flow(s),veh/h/ln	1849	0	1583	1723	1810	1538	1740	1663	1730	1740	1736	1803
Q Serve(g_s), s	2.5	0.0	0.0	3.0	1.3	0.0	1.3	13.1	13.2	5.1	3.5	3.5
Cycle Q Clear(g_c), s	2.5	0.0	0.0	3.0	1.3	0.0	1.3	13.1	13.2	5.1	3.5	3.5
Prop In Lane	0.14		1.00	1.00		1.00	1.00		0.25	1.00		0.07
Lane Grp Cap(c), veh/h	410	0	351	111	116	99	60	1373	714	144	800	831
V/C Ratio(X)	0.17	0.00	0.00	0.58	0.26	0.00	0.47	0.52	0.52	0.79	0.57	0.57
Avail Cap(c_a), veh/h	662	0	567	241	253	215	275	1373	714	507	800	831
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	25.9	0.0	0.0	37.5	36.7	0.0	39.0	18.1	18.1	33.7	1.9	1.9
Incr Delay (d2), s/veh	0.2	0.0	0.0	4.7	1.2	0.0	5.6	1.4	2.7	8.8	2.8	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	1.6	0.7	0.0	0.7	6.3	6.8	2.8	1.8	1.9
LnGrp Delay(d),s/veh	26.1	0.0	0.0	42.1	37.8	0.0	44.6	19.4	20.8	42.5	4.7	4.6
LnGrp LOS	C			D	D		D	B	C	D	A	A
Approach Vol, veh/h		68			94			1109			1040	
Approach Delay, s/veh		26.5			40.8			20.5			8.7	
Approach LOS		C			D			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.8	70.6		22.7	10.8	66.6		9.8
Change Period (Y+Rc), s	4.0	5.0		4.5	4.0	5.0		4.5
Max Green Setting (Gmax), s	13.0	38.0		29.5	24.0	27.0		11.5
Max Q Clear Time (g_c+I1), s	3.3	5.5		4.5	7.1	15.2		5.0
Green Ext Time (p_c), s	0.0	18.3		0.3	0.2	9.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.2
HCM 2010 LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	97	1068	1287	40	44	114
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	184.5	184.5	186.3	190.0	184.5	184.5
Adj Flow Rate, veh/h	105	1161	1399	31	48	47
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	2	2	3	3
Cap, veh/h	286	4104	3013	67	116	104
Arrive On Green	0.16	0.81	0.59	0.59	0.07	0.07
Sat Flow, veh/h	1757	5202	5281	113	1757	1568
Grp Volume(v), veh/h	105	1161	927	503	48	47
Grp Sat Flow(s),veh/h/ln	1757	1679	1695	1837	1757	1568
Q Serve(g_s), s	4.2	4.4	12.3	12.3	2.1	2.3
Cycle Q Clear(g_c), s	4.2	4.4	12.3	12.3	2.1	2.3
Prop In Lane	1.00			0.06	1.00	1.00
Lane Grp Cap(c), veh/h	286	4104	1998	1082	116	104
V/C Ratio(X)	0.37	0.28	0.46	0.46	0.41	0.45
Avail Cap(c_a), veh/h	286	4104	1998	1082	782	698
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	29.7	1.8	9.3	9.3	35.8	35.9
Incr Delay (d2), s/veh	0.8	0.2	0.8	1.4	2.3	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.0	5.9	6.6	1.1	1.1
LnGrp Delay(d),s/veh	30.5	1.9	10.0	10.7	38.1	38.9
LnGrp LOS	C	A	B	B	D	D
Approach Vol, veh/h		1266	1430		95	
Approach Delay, s/veh		4.3	10.3		38.5	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	48.2	52.0		9.8		100.2		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	13.0	* 47		35.5		65.0		
Max Q Clear Time (g_c+I1), s	6.2	14.3		4.3		6.4		
Green Ext Time (p_c), s	4.2	12.8		0.3		12.1		

Intersection Summary	
HCM 2010 Ctrl Delay	8.5
HCM 2010 LOS	A

Notes

* HCM 2010 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												
Volume (veh/h)	18	568	131	452	1367	9	99	20	143	9	45	12
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.98	0.93		0.92	0.93		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	179.2	179.2	190.0	188.1	188.1	190.0	186.3	186.3	186.3	186.3	186.3	190.0
Adj Flow Rate, veh/h	20	638	54	508	1536	10	111	22	53	10	51	13
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	0
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, %	6	6	6	1	1	1	2	2	2	2	2	2
Cap, veh/h	46	1511	127	626	1759	11	433	566	442	451	425	108
Arrive On Green	0.03	0.33	0.33	0.18	0.48	0.48	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1707	4579	384	3476	3640	24	1238	1863	1455	1224	1400	357
Grp Volume(v), veh/h	20	453	239	508	754	792	111	22	53	10	0	64
Grp Sat Flow(s),veh/h/ln	1707	1631	1700	1738	1787	1876	1238	1863	1455	1224	0	1757
Q Serve(g_s), s	0.9	8.7	8.9	11.3	30.4	30.5	5.7	0.7	2.1	0.5	0.0	2.1
Cycle Q Clear(g_c), s	0.9	8.7	8.9	11.3	30.4	30.5	7.9	0.7	2.1	1.1	0.0	2.1
Prop In Lane	1.00		0.23	1.00		0.01	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	46	1077	561	626	864	907	433	566	442	451	0	534
V/C Ratio(X)	0.44	0.42	0.43	0.81	0.87	0.87	0.26	0.04	0.12	0.02	0.00	0.12
Avail Cap(c_a), veh/h	169	1077	561	905	864	907	486	646	505	504	0	610
HCM Platoon Ratio	1.00	1.00	1.00	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	38.7	21.0	21.1	31.7	18.6	18.6	23.1	19.8	20.3	20.2	0.0	20.3
Incr Delay (d2), s/veh	6.4	0.3	0.5	3.7	11.8	11.4	0.3	0.0	0.1	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.9	4.2	5.8	17.7	18.5	2.0	0.3	0.9	0.2	0.0	1.0
LnGrp Delay(d),s/veh	45.1	21.3	21.6	35.4	30.5	30.0	23.4	19.8	20.4	20.2	0.0	20.4
LnGrp LOS	D	C	C	D	C	C	C	B	C	C		C
Approach Vol, veh/h		712			2054			186			74	
Approach Delay, s/veh		22.1			31.5			22.1			20.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.2	44.0		29.5	19.5	31.6		29.5
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	8.0	39.0		28.0	21.0	26.0		28.0
Max Q Clear Time (g_c+I1), s	2.9	32.5		4.1	13.3	10.9		9.9
Green Ext Time (p_c), s	0.0	5.7		1.0	1.2	12.1		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	28.4
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	30	984	30	0	922
Conflicting Peds, #/hr	0	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	4	4	4
Mvmt Flow	0	33	1070	33	0	1002

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1487	557	0	0	1102	0
Stage 1	1086	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.38	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.14	-
Pot Cap-1 Maneuver	178	410	-	-	344	-
Stage 1	217	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	177	408	-	-	342	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	217	-	-	-	-	-
Stage 2	593	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6		
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	408	342	-
HCM Lane V/C Ratio	-	-	0.08	-	-
HCM Control Delay (s)	-	-	14.6	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												
Volume (veh/h)	40	40	17	0	0	0	0	1191	72	180	1347	35
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94				1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	190.0	190.0				0.0	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	42	42	10				0	1254	0	189	1418	33
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	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	2	2	1	1	1
Cap, veh/h	73	73	17				0	3587	0	267	4231	98
Arrive On Green	0.09	0.09	0.09				0.00	0.71	0.00	0.08	0.82	0.82
Sat Flow, veh/h	809	809	193				0	5421	0	3476	5161	120
Grp Volume(v), veh/h	94	0	0				0	1254	0	189	941	510
Grp Sat Flow(s),veh/h/ln	1810	0	0				0	1695	0	1738	1712	1857
Q Serve(g_s), s	5.3	0.0	0.0				0.0	10.2	0.0	5.6	7.2	7.2
Cycle Q Clear(g_c), s	5.3	0.0	0.0				0.0	10.2	0.0	5.6	7.2	7.2
Prop In Lane	0.45		0.11				0.00		0.00	1.00		0.06
Lane Grp Cap(c), veh/h	164	0	0				0	3587	0	267	2807	1523
V/C Ratio(X)	0.57	0.00	0.00				0.00	0.35	0.00	0.71	0.34	0.34
Avail Cap(c_a), veh/h	401	0	0				0	3587	0	852	2807	1523
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.71	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	0.0	0.0				0.0	6.1	0.0	47.8	2.4	2.4
Incr Delay (d2), s/veh	3.1	0.0	0.0				0.0	0.2	0.0	3.4	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0				0.0	4.8	0.0	2.8	3.5	3.9
LnGrp Delay(d),s/veh	49.4	0.0	0.0				0.0	6.3	0.0	51.2	2.7	3.0
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		94						1254			1640	
Approach Delay, s/veh		49.4						6.3			8.4	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		105.9		14.1	12.2	93.7		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		87.0		23.5	26.0	57.0		
Max Q Clear Time (g_c+I1), s		9.2		7.3	7.6	12.2		
Green Ext Time (p_c), s		46.3		0.0	0.6	32.4		

Intersection Summary	
HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	91	634	124	103	400	195	144	975	241	225	1018	43
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.99
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
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	188.1	188.1	188.1	188.1	188.1	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	93	647	119	105	408	136	147	995	234	230	1039	33
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	96	792	145	96	946	412	177	1552	364	260	2155	68
Arrive On Green	0.05	0.26	0.26	0.05	0.26	0.26	0.10	0.38	0.38	0.29	0.84	0.84
Sat Flow, veh/h	1792	2993	550	1792	3574	1555	1792	4136	971	1792	5112	162
Grp Volume(v), veh/h	93	386	380	105	408	136	147	823	406	230	696	376
Grp Sat Flow(s),veh/h/ln	1792	1787	1756	1792	1787	1555	1792	1712	1683	1792	1712	1851
Q Serve(g_s), s	5.8	22.6	22.7	6.0	10.6	7.9	9.0	22.1	22.1	13.7	6.0	6.0
Cycle Q Clear(g_c), s	5.8	22.6	22.7	6.0	10.6	7.9	9.0	22.1	22.1	13.7	6.0	6.0
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.58	1.00		0.09
Lane Grp Cap(c), veh/h	96	473	465	96	946	412	177	1285	632	260	1443	780
V/C Ratio(X)	0.96	0.82	0.82	1.09	0.43	0.33	0.83	0.64	0.64	0.89	0.48	0.48
Avail Cap(c_a), veh/h	96	529	520	96	1058	460	257	1285	632	450	1443	780
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82	0.95	0.95	0.95
Uniform Delay (d), s/veh	52.7	38.5	38.5	52.8	34.0	33.0	49.3	28.7	28.7	38.7	5.5	5.5
Incr Delay (d2), s/veh	80.0	8.8	9.1	117.9	0.3	0.5	11.6	2.0	4.1	9.9	1.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	12.3	12.2	6.1	5.3	3.4	5.0	10.8	11.0	7.4	2.8	3.2
LnGrp Delay(d),s/veh	132.6	47.3	47.6	170.7	34.4	33.5	60.9	30.7	32.8	48.6	6.6	7.6
LnGrp LOS	F	D	D	F	C	C	E	C	C	D	A	A
Approach Vol, veh/h		859			649			1376			1302	
Approach Delay, s/veh		56.6			56.2			34.5			14.3	
Approach LOS		E			E			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	34.5	15.0	60.5	10.0	34.5	20.2	55.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	33.0	16.0	47.0	6.0	33.0	28.0	35.0
Max Q Clear Time (g_c+I1), s	8.0	24.7	11.0	8.0	7.8	12.6	15.7	24.1
Green Ext Time (p_c), s	0.0	4.8	0.2	24.3	0.0	8.4	0.5	9.1

Intersection Summary	
HCM 2010 Ctrl Delay	36.1
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	196	732	397	198	953	0	0	1176	60
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.97	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
Adj Sat Flow, veh/h/ln				190.0	188.1	188.1	188.1	188.1	0.0	0.0	188.1	190.0
Adj Flow Rate, veh/h				209	779	245	211	1014	0	0	1251	51
Adj No. of Lanes				0	3	1	1	2	0	0	3	0
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				1	1	1	1	1	0	0	1	1
Cap, veh/h				239	962	354	246	2440	0	0	2568	105
Arrive On Green				0.23	0.23	0.23	0.14	0.68	0.00	0.00	1.00	1.00
Sat Flow, veh/h				1046	4207	1550	1792	3668	0	0	5227	206
Grp Volume(v), veh/h				366	622	245	211	1014	0	0	847	455
Grp Sat Flow(s),veh/h/ln				1829	1712	1550	1792	1787	0	0	1712	1840
Q Serve(g_s), s				20.6	18.3	15.5	12.3	13.4	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				20.6	18.3	15.5	12.3	13.4	0.0	0.0	0.0	0.0
Prop In Lane				0.57		1.00	1.00		0.00	0.00		0.11
Lane Grp Cap(c), veh/h				418	783	354	246	2440	0	0	1739	934
V/C Ratio(X)				0.87	0.80	0.69	0.86	0.42	0.00	0.00	0.49	0.49
Avail Cap(c_a), veh/h				641	1200	543	402	2440	0	0	1739	934
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.77	0.77	0.00	0.00	0.81	0.81
Uniform Delay (d), s/veh				39.8	38.9	37.8	45.1	7.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				8.5	2.1	2.4	7.8	0.4	0.0	0.0	0.8	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
%ile BackOfQ(50%),veh/ln				11.3	8.9	6.8	6.6	6.8	0.0	0.0	0.2	0.4
LnGrp Delay(d),s/veh				48.3	41.0	40.2	52.9	7.9	0.0	0.0	0.8	1.5
LnGrp LOS				D	D	D	D	A			A	A
Approach Vol, veh/h					1233			1225			1302	
Approach Delay, s/veh					43.0			15.7			1.0	
Approach LOS					D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	18.7	72.4		28.9		91.1		
Change Period (Y+Rc), s	4.0	5.0		4.5		5.0		
Max Green Setting (Gmax), s	24.0	45.0		37.5		73.0		
Max Q Clear Time (g_c+I1), s	14.3	2.0		22.6		15.4		
Green Ext Time (p_c), s	0.4	26.6		0.1		31.3		

Intersection Summary	
HCM 2010 Ctrl Delay	19.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	143	1226	270	0	0	0	0	1011	188	580	805	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3				0.0	188.1	188.1	188.1	188.1	0.0
Adj Flow Rate, veh/h	152	1304	241				0	1076	179	617	856	0
Adj No. of Lanes	0	4	1				0	3	1	2	3	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	1	1	1	1	0
Cap, veh/h	170	1574	396				0	1904	569	828	3355	0
Arrive On Green	0.26	0.26	0.26				0.00	0.37	0.37	0.48	1.00	0.00
Sat Flow, veh/h	648	5989	1507				0	5305	1534	3476	5305	0
Grp Volume(v), veh/h	430	1026	241				0	1076	179	617	856	0
Grp Sat Flow(s),veh/h/ln	1830	1602	1507				0	1712	1534	1738	1712	0
Q Serve(g_s), s	25.6	22.7	15.9				0.0	18.9	9.4	16.3	0.0	0.0
Cycle Q Clear(g_c), s	25.6	22.7	15.9				0.0	18.9	9.4	16.3	0.0	0.0
Prop In Lane	0.35		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	481	1263	396				0	1904	569	828	3355	0
V/C Ratio(X)	0.89	0.81	0.61				0.00	0.57	0.31	0.74	0.26	0.00
Avail Cap(c_a), veh/h	590	1548	486				0	1904	569	828	3355	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.92	0.92	0.78	0.78	0.00
Uniform Delay (d), s/veh	40.2	39.1	36.6				0.0	28.4	25.4	26.8	0.0	0.0
Incr Delay (d2), s/veh	13.9	2.8	1.5				0.0	1.1	1.3	2.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.7	10.3	13.3				0.0	9.1	4.2	8.1	0.0	0.0
LnGrp Delay(d),s/veh	54.1	41.9	38.1				0.0	29.5	26.7	29.8	0.1	0.0
LnGrp LOS	D	D	D					C	C	C	A	
Approach Vol, veh/h		1697						1255			1473	
Approach Delay, s/veh		44.5						29.1			12.5	
Approach LOS		D						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		85.7		34.3	38.7	47.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		74.0		36.5	27.0	* 42		
Max Q Clear Time (g_c+I1), s		2.0		27.6	18.3	20.9		
Green Ext Time (p_c), s		11.6		0.0	5.2	8.7		

Intersection Summary	
HCM 2010 Ctrl Delay	29.5
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	35	34	14	107	40	211	37	966	71	52	923	50
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	184.5	184.5	188.1	188.1	188.1	186.3	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	38	37	-1	116	43	0	40	1050	76	57	1003	53
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	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, %	3	3	3	1	1	1	2	2	2	1	1	1
Cap, veh/h	132	129	227	152	160	136	73	2558	185	88	1854	98
Arrive On Green	0.14	0.14	0.00	0.08	0.08	0.00	0.04	0.53	0.53	0.10	1.00	1.00
Sat Flow, veh/h	912	888	1568	1792	1881	1599	1774	4825	349	1792	3445	182
Grp Volume(v), veh/h	75	0	-1	116	43	0	40	737	389	57	520	536
Grp Sat Flow(s),veh/h/ln	1799	0	1568	1792	1881	1599	1774	1695	1783	1792	1787	1840
Q Serve(g_s), s	3.5	0.0	0.0	6.0	2.0	0.0	2.1	12.3	12.4	2.9	0.0	0.0
Cycle Q Clear(g_c), s	3.5	0.0	0.0	6.0	2.0	0.0	2.1	12.3	12.4	2.9	0.0	0.0
Prop In Lane	0.51		1.00	1.00		1.00	1.00		0.20	1.00		0.10
Lane Grp Cap(c), veh/h	261	0	227	152	160	136	73	1797	945	88	962	990
V/C Ratio(X)	0.29	0.00	0.00	0.76	0.27	0.00	0.55	0.41	0.41	0.64	0.54	0.54
Avail Cap(c_a), veh/h	544	0	474	218	229	195	226	1797	945	228	962	990
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	36.0	0.0	0.0	42.2	40.4	0.0	44.3	13.3	13.3	41.7	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	9.3	0.9	0.0	6.2	0.7	1.3	7.3	2.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	3.4	1.1	0.0	1.1	5.9	6.4	1.6	0.6	0.6
LnGrp Delay(d),s/veh	36.6	0.0	0.0	51.5	41.3	0.0	50.5	14.0	14.6	49.0	2.1	2.0
LnGrp LOS	D			D	D		D	B	B	D	A	A
Approach Vol, veh/h		74			159			1166			1113	
Approach Delay, s/veh		37.1			48.8			15.5			4.5	
Approach LOS		D			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.9	81.4		18.2	8.7	80.7		12.5
Change Period (Y+Rc), s	4.0	5.0		4.5	4.0	5.0		4.5
Max Green Setting (Gmax), s	12.0	50.0		28.5	12.0	50.0		11.5
Max Q Clear Time (g_c+I1), s	4.1	2.0		5.5	4.9	14.4		8.0
Green Ext Time (p_c), s	0.0	25.0		0.3	0.0	21.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.3
HCM 2010 LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	177	1654	1037	68	138	213
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	188.1	190.0	188.1	188.1
Adj Flow Rate, veh/h	197	1838	1152	63	153	88
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	364	4073	2684	147	197	176
Arrive On Green	0.20	0.79	0.54	0.54	0.11	0.11
Sat Flow, veh/h	1792	5305	5149	272	1792	1599
Grp Volume(v), veh/h	197	1838	792	423	153	88
Grp Sat Flow(s),veh/h/ln	1792	1712	1712	1828	1792	1599
Q Serve(g_s), s	9.7	11.3	13.6	13.7	8.2	5.1
Cycle Q Clear(g_c), s	9.7	11.3	13.6	13.7	8.2	5.1
Prop In Lane	1.00			0.15	1.00	1.00
Lane Grp Cap(c), veh/h	364	4073	1845	985	197	176
V/C Ratio(X)	0.54	0.45	0.43	0.43	0.77	0.50
Avail Cap(c_a), veh/h	364	4073	1845	985	592	528
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	35.1	3.3	13.6	13.6	42.6	41.2
Incr Delay (d2), s/veh	1.6	0.4	0.7	1.4	6.4	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	4.9	5.4	6.6	7.2	4.4	2.4
LnGrp Delay(d),s/veh	36.7	3.6	14.3	15.0	48.9	43.4
LnGrp LOS	D	A	B	B	D	D
Approach Vol, veh/h		2035	1215		241	
Approach Delay, s/veh		6.8	14.6		46.9	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	46.7	58.0		15.3		104.7		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	20.0	* 53		32.5		78.0		
Max Q Clear Time (g_c+I1), s	11.7	15.7		10.2		13.3		
Green Ext Time (p_c), s	6.9	10.7		0.7		27.8		

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B

Notes

* HCM 2010 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												
Volume (veh/h)	87	1455	134	202	740	35	190	49	422	63	42	45
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	0.95		0.93	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	184.5	184.5	190.0	190.0	190.0	190.0	190.0	190.0	190.0
Adj Flow Rate, veh/h	92	1532	65	213	779	34	200	52	265	66	44	31
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	0
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, %	1	1	1	3	3	3	0	0	0	0	0	0
Cap, veh/h	120	1800	76	544	1536	67	432	569	452	380	303	214
Arrive On Green	0.07	0.36	0.36	0.16	0.45	0.45	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1792	5044	214	3408	3417	149	1284	1900	1508	1043	1013	713
Grp Volume(v), veh/h	92	1040	557	213	399	414	200	52	265	66	0	75
Grp Sat Flow(s),veh/h/ln	1792	1712	1835	1704	1752	1813	1284	1900	1508	1043	0	1726
Q Serve(g_s), s	4.1	22.9	22.9	4.6	13.2	13.3	11.0	1.6	12.2	4.0	0.0	2.6
Cycle Q Clear(g_c), s	4.1	22.9	22.9	4.6	13.2	13.3	13.6	1.6	12.2	5.6	0.0	2.6
Prop In Lane	1.00		0.12	1.00		0.08	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	120	1222	655	544	788	815	432	569	452	380	0	517
V/C Ratio(X)	0.77	0.85	0.85	0.39	0.51	0.51	0.46	0.09	0.59	0.17	0.00	0.15
Avail Cap(c_a), veh/h	286	1344	720	544	788	815	520	699	555	452	0	635
HCM Platoon Ratio	1.00	1.00	1.00	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	37.4	24.2	24.2	30.7	16.0	16.0	25.9	20.6	24.3	22.6	0.0	20.9
Incr Delay (d2), s/veh	9.9	5.0	9.0	2.1	2.3	2.3	0.8	0.1	1.2	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	2.4	11.5	13.1	2.3	6.8	7.1	4.0	0.8	5.2	1.2	0.0	1.2
LnGrp Delay(d),s/veh	47.3	29.3	33.2	32.8	18.3	18.2	26.7	20.6	25.5	22.8	0.0	21.0
LnGrp LOS	D	C	C	C	B	B	C	C	C	C		C
Approach Vol, veh/h		1689			1026			517			141	
Approach Delay, s/veh		31.5			21.3			25.4			21.8	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.4	50.1		29.4	18.0	42.6		29.4
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	13.0	32.0		30.0	13.0	32.0		30.0
Max Q Clear Time (g_c+I1), s	6.1	15.3		7.6	6.6	24.9		15.6
Green Ext Time (p_c), s	0.1	13.5		2.7	0.4	4.2		2.4

Intersection Summary	
HCM 2010 Ctrl Delay	27.1
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	39	1027	18	0	1088
Conflicting Peds, #/hr	0	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	2	1	1
Mvmt Flow	0	42	1116	20	0	1183

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1599	577	0	0	1136	0
Stage 1	1126	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.32	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.11	-
Pot Cap-1 Maneuver	156	398	-	-	339	-
Stage 1	206	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	155	395	-	-	336	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	206	-	-	-	-	-
Stage 2	543	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	395	336	-
HCM Lane V/C Ratio	-	-	0.107	-	-
HCM Control Delay (s)	-	-	15.2	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	16	6	0	0	0	0	1347	72	68	736	7
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				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
Adj Sat Flow, veh/h/ln	190.0	184.5	190.0				0.0	184.5	190.0	181.0	181.0	190.0
Adj Flow Rate, veh/h	16	18	1				0	1497	0	76	818	8
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	3	0				0	3	3	5	5	5
Cap, veh/h	48	54	3				0	3601	0	203	4161	41
Arrive On Green	0.06	0.06	0.06				0.00	0.72	0.00	0.06	0.82	0.82
Sat Flow, veh/h	819	922	51				0	5368	0	3343	5044	49
Grp Volume(v), veh/h	35	0	0				0	1497	0	76	534	292
Grp Sat Flow(s),veh/h/ln	1792	0	0				0	1679	0	1672	1647	1800
Q Serve(g_s), s	1.5	0.0	0.0				0.0	9.8	0.0	1.8	2.8	2.8
Cycle Q Clear(g_c), s	1.5	0.0	0.0				0.0	9.8	0.0	1.8	2.8	2.8
Prop In Lane	0.46		0.03				0.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	104	0	0				0	3601	0	203	2717	1485
V/C Ratio(X)	0.34	0.00	0.00				0.00	0.42	0.00	0.38	0.20	0.20
Avail Cap(c_a), veh/h	408	0	0				0	3601	0	782	2717	1485
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.74	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	0.0	0.0				0.0	4.7	0.0	36.7	1.5	1.5
Incr Delay (d2), s/veh	1.9	0.0	0.0				0.0	0.3	0.0	1.1	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0				0.0	4.5	0.0	0.9	1.2	1.4
LnGrp Delay(d),s/veh	38.6	0.0	0.0				0.0	5.0	0.0	37.8	1.6	1.8
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		35						1497			902	
Approach Delay, s/veh		38.6						5.0			4.7	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		85.8		9.2	8.9	76.9		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		67.0		18.5	19.0	44.0		
Max Q Clear Time (g_c+I1), s		4.8		3.5	3.8	11.8		
Green Ext Time (p_c), s		33.1		0.0	0.2	22.3		

Intersection Summary	
HCM 2010 Ctrl Delay	5.4
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	233	49	162	651	232	95	1101	104	79	596	21
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	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
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	188.1	188.1	188.1	184.5	184.5	190.0	182.7	182.7	182.7
Adj Flow Rate, veh/h	53	253	48	176	708	172	103	1197	113	86	648	23
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	2	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, %	2	2	2	1	1	1	3	3	3	4	4	4
Cap, veh/h	67	530	99	268	1084	474	134	1609	152	133	1195	532
Arrive On Green	0.04	0.18	0.18	0.15	0.30	0.30	0.08	0.34	0.34	0.15	0.69	0.69
Sat Flow, veh/h	1774	2969	554	1792	3574	1562	1757	4673	441	1740	3471	1545
Grp Volume(v), veh/h	53	149	152	176	708	172	103	860	450	86	648	23
Grp Sat Flow(s),veh/h/ln	1774	1770	1754	1792	1787	1562	1757	1679	1757	1740	1736	1545
Q Serve(g_s), s	2.2	5.7	5.9	7.0	13.0	4.7	4.3	17.0	17.1	3.5	7.0	0.3
Cycle Q Clear(g_c), s	2.2	5.7	5.9	7.0	13.0	4.7	4.3	17.0	17.1	3.5	7.0	0.3
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	67	316	313	268	1084	474	134	1156	605	133	1195	532
V/C Ratio(X)	0.79	0.47	0.49	0.66	0.65	0.36	0.77	0.74	0.74	0.65	0.54	0.04
Avail Cap(c_a), veh/h	164	656	650	285	1609	703	233	1156	605	230	1195	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	0.99	0.99	0.99
Uniform Delay (d), s/veh	36.0	27.8	27.9	30.3	22.9	10.7	34.2	21.8	21.8	31.0	8.8	4.5
Incr Delay (d2), s/veh	18.3	1.1	1.2	5.0	0.7	0.5	6.9	3.4	6.3	5.2	1.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.9	2.9	3.8	6.5	2.5	2.4	8.4	9.3	1.9	3.6	0.2
LnGrp Delay(d),s/veh	54.3	28.9	29.1	35.3	23.5	11.1	41.2	25.2	28.1	36.2	10.5	4.6
LnGrp LOS	D	C	C	D	C	B	D	C	C	D	B	A
Approach Vol, veh/h		354			1056			1413			757	
Approach Delay, s/veh		32.8			23.5			27.3			13.3	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.3	18.5	29.2	31.0	6.9	27.9	29.2	31.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	12.0	* 28	10.0	26.0	7.0	34.0	10.0	26.0
Max Q Clear Time (g_c+I1), s	9.0	7.9	6.3	9.0	4.2	15.0	5.5	19.1
Green Ext Time (p_c), s	1.7	1.7	0.2	4.2	0.0	6.0	0.2	4.5

Intersection Summary	
HCM 2010 Ctrl Delay	23.7
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	0	0	0	249	1095	450	166	884	0	0	740	76
Number				7	4	14	1	6	16	5	2	12
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		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				184.5	184.5	184.5	182.7	182.7	0.0	190.0	181.0	181.0
Adj Flow Rate, veh/h				259	1141	295	173	921	0	0	771	50
Adj No. of Lanes				1	3	1	2	2	0	0	3	1
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	3	3	4	4	0	5	5	5
Cap, veh/h				575	1648	502	267	1887	0	0	2026	627
Arrive On Green				0.33	0.33	0.33	0.08	0.54	0.00	0.00	0.82	0.82
Sat Flow, veh/h				1757	5036	1534	3375	3563	0	0	5103	1528
Grp Volume(v), veh/h				259	1141	295	173	921	0	0	771	50
Grp Sat Flow(s),veh/h/ln				1757	1679	1534	1688	1736	0	0	1647	1528
Q Serve(g_s), s				8.6	14.5	11.8	3.7	12.1	0.0	0.0	3.0	0.5
Cycle Q Clear(g_c), s				8.6	14.5	11.8	3.7	12.1	0.0	0.0	3.0	0.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				575	1648	502	267	1887	0	0	2026	627
V/C Ratio(X)				0.45	0.69	0.59	0.65	0.49	0.00	0.00	0.38	0.08
Avail Cap(c_a), veh/h				1086	3114	949	413	1887	0	0	2026	627
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.92	0.92	0.00	0.00	0.86	0.86
Uniform Delay (d), s/veh				19.5	21.5	20.6	32.9	10.4	0.0	0.0	4.2	3.9
Incr Delay (d2), s/veh				0.6	0.5	1.1	2.4	0.8	0.0	0.0	0.5	0.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.2	6.7	5.2	1.8	6.0	0.0	0.0	1.4	0.2
LnGrp Delay(d),s/veh				20.1	22.1	21.7	35.3	11.3	0.0	0.0	4.6	4.2
LnGrp LOS				C	C	C	D	B			A	A
Approach Vol, veh/h					1695			1094			821	
Approach Delay, s/veh					21.7			15.1			4.6	
Approach LOS					C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	9.8	56.6		28.6		66.4		
Change Period (Y+Rc), s	4.0	5.0		4.5		5.0		
Max Green Setting (Gmax), s	9.0	27.0		45.5		40.0		
Max Q Clear Time (g_c+I1), s	5.7	5.0		16.5		14.1		
Green Ext Time (p_c), s	0.2	13.0		7.6		14.4		

Intersection Summary	
HCM 2010 Ctrl Delay	15.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	134	731	153	0	0	0	0	908	111	254	733	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	182.7	182.7				0.0	182.7	182.7	182.7	182.7	0.0
Adj Flow Rate, veh/h	154	840	113				0	1044	91	292	843	0
Adj No. of Lanes	0	4	1				0	4	1	2	2	0
Peak Hour Factor	0.87	0.87	0.87				0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	4	4				0	4	4	4	4	0
Cap, veh/h	243	1438	382				0	2348	562	631	2162	0
Arrive On Green	0.26	0.26	0.26				0.00	0.37	0.37	0.37	1.00	0.00
Sat Flow, veh/h	937	5556	1475				0	6540	1505	3375	3563	0
Grp Volume(v), veh/h	293	701	113				0	1044	91	292	843	0
Grp Sat Flow(s),veh/h/ln	1780	1571	1475				0	1571	1505	1688	1736	0
Q Serve(g_s), s	11.7	10.4	4.9				0.0	10.0	3.2	5.3	0.0	0.0
Cycle Q Clear(g_c), s	11.7	10.4	4.9				0.0	10.0	3.2	5.3	0.0	0.0
Prop In Lane	0.53		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	461	1220	382				0	2348	562	631	2162	0
V/C Ratio(X)	0.63	0.57	0.30				0.00	0.44	0.16	0.46	0.39	0.00
Avail Cap(c_a), veh/h	787	2084	652				0	2348	562	631	2162	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.93	0.93	0.90	0.90	0.00
Uniform Delay (d), s/veh	26.4	25.9	23.9				0.0	18.9	16.8	22.1	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.4	0.4				0.0	0.6	0.6	0.5	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	4.5	4.4				0.0	4.4	1.4	2.5	0.1	0.0
LnGrp Delay(d),s/veh	27.8	26.3	24.3				0.0	19.5	17.3	22.6	0.5	0.0
LnGrp LOS	C	C	C					B	B	C	A	
Approach Vol, veh/h		1107						1135			1135	
Approach Delay, s/veh		26.5						19.3			6.2	
Approach LOS		C						B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		69.7		25.3	34.7	35.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		50.0		35.5	15.0	* 30		
Max Q Clear Time (g_c+I1), s		2.0		13.7	7.3	12.0		
Green Ext Time (p_c), s		8.9		0.0	4.1	7.5		

Intersection Summary	
HCM 2010 Ctrl Delay	17.2
HCM 2010 LOS	B

Notes

* HCM 2010 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												
Volume (veh/h)	9	54	8	59	28	94	26	911	85	104	823	30
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3	181.0	181.0	181.0	182.7	182.7	190.0	182.7	182.7	190.0
Adj Flow Rate, veh/h	10	59	-1	64	30	0	28	990	91	113	895	32
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	5	5	5	4	4	4	4	4	4
Cap, veh/h	61	358	359	114	120	102	61	1839	169	142	1517	54
Arrive On Green	0.23	0.23	0.00	0.07	0.07	0.00	0.03	0.40	0.40	0.16	0.89	0.89
Sat Flow, veh/h	268	1581	1583	1723	1810	1538	1740	4630	424	1740	3416	122
Grp Volume(v), veh/h	69	0	-1	64	30	0	28	710	371	113	455	472
Grp Sat Flow(s),veh/h/ln	1849	0	1583	1723	1810	1538	1740	1663	1729	1740	1736	1803
Q Serve(g_s), s	2.4	0.0	0.0	2.8	1.2	0.0	1.2	12.9	13.0	4.9	4.9	4.9
Cycle Q Clear(g_c), s	2.4	0.0	0.0	2.8	1.2	0.0	1.2	12.9	13.0	4.9	4.9	4.9
Prop In Lane	0.14		1.00	1.00		1.00	1.00		0.25	1.00		0.07
Lane Grp Cap(c), veh/h	419	0	359	114	120	102	61	1321	687	142	771	800
V/C Ratio(X)	0.16	0.00	0.00	0.56	0.25	0.00	0.46	0.54	0.54	0.80	0.59	0.59
Avail Cap(c_a), veh/h	633	0	542	197	207	176	132	1321	687	265	771	800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	24.5	0.0	0.0	35.7	34.9	0.0	37.3	18.2	18.2	32.4	2.7	2.7
Incr Delay (d2), s/veh	0.2	0.0	0.0	4.2	1.1	0.0	5.4	1.6	3.0	9.0	3.1	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	1.5	0.7	0.0	0.7	6.2	6.8	2.7	2.6	2.6
LnGrp Delay(d),s/veh	24.7	0.0	0.0	39.9	36.0	0.0	42.7	19.8	21.3	41.4	5.8	5.7
LnGrp LOS	C			D	D		D	B	C	D	A	A
Approach Vol, veh/h		68			94			1109			1040	
Approach Delay, s/veh		25.0			38.7			20.9			9.6	
Approach LOS		C			D			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.8	56.2		22.4	10.4	52.5		9.7
Change Period (Y+Rc), s	4.0	5.0		4.5	4.0	5.0		4.5
Max Green Setting (Gmax), s	6.0	35.0		27.0	12.0	29.0		9.0
Max Q Clear Time (g_c+I1), s	3.2	6.9		4.4	6.9	15.0		4.8
Green Ext Time (p_c), s	0.0	16.8		0.3	0.1	10.3		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.6
HCM 2010 LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	97	1068	1287	40	44	114
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	184.5	184.5	186.3	190.0	184.5	184.5
Adj Flow Rate, veh/h	105	1161	1399	31	48	47
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	2	2	3	3
Cap, veh/h	295	3925	2735	61	132	118
Arrive On Green	0.17	0.78	0.53	0.53	0.08	0.08
Sat Flow, veh/h	1757	5202	5281	113	1757	1568
Grp Volume(v), veh/h	105	1161	928	502	48	47
Grp Sat Flow(s),veh/h/ln	1757	1679	1695	1836	1757	1568
Q Serve(g_s), s	3.5	4.3	11.5	11.5	1.7	1.9
Cycle Q Clear(g_c), s	3.5	4.3	11.5	11.5	1.7	1.9
Prop In Lane	1.00			0.06	1.00	1.00
Lane Grp Cap(c), veh/h	295	3925	1813	982	132	118
V/C Ratio(X)	0.36	0.30	0.51	0.51	0.36	0.40
Avail Cap(c_a), veh/h	295	3925	1813	982	792	707
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	24.1	2.1	9.7	9.7	28.8	28.8
Incr Delay (d2), s/veh	0.7	0.2	1.0	1.9	1.7	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	2.0	5.5	6.2	0.9	0.9
LnGrp Delay(d),s/veh	24.8	2.3	10.8	11.6	30.4	31.0
LnGrp LOS	C	A	B	B	C	C
Approach Vol, veh/h		1266	1430		95	
Approach Delay, s/veh		4.1	11.1		30.7	
Approach LOS		A	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	40.6	40.0		9.4		80.6		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	11.0	* 35		29.5		51.0		
Max Q Clear Time (g_c+I1), s	5.5	13.5		3.9		6.3		
Green Ext Time (p_c), s	3.6	10.6		0.2		11.7		

Intersection Summary	
HCM 2010 Ctrl Delay	8.6
HCM 2010 LOS	A

Notes

* HCM 2010 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												
Volume (veh/h)	18	568	131	452	1367	9	99	20	143	9	45	12
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.98	0.93		0.92	0.93		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	179.2	179.2	190.0	188.1	188.1	190.0	186.3	186.3	186.3	186.3	186.3	190.0
Adj Flow Rate, veh/h	20	638	54	508	1536	10	111	22	53	10	51	13
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	0
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, %	6	6	6	1	1	1	2	2	2	2	2	2
Cap, veh/h	45	1600	134	616	1820	12	417	549	428	435	412	105
Arrive On Green	0.03	0.35	0.35	0.18	0.50	0.50	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1707	4580	384	3476	3640	24	1235	1863	1451	1221	1399	357
Grp Volume(v), veh/h	20	453	239	508	754	792	111	22	53	10	0	64
Grp Sat Flow(s),veh/h/ln	1707	1631	1702	1738	1787	1876	1235	1863	1451	1221	0	1756
Q Serve(g_s), s	1.0	8.8	8.9	11.8	30.6	30.7	6.1	0.7	2.2	0.5	0.0	2.2
Cycle Q Clear(g_c), s	1.0	8.8	8.9	11.8	30.6	30.7	8.3	0.7	2.2	1.2	0.0	2.2
Prop In Lane	1.00		0.23	1.00		0.01	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	45	1140	594	616	894	938	417	549	428	435	0	518
V/C Ratio(X)	0.44	0.40	0.40	0.82	0.84	0.84	0.27	0.04	0.12	0.02	0.00	0.12
Avail Cap(c_a), veh/h	122	1140	594	828	894	938	450	599	466	468	0	564
HCM Platoon Ratio	1.00	1.00	1.00	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	20.6	20.7	33.3	18.2	18.2	24.7	21.1	21.7	21.6	0.0	21.7
Incr Delay (d2), s/veh	6.5	0.2	0.4	5.1	9.6	9.2	0.3	0.0	0.1	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.0	4.3	6.1	17.2	18.0	2.1	0.4	0.9	0.2	0.0	1.1
LnGrp Delay(d),s/veh	46.8	20.9	21.1	38.4	27.7	27.4	25.1	21.2	21.8	21.6	0.0	21.8
LnGrp LOS	D	C	C	D	C	C	C	C	C	C		C
Approach Vol, veh/h		712			2054			186			74	
Approach Delay, s/veh		21.7			30.2			23.7			21.8	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.2	47.0		29.8	19.9	34.3		29.8
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	6.0	42.0		27.0	20.0	28.0		27.0
Max Q Clear Time (g_c+I1), s	3.0	32.7		4.2	13.8	10.9		10.3
Green Ext Time (p_c), s	0.0	7.9		1.0	1.1	13.3		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	27.6
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	30	984	30	0	922
Conflicting Peds, #/hr	0	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	4	4	4
Mvmt Flow	0	33	1070	33	0	1002

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1487	557	0	0	1102	0
Stage 1	1086	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.38	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.14	-
Pot Cap-1 Maneuver	178	410	-	-	344	-
Stage 1	217	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	177	408	-	-	342	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	217	-	-	-	-	-
Stage 2	593	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6		
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	408	342	-
HCM Lane V/C Ratio	-	-	0.08	-	-
HCM Control Delay (s)	-	-	14.6	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												
Volume (veh/h)	40	40	17	0	0	0	0	1191	72	180	1347	35
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94				1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	190.0	190.0				0.0	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	42	42	10				0	1254	0	189	1418	33
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	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	2	2	1	1	1
Cap, veh/h	76	76	18				0	3415	0	279	4114	96
Arrive On Green	0.09	0.09	0.09				0.00	0.67	0.00	0.08	0.80	0.80
Sat Flow, veh/h	809	809	193				0	5421	0	3476	5160	120
Grp Volume(v), veh/h	94	0	0				0	1254	0	189	941	510
Grp Sat Flow(s),veh/h/ln	1811	0	0				0	1695	0	1738	1712	1857
Q Serve(g_s), s	4.4	0.0	0.0				0.0	9.4	0.0	4.6	6.7	6.7
Cycle Q Clear(g_c), s	4.4	0.0	0.0				0.0	9.4	0.0	4.6	6.7	6.7
Prop In Lane	0.45		0.11				0.00		0.00	1.00		0.06
Lane Grp Cap(c), veh/h	171	0	0				0	3415	0	279	2730	1480
V/C Ratio(X)	0.55	0.00	0.00				0.00	0.37	0.00	0.68	0.34	0.34
Avail Cap(c_a), veh/h	423	0	0				0	3415	0	752	2730	1480
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.66	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	0.0	0.0				0.0	6.3	0.0	39.3	2.5	2.5
Incr Delay (d2), s/veh	2.7	0.0	0.0				0.0	0.2	0.0	2.9	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0				0.0	4.5	0.0	2.3	3.3	3.7
LnGrp Delay(d),s/veh	40.7	0.0	0.0				0.0	6.5	0.0	42.2	2.8	3.1
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		94						1254			1640	
Approach Delay, s/veh		40.7						6.5			7.5	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		87.2		12.8	11.0	76.2		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		70.0		20.5	19.0	47.0		
Max Q Clear Time (g_c+I1), s		8.7		6.4	6.6	11.4		
Green Ext Time (p_c), s		40.1		0.0	0.5	27.3		

Intersection Summary	
HCM 2010 Ctrl Delay	8.1
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	91	634	124	103	400	195	144	975	241	225	1018	43
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	1.00		0.97	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
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	188.1	188.1	188.1	188.1	188.1	190.0	188.1	188.1	188.1
Adj Flow Rate, veh/h	93	647	119	105	408	136	147	995	234	230	1039	33
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	119	830	152	154	1100	480	224	1169	274	263	1089	481
Arrive On Green	0.07	0.28	0.28	0.09	0.31	0.31	0.13	0.28	0.28	0.29	0.61	0.61
Sat Flow, veh/h	1792	2994	550	1792	3574	1562	1792	4133	970	1792	3574	1579
Grp Volume(v), veh/h	93	386	380	105	408	136	147	824	405	230	1039	33
Grp Sat Flow(s),veh/h/ln	1792	1787	1757	1792	1787	1562	1792	1712	1679	1792	1787	1579
Q Serve(g_s), s	4.7	18.3	18.4	5.2	8.2	3.9	7.2	20.9	21.0	11.2	24.9	0.6
Cycle Q Clear(g_c), s	4.7	18.3	18.4	5.2	8.2	3.9	7.2	20.9	21.0	11.2	24.9	0.6
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.58	1.00		1.00
Lane Grp Cap(c), veh/h	119	495	487	154	1100	480	224	969	475	263	1089	481
V/C Ratio(X)	0.78	0.78	0.78	0.68	0.37	0.28	0.65	0.85	0.85	0.87	0.95	0.07
Avail Cap(c_a), veh/h	175	545	535	214	1206	527	273	969	475	312	1089	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80	0.95	0.95	0.95
Uniform Delay (d), s/veh	42.2	30.6	30.6	40.8	24.9	10.1	38.3	31.1	31.1	31.6	17.3	7.4
Incr Delay (d2), s/veh	12.6	6.5	6.7	5.2	0.2	0.3	3.3	7.6	14.4	19.5	17.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	9.9	9.8	2.8	4.1	2.4	3.8	10.9	11.6	6.9	14.5	0.4
LnGrp Delay(d),s/veh	54.8	37.1	37.4	45.9	25.1	10.4	41.6	38.7	45.5	51.1	34.9	7.6
LnGrp LOS	D	D	D	D	C	B	D	D	D	D	C	A
Approach Vol, veh/h		859			649			1376			1302	
Approach Delay, s/veh		39.2			25.4			41.0			37.1	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	30.5	23.6	33.0	10.1	33.3	25.6	31.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	* 28	14.0	28.0	9.0	31.0	16.0	26.0
Max Q Clear Time (g_c+I1), s	7.2	20.4	9.2	26.9	6.7	10.2	13.2	23.0
Green Ext Time (p_c), s	1.3	2.9	0.5	0.7	0.0	3.4	0.3	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	37.0
HCM 2010 LOS	D

Notes

* HCM 2010 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												
Volume (veh/h)	0	0	0	196	732	397	198	953	0	0	1176	60
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.97	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
Adj Sat Flow, veh/h/ln				188.1	188.1	188.1	188.1	188.1	0.0	190.0	188.1	188.1
Adj Flow Rate, veh/h				209	779	245	211	1014	0	0	1251	51
Adj No. of Lanes				1	3	1	2	2	0	0	3	1
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				1	1	1	1	1	0	1	1	1
Cap, veh/h				424	1216	367	303	2300	0	0	2597	792
Arrive On Green				0.24	0.24	0.24	0.09	0.64	0.00	0.00	1.00	1.00
Sat Flow, veh/h				1792	5136	1551	3476	3668	0	0	5305	1565
Grp Volume(v), veh/h				209	779	245	211	1014	0	0	1251	51
Grp Sat Flow(s),veh/h/ln				1792	1712	1551	1738	1787	0	0	1712	1565
Q Serve(g_s), s				8.0	10.8	11.4	4.7	11.2	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				8.0	10.8	11.4	4.7	11.2	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				424	1216	367	303	2300	0	0	2597	792
V/C Ratio(X)				0.49	0.64	0.67	0.70	0.44	0.00	0.00	0.48	0.06
Avail Cap(c_a), veh/h				893	2559	773	526	2300	0	0	2597	792
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.74	0.74	0.00	0.00	0.46	0.46
Uniform Delay (d), s/veh				26.1	27.2	27.4	35.1	7.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.9	0.6	2.1	2.1	0.5	0.0	0.0	0.3	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
%ile BackOfQ(50%),veh/ln				4.1	5.2	5.0	2.3	5.6	0.0	0.0	0.1	0.0
LnGrp Delay(d),s/veh				27.0	27.8	29.5	37.3	7.5	0.0	0.0	0.3	0.1
LnGrp LOS				C	C	C	D	A			A	A
Approach Vol, veh/h					1233			1225			1302	
Approach Delay, s/veh					28.0			12.6			0.3	
Approach LOS					C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	10.9	65.8		23.3		76.7		
Change Period (Y+Rc), s	4.0	5.0		4.5		5.0		
Max Green Setting (Gmax), s	12.0	35.0		39.5		51.0		
Max Q Clear Time (g_c+I1), s	6.7	2.0		13.4		13.2		
Green Ext Time (p_c), s	0.3	22.7		4.9		24.9		

Intersection Summary	
HCM 2010 Ctrl Delay	13.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	143	1226	270	0	0	0	0	1011	188	580	805	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				1.00		0.95	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3				0.0	188.1	188.1	188.1	188.1	0.0
Adj Flow Rate, veh/h	152	1304	241				0	1076	179	617	856	0
Adj No. of Lanes	0	4	1				0	4	1	2	2	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	1	1	1	1	0
Cap, veh/h	185	1706	431				0	1809	426	972	2191	0
Arrive On Green	0.28	0.28	0.28				0.00	0.28	0.28	0.56	1.00	0.00
Sat Flow, veh/h	648	5989	1513				0	6735	1523	3476	3668	0
Grp Volume(v), veh/h	430	1026	241				0	1076	179	617	856	0
Grp Sat Flow(s),veh/h/ln	1830	1602	1513				0	1618	1523	1738	1787	0
Q Serve(g_s), s	20.4	18.1	12.6				0.0	13.4	8.9	11.3	0.0	0.0
Cycle Q Clear(g_c), s	20.4	18.1	12.6				0.0	13.4	8.9	11.3	0.0	0.0
Prop In Lane	0.35		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	522	1369	431				0	1809	426	972	2191	0
V/C Ratio(X)	0.82	0.75	0.56				0.00	0.59	0.42	0.63	0.39	0.00
Avail Cap(c_a), veh/h	659	1731	545				0	1809	426	972	2191	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.91	0.91	0.82	0.82	0.00
Uniform Delay (d), s/veh	31.1	30.2	28.3				0.0	28.9	27.3	17.3	0.0	0.0
Incr Delay (d2), s/veh	6.8	1.4	1.1				0.0	1.3	2.8	1.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	8.2	10.7				0.0	6.1	4.1	5.4	0.1	0.0
LnGrp Delay(d),s/veh	37.8	31.6	29.4				0.0	30.3	30.1	18.4	0.4	0.0
LnGrp LOS	D	C	C					C	C	B	A	
Approach Vol, veh/h		1697						1255			1473	
Approach Delay, s/veh		32.9						30.2			7.9	
Approach LOS		C						C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		69.0		31.0	38.0	31.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		57.0		33.5	26.0	* 26		
Max Q Clear Time (g_c+I1), s		2.0		22.4	13.3	15.4		
Green Ext Time (p_c), s		11.5		0.0	6.7	5.8		

Intersection Summary	
HCM 2010 Ctrl Delay	23.8
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	35	34	14	107	40	211	37	966	71	52	923	50
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	184.5	184.5	188.1	188.1	188.1	186.3	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	38	37	-1	116	43	0	40	1050	76	57	1003	53
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	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, %	3	3	3	1	1	1	2	2	2	1	1	1
Cap, veh/h	144	140	247	157	165	140	79	2250	163	98	1641	87
Arrive On Green	0.16	0.16	0.00	0.09	0.09	0.00	0.04	0.47	0.47	0.11	0.95	0.95
Sat Flow, veh/h	912	888	1568	1792	1881	1599	1774	4823	349	1792	3444	182
Grp Volume(v), veh/h	75	0	-1	116	43	0	40	738	388	57	520	536
Grp Sat Flow(s),veh/h/ln	1799	0	1568	1792	1881	1599	1774	1695	1782	1792	1787	1839
Q Serve(g_s), s	2.8	0.0	0.0	4.9	1.6	0.0	1.7	11.4	11.5	2.3	2.5	2.5
Cycle Q Clear(g_c), s	2.8	0.0	0.0	4.9	1.6	0.0	1.7	11.4	11.5	2.3	2.5	2.5
Prop In Lane	0.51		1.00	1.00		1.00	1.00		0.20	1.00		0.10
Lane Grp Cap(c), veh/h	284	0	247	157	165	140	79	1581	831	98	852	876
V/C Ratio(X)	0.26	0.00	0.00	0.74	0.26	0.00	0.50	0.47	0.47	0.58	0.61	0.61
Avail Cap(c_a), veh/h	629	0	549	232	244	207	207	1581	831	209	852	876
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	28.6	0.0	0.0	34.3	32.9	0.0	36.0	14.0	14.0	33.5	1.0	1.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	6.6	0.8	0.0	4.9	1.0	1.9	4.8	2.9	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	1.4	0.0	0.0	2.7	0.9	0.0	0.9	5.5	6.0	1.3	1.4	1.4
LnGrp Delay(d),s/veh	29.1	0.0	0.0	40.9	33.7	0.0	40.9	15.0	15.9	38.3	4.0	3.9
LnGrp LOS	C			D	C		D	B	B	D	A	A
Approach Vol, veh/h		74			159			1166			1113	
Approach Delay, s/veh		29.5			39.0			16.2			5.7	
Approach LOS		C			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.5	64.6		16.7	8.2	63.8		11.3
Change Period (Y+Rc), s	4.0	5.0		4.5	4.0	5.0		4.5
Max Green Setting (Gmax), s	9.0	36.0		27.0	9.0	36.0		10.0
Max Q Clear Time (g_c+I1), s	3.7	4.5		4.8	4.3	13.5		6.9
Green Ext Time (p_c), s	0.0	19.8		0.3	0.0	15.7		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	13.4
HCM 2010 LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	177	1654	1037	68	138	213
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	188.1	190.0	188.1	188.1
Adj Flow Rate, veh/h	197	1838	1152	63	153	88
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	547	3810	1810	99	215	192
Arrive On Green	0.31	0.74	0.36	0.36	0.12	0.12
Sat Flow, veh/h	1792	5305	5147	272	1792	1599
Grp Volume(v), veh/h	197	1838	792	423	153	88
Grp Sat Flow(s),veh/h/ln	1792	1712	1712	1826	1792	1599
Q Serve(g_s), s	5.9	9.9	13.2	13.2	5.6	3.5
Cycle Q Clear(g_c), s	5.9	9.9	13.2	13.2	5.6	3.5
Prop In Lane	1.00			0.15	1.00	1.00
Lane Grp Cap(c), veh/h	547	3810	1245	664	215	192
V/C Ratio(X)	0.36	0.48	0.64	0.64	0.71	0.46
Avail Cap(c_a), veh/h	547	3810	1245	664	769	686
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	18.6	3.6	18.1	18.1	29.1	28.2
Incr Delay (d2), s/veh	0.4	0.4	2.5	4.6	4.3	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.8	6.6	7.4	3.1	1.6
LnGrp Delay(d),s/veh	19.0	4.0	20.6	22.7	33.4	29.9
LnGrp LOS	B	A	C	C	C	C
Approach Vol, veh/h		2035	1215		241	
Approach Delay, s/veh		5.5	21.3		32.1	
Approach LOS		A	C		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	47.3	30.0		12.7		77.3		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	21.0	* 25		29.5		51.0		
Max Q Clear Time (g_c+I1), s	7.9	15.2		7.6		11.9		
Green Ext Time (p_c), s	10.2	5.5		0.7		22.1		

Intersection Summary	
HCM 2010 Ctrl Delay	12.8
HCM 2010 LOS	B

Notes

* HCM 2010 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												
Volume (veh/h)	87	1455	134	202	740	35	190	49	422	63	42	45
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	0.95		0.93	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	184.5	184.5	190.0	190.0	190.0	190.0	190.0	190.0	190.0
Adj Flow Rate, veh/h	92	1532	65	213	779	34	200	52	265	66	44	31
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	0
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, %	1	1	1	3	3	3	0	0	0	0	0	0
Cap, veh/h	119	2128	90	332	1547	68	429	566	449	378	302	213
Arrive On Green	0.07	0.42	0.42	0.10	0.45	0.45	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1792	5046	214	3408	3417	149	1283	1900	1507	1043	1013	713
Grp Volume(v), veh/h	92	1039	558	213	399	414	200	52	265	66	0	75
Grp Sat Flow(s),veh/h/ln	1792	1712	1836	1704	1752	1813	1283	1900	1507	1043	0	1726
Q Serve(g_s), s	4.1	20.7	20.7	4.9	13.3	13.3	11.1	1.6	12.3	4.0	0.0	2.6
Cycle Q Clear(g_c), s	4.1	20.7	20.7	4.9	13.3	13.3	13.7	1.6	12.3	5.6	0.0	2.6
Prop In Lane	1.00		0.12	1.00		0.08	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	119	1444	774	332	794	821	429	566	449	378	0	514
V/C Ratio(X)	0.77	0.72	0.72	0.64	0.50	0.50	0.47	0.09	0.59	0.17	0.00	0.15
Avail Cap(c_a), veh/h	218	1585	850	332	794	821	500	671	533	436	0	610
HCM Platoon Ratio	1.00	1.00	1.00	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	37.7	19.7	19.7	35.7	15.9	15.9	26.2	20.8	24.5	22.8	0.0	21.1
Incr Delay (d2), s/veh	10.2	1.5	2.7	9.2	2.3	2.2	0.8	0.1	1.2	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	2.4	10.0	11.0	2.7	6.8	7.0	4.0	0.9	5.3	1.2	0.0	1.3
LnGrp Delay(d),s/veh	47.9	21.2	22.4	44.8	18.2	18.1	27.0	20.9	25.8	23.0	0.0	21.3
LnGrp LOS	D	C	C	D	B	B	C	C	C	C		C
Approach Vol, veh/h		1689			1026			517			141	
Approach Delay, s/veh		23.0			23.7			25.7			22.1	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.4	50.1		29.5	13.0	47.5		29.5
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	36.0		29.0	8.0	38.0		29.0
Max Q Clear Time (g_c+I1), s	6.1	15.3		7.6	6.9	22.7		15.7
Green Ext Time (p_c), s	0.1	16.1		2.7	0.1	11.9		2.3

Intersection Summary	
HCM 2010 Ctrl Delay	23.6
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	39	1027	18	0	1088
Conflicting Peds, #/hr	0	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	2	1	1
Mvmt Flow	0	42	1116	20	0	1183

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1599	577	0	0	1136	0
Stage 1	1126	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.32	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.11	-
Pot Cap-1 Maneuver	156	398	-	-	339	-
Stage 1	206	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	155	395	-	-	336	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	206	-	-	-	-	-
Stage 2	543	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	395	336	-
HCM Lane V/C Ratio	-	-	0.107	-	-
HCM Control Delay (s)	-	-	15.2	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	16	6	0	0	0	0	1347	72	68	736	7
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				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
Adj Sat Flow, veh/h/ln	190.0	184.5	190.0				0.0	184.5	190.0	181.0	181.0	190.0
Adj Flow Rate, veh/h	16	18	1				0	1497	0	76	818	8
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	3	0				0	3	3	5	5	5
Cap, veh/h	48	54	3				0	3601	0	203	4161	41
Arrive On Green	0.06	0.06	0.06				0.00	0.72	0.00	0.06	0.82	0.82
Sat Flow, veh/h	819	922	51				0	5368	0	3343	5044	49
Grp Volume(v), veh/h	35	0	0				0	1497	0	76	534	292
Grp Sat Flow(s),veh/h/ln	1792	0	0				0	1679	0	1672	1647	1800
Q Serve(g_s), s	1.5	0.0	0.0				0.0	9.8	0.0	1.8	2.8	2.8
Cycle Q Clear(g_c), s	1.5	0.0	0.0				0.0	9.8	0.0	1.8	2.8	2.8
Prop In Lane	0.46		0.03				0.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	104	0	0				0	3601	0	203	2717	1485
V/C Ratio(X)	0.34	0.00	0.00				0.00	0.42	0.00	0.38	0.20	0.20
Avail Cap(c_a), veh/h	408	0	0				0	3601	0	782	2717	1485
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.75	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	0.0	0.0				0.0	4.7	0.0	36.7	1.5	1.5
Incr Delay (d2), s/veh	1.9	0.0	0.0				0.0	0.3	0.0	1.1	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0				0.0	4.5	0.0	0.9	1.2	1.4
LnGrp Delay(d),s/veh	38.6	0.0	0.0				0.0	5.0	0.0	37.8	1.6	1.8
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		35						1497			902	
Approach Delay, s/veh		38.6						5.0			4.7	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		85.8		9.2	8.9	76.9		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		67.0		18.5	19.0	44.0		
Max Q Clear Time (g_c+I1), s		4.8		3.5	3.8	11.8		
Green Ext Time (p_c), s		33.1		0.0	0.2	22.3		

Intersection Summary	
HCM 2010 Ctrl Delay	5.4
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	233	49	162	651	232	95	1101	104	79	596	21
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	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
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	188.1	188.1	188.1	184.5	184.5	190.0	182.7	182.7	190.0
Adj Flow Rate, veh/h	53	253	48	176	708	172	103	1197	113	86	648	23
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	1	1	1	3	3	3	4	4	4
Cap, veh/h	67	529	99	264	1074	469	186	1669	157	115	1570	56
Arrive On Green	0.04	0.18	0.18	0.15	0.30	0.30	0.11	0.36	0.36	0.13	0.63	0.63
Sat Flow, veh/h	1774	2969	554	1792	3574	1562	1757	4673	441	1740	4945	175
Grp Volume(v), veh/h	53	149	152	176	708	172	103	860	450	86	435	236
Grp Sat Flow(s),veh/h/ln	1774	1770	1754	1792	1787	1562	1757	1679	1757	1740	1663	1795
Q Serve(g_s), s	2.2	5.7	5.9	7.0	13.1	4.8	4.2	16.7	16.7	3.6	4.9	4.9
Cycle Q Clear(g_c), s	2.2	5.7	5.9	7.0	13.1	4.8	4.2	16.7	16.7	3.6	4.9	4.9
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.25	1.00		0.10
Lane Grp Cap(c), veh/h	67	315	312	264	1074	469	186	1199	628	115	1055	570
V/C Ratio(X)	0.79	0.47	0.49	0.67	0.66	0.37	0.55	0.72	0.72	0.75	0.41	0.41
Avail Cap(c_a), veh/h	211	655	650	284	1513	661	279	1199	628	207	1055	570
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	0.99	0.99	0.99
Uniform Delay (d), s/veh	36.1	27.9	28.0	30.5	23.1	11.2	32.1	21.0	21.0	32.2	10.3	10.3
Incr Delay (d2), s/veh	18.1	1.1	1.2	5.3	0.7	0.5	2.0	2.9	5.4	9.0	1.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.9	3.0	3.9	6.5	2.5	2.1	8.2	9.1	2.0	2.4	2.7
LnGrp Delay(d),s/veh	54.1	29.0	29.1	35.8	23.8	11.7	34.1	23.9	26.4	41.2	11.5	12.5
LnGrp LOS	D	C	C	D	C	B	C	C	C	D	B	B
Approach Vol, veh/h		354			1056			1413			757	
Approach Delay, s/veh		32.8			23.8			25.4			15.2	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	18.5	31.4	29.0	6.9	27.7	28.4	32.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	12.0	* 28	12.0	24.0	9.0	32.0	9.0	27.0
Max Q Clear Time (g_c+I1), s	9.0	7.9	6.2	6.9	4.2	15.1	5.6	18.7
Green Ext Time (p_c), s	1.7	1.7	0.2	4.1	0.0	5.7	0.2	5.2

Intersection Summary	
HCM 2010 Ctrl Delay	23.5
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	0	0	0	249	1095	450	166	884	0	0	740	76
Number				7	4	14	1	6	16	5	2	12
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
Adj Sat Flow, veh/h/ln				190.0	184.5	184.5	182.7	182.7	0.0	0.0	181.0	190.0
Adj Flow Rate, veh/h				259	1141	295	173	921	0	0	771	50
Adj No. of Lanes				0	3	1	1	2	0	0	3	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	3	3	4	4	0	0	5	5
Cap, veh/h				283	1341	483	214	1956	0	0	1846	119
Arrive On Green				0.31	0.31	0.31	0.12	0.56	0.00	0.00	0.78	0.78
Sat Flow, veh/h				898	4259	1533	1740	3563	0	0	4904	306
Grp Volume(v), veh/h				519	881	295	173	921	0	0	535	286
Grp Sat Flow(s),veh/h/ln				1800	1679	1533	1740	1736	0	0	1647	1754
Q Serve(g_s), s				21.7	19.0	12.7	7.6	12.3	0.0	0.0	4.2	4.2
Cycle Q Clear(g_c), s				21.7	19.0	12.7	7.6	12.3	0.0	0.0	4.2	4.2
Prop In Lane				0.50		1.00	1.00		0.00	0.00		0.17
Lane Grp Cap(c), veh/h				567	1057	483	214	1956	0	0	1282	683
V/C Ratio(X)				0.92	0.83	0.61	0.81	0.47	0.00	0.00	0.42	0.42
Avail Cap(c_a), veh/h				956	1784	815	379	1956	0	0	1282	683
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.85	0.85	0.00	0.00	0.92	0.92
Uniform Delay (d), s/veh				25.8	24.8	22.7	33.4	10.1	0.0	0.0	5.7	5.7
Incr Delay (d2), s/veh				8.1	1.8	1.3	6.1	0.7	0.0	0.0	0.9	1.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.9	9.1	5.6	4.0	6.1	0.0	0.0	1.9	2.2
LnGrp Delay(d),s/veh				33.8	26.6	23.9	39.5	10.8	0.0	0.0	6.7	7.5
LnGrp LOS				C	C	C	D	B			A	A
Approach Vol, veh/h					1695			1094			821	
Approach Delay, s/veh					28.4			15.4			6.9	
Approach LOS					C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	13.6	52.3		29.1		65.9		
Change Period (Y+Rc), s	4.0	5.0		4.5		5.0		
Max Green Setting (Gmax), s	17.0	23.0		41.5		44.0		
Max Q Clear Time (g_c+I1), s	9.6	6.2		23.7		14.3		
Green Ext Time (p_c), s	0.3	10.8		0.0		15.3		

Intersection Summary	
HCM 2010 Ctrl Delay	19.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	134	731	153	0	0	0	0	908	111	254	733	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	182.7	182.7				0.0	182.7	182.7	182.7	182.7	0.0
Adj Flow Rate, veh/h	154	840	113				0	1044	91	292	843	0
Adj No. of Lanes	0	4	1				0	3	1	2	3	0
Peak Hour Factor	0.87	0.87	0.87				0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	4	4				0	4	4	4	4	0
Cap, veh/h	241	1431	380				0	1897	573	621	3122	0
Arrive On Green	0.26	0.26	0.26				0.00	0.38	0.38	0.37	1.00	0.00
Sat Flow, veh/h	937	5556	1475				0	5152	1505	3375	5152	0
Grp Volume(v), veh/h	293	701	113				0	1044	91	292	843	0
Grp Sat Flow(s),veh/h/ln	1780	1571	1475				0	1663	1505	1688	1663	0
Q Serve(g_s), s	11.9	10.6	5.0				0.0	13.4	3.2	5.4	0.0	0.0
Cycle Q Clear(g_c), s	11.9	10.6	5.0				0.0	13.4	3.2	5.4	0.0	0.0
Prop In Lane	0.53		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	458	1214	380				0	1897	573	621	3122	0
V/C Ratio(X)	0.64	0.58	0.30				0.00	0.55	0.16	0.47	0.27	0.00
Avail Cap(c_a), veh/h	754	1996	625				0	1897	573	621	3122	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.93	0.93	0.77	0.77	0.00
Uniform Delay (d), s/veh	26.9	26.4	24.3				0.0	19.8	16.6	22.7	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.4	0.4				0.0	1.1	0.6	0.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	4.6	4.5				0.0	6.3	1.4	2.5	0.0	0.0
LnGrp Delay(d),s/veh	28.4	26.8	24.8				0.0	20.9	17.2	23.1	0.2	0.0
LnGrp LOS	C	C	C					C	B	C	A	
Approach Vol, veh/h		1107						1135			1135	
Approach Delay, s/veh		27.0						20.6			6.1	
Approach LOS		C						C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		69.5		25.5	33.5	36.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		51.0		34.5	15.0	* 31		
Max Q Clear Time (g_c+I1), s		2.0		13.9	7.4	15.4		
Green Ext Time (p_c), s		8.9		0.0	4.0	7.0		

Intersection Summary	
HCM 2010 Ctrl Delay	17.8
HCM 2010 LOS	B

Notes

* HCM 2010 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												
Volume (veh/h)	9	54	8	59	28	94	26	911	85	104	823	30
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3	181.0	181.0	181.0	182.7	182.7	190.0	182.7	182.7	190.0
Adj Flow Rate, veh/h	10	59	-1	64	30	0	28	990	91	113	895	32
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	5	5	5	4	4	4	4	4	4
Cap, veh/h	61	359	359	115	121	102	36	1830	168	142	1515	54
Arrive On Green	0.23	0.23	0.00	0.07	0.07	0.00	0.02	0.40	0.40	0.16	0.89	0.89
Sat Flow, veh/h	268	1581	1583	1723	1810	1538	1740	4630	424	1740	3416	122
Grp Volume(v), veh/h	69	0	-1	64	30	0	28	710	371	113	455	472
Grp Sat Flow(s),veh/h/ln	1849	0	1583	1723	1810	1538	1740	1663	1729	1740	1736	1803
Q Serve(g_s), s	2.3	0.0	0.0	2.8	1.2	0.0	1.3	12.9	12.9	4.9	4.9	4.9
Cycle Q Clear(g_c), s	2.3	0.0	0.0	2.8	1.2	0.0	1.3	12.9	12.9	4.9	4.9	4.9
Prop In Lane	0.14		1.00	1.00		1.00	1.00		0.25	1.00		0.07
Lane Grp Cap(c), veh/h	420	0	359	115	121	102	36	1314	683	142	770	800
V/C Ratio(X)	0.16	0.00	0.00	0.56	0.25	0.00	0.79	0.54	0.54	0.80	0.59	0.59
Avail Cap(c_a), veh/h	637	0	545	202	212	180	111	1314	683	266	770	800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	24.3	0.0	0.0	35.5	34.7	0.0	38.2	18.2	18.3	32.2	2.7	2.7
Incr Delay (d2), s/veh	0.2	0.0	0.0	4.2	1.1	0.0	30.3	1.6	3.1	9.3	3.2	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	1.5	0.7	0.0	0.9	6.2	6.8	2.7	2.6	2.7
LnGrp Delay(d),s/veh	24.5	0.0	0.0	39.7	35.8	0.0	68.6	19.8	21.3	41.5	5.9	5.8
LnGrp LOS	C			D	D		E	B	C	D	A	A
Approach Vol, veh/h		68			94			1109			1040	
Approach Delay, s/veh		24.9			38.4			21.6			9.8	
Approach LOS		C			D			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	23.2	39.8		22.3	10.4	52.6		9.7
Change Period (Y+Rc), s	5.0	* 5		4.5	4.0	5.0		4.5
Max Green Setting (Gmax), s	5.0	34.799999		27.0	12.0	28.8		9.2
Max Q Clear Time (g_c+I1), s	3.3	6.9		4.3	6.9	14.9		4.8
Green Ext Time (p_c), s	0.0	6.8		0.3	0.1	6.2		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	17.0
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	97	1068	1287	40	44	114
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	184.5	184.5	186.3	190.0	184.5	184.5
Adj Flow Rate, veh/h	105	1161	1399	31	48	47
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	2	2	3	3
Cap, veh/h	295	3925	2735	61	132	118
Arrive On Green	0.17	0.78	0.53	0.53	0.08	0.08
Sat Flow, veh/h	1757	5202	5281	113	1757	1568
Grp Volume(v), veh/h	105	1161	928	502	48	47
Grp Sat Flow(s),veh/h/ln	1757	1679	1695	1836	1757	1568
Q Serve(g_s), s	3.5	4.3	11.5	11.5	1.7	1.9
Cycle Q Clear(g_c), s	3.5	4.3	11.5	11.5	1.7	1.9
Prop In Lane	1.00			0.06	1.00	1.00
Lane Grp Cap(c), veh/h	295	3925	1813	982	132	118
V/C Ratio(X)	0.36	0.30	0.51	0.51	0.36	0.40
Avail Cap(c_a), veh/h	295	3925	1813	982	792	707
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	24.1	2.1	9.7	9.7	28.8	28.8
Incr Delay (d2), s/veh	0.7	0.2	1.0	1.9	1.7	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	2.0	5.5	6.2	0.9	0.9
LnGrp Delay(d),s/veh	24.8	2.3	10.8	11.6	30.4	31.0
LnGrp LOS	C	A	B	B	C	C
Approach Vol, veh/h		1266	1430		95	
Approach Delay, s/veh		4.1	11.1		30.7	
Approach LOS		A	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	40.6	40.0		9.4		80.6		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	11.0	* 35		29.5		51.0		
Max Q Clear Time (g_c+I1), s	5.5	13.5		3.9		6.3		
Green Ext Time (p_c), s	3.6	10.6		0.2		11.7		

Intersection Summary	
HCM 2010 Ctrl Delay	8.6
HCM 2010 LOS	A

Notes

* HCM 2010 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												
Volume (veh/h)	18	568	131	452	1367	9	99	20	143	9	45	12
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.98	0.93		0.92	0.93		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	179.2	179.2	190.0	188.1	188.1	190.0	186.3	186.3	186.3	186.3	186.3	190.0
Adj Flow Rate, veh/h	20	638	54	508	1536	10	111	22	53	10	51	13
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	0
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, %	6	6	6	1	1	1	2	2	2	2	2	2
Cap, veh/h	45	1600	134	616	1820	12	417	549	428	435	412	105
Arrive On Green	0.03	0.35	0.35	0.18	0.50	0.50	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1707	4580	384	3476	3640	24	1235	1863	1451	1221	1399	357
Grp Volume(v), veh/h	20	453	239	508	754	792	111	22	53	10	0	64
Grp Sat Flow(s),veh/h/ln	1707	1631	1702	1738	1787	1876	1235	1863	1451	1221	0	1756
Q Serve(g_s), s	1.0	8.8	8.9	11.8	30.6	30.7	6.1	0.7	2.2	0.5	0.0	2.2
Cycle Q Clear(g_c), s	1.0	8.8	8.9	11.8	30.6	30.7	8.3	0.7	2.2	1.2	0.0	2.2
Prop In Lane	1.00		0.23	1.00		0.01	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	45	1140	594	616	894	938	417	549	428	435	0	518
V/C Ratio(X)	0.44	0.40	0.40	0.82	0.84	0.84	0.27	0.04	0.12	0.02	0.00	0.12
Avail Cap(c_a), veh/h	122	1140	594	828	894	938	450	599	466	468	0	564
HCM Platoon Ratio	1.00	1.00	1.00	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	20.6	20.7	33.3	18.2	18.2	24.7	21.1	21.7	21.6	0.0	21.7
Incr Delay (d2), s/veh	6.5	0.2	0.4	5.1	9.6	9.2	0.3	0.0	0.1	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.0	4.3	6.1	17.2	18.0	2.1	0.4	0.9	0.2	0.0	1.1
LnGrp Delay(d),s/veh	46.8	20.9	21.1	38.4	27.7	27.4	25.1	21.2	21.8	21.6	0.0	21.8
LnGrp LOS	D	C	C	D	C	C	C	C	C	C		C
Approach Vol, veh/h		712			2054			186			74	
Approach Delay, s/veh		21.7			30.2			23.7			21.8	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.2	47.0		29.8	19.9	34.3		29.8
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	6.0	42.0		27.0	20.0	28.0		27.0
Max Q Clear Time (g_c+I1), s	3.0	32.7		4.2	13.8	10.9		10.3
Green Ext Time (p_c), s	0.0	7.9		1.0	1.1	13.3		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	27.6
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	30	984	30	0	922
Conflicting Peds, #/hr	0	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	4	4	4
Mvmt Flow	0	33	1070	33	0	1002

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1487	557	0	0	1102	0
Stage 1	1086	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.38	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.14	-
Pot Cap-1 Maneuver	178	410	-	-	344	-
Stage 1	217	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	177	408	-	-	342	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	217	-	-	-	-	-
Stage 2	593	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6		
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	408	342	-
HCM Lane V/C Ratio	-	-	0.08	-	-
HCM Control Delay (s)	-	-	14.6	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												
Volume (veh/h)	40	40	17	0	0	0	0	1191	72	180	1347	35
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94				1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	190.0	190.0				0.0	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	42	42	10				0	1254	0	189	1418	33
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	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	2	2	1	1	1
Cap, veh/h	76	76	18				0	3413	0	280	4114	96
Arrive On Green	0.09	0.09	0.09				0.00	0.67	0.00	0.08	0.80	0.80
Sat Flow, veh/h	809	809	193				0	5421	0	3476	5160	120
Grp Volume(v), veh/h	94	0	0				0	1254	0	189	941	510
Grp Sat Flow(s),veh/h/ln	1811	0	0				0	1695	0	1738	1712	1857
Q Serve(g_s), s	4.4	0.0	0.0				0.0	9.4	0.0	4.6	6.7	6.7
Cycle Q Clear(g_c), s	4.4	0.0	0.0				0.0	9.4	0.0	4.6	6.7	6.7
Prop In Lane	0.45		0.11				0.00		0.00	1.00		0.06
Lane Grp Cap(c), veh/h	171	0	0				0	3413	0	280	2730	1480
V/C Ratio(X)	0.55	0.00	0.00				0.00	0.37	0.00	0.68	0.34	0.34
Avail Cap(c_a), veh/h	423	0	0				0	3413	0	831	2730	1480
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.63	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	0.0	0.0				0.0	6.3	0.0	39.2	2.5	2.5
Incr Delay (d2), s/veh	2.7	0.0	0.0				0.0	0.2	0.0	2.8	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0				0.0	4.5	0.0	2.3	3.3	3.7
LnGrp Delay(d),s/veh	40.7	0.0	0.0				0.0	6.5	0.0	42.1	2.8	3.1
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		94						1254			1640	
Approach Delay, s/veh		40.7						6.5			7.4	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		87.2		12.8	11.1	76.1		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		70.0		20.5	21.0	45.0		
Max Q Clear Time (g_c+I1), s		8.7		6.4	6.6	11.4		
Green Ext Time (p_c), s		40.1		0.0	0.5	26.1		

Intersection Summary	
HCM 2010 Ctrl Delay	8.1
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	91	634	124	103	400	195	144	975	241	225	1018	43
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	1.00		0.97	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
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	188.1	188.1	188.1	188.1	188.1	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	93	647	119	105	408	136	147	995	234	230	1039	33
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	119	846	155	151	1113	486	269	1115	262	269	1379	44
Arrive On Green	0.07	0.28	0.28	0.08	0.31	0.31	0.15	0.27	0.27	0.30	0.54	0.54
Sat Flow, veh/h	1792	2995	550	1792	3574	1562	1792	4133	970	1792	5111	162
Grp Volume(v), veh/h	93	386	380	105	408	136	147	824	405	230	696	376
Grp Sat Flow(s),veh/h/ln	1792	1787	1757	1792	1787	1562	1792	1712	1678	1792	1712	1850
Q Serve(g_s), s	4.5	17.6	17.6	5.1	7.9	3.7	6.8	20.6	20.7	10.8	14.0	14.0
Cycle Q Clear(g_c), s	4.5	17.6	17.6	5.1	7.9	3.7	6.8	20.6	20.7	10.8	14.0	14.0
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.58	1.00		0.09
Lane Grp Cap(c), veh/h	119	505	496	151	1113	486	269	924	453	269	924	499
V/C Ratio(X)	0.78	0.76	0.77	0.70	0.37	0.28	0.55	0.89	0.89	0.86	0.75	0.75
Avail Cap(c_a), veh/h	161	562	553	201	1245	544	383	924	453	383	924	499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80	0.95	0.95	0.95
Uniform Delay (d), s/veh	40.9	29.2	29.2	39.6	23.8	9.3	35.0	31.2	31.3	30.2	18.2	18.2
Incr Delay (d2), s/veh	15.7	5.6	5.8	6.5	0.2	0.3	1.4	10.6	19.3	11.9	5.4	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	9.5	9.4	2.8	3.9	2.3	3.5	11.1	12.0	6.2	7.2	8.3
LnGrp Delay(d),s/veh	56.6	34.8	35.0	46.1	24.0	9.6	36.4	41.9	50.5	42.2	23.6	27.8
LnGrp LOS	E	C	C	D	C	A	D	D	D	D	C	C
Approach Vol, veh/h		859			649			1376			1302	
Approach Delay, s/veh		37.2			24.6			43.8			28.1	
Approach LOS		D			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	30.1	28.4	29.0	9.9	32.7	28.4	29.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	* 28	19.0	24.0	8.0	31.0	19.0	24.0
Max Q Clear Time (g_c+I1), s	7.1	19.6	8.8	16.0	6.5	9.9	12.8	22.7
Green Ext Time (p_c), s	1.0	3.1	0.8	4.2	0.0	3.4	0.6	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	34.6
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	0	0	0	196	732	397	198	953	0	0	1176	60
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.97	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
Adj Sat Flow, veh/h/ln				190.0	188.1	188.1	188.1	188.1	0.0	0.0	188.1	190.0
Adj Flow Rate, veh/h				209	779	245	211	1014	0	0	1251	51
Adj No. of Lanes				0	3	1	1	2	0	0	3	0
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				1	1	1	1	1	0	0	1	1
Cap, veh/h				250	1007	371	252	2318	0	0	2329	95
Arrive On Green				0.24	0.24	0.24	0.14	0.65	0.00	0.00	0.92	0.92
Sat Flow, veh/h				1046	4207	1551	1792	3668	0	0	5226	206
Grp Volume(v), veh/h				366	622	245	211	1014	0	0	847	455
Grp Sat Flow(s),veh/h/ln				1829	1712	1551	1792	1787	0	0	1712	1840
Q Serve(g_s), s				16.1	14.3	12.1	9.7	11.8	0.0	0.0	3.3	3.3
Cycle Q Clear(g_c), s				16.1	14.3	12.1	9.7	11.8	0.0	0.0	3.3	3.3
Prop In Lane				0.57		1.00	1.00		0.00	0.00		0.11
Lane Grp Cap(c), veh/h				438	820	371	252	2318	0	0	1577	847
V/C Ratio(X)				0.83	0.76	0.66	0.84	0.44	0.00	0.00	0.54	0.54
Avail Cap(c_a), veh/h				766	1433	649	380	2318	0	0	1577	847
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.63	0.63	0.00	0.00	0.69	0.69
Uniform Delay (d), s/veh				30.7	30.0	29.1	35.5	7.3	0.0	0.0	1.9	1.9
Incr Delay (d2), s/veh				4.2	1.5	2.0	6.4	0.4	0.0	0.0	0.9	1.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.6	6.9	5.4	5.3	5.9	0.0	0.0	1.5	1.8
LnGrp Delay(d),s/veh				34.9	31.5	31.1	41.9	7.7	0.0	0.0	2.8	3.6
LnGrp LOS				C	C	C	D	A			A	A
Approach Vol, veh/h					1233			1225			1302	
Approach Delay, s/veh					32.4			13.6			3.1	
Approach LOS					C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	15.9	59.2		24.8		75.2		
Change Period (Y+Rc), s	4.0	5.0		4.5		5.0		
Max Green Setting (Gmax), s	18.0	33.0		35.5		55.0		
Max Q Clear Time (g_c+I1), s	11.7	5.3		18.1		13.8		
Green Ext Time (p_c), s	0.3	19.8		0.1		25.9		

Intersection Summary	
HCM 2010 Ctrl Delay	16.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	143	1226	270	0	0	0	0	1011	188	580	805	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				1.00		0.95	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3				0.0	188.1	188.1	188.1	188.1	0.0
Adj Flow Rate, veh/h	152	1304	241				0	1076	179	617	856	0
Adj No. of Lanes	0	4	1				0	3	1	2	3	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	1	1	1	1	0
Cap, veh/h	184	1698	429				0	1581	470	885	3162	0
Arrive On Green	0.28	0.28	0.28				0.00	0.31	0.31	0.51	1.00	0.00
Sat Flow, veh/h	648	5989	1513				0	5305	1527	3476	5305	0
Grp Volume(v), veh/h	430	1026	241				0	1076	179	617	856	0
Grp Sat Flow(s),veh/h/ln	1830	1602	1513				0	1712	1527	1738	1712	0
Q Serve(g_s), s	20.7	18.3	12.8				0.0	17.3	8.7	12.7	0.0	0.0
Cycle Q Clear(g_c), s	20.7	18.3	12.8				0.0	17.3	8.7	12.7	0.0	0.0
Prop In Lane	0.35		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	519	1363	429				0	1581	470	885	3162	0
V/C Ratio(X)	0.83	0.75	0.56				0.00	0.68	0.38	0.70	0.27	0.00
Avail Cap(c_a), veh/h	631	1658	522				0	1581	470	885	3162	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.91	0.91	0.69	0.69	0.00
Uniform Delay (d), s/veh	31.6	30.7	28.8				0.0	28.6	25.6	20.3	0.0	0.0
Incr Delay (d2), s/veh	7.6	1.6	1.2				0.0	2.2	2.1	1.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.5	8.3	10.9				0.0	8.5	3.9	6.2	0.0	0.0
LnGrp Delay(d),s/veh	39.2	32.3	29.9				0.0	30.7	27.7	22.0	0.1	0.0
LnGrp LOS	D	C	C					C	C	C	A	
Approach Vol, veh/h		1697						1255			1473	
Approach Delay, s/veh		33.7						30.3			9.3	
Approach LOS		C						C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		68.8		31.2	34.8	34.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		58.0		32.5	24.0	* 29		
Max Q Clear Time (g_c+I1), s		2.0		22.7	14.7	19.3		
Green Ext Time (p_c), s		11.4		0.0	5.4	5.5		

Intersection Summary	
HCM 2010 Ctrl Delay	24.6
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	35	34	14	107	40	211	37	966	71	52	923	50
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	184.5	184.5	188.1	188.1	188.1	186.3	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	38	37	-1	116	43	0	40	1050	76	57	1003	53
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	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, %	3	3	3	1	1	1	2	2	2	1	1	1
Cap, veh/h	146	142	251	160	168	143	44	2184	158	100	1620	86
Arrive On Green	0.16	0.16	0.00	0.09	0.09	0.00	0.03	0.45	0.45	0.11	0.94	0.94
Sat Flow, veh/h	912	888	1568	1792	1881	1599	1774	4823	349	1792	3444	182
Grp Volume(v), veh/h	75	0	-1	116	43	0	40	738	388	57	520	536
Grp Sat Flow(s),veh/h/ln	1799	0	1568	1792	1881	1599	1774	1695	1781	1792	1787	1839
Q Serve(g_s), s	2.7	0.0	0.0	4.7	1.6	0.0	1.7	11.3	11.4	2.2	3.1	3.1
Cycle Q Clear(g_c), s	2.7	0.0	0.0	4.7	1.6	0.0	1.7	11.3	11.4	2.2	3.1	3.1
Prop In Lane	0.51		1.00	1.00		1.00	1.00		0.20	1.00		0.10
Lane Grp Cap(c), veh/h	288	0	251	160	168	143	44	1536	807	100	840	865
V/C Ratio(X)	0.26	0.00	0.00	0.72	0.26	0.00	0.90	0.48	0.48	0.57	0.62	0.62
Avail Cap(c_a), veh/h	665	0	579	301	316	269	143	1536	807	217	840	865
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	27.4	0.0	0.0	33.0	31.6	0.0	36.2	14.2	14.2	32.2	1.3	1.3
Incr Delay (d2), s/veh	0.5	0.0	0.0	6.1	0.8	0.0	41.4	1.1	2.1	4.8	3.2	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	1.4	0.0	0.0	2.6	0.9	0.0	1.3	5.5	6.0	1.2	1.8	1.9
LnGrp Delay(d),s/veh	27.9	0.0	0.0	39.0	32.4	0.0	77.5	15.3	16.3	37.0	4.5	4.4
LnGrp LOS	C			D	C		E	B	B	D	A	A
Approach Vol, veh/h		74			159			1166			1113	
Approach Delay, s/veh		28.3			37.2			17.8			6.1	
Approach LOS		C			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	32.4	40.0		16.4	8.2	64.3		11.2
Change Period (Y+Rc), s	5.0	* 5		4.5	4.0	5.0		4.5
Max Green Setting (Gmax), s	6.0	* 35		27.5	9.0	33.0		12.5
Max Q Clear Time (g_c+I1), s	3.7	5.1		4.7	4.2	13.4		6.7
Green Ext Time (p_c), s	0.1	8.2		0.3	0.0	7.9		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	14.2
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	177	1654	1037	68	138	213
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	188.1	190.0	188.1	188.1
Adj Flow Rate, veh/h	197	1838	1152	63	153	88
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	440	3816	2116	116	214	191
Arrive On Green	0.25	0.74	0.42	0.42	0.12	0.12
Sat Flow, veh/h	1792	5305	5148	272	1792	1599
Grp Volume(v), veh/h	197	1838	792	423	153	88
Grp Sat Flow(s),veh/h/ln	1792	1712	1712	1827	1792	1599
Q Serve(g_s), s	6.4	9.9	12.0	12.0	5.7	3.5
Cycle Q Clear(g_c), s	6.4	9.9	12.0	12.0	5.7	3.5
Prop In Lane	1.00			0.15	1.00	1.00
Lane Grp Cap(c), veh/h	440	3816	1455	776	214	191
V/C Ratio(X)	0.45	0.48	0.54	0.54	0.71	0.46
Avail Cap(c_a), veh/h	440	3816	1455	776	754	673
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	22.1	3.6	14.9	14.9	29.3	28.4
Incr Delay (d2), s/veh	0.7	0.4	1.5	2.7	4.4	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	4.7	5.9	6.6	3.1	1.7
LnGrp Delay(d),s/veh	22.8	4.0	16.3	17.6	33.7	30.1
LnGrp LOS	C	A	B	B	C	C
Approach Vol, veh/h		2035	1215		241	
Approach Delay, s/veh		5.8	16.8		32.4	
Approach LOS		A	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	42.8	34.4		12.8		77.2		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	17.0	* 29.4		29.1		51.4		
Max Q Clear Time (g_c+I1), s	8.4	14.0		7.7		11.9		
Green Ext Time (p_c), s	7.1	7.4		0.7		22.2		

Intersection Summary	
HCM 2010 Ctrl Delay	11.5
HCM 2010 LOS	B

Notes

* HCM 2010 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												
Volume (veh/h)	87	1455	134	202	740	35	190	49	422	63	42	45
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	0.95		0.93	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	184.5	184.5	190.0	190.0	190.0	190.0	190.0	190.0	190.0
Adj Flow Rate, veh/h	92	1532	65	213	779	34	200	52	265	66	44	31
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	0
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, %	1	1	1	3	3	3	0	0	0	0	0	0
Cap, veh/h	119	2128	90	332	1547	68	429	566	449	378	302	213
Arrive On Green	0.07	0.42	0.42	0.10	0.45	0.45	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1792	5046	214	3408	3417	149	1283	1900	1507	1043	1013	713
Grp Volume(v), veh/h	92	1039	558	213	399	414	200	52	265	66	0	75
Grp Sat Flow(s),veh/h/ln	1792	1712	1836	1704	1752	1813	1283	1900	1507	1043	0	1726
Q Serve(g_s), s	4.1	20.7	20.7	4.9	13.3	13.3	11.1	1.6	12.3	4.0	0.0	2.6
Cycle Q Clear(g_c), s	4.1	20.7	20.7	4.9	13.3	13.3	13.7	1.6	12.3	5.6	0.0	2.6
Prop In Lane	1.00		0.12	1.00		0.08	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	119	1444	774	332	794	821	429	566	449	378	0	514
V/C Ratio(X)	0.77	0.72	0.72	0.64	0.50	0.50	0.47	0.09	0.59	0.17	0.00	0.15
Avail Cap(c_a), veh/h	218	1585	850	332	794	821	500	671	533	436	0	610
HCM Platoon Ratio	1.00	1.00	1.00	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	37.7	19.7	19.7	35.7	15.9	15.9	26.2	20.8	24.5	22.8	0.0	21.1
Incr Delay (d2), s/veh	10.2	1.5	2.7	9.2	2.3	2.2	0.8	0.1	1.2	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	2.4	10.0	11.0	2.7	6.8	7.0	4.0	0.9	5.3	1.2	0.0	1.3
LnGrp Delay(d),s/veh	47.9	21.2	22.4	44.8	18.2	18.1	27.0	20.9	25.8	23.0	0.0	21.3
LnGrp LOS	D	C	C	D	B	B	C	C	C	C		C
Approach Vol, veh/h		1689			1026			517			141	
Approach Delay, s/veh		23.0			23.7			25.7			22.1	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.4	50.1		29.5	13.0	47.5		29.5
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	36.0		29.0	8.0	38.0		29.0
Max Q Clear Time (g_c+I1), s	6.1	15.3		7.6	6.9	22.7		15.7
Green Ext Time (p_c), s	0.1	16.1		2.7	0.1	11.9		2.3

Intersection Summary	
HCM 2010 Ctrl Delay	23.6
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	39	1027	18	0	1088
Conflicting Peds, #/hr	0	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	2	1	1
Mvmt Flow	0	42	1116	20	0	1183

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1599	577	0	0	1136	0
Stage 1	1126	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.32	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.11	-
Pot Cap-1 Maneuver	156	398	-	-	339	-
Stage 1	206	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	155	395	-	-	336	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	206	-	-	-	-	-
Stage 2	543	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	395	336	-
HCM Lane V/C Ratio	-	-	0.107	-	-
HCM Control Delay (s)	-	-	15.2	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	20	30	10	0	0	0	0	1760	100	90	960	10
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				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
Adj Sat Flow, veh/h/ln	190.0	184.5	190.0				0.0	184.5	190.0	181.0	181.0	190.0
Adj Flow Rate, veh/h	22	33	6				0	1913	0	98	1043	11
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0				0	3	3	5	5	5
Cap, veh/h	42	63	12				0	3702	0	194	4207	44
Arrive On Green	0.07	0.07	0.07				0.00	0.74	0.00	0.06	0.83	0.83
Sat Flow, veh/h	640	959	174				0	5368	0	3343	5039	53
Grp Volume(v), veh/h	61	0	0				0	1913	0	98	682	372
Grp Sat Flow(s),veh/h/ln	1773	0	0				0	1679	0	1672	1647	1799
Q Serve(g_s), s	3.2	0.0	0.0				0.0	15.6	0.0	2.7	4.1	4.1
Cycle Q Clear(g_c), s	3.2	0.0	0.0				0.0	15.6	0.0	2.7	4.1	4.1
Prop In Lane	0.36		0.10				0.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	117	0	0				0	3702	0	194	2749	1502
V/C Ratio(X)	0.52	0.00	0.00				0.00	0.52	0.00	0.51	0.25	0.25
Avail Cap(c_a), veh/h	379	0	0				0	3702	0	733	2749	1502
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.44	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	0.0	0.0				0.0	5.4	0.0	43.8	1.6	1.6
Incr Delay (d2), s/veh	3.5	0.0	0.0				0.0	0.2	0.0	2.0	0.2	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
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0				0.0	7.2	0.0	1.3	1.9	2.1
LnGrp Delay(d),s/veh	46.8	0.0	0.0				0.0	5.7	0.0	45.8	1.9	2.0
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		61						1913			1152	
Approach Delay, s/veh		46.8						5.7			5.7	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		99.2		10.8	9.6	89.6		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		80.0		20.5	21.0	55.0		
Max Q Clear Time (g_c+I1), s		6.1		5.2	4.7	17.6		
Green Ext Time (p_c), s		52.6		0.0	0.2	31.1		

Intersection Summary	
HCM 2010 Ctrl Delay	6.5
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	70	310	70	220	850	310	130	1440	140	110	780	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	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
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	188.1	188.1	188.1	184.5	184.5	190.0	182.7	182.7	182.7
Adj Flow Rate, veh/h	76	337	71	239	924	257	141	1565	152	120	848	33
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	2	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, %	2	2	2	1	1	1	3	3	3	4	4	4
Cap, veh/h	186	803	167	394	1115	487	174	1745	169	151	1257	560
Arrive On Green	0.04	0.28	0.28	0.08	0.31	0.31	0.10	0.37	0.37	0.03	0.12	0.12
Sat Flow, veh/h	1774	2912	606	1792	3574	1563	1757	4660	452	1740	3471	1545
Grp Volume(v), veh/h	76	203	205	239	924	257	141	1127	590	120	848	33
Grp Sat Flow(s),veh/h/ln	1774	1770	1748	1792	1787	1563	1757	1679	1755	1740	1736	1545
Q Serve(g_s), s	3.0	9.3	9.5	8.0	23.7	13.4	7.8	31.2	31.3	6.8	23.1	1.9
Cycle Q Clear(g_c), s	3.0	9.3	9.5	8.0	23.7	13.4	7.8	31.2	31.3	6.8	23.1	1.9
Prop In Lane	1.00		0.35	1.00		1.00	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	186	488	482	394	1115	487	174	1257	657	151	1257	560
V/C Ratio(X)	0.41	0.42	0.43	0.61	0.83	0.53	0.81	0.90	0.90	0.80	0.67	0.06
Avail Cap(c_a), veh/h	251	591	584	394	1194	522	338	1257	657	247	1257	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.55	0.55	0.55	0.98	0.98	0.98
Uniform Delay (d), s/veh	26.3	29.3	29.4	24.8	31.5	28.0	43.6	29.1	29.1	47.1	37.9	28.6
Incr Delay (d2), s/veh	1.4	0.6	0.6	2.7	4.8	0.9	5.0	6.0	10.7	9.0	2.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.6	4.6	2.1	12.4	5.9	4.0	15.5	17.0	3.7	11.6	0.8
LnGrp Delay(d),s/veh	27.7	29.8	30.0	27.5	36.3	28.9	48.6	35.1	39.8	56.1	40.8	28.8
LnGrp LOS	C	C	C	C	D	C	D	D	D	E	D	C
Approach Vol, veh/h		484			1420			1858			1001	
Approach Delay, s/veh		29.6			33.5			37.6			42.2	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	32.2	13.8	52.0	8.4	35.8	12.6	53.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	33.0	19.0	32.0	8.0	33.0	14.0	37.0
Max Q Clear Time (g_c+I1), s	10.0	11.5	9.8	25.1	5.0	25.7	8.8	33.3
Green Ext Time (p_c), s	0.0	10.7	0.2	6.3	0.0	5.1	0.1	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	36.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	330	1430	590	220	1150	0	0	970	100
Number				7	4	14	1	6	16	5	2	12
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		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				184.5	184.5	184.5	182.7	182.7	0.0	190.0	181.0	181.0
Adj Flow Rate, veh/h				344	1490	441	229	1198	0	0	1010	75
Adj No. of Lanes				1	3	1	2	2	0	0	3	1
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	3	3	4	4	0	5	5	5
Cap, veh/h				595	1706	520	303	1990	0	0	2206	683
Arrive On Green				0.34	0.34	0.34	0.09	0.57	0.00	0.00	0.89	0.89
Sat Flow, veh/h				1757	5036	1535	3375	3563	0	0	5103	1529
Grp Volume(v), veh/h				344	1490	441	229	1198	0	0	1010	75
Grp Sat Flow(s),veh/h/ln				1757	1679	1535	1688	1736	0	0	1647	1529
Q Serve(g_s), s				17.4	30.0	28.8	7.2	24.3	0.0	0.0	4.0	0.6
Cycle Q Clear(g_c), s				17.4	30.0	28.8	7.2	24.3	0.0	0.0	4.0	0.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				595	1706	520	303	1990	0	0	2206	683
V/C Ratio(X)				0.58	0.87	0.85	0.76	0.60	0.00	0.00	0.46	0.11
Avail Cap(c_a), veh/h				625	1793	546	624	1990	0	0	2206	683
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.86	0.86	0.00	0.00	0.83	0.83
Uniform Delay (d), s/veh				29.4	33.6	33.2	48.1	15.0	0.0	0.0	3.4	3.2
Incr Delay (d2), s/veh				1.2	4.9	11.6	3.3	1.2	0.0	0.0	0.6	0.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.6	14.7	13.8	3.5	12.0	0.0	0.0	1.8	0.3
LnGrp Delay(d),s/veh				30.6	38.5	44.7	51.4	16.2	0.0	0.0	4.0	3.5
LnGrp LOS				C	D	D	D	B			A	A
Approach Vol, veh/h					2275			1427			1085	
Approach Delay, s/veh					38.5			21.8			3.9	
Approach LOS					D			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	13.7	55.2		41.1		68.9		
Change Period (Y+Rc), s	4.0	5.0		4.5		5.0		
Max Green Setting (Gmax), s	20.0	38.0		38.5		62.0		
Max Q Clear Time (g_c+I1), s	9.2	6.0		32.0		26.3		
Green Ext Time (p_c), s	0.6	22.0		4.6		23.7		

Intersection Summary	
HCM 2010 Ctrl Delay	25.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	960	200	0	0	0	0	1190	150	340	960	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	182.7	182.7				0.0	182.7	182.7	182.7	182.7	0.0
Adj Flow Rate, veh/h	196	1043	157				0	1293	128	370	1043	0
Adj No. of Lanes	0	4	1				0	4	1	2	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4				0	4	4	4	4	0
Cap, veh/h	249	1437	383				0	2686	644	570	2242	0
Arrive On Green	0.26	0.26	0.26				0.00	0.43	0.43	0.34	1.00	0.00
Sat Flow, veh/h	959	5534	1476				0	6540	1507	3375	3563	0
Grp Volume(v), veh/h	364	875	157				0	1293	128	370	1043	0
Grp Sat Flow(s),veh/h/ln	1779	1571	1476				0	1571	1507	1688	1736	0
Q Serve(g_s), s	19.1	17.0	8.9				0.0	14.9	5.4	9.4	0.0	0.0
Cycle Q Clear(g_c), s	19.1	17.0	8.9				0.0	14.9	5.4	9.4	0.0	0.0
Prop In Lane	0.54		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	462	1224	383				0	2686	644	570	2242	0
V/C Ratio(X)	0.79	0.72	0.41				0.00	0.48	0.20	0.65	0.47	0.00
Avail Cap(c_a), veh/h	628	1663	521				0	2686	644	570	2242	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.80	0.80	0.85	0.85	0.00
Uniform Delay (d), s/veh	34.7	33.9	30.9				0.0	20.8	18.0	30.8	0.0	0.0
Incr Delay (d2), s/veh	4.7	0.9	0.7				0.0	0.5	0.6	2.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	7.5	7.7				0.0	6.6	2.3	4.5	0.2	0.0
LnGrp Delay(d),s/veh	39.4	34.8	31.6				0.0	21.3	18.6	33.0	0.6	0.0
LnGrp LOS	D	C	C					C	B	C	A	
Approach Vol, veh/h		1396						1421			1413	
Approach Delay, s/veh		35.6						21.0			9.1	
Approach LOS		D						C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		79.4		30.6	31.4	48.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		65.0		35.5	17.0	* 43		
Max Q Clear Time (g_c+I1), s		2.0		21.1	11.4	16.9		
Green Ext Time (p_c), s		12.8		0.0	3.8	11.5		

Intersection Summary	
HCM 2010 Ctrl Delay	21.9
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	20	80	20	80	40	130	40	1190	120	140	1070	40
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.88	1.00		1.00	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3	181.0	181.0	181.0	182.7	182.7	190.0	182.7	182.7	190.0
Adj Flow Rate, veh/h	22	87	12	87	43	0	43	1293	129	152	1163	42
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	5	5	5	4	4	4	4	4	4
Cap, veh/h	84	331	314	123	129	110	78	1765	176	187	1527	55
Arrive On Green	0.22	0.22	0.22	0.07	0.07	0.00	0.05	0.38	0.38	0.21	0.89	0.89
Sat Flow, veh/h	372	1472	1396	1723	1810	1538	1740	4588	458	1740	3415	123
Grp Volume(v), veh/h	109	0	12	87	43	0	43	937	485	152	591	614
Grp Sat Flow(s),veh/h/ln	1844	0	1396	1723	1810	1538	1740	1663	1721	1740	1736	1802
Q Serve(g_s), s	4.1	0.0	0.6	4.2	1.9	0.0	2.1	20.5	20.5	7.1	9.6	9.6
Cycle Q Clear(g_c), s	4.1	0.0	0.6	4.2	1.9	0.0	2.1	20.5	20.5	7.1	9.6	9.6
Prop In Lane	0.20		1.00	1.00		1.00	1.00		0.27	1.00		0.07
Lane Grp Cap(c), veh/h	415	0	314	123	129	110	78	1279	662	187	776	806
V/C Ratio(X)	0.26	0.00	0.04	0.71	0.33	0.00	0.55	0.73	0.73	0.81	0.76	0.76
Avail Cap(c_a), veh/h	640	0	485	233	245	208	266	1279	662	491	776	806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	27.1	0.0	25.8	38.6	37.5	0.0	39.7	22.4	22.4	32.6	3.0	3.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	7.2	1.5	0.0	5.9	3.7	7.0	7.3	6.1	5.9
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	2.1	0.0	0.2	2.3	1.0	0.0	1.1	10.0	11.0	3.7	5.1	5.2
LnGrp Delay(d),s/veh	27.5	0.0	25.8	45.8	39.0	0.0	45.6	26.2	29.5	39.8	9.1	8.9
LnGrp LOS	C		C	D	D		D	C	C	D	A	A
Approach Vol, veh/h		121			130			1465			1357	
Approach Delay, s/veh		27.3			43.6			27.8			12.5	
Approach LOS		C			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.8	68.0		23.6	13.1	62.7		10.6
Change Period (Y+Rc), s	4.0	5.0		4.5	4.0	5.0		4.5
Max Green Setting (Gmax), s	13.0	38.0		29.5	24.0	27.0		11.5
Max Q Clear Time (g_c+I1), s	4.1	11.6		6.1	9.1	22.5		6.2
Green Ext Time (p_c), s	0.0	20.9		0.6	0.3	4.2		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	21.7
HCM 2010 LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	130	1390	1680	60	60	150
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	184.5	184.5	186.3	190.0	184.5	184.5
Adj Flow Rate, veh/h	141	1511	1826	53	65	86
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	2	2	3	3
Cap, veh/h	282	4039	2942	85	142	126
Arrive On Green	0.16	0.80	0.58	0.58	0.08	0.08
Sat Flow, veh/h	1757	5202	5240	147	1757	1568
Grp Volume(v), veh/h	141	1511	1220	659	65	86
Grp Sat Flow(s),veh/h/ln	1757	1679	1695	1829	1757	1568
Q Serve(g_s), s	5.9	6.9	19.1	19.2	2.9	4.3
Cycle Q Clear(g_c), s	5.9	6.9	19.1	19.2	2.9	4.3
Prop In Lane	1.00			0.08	1.00	1.00
Lane Grp Cap(c), veh/h	282	4039	1966	1061	142	126
V/C Ratio(X)	0.50	0.37	0.62	0.62	0.46	0.68
Avail Cap(c_a), veh/h	282	4039	1966	1061	770	687
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	31.1	2.3	11.2	11.2	35.6	36.2
Incr Delay (d2), s/veh	1.4	0.3	1.5	2.7	2.3	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	3.2	9.2	10.3	1.5	2.1
LnGrp Delay(d),s/veh	32.4	2.5	12.6	13.9	37.9	42.5
LnGrp LOS	C	A	B	B	D	D
Approach Vol, veh/h		1652	1879		151	
Approach Delay, s/veh		5.1	13.1		40.5	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	47.0	52.0		11.0		99.0		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	13.0	* 47		35.5		65.0		
Max Q Clear Time (g_c+I1), s	7.9	21.2		6.3		8.9		
Green Ext Time (p_c), s	4.0	16.1		0.4		18.6		

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B

Notes

* HCM 2010 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												
Volume (veh/h)	30	740	180	590	1780	20	130	30	190	20	60	20
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.98	0.93		0.92	0.93		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	179.2	179.2	190.0	188.1	188.1	190.0	186.3	186.3	186.3	186.3	186.3	190.0
Adj Flow Rate, veh/h	33	804	106	641	1935	22	141	33	103	22	65	22
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	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, %	6	6	6	1	1	1	2	2	2	2	2	2
Cap, veh/h	66	1299	170	747	1720	20	413	567	443	428	394	133
Arrive On Green	0.04	0.30	0.30	0.22	0.48	0.48	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1707	4346	568	3476	3619	41	1217	1863	1455	1166	1295	438
Grp Volume(v), veh/h	33	602	308	641	953	1004	141	33	103	22	0	87
Grp Sat Flow(s),veh/h/ln	1707	1631	1652	1738	1787	1873	1217	1863	1455	1166	0	1733
Q Serve(g_s), s	1.6	13.1	13.3	14.7	39.2	39.2	7.9	1.0	4.4	1.1	0.0	3.0
Cycle Q Clear(g_c), s	1.6	13.1	13.3	14.7	39.2	39.2	11.0	1.0	4.4	2.2	0.0	3.0
Prop In Lane	1.00		0.34	1.00		0.02	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	66	975	494	747	849	890	413	567	443	428	0	528
V/C Ratio(X)	0.50	0.62	0.62	0.86	1.12	1.13	0.34	0.06	0.23	0.05	0.00	0.16
Avail Cap(c_a), veh/h	165	1027	520	884	849	890	455	632	494	468	0	588
HCM Platoon Ratio	1.00	1.00	1.00	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	38.9	24.9	25.0	31.2	21.7	21.7	25.0	20.3	21.5	21.1	0.0	21.0
Incr Delay (d2), s/veh	5.8	1.0	2.2	7.4	70.4	71.7	0.5	0.0	0.3	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	6.0	6.4	7.8	35.7	37.8	2.7	0.5	1.8	0.4	0.0	1.5
LnGrp Delay(d),s/veh	44.7	25.9	27.1	38.6	92.1	93.4	25.5	20.4	21.8	21.1	0.0	21.2
LnGrp LOS	D	C	C	D	F	F	C	C	C	C		C
Approach Vol, veh/h		943			2598			277			109	
Approach Delay, s/veh		27.0			79.4			23.5			21.2	
Approach LOS		C			E			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.2	44.2		30.1	22.8	29.7		30.1
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	8.0	39.0		28.0	21.0	26.0		28.0
Max Q Clear Time (g_c+I1), s	3.6	41.2		5.0	16.7	15.3		13.0
Green Ext Time (p_c), s	0.0	0.0		1.6	1.1	9.4		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	61.2
HCM 2010 LOS	E

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	40	1280	40	0	1200
Conflicting Peds, #/hr	0	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	4	4	4
Mvmt Flow	0	43	1391	43	0	1304

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1935	723	0	0	1435	0
Stage 1	1413	-	-	-	-	-
Stage 2	522	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.38	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.14	-
Pot Cap-1 Maneuver	104	320	-	-	235	-
Stage 1	137	-	-	-	-	-
Stage 2	516	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	103	318	-	-	234	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	137	-	-	-	-	-
Stage 2	513	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.1		
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	318	234	-
HCM Lane V/C Ratio	-	-	0.137	-	-
HCM Control Delay (s)	-	-	18.1	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	50	30	0	0	0	0	1430	90	220	1620	50
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				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
Adj Sat Flow, veh/h/ln	190.0	190.0	190.0				0.0	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	53	53	24				0	1505	0	232	1705	49
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	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	2	2	1	1	1
Cap, veh/h	78	78	35				0	3449	0	313	4128	119
Arrive On Green	0.11	0.11	0.11				0.00	0.68	0.00	0.09	0.81	0.81
Sat Flow, veh/h	727	727	329				0	5421	0	3476	5128	147
Grp Volume(v), veh/h	130	0	0				0	1505	0	232	1138	616
Grp Sat Flow(s),veh/h/ln	1784	0	0				0	1695	0	1738	1712	1851
Q Serve(g_s), s	7.6	0.0	0.0				0.0	14.6	0.0	7.0	10.5	10.5
Cycle Q Clear(g_c), s	7.6	0.0	0.0				0.0	14.6	0.0	7.0	10.5	10.5
Prop In Lane	0.41		0.18				0.00		0.00	1.00		0.08
Lane Grp Cap(c), veh/h	191	0	0				0	3449	0	313	2756	1490
V/C Ratio(X)	0.68	0.00	0.00				0.00	0.44	0.00	0.74	0.41	0.41
Avail Cap(c_a), veh/h	388	0	0				0	3449	0	836	2756	1490
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.51	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	0.0	0.0				0.0	8.0	0.0	48.0	3.1	3.1
Incr Delay (d2), s/veh	4.2	0.0	0.0				0.0	0.2	0.0	3.5	0.5	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0				0.0	6.9	0.0	3.5	5.1	5.7
LnGrp Delay(d),s/veh	50.7	0.0	0.0				0.0	8.2	0.0	51.4	3.5	3.9
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		130						1505			1986	
Approach Delay, s/veh		50.7						8.2			9.3	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		103.9		16.1	13.7	90.2		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		87.0		23.5	26.0	57.0		
Max Q Clear Time (g_c+I1), s		12.5		9.6	9.0	16.6		
Green Ext Time (p_c), s		58.0		0.0	0.7	35.0		

Intersection Summary	
HCM 2010 Ctrl Delay	10.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	110	770	150	130	480	240	180	1170	290	270	1230	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	1.00		0.97	1.00		0.98	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
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	188.1	188.1	188.1	188.1	188.1	190.0	188.1	188.1	188.1
Adj Flow Rate, veh/h	112	786	145	133	490	182	184	1194	284	276	1255	50
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	278	835	154	166	997	435	212	1437	342	303	1426	632
Arrive On Green	0.05	0.28	0.28	0.05	0.28	0.28	0.12	0.35	0.35	0.34	0.80	0.80
Sat Flow, veh/h	1792	2992	552	1792	3574	1558	1792	4123	981	1792	3574	1583
Grp Volume(v), veh/h	112	469	462	133	490	182	184	991	487	276	1255	50
Grp Sat Flow(s),veh/h/ln	1792	1787	1757	1792	1787	1558	1792	1712	1680	1792	1787	1583
Q Serve(g_s), s	5.3	30.3	30.3	6.0	13.5	11.2	11.9	31.3	31.3	17.4	28.1	0.8
Cycle Q Clear(g_c), s	5.3	30.3	30.3	6.0	13.5	11.2	11.9	31.3	31.3	17.4	28.1	0.8
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.58	1.00		1.00
Lane Grp Cap(c), veh/h	278	499	490	166	997	435	212	1193	585	303	1426	632
V/C Ratio(X)	0.40	0.94	0.94	0.80	0.49	0.42	0.87	0.83	0.83	0.91	0.88	0.08
Avail Cap(c_a), veh/h	278	501	492	166	1001	436	243	1193	585	426	1426	632
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.68	0.68	0.68	0.91	0.91	0.91
Uniform Delay (d), s/veh	29.1	41.5	41.5	34.2	35.5	34.7	51.0	35.2	35.2	38.2	10.0	7.2
Incr Delay (d2), s/veh	0.9	26.3	26.6	24.1	0.4	0.6	17.8	4.7	9.1	17.4	7.4	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	2.7	18.5	18.2	2.4	6.7	4.9	6.9	15.5	15.9	9.9	14.4	0.4
LnGrp Delay(d),s/veh	30.1	67.8	68.2	58.2	35.9	35.3	68.8	39.9	44.3	55.6	17.4	7.5
LnGrp LOS	C	E	E	E	D	D	E	D	D	E	B	A
Approach Vol, veh/h		1043			805			1662			1581	
Approach Delay, s/veh		63.9			39.4			44.4			23.7	
Approach LOS		E			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	37.9	18.0	54.2	10.0	37.9	23.9	48.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	33.0	16.0	47.0	6.0	33.0	28.0	35.0
Max Q Clear Time (g_c+I1), s	8.0	32.3	13.9	30.1	7.3	15.5	19.4	33.3
Green Ext Time (p_c), s	0.0	0.6	0.1	14.9	0.0	9.6	0.5	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	41.2
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	240	880	480	240	1150	0	0	1420	80
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.97	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
Adj Sat Flow, veh/h/ln				188.1	188.1	188.1	188.1	188.1	0.0	190.0	188.1	188.1
Adj Flow Rate, veh/h				255	936	334	255	1223	0	0	1511	72
Adj No. of Lanes				1	3	1	2	2	0	0	3	1
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				1	1	1	1	1	0	1	1	1
Cap, veh/h				473	1356	410	333	2328	0	0	2669	814
Arrive On Green				0.26	0.26	0.26	0.10	0.65	0.00	0.00	1.00	1.00
Sat Flow, veh/h				1792	5136	1554	3476	3668	0	0	5305	1566
Grp Volume(v), veh/h				255	936	334	255	1223	0	0	1511	72
Grp Sat Flow(s),veh/h/ln				1792	1712	1554	1738	1787	0	0	1712	1566
Q Serve(g_s), s				13.7	18.4	22.6	8.0	20.3	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				13.7	18.4	22.6	8.0	20.3	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				473	1356	410	333	2328	0	0	2669	814
V/C Ratio(X)				0.54	0.69	0.81	0.77	0.53	0.00	0.00	0.57	0.09
Avail Cap(c_a), veh/h				599	1718	520	744	2328	0	0	2669	814
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.80	0.80	0.00	0.00	0.35	0.35
Uniform Delay (d), s/veh				35.4	37.1	38.7	49.5	10.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				1.0	0.8	7.7	3.0	0.7	0.0	0.0	0.3	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
%ile BackOfQ(50%),veh/ln				6.9	8.8	10.5	4.0	10.2	0.0	0.0	0.1	0.0
LnGrp Delay(d),s/veh				36.4	38.0	46.4	52.4	11.0	0.0	0.0	0.3	0.1
LnGrp LOS				D	D	D	D	B			A	A
Approach Vol, veh/h					1525			1478			1583	
Approach Delay, s/veh					39.5			18.2			0.3	
Approach LOS					D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	14.7	71.2		34.1		85.9		
Change Period (Y+Rc), s	4.0	5.0		4.5		5.0		
Max Green Setting (Gmax), s	24.0	45.0		37.5		73.0		
Max Q Clear Time (g_c+I1), s	10.0	2.0		24.6		22.3		
Green Ext Time (p_c), s	0.7	33.2		5.0		37.6		

Intersection Summary	
HCM 2010 Ctrl Delay	19.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	1480	330	0	0	0	0	1220	230	700	970	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3				0.0	188.1	188.1	188.1	188.1	0.0
Adj Flow Rate, veh/h	191	1574	305				0	1298	224	745	1032	0
Adj No. of Lanes	0	4	1				0	4	1	2	2	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	1	1	1	1	0
Cap, veh/h	199	1770	450				0	2289	542	790	2227	0
Arrive On Green	0.30	0.30	0.30				0.00	0.35	0.35	0.45	1.00	0.00
Sat Flow, veh/h	671	5964	1516				0	6735	1532	3476	3668	0
Grp Volume(v), veh/h	521	1244	305				0	1298	224	745	1032	0
Grp Sat Flow(s),veh/h/ln	1829	1602	1516				0	1618	1532	1738	1787	0
Q Serve(g_s), s	33.2	29.2	21.0				0.0	19.3	13.1	24.3	0.0	0.0
Cycle Q Clear(g_c), s	33.2	29.2	21.0				0.0	19.3	13.1	24.3	0.0	0.0
Prop In Lane	0.37		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	543	1427	450				0	2289	542	790	2227	0
V/C Ratio(X)	0.96	0.87	0.68				0.00	0.57	0.41	0.94	0.46	0.00
Avail Cap(c_a), veh/h	562	1477	466				0	2289	542	790	2227	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.86	0.86	0.75	0.75	0.00
Uniform Delay (d), s/veh	41.0	39.6	36.8				0.0	31.0	29.0	31.6	0.0	0.0
Incr Delay (d2), s/veh	27.5	5.9	3.8				0.0	0.9	2.0	15.9	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.9	13.7	17.5				0.0	8.7	5.8	13.2	0.2	0.0
LnGrp Delay(d),s/veh	68.5	45.5	40.5				0.0	31.9	31.0	47.5	0.5	0.0
LnGrp LOS	E	D	D					C	C	D	A	
Approach Vol, veh/h		2070						1522			1777	
Approach Delay, s/veh		50.5						31.8			20.2	
Approach LOS		D						C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		80.3		39.7	33.3	47.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		74.0		36.5	27.0	* 42		
Max Q Clear Time (g_c+I1), s		2.0		35.2	26.3	21.3		
Green Ext Time (p_c), s		16.4		0.0	0.6	10.7		

Intersection Summary	
HCM 2010 Ctrl Delay	35.2
HCM 2010 LOS	D

Notes

* HCM 2010 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												
Volume (veh/h)	50	50	20	130	50	260	50	1160	90	70	1110	60
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		1.00	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	184.5	184.5	188.1	188.1	188.1	186.3	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	54	54	6	141	54	0	54	1261	97	76	1207	64
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	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, %	3	3	3	1	1	1	2	2	2	1	1	1
Cap, veh/h	140	140	224	176	185	157	83	2440	188	98	1777	94
Arrive On Green	0.16	0.16	0.16	0.10	0.10	0.00	0.05	0.51	0.51	0.11	1.00	1.00
Sat Flow, veh/h	900	900	1438	1792	1881	1599	1774	4799	369	1792	3444	182
Grp Volume(v), veh/h	108	0	6	141	54	0	54	891	467	76	626	645
Grp Sat Flow(s),veh/h/ln	1800	0	1438	1792	1881	1599	1774	1695	1778	1792	1787	1840
Q Serve(g_s), s	5.3	0.0	0.3	7.6	2.6	0.0	2.9	17.2	17.2	4.1	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	0.3	7.6	2.6	0.0	2.9	17.2	17.2	4.1	0.0	0.0
Prop In Lane	0.50		1.00	1.00		1.00	1.00		0.21	1.00		0.10
Lane Grp Cap(c), veh/h	281	0	224	176	185	157	83	1724	904	98	922	949
V/C Ratio(X)	0.38	0.00	0.03	0.80	0.29	0.00	0.65	0.52	0.52	0.78	0.68	0.68
Avail Cap(c_a), veh/h	522	0	417	210	220	187	216	1724	904	219	922	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	37.3	0.0	35.2	43.4	41.2	0.0	46.1	16.1	16.1	43.2	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	17.0	0.9	0.0	8.1	1.1	2.1	10.7	3.4	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	2.7	0.0	0.1	4.6	1.4	0.0	1.6	8.3	9.0	2.3	0.9	0.9
LnGrp Delay(d),s/veh	38.1	0.0	35.2	60.4	42.0	0.0	54.2	17.2	18.2	53.9	3.4	3.3
LnGrp LOS	D		D	E	D		D	B	B	D	A	A
Approach Vol, veh/h		114			195			1412			1347	
Approach Delay, s/veh		38.0			55.3			19.0			6.2	
Approach LOS		D			E			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.6	77.4		19.8	9.4	76.7		14.1
Change Period (Y+Rc), s	4.0	5.0		4.5	4.0	5.0		4.5
Max Green Setting (Gmax), s	12.0	50.0		28.5	12.0	50.0		11.5
Max Q Clear Time (g_c+I1), s	4.9	2.0		7.3	6.1	19.2		9.6
Green Ext Time (p_c), s	0.0	32.6		0.5	0.1	23.6		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.4
HCM 2010 LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	220	1990	1250	90	170	260
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	188.1	190.0	188.1	188.1
Adj Flow Rate, veh/h	239	2163	1359	85	185	137
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	356	3985	2603	163	232	207
Arrive On Green	0.20	0.78	0.53	0.53	0.13	0.13
Sat Flow, veh/h	1792	5305	5105	309	1792	1599
Grp Volume(v), veh/h	239	2163	943	501	185	137
Grp Sat Flow(s),veh/h/ln	1792	1712	1712	1821	1792	1599
Q Serve(g_s), s	12.4	16.4	18.1	18.1	10.1	8.2
Cycle Q Clear(g_c), s	12.4	16.4	18.1	18.1	10.1	8.2
Prop In Lane	1.00			0.17	1.00	1.00
Lane Grp Cap(c), veh/h	356	3985	1805	960	232	207
V/C Ratio(X)	0.67	0.54	0.52	0.52	0.80	0.66
Avail Cap(c_a), veh/h	356	3985	1805	960	579	517
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	37.2	4.4	15.5	15.5	42.5	41.7
Incr Delay (d2), s/veh	4.8	0.5	1.1	2.0	6.2	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	7.8	8.8	9.6	5.4	3.8
LnGrp Delay(d),s/veh	42.0	4.9	16.6	17.5	48.7	45.2
LnGrp LOS	D	A	B	B	D	D
Approach Vol, veh/h		2402	1444		322	
Approach Delay, s/veh		8.6	16.9		47.2	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	44.5	58.0		17.5		102.5		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	20.0	* 53		32.5		78.0		
Max Q Clear Time (g_c+I1), s	14.4	20.1		12.1		18.4		
Green Ext Time (p_c), s	5.1	13.1		0.9		35.7		

Intersection Summary	
HCM 2010 Ctrl Delay	14.5
HCM 2010 LOS	B

Notes

* HCM 2010 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												
Volume (veh/h)	110	1750	170	250	890	50	230	60	510	80	60	60
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	0.96		0.93	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	184.5	184.5	190.0	190.0	190.0	190.0	190.0	190.0	190.0
Adj Flow Rate, veh/h	116	1842	103	263	937	50	242	63	358	84	63	47
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	0
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, %	1	1	1	3	3	3	0	0	0	0	0	0
Cap, veh/h	148	1844	103	514	1484	79	404	578	459	351	300	224
Arrive On Green	0.08	0.37	0.37	0.15	0.44	0.44	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1792	4968	277	3408	3379	180	1249	1900	1509	953	986	736
Grp Volume(v), veh/h	116	1268	677	263	486	501	242	63	358	84	0	110
Grp Sat Flow(s),veh/h/ln	1792	1712	1821	1704	1752	1806	1249	1900	1509	953	0	1722
Q Serve(g_s), s	5.5	31.9	32.0	6.1	18.6	18.6	15.4	2.1	18.7	6.0	0.0	4.1
Cycle Q Clear(g_c), s	5.5	31.9	32.0	6.1	18.6	18.6	19.5	2.1	18.7	8.1	0.0	4.1
Prop In Lane	1.00		0.15	1.00		0.10	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	148	1271	676	514	770	794	404	578	459	351	0	524
V/C Ratio(X)	0.78	1.00	1.00	0.51	0.63	0.63	0.60	0.11	0.78	0.24	0.00	0.21
Avail Cap(c_a), veh/h	270	1271	676	514	770	794	459	661	525	392	0	599
HCM Platoon Ratio	1.00	1.00	1.00	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	38.8	27.1	27.1	33.7	18.8	18.8	29.6	21.6	27.4	24.5	0.0	22.3
Incr Delay (d2), s/veh	8.8	24.7	35.0	3.6	3.9	3.8	1.7	0.1	6.5	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	19.3	22.5	3.1	9.7	10.0	5.5	1.1	8.6	1.6	0.0	2.0
LnGrp Delay(d),s/veh	47.6	51.8	62.1	37.3	22.7	22.5	31.3	21.7	33.9	24.8	0.0	22.5
LnGrp LOS	D	D	F	D	C	C	C	C	C	C		C
Approach Vol, veh/h		2061			1250			663			194	
Approach Delay, s/veh		54.9			25.7			31.8			23.5	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.1	46.7		31.2	18.0	40.8		31.2
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	13.0	32.0		30.0	13.0	32.0		30.0
Max Q Clear Time (g_c+I1), s	7.5	20.6		10.1	8.1	34.0		21.5
Green Ext Time (p_c), s	0.1	10.6		3.7	0.4	0.0		2.6

Intersection Summary	
HCM 2010 Ctrl Delay	41.0
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	50	1240	30	0	1310
Conflicting Peds, #/hr	0	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	2	1	1
Mvmt Flow	0	54	1348	33	0	1424

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1934	699	0	0	1380	0
Stage 1	1364	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.32	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.11	-
Pot Cap-1 Maneuver	104	332	-	-	258	-
Stage 1	147	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	103	330	-	-	256	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	147	-	-	-	-	-
Stage 2	484	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18		
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	330	256	-
HCM Lane V/C Ratio	-	-	0.165	-	-
HCM Control Delay (s)	-	-	18	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	20	30	10	0	0	0	0	1760	100	90	960	10
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				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
Adj Sat Flow, veh/h/ln	190.0	184.5	190.0				0.0	184.5	190.0	181.0	181.0	190.0
Adj Flow Rate, veh/h	22	33	6				0	1913	0	98	1043	11
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0				0	3	3	5	5	5
Cap, veh/h	42	63	12				0	3702	0	194	4207	44
Arrive On Green	0.07	0.07	0.07				0.00	0.74	0.00	0.06	0.83	0.83
Sat Flow, veh/h	640	959	174				0	5368	0	3343	5039	53
Grp Volume(v), veh/h	61	0	0				0	1913	0	98	682	372
Grp Sat Flow(s),veh/h/ln	1773	0	0				0	1679	0	1672	1647	1799
Q Serve(g_s), s	3.2	0.0	0.0				0.0	15.6	0.0	2.7	4.1	4.1
Cycle Q Clear(g_c), s	3.2	0.0	0.0				0.0	15.6	0.0	2.7	4.1	4.1
Prop In Lane	0.36		0.10				0.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	117	0	0				0	3702	0	194	2749	1502
V/C Ratio(X)	0.52	0.00	0.00				0.00	0.52	0.00	0.51	0.25	0.25
Avail Cap(c_a), veh/h	379	0	0				0	3702	0	733	2749	1502
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.43	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	0.0	0.0				0.0	5.4	0.0	43.8	1.6	1.6
Incr Delay (d2), s/veh	3.5	0.0	0.0				0.0	0.2	0.0	2.0	0.2	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
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0				0.0	7.2	0.0	1.3	1.9	2.1
LnGrp Delay(d),s/veh	46.8	0.0	0.0				0.0	5.6	0.0	45.8	1.9	2.0
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		61						1913			1152	
Approach Delay, s/veh		46.8						5.6			5.7	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		99.2		10.8	9.6	89.6		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		80.0		20.5	21.0	55.0		
Max Q Clear Time (g_c+I1), s		6.1		5.2	4.7	17.6		
Green Ext Time (p_c), s		52.6		0.0	0.2	31.1		

Intersection Summary	
HCM 2010 Ctrl Delay	6.5
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	70	310	70	220	850	310	130	1440	140	110	780	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	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
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	188.1	188.1	188.1	184.5	184.5	190.0	182.7	182.7	190.0
Adj Flow Rate, veh/h	76	337	71	239	924	257	141	1565	152	120	848	33
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	1	1	1	3	3	3	4	4	4
Cap, veh/h	97	828	172	143	1105	483	174	1722	167	150	1760	68
Arrive On Green	0.05	0.28	0.28	0.08	0.31	0.31	0.10	0.37	0.37	0.03	0.12	0.12
Sat Flow, veh/h	1774	2912	606	1792	3574	1562	1757	4660	452	1740	4926	191
Grp Volume(v), veh/h	76	203	205	239	924	257	141	1127	590	120	572	309
Grp Sat Flow(s),veh/h/ln	1774	1770	1748	1792	1787	1562	1757	1679	1755	1740	1663	1792
Q Serve(g_s), s	4.2	9.3	9.5	8.0	24.1	13.6	7.9	31.9	32.0	6.9	16.1	16.2
Cycle Q Clear(g_c), s	4.2	9.3	9.5	8.0	24.1	13.6	7.9	31.9	32.0	6.9	16.1	16.2
Prop In Lane	1.00		0.35	1.00		1.00	1.00		0.26	1.00		0.11
Lane Grp Cap(c), veh/h	97	503	497	143	1105	483	174	1241	649	150	1188	640
V/C Ratio(X)	0.78	0.40	0.41	1.67	0.84	0.53	0.81	0.91	0.91	0.80	0.48	0.48
Avail Cap(c_a), veh/h	142	583	576	143	1178	515	333	1241	649	243	1188	640
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.55	0.55	0.55	0.98	0.98	0.98
Uniform Delay (d), s/veh	46.7	29.0	29.1	46.1	32.2	28.6	44.2	29.9	30.0	47.8	35.5	35.5
Incr Delay (d2), s/veh	15.4	0.5	0.5	329.8	5.1	0.9	5.0	6.8	11.9	9.0	1.4	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	2.5	4.6	4.7	17.1	12.6	6.0	4.1	15.9	17.6	3.7	7.7	8.5
LnGrp Delay(d),s/veh	62.1	29.5	29.6	375.9	37.4	29.5	49.2	36.7	41.9	56.8	36.8	38.0
LnGrp LOS	E	C	C	F	D	C	D	D	D	E	D	D
Approach Vol, veh/h		484			1420			1858			1001	
Approach Delay, s/veh		34.7			92.9			39.3			39.6	
Approach LOS		C			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	33.4	13.9	50.7	9.5	35.9	12.7	51.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	33.0	19.0	32.0	8.0	33.0	14.0	37.0
Max Q Clear Time (g_c+I1), s	10.0	11.5	9.9	18.2	6.2	26.1	8.9	34.0
Green Ext Time (p_c), s	0.0	10.7	0.2	12.0	0.0	4.8	0.1	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	54.9
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	330	1430	590	220	1150	0	0	970	100
Number				7	4	14	1	6	16	5	2	12
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		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				190.0	184.5	184.5	182.7	182.7	0.0	190.0	181.0	190.0
Adj Flow Rate, veh/h				344	1490	441	229	1198	0	0	1010	75
Adj No. of Lanes				0	3	1	1	2	0	0	3	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	3	3	4	4	0	5	5	5
Cap, veh/h				317	1488	537	259	1956	0	0	1774	132
Arrive On Green				0.35	0.35	0.35	0.15	0.56	0.00	0.00	0.76	0.76
Sat Flow, veh/h				906	4250	1535	1740	3563	0	0	4854	348
Grp Volume(v), veh/h				683	1151	441	229	1198	0	0	709	376
Grp Sat Flow(s),veh/h/ln				1799	1679	1535	1740	1736	0	0	1647	1745
Q Serve(g_s), s				38.5	37.3	28.8	14.2	25.3	0.0	0.0	10.1	10.2
Cycle Q Clear(g_c), s				38.5	37.3	28.8	14.2	25.3	0.0	0.0	10.1	10.2
Prop In Lane				0.50		1.00	1.00		0.00	0.00		0.20
Lane Grp Cap(c), veh/h				630	1175	537	259	1956	0	0	1245	660
V/C Ratio(X)				1.08	0.98	0.82	0.88	0.61	0.00	0.00	0.57	0.57
Avail Cap(c_a), veh/h				630	1175	537	316	1956	0	0	1245	660
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.74	0.74	0.00	0.00	0.53	0.53
Uniform Delay (d), s/veh				35.8	35.4	32.6	45.9	16.0	0.0	0.0	9.6	9.6
Incr Delay (d2), s/veh				61.0	21.4	9.8	16.6	1.1	0.0	0.0	1.0	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				29.7	20.7	13.6	8.0	12.3	0.0	0.0	4.5	4.9
LnGrp Delay(d),s/veh				96.7	56.7	42.4	62.4	17.1	0.0	0.0	10.6	11.5
LnGrp LOS				F	E	D	E	B			B	B
Approach Vol, veh/h					2275			1427			1085	
Approach Delay, s/veh					66.0			24.3			10.9	
Approach LOS					E			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	20.4	46.6		43.0		67.0		
Change Period (Y+Rc), s	4.0	5.0		4.5		5.0		
Max Green Setting (Gmax), s	20.0	38.0		38.5		62.0		
Max Q Clear Time (g_c+I1), s	16.2	12.2		40.5		27.3		
Green Ext Time (p_c), s	0.2	18.8		0.0		23.1		

Intersection Summary	
HCM 2010 Ctrl Delay	41.1
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	960	200	0	0	0	0	1190	150	340	960	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	182.7	182.7				0.0	182.7	182.7	182.7	182.7	0.0
Adj Flow Rate, veh/h	196	1043	157				0	1293	128	370	1043	0
Adj No. of Lanes	0	4	1				0	3	1	2	3	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4				0	4	4	4	4	0
Cap, veh/h	249	1437	383				0	2131	644	570	3222	0
Arrive On Green	0.26	0.26	0.26				0.00	0.43	0.43	0.34	1.00	0.00
Sat Flow, veh/h	959	5534	1476				0	5152	1507	3375	5152	0
Grp Volume(v), veh/h	364	875	157				0	1293	128	370	1043	0
Grp Sat Flow(s),veh/h/ln	1779	1571	1476				0	1663	1507	1688	1663	0
Q Serve(g_s), s	19.1	17.0	8.9				0.0	20.2	5.4	9.4	0.0	0.0
Cycle Q Clear(g_c), s	19.1	17.0	8.9				0.0	20.2	5.4	9.4	0.0	0.0
Prop In Lane	0.54		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	462	1224	383				0	2131	644	570	3222	0
V/C Ratio(X)	0.79	0.72	0.41				0.00	0.61	0.20	0.65	0.32	0.00
Avail Cap(c_a), veh/h	628	1663	521				0	2131	644	570	3222	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.80	0.80	0.74	0.74	0.00
Uniform Delay (d), s/veh	34.7	33.9	30.9				0.0	22.3	18.0	30.8	0.0	0.0
Incr Delay (d2), s/veh	4.7	0.9	0.7				0.0	1.0	0.6	1.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	7.5	7.7				0.0	9.4	2.3	4.4	0.1	0.0
LnGrp Delay(d),s/veh	39.4	34.8	31.6				0.0	23.3	18.6	32.7	0.2	0.0
LnGrp LOS	D	C	C					C	B	C	A	
Approach Vol, veh/h		1396						1421			1413	
Approach Delay, s/veh		35.6						22.9			8.7	
Approach LOS		D						C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		79.4		30.6	31.4	48.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		65.0		35.5	17.0	* 43		
Max Q Clear Time (g_c+I1), s		2.0		21.1	11.4	22.2		
Green Ext Time (p_c), s		12.5		0.0	3.8	10.3		

Intersection Summary	
HCM 2010 Ctrl Delay	22.4
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	20	80	20	80	40	130	40	1190	120	140	1070	40
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.88	1.00		1.00	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3	181.0	181.0	181.0	182.7	182.7	190.0	182.7	182.7	190.0
Adj Flow Rate, veh/h	22	87	12	87	43	0	43	1293	129	152	1163	42
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	5	5	5	4	4	4	4	4	4
Cap, veh/h	84	331	314	123	129	110	78	1765	176	187	1527	55
Arrive On Green	0.22	0.22	0.22	0.07	0.07	0.00	0.05	0.38	0.38	0.21	0.89	0.89
Sat Flow, veh/h	372	1472	1396	1723	1810	1538	1740	4588	458	1740	3415	123
Grp Volume(v), veh/h	109	0	12	87	43	0	43	937	485	152	591	614
Grp Sat Flow(s),veh/h/ln	1844	0	1396	1723	1810	1538	1740	1663	1721	1740	1736	1802
Q Serve(g_s), s	4.1	0.0	0.6	4.2	1.9	0.0	2.1	20.5	20.5	7.1	9.6	9.6
Cycle Q Clear(g_c), s	4.1	0.0	0.6	4.2	1.9	0.0	2.1	20.5	20.5	7.1	9.6	9.6
Prop In Lane	0.20		1.00	1.00		1.00	1.00		0.27	1.00		0.07
Lane Grp Cap(c), veh/h	415	0	314	123	129	110	78	1279	662	187	776	806
V/C Ratio(X)	0.26	0.00	0.04	0.71	0.33	0.00	0.55	0.73	0.73	0.81	0.76	0.76
Avail Cap(c_a), veh/h	640	0	485	233	245	208	266	1279	662	491	776	806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	27.1	0.0	25.8	38.6	37.5	0.0	39.7	22.4	22.4	32.6	3.0	3.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	7.2	1.5	0.0	5.9	3.7	7.0	7.8	6.6	6.4
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	0.2	2.3	1.0	0.0	1.1	10.0	11.0	3.7	5.2	5.3
LnGrp Delay(d),s/veh	27.5	0.0	25.8	45.8	39.0	0.0	45.6	26.2	29.5	40.4	9.6	9.4
LnGrp LOS	C		C	D	D		D	C	C	D	A	A
Approach Vol, veh/h		121			130			1465			1357	
Approach Delay, s/veh		27.3			43.6			27.8			12.9	
Approach LOS		C			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.8	68.0		23.6	13.1	62.7		10.6
Change Period (Y+Rc), s	4.0	5.0		4.5	4.0	5.0		4.5
Max Green Setting (Gmax), s	13.0	38.0		29.5	24.0	27.0		11.5
Max Q Clear Time (g_c+I1), s	4.1	11.6		6.1	9.1	22.5		6.2
Green Ext Time (p_c), s	0.0	20.9		0.6	0.3	4.2		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	21.9
HCM 2010 LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	130	1390	1680	60	60	150
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	184.5	184.5	186.3	190.0	184.5	184.5
Adj Flow Rate, veh/h	141	1511	1826	53	65	86
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	2	2	3	3
Cap, veh/h	282	4039	2942	85	142	126
Arrive On Green	0.16	0.80	0.58	0.58	0.08	0.08
Sat Flow, veh/h	1757	5202	5240	147	1757	1568
Grp Volume(v), veh/h	141	1511	1220	659	65	86
Grp Sat Flow(s),veh/h/ln	1757	1679	1695	1829	1757	1568
Q Serve(g_s), s	5.9	6.9	19.1	19.2	2.9	4.3
Cycle Q Clear(g_c), s	5.9	6.9	19.1	19.2	2.9	4.3
Prop In Lane	1.00			0.08	1.00	1.00
Lane Grp Cap(c), veh/h	282	4039	1966	1061	142	126
V/C Ratio(X)	0.50	0.37	0.62	0.62	0.46	0.68
Avail Cap(c_a), veh/h	282	4039	1966	1061	770	687
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	31.1	2.3	11.2	11.2	35.6	36.2
Incr Delay (d2), s/veh	1.4	0.3	1.5	2.7	2.3	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	3.2	9.2	10.3	1.5	2.1
LnGrp Delay(d),s/veh	32.4	2.5	12.6	13.9	37.9	42.5
LnGrp LOS	C	A	B	B	D	D
Approach Vol, veh/h		1652	1879		151	
Approach Delay, s/veh		5.1	13.1		40.5	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	47.0	52.0		11.0		99.0		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	13.0	* 47		35.5		65.0		
Max Q Clear Time (g_c+I1), s	7.9	21.2		6.3		8.9		
Green Ext Time (p_c), s	4.0	16.1		0.4		18.6		

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B

Notes

* HCM 2010 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												
Volume (veh/h)	30	740	180	590	1780	20	130	30	190	20	60	20
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.98	0.93		0.92	0.93		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	179.2	179.2	190.0	188.1	188.1	190.0	186.3	186.3	186.3	186.3	186.3	190.0
Adj Flow Rate, veh/h	33	804	106	641	1935	22	141	33	103	22	65	22
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	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, %	6	6	6	1	1	1	2	2	2	2	2	2
Cap, veh/h	66	1299	170	747	1720	20	413	567	443	428	394	133
Arrive On Green	0.04	0.30	0.30	0.22	0.48	0.48	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1707	4346	568	3476	3619	41	1217	1863	1455	1166	1295	438
Grp Volume(v), veh/h	33	602	308	641	953	1004	141	33	103	22	0	87
Grp Sat Flow(s),veh/h/ln	1707	1631	1652	1738	1787	1873	1217	1863	1455	1166	0	1733
Q Serve(g_s), s	1.6	13.1	13.3	14.7	39.2	39.2	7.9	1.0	4.4	1.1	0.0	3.0
Cycle Q Clear(g_c), s	1.6	13.1	13.3	14.7	39.2	39.2	11.0	1.0	4.4	2.2	0.0	3.0
Prop In Lane	1.00		0.34	1.00		0.02	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	66	975	494	747	849	890	413	567	443	428	0	528
V/C Ratio(X)	0.50	0.62	0.62	0.86	1.12	1.13	0.34	0.06	0.23	0.05	0.00	0.16
Avail Cap(c_a), veh/h	165	1027	520	884	849	890	455	632	494	468	0	588
HCM Platoon Ratio	1.00	1.00	1.00	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	38.9	24.9	25.0	31.2	21.7	21.7	25.0	20.3	21.5	21.1	0.0	21.0
Incr Delay (d2), s/veh	5.8	1.0	2.2	7.4	70.4	71.7	0.5	0.0	0.3	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	6.0	6.4	7.8	35.7	37.8	2.7	0.5	1.8	0.4	0.0	1.5
LnGrp Delay(d),s/veh	44.7	25.9	27.1	38.6	92.1	93.4	25.5	20.4	21.8	21.1	0.0	21.2
LnGrp LOS	D	C	C	D	F	F	C	C	C	C		C
Approach Vol, veh/h		943			2598			277			109	
Approach Delay, s/veh		27.0			79.4			23.5			21.2	
Approach LOS		C			E			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.2	44.2		30.1	22.8	29.7		30.1
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	8.0	39.0		28.0	21.0	26.0		28.0
Max Q Clear Time (g_c+I1), s	3.6	41.2		5.0	16.7	15.3		13.0
Green Ext Time (p_c), s	0.0	0.0		1.6	1.1	9.4		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	61.2
HCM 2010 LOS	E

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	40	1280	40	0	1200
Conflicting Peds, #/hr	0	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	4	4	4
Mvmt Flow	0	43	1391	43	0	1304

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1935	723	0	0	1435	0
Stage 1	1413	-	-	-	-	-
Stage 2	522	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.38	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.14	-
Pot Cap-1 Maneuver	104	320	-	-	235	-
Stage 1	137	-	-	-	-	-
Stage 2	516	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	103	318	-	-	234	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	137	-	-	-	-	-
Stage 2	513	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.1		
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	318	234	-
HCM Lane V/C Ratio	-	-	0.137	-	-
HCM Control Delay (s)	-	-	18.1	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	50	30	0	0	0	0	1430	90	220	1620	50
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				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
Adj Sat Flow, veh/h/ln	190.0	190.0	190.0				0.0	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	53	53	24				0	1505	0	232	1705	49
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	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	2	2	1	1	1
Cap, veh/h	78	78	35				0	3449	0	313	4128	119
Arrive On Green	0.11	0.11	0.11				0.00	0.68	0.00	0.09	0.81	0.81
Sat Flow, veh/h	727	727	329				0	5421	0	3476	5128	147
Grp Volume(v), veh/h	130	0	0				0	1505	0	232	1138	616
Grp Sat Flow(s),veh/h/ln	1784	0	0				0	1695	0	1738	1712	1851
Q Serve(g_s), s	7.6	0.0	0.0				0.0	14.6	0.0	7.0	10.5	10.5
Cycle Q Clear(g_c), s	7.6	0.0	0.0				0.0	14.6	0.0	7.0	10.5	10.5
Prop In Lane	0.41		0.18				0.00		0.00	1.00		0.08
Lane Grp Cap(c), veh/h	191	0	0				0	3449	0	313	2756	1490
V/C Ratio(X)	0.68	0.00	0.00				0.00	0.44	0.00	0.74	0.41	0.41
Avail Cap(c_a), veh/h	388	0	0				0	3449	0	836	2756	1490
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.42	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	0.0	0.0				0.0	8.0	0.0	48.0	3.1	3.1
Incr Delay (d2), s/veh	4.2	0.0	0.0				0.0	0.2	0.0	3.5	0.5	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0				0.0	6.9	0.0	3.5	5.1	5.7
LnGrp Delay(d),s/veh	50.7	0.0	0.0				0.0	8.1	0.0	51.4	3.5	3.9
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		130						1505			1986	
Approach Delay, s/veh		50.7						8.1			9.3	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		103.9		16.1	13.7	90.2		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		87.0		23.5	26.0	57.0		
Max Q Clear Time (g_c+I1), s		12.5		9.6	9.0	16.6		
Green Ext Time (p_c), s		58.0		0.0	0.7	35.0		

Intersection Summary	
HCM 2010 Ctrl Delay	10.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	110	770	150	130	480	240	180	1170	290	270	1230	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.99
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
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	188.1	188.1	188.1	188.1	188.1	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	112	786	145	133	490	182	184	1194	284	276	1255	50
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	91	835	154	91	997	435	212	1437	342	303	2020	80
Arrive On Green	0.05	0.28	0.28	0.05	0.28	0.28	0.12	0.35	0.35	0.34	0.80	0.80
Sat Flow, veh/h	1792	2992	552	1792	3574	1558	1792	4123	981	1792	5065	202
Grp Volume(v), veh/h	112	469	462	133	490	182	184	991	487	276	848	457
Grp Sat Flow(s),veh/h/ln	1792	1787	1757	1792	1787	1558	1792	1712	1680	1792	1712	1843
Q Serve(g_s), s	6.0	30.3	30.3	6.0	13.5	11.2	11.9	31.3	31.3	17.4	11.7	11.7
Cycle Q Clear(g_c), s	6.0	30.3	30.3	6.0	13.5	11.2	11.9	31.3	31.3	17.4	11.7	11.7
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.58	1.00		0.11
Lane Grp Cap(c), veh/h	91	499	490	91	997	435	212	1193	585	303	1366	735
V/C Ratio(X)	1.23	0.94	0.94	1.46	0.49	0.42	0.87	0.83	0.83	0.91	0.62	0.62
Avail Cap(c_a), veh/h	91	501	492	91	1001	436	243	1193	585	426	1366	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.68	0.68	0.68	0.91	0.91	0.91
Uniform Delay (d), s/veh	55.9	41.5	41.5	55.9	35.5	34.7	51.0	35.2	35.2	38.2	8.3	8.3
Incr Delay (d2), s/veh	167.5	26.3	26.6	256.5	0.4	0.6	17.8	4.7	9.1	17.4	1.9	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	18.5	18.2	9.4	6.7	4.9	6.9	15.5	15.9	9.9	5.6	6.3
LnGrp Delay(d),s/veh	223.4	67.8	68.2	312.4	35.9	35.3	68.9	39.9	44.4	55.6	10.3	11.9
LnGrp LOS	F	E	E	F	D	D	E	D	D	E	B	B
Approach Vol, veh/h		1043			805			1662			1581	
Approach Delay, s/veh		84.7			81.4			44.4			18.7	
Approach LOS		F			F			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	37.9	18.0	54.2	10.0	37.9	23.9	48.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	33.0	16.0	47.0	6.0	33.0	28.0	35.0
Max Q Clear Time (g_c+I1), s	8.0	32.3	13.9	13.7	8.0	15.5	19.4	33.3
Green Ext Time (p_c), s	0.0	0.6	0.1	26.3	0.0	9.6	0.5	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	50.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	240	880	480	240	1150	0	0	1420	80
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.97	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
Adj Sat Flow, veh/h/ln				190.0	188.1	188.1	188.1	188.1	0.0	190.0	188.1	190.0
Adj Flow Rate, veh/h				255	936	334	255	1223	0	0	1511	72
Adj No. of Lanes				0	3	1	1	2	0	0	3	0
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				1	1	1	1	1	0	1	1	1
Cap, veh/h				275	1091	404	288	2340	0	0	2298	109
Arrive On Green				0.26	0.26	0.26	0.16	0.65	0.00	0.00	0.92	0.92
Sat Flow, veh/h				1058	4194	1553	1792	3668	0	0	5187	239
Grp Volume(v), veh/h				440	751	334	255	1223	0	0	1031	552
Grp Sat Flow(s),veh/h/ln				1828	1712	1553	1792	1787	0	0	1712	1833
Q Serve(g_s), s				26.2	23.2	22.6	15.5	20.0	0.0	0.0	7.1	7.1
Cycle Q Clear(g_c), s				26.2	23.2	22.6	15.5	20.0	0.0	0.0	7.1	7.1
Prop In Lane				0.58		1.00	1.00		0.00	0.00		0.13
Lane Grp Cap(c), veh/h				476	891	404	288	2340	0	0	1568	839
V/C Ratio(X)				0.93	0.84	0.83	0.89	0.52	0.00	0.00	0.66	0.66
Avail Cap(c_a), veh/h				615	1151	522	386	2340	0	0	1568	839
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.62	0.62	0.00	0.00	0.62	0.62
Uniform Delay (d), s/veh				40.2	39.1	38.9	45.8	10.1	0.0	0.0	2.8	2.8
Incr Delay (d2), s/veh				17.3	4.6	8.3	11.5	0.5	0.0	0.0	1.3	2.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				15.5	11.5	10.6	8.6	10.0	0.0	0.0	3.2	3.7
LnGrp Delay(d),s/veh				57.5	43.7	47.2	57.3	10.6	0.0	0.0	4.2	5.3
LnGrp LOS				E	D	D	E	B			A	A
Approach Vol, veh/h					1525			1478			1583	
Approach Delay, s/veh					48.4			18.7			4.6	
Approach LOS					D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	21.9	64.6		33.5		86.5		
Change Period (Y+Rc), s	4.0	5.0		4.5		5.0		
Max Green Setting (Gmax), s	24.0	45.0		37.5		73.0		
Max Q Clear Time (g_c+I1), s	17.5	9.1		28.2		22.0		
Green Ext Time (p_c), s	0.4	28.7		0.1		37.5		

Intersection Summary	
HCM 2010 Ctrl Delay	23.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	1480	330	0	0	0	0	1220	230	700	970	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3				0.0	188.1	188.1	188.1	188.1	0.0
Adj Flow Rate, veh/h	191	1574	305				0	1298	224	745	1032	0
Adj No. of Lanes	0	4	1				0	3	1	2	3	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	1	1	1	1	0
Cap, veh/h	199	1770	450				0	1816	542	790	3200	0
Arrive On Green	0.30	0.30	0.30				0.00	0.35	0.35	0.45	1.00	0.00
Sat Flow, veh/h	671	5964	1516				0	5305	1532	3476	5305	0
Grp Volume(v), veh/h	521	1244	305				0	1298	224	745	1032	0
Grp Sat Flow(s),veh/h/ln	1829	1602	1516				0	1712	1532	1738	1712	0
Q Serve(g_s), s	33.2	29.2	21.0				0.0	26.0	13.1	24.3	0.0	0.0
Cycle Q Clear(g_c), s	33.2	29.2	21.0				0.0	26.0	13.1	24.3	0.0	0.0
Prop In Lane	0.37		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	543	1427	450				0	1816	542	790	3200	0
V/C Ratio(X)	0.96	0.87	0.68				0.00	0.71	0.41	0.94	0.32	0.00
Avail Cap(c_a), veh/h	562	1477	466				0	1816	542	790	3200	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.86	0.86	0.53	0.53	0.00
Uniform Delay (d), s/veh	41.0	39.6	36.8				0.0	33.2	29.0	31.6	0.0	0.0
Incr Delay (d2), s/veh	27.5	5.9	3.8				0.0	2.1	2.0	12.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.9	13.7	17.5				0.0	12.6	5.8	12.8	0.0	0.0
LnGrp Delay(d),s/veh	68.5	45.5	40.5				0.0	35.3	31.0	43.9	0.1	0.0
LnGrp LOS	E	D	D					D	C	D	A	
Approach Vol, veh/h		2070						1522			1777	
Approach Delay, s/veh		50.5						34.7			18.5	
Approach LOS		D						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		80.3		39.7	33.3	47.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		74.0		36.5	27.0	* 42		
Max Q Clear Time (g_c+I1), s		2.0		35.2	26.3	28.0		
Green Ext Time (p_c), s		16.0		0.0	0.6	8.4		

Intersection Summary	
HCM 2010 Ctrl Delay	35.4
HCM 2010 LOS	D

Notes

* HCM 2010 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												
Volume (veh/h)	50	50	20	130	50	260	50	1160	90	70	1110	60
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		1.00	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	184.5	184.5	188.1	188.1	188.1	186.3	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	54	54	6	141	54	0	54	1261	97	76	1207	64
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	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, %	3	3	3	1	1	1	2	2	2	1	1	1
Cap, veh/h	140	140	224	176	185	157	83	2440	188	98	1777	94
Arrive On Green	0.16	0.16	0.16	0.10	0.10	0.00	0.05	0.51	0.51	0.11	1.00	1.00
Sat Flow, veh/h	900	900	1438	1792	1881	1599	1774	4799	369	1792	3444	182
Grp Volume(v), veh/h	108	0	6	141	54	0	54	891	467	76	626	645
Grp Sat Flow(s),veh/h/ln	1800	0	1438	1792	1881	1599	1774	1695	1778	1792	1787	1840
Q Serve(g_s), s	5.3	0.0	0.3	7.6	2.6	0.0	2.9	17.2	17.2	4.1	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	0.3	7.6	2.6	0.0	2.9	17.2	17.2	4.1	0.0	0.0
Prop In Lane	0.50		1.00	1.00		1.00	1.00		0.21	1.00		0.10
Lane Grp Cap(c), veh/h	281	0	224	176	185	157	83	1724	904	98	922	949
V/C Ratio(X)	0.38	0.00	0.03	0.80	0.29	0.00	0.65	0.52	0.52	0.78	0.68	0.68
Avail Cap(c_a), veh/h	522	0	417	210	220	187	216	1724	904	219	922	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	37.3	0.0	35.2	43.4	41.2	0.0	46.1	16.1	16.1	43.2	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	17.0	0.9	0.0	8.1	1.1	2.1	11.5	3.7	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	0.1	4.6	1.4	0.0	1.6	8.3	9.0	2.3	0.9	0.9
LnGrp Delay(d),s/veh	38.1	0.0	35.2	60.4	42.0	0.0	54.2	17.2	18.2	54.7	3.7	3.6
LnGrp LOS	D		D	E	D		D	B	B	D	A	A
Approach Vol, veh/h		114			195			1412			1347	
Approach Delay, s/veh		38.0			55.3			19.0			6.5	
Approach LOS		D			E			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.6	77.4		19.8	9.4	76.7		14.1
Change Period (Y+Rc), s	4.0	5.0		4.5	4.0	5.0		4.5
Max Green Setting (Gmax), s	12.0	50.0		28.5	12.0	50.0		11.5
Max Q Clear Time (g_c+I1), s	4.9	2.0		7.3	6.1	19.2		9.6
Green Ext Time (p_c), s	0.0	32.6		0.5	0.1	23.6		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	220	1990	1250	90	170	260
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	188.1	190.0	188.1	188.1
Adj Flow Rate, veh/h	239	2163	1359	85	185	137
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	356	3985	2603	163	232	207
Arrive On Green	0.20	0.78	0.53	0.53	0.13	0.13
Sat Flow, veh/h	1792	5305	5105	309	1792	1599
Grp Volume(v), veh/h	239	2163	943	501	185	137
Grp Sat Flow(s),veh/h/ln	1792	1712	1712	1821	1792	1599
Q Serve(g_s), s	12.4	16.4	18.1	18.1	10.1	8.2
Cycle Q Clear(g_c), s	12.4	16.4	18.1	18.1	10.1	8.2
Prop In Lane	1.00			0.17	1.00	1.00
Lane Grp Cap(c), veh/h	356	3985	1805	960	232	207
V/C Ratio(X)	0.67	0.54	0.52	0.52	0.80	0.66
Avail Cap(c_a), veh/h	356	3985	1805	960	579	517
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	37.2	4.4	15.5	15.5	42.5	41.7
Incr Delay (d2), s/veh	4.8	0.5	1.1	2.0	6.2	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	7.8	8.8	9.6	5.4	3.8
LnGrp Delay(d),s/veh	42.0	4.9	16.6	17.5	48.7	45.2
LnGrp LOS	D	A	B	B	D	D
Approach Vol, veh/h		2402	1444		322	
Approach Delay, s/veh		8.6	16.9		47.2	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	44.5	58.0		17.5		102.5		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	20.0	* 53		32.5		78.0		
Max Q Clear Time (g_c+I1), s	14.4	20.1		12.1		18.4		
Green Ext Time (p_c), s	5.1	13.1		0.9		35.7		

Intersection Summary	
HCM 2010 Ctrl Delay	14.5
HCM 2010 LOS	B

Notes

* HCM 2010 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												
Volume (veh/h)	110	1750	170	250	890	50	230	60	510	80	60	60
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	0.96		0.93	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	184.5	184.5	190.0	190.0	190.0	190.0	190.0	190.0	190.0
Adj Flow Rate, veh/h	116	1842	103	263	937	50	242	63	358	84	63	47
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	0
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, %	1	1	1	3	3	3	0	0	0	0	0	0
Cap, veh/h	148	1844	103	514	1484	79	404	578	459	351	300	224
Arrive On Green	0.08	0.37	0.37	0.15	0.44	0.44	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1792	4968	277	3408	3379	180	1249	1900	1509	953	986	736
Grp Volume(v), veh/h	116	1268	677	263	486	501	242	63	358	84	0	110
Grp Sat Flow(s),veh/h/ln	1792	1712	1821	1704	1752	1806	1249	1900	1509	953	0	1722
Q Serve(g_s), s	5.5	31.9	32.0	6.1	18.6	18.6	15.4	2.1	18.7	6.0	0.0	4.1
Cycle Q Clear(g_c), s	5.5	31.9	32.0	6.1	18.6	18.6	19.5	2.1	18.7	8.1	0.0	4.1
Prop In Lane	1.00		0.15	1.00		0.10	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	148	1271	676	514	770	794	404	578	459	351	0	524
V/C Ratio(X)	0.78	1.00	1.00	0.51	0.63	0.63	0.60	0.11	0.78	0.24	0.00	0.21
Avail Cap(c_a), veh/h	270	1271	676	514	770	794	459	661	525	392	0	599
HCM Platoon Ratio	1.00	1.00	1.00	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	38.8	27.1	27.1	33.7	18.8	18.8	29.6	21.6	27.4	24.5	0.0	22.3
Incr Delay (d2), s/veh	8.8	24.7	35.0	3.6	3.9	3.8	1.7	0.1	6.5	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	19.3	22.5	3.1	9.7	10.0	5.5	1.1	8.6	1.6	0.0	2.0
LnGrp Delay(d),s/veh	47.6	51.8	62.1	37.3	22.7	22.5	31.3	21.7	33.9	24.8	0.0	22.5
LnGrp LOS	D	D	F	D	C	C	C	C	C	C		C
Approach Vol, veh/h		2061			1250			663			194	
Approach Delay, s/veh		54.9			25.7			31.8			23.5	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.1	46.7		31.2	18.0	40.8		31.2
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	13.0	32.0		30.0	13.0	32.0		30.0
Max Q Clear Time (g_c+I1), s	7.5	20.6		10.1	8.1	34.0		21.5
Green Ext Time (p_c), s	0.1	10.6		3.7	0.4	0.0		2.6

Intersection Summary	
HCM 2010 Ctrl Delay	41.0
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	50	1240	30	0	1310
Conflicting Peds, #/hr	0	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	2	1	1
Mvmt Flow	0	54	1348	33	0	1424

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1934	699	0	0	1380	0
Stage 1	1364	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.32	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.11	-
Pot Cap-1 Maneuver	104	332	-	-	258	-
Stage 1	147	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	103	330	-	-	256	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	147	-	-	-	-	-
Stage 2	484	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18		
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	330	256	-
HCM Lane V/C Ratio	-	-	0.165	-	-
HCM Control Delay (s)	-	-	18	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	20	30	10	0	0	0	0	1760	100	90	960	10
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				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
Adj Sat Flow, veh/h/ln	190.0	184.5	190.0				0.0	184.5	190.0	181.0	181.0	190.0
Adj Flow Rate, veh/h	22	33	6				0	1913	0	98	1043	11
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0				0	3	3	5	5	5
Cap, veh/h	44	66	12				0	3598	0	208	4144	44
Arrive On Green	0.07	0.07	0.07				0.00	0.71	0.00	0.06	0.82	0.82
Sat Flow, veh/h	640	959	174				0	5368	0	3343	5039	53
Grp Volume(v), veh/h	61	0	0				0	1913	0	98	682	372
Grp Sat Flow(s),veh/h/ln	1774	0	0				0	1679	0	1672	1647	1799
Q Serve(g_s), s	2.9	0.0	0.0				0.0	15.3	0.0	2.5	4.1	4.1
Cycle Q Clear(g_c), s	2.9	0.0	0.0				0.0	15.3	0.0	2.5	4.1	4.1
Prop In Lane	0.36		0.10				0.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	123	0	0				0	3598	0	208	2708	1480
V/C Ratio(X)	0.50	0.00	0.00				0.00	0.53	0.00	0.47	0.25	0.25
Avail Cap(c_a), veh/h	375	0	0				0	3598	0	726	2708	1480
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.22	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	0.0	0.0				0.0	5.8	0.0	39.7	1.7	1.7
Incr Delay (d2), s/veh	3.1	0.0	0.0				0.0	0.1	0.0	1.7	0.2	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
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0				0.0	6.9	0.0	1.2	1.9	2.1
LnGrp Delay(d),s/veh	42.4	0.0	0.0				0.0	5.9	0.0	41.3	2.0	2.2
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		61						1913			1152	
Approach Delay, s/veh		42.4						5.9			5.4	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		10.6	9.4	80.0		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		72.0		18.5	19.0	49.0		
Max Q Clear Time (g_c+I1), s		6.1		4.9	4.5	17.3		
Green Ext Time (p_c), s		48.6		0.0	0.2	27.0		

Intersection Summary	
HCM 2010 Ctrl Delay	6.4
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	70	310	70	220	850	310	130	1440	140	110	780	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	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
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	188.1	188.1	188.1	184.5	184.5	190.0	182.7	182.7	182.7
Adj Flow Rate, veh/h	76	337	71	239	924	257	141	1565	152	120	848	33
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	2	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, %	2	2	2	1	1	1	3	3	3	4	4	4
Cap, veh/h	98	550	114	324	1126	492	173	1599	155	152	1114	496
Arrive On Green	0.06	0.19	0.19	0.18	0.32	0.32	0.10	0.34	0.34	0.03	0.11	0.11
Sat Flow, veh/h	1774	2909	605	1792	3574	1563	1757	4660	452	1740	3471	1544
Grp Volume(v), veh/h	76	203	205	239	924	257	141	1127	590	120	848	33
Grp Sat Flow(s),veh/h/ln	1774	1770	1745	1792	1787	1563	1757	1679	1755	1740	1736	1544
Q Serve(g_s), s	3.8	9.5	9.7	11.4	21.6	8.9	7.1	30.0	30.1	6.2	21.5	1.7
Cycle Q Clear(g_c), s	3.8	9.5	9.7	11.4	21.6	8.9	7.1	30.0	30.1	6.2	21.5	1.7
Prop In Lane	1.00		0.35	1.00		1.00	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	98	335	330	324	1126	492	173	1152	602	152	1114	496
V/C Ratio(X)	0.78	0.61	0.62	0.74	0.82	0.52	0.81	0.98	0.98	0.79	0.76	0.07
Avail Cap(c_a), veh/h	196	548	541	324	1226	536	214	1152	602	270	1114	496
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.50	0.50	0.50	0.98	0.98	0.98
Uniform Delay (d), s/veh	42.1	33.6	33.7	35.0	28.6	13.4	39.9	29.4	29.4	43.0	37.0	28.2
Incr Delay (d2), s/veh	12.2	1.8	1.9	8.5	4.3	0.9	9.5	14.3	21.6	8.5	4.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.8	4.8	6.4	11.3	4.4	3.9	16.1	18.0	3.3	11.1	0.8
LnGrp Delay(d),s/veh	54.4	35.3	35.6	43.5	32.9	14.3	49.4	43.7	50.9	51.5	41.8	28.5
LnGrp LOS	D	D	D	D	C	B	D	D	D	D	D	C
Approach Vol, veh/h		484			1420			1858			1001	
Approach Delay, s/veh		38.4			31.3			46.4			42.6	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.4	22.1	23.5	34.0	9.0	33.5	11.9	45.6
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	28.0	11.0	* 29	10.0	31.0	14.0	27.0
Max Q Clear Time (g_c+I1), s	13.4	11.7	9.1	23.5	5.8	23.6	8.2	32.1
Green Ext Time (p_c), s	0.0	2.2	0.1	2.7	0.1	4.1	0.1	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	40.3
HCM 2010 LOS	D

Notes

* HCM 2010 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												
Volume (veh/h)	0	0	0	330	1430	590	220	1150	0	0	970	100
Number				7	4	14	1	6	16	5	2	12
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		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				184.5	184.5	184.5	182.7	182.7	0.0	190.0	181.0	181.0
Adj Flow Rate, veh/h				344	1490	441	229	1198	0	0	1010	75
Adj No. of Lanes				1	3	1	2	2	0	0	3	1
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	3	3	4	4	0	5	5	5
Cap, veh/h				699	2005	612	348	1711	0	0	1642	507
Arrive On Green				0.40	0.40	0.40	0.10	0.49	0.00	0.00	0.33	0.33
Sat Flow, veh/h				1757	5036	1537	3375	3563	0	0	5103	1526
Grp Volume(v), veh/h				344	1490	441	229	1198	0	0	1010	75
Grp Sat Flow(s),veh/h/ln				1757	1679	1537	1688	1736	0	0	1647	1526
Q Serve(g_s), s				12.8	22.1	21.1	5.7	23.3	0.0	0.0	15.0	3.0
Cycle Q Clear(g_c), s				12.8	22.1	21.1	5.7	23.3	0.0	0.0	15.0	3.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				699	2005	612	348	1711	0	0	1642	507
V/C Ratio(X)				0.49	0.74	0.72	0.66	0.70	0.00	0.00	0.61	0.15
Avail Cap(c_a), veh/h				957	2742	837	348	1711	0	0	1642	507
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.78	0.78	0.00	0.00	0.60	0.60
Uniform Delay (d), s/veh				19.6	22.4	22.2	37.6	17.1	0.0	0.0	24.4	20.4
Incr Delay (d2), s/veh				0.5	0.7	1.9	3.5	1.9	0.0	0.0	1.0	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
%ile BackOfQ(50%),veh/ln				6.3	10.3	9.3	2.8	11.6	0.0	0.0	7.0	1.3
LnGrp Delay(d),s/veh				20.2	23.2	24.1	41.1	19.0	0.0	0.0	25.5	20.8
LnGrp LOS				C	C	C	D	B			C	C
Approach Vol, veh/h					2275			1427			1085	
Approach Delay, s/veh					22.9			22.6			25.1	
Approach LOS					C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	26.8	34.0		39.2		60.8		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	9.0	* 29		47.5		43.0		
Max Q Clear Time (g_c+I1), s	7.7	17.0		24.1		25.3		
Green Ext Time (p_c), s	1.0	5.7		10.7		9.3		

Intersection Summary	
HCM 2010 Ctrl Delay	23.3
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	180	960	200	0	0	0	0	1190	150	340	960	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	182.7	182.7				0.0	182.7	182.7	182.7	182.7	0.0
Adj Flow Rate, veh/h	196	1043	157				0	1293	128	370	1043	0
Adj No. of Lanes	0	4	1				0	4	1	2	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4				0	4	4	4	4	0
Cap, veh/h	260	1502	401				0	2237	535	713	2162	0
Arrive On Green	0.27	0.27	0.27				0.00	0.36	0.36	0.42	1.00	0.00
Sat Flow, veh/h	959	5534	1479				0	6540	1504	3375	3563	0
Grp Volume(v), veh/h	364	875	157				0	1293	128	370	1043	0
Grp Sat Flow(s),veh/h/ln	1779	1571	1479				0	1571	1504	1688	1736	0
Q Serve(g_s), s	16.8	14.9	7.8				0.0	15.0	5.4	7.3	0.0	0.0
Cycle Q Clear(g_c), s	16.8	14.9	7.8				0.0	15.0	5.4	7.3	0.0	0.0
Prop In Lane	0.54		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	483	1279	401				0	2237	535	713	2162	0
V/C Ratio(X)	0.75	0.68	0.39				0.00	0.58	0.24	0.52	0.48	0.00
Avail Cap(c_a), veh/h	683	1809	568				0	2237	535	713	2162	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.79	0.79	0.74	0.74	0.00
Uniform Delay (d), s/veh	30.0	29.3	26.7				0.0	23.5	20.4	22.6	0.0	0.0
Incr Delay (d2), s/veh	3.0	0.7	0.6				0.0	0.9	0.8	0.5	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	6.6	6.8				0.0	6.6	2.4	3.3	0.2	0.0
LnGrp Delay(d),s/veh	33.0	30.0	27.3				0.0	24.3	21.2	23.1	0.6	0.0
LnGrp LOS	C	C	C					C	C	C	A	
Approach Vol, veh/h		1396						1421			1413	
Approach Delay, s/veh		30.4						24.1			6.5	
Approach LOS		C						C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		71.1		28.9	34.1	37.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		56.0		34.5	19.0	* 32		
Max Q Clear Time (g_c+I1), s		2.0		18.8	9.3	17.0		
Green Ext Time (p_c), s		12.6		0.0	5.8	8.4		

Intersection Summary	
HCM 2010 Ctrl Delay	20.3
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	20	80	20	80	40	130	40	1190	120	140	1070	40
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.88	1.00		1.00	1.00		0.95	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
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3	181.0	181.0	181.0	182.7	182.7	190.0	182.7	182.7	190.0
Adj Flow Rate, veh/h	22	87	12	87	43	0	43	1293	129	152	1163	42
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	5	5	5	4	4	4	4	4	4
Cap, veh/h	84	333	316	123	129	110	79	1697	169	184	1510	54
Arrive On Green	0.23	0.23	0.23	0.07	0.07	0.00	0.05	0.37	0.37	0.21	0.88	0.88
Sat Flow, veh/h	372	1472	1397	1723	1810	1538	1740	4588	458	1740	3415	123
Grp Volume(v), veh/h	109	0	12	87	43	0	43	937	485	152	591	614
Grp Sat Flow(s),veh/h/ln	1844	0	1397	1723	1810	1538	1740	1663	1721	1740	1736	1802
Q Serve(g_s), s	4.1	0.0	0.6	4.1	1.9	0.0	2.0	20.7	20.7	7.0	10.4	10.4
Cycle Q Clear(g_c), s	4.1	0.0	0.6	4.1	1.9	0.0	2.0	20.7	20.7	7.0	10.4	10.4
Prop In Lane	0.20		1.00	1.00		1.00	1.00		0.27	1.00		0.07
Lane Grp Cap(c), veh/h	417	0	316	123	129	110	79	1230	636	184	767	797
V/C Ratio(X)	0.26	0.00	0.04	0.71	0.33	0.00	0.55	0.76	0.76	0.83	0.77	0.77
Avail Cap(c_a), veh/h	605	0	458	236	248	211	187	1230	636	228	767	797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	26.7	0.0	25.3	38.0	37.0	0.0	39.2	23.2	23.2	32.3	3.3	3.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	7.2	1.5	0.0	5.8	4.5	8.4	16.0	6.4	6.2
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	2.1	0.0	0.2	2.2	1.0	0.0	1.1	10.3	11.3	4.1	5.6	5.8
LnGrp Delay(d),s/veh	27.0	0.0	25.4	45.2	38.5	0.0	44.9	27.7	31.6	48.4	9.7	9.5
LnGrp LOS	C		C	D	D		D	C	C	D	A	A
Approach Vol, veh/h		121			130			1465			1357	
Approach Delay, s/veh		26.8			43.0			29.5			13.9	
Approach LOS		C			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.8	58.2		23.5	30.0	36.0		10.5
Change Period (Y+Rc), s	4.0	5.0		4.5	5.0	* 5		4.5
Max Green Setting (Gmax), s	9.0	34.0		27.5	11.0	* 31		11.5
Max Q Clear Time (g_c+I1), s	4.0	12.4		6.1	9.0	22.7		6.1
Green Ext Time (p_c), s	0.0	9.3		0.5	0.1	5.5		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	23.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	130	1390	1680	60	60	150
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	184.5	184.5	186.3	190.0	184.5	184.5
Adj Flow Rate, veh/h	141	1511	1826	53	65	86
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	2	2	3	3
Cap, veh/h	273	4007	2918	85	143	127
Arrive On Green	0.16	0.80	0.58	0.58	0.08	0.08
Sat Flow, veh/h	1757	5202	5240	147	1757	1568
Grp Volume(v), veh/h	141	1511	1220	659	65	86
Grp Sat Flow(s),veh/h/ln	1757	1679	1695	1829	1757	1568
Q Serve(g_s), s	5.7	6.8	18.4	18.5	2.7	4.1
Cycle Q Clear(g_c), s	5.7	6.8	18.4	18.5	2.7	4.1
Prop In Lane	1.00			0.08	1.00	1.00
Lane Grp Cap(c), veh/h	273	4007	1951	1052	143	127
V/C Ratio(X)	0.52	0.38	0.63	0.63	0.46	0.68
Avail Cap(c_a), veh/h	273	4007	1951	1052	662	591
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	29.9	2.3	10.9	10.9	33.8	34.5
Incr Delay (d2), s/veh	1.7	0.3	1.5	2.8	2.3	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.2	8.9	10.0	1.4	2.0
LnGrp Delay(d),s/veh	31.6	2.6	12.4	13.7	36.1	40.5
LnGrp LOS	C	A	B	B	D	D
Approach Vol, veh/h		1652	1879		151	
Approach Delay, s/veh		5.1	12.9		38.6	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	39.8	49.4		10.8		89.2		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	12.0	44.400002		29.1		61.4		
Max Q Clear Time (g_c+I1), s	7.7	20.5		6.1		8.8		
Green Ext Time (p_c), s	3.4	15.3		0.4		18.3		

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

Notes

* HCM 2010 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												
Volume (veh/h)	30	740	180	590	1780	20	130	30	190	20	60	20
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.98	0.92		0.91	0.93		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	179.2	179.2	190.0	188.1	188.1	190.0	186.3	186.3	186.3	186.3	186.3	190.0
Adj Flow Rate, veh/h	33	804	106	641	1935	22	141	33	103	22	65	22
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	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, %	6	6	6	1	1	1	2	2	2	2	2	2
Cap, veh/h	62	1569	205	748	1951	22	352	501	387	370	347	117
Arrive On Green	0.04	0.36	0.36	0.22	0.54	0.54	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1707	4352	569	3476	3619	41	1207	1863	1438	1156	1290	437
Grp Volume(v), veh/h	33	601	309	641	953	1004	141	33	103	22	0	87
Grp Sat Flow(s),veh/h/ln	1707	1631	1659	1738	1787	1873	1207	1863	1438	1156	0	1727
Q Serve(g_s), s	1.8	13.9	14.1	17.1	50.8	51.3	9.8	1.3	5.4	1.4	0.0	3.7
Cycle Q Clear(g_c), s	1.8	13.9	14.1	17.1	50.8	51.3	13.6	1.3	5.4	2.7	0.0	3.7
Prop In Lane	1.00		0.34	1.00		0.02	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	62	1176	598	748	964	1010	352	501	387	370	0	464
V/C Ratio(X)	0.53	0.51	0.52	0.86	0.99	0.99	0.40	0.07	0.27	0.06	0.00	0.19
Avail Cap(c_a), veh/h	106	1176	598	973	964	1010	366	521	403	383	0	483
HCM Platoon Ratio	1.00	1.00	1.00	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	45.6	24.2	24.2	36.4	21.9	22.1	32.4	26.2	27.8	27.2	0.0	27.2
Incr Delay (d2), s/veh	6.8	0.4	0.8	6.1	26.6	26.9	0.7	0.1	0.4	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	6.3	6.6	8.8	32.0	33.7	3.3	0.7	2.2	0.5	0.0	1.8
LnGrp Delay(d),s/veh	52.4	24.5	25.0	42.6	48.5	48.9	33.1	26.3	28.1	27.3	0.0	27.3
LnGrp LOS	D	C	C	D	D	D	C	C	C	C		C
Approach Vol, veh/h		943			2598			277			109	
Approach Delay, s/veh		25.7			47.2			30.5			27.3	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.5	57.0		30.9	25.7	39.8		30.9
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	6.0	52.0		27.0	27.0	31.0		27.0
Max Q Clear Time (g_c+I1), s	3.8	53.3		5.7	19.1	16.1		15.6
Green Ext Time (p_c), s	0.0	0.0		1.6	1.6	13.7		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	40.3
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	40	1280	40	0	1200
Conflicting Peds, #/hr	0	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	4	4	4
Mvmt Flow	0	43	1391	43	0	1304

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1935	723	0	0	1435	0
Stage 1	1413	-	-	-	-	-
Stage 2	522	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.38	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.14	-
Pot Cap-1 Maneuver	104	320	-	-	235	-
Stage 1	137	-	-	-	-	-
Stage 2	516	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	103	318	-	-	234	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	137	-	-	-	-	-
Stage 2	513	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.1		
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	318	234	-
HCM Lane V/C Ratio	-	-	0.137	-	-
HCM Control Delay (s)	-	-	18.1	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	50	30	0	0	0	0	1430	90	220	1620	50
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				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
Adj Sat Flow, veh/h/ln	190.0	190.0	190.0				0.0	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	53	53	24				0	1505	0	232	1705	49
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	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	2	2	1	1	1
Cap, veh/h	77	77	35				0	3471	0	308	4140	119
Arrive On Green	0.11	0.11	0.11				0.00	0.68	0.00	0.09	0.81	0.81
Sat Flow, veh/h	727	727	329				0	5421	0	3476	5128	147
Grp Volume(v), veh/h	130	0	0				0	1505	0	232	1138	616
Grp Sat Flow(s),veh/h/ln	1784	0	0				0	1695	0	1738	1712	1851
Q Serve(g_s), s	7.7	0.0	0.0				0.0	14.7	0.0	7.2	10.6	10.6
Cycle Q Clear(g_c), s	7.7	0.0	0.0				0.0	14.7	0.0	7.2	10.6	10.6
Prop In Lane	0.41		0.18				0.00		0.00	1.00		0.08
Lane Grp Cap(c), veh/h	190	0	0				0	3471	0	308	2764	1495
V/C Ratio(X)	0.69	0.00	0.00				0.00	0.43	0.00	0.75	0.41	0.41
Avail Cap(c_a), veh/h	348	0	0				0	3471	0	662	2764	1495
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.39	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.5	0.0	0.0				0.0	7.9	0.0	49.1	3.1	3.1
Incr Delay (d2), s/veh	4.3	0.0	0.0				0.0	0.2	0.0	3.7	0.5	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	0.0				0.0	6.9	0.0	3.6	5.1	5.7
LnGrp Delay(d),s/veh	51.8	0.0	0.0				0.0	8.0	0.0	52.8	3.5	3.9
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		130						1505			1986	
Approach Delay, s/veh		51.8						8.0			9.4	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		103.8		16.2	13.8	90.0		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		89.0		21.5	21.0	64.0		
Max Q Clear Time (g_c+I1), s		12.6		9.7	9.2	16.7		
Green Ext Time (p_c), s		59.1		0.0	0.6	40.1		

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	110	770	150	130	480	240	180	1170	290	270	1230	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	1.00		0.97	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
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	188.1	188.1	188.1	188.1	188.1	190.0	188.1	188.1	188.1
Adj Flow Rate, veh/h	112	786	145	133	490	182	184	1194	284	276	1255	50
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	138	814	150	161	1048	457	214	1262	300	305	1277	565
Arrive On Green	0.08	0.27	0.27	0.09	0.29	0.29	0.12	0.31	0.31	0.34	0.71	0.71
Sat Flow, veh/h	1792	2991	552	1792	3574	1560	1792	4122	980	1792	3574	1582
Grp Volume(v), veh/h	112	470	461	133	490	182	184	992	486	276	1255	50
Grp Sat Flow(s),veh/h/ln	1792	1787	1756	1792	1787	1560	1792	1712	1678	1792	1787	1582
Q Serve(g_s), s	7.2	30.5	30.5	8.6	13.2	7.1	11.9	33.3	33.3	17.3	39.6	0.9
Cycle Q Clear(g_c), s	7.2	30.5	30.5	8.6	13.2	7.1	11.9	33.3	33.3	17.3	39.6	0.9
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.58	1.00		1.00
Lane Grp Cap(c), veh/h	138	486	478	161	1048	457	214	1048	514	305	1277	565
V/C Ratio(X)	0.81	0.97	0.97	0.83	0.47	0.40	0.86	0.95	0.95	0.90	0.98	0.09
Avail Cap(c_a), veh/h	198	486	478	183	1048	457	229	1048	514	320	1277	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.66	0.66	0.66	0.91	0.91	0.91
Uniform Delay (d), s/veh	53.4	42.2	42.2	52.6	34.0	14.1	50.8	39.8	39.8	37.9	16.4	6.3
Incr Delay (d2), s/veh	15.0	32.0	32.3	23.6	0.3	0.6	18.5	13.0	21.6	25.1	20.2	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	4.2	19.3	19.0	5.3	6.6	4.2	7.0	17.6	18.5	10.6	22.1	0.5
LnGrp Delay(d),s/veh	68.4	74.2	74.6	76.2	34.4	14.6	69.4	52.8	61.4	62.9	36.7	6.6
LnGrp LOS	E	E	E	E	C	B	E	D	E	E	D	A
Approach Vol, veh/h		1043			805			1662			1581	
Approach Delay, s/veh		73.7			36.8			57.2			40.3	
Approach LOS		E			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	37.0	20.5	47.0	13.1	39.5	26.5	41.0
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	12.0	* 32	15.0	42.0	13.0	32.0	21.0	36.0
Max Q Clear Time (g_c+I1), s	10.6	32.5	13.9	41.6	9.2	15.2	19.3	35.3
Green Ext Time (p_c), s	0.1	0.0	0.2	0.3	0.1	4.0	0.3	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	52.1
HCM 2010 LOS	D

Notes

* HCM 2010 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												
Volume (veh/h)	0	0	0	240	880	480	240	1150	0	0	1420	80
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.97	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
Adj Sat Flow, veh/h/ln				188.1	188.1	188.1	188.1	188.1	0.0	190.0	188.1	188.1
Adj Flow Rate, veh/h				255	936	334	255	1223	0	0	1511	72
Adj No. of Lanes				1	3	1	2	2	0	0	3	1
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				1	1	1	1	1	0	1	1	1
Cap, veh/h				506	1450	439	333	2219	0	0	2488	758
Arrive On Green				0.28	0.28	0.28	0.10	0.62	0.00	0.00	0.97	0.97
Sat Flow, veh/h				1792	5136	1555	3476	3668	0	0	5305	1565
Grp Volume(v), veh/h				255	936	334	255	1223	0	0	1511	72
Grp Sat Flow(s),veh/h/ln				1792	1712	1555	1738	1787	0	0	1712	1565
Q Serve(g_s), s				11.7	15.7	19.3	7.0	19.4	0.0	0.0	2.2	0.2
Cycle Q Clear(g_c), s				11.7	15.7	19.3	7.0	19.4	0.0	0.0	2.2	0.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				506	1450	439	333	2219	0	0	2488	758
V/C Ratio(X)				0.50	0.65	0.76	0.77	0.55	0.00	0.00	0.61	0.09
Avail Cap(c_a), veh/h				903	2588	784	495	2219	0	0	2488	758
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.55	0.55	0.00	0.00	0.21	0.21
Uniform Delay (d), s/veh				29.5	30.9	32.2	43.3	10.7	0.0	0.0	0.8	0.8
Incr Delay (d2), s/veh				0.8	0.5	2.7	2.3	0.5	0.0	0.0	0.2	0.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.9	7.4	8.6	3.5	9.7	0.0	0.0	0.6	0.1
LnGrp Delay(d),s/veh				30.3	31.4	35.0	45.6	11.3	0.0	0.0	1.1	0.8
LnGrp LOS				C	C	C	D	B			A	A
Approach Vol, veh/h					1525			1478			1583	
Approach Delay, s/veh					32.0			17.2			1.0	
Approach LOS					C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	13.4	74.4		32.2		87.8		
Change Period (Y+Rc), s	4.0	5.0		4.5		5.0		
Max Green Setting (Gmax), s	14.0	43.0		49.5		61.0		
Max Q Clear Time (g_c+I1), s	9.0	4.2		21.3		21.4		
Green Ext Time (p_c), s	0.4	30.7		6.5		31.2		

Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	1480	330	0	0	0	0	1220	230	700	970	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				1.00		0.95	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3				0.0	188.1	188.1	188.1	188.1	0.0
Adj Flow Rate, veh/h	191	1574	305				0	1298	224	745	1032	0
Adj No. of Lanes	0	4	1				0	4	1	2	2	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	1	1	1	1	0
Cap, veh/h	209	1855	473				0	1743	410	936	2111	0
Arrive On Green	0.31	0.31	0.31				0.00	0.27	0.27	0.27	0.59	0.00
Sat Flow, veh/h	671	5964	1519				0	6735	1521	3476	3668	0
Grp Volume(v), veh/h	521	1244	305				0	1298	224	745	1032	0
Grp Sat Flow(s),veh/h/ln	1829	1602	1519				0	1618	1521	1738	1787	0
Q Serve(g_s), s	26.5	23.2	16.7				0.0	17.7	12.2	19.2	16.0	0.0
Cycle Q Clear(g_c), s	26.5	23.2	16.7				0.0	17.7	12.2	19.2	16.0	0.0
Prop In Lane	0.37		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	569	1495	473				0	1743	410	936	2111	0
V/C Ratio(X)	0.91	0.83	0.65				0.00	0.74	0.55	0.80	0.49	0.00
Avail Cap(c_a), veh/h	635	1668	527				0	1743	410	936	2111	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.85	0.85	0.67	0.67	0.00
Uniform Delay (d), s/veh	32.0	30.9	28.7				0.0	32.2	30.2	32.8	11.4	0.0
Incr Delay (d2), s/veh	16.9	3.4	2.3				0.0	2.5	4.4	3.3	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.0	10.7	14.1				0.0	8.2	5.6	9.6	8.0	0.0
LnGrp Delay(d),s/veh	48.9	34.4	31.0				0.0	34.7	34.6	36.1	11.9	0.0
LnGrp LOS	D	C	C					C	C	D	B	
Approach Vol, veh/h		2070						1522			1777	
Approach Delay, s/veh		37.5						34.7			22.0	
Approach LOS		D						C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		65.5		34.5	34.5	31.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		57.0		33.5	26.0	* 26		
Max Q Clear Time (g_c+I1), s		18.0		28.5	21.2	19.7		
Green Ext Time (p_c), s		14.5		0.0	3.6	4.5		

Intersection Summary	
HCM 2010 Ctrl Delay	31.6
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	50	50	20	130	50	260	50	1160	90	70	1110	60
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		1.00	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	184.5	184.5	188.1	188.1	188.1	186.3	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	54	54	6	141	54	0	54	1261	97	76	1207	64
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	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, %	3	3	3	1	1	1	2	2	2	1	1	1
Cap, veh/h	140	140	224	177	185	158	83	2437	187	98	1776	94
Arrive On Green	0.16	0.16	0.16	0.10	0.10	0.00	0.05	0.51	0.51	0.05	0.52	0.52
Sat Flow, veh/h	900	900	1438	1792	1881	1599	1774	4799	369	1792	3444	182
Grp Volume(v), veh/h	108	0	6	141	54	0	54	891	467	76	626	645
Grp Sat Flow(s),veh/h/ln	1800	0	1438	1792	1881	1599	1774	1695	1778	1792	1787	1840
Q Serve(g_s), s	5.3	0.0	0.3	7.6	2.6	0.0	2.9	17.3	17.3	4.1	25.7	25.8
Cycle Q Clear(g_c), s	5.3	0.0	0.3	7.6	2.6	0.0	2.9	17.3	17.3	4.1	25.7	25.8
Prop In Lane	0.50		1.00	1.00		1.00	1.00		0.21	1.00		0.10
Lane Grp Cap(c), veh/h	280	0	224	177	185	158	83	1722	903	98	922	949
V/C Ratio(X)	0.39	0.00	0.03	0.80	0.29	0.00	0.65	0.52	0.52	0.77	0.68	0.68
Avail Cap(c_a), veh/h	503	0	402	227	239	203	216	1722	903	218	922	949
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	1.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	37.3	0.0	35.2	43.4	41.2	0.0	46.1	16.2	16.2	45.9	17.8	17.8
Incr Delay (d2), s/veh	0.9	0.0	0.0	14.1	0.9	0.0	8.1	1.1	2.1	10.1	3.3	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	2.7	0.0	0.1	4.5	1.4	0.0	1.6	8.3	9.0	2.3	13.4	13.8
LnGrp Delay(d),s/veh	38.2	0.0	35.3	57.5	42.0	0.0	54.3	17.3	18.3	56.0	21.1	21.1
LnGrp LOS	D		D	E	D		D	B	B	E	C	C
Approach Vol, veh/h		114			195			1412			1347	
Approach Delay, s/veh		38.0			53.2			19.0			23.0	
Approach LOS		D			D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.6	77.3		19.8	9.4	76.5		14.2
Change Period (Y+Rc), s	4.0	5.0		4.5	4.0	5.0		4.5
Max Green Setting (Gmax), s	12.0	50.0		27.5	12.0	50.0		12.5
Max Q Clear Time (g_c+I1), s	4.9	27.8		7.3	6.1	19.3		9.6
Green Ext Time (p_c), s	0.0	18.1		0.5	0.1	23.6		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	23.7
HCM 2010 LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	220	1990	1250	90	170	260
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	188.1	190.0	188.1	188.1
Adj Flow Rate, veh/h	239	2163	1359	85	185	137
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	437	3846	2191	137	242	216
Arrive On Green	0.24	0.75	0.44	0.44	0.14	0.14
Sat Flow, veh/h	1792	5305	5104	309	1792	1599
Grp Volume(v), veh/h	239	2163	943	501	185	137
Grp Sat Flow(s),veh/h/ln	1792	1712	1712	1820	1792	1599
Q Serve(g_s), s	9.5	15.0	17.3	17.3	8.2	6.6
Cycle Q Clear(g_c), s	9.5	15.0	17.3	17.3	8.2	6.6
Prop In Lane	1.00			0.17	1.00	1.00
Lane Grp Cap(c), veh/h	437	3846	1520	808	242	216
V/C Ratio(X)	0.55	0.56	0.62	0.62	0.76	0.63
Avail Cap(c_a), veh/h	437	3846	1520	808	636	568
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	27.0	4.5	17.5	17.5	34.2	33.5
Incr Delay (d2), s/veh	1.4	0.6	1.9	3.6	5.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	7.0	8.5	9.4	4.3	3.1
LnGrp Delay(d),s/veh	28.5	5.1	19.4	21.1	39.2	36.6
LnGrp LOS	C	A	B	C	D	D
Approach Vol, veh/h		2402	1444		322	
Approach Delay, s/veh		7.4	20.0		38.1	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	43.0	41.4		15.6		84.4		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	20.0	36.400002		29.1		61.4		
Max Q Clear Time (g_c+I1), s	11.5	19.3		10.2		17.0		
Green Ext Time (p_c), s	7.6	9.4		0.9		29.7		

Intersection Summary	
HCM 2010 Ctrl Delay	14.1
HCM 2010 LOS	B

Notes

* HCM 2010 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												
Volume (veh/h)	110	1750	170	250	890	50	230	60	510	80	60	60
Number	1	6	16	5	2	12	3	8	18	7	4	14
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		0.97	0.96		0.93	0.97		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	184.5	184.5	190.0	190.0	190.0	190.0	190.0	190.0	190.0
Adj Flow Rate, veh/h	116	1842	103	263	937	50	242	63	358	84	63	47
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	0
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, %	1	1	1	3	3	3	0	0	0	0	0	0
Cap, veh/h	147	2410	134	221	1580	84	377	548	434	329	284	212
Arrive On Green	0.08	0.48	0.48	0.06	0.47	0.47	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1792	4970	277	3408	3379	180	1246	1900	1504	952	985	734
Grp Volume(v), veh/h	116	1267	678	263	486	501	242	63	358	84	0	110
Grp Sat Flow(s),veh/h/ln	1792	1712	1824	1704	1752	1807	1246	1900	1504	952	0	1719
Q Serve(g_s), s	5.9	28.1	28.2	6.0	18.9	18.9	17.0	2.3	20.6	6.6	0.0	4.5
Cycle Q Clear(g_c), s	5.9	28.1	28.2	6.0	18.9	18.9	21.5	2.3	20.6	8.9	0.0	4.5
Prop In Lane	1.00		0.15	1.00		0.10	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	147	1660	884	221	820	845	377	548	434	329	0	496
V/C Ratio(X)	0.79	0.76	0.77	1.19	0.59	0.59	0.64	0.11	0.82	0.26	0.00	0.22
Avail Cap(c_a), veh/h	251	1773	945	221	820	845	434	636	503	373	0	575
HCM Platoon Ratio	1.00	1.00	1.00	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	41.8	19.5	19.6	43.3	18.2	18.2	33.2	24.3	30.8	27.5	0.0	25.1
Incr Delay (d2), s/veh	9.1	1.9	3.6	122.1	3.1	3.1	2.6	0.1	9.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	13.6	15.0	6.5	9.8	10.0	6.1	1.2	9.7	1.8	0.0	2.2
LnGrp Delay(d),s/veh	50.9	21.4	23.1	165.5	21.3	21.2	35.8	24.4	40.3	27.9	0.0	25.3
LnGrp LOS	D	C	C	F	C	C	D	C	D	C		C
Approach Vol, veh/h		2061			1250			663			194	
Approach Delay, s/veh		23.6			51.6			37.2			26.4	
Approach LOS		C			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.6	48.3		31.7	11.0	49.9		31.7
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	13.0	41.0		31.0	6.0	48.0		31.0
Max Q Clear Time (g_c+I1), s	7.9	20.9		10.9	8.0	30.2		23.5
Green Ext Time (p_c), s	0.1	17.7		3.7	0.0	14.7		2.4

Intersection Summary	
HCM 2010 Ctrl Delay	34.3
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	50	1240	30	0	1310
Conflicting Peds, #/hr	0	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	2	1	1
Mvmt Flow	0	54	1348	33	0	1424

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1934	699	0	0	1380	0
Stage 1	1364	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.32	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.11	-
Pot Cap-1 Maneuver	104	332	-	-	258	-
Stage 1	147	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	103	330	-	-	256	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	147	-	-	-	-	-
Stage 2	484	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18		
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	330	256	-
HCM Lane V/C Ratio	-	-	0.165	-	-
HCM Control Delay (s)	-	-	18	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	20	30	10	0	0	0	0	1760	100	90	960	10
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				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
Adj Sat Flow, veh/h/ln	190.0	184.5	190.0				0.0	184.5	190.0	181.0	181.0	190.0
Adj Flow Rate, veh/h	22	33	6				0	1913	0	98	1043	11
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0				0	3	3	5	5	5
Cap, veh/h	44	66	12				0	3598	0	208	4144	44
Arrive On Green	0.07	0.07	0.07				0.00	0.71	0.00	0.06	0.82	0.82
Sat Flow, veh/h	640	959	174				0	5368	0	3343	5039	53
Grp Volume(v), veh/h	61	0	0				0	1913	0	98	682	372
Grp Sat Flow(s),veh/h/ln	1774	0	0				0	1679	0	1672	1647	1799
Q Serve(g_s), s	2.9	0.0	0.0				0.0	15.3	0.0	2.5	4.1	4.1
Cycle Q Clear(g_c), s	2.9	0.0	0.0				0.0	15.3	0.0	2.5	4.1	4.1
Prop In Lane	0.36		0.10				0.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	123	0	0				0	3598	0	208	2708	1480
V/C Ratio(X)	0.50	0.00	0.00				0.00	0.53	0.00	0.47	0.25	0.25
Avail Cap(c_a), veh/h	375	0	0				0	3598	0	726	2708	1480
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.29	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	0.0	0.0				0.0	5.8	0.0	39.7	1.7	1.7
Incr Delay (d2), s/veh	3.1	0.0	0.0				0.0	0.2	0.0	1.7	0.2	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
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0				0.0	7.0	0.0	1.2	1.9	2.1
LnGrp Delay(d),s/veh	42.4	0.0	0.0				0.0	5.9	0.0	41.3	2.0	2.2
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		61						1913			1152	
Approach Delay, s/veh		42.4						5.9			5.4	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		89.4		10.6	9.4	80.0		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		72.0		18.5	19.0	49.0		
Max Q Clear Time (g_c+I1), s		6.1		4.9	4.5	17.3		
Green Ext Time (p_c), s		48.6		0.0	0.2	27.0		

Intersection Summary	
HCM 2010 Ctrl Delay	6.4
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	70	310	70	220	850	310	130	1440	140	110	780	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	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
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	188.1	188.1	188.1	184.5	184.5	190.0	182.7	182.7	190.0
Adj Flow Rate, veh/h	76	337	71	239	924	257	141	1565	152	120	848	33
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	1	1	1	3	3	3	4	4	4
Cap, veh/h	98	554	115	327	1136	497	233	1572	152	152	1440	56
Arrive On Green	0.06	0.19	0.19	0.18	0.32	0.32	0.13	0.34	0.34	0.12	0.39	0.39
Sat Flow, veh/h	1774	2909	605	1792	3574	1563	1757	4660	452	1740	4925	191
Grp Volume(v), veh/h	76	203	205	239	924	257	141	1127	590	120	572	309
Grp Sat Flow(s),veh/h/ln	1774	1770	1745	1792	1787	1563	1757	1679	1755	1740	1663	1792
Q Serve(g_s), s	3.8	9.3	9.6	11.2	21.2	11.9	6.7	29.8	29.9	6.0	12.1	12.2
Cycle Q Clear(g_c), s	3.8	9.3	9.6	11.2	21.2	11.9	6.7	29.8	29.9	6.0	12.1	12.2
Prop In Lane	1.00		0.35	1.00		1.00	1.00		0.26	1.00		0.11
Lane Grp Cap(c), veh/h	98	337	332	327	1136	497	233	1132	592	152	972	524
V/C Ratio(X)	0.78	0.60	0.62	0.73	0.81	0.52	0.61	1.00	1.00	0.79	0.59	0.59
Avail Cap(c_a), veh/h	199	557	549	327	1246	545	296	1132	592	215	972	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.51	0.51	0.51	0.98	0.98	0.98
Uniform Delay (d), s/veh	41.5	32.9	33.0	34.3	27.9	24.8	36.4	29.4	29.4	38.5	22.9	23.0
Incr Delay (d2), s/veh	12.2	1.7	1.9	8.1	3.9	0.8	1.3	18.1	25.8	11.8	2.6	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.7	4.8	6.2	11.0	5.2	3.3	16.6	18.7	3.4	5.8	6.6
LnGrp Delay(d),s/veh	53.7	34.7	34.9	42.4	31.8	25.6	37.7	47.5	55.2	50.3	25.5	27.7
LnGrp LOS	D	C	C	D	C	C	D	D	E	D	C	C
Approach Vol, veh/h		484			1420			1858			1001	
Approach Delay, s/veh		37.8			32.5			49.2			29.1	
Approach LOS		D			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.2	21.9	26.8	31.0	8.9	33.3	22.8	35.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	13.0	28.0	15.0	26.0	10.0	31.0	11.0	30.0
Max Q Clear Time (g_c+I1), s	13.2	11.6	8.7	14.2	5.8	23.2	8.0	31.9
Green Ext Time (p_c), s	0.0	2.2	0.4	4.5	0.1	4.3	0.2	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	38.8
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	330	1430	590	220	1150	0	0	970	100
Number				7	4	14	1	6	16	5	2	12
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
Adj Sat Flow, veh/h/ln				190.0	184.5	184.5	182.7	182.7	0.0	0.0	181.0	190.0
Adj Flow Rate, veh/h				344	1490	441	229	1198	0	0	1010	75
Adj No. of Lanes				0	3	1	1	2	0	0	3	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	3	3	4	4	0	0	5	5
Cap, veh/h				357	1674	605	266	1737	0	0	1421	105
Arrive On Green				0.39	0.39	0.39	0.15	0.50	0.00	0.00	0.61	0.61
Sat Flow, veh/h				906	4250	1537	1740	3563	0	0	4855	348
Grp Volume(v), veh/h				683	1151	441	229	1198	0	0	708	377
Grp Sat Flow(s),veh/h/ln				1799	1679	1537	1740	1736	0	0	1647	1747
Q Serve(g_s), s				33.4	28.4	21.9	11.5	23.7	0.0	0.0	13.4	13.4
Cycle Q Clear(g_c), s				33.4	28.4	21.9	11.5	23.7	0.0	0.0	13.4	13.4
Prop In Lane				0.50		1.00	1.00		0.00	0.00		0.20
Lane Grp Cap(c), veh/h				709	1322	605	266	1737	0	0	998	529
V/C Ratio(X)				0.96	0.87	0.73	0.86	0.69	0.00	0.00	0.71	0.71
Avail Cap(c_a), veh/h				910	1699	778	348	1737	0	0	998	529
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.67	0.67	0.00	0.00	0.76	0.76
Uniform Delay (d), s/veh				26.6	25.1	23.2	37.1	17.1	0.0	0.0	15.0	15.0
Incr Delay (d2), s/veh				19.0	4.2	2.5	11.0	1.5	0.0	0.0	3.3	6.1
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				20.2	13.9	9.7	6.4	11.7	0.0	0.0	6.4	7.2
LnGrp Delay(d),s/veh				45.6	29.3	25.7	48.2	18.7	0.0	0.0	18.3	21.1
LnGrp LOS				D	C	C	D	B			B	C
Approach Vol, veh/h					2275			1427			1085	
Approach Delay, s/veh					33.5			23.4			19.3	
Approach LOS					C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	17.8	42.3		39.9		60.1		
Change Period (Y+Rc), s	4.0	5.0		4.5		5.0		
Max Green Setting (Gmax), s	18.0	23.0		45.5		45.0		
Max Q Clear Time (g_c+I1), s	13.5	15.4		35.4		25.7		
Green Ext Time (p_c), s	0.3	6.6		0.1		15.0		

Intersection Summary	
HCM 2010 Ctrl Delay	27.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	960	200	0	0	0	0	1190	150	340	960	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	182.7	182.7				0.0	182.7	182.7	182.7	182.7	0.0
Adj Flow Rate, veh/h	196	1043	157				0	1293	128	370	1043	0
Adj No. of Lanes	0	4	1				0	3	1	2	3	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4				0	4	4	4	4	0
Cap, veh/h	258	1487	397				0	1945	587	622	3134	0
Arrive On Green	0.27	0.27	0.27				0.00	0.39	0.39	0.37	1.00	0.00
Sat Flow, veh/h	959	5534	1478				0	5152	1505	3375	5152	0
Grp Volume(v), veh/h	364	875	157				0	1293	128	370	1043	0
Grp Sat Flow(s),veh/h/ln	1779	1571	1478				0	1663	1505	1688	1663	0
Q Serve(g_s), s	17.4	15.4	8.0				0.0	19.7	5.2	8.2	0.0	0.0
Cycle Q Clear(g_c), s	17.4	15.4	8.0				0.0	19.7	5.2	8.2	0.0	0.0
Prop In Lane	0.54		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	478	1266	397				0	1945	587	622	3134	0
V/C Ratio(X)	0.76	0.69	0.40				0.00	0.66	0.22	0.60	0.33	0.00
Avail Cap(c_a), veh/h	626	1660	521				0	1945	587	622	3134	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.80	0.80	0.26	0.26	0.00
Uniform Delay (d), s/veh	31.0	30.3	27.6				0.0	23.2	18.8	26.4	0.0	0.0
Incr Delay (d2), s/veh	4.0	0.8	0.6				0.0	1.5	0.7	0.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	6.7	7.0				0.0	9.2	2.3	3.8	0.0	0.0
LnGrp Delay(d),s/veh	35.0	31.1	28.3				0.0	24.6	19.4	26.8	0.1	0.0
LnGrp LOS	C	C	C					C	B	C	A	
Approach Vol, veh/h		1396						1421			1413	
Approach Delay, s/veh		31.8						24.2			7.1	
Approach LOS		C						C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		70.7		29.3	29.7	41.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		58.0		32.5	17.0	* 36		
Max Q Clear Time (g_c+I1), s		2.0		19.4	10.2	21.7		
Green Ext Time (p_c), s		12.3		0.0	4.4	8.2		

Intersection Summary	
HCM 2010 Ctrl Delay	21.0
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	20	80	20	80	40	130	40	1190	120	140	1070	40
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.88	1.00		1.00	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3	181.0	181.0	181.0	182.7	182.7	190.0	182.7	182.7	190.0
Adj Flow Rate, veh/h	22	87	12	87	43	0	43	1293	129	152	1163	42
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	5	5	5	4	4	4	4	4	4
Cap, veh/h	84	331	314	121	127	108	78	1780	178	184	1531	55
Arrive On Green	0.22	0.22	0.22	0.07	0.07	0.00	0.04	0.39	0.39	0.21	0.90	0.90
Sat Flow, veh/h	372	1472	1396	1723	1810	1538	1740	4588	458	1740	3415	123
Grp Volume(v), veh/h	109	0	12	87	43	0	43	937	485	152	591	614
Grp Sat Flow(s),veh/h/ln	1844	0	1396	1723	1810	1538	1740	1663	1721	1740	1736	1802
Q Serve(g_s), s	4.1	0.0	0.6	4.2	1.9	0.0	2.1	20.4	20.4	7.1	9.4	9.4
Cycle Q Clear(g_c), s	4.1	0.0	0.6	4.2	1.9	0.0	2.1	20.4	20.4	7.1	9.4	9.4
Prop In Lane	0.20		1.00	1.00		1.00	1.00		0.27	1.00		0.07
Lane Grp Cap(c), veh/h	414	0	314	121	127	108	78	1290	668	184	778	808
V/C Ratio(X)	0.26	0.00	0.04	0.72	0.34	0.00	0.55	0.73	0.73	0.83	0.76	0.76
Avail Cap(c_a), veh/h	596	0	451	172	181	154	164	1290	668	266	778	808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	27.2	0.0	25.8	38.7	37.7	0.0	39.8	22.2	22.2	32.8	2.9	2.9
Incr Delay (d2), s/veh	0.3	0.0	0.0	7.9	1.5	0.0	5.9	3.6	6.8	12.5	6.5	6.3
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	2.2	0.0	0.2	2.3	1.0	0.0	1.1	10.0	11.0	4.1	5.1	5.3
LnGrp Delay(d),s/veh	27.5	0.0	25.8	46.6	39.2	0.0	45.7	25.8	29.0	45.3	9.4	9.2
LnGrp LOS	C		C	D	D		D	C	C	D	A	A
Approach Vol, veh/h		121			130			1465			1357	
Approach Delay, s/veh		27.4			44.2			27.4			13.3	
Approach LOS		C			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.8	58.1		23.6	13.0	52.9		10.5
Change Period (Y+Rc), s	4.0	5.0		4.5	4.0	5.0		4.5
Max Green Setting (Gmax), s	8.0	38.0		27.5	13.0	33.0		8.5
Max Q Clear Time (g_c+I1), s	4.1	11.4		6.1	9.1	22.4		6.2
Green Ext Time (p_c), s	0.0	21.0		0.5	0.1	9.4		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	21.9
HCM 2010 LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	130	1390	1680	60	60	150
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	184.5	184.5	186.3	190.0	184.5	184.5
Adj Flow Rate, veh/h	141	1511	1826	53	65	86
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	2	2	3	3
Cap, veh/h	273	4007	2918	85	143	127
Arrive On Green	0.16	0.80	0.58	0.58	0.08	0.08
Sat Flow, veh/h	1757	5202	5240	147	1757	1568
Grp Volume(v), veh/h	141	1511	1220	659	65	86
Grp Sat Flow(s),veh/h/ln	1757	1679	1695	1829	1757	1568
Q Serve(g_s), s	5.7	6.8	18.4	18.5	2.7	4.1
Cycle Q Clear(g_c), s	5.7	6.8	18.4	18.5	2.7	4.1
Prop In Lane	1.00			0.08	1.00	1.00
Lane Grp Cap(c), veh/h	273	4007	1951	1052	143	127
V/C Ratio(X)	0.52	0.38	0.63	0.63	0.46	0.68
Avail Cap(c_a), veh/h	273	4007	1951	1052	662	591
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	29.9	2.3	10.9	10.9	33.8	34.5
Incr Delay (d2), s/veh	1.7	0.3	1.5	2.8	2.3	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.2	8.9	10.0	1.4	2.0
LnGrp Delay(d),s/veh	31.6	2.6	12.4	13.7	36.1	40.5
LnGrp LOS	C	A	B	B	D	D
Approach Vol, veh/h		1652	1879		151	
Approach Delay, s/veh		5.1	12.9		38.6	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	39.8	49.4		10.8		89.2		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	12.0	44.400002		29.1		61.4		
Max Q Clear Time (g_c+I1), s	7.7	20.5		6.1		8.8		
Green Ext Time (p_c), s	3.4	15.3		0.4		18.3		

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

Notes

* HCM 2010 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												
Volume (veh/h)	30	740	180	590	1780	20	130	30	190	20	60	20
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.98	0.92		0.91	0.93		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	179.2	179.2	190.0	188.1	188.1	190.0	186.3	186.3	186.3	186.3	186.3	190.0
Adj Flow Rate, veh/h	33	804	106	641	1935	22	141	33	103	22	65	22
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	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, %	6	6	6	1	1	1	2	2	2	2	2	2
Cap, veh/h	62	1569	205	748	1951	22	352	501	387	370	347	117
Arrive On Green	0.04	0.36	0.36	0.22	0.54	0.54	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1707	4352	569	3476	3619	41	1207	1863	1438	1156	1290	437
Grp Volume(v), veh/h	33	601	309	641	953	1004	141	33	103	22	0	87
Grp Sat Flow(s),veh/h/ln	1707	1631	1659	1738	1787	1873	1207	1863	1438	1156	0	1727
Q Serve(g_s), s	1.8	13.9	14.1	17.1	50.8	51.3	9.8	1.3	5.4	1.4	0.0	3.7
Cycle Q Clear(g_c), s	1.8	13.9	14.1	17.1	50.8	51.3	13.6	1.3	5.4	2.7	0.0	3.7
Prop In Lane	1.00		0.34	1.00		0.02	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	62	1176	598	748	964	1010	352	501	387	370	0	464
V/C Ratio(X)	0.53	0.51	0.52	0.86	0.99	0.99	0.40	0.07	0.27	0.06	0.00	0.19
Avail Cap(c_a), veh/h	106	1176	598	973	964	1010	366	521	403	383	0	483
HCM Platoon Ratio	1.00	1.00	1.00	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	45.6	24.2	24.2	36.4	21.9	22.1	32.4	26.2	27.8	27.2	0.0	27.2
Incr Delay (d2), s/veh	6.8	0.4	0.8	6.1	26.6	26.9	0.7	0.1	0.4	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	6.3	6.6	8.8	32.0	33.7	3.3	0.7	2.2	0.5	0.0	1.8
LnGrp Delay(d),s/veh	52.4	24.5	25.0	42.6	48.5	48.9	33.1	26.3	28.1	27.3	0.0	27.3
LnGrp LOS	D	C	C	D	D	D	C	C	C	C		C
Approach Vol, veh/h		943			2598			277			109	
Approach Delay, s/veh		25.7			47.2			30.5			27.3	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.5	57.0		30.9	25.7	39.8		30.9
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	6.0	52.0		27.0	27.0	31.0		27.0
Max Q Clear Time (g_c+I1), s	3.8	53.3		5.7	19.1	16.1		15.6
Green Ext Time (p_c), s	0.0	0.0		1.6	1.6	13.7		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	40.3
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	40	1280	40	0	1200
Conflicting Peds, #/hr	0	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	4	4	4
Mvmt Flow	0	43	1391	43	0	1304

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1935	723	0	0	1435	0
Stage 1	1413	-	-	-	-	-
Stage 2	522	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.38	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.14	-
Pot Cap-1 Maneuver	104	320	-	-	235	-
Stage 1	137	-	-	-	-	-
Stage 2	516	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	103	318	-	-	234	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	137	-	-	-	-	-
Stage 2	513	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.1		
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	318	234	-
HCM Lane V/C Ratio	-	-	0.137	-	-
HCM Control Delay (s)	-	-	18.1	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	50	30	0	0	0	0	1430	90	220	1620	50
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				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
Adj Sat Flow, veh/h/ln	190.0	190.0	190.0				0.0	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	53	53	24				0	1505	0	232	1705	49
Adj No. of Lanes	0	1	0				0	3	0	2	3	0
Peak Hour Factor	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	2	2	1	1	1
Cap, veh/h	78	78	35				0	3461	0	309	4134	119
Arrive On Green	0.11	0.11	0.11				0.00	0.68	0.00	0.09	0.81	0.81
Sat Flow, veh/h	727	727	329				0	5421	0	3476	5128	147
Grp Volume(v), veh/h	130	0	0				0	1505	0	232	1138	616
Grp Sat Flow(s),veh/h/ln	1784	0	0				0	1695	0	1738	1712	1851
Q Serve(g_s), s	7.7	0.0	0.0				0.0	14.7	0.0	7.1	10.5	10.5
Cycle Q Clear(g_c), s	7.7	0.0	0.0				0.0	14.7	0.0	7.1	10.5	10.5
Prop In Lane	0.41		0.18				0.00		0.00	1.00		0.08
Lane Grp Cap(c), veh/h	190	0	0				0	3461	0	309	2760	1493
V/C Ratio(X)	0.68	0.00	0.00				0.00	0.43	0.00	0.75	0.41	0.41
Avail Cap(c_a), veh/h	368	0	0				0	3461	0	701	2760	1493
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.37	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	0.0	0.0				0.0	7.9	0.0	48.5	3.1	3.1
Incr Delay (d2), s/veh	4.3	0.0	0.0				0.0	0.1	0.0	3.6	0.5	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0				0.0	6.9	0.0	3.6	5.1	5.7
LnGrp Delay(d),s/veh	51.2	0.0	0.0				0.0	8.1	0.0	52.2	3.5	3.9
LnGrp LOS	D							A		D	A	A
Approach Vol, veh/h		130						1505			1986	
Approach Delay, s/veh		51.2						8.1			9.3	
Approach LOS		D						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		103.9		16.1	13.7	90.1		
Change Period (Y+Rc), s		5.0		4.5	4.0	5.0		
Max Green Setting (Gmax), s		88.0		22.5	22.0	62.0		
Max Q Clear Time (g_c+I1), s		12.5		9.7	9.1	16.7		
Green Ext Time (p_c), s		58.5		0.0	0.6	38.7		

Intersection Summary	
HCM 2010 Ctrl Delay	10.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	110	770	150	130	480	240	180	1170	290	270	1230	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	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
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	188.1	188.1	188.1	188.1	188.1	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	112	786	145	133	490	182	184	1194	284	276	1255	50
Adj No. of Lanes	1	2	0	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	256	837	154	162	814	353	223	1242	295	302	1750	70
Arrive On Green	0.14	0.28	0.28	0.09	0.23	0.23	0.12	0.30	0.30	0.34	0.69	0.69
Sat Flow, veh/h	1792	2992	552	1792	3574	1548	1792	4122	980	1792	5065	202
Grp Volume(v), veh/h	112	469	462	133	490	182	184	992	486	276	848	457
Grp Sat Flow(s),veh/h/ln	1792	1787	1757	1792	1787	1548	1792	1712	1678	1792	1712	1843
Q Serve(g_s), s	6.5	29.0	29.0	8.2	13.8	11.6	11.3	32.2	32.2	16.6	17.1	17.1
Cycle Q Clear(g_c), s	6.5	29.0	29.0	8.2	13.8	11.6	11.3	32.2	32.2	16.6	17.1	17.1
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.58	1.00		0.11
Lane Grp Cap(c), veh/h	256	500	492	162	814	353	223	1032	506	302	1183	637
V/C Ratio(X)	0.44	0.94	0.94	0.82	0.60	0.52	0.83	0.96	0.96	0.91	0.72	0.72
Avail Cap(c_a), veh/h	256	507	498	238	1077	467	254	1032	506	333	1183	637
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	0.91	0.91	0.91
Uniform Delay (d), s/veh	44.2	39.7	39.7	50.4	39.0	38.1	48.2	38.8	38.8	36.6	14.0	14.0
Incr Delay (d2), s/veh	1.2	25.4	25.7	13.3	0.7	1.2	12.6	15.4	24.6	25.2	3.4	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	17.7	17.5	4.7	6.9	5.1	6.4	17.4	18.3	10.3	8.5	9.6
LnGrp Delay(d),s/veh	45.4	65.1	65.4	63.7	39.7	39.3	60.8	54.2	63.4	61.8	17.4	20.2
LnGrp LOS	D	E	E	E	D	D	E	D	E	E	B	C
Approach Vol, veh/h		1043			805			1662			1581	
Approach Delay, s/veh		63.1			43.6			57.6			26.0	
Approach LOS		E			D			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	36.6	25.2	44.0	20.1	30.7	30.2	39.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	15.0	32.0	16.0	39.0	13.0	34.0	21.0	34.0
Max Q Clear Time (g_c+I1), s	10.2	31.0	13.3	19.1	8.5	15.8	18.6	34.2
Green Ext Time (p_c), s	0.2	0.6	0.4	9.1	0.3	3.7	0.4	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	46.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	240	880	480	240	1150	0	0	1420	80
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.97	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
Adj Sat Flow, veh/h/ln				190.0	188.1	188.1	188.1	188.1	0.0	0.0	188.1	190.0
Adj Flow Rate, veh/h				255	936	334	255	1223	0	0	1511	72
Adj No. of Lanes				0	3	1	1	2	0	0	3	0
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				1	1	1	1	1	0	0	1	1
Cap, veh/h				271	1075	398	294	2328	0	0	2250	107
Arrive On Green				0.26	0.26	0.26	0.16	0.65	0.00	0.00	0.90	0.90
Sat Flow, veh/h				1058	4194	1553	1792	3668	0	0	5187	239
Grp Volume(v), veh/h				440	751	334	255	1223	0	0	1031	552
Grp Sat Flow(s),veh/h/ln				1828	1712	1553	1792	1787	0	0	1712	1833
Q Serve(g_s), s				24.3	21.5	21.0	14.3	18.7	0.0	0.0	8.0	8.0
Cycle Q Clear(g_c), s				24.3	21.5	21.0	14.3	18.7	0.0	0.0	8.0	8.0
Prop In Lane				0.58		1.00	1.00		0.00	0.00		0.13
Lane Grp Cap(c), veh/h				469	878	398	294	2328	0	0	1535	822
V/C Ratio(X)				0.94	0.86	0.84	0.87	0.53	0.00	0.00	0.67	0.67
Avail Cap(c_a), veh/h				773	1448	657	522	2328	0	0	1535	822
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	1.00	1.00	0.42	0.42	0.00	0.00	0.60	0.60
Uniform Delay (d), s/veh				37.5	36.4	36.2	41.9	9.5	0.0	0.0	3.3	3.3
Incr Delay (d2), s/veh				13.1	2.8	5.1	3.5	0.4	0.0	0.0	1.4	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				13.9	10.5	9.6	7.4	9.3	0.0	0.0	3.6	4.1
LnGrp Delay(d),s/veh				50.6	39.3	41.3	45.4	9.9	0.0	0.0	4.8	6.0
LnGrp LOS				D	D	D	D	A			A	A
Approach Vol, veh/h					1525			1478			1583	
Approach Delay, s/veh					43.0			16.0			5.2	
Approach LOS					D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	20.9	68.3		30.9		89.1		
Change Period (Y+Rc), s	4.0	5.0		4.5		5.0		
Max Green Setting (Gmax), s	30.0	33.0		43.5		67.0		
Max Q Clear Time (g_c+I1), s	16.3	10.0		26.3		20.7		
Green Ext Time (p_c), s	0.6	19.7		0.1		35.0		

Intersection Summary	
HCM 2010 Ctrl Delay	21.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	1480	330	0	0	0	0	1220	230	700	970	0
Number	7	4	14				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3				0.0	188.1	188.1	188.1	188.1	0.0
Adj Flow Rate, veh/h	191	1574	305				0	1298	224	745	1032	0
Adj No. of Lanes	0	4	1				0	3	1	2	3	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	1	1	1	1	0
Cap, veh/h	200	1775	451				0	1654	492	871	3170	0
Arrive On Green	0.30	0.30	0.30				0.00	0.32	0.32	0.50	1.00	0.00
Sat Flow, veh/h	671	5964	1516				0	5305	1529	3476	5305	0
Grp Volume(v), veh/h	521	1244	305				0	1298	224	745	1032	0
Grp Sat Flow(s),veh/h/ln	1829	1602	1516				0	1712	1529	1738	1712	0
Q Serve(g_s), s	31.2	27.4	19.8				0.0	25.6	13.0	20.9	0.0	0.0
Cycle Q Clear(g_c), s	31.2	27.4	19.8				0.0	25.6	13.0	20.9	0.0	0.0
Prop In Lane	0.37		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	545	1431	451				0	1654	492	871	3170	0
V/C Ratio(X)	0.96	0.87	0.68				0.00	0.78	0.45	0.86	0.33	0.00
Avail Cap(c_a), veh/h	679	1784	563				0	1654	492	871	3170	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.85	0.85	0.32	0.32	0.00
Uniform Delay (d), s/veh	38.5	37.2	34.5				0.0	34.4	30.1	26.1	0.0	0.0
Incr Delay (d2), s/veh	21.7	4.1	2.3				0.0	3.3	2.6	2.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.0	12.6	16.3				0.0	12.6	5.8	10.1	0.0	0.0
LnGrp Delay(d),s/veh	60.2	41.3	36.8				0.0	37.6	32.7	29.0	0.1	0.0
LnGrp LOS	E	D	D					D	C	C	A	
Approach Vol, veh/h		2070						1522			1777	
Approach Delay, s/veh		45.4						36.9			12.2	
Approach LOS		D						D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		82.2		37.8	41.2	41.0		
Change Period (Y+Rc), s		5.0		4.5	5.0	* 5		
Max Green Setting (Gmax), s		69.0		41.5	28.0	* 36		
Max Q Clear Time (g_c+I1), s		2.0		33.2	22.9	27.6		
Green Ext Time (p_c), s		15.9		0.0	3.8	5.7		

Intersection Summary	
HCM 2010 Ctrl Delay	32.0
HCM 2010 LOS	C

Notes

* HCM 2010 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												
Volume (veh/h)	50	50	20	130	50	260	50	1160	90	70	1110	60
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		1.00	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	184.5	184.5	188.1	188.1	188.1	186.3	186.3	190.0	188.1	188.1	190.0
Adj Flow Rate, veh/h	54	54	6	141	54	0	54	1261	97	76	1207	64
Adj No. of Lanes	0	1	1	1	1	1	1	3	0	1	2	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, %	3	3	3	1	1	1	2	2	2	1	1	1
Cap, veh/h	143	143	228	182	191	162	86	2362	182	99	1719	91
Arrive On Green	0.16	0.16	0.16	0.10	0.10	0.00	0.05	0.49	0.49	0.06	0.50	0.50
Sat Flow, veh/h	900	900	1440	1792	1881	1599	1774	4799	369	1792	3444	182
Grp Volume(v), veh/h	108	0	6	141	54	0	54	891	467	76	626	645
Grp Sat Flow(s),veh/h/ln	1800	0	1440	1792	1881	1599	1774	1695	1778	1792	1787	1839
Q Serve(g_s), s	5.0	0.0	0.3	7.2	2.5	0.0	2.8	16.9	16.9	3.9	25.2	25.3
Cycle Q Clear(g_c), s	5.0	0.0	0.3	7.2	2.5	0.0	2.8	16.9	16.9	3.9	25.2	25.3
Prop In Lane	0.50		1.00	1.00		1.00	1.00		0.21	1.00		0.10
Lane Grp Cap(c), veh/h	286	0	228	182	191	162	86	1668	875	99	892	918
V/C Ratio(X)	0.38	0.00	0.03	0.78	0.28	0.00	0.63	0.53	0.53	0.77	0.70	0.70
Avail Cap(c_a), veh/h	529	0	424	316	332	282	228	1668	875	230	892	918
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	35.2	0.0	33.2	41.0	38.9	0.0	43.7	16.4	16.4	43.6	18.0	18.1
Incr Delay (d2), s/veh	0.8	0.0	0.0	7.0	0.8	0.0	7.4	1.2	2.3	10.7	4.2	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	2.6	0.0	0.1	3.9	1.3	0.0	1.5	8.2	8.9	2.2	13.4	13.8
LnGrp Delay(d),s/veh	36.0	0.0	33.3	47.9	39.7	0.0	51.0	17.6	18.7	54.3	22.3	22.2
LnGrp LOS	D		C	D	D		D	B	B	D	C	C
Approach Vol, veh/h		114			195			1412			1347	
Approach Delay, s/veh		35.9			45.6			19.2			24.0	
Approach LOS		D			D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.5	78.2		19.3	9.2	77.5		14.0
Change Period (Y+Rc), s	4.0	5.0		4.5	4.0	5.0		4.5
Max Green Setting (Gmax), s	12.0	46.0		27.5	12.0	46.0		16.5
Max Q Clear Time (g_c+I1), s	4.8	27.3		7.0	5.9	18.9		9.2
Green Ext Time (p_c), s	0.0	15.7		0.5	0.1	21.3		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	23.6
HCM 2010 LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	220	1990	1250	90	170	260
Number	1	6	2	12	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	188.1	190.0	188.1	188.1
Adj Flow Rate, veh/h	239	2163	1359	85	185	137
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	437	3846	2191	137	242	216
Arrive On Green	0.24	0.75	0.44	0.44	0.14	0.14
Sat Flow, veh/h	1792	5305	5104	309	1792	1599
Grp Volume(v), veh/h	239	2163	943	501	185	137
Grp Sat Flow(s),veh/h/ln	1792	1712	1712	1820	1792	1599
Q Serve(g_s), s	9.5	15.0	17.3	17.3	8.2	6.6
Cycle Q Clear(g_c), s	9.5	15.0	17.3	17.3	8.2	6.6
Prop In Lane	1.00			0.17	1.00	1.00
Lane Grp Cap(c), veh/h	437	3846	1520	808	242	216
V/C Ratio(X)	0.55	0.56	0.62	0.62	0.76	0.63
Avail Cap(c_a), veh/h	437	3846	1520	808	636	568
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	27.0	4.5	17.5	17.5	34.2	33.5
Incr Delay (d2), s/veh	1.4	0.6	1.9	3.6	5.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	7.0	8.5	9.4	4.3	3.1
LnGrp Delay(d),s/veh	28.5	5.1	19.4	21.1	39.2	36.6
LnGrp LOS	C	A	B	C	D	D
Approach Vol, veh/h		2402	1444		322	
Approach Delay, s/veh		7.4	20.0		38.1	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	43.0	41.4		15.6		84.4		
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0		
Max Green Setting (Gmax), s	20.0	36.400002		29.1		61.4		
Max Q Clear Time (g_c+I1), s	11.5	19.3		10.2		17.0		
Green Ext Time (p_c), s	7.6	9.4		0.9		29.7		

Intersection Summary	
HCM 2010 Ctrl Delay	14.1
HCM 2010 LOS	B

Notes

* HCM 2010 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												
Volume (veh/h)	110	1750	170	250	890	50	230	60	510	80	60	60
Number	1	6	16	5	2	12	3	8	18	7	4	14
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		0.97	0.96		0.93	0.97		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	188.1	188.1	190.0	184.5	184.5	190.0	190.0	190.0	190.0	190.0	190.0	190.0
Adj Flow Rate, veh/h	116	1842	103	263	937	50	242	63	358	84	63	47
Adj No. of Lanes	1	3	0	2	2	0	1	1	1	1	1	0
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, %	1	1	1	3	3	3	0	0	0	0	0	0
Cap, veh/h	147	2410	134	221	1580	84	377	548	434	329	284	212
Arrive On Green	0.08	0.48	0.48	0.06	0.47	0.47	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1792	4970	277	3408	3379	180	1246	1900	1504	952	985	734
Grp Volume(v), veh/h	116	1267	678	263	486	501	242	63	358	84	0	110
Grp Sat Flow(s),veh/h/ln	1792	1712	1824	1704	1752	1807	1246	1900	1504	952	0	1719
Q Serve(g_s), s	5.9	28.1	28.2	6.0	18.9	18.9	17.0	2.3	20.6	6.6	0.0	4.5
Cycle Q Clear(g_c), s	5.9	28.1	28.2	6.0	18.9	18.9	21.5	2.3	20.6	8.9	0.0	4.5
Prop In Lane	1.00		0.15	1.00		0.10	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	147	1660	884	221	820	845	377	548	434	329	0	496
V/C Ratio(X)	0.79	0.76	0.77	1.19	0.59	0.59	0.64	0.11	0.82	0.26	0.00	0.22
Avail Cap(c_a), veh/h	251	1773	945	221	820	845	434	636	503	373	0	575
HCM Platoon Ratio	1.00	1.00	1.00	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	41.8	19.5	19.6	43.3	18.2	18.2	33.2	24.3	30.8	27.5	0.0	25.1
Incr Delay (d2), s/veh	9.1	1.9	3.6	122.1	3.1	3.1	2.6	0.1	9.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	13.6	15.0	6.5	9.8	10.0	6.1	1.2	9.7	1.8	0.0	2.2
LnGrp Delay(d),s/veh	50.9	21.4	23.1	165.5	21.3	21.2	35.8	24.4	40.3	27.9	0.0	25.3
LnGrp LOS	D	C	C	F	C	C	D	C	D	C		C
Approach Vol, veh/h		2061			1250			663			194	
Approach Delay, s/veh		23.6			51.6			37.2			26.4	
Approach LOS		C			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.6	55.7		31.7	11.0	57.3		31.7
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	13.0	41.0		31.0	6.0	48.0		31.0
Max Q Clear Time (g_c+I1), s	7.9	20.9		10.9	8.0	30.2		23.5
Green Ext Time (p_c), s	0.1	17.7		3.7	0.0	14.7		2.4

Intersection Summary	
HCM 2010 Ctrl Delay	34.3
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	50	1240	30	0	1310
Conflicting Peds, #/hr	0	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	2	1	1
Mvmt Flow	0	54	1348	33	0	1424

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1934	699	0	0	1380	0
Stage 1	1364	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Critical Hdwy	5.7	7.1	-	-	5.32	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-	3.11	-
Pot Cap-1 Maneuver	104	332	-	-	258	-
Stage 1	147	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	103	330	-	-	256	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	147	-	-	-	-	-
Stage 2	484	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18		
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	330	256	-
HCM Lane V/C Ratio	-	-	0.165	-	-
HCM Control Delay (s)	-	-	18	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1	0	-