Appendix B

Transportation Impact Study

EXISTING CONDITIONS

The following section describes the physical and operational characteristics of the transportation system within the project area, including the surrounding roadway system, common traffic analysis terms, existing traffic volumes and operations, pedestrian and bicycle facilities, and the transit and rail system.

Study Facilities and Methodology

The following roadways provide primary circulation within the City of Tracy and the vicinity of the proposed project.

- *Interstate (I-) 205* runs east west, connecting I-5 with I-580 in the San Joaquin Valley. I-205 lines the north side of the triangle around Tracy. In the study area, westbound I-205 has an off-ramp at Naglee Road, an on-ramp at Naglee Road, and an on-ramp at Grant Line Road. Eastbound I-205 has a tight diamond interchange at Grant Line Road. In the future, an additional loop ramp will be added to the eastbound diamond interchange. Throughout Tracy, I-205 has six lanes and a 65-mile-per-hour speed limit. In the future, I-205 will be expanded to eight lanes.
- *Grant Line Road* is an east-west road through the northern part of Tracy. Between Corral Hollow Road and the westbound I-205 on-ramp, Grant Line Road is six lanes, and then reduces to two lanes as it reaches Byron Road. There are sidewalks on both sides of Grant Line, except for west of Naglee Road, in which there is just a sidewalk on the south side. There are also bike lanes on each side of Grant Line Road east of Henley Parkway.
- *Corral Hollow Road* serves north-south traffic as a major arterial. In the study area, Corral Hollow Road has sidewalks and bike lanes on both sides. There is also a wide median in the middle. Corral Hollow road is a four-lane road.
- *Henley Parkway* is a north-south road that provides access to a large residential neighborhood from Grant Line Road. Henley Parkway is a two-lane road, and will have project driveways in the future. There is only a sidewalk on the east side of the street and Class II bike lanes on both sides of the street.
- *Lowell Avenue* traverses the south part of the study area as a two-lane, residential road. There are sidewalks and bike lanes on both sides of the road.
- *Byron Road* runs northwest and southeast as a two-lane, rural road. Currently, there are no sidewalks and bike lanes on the street. In the future, the intersection of Grant Line Road / Byron Road will have four legs.

Study intersections and roadways were selected for analysis in consultation with the City of Tracy staff based on the proposed project's expected travel characteristics (i.e.; project location and amount of project trips), as well as facilities susceptible to being affected by the project. The following nine intersections and four highway segments were selected for analysis. **Figure 1** displays the study intersections included in the transportation analysis, which encompasses the study area for the project's transportation and circulation.

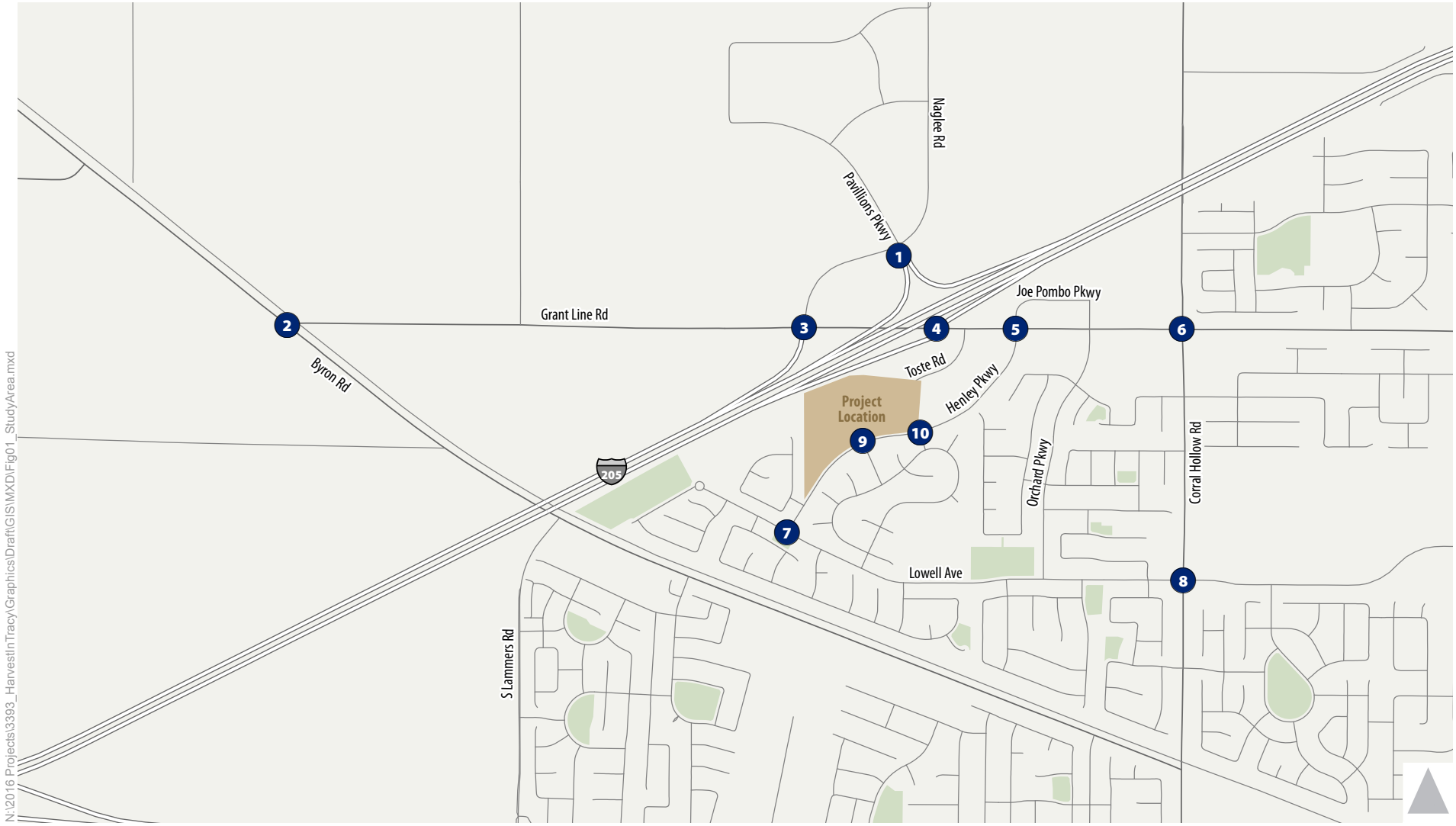

Figure 1

Study Area

Intersections

1. Naglee Road / Pavilion Parkway / I-205 Westbound Ramps
2. Grant Line Road / Byron Road
3. Grant Line Road / Naglee Road / I-205 Westbound On-Ramp
4. Grant Line Road / I-205 Eastbound Ramps
5. Grant Line Road / Henley Parkway
6. Grant Line Road / Corral Hollow Road
7. Lowell Avenue / Henley Parkway[1]
8. Corral Hollow Road / Lowell Avenue
9. Henley Parkway / Project Driveway (future intersection)
10. Bridle Creek Circle / Henley Parkway[2]

Freeway Segments

1. I-205 Eastbound between Tracy Boulevard and Grant Line Road
2. I-205 Eastbound between Grant Line Road and 11th Street
3. I-205 Westbound between 11th Street and Grant Line Road
4. I-205 Westbound between Grant Line Road and Tracy Boulevard

Study Periods

This analysis evaluates traffic conditions during the following analysis periods:

- Weekday AM Peak Hour – the consecutive 60-minute period that has the highest traffic volume within the 6:30 AM to 8:30 AM peak period. For this study, this occurred between 7:30 and 8:30 AM.
- Weekday PM Peak Hour – the consecutive 60-minute period that has the greatest traffic volume within the 4:30 PM to 6:30 PM peak period. For this study, this occurred between 4:45 and 5:45 PM.

Traffic Data Collection

Intersection counts were performed at Study Intersections 1 through 9 on January 26, 2016. A second set of counts was performed on July 20, 2016 to include the Bridle Creek Circle / Henley Parkway intersection. To study the differences between turning movements during the summer and turning movements during the school year, the Grant Line Road /

[1] Because of the existing curvature of Henley Parkway and goal to enhance pedestrian and bicycle safety, the City of Tracy has recommended that the intersection of Lowell Avenue / Henley Parkway be converted from a side-street to an all-way stop control intersection as Intersection "7a"

[2] Because of the existing curvature of Henley Parkway and goal to enhance pedestrian and bicycle safety, the City of Tracy has recommended that the intersection of Henley Parkway / Bridle Creek Circle also be converted from a side-street to an all-way stop control intersection as Intersection "10a"

Henley Parkway intersection was also counted July 20, 2016. The Bridle Creek Circle / Henley Parkway counts were scaled up based on these differences to reflect school year conditions.

Caltrans Performance Measurement System (PeMs) data was used for freeway analysis. This data was collected from detectors between 11th Street and Grant Line Road in both directions for the last week in January 2014 (100 percent observed rate). A peak month factor was determined from *2014 Traffic Volumes on California State Highways* at the location, and was applied to the freeway volumes.

Common Traffic Analysis Terms

The operational performance of a roadway network is commonly described with the term level of service (LOS). LOS is a qualitative description of operating conditions, ranging from LOS A (free flow traffic conditions with little or no delay) to LOS F (oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). The LOS analysis methods outlined in the *Highway Capacity Manual* (Transportation Research Board, 2010) were used in this study. The *Highway Capacity Manual* is considered the state of the art methodology for assessing intersection operations and defining impacts, and allows for the accurate definition of mitigation measures, such as lengthening or adding turning lanes, modifying the signal phasing or timing, and other options. The 2000 HCM was used for this analysis rather than the recently released 2010 HCM, to provide consistency with the analysis in the recently adopted Tracy Roadway and Transportation Master Plan. It is noted that the 2010 and 2000 methodologies for intersection traffic operations are substantially the same; however, the 2010 HCM is not yet in wide use by jurisdictions.

The HCM methods for calculating LOS for signalized and unsignalized intersections are described below.

Signalized Intersections – Methodology

Traffic operations at signalized intersections are evaluated using the LOS method described in Chapter 16 of the 2000 Highway Capacity Manual. A signalized intersection's LOS is based on the weighted average control delay measured in seconds per vehicle. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration. **Table 1** summarizes the relationship between the control delay and LOS for signalized intersections.

Table 1: Signalized Intersection LOS Definitions

Level of Service	Description	Average Control Delay (Seconds)
A	Operations with very low delay occurring with favorable traffic signal progression and/or short cycle lengths.	< 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	> 55.0 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	> 80.0

Source: Highway Capacity Manual, Transportation Research Board, 2000.

Unsignalized Intersections – Methodology

In Chapter 17 of the Transportation Research Board's 2010 *Highway Capacity Manual*, the LOS for unsignalized intersections (side-street or all-way stop controlled intersections) is also defined by the average control delay per vehicle (measured in seconds). The control delay incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side-street stop-controlled intersections, delay is calculated for each stop-controlled movement and for the uncontrolled left turns, if any, from the main street. The delay and LOS for the intersection as a whole and for the worst movement are reported for side-street stop intersections. The intersection average delay is reported for all-way stop intersections. **Table 2** summarizes the relationship between delay and LOS for unsignalized intersections. The delay ranges for unsignalized intersections are lower than for signalized intersections as drivers expect less delay at unsignalized intersections.

Table 2: Unsignalized Intersection LOS Definitions

Level of Service	Description	Average Control Delay Per Vehicle (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: Highway Capacity Manual, Transportation Research Board, 2000.		

Freeway Facilities – Methodology

The level of service for a freeway section is based on measures of density (passenger cars/ lane/ mile). Freeway LOS is a qualitative description of traffic flow based on speed, travel time, delay, and freedom to maneuver. There are six levels, ranging from LOS A (i.e., the best operating conditions) to LOS F (i.e., the worst). LOS E represents "at-capacity" operation. When volumes exceed capacity, stop-and-go conditions result and operations are designated as LOS F. Caltrans' policy is to maintain LOS D operations or better on State Route 99. **Table 3** presents a summary of the relationship between LOS and density for freeway sections and ramp junctions

Table 3: Freeway Mainline Segment LOS Definitions

Level of Service	Freeway Maximum Density (Passenger cars / mile / lane)
A	11
B	18
C	26
D	35
E	45
F	> 45
Notes: Freeway mainline LOS based on a 65 MPH free-flow speed. Source: *Highway Capacity Manual*, Chapter 23 (Basic Freeway Sections) and Chapter 25 (Ramps and Ramp Junctions Methodology), Transportation Research Board, 2010.	

Existing Facilities and Operations

Intersections

The technical calculations for the existing conditions of intersection operations are in Appendix A. **Figure 2** shows the peak hour intersection turning movements for existing conditions. **Table 4** displays the delay and LOS results under existing conditions.

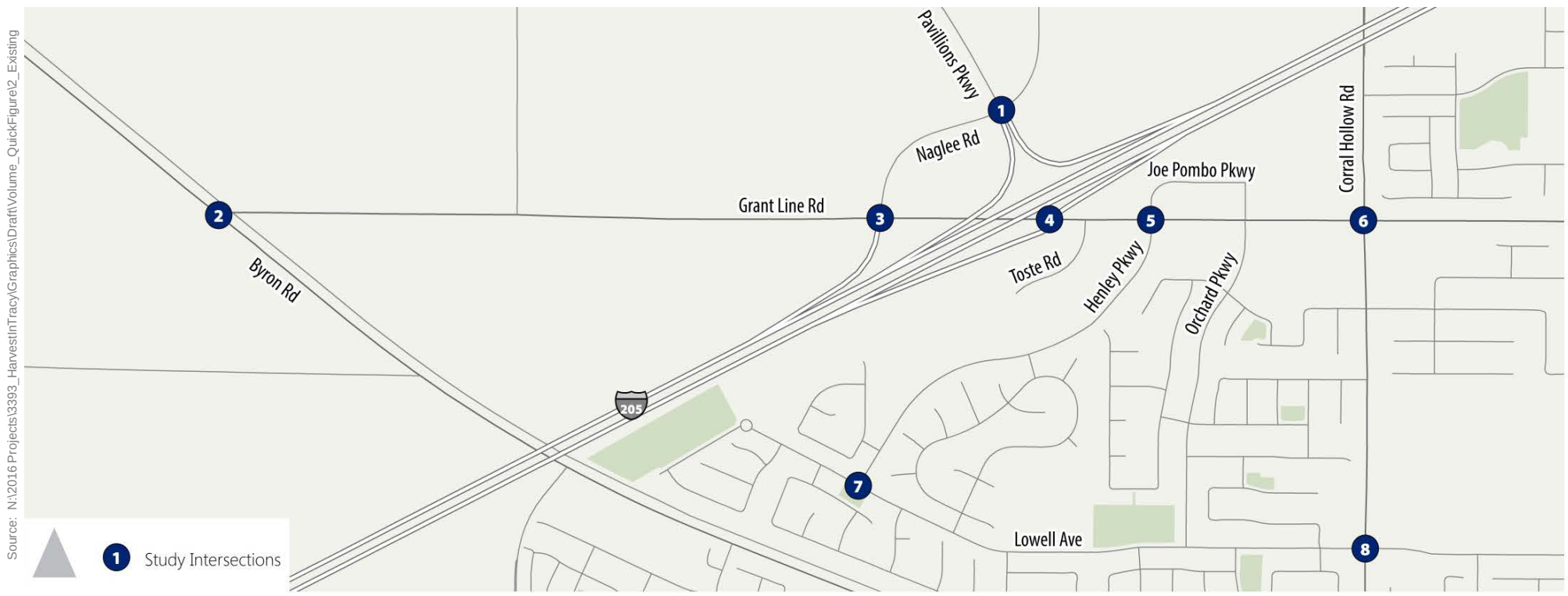

Figure 2

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

Table 4: Existing (2016) Intersection Levels of Service

Intersection	Control	Peak Hour	Existing	
			Delay	LOS
1. Naglee Rd / Pavilion Pkwy / I-205 WB Ramps	Signal	AM PM	49.9 31.9	D C
2. Grant Line Rd / Byron Rd	Signal	AM PM	**63.7** **72.9**	**E** **E**
2a. Grant Line Rd / Byron Rd [a]	Signal	AM PM	19.2 35.2	B D
3. Grant Line Rd / Naglee Rd / I-205 WB On-Ramp	Signal	AM PM	25.7 42.2	C D
4. Grant Line Rd / I-205 EB Ramps	Signal	AM PM	33.9 39.7	C D
5. Grant Line Rd / Henley Pkwy	Signal	AM PM	47.4 37.1	D D
6. Grant Line Rd / Corral Hollow Rd	Signal	AM PM	43.0 43.1	D D
7. Lowell Ave / Henley Pkwy	SSSC[b]	AM PM	2.9 (SB 11.8) 5.6 (SB 10.9)	A (B) A (B)
7a. Lowell Ave / Henley Pkwy	AWSC	AM PM	8.6 8.3	A A
8. Corral Hollow Rd / Lowell Ave	Signal	AM PM	50.6 26.4	D C
10. Bridle Creek Cir / Henley Pkwy	SSSC	AM PM	1.8 (NB 9.5) 1.7 (NB 9.0)	A (A) A (A)
10a. Bridle Creek Cir / Henley Pkwy	AWSC	AM PM	8.0 8.4	A A

Notes:
Signal = Signalized intersection; AWSC = All-way stop-controlled intersection; SSSC = Side-street stop-controlled intersection.
Bold, underlined text indicates unacceptable LOS
[a] Shows the result when a second westbound right-turn lane is added to the intersection
[b] For side-street stop-controlled intersections, average delay is listed first followed by the delay for the worst approach.

[c] LOS Criteria: Within ¼ of mile of a freeway, LOS E shall be allowed.
Source: Fehr & Peers, 2017.

Existing traffic operations were analyzed at the eight existing study intersections for the two study hours. Seven of the eight study intersections operate at acceptable LOS D conditions during AM and PM peak hours except for the following:

- Grant Line Road / Byron Road – operations at this intersection are LOS E during both Existing AM and PM peak hours. During the morning peak hour, the heavy westbound right-turn movement results in long vehicle queues and an average vehicle delay exceeding 60 seconds per vehicle, as vehicles divert off of I-205 and use Grant Line Road to bypass congestion on westbound I-205. During the evening peak hour, the heavy southbound left-turn and westbound right-turn volumes results in long vehicle queues and an average vehicle delay exceeding 70 seconds per vehicle. The addition of a second westbound right-turn lane reduces average delays to acceptable LOS D conditions during both Existing AM and PM peak hour conditions.

Freeway

The technical calculations for the existing conditions of the freeway study segments are in Appendix A. **Table 5** presents existing traffic operations on I-205. All four freeway mainline segments operate at acceptable LOS C conditions or better during the AM peak hour. During the PM peak hour, three (3) of the four (4) freeway mainline segments operate at acceptable LOS D conditions or better.

Table 5: Existing (2016) Freeway Levels of Service

Segment	Direction	Volume (Density) [Level of Service]	
		Existing AM	Existing PM
Between Tracy Blvd and Grant Line Rd	EB	2,470 (15) [B]	5,150 (30) [D]
	WB	3,980 (23) [C]	2,960 (17) [B]
Between Grant Line Blvd and 11th St	EB	2,020 (12) [B]	4,900 (28) [D]
	WB	3,540 (20) [C]	2,420 (14) [B]

Notes:
I-205 volumes from Caltrans 2014 PeMS database (latest available complete set of data; matches more recent spot counts).
Analysis completed using HCM basic segment freeway operations method. Density is given in passenger cars/hour/lane.
Source: Fehr & Peers, 2017.

Transit Service

The City of Tracy operates fixed-route bus and paratransit services with the TRACER bus system. Additionally, San Joaquin Regional Transit District (SJRTD) operates several routes that pick up passengers in Tracy. The service is described below. The fixed routes all operate in central Tracy, and do not extend into the study area.

TRACER Fixed-Route Bus Service

As the study area is primarily agricultural in character in its present form, no service currently exists on the site. However, TRACER operates two fixed route service adjacent to the study area. All routes operate Monday through Friday from 7:00AM to 8:00PM, and Saturday from 9:00AM to 7:00PM. TRACER does not offer service on Sundays.

The one-way cash fare for the TRACER fixed route service is $1.25 for adults, discounted to $1.00 for students and $0.50 for seniors and the disabled. Additionally, day passes offering unlimited trips in a single day are available for $3.00 for adults ($2.50 for students, $1.25 for seniors and the disabled), as are 10-ride tickets and weekly passes for $12.50 ($10.00 for students, $5.00 for seniors and the disabled).

TRACER currently operates the following routes near to the study area:

- *Route A* – runs on Grant Line Road and heads north on Coral Hollow to go up to the West Valley Mall and Tracy Pavilion;
- *Route B* – connects West Valley Mall and Tracy Pavilion to residential neighborhoods in central Tracy; and
- *Commuter Route E* – runs by the Kaiser Medical Center by the Grant Line Road / Corral Hollow Road intersection, connecting Clyde Bland Park, Freiler Elementary School, West High School, Monte Vista Middle School, Duncan Russell High School, North Elementary School, and Jacobsen Elementary School.

TRACER Paratransit Service

The Transit Service Area incorporates most of the City of Tracy and is generally bounded by Lammers Road to the west, Larch Road and Arbor Avenue to the north, and Chrisman Road to the east. Service is available during the fixed route TRACER service. One-way rides are $1.50 for seniors, disabled individuals, and those on Medicare, and the cash fare increases to $1.75 for the general public living in unincorporated areas and guests and companions of paratransit users. The Paratransit Subsidized Taxi Service is available to TRACER Paratransit users during non-operating hours.

San Joaquin Regional Transit District (SJRTD)

SJRTD provides intercity fixed route service between Tracy and Stockton. A one-way fare on an RTD costs $1.50 ($0.75 discounted for seniors or Medicare card-holders). One-day passes are available for $4.00 ($2.00 discounted), and 31-day passes are available for $65.00 ($40.00 for students, $30.00 discounted). Additionally, the RTD-BART Commuter service costs $7.00 each way with monthly fares ranging from $132.00 to $144.00 depending on destination and origin. SJRTD operates the following three routes in Tracy:

- *Route 90* – runs from Stockton's Downtown Transit Center along 1-5 to Tracy, where it runs east-west along Grant Line Road, ending at the Wal-Mart just west of I-205. Route 90 operates on weekdays from 5:30AM to 11:00PM with eight trips staggered with one to three hour headways. Through the study area, Route 90 runs on Grant Line Road.

Altamont Commuter Express (ACE)

Altamont Commuter Express (ACE) operates commuter trains from San Jose to Stockton, stopping in Lathrop/Manteca, Tracy, Livermore, Pleasanton, Fremont, and Santa Clara before researching San Jose. The ACE in Tracy is located on the northeast corner of the intersection of West Linne Road and Tracy Boulevard. In service Monday through Friday, ACE offers three trains in the AM peak period, operating from 4:20AM-8:50AM, and three trains during the PM peak period, operating from 3:35PM to 7:45PM. ACE does not run on the weekends.

Monthly, weekly, 20-trip, and one-way passes are available and vary in price based on distance traveled. Adult fares range from $11.75 for a one-way trip ($300 monthly pass) from Stockton to San Jose to $3.50 for a one-way trip ($72.75) from Santa Clara to San Jose.

Bicycle and Pedestrian Facilities

There are many bike lanes throughout the study area. Bike lanes are located on both sides of Grant Line Road east of Henley Parkway, and on Lowell Avenue, Henley Parkway, and Corral Hollow Road.

Sidewalks are present throughout the study area, except for Byron Road and the west side of Henley Parkway. There are sidewalks on both sides of Grant Line Road west of the Tracy Pavilion, and just on the south side of the Grant Line Road west of the Costco shopping center.

The site plan for the project includes the construction of sidewalks on the west side of Henley Parkway as well as throughout the development. This will provide better connectivity for pedestrians, encouraging residents to walk to the commercial developments on Grant Line Road, nearby transit stops, the small parks throughout the residential neighborhood south of Grant Line Road, and the Art Freiler School or Merrill F. West High School. In addition, Henley Parkway has two Class II bike lanes, one on each side of the road, which will encourage residents to bike to nearby destinations.

LEVEL OF SERVICE STANDARDS

Regulatory Framework

This section summarizes existing policies and regulations relevant to transportation and traffic in the Specific Plan area.

State Laws and Regulations

Caltrans has jurisdiction over state highway facilities, including I-205 and related ramps, of relevance here. Caltrans endeavors to maintain a target Level of Service at the transition between LOS C and LOS D on State highway facilities; however, the agency acknowledges that this may not always be feasible, particularly in urban environments where right-

of-way is constrained. Where maintaining LOS C/D is not feasible, Caltrans attempts to maintain the existing LOS when assessing the impact of new development.

Regional Regulations

San Joaquin Council of Governments

Regional Transportation Plan

The San Joaquin Regional Transportation Plan (RTP), administered by the San Joaquin Council of Governments (SJCOG), was most recently updated in 2011. The RTP outlines transportation priorities along with associated goals, objectives, and performance indicators for the coming 25 years in the County. The 2011 RTP goals are listed below:

A) Enhance the Environment/Quality of Life/ & Conserve Energy
B) Increase Regional Roadway System Performance
C) Increase Safety & Security
D) Preserve the Existing Regional Transportation System & Promote Efficient Roadway System Management & Operations
E) Support Economic Vitality
F) Promote Interagency Coordination & Public Participation for Transportation Decision-Making & Planning Efforts
G) Maximize Cost Effectiveness

The RTP rates proposed infrastructure projects with regional significance against these goals and associated performance indicators as part of the planning process. Project costs and potential financing sources are also estimated and tracked in the RTP. Planned projects of regional significance from the 2011 document in the study area include the widening I-205 from 6 to 8 lanes between I-5 and I-580.

Capital Improvement Program

The SJCOG Capital Improvement Program (CIP) is a seven-year list of transportation projects. These projects are developed as part of the Congestion Management Program and are intended to maintain or improve transportation system operational performance and safety.

CIP projects in the study area include the construction of eastbound and westbound auxiliary lanes on I-205 between Tracy Boulevard and Mountain House Parkway. These projects are fully funded in the RTIP Tier 1 projects list and are scheduled for completion in 2013 and 2017, respectively.

Travel Demand Management Plan

The San Joaquin County Travel Demand Management (TDM) Plan exists primarily for the purpose of establishing an institutional and planning framework between SJCOG and local agencies in San Joaquin County for coordination on issues of demand management and how to more efficiently make use of the existing transportation system.

The document also outlines several potential TDM strategies and their potential for effectiveness in different land use and new development contexts. Strategies include financial incentives, such as roadway pricing, parking cash-out, and employee transit subsidies; system incentives, such as expanding HOV lane, park and ride, and bicycle facilities; and demand incentives, such as expanding rideshare programs and telecommuting options for workers. All strategies are intended to reduce vehicle demand on the roadway system.

San Joaquin Congestion Management Plan

The San Joaquin County Regional Congestion Management Plan (RCMP), most recently updated in October 2012, outlines a set of strategies and performance measures to reduce congestion within the County in compliance with federal guidance, state legislation, and the County's Measure K "Traffic Relief, Safety, Transit, and Road Maintenance Program" Ordinance. The list of County CIP projects is contained within the RCMP.

The RCMP also contains a list of roadways that are considered to be part of the CMP Network. This is the list of roadways to which the RCMP's performance measures are applied. For roadways, performance criteria are dependent on traffic volume and roadway classification. Study area roadways in the RCMP network are: I-205, I-580, and Lammers Road. The LOS standard adopted for the San Joaquin county RCMP is LOS D. The *SJCOG Regional Deficiency Plan,* prepared in 2010, did not identify any deficient facilities in Tracy.

Alameda County Congestion Management Plan

The Alameda County Congestion Management Plan most recently updated in 2009, requires a LOS E standard be maintained on all CMP routes in Alameda County, except those areas designated as infill opportunity zones or those segments that were already operating at LOS F in the 1991 CMP baseline year. I-580 is an Alameda County CMP designated route. The most recent monitoring, in 2010, indicated LOS F conditions for westbound I-580 between Greenville Road and Portola Avenue, in Livermore.

City of Tracy Regulations and Policies

City of Tracy General Plan

The Circulation Element of the City of Tracy General Plan establishes the following goals, policies, objectives and action items, which apply to the study area:

- **Objective CIR-1.1: Implement a hierarchical street system in which each street serves a specific, primary function and is sensitive to the context of the land uses served.**
- Policy P1: The City should develop context-based street designs that allow for variations based on the expected function and location of the facility, and the surrounding land use context. These context-sensitive designs should have the following aims:
    - Create aesthetically attractive streetscapes.
    - Enhance multi-modal transportation by increasing mobility and improving safety for autos, trucks, transit, pedestrians and bicyclists.
- Policy P2: The City shall preserve rights-of way needed for future roadway and freeway interchange improvements through dedication or acquisition as adjacent properties develop or redevelop.
- Policy P3: The City shall continue to apply traffic mitigation fee programs to fund transportation infrastructure, based on a fair share of facility use.
- Policy P4: The City should continue to pursue regional, County and State funding to fund roadway projects. These potential funding sources may include Measure K sales tax revenues, a regional or countywide transportation impact fee, and other existing and future revenue sources.
- Policy P5: The City shall continue to participate in regional transportation funding decisions, including Measure K reauthorization, regional or countywide transportation fees, and prioritization of State funded projects.
- Policy P6: The Roadway Master Plan update shall identify necessary improvements to various intersections on I-205 and I-580 based on land use designations and with particular attention to Terminal Access Routes in accordance with Surface Transportation Assistance Act of 1982 (STAA).
- Action A1: Update the Roadway Master Plan upon adoption of the General Plan. The Roadway Master Plan should contain the following information:
    - Improvement needs and ultimate right-of-way for 50 years, based on development anticipated by the General Plan and foreseeable development based on proposed projects, current absorption rates for non-residential properties and historical population growth rates.
    - Appropriate street classifications for arterial and collector roadways as well as innovative concepts such as boulevards and other roadway types not currently employed by the City of Tracy. These roadway designs should reflect context-based design principles.
    - Detailed connectivity standards for arterials, collectors, and local streets. These connectivity standards should further refine minimum and maximum spacing of facilities and traffic control devices identified in the Roadway Classification Standards in Section B of The Circulation Element.

- Action A2: Prepare Precise Plan Line studies for major new roads and widening, and consult with Caltrans for new interchanges identified in the Roadway Master Plan in order to define the rights-of-way needed to construct future facilities.
- Action A3: Coordinate with San Joaquin County and the City of Lathrop to ensure that adequate rights-of-way are preserved in the City's Sphere of Influence.
- **Objective CIR-1.2: Provide a high level of street connectivity**.
- Policy P1: The City shall ensure that the street system results in a high level of connectivity, especially between residences and common local destinations, such as schools, Village Centers, retail areas and parks. The standard for roadway (vehicular) connectivity is defined as appropriate spacing of arterials and collectors and local roads as detailed in Section of [the Circulation] Element "Roadway Classifications and Standards".
- Policy P2: The City shall implement a connected street pattern with multiple route options of vehicles, bikes and pedestrians.
- Policy P3: New development shall be designed to provide vehicular, bicycle and pedestrian connections with adjacent developments.
- Policy P4: The City should develop residential street alignments and designs that provide connectivity while discouraging high-speed cut-through traffic.
- Policy P5: New development shall be designed with a grid or modified grid pattern to facility traffic flows and to provide multiple connections to arterial streets.
- Policy P6: Street patterns in hillside areas may reflect existing topography and minimize grading impacts.
- **Objective CIR-1.3: Adopt and enforce LOS standards that provide a high level of mobility and accessibility, for all modes, for residents and workers.**
- Policy P1: To the extent feasible, the City shall strive for LOS D on all streets and intersections, with the LOS standard for each facility to be defined in the Transportation Master Plan in accordance with the opportunities and constraints identified through the traffic projections and analysis performed for that Plan. The following exceptions to the LOS D standard may be allowed:
    - LOS E or lower shall be allowed on streets and at intersections within one-quarter (1/4) mile of any freeway. This lower standard is intended to discourage inter-regional traffic from using Tracy streets.
    - LOS E or lower shall be allowed in the Downtown and Bowtie area of Tracy, in order to create a pedestrian-friendly urban design character and densities necessary to support transit, bicycling and walking.
- Policy P2: The City may allow individual locations to fall below the City's LOS standards in instances where the construction of physical improvements would be infeasible, prohibitively expensive, significantly impact adjacent proper-

ties or the environment, or have a significant adverse effect on the character of the community, including pedestrian mobility, crossing times, and comfort/convenience.

- Policy P3: Intersections may be permitted to fall below their adopted LOS standard on a temporary basis when the improvements necessary to preserve the LOS standard are in the process of construction or have been designed and funded but not yet constructed.
- Policy P4: Roadways and freeways that are subject to State and regional agency oversight and/or are candidates for State-funded or federally-funded improvements should conform to the operational service requirements of the applicable agency.
- Policy P5: For long-range planning purposes, the LOS of major streets shall be determined based on an estimation of peak hour conditions using future average daily traffic forecasts and standard Tracy relationships between daily traffic and peak PM hour traffic.
- Policy P6: For project-specific development approvals, the LOS at major street intersections shall be determined based on the direct estimation of peak hour conditions and should reflect the average conditions prevailing throughout the peak hour of a typical weekday for all traffic using the intersection.
- Policy P7: Traffic studies for new developments within the City may be prepared if necessary and appropriate to determine the impacts of the project's traffic on the transportation system.
- Policy P8: Access control and minimization of median openings shall be a key consideration in the design of expressways, boulevards, arterials and major collectors.
- Policy P9: The City shall encourage the use of right-turn-in/right-turn-out only turning movements where local and collector streets intersect arterial streets with medians. The purpose is to increase the safety of the roadway and to avoid traffic signals that are spaced too close together.
- Policy P10: Exclusive right turn lanes in and out of major residential, commercial, industrial and office developments shall not reduce the width of public or private landscaping requirements.
- Actions A1: Evaluate the performance of the roadway system or portion of the roadway system on an as-needed basis based on existing traffic volumes, LOS and other traffic operational issues, and accident locations.
- Action A2: Maintain an up-to-date record of intersections exempted from the City's LOS standards.
- **Objective CIR-1.4: Protect residential areas from commercial truck traffic.**
- Policy P1: Significant new truck traffic generating uses shall be limited to locations along designated truck routes, in industrial areas or within ¼-mile of freeways.
- Policy P2: The City shall enforce designated truck routes based on the existing City ordinance.
- Action A1: Update the truck route designations periodically as needed.

- Action A2: Maintain a map of truck routes in the City.
- **Objective CIR-1.5: Protect residential areas from through traffic and high travel speeds by facilitating free flow of traffic on major streets.**
- Policy P1: Use of local residential streets by non-local and commercial traffic shall be discouraged. The City may consider techniques such as route signs and route maps. This policy should not restrict the ability of local vehicle and non-motorized transportation to utilize residential collectors as an effort to encourage higher levels of roadway connectivity.
- Policy P2: The City shall coordinate the timing of traffic signals on arterials to facilitate traffic movement.
- **Objective CIR-1.6: Maximize traffic safety for automobile, transit, bicycle users, and pedestrians.**
- Policy P1: The City shall design streets using context-sensitive design principles that enhance safety for all modes of travel.
- Policy P2: New development shall implement traffic calming measures where necessary so long as connectivity is not diminished.
- Action A1: Monitor and record accident locations and prepare a regular summary of accident locations.
- Action A2: Explore traffic calming techniques for existing areas of the city.
- **Objective CIR-1.7: Minimize traffic-related impacts such as noise and emissions on adjacent land uses.**
- Policy P1: Appropriate buffering and screening mechanisms shall be incorporated in development projects to limit the impacts associated with traffic. These buffering and screening mechanisms may include setbacks, landscaping, berms, soundwalls or other methods as appropriate.
- Policy P2: Soundwalls shall only be used next to major arterials, and other high-speed, high-volume facilities in accordance with the policies in the Community Character Element.
- **Objective CIR-1.8: Minimize transportation-related energy use and impacts on the environment.**
- Policy P1: Transportation projects shall avoid disrupting sensitive environmental resources.
- Policy P2: When possible, road construction and repair project shall use sustainable materials.
- Policy P3: The City shall encourage the use of non-motorized transportation and low-emission vehicles.
- **Objective CIR-2.1: Support regional planning and implementation efforts to improve interregional highways and interregional travel efficiency.**
- Policy P1: The city shall continue to cooperate with regional and State agencies, including Caltrans and San Joaquin Council of Governments (SJCOG) to study, plan and fund improvements to the regional transportation system. These regional transportation improvements may include freeway widening, the construction of regional roadways,

regional passenger rail expansions, additions to the existing commuter bus system and provision of the park-and-ride lots near facilities heavily used by commuters.

- Policy P2: The City should ensure that land needed for park-and-ride facilities is conserved in new development areas.
- Policy P3: The City shall work with other local jurisdictions, SJCOG, and Caltrans to identify and develop alternative routes to allow locally-generated traffic to bypass congestion on I-205 and I-580 without impacting city streets.
- Policy P4: The City shall work with the City of Lathrop and San Joaquin County to preserve a right-of-way along the existing alignment of Middle Road/Arbor Avenue north of I-205 (a.k.a. Golden Valley Parkway) for the future construction of a regional parallel to I-205. This process should determine appropriate funding mechanisms and the design of an interchange with I-205 at Chrisman Road.
- Action A1: Prepare a plan line study that identifies and preserves necessary right-of-way north of I-205 within the City of Tracy that allows the future construction of a route parallel to I-205.
- **Objective CIR-2.2: Discourage interregional travel from diverting from freeways onto Tracy streets.**
- Policy P1: The City shall consider techniques, such as freeway ramp metering or traffic signal timing changes, to discourage the diversion of inter-regional travel from the freeways onto Tracy streets.
- Action A1: Conduct a study to quantify the level of traffic diverting from I-205 onto Tracy roadways.
- **Objective CIR-3.1: Achieve a comprehensive system of citywide bikeways and pedestrian facilities.**
- Policy P1: The City shall incorporate appropriate bicycle and pedestrian facilities on all roadways constructed by the City, Class I to the extent feasible.
- Policy P2: To the extent possible, the city shall separate vehicular from bicycle and pedestrian traffic on higher-speed and higher-volume roadways through the use of off-street bicycle and pedestrian facilities.
- Policy P3: The city may separate bicycle from pedestrian users on high usage bicycle and pedestrian paths
- Policy P4: The City's bicycle and pedestrian system shall have a high level of connectivity, especially between residences and common local destinations, such as schools, shopping, and parks. A higher level of bicycle and pedestrian connectivity is defined as a shorter or similar distance to common destinations for bicycles and pedestrians compared to distances for vehicles.
- Policy P5: The City shall establish a ½-mile walkability standard for residents to access goods, services, and recreational facilities.
- Policy P6: New development shall include pedestrian and bicycle facilities internal to the development and that connect to city-wide facilities, such as parks, school, and recreational corridors, as well as adjacent development and other services.

- Policy P7: New development sites for commercial, employment, educational, recreational and park-and-ride land uses shall provide bicycle parking and/or storage facilities.
- Action A1: Update the City of Tracy Bikeways Master Plan on an as-needed basis.
- Action A2: Update the City of Tracy Roadway Master Plan to include bicycle routes.
- Action A3: Maintain a map of existing bicycle facilities in the city.
- Action A4: Incorporate bicycle and pedestrian facilities into the roadway design standards of the Roadway Master Plan.
- Action A5: Seek local, State, and federal funding for bicycle improvements identified in updates to the Bikeways Master Plan.
- Action A6: Improve city-wide pedestrian access as funding becomes available.
- **Objective CIR-4.1: Promote public transit as an alternative to the automobile.**
- Policy P1: The City shall promote efficient and affordable public transportation that serves all users.
- Policy P2: The City shall continue to partner with SJCOG, SJRTD, and Caltrans in efforts to locate park-and-ride lots and other transit-related facilities in the City of Tracy.
- Policy P3: The City shall continue to operate the Tracer fixed-route and paratransit transit service and expand service to new residential and non-residential areas if funding for additional service is available and is warranted by ridership demand.
- Policy P4: The City shall seek funding from regional and State and federal agencies to fund additional transit service expansions and improvements.
- Policy P5: The City shall require development to provide for transit and transit-related increased modal opportunities, such as adequate street widths and curb radii, bus turnouts, bus shelters, park-and-ride lots and multi-modal transit center through the development and environmental review processes, if appropriate.
- Policy P6: The City shall encourage efforts for additional regional transit service, including expansion of the existing commuter bus service, and new commuter rail serve from Tracy to other areas in the region.
- Action A1: Maintain transit facility design guidelines that clearly specify expectations for all types of development.
- Action A2: Maintain a map of existing transit facilities in the city.
- **Objective CIR-421: Work to achieve connectivity between all modes of transportation.**
- Policy P1: The City shall complete the Multi Modal Transit Center at Central Avenue and 6th Street.

- Policy P2: The City shall preserve the necessary rights-of-way by continuing the implementation of current arterial street standards and ensuring the preservation of existing rail corridors to facilitate the development of an expanded transit program in the future.
- Policy P3: The City shall encourage the expansion of transit services through consultation and cooperation with the Bay Area Rapid Transit District (BART), San Joaquin Regional Rail Commission, San Joaquin Regional Transit District, the Altamont Commuter Express (ACE), on services that expand the mobility and accessibility of transporting people, goods and services in and through Tracy and the region.
- Policy P4: The City shall develop a fully integrated multi-modal transportation system that takes into account access to employment, education, shops, medical services and that facilitates participation in social and recreational opportunities.
- Policy P5: The City shall provide efficient, effective and coordinated transit system that maximizes use of regional, state, and federal funds.
- Policy P6: The City shall pursue economical, long term solutions to transportation problems by encouraging community designs which encourage transit use, and walking, bicycling, and other non-motorized forms of transportation.
- Action A1: Create a Multi-Modal Transportation Master Plan that addresses the movement of people, goods and services within the City and from the City to the surrounding region. Modes of travel that should be included in this Master Plan include: automobile, transit, freight, air, bicycle, and pedestrian transportation. The plan shall consider short-term and long-term actions to preserve rights-of-way for future transportation options, such as light rail.

Citywide Roadway and Transportation Master Plan

Over the past two years, the City of Tracy has prepared a comprehensive update to the citywide infrastructure master plans. The Citywide Roadway and Transportation Master Plan (TMP), adopted in December 2012, describes the transportation network and systems required to serve the City of Tracy. The TMP describes the citywide roadway network needed to serve local and regional trips, including anticipated intersection lane configurations at 68 intersections, bicycle and pedestrian facilities, truck routes, park and ride lot locations, and other related topics. The project has been designed to be consistent with the TMP's roadway network.

Overview of City and Regional Transportation Funding

City of Tracy Finance and Implementation Plans

Within the City of Tracy, there are multiple specific financing plans, otherwise known as "Finance and Implementation Plans" (FIPs), to find required roadway improvements. The purpose of an FIP is to provide estimates of the funds required to mitigate each impact and to update the City's Capital Improvement Program Construction Schedule. An FIP also identifies an estimated obligation for roadway improvements. FIPs are periodically updated to keep pace with construction cost increases.

The FIP calculates the Project's proportional share contribution to required improvements. Future traffic growth throughout the City will cumulatively fund the required improvements. As fees are collected, the City will use the fees to implement the improvements. If the City has not collected enough of the fees to fund an improvement at the time an impact is caused, the Project Applicant will have to fund the required improvement upfront and enter into a reimbursement agreement with the City for the portion of fair-share payments that are attributed to other cumulative traffic growth.

San Joaquin COG Regional Transportation Impact Fee (RTIF)

The City is a member agency of the San Joaquin Council of Governments (SJCOG), a joint powers agency consisting of the County of San Joaquin and the seven cities situated in San Joaquin County. Acting in concert, the member agencies of SJCOG developed the RTIF Program whereby the shortfall in funds needed to expand the capacity of the Regional Transportation Network could be made up in part by a Regional Transportation Impact Fee (RTIF Program Fee) on future residential and non-residential development. The RTIF Program Fee will augment other funding sources and help ensure that needed improvements to the Regional Transportation Network are completed. The City adopted this fee on January 3, 2006. The latest RTIF update was completed in December 2011. In the study area, the I-580/Lammers Interchange and the Lammers Road widening from two to four lanes between I-205 and Old Schulte Road are RTIF projects.

Sustainability Action Plan

As part of the General Plan update, the City of Tracy prepared a Sustainability Action Plan to respond to recent state legislation on climate change and greenhouse gas reduction, and integration of transportation and land use planning. The SAP includes policies and programs designed to reduce greenhouse gas emissions generated by a range of activities, including transportation. The transportation targets include:

- Target #5a: 20 percent increase in the percentage of non-City employees who participate in travel demand management programs from 2006 baseline levels
- Target #5b: 20 percent increase in the percentage of City employees who participate in travel demand management programs from 2006 baseline levels
- Target #6a: 20 percent reduction in the community vehicle miles travelled (VMT) per capita from current (2006) levels
- Target #6b: 20 percent reduction in the municipal VMT from 2006 baseline levels

The SAP presents 21 sustainability measures within the Transportation and Land Use category, which have quantifiable effects, based on available research, on greenhouse gas production – mostly through VMT reduction, including the following measures:

Measure T-2: Reduced parking requirements

Measure T-3: Support for bicycling
Measure T-4: Support for transit
Measure T-5: Smart growth, urban design and planning
Measure T-13: Reduce commute trips
Measure T-14: Parking cash-out for employees
Measure T-16: Transit passes for residents and employees of new developments

Significance Thresholds

City of Tracy

As described in General Plan Objective CIR 1.3, Policy P1, the City of Tracy strives for an intersection level of service standard of LOS D to the extent feasible. LOS E or lower is allowed on streets and at intersections within one-quarter mile of a freeway and in the downtown and bowtie areas. Objective CIR 1.3, Policy P2 allows the City to allow individual locations to fall below the City's LOS standards in instances where the construction of physical improvements would be infeasible, prohibitively expensive, significantly impact adjacent properties or the environment, or have a significant adverse effect on the character of the community, including pedestrian mobility, crossing times, and comfort/convenience.

Caltrans

Caltrans endeavors to maintain a target Level of Service at the transition between LOS C and LOS D on State highway facilities; however, the agency acknowledges that this may not always be feasible, particularly in urban environments where right-of-way is constrained. Where maintaining LOS C/D is not feasible, Caltrans attempts to maintain the existing LOS when assessing the impact of new development.

San Joaquin County Congestion Management Agency

The San Joaquin County CMP LOS standard for I-205 is LOS D.

Significance Criteria

The proposed project would have a significant impact with regard to transportation and traffic if it would:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel, and all relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. For the purposes of this EIR, the project will have a significant impact on traffic operations if it will:

- Cause an intersection LOS at an intersection under the City of Tracy's jurisdiction to fall from acceptable (LOS D, or LOS E within one quarter-mile of a freeway) to unacceptable;[3]
- Cause an intersection under the City of Tracy's jurisdiction that is already operating at an unacceptable LOS in the Existing case (or in the Cumulative No Project case for the Cumulative impact assessment) to worsen by 5 seconds of delay due to Project traffic;
- For roadways within Tracy's jurisdiction, cause a roadway segment volume to exceed the planning-level capacity (LOS D, V/C=0.89), for analyses conducted on a roadway segment basis.
- Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. For the purposes of this EIR, the following CMP network standards apply:
    - For I-205 segments in San Joaquin County, an impact is significant if the Project causes a segment to fall from LOS D to LOS E or F, or if it adds 5 percent to the total future traffic volume on a segment already operating at LOS F;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

[3] Note that for the purposes of this EIR, City's LOS criteria are applied to the I-205/Mountain House Parkway intersections. Caltrans does not provide LOS standards for these intersections.

EXISTING PLUS PROJECT CONDITIONS

Project Description

The Harvest development will be located on the west side of Henley Parkway just south of Grant Line Road. This project consists of 304 multi-family dwelling units. Project access at buildout would be located on one main driveway intersecting with Henley Parkway. With construction of the project, Henley Parkway will be re-striped to include an eastbound left-turn lane into the project, and the main project driveway will include one inbound and two outbound (left-turn only and right-turn only) lanes. There is also an emergency exit, providing an egress point southwest of the main driveway on Henley Parkway. The site plan for the Harvest development is shown in **Figure 3.**

Project Traffic Characteristics

Traffic generated by the proposed project is assigned to the roadway network using the following three-step process:

1. Trip Generation – estimates the amount of traffic generated by the proposed plans based on the planned land uses;
2. Trip Distribution – distributes project trips based on origins and destinations in the region; and
3. Trip Assignment – assigns project trips to the roadway networks based on the project's trip generation and distribution.

This study uses the San Joaquin Travel Demand Forecasting (TDF) model for this three-step process. This TDF model uses land use inputs, trip rates, and other traffic engineering inputs to estimate travel demand. The model's roadway network includes major roadways.

Trip Generation

Traffic generated by the proposed project was estimated using the Institute of Transportation Engineer's (ITE) standard rates for project-specific land uses. These rates are typical for suburban development similar in nature to the Harvest development. **Table 6** displays the number of new vehicle trips generated by the project for the AM and PM peak hour conditions.

Compared to the March 2016 Transportation Impact Study the Harvest development project description increased from 300 multi-family dwelling units to 304 multi-family dwelling units. This change in dwelling units would correspond to two (2) net new A outbound M peak hour and three (3) net new (1 outbound and 2 inbound) PM peak hour trips. This minor increase in the project's trip generating characteristics would not change the results documented in the Existing + Project Conditions and Cumulative + Project Conditions analysis. Therefore, based on comments received from City of Tracy residents, the primary purpose of this updated report to evaluate potential impacts of the Harvest development at the side-street stop controlled Bridle Creek Circle / Henley Parkway intersection.

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Figure 3

Site Plan

Table 6 – Harvest Trip Generation

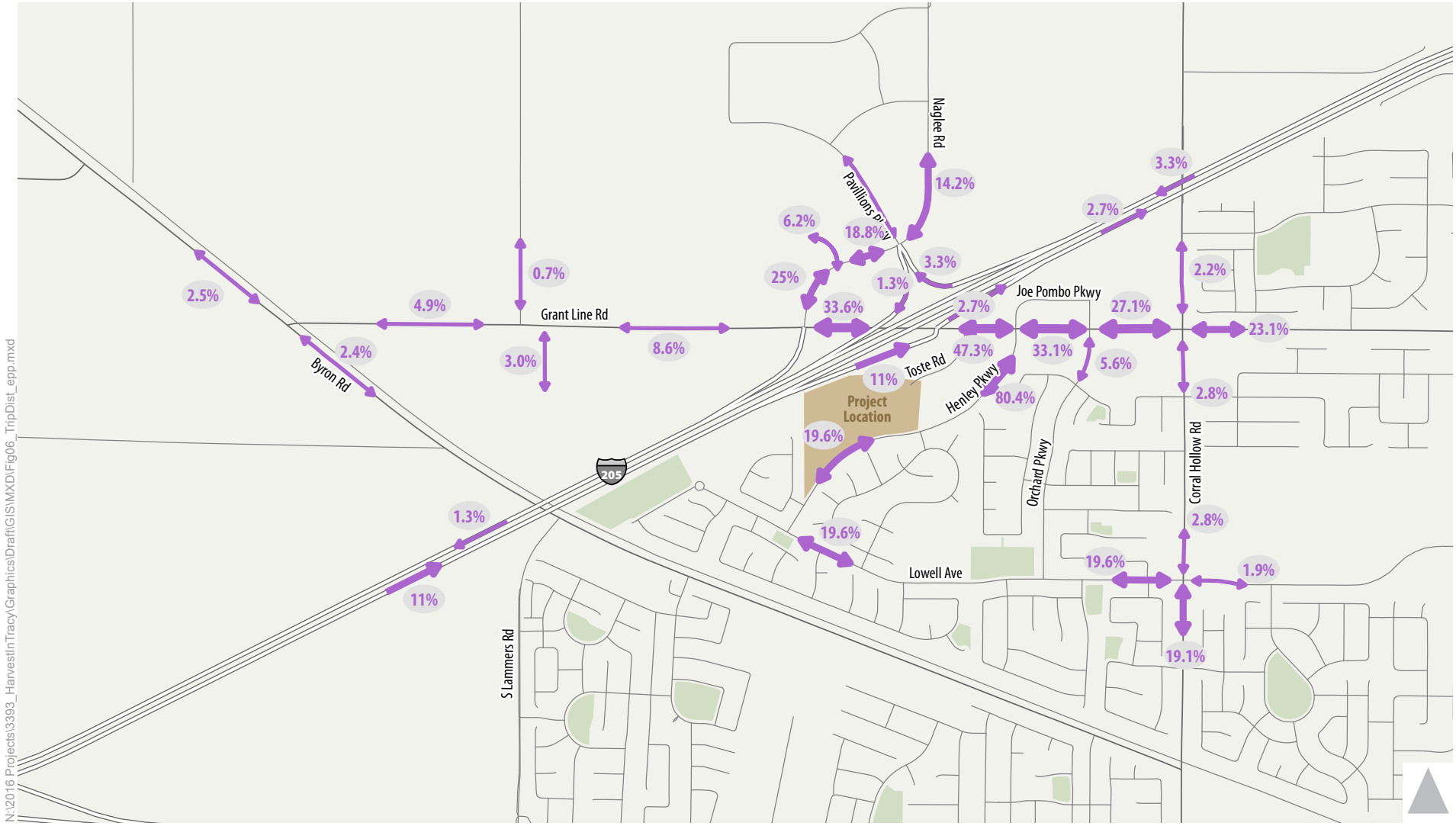
Land Use	Quantity	Units	Trip Rate						Trip Generation					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Rate	In	Out	Rate	In	Out	In	Out	Total	In	Out	Total
Apartments	304	DU	0.51	20%	80%	0.62	65%	35%	31	124	155	123	66	189
							Gross Trips		**31**	**124**	**155**	**123**	**66**	**189**

Notes:
Trip Generation, 9th Editions (Institute of Transportation Engineers, 2012)
Source: Fehr & Peers, 2017

As shown in Table 6, the project would generation 155 new vehicle trips during the morning peak hour, with 124 outbound and 31 inbound. During the evening peak hour, the project would generate 189 new vehicle trips, with 123 inbound and 66 outbound.

Trip Distribution

This traffic impact study uses the San Joaquin County TDF model to estimate the distribution of the proposed project trips to complimentary land uses located within the City of Tracy, surrounding San Joaquin County and the San Francisco Bay Area. The TDF model estimates the distribution of the project trips based on how these new uses may interact with existing future land uses and roadway improvements. This distribution takes into account complimentary land uses and the proximity in which they are located. **Figure 4** displays the project trip distribution for the existing plus project scenario.



11% Trip Distribution

Project Location

Figure 4

Project Trip Distribution - Existing

Trip Assignment

Using the trip generation and distribution data described previously, the project trips were assigned to the surrounding transportation network for existing plus project and cumulative plus project conditions. This trip assignment is based on the routes that would most likely be used to travel between origins and destinations.

Existing Plus Project Conditions

Intersections

The technical calculations for the intersection operation analysis for Existing Plus Project is in Appendix B. **Figure 5** displays the existing plus project traffic forecasts at the study intersections. **Table 7** presents the anticipated AM and PM peak hour LOS at each study intersection under existing plus project conditions (refer to Appendix B for technical calculations). This study uses existing lane configurations, traffic control, and signal timings for analysis.

Nine of the ten study intersections operate at acceptable LOS D conditions during the AM and PM peak hours for Existing Plus Project conditions. The proposed project adds traffic to the following City of Tracy intersection currently operating at an unacceptable LOS under existing conditions:

- Grant Line Road / Byron Road – Signalized
    - Operates at LOS E during the AM and PM peak hours under Existing and Existing Plus Project Conditions.
    - The project adds 15 vehicles during the AM peak hour and 5 vehicles during the PM peak to the westbound approach, which operates at unacceptable conditions due to the heavy westbound right-turn movement. Additionally, the project adds 2 vehicles to the northbound right-turn volume during the PM peak hour, and 1 vehicle during the AM peak hour and 3 vehicles during the PM peak hour to the southbound left-turn. This causes the average vehicle delay at the intersection to increase by 0.1 seconds during the AM peak hour and 1.2 seconds during the PM peak hour.
    - Adding a second westbound right turn lane alleviates these conditions during the AM and PM peak hour for both Existing and Existing Plus Project Conditions to acceptable LOS D operations. The project shall pay its fair share towards the construction of this improvement.
    - The Existing AM peak hour volume using this intersection is 1,655 vehicles and the proposed Harvest in Tracy project adds 15 vehicles during the morning peak hour. Therefore, the fair share calculation is equal to 1.0 percent.
    - The Existing PM peak hour volume that uses this intersection is 2,043 vehicles and the proposed Harvest in Tracy project adds 5 vehicles during the evening peak hour. Therefore, the fair share calculation is equal to 0.5 percent.

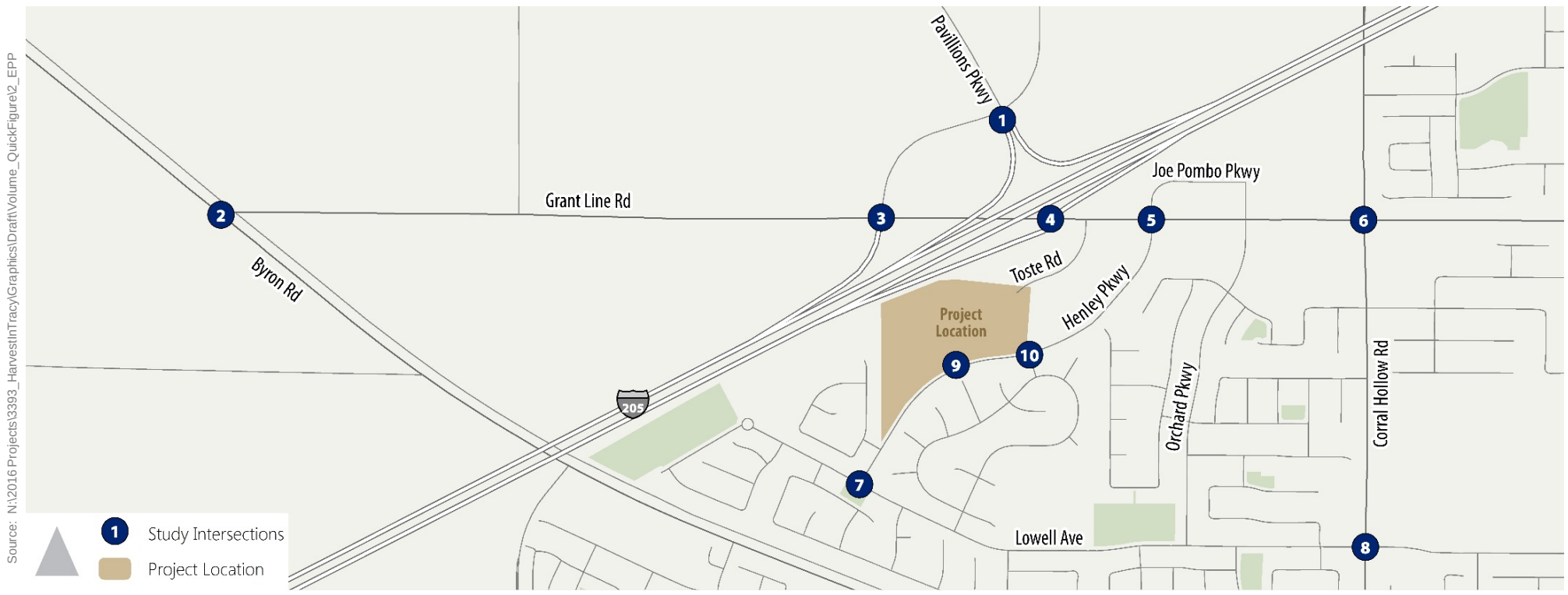


Figure 5

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

Although this intersection operates at an unacceptable LOS E Conditions, the addition of project generated traffic will result in **no significant impact** under Existing Plus Project Conditions. The delay added to the intersection (0.1 AM and 1.2 PM) does not exceed the second threshold.

Table 7 – Existing Plus Project Intersection Level of Service

Intersection	Control	Peak Hour	Existing		Existing Plus Project	
			Delay	LOS	Delay	LOS
1. Naglee Rd / Pavilion Pkwy / I-205 WB Ramps	Signal	AM	49.9	D	50.0	D
		PM	31.9	C	32.1	C
2. Grant Line Rd / Byron Rd	Signal	AM	**63.7**	**E**	**63.8**	**E**
		PM	**72.9**	**E**	**74.1**	**E**
2a. Grant Line Rd / Byron Rd [a]	Signal	AM	19.2	B	19.4	B
		PM	35.2	D	41.3	D
3. Grant Line Rd / Naglee Rd / I-205 WB On-Ramp	Signal	AM	25.7	C	25.6	C
		PM	42.2	D	42.3	D
4. Grant Line Rd / I-205 EB Ramps	Signal	AM	33.9	C	35.5	D
		PM	39.7	D	41.6	D
5. Grant Line Rd / Henley Pkwy	Signal	AM	47.4	D	52.1	D
		PM	37.1	D	38.5	D
6. Grant Line Rd / Corral Hollow Rd	Signal	AM	43.0	D	44.1	D
		PM	43.1	D	41.2	D
7. Lowell Ave / Henley Pkwy	SSSC[a]	AM	2.9 (SB 11.8)	A (B)	3.2 (SB 12.2)	A (B)
		PM	5.6 (SB 10.9)	A (B)	5.7 (SB 11.3)	A (B)
7a. Lowell Ave / Henley Pkwy	AWSC	AM	8.6	A	8.7	A
		PM	8.3	A	8.4	A
8. Corral Hollow Rd / Lowell Ave	Signal	AM	50.6	D	51.7	D
		PM	26.4	C	28.3	C
9. Henley Pkwy/ Project Dwy	SSSC	AM	Intersection created as part of the project		3.3 (SB 11.4)	A (B)
		PM			2.0 (SB 11.2)	A (B)
10. Bridle Creek Cir / Henley Pkwy	SSSC	AM	1.8 (NB 9.5)	A (A)	1.3 (NB 10.3)	A (B)
		PM	1.7 (NB 9.0)	A (A)	1.3 (NB 9.1)	A (A)
10a. Bridle Creek Cir / Henley Pkwy	AWSC	AM	8.0	A	9.0	A
		PM	8.4	A	9.4	A

Notes:
1. Signal = Signalized intersection; AWSC = All-way stop-controlled intersection; SSSC = Side-street stop-controlled intersection.
2. Bold, underlined text indicates unacceptable LOS
[a] Shows the result when a second westbound right-turn lane is added to the intersection
[b] For side-street stop-controlled intersections, average delay is listed first followed by the delay for the worst approach.
[c] LOS Criteria: Within ¼ of mile of a freeway, LOS E shall be allowed.
Source: Fehr & Peers, 2017

The side-street stop control operations of the intersections of Lowell Avenue / Henley Parkway and Bridle Creek Circle / Henley Parkway are acceptable LOS A for both AM and PM peak hours under Existing and Existing Plus Project conditions. When these intersections are converted to all-way stop control, they will continue to operate at acceptable LOS A for both AM and PM peak hours for Existing and Existing Plus Project scenarios.

With side-street stop control operation, all approaches of both all-way stop controlled intersections do not experience a 95th Percentile Queue greater than two (2) vehicles. It is important to note that while the project does not result in a significant impact on the study intersections in terms of delay, it does increase the 95th Percentile queue lengths for the northbound left-turns at Grant Line Road / Henley Parkway and at Corral Hollow Road / Lowell Avenue. Based on the signalized intersection queuing analysis, it is recommended that the storage length for the northbound left-turn lane be extended from 260 feet to 575-feet[4] plus a 600-foot taper at the intersection of Grant Line Road / Henley Parkway and from 250 feet to 300-feet plus a 60-foot taper at the intersection of Corral Hollow Road / Lowell Avenue. This is shown in Table 8.

[4] This will ensure that the Cumulative Plus Project PM Peak Hour 95th Percentile Queue is accommodated by the storage length

Table 8: 95th Percentile Queue Lengths

Intersection	Movement	Storage Length (ft)	Existing 95th Percentile Queue (ft)		Existing Plus Project 95th Percentile Queue (ft)	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
5. Grant Line Rd / Henley Pkwy	NBL	260	150	125	225	150
8. Corral Hollow Rd / Lowell Ave	NBL	250	275	200	300	250

Notes:
95th Percentile queues are rounded up to the nearest 25-feet
Source: Fehr & Peers, 2017

Freeway

Tables 9a and **9b** present the Existing Plus Project peak hour freeway volumes on I-205. Based on the results, the project causes a less than significant increase in density along the study segments. All study highway segments continue to operate acceptable at LOS D conditions or better during the AM and PM peak hours.

Table 9a: Freeway Volumes and LOS – Existing Plus Project AM

Segment	Direction	Volume (Density) [Level of Service]	
		Existing	Existing Plus Project
Between Tracy Blvd and Grant Line Rd	EB	2,470 (15) [B]	2,481(15) [B]
	WB	3,980 (23) [C]	3,982 (23) [C]
Between Grant Line Rd and 11th St	EB	2,020 (12) [B]	2,028 (12) [B]
	WB	3,540 (20) [C]	3,557 (20) [C]

Notes:
Analysis completed using HCM basic segment freeway operations method.
Source: Fehr & Peers, February 2017.

Table 9b: Freeway Volumes and LOS – Existing Plus Project PM

Segment	Direction	Volume (Density) [Level of Service]	
		Existing	Existing Plus Project
Between Tracy Blvd and Grant Line Rd	EB	5,150 (30) [D]	5,157 (30) [D]
	WB	2,960 (17) [B]	3,964 (17) [B]
Between Grant Line Rd and 11th St	EB	4,900 (28) [D]	4,926 (29) [D]
	WB	2,420 (14) [B]	2,425 (14) [B]

Notes:
Analysis completed using HCM basic segment freeway operations method.
Source: Fehr & Peers, 2017.

Transit

Currently, no expansion of the existing transit service is planned within the project study area under existing plus project conditions. Less than a quarter mile is typically considered preferable walking distance to transit. The nearest transit stop to the project is at the Grant Line Road /Orchard Parkway intersection, which is nearly a mile away from the project site. Therefore, due to the location of the closest transit stop to the proposed project, the ability for residents to use fixed transit route is limited under Existing Plus Project Conditions. However, residents may use TRACER paratransit service for seniors and persons with disabilities.

Bicycle and Pedestrian Network

Currently, there are sidewalks opposite of the project on Henley Parkway, and bicycle lanes on both sides of Henley Parkway. The Harvest development would construct pedestrian facilities both external of the project, on Henley Parkway, and within the project. The pedestrian network will enable residents to walk to the nearby destinations like the commercial developments on Grant Line Road.

CUMULATIVE CONDITIONS

Traffic Forecasts

This section describes the anticipated travel conditions under cumulative conditions for the roadway, transit, and bicycle / pedestrian systems. The San Joaquin County TDF model is used to forecast cumulative traffic volumes within the study area. To identify the proposed project's cumulative effect, the cumulative conditions analysis includes the following two scenarios:

- Cumulative No Project Conditions; and
- Cumulative Plus Project Conditions.

Both scenarios include the land use and transportation system inputs described below. The Cumulative No Project scenario only includes cumulative land use and transportation system inputs and does not include any development proposed by the Harvest development. The Cumulative Plus Project scenario includes the proposed project in addition to the cumulative land use and transportation system inputs. The difference in traffic conditions between these two scenarios is assumed

to be the proposed project's incremental effect when viewed in connection with the effects of other current and probable future projects.

Cumulative No Project Traffic Forecasts

To account for model error, this study adjusts the cumulative traffic forecasts using a process known as the "difference method," which adjusts raw model volume forecasts based on expected incremental growth from existing conditions using the following formula:

Cumulative Forecasts = Existing Traffic Count +
(Cumulative Raw Model Volume – Base Year Raw Model Volume)

This study uses the difference method to process cumulative no project traffic forecasts at the study intersections and freeway facilities. **Figure 6** displays the cumulative no project peak hour intersection turning movements that were developed using the aforementioned methodology. Horizon year intersection improvements laid out in the City of Tracy Roadway Master Plan (2012) are assumed in the intersection analysis. These future lane configurations are also displayed in **Figure 6**.

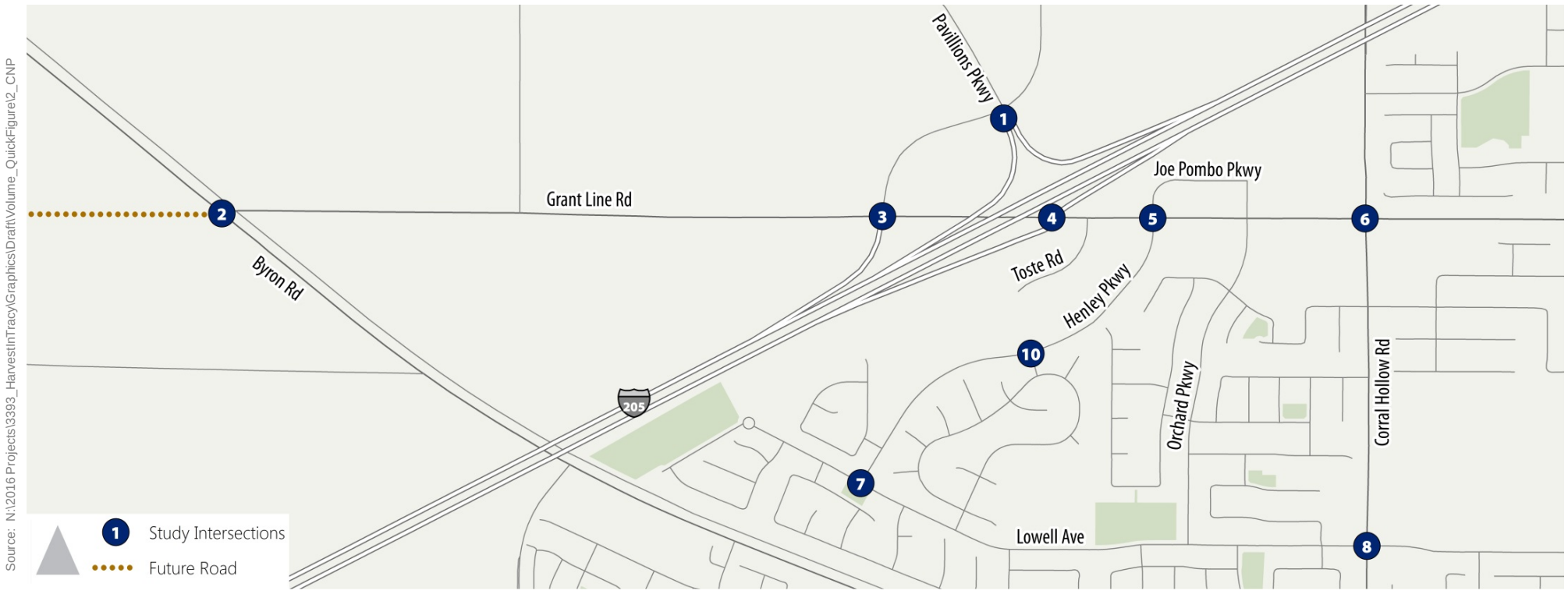


Figure 6

Peak Hour Traffic Volumes and Lane Configurations - Cumulative No Project Conditions

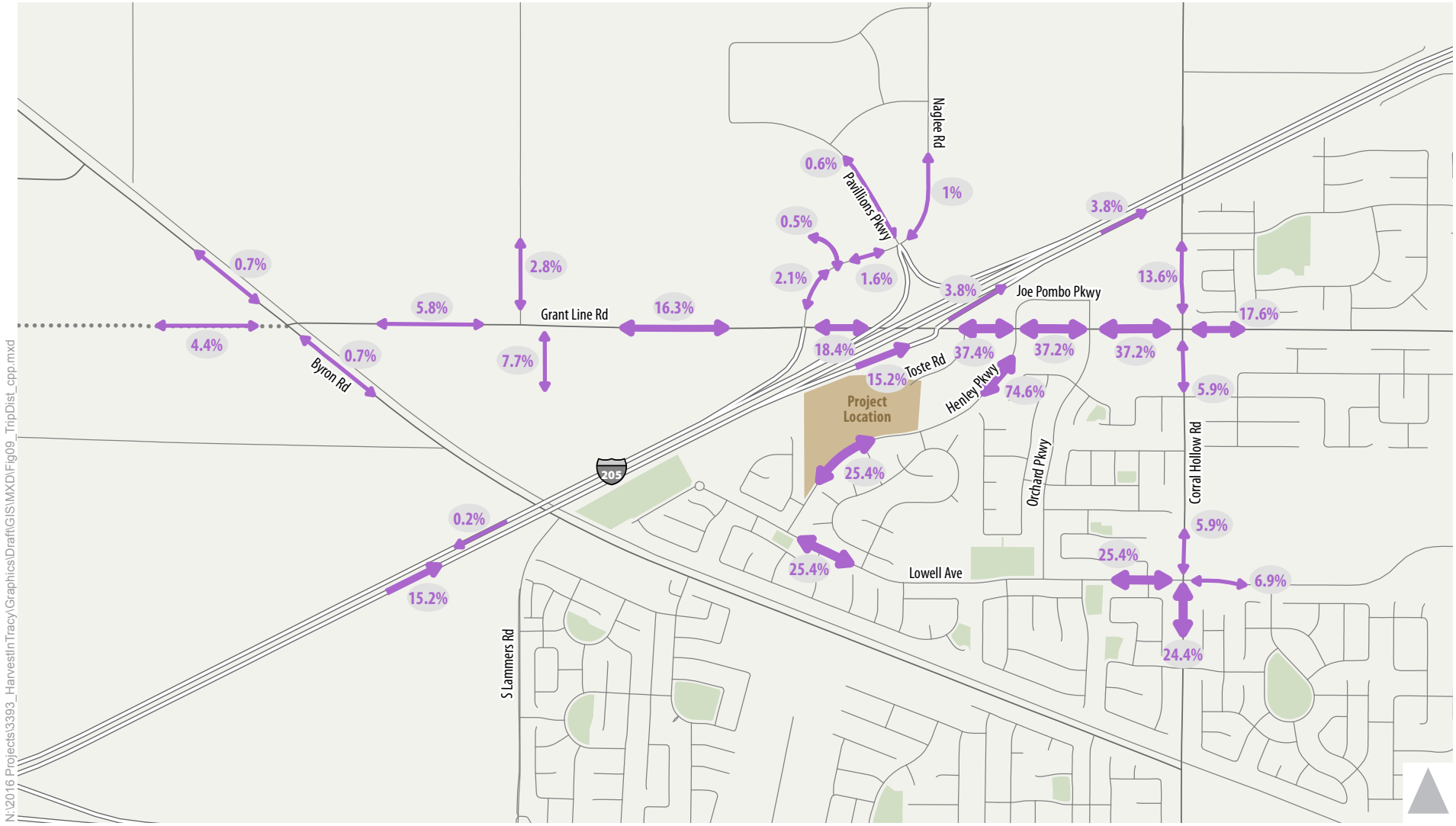
Cumulative Plus Project Traffic Forecasts

The methodology for analyzing the project's traffic characteristics in the cumulative scenario follows the same three-step process as in existing conditions discussed previously.

1. Trip Generation
2. Trip Distribution
3. Trip Assignment

The outcome of trip generation remains the same as in existing plus project conditions. To reflect the changes to the roadway network and land use inputs, the San Joaquin County TDF model was used to determine the cumulative trip distribution, which is shown in **Figure 7**. Following the development of cumulative no project forecasts, cumulative plus project forecasts were developed manually by adding project trips assigned to the network.

The peak hour intersection turning movements, as well as the assumed lane configurations for the Cumulative Plus Project scenario, are displayed in **Figure 8.**



11% Trip Distribution

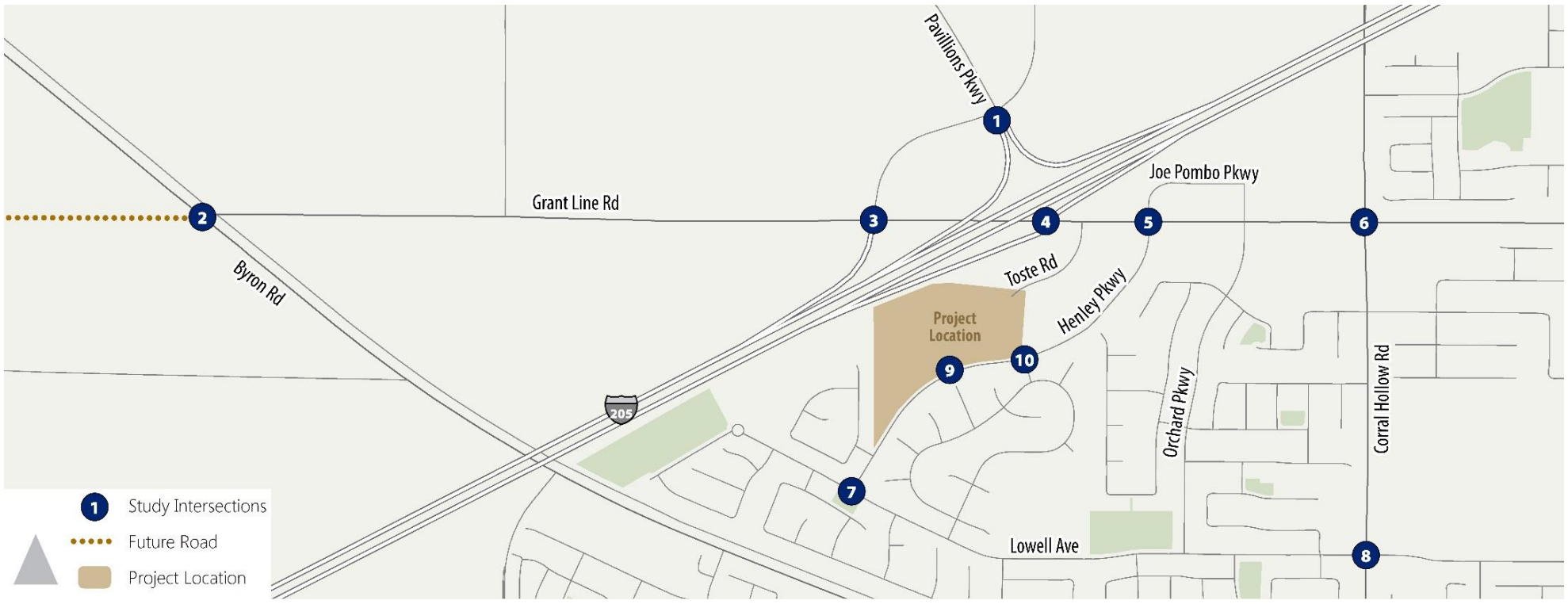
Project Location

Future Road

Figure 7

Project Trip Distribution - Cumulative

Source: N:\2016 Projects\3393_HarvestInTracy\Graphics\Draft\Volume_QuickFigure\2_CPP



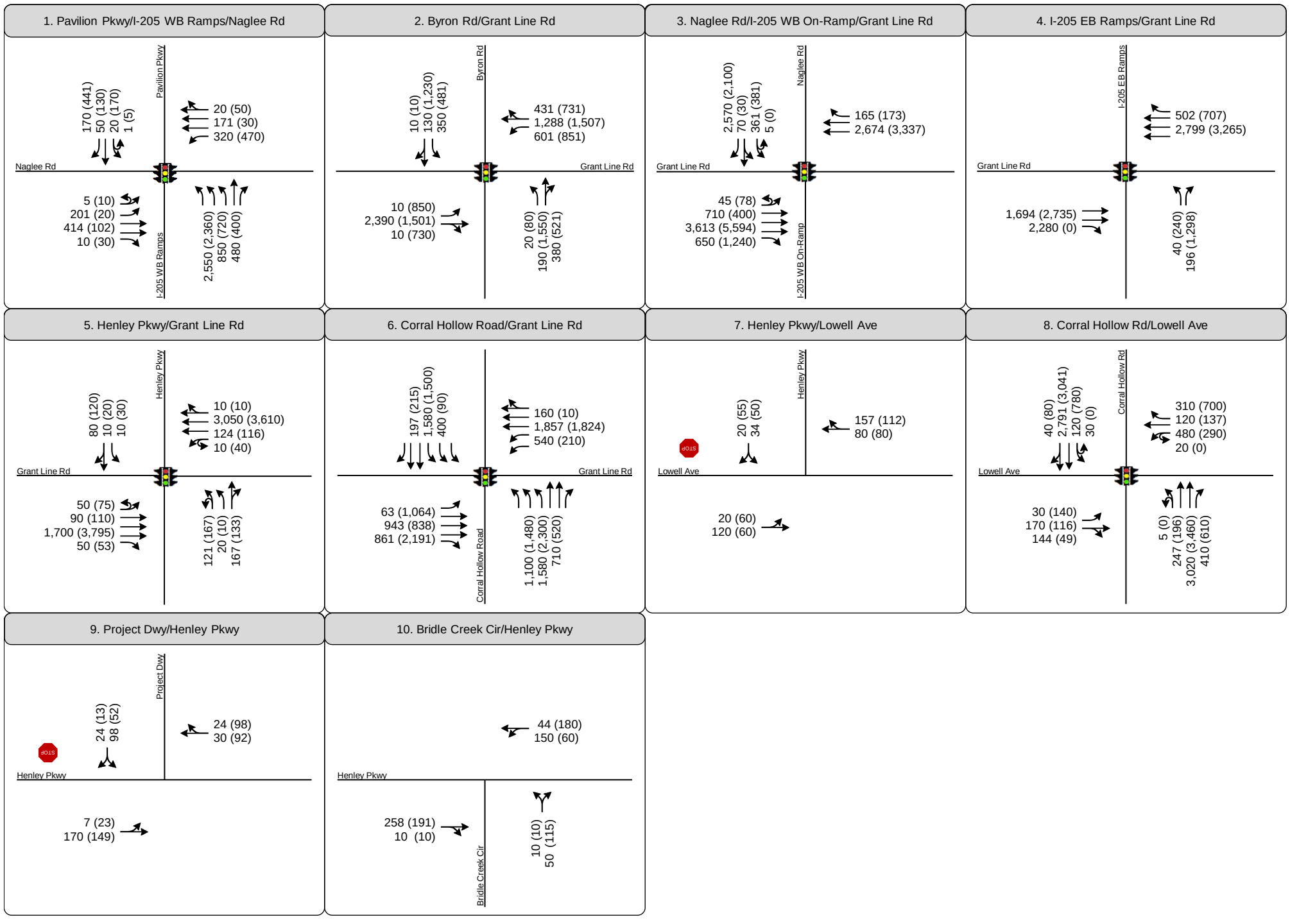


Figure 8

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

Intersections

Table 10 shows the results of the intersection operations analysis for the Cumulative scenarios. The technical calculations for this analysis are in Appendices C and D. The following six signalized study intersections in the City of Tracy are projected to operate unacceptably under no project conditions and plus project conditions:

- Intersection #1 (Naglee Road / Pavilion Parkway / I-205 Westbound Ramps)
    - Operates at LOS F during both the AM and PM peak hours
- Intersection #2 (Grant Line Road / Byron Road)
    - Operates at LOS F during both the AM and PM peak hours
- Intersection #3 (Grant Line Road / Naglee Road / I-205 Westbound On-Ramp)
    - Operates at LOS F during both the AM and PM peak hours
- Intersection #4 (Grant Line Road / I-205 Eastbound Ramps)
    - Operates at LOS E during the AM peak hour and LOS F during the PM peak hour
- Intersection #5 (Grant Line Road / Henley Parkway)
    - Operates at LOS F during both the AM and PM peak hours
- Intersection #6 (Grant Line Road / Corral Hollow Road)
    - Operates at LOS F during both the AM and PM peak hours
- Intersection #8 (Corral Hollow Road / Lowell Ave)
    - Operates at LOS F during both the AM and PM peak hour

Table 10 – Cumulative Plus Project Intersection Level of Service

Intersection	Control	Peak Hour	Cumulative No Project		Cumulative Plus Project	
			Delay	LOS	Delay	LOS
1. Naglee Rd / Pavilion Pkwy / I-205 WB Ramps	Signal	AM	**276.8**	**F**	**276.9**	**F**
		PM	**209.1**	**F**	**209.5**	**F**
2. Grant Line Rd / Byron Rd	Signal	AM	**680.6**	**F**	**682.3**	**F**
		PM	**1,424.6**	**F**	**1,426.2**	**F**
3. Grant Line Rd / Naglee Rd / I-205 WB On-Ramp	Signal	AM	**201.1**	**F**	**204.2**	**F**
		PM	**533.3**	**F**	**536.0**	**F**
4. Grant Line Rd / I-205 EB Ramps	Signal	AM	55.1	E	59.4	E
		PM	**278.2**	**F**	**282.1**	**F**
5. Grant Line Rd / Henley Pkwy	Signal	AM	**229.9**	**F**	**234.5**	**F**
		PM	**320.0**	**F**	**322.4**	**F**
6. Grant Line Rd / Corral Hollow Rd	Signal	AM	**229.1**	**F**	**231.6**	**F**
		PM	**517.4**	**F**	**518.1**	**F**
7. Lowell Ave / Henley Pkwy	SSSC[a]	AM	1.1 (SB 10.0)	A (B)	1.7 (SB 10.7)	A (B)
		PM	3.8 (SB 10.6)	A (B)	3.8 (SB 10.8)	A (B)
7a. Lowell Ave / Henley Pkwy	AWSC	AM	8.1	A	8.3	A
		PM	8.0	A	8.3	A
8. Corral Hollow Rd / Lowell Ave	Signal	AM	**219.2**	**F**	**220.4**	**F**
		PM	**448.5**	**F**	**450.6**	**F**
9. Henley Pkwy/ Project Dwy 1	SSSC	AM	Intersection created as part of the project		3.7 (SB 10.4)	A (B)
		PM			2.1 (SB 10.9)	A (B)
10. Bridle Creek Cir / Henley Pkwy	SSSC	AM	4.5 (NB 10.3)	A (B)	3.7 (NB 11.3)	A (B)
		PM	4.2 (NB 9.9)	A (A)	3.1 (NB 10.5)	A (B)
10a. Bridle Creek Cir / Henley Pkwy	AWSC	AM	8.5	A	9.4	A
		PM	8.2	A	9.2	A

Notes:
1. For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS is reported for the most-delayed individual movement and for the entire intersection (shown in parentheses).
2. Bold text indicates unacceptable LOS.

Source: Fehr & Peers, 2017

Impacts and Mitigations

Although six (6) of ten (10) intersections are projected to operate at an unacceptable LOS conditions, the addition of project generated traffic results in **no significant impact** under Cumulative Plus Project Conditions. When comparing the results of Cumulative No Project and Cumulative Plus Project Conditions, the minor increase in average control delay to the study intersections does not exceed the five second threshold criteria. The technical calculations for the mitigated intersection operations for Cumulative No Project and Cumulative Plus Project are in Appendix C and Appendix D, respectively.

Freeway

Tables 11a and **11b** present the Cumulative No Project and Cumulative Plus Project peak hour freeway volumes on I-205. The technical calculations for the freeway analysis for these scenarios are in Appendices C and D, respectively. Based on the results, the project causes a less than significant increase in density along the study segments. The following study intersections operate at less than acceptable LOS in the AM or PM peak hours:

- 11th Street to Grant Line Road (Eastbound) - Operates at LOS F during the PM peak hour under Cumulative No Project and Cumulative Plus Project Conditions.
- 11th Street to Grant Line Road (Westbound) - Operates at LOS F during the PM peak hour under Cumulative No Project and Cumulative Plus Project Conditions.
- Grant Line Road to Tracy Boulevard (Eastbound) - Operates at LOS E during the AM peak hour and LOS F during the PM peak hour under Cumulative No Project and Cumulative Plus Project Conditions.
- Grant Line Road to Tracy Boulevard (Westbound) - Operates at LOS F during the AM and PM peak hours under Cumulative No Project and Cumulative Plus Project Conditions.

Although these roadway segments operate at an unacceptable LOS, the project generates **no significant impact** under Cumulative Plus Project Conditions. The project does not cause a segment to fall from LOS D to LOS E or F, or add five percent to the total future traffic volume on a segment already operating at LOS F.

Table 11a – Freeway Volumes and LOS – Cumulative Plus Project (AM)

Segment	Direction	Volume (Density) [Level of Service] Cumulative No Project	Volume (Density) [Level of Service] Cumulative Plus Project
11th Street to Grant Line Road	EB	5,400 (24) [C]	5,410 (24) [C]
	WB	5,800 (25) [C]	5,800 (25) [C]
Grant Line Road to Tracy Boulevard	EB	**7,930 (43) [E]**	**7,950 (44) [E]**
	WB	**8,580 (47) [F]**	**8,580 (47) [F]**

Notes:
Bold indicates a segment operating below the applicable standard.
Analysis completed using HCS basic segment freeway operations method.
Source: Fehr & Peers, 2017.

Table 11b – Freeway Volumes and LOS – Cumulative Plus Project (PM)

Segment	Direction	Volume (Density) [Level of Service] Cumulative No Project	Volume (Density) [Level of Service] Cumulative Plus Project
11th Street to Grant Line Road	EB	**9,410 (56) [F]**	**9,440 (57) [F]**
	WB	**7,830 (37) [F]**	**7,830 (37) [E]**
Grant Line Road to Tracy Boulevard	EB	**11,840 (186) [F]**	**11,840 (188) [F]**
	WB	**9,410 (56) [F]**	**9,410 (56) [F]**

Notes:
Bold indicates a segment operating below the applicable standard.
Analysis completed using HCS basic segment freeway operations method.
Source: Fehr & Peers, 2017.

PROJECT SITE ACCESS AND CIRCULATION ANALYSIS

The project has a main driveway on Henley Parkway that allows full access entering and exiting the Harvest in Tracy Project site. There is also an emergency exit located 458 feet southwest of the main access point (measured from center to center). Adequate sight distance must be ensured so that vehicles may safely enter and exit the site through the driveways. Assuming a design speed of 40 miles per hour on Henley Parkway, the sight distance required for all maneuvers in and out of the driveway is 440 feet, according to the Caltrans *Highway Design Manual* (2015). Currently, there are no obstructions within this distance of both the main driveway and

emergency exit driveway. Each driveway provides more than the required 440 feet of sight distance for vehicles exiting the project driveways. This analysis is in Appendix E.

EMERGENCY ACCESS AND PARKING ANALYSIS

Emergency Access

As previously mentioned, the proposed project driveway would include two outbound lanes (left-turn only and right-turn only) and one inbound lane. In addition, the proposed Harvest in Tracy Project would modify Henley Parkway to include an eastbound left-turn pocket comprised of 150-feet of storage and a 90-foot taper. This will allow left-turning vehicles traveling eastbound on Henley Parkway to wait in the dedicated left-turn pocket as they wait for gaps in westbound traffic.

Transoft Solutions' AutoTURN software was used to verify that emergency vehicles are able to access the site based on the proposed design of the Harvest in Tracy Project. The geometric layout of the main Harvest development driveway was evaluated with a Pumper Fire Truck and Passenger Car (representing police vehicles). The results of the emergency access analysis are presented in Appendix E.

Exhibit 1 in Appendix E shows the Pumper Fire Truck making a right turn movement into the project site from westbound Henley Parkway. The site plan geometries can accommodate this movement with only a minor encroachment into the opposing outbound driveway traffic lane. Therefore, no modifications of the site plan are required for this inbound movement.

Exhibit 2 shows the right-turn movement out of the project site for the Pumper Fire Truck onto westbound / southbound Henley Parkway. In order to complete the maneuver, the Pumper Fire Truck vehicle must encroach into the inbound travel lane and also the left-turn pocket. Therefore, it is recommended that the center median for the Henley Parkway left-turn be constructed as a striped versus raised median for this outbound movement.

Exhibit 3 shows the Passenger Car making a right turn to enter and exit the Harvest in Tracy project site. The Passenger Car can make both inbound and outbound movements with no encroachments to adjacent travel lanes and has no issues with the medians along Henley Parkway.

Exhibit 4 displays a Pumper Fire Truck exiting the site with a right-turn movement from the emergency exit driveway. With the addition of a median along Henley Parkway, the truck will have to drive over the divider to make this movement. Therefore, the median should be constructed as a striped versus raised media for clearance of this outbound movement. Furthermore, based on the location of the closest fire station on Grant Line Road, fire trucks will likely want to make a turn-left movement onto eastbound Henley Parkway. Therefore, this provides additional justification for a striped versus raised median.

Exhibit 5 presents a Passenger Car making a right-turn movement out of the emergency exit driveway, which it is able to do with no encroachments on the median.

Exhibit 6 shows the sight distance of an outbound vehicle exiting the site. The posted speed limit on Henley Parkway is 35-miles per hour, so the design speed used for this analysis is 40-miles per hour. The recommended corner sight distance is 440-feet. Vehicles exiting the site from the main driveway have 440-feet sight distance to the east (oncoming westbound vehicles traveling on Henley Parkway), but when vehicles queue in the northbound left-turn pocket, their view of the oncoming eastbound traffic is obstructed. However, vehicles making a left turn movement out of the Harvest in Tracy project site are required to wait for the eastbound left-turn vehicles to complete their movement before exiting the project site. Therefore, vehicles making the left-turn movement would also have 440-feet site distance to the west.

Exhibit 7 shows the sight distance for a Passenger Car making a right-turn movement out of the emergency exit driveway. The recommended corner sight distance is also 440-feet. For emergency situations, the restricted sight distance of 350 feet can be improved to the recommended 440 feet by prohibiting non-emergency vehicles from entering the Harvest in Tracy project.

Parking Analysis

The Housing Element of the City of Tracy General Plan (2011) dictates that one-bedroom multi-family dwelling units are allotted 1.5 parking spaces per unit and that two- or more- bedroom multi-family dwelling units are allotted two spaces per unit. In addition, the Housing Element calls for an additional "Guest" space for every five multi-family dwelling units. This means that the Harvest development requires 609 parking spaces. The Harvest in Tracy Project provides 654 parking

spaces, therefore providing 45 additional parking spaces than required by the City of Tracy parking requirements.

APPENDIX A

EXISTING CONDITIONS TECHNICAL CALCULATIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	93	192	17	75	3	587	93	70	3	5	48
Future Volume (veh/h)	55	93	192	17	75	3	587	93	70	3	5	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	61	103	213	19	83	3	652	103	78	3	6	53
Adj No. of Lanes	2	2	1	1	3	0	2	2	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	632	282	40	828	30	738	2380	1064	14	868	738
Arrive On Green	0.04	0.18	0.18	0.02	0.16	0.16	0.21	0.67	0.67	0.01	0.47	0.47
Sat Flow, veh/h	3442	3539	1579	1774	5039	180	3442	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	61	103	213	19	56	30	652	103	78	3	6	53
Grp Sat Flow(s),veh/h/ln	1721	1770	1579	1774	1695	1829	1721	1770	1583	1774	1863	1583
Q Serve(g_s), s	2.3	3.3	17.3	1.4	1.9	1.9	24.8	1.3	2.3	0.2	0.2	2.5
Cycle Q Clear(g_c), s	2.3	3.3	17.3	1.4	1.9	1.9	24.8	1.3	2.3	0.2	0.2	2.5
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	632	282	40	557	301	738	2380	1064	14	868	738
V/C Ratio(X)	0.48	0.16	0.75	0.47	0.10	0.10	0.88	0.04	0.07	0.22	0.01	0.07
Avail Cap(c_a), veh/h	178	1460	651	76	1369	739	892	2380	1064	72	868	738
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.7	46.9	52.6	65.2	47.9	48.0	51.4	7.5	7.6	66.6	19.3	19.9
Incr Delay (d2), s/veh	2.8	0.1	4.1	8.5	0.1	0.1	9.1	0.0	0.1	8.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.6	7.9	0.8	0.9	1.0	12.7	0.7	1.0	0.1	0.1	1.1
LnGrp Delay(d),s/veh	66.5	47.0	56.7	73.6	48.0	48.1	60.5	7.5	7.7	74.5	19.3	20.0
LnGrp LOS	E	D	E	E	D	D	E	A	A	E	B	B
Approach Vol, veh/h		377			105			833			62	
Approach Delay, s/veh		55.7			52.7			49.0			22.5	
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	5.0	94.8	7.0	28.1	32.9	66.9	9.0	26.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	51.5	5.3	55.2	34.5	22.0	6.5	54.0
Max Q Clear Time (g_c+I1), s	2.2	4.3	3.4	19.3	26.8	4.5	4.3	3.9
Green Ext Time (p_c), s	0.0	1.2	0.0	2.0	1.6	0.9	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	49.9
HCM 2010 LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	158	471	256	234	383	153
Future Volume (veh/h)	158	471	256	234	383	153
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	176	523	284	260	426	170
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	469	418	546	464	481	1158
Arrive On Green	0.26	0.26	0.29	0.29	0.27	0.62
Sat Flow, veh/h	1774	1583	1863	1583	1774	1863
Grp Volume(v), veh/h	176	523	284	260	426	170
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863
Q Serve(g_s), s	5.7	18.5	8.9	9.7	16.1	2.7
Cycle Q Clear(g_c), s	5.7	18.5	8.9	9.7	16.1	2.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	469	418	546	464	481	1158
V/C Ratio(X)	0.38	1.25	0.52	0.56	0.89	0.15
Avail Cap(c_a), veh/h	469	418	546	464	532	1158
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	21.0	25.8	20.6	20.9	24.5	5.5
Incr Delay (d2), s/veh	0.5	130.9	3.5	4.8	15.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	23.3	5.1	4.9	9.9	1.5
LnGrp Delay(d),s/veh	21.5	156.7	24.2	25.8	39.7	5.8
LnGrp LOS	C	F	C	C	D	A
Approach Vol, veh/h	699		544			596
Approach Delay, s/veh	122.6		24.9			30.1
Approach LOS	F		C			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.0	24.5				47.5		22.5
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	20.5	18.0				43.0		18.0
Max Q Clear Time (g_c+I1), s	18.1	11.7				4.7		20.5
Green Ext Time (p_c), s	0.4	2.0				4.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	63.7
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	536	57	0	573	323	0	0	0	302	38	401
Future Volume (veh/h)	132	536	57	0	573	323	0	0	0	302	38	401
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	147	596	63	0	637	0				366	0	446
Adj No. of Lanes	2	2	1	0	3	1				2	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	805	2216	991	0	1839	572				1108	0	494
Arrive On Green	0.23	0.63	0.63	0.00	0.72	0.00				0.31	0.00	0.31
Sat Flow, veh/h	3442	3539	1582	0	5253	1583				3548	0	1582
Grp Volume(v), veh/h	147	596	63	0	637	0				366	0	446
Grp Sat Flow(s),veh/h/ln	1721	1770	1582	0	1695	1583				1774	0	1582
Q Serve(g_s), s	4.4	9.8	2.0	0.0	6.0	0.0				10.3	0.0	35.1
Cycle Q Clear(g_c), s	4.4	9.8	2.0	0.0	6.0	0.0				10.3	0.0	35.1
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	805	2216	991	0	1839	572				1108	0	494
V/C Ratio(X)	0.18	0.27	0.06	0.00	0.35	0.00				0.33	0.00	0.90
Avail Cap(c_a), veh/h	805	2216	991	0	1839	572				1583	0	706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.59	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	39.9	10.9	9.5	0.0	12.3	0.0				34.3	0.0	42.8
Incr Delay (d2), s/veh	0.1	0.3	0.1	0.0	0.3	0.0				0.2	0.0	11.4
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	2.1	4.9	0.9	0.0	2.8	0.0				5.1	0.0	28.6
LnGrp Delay(d),s/veh	40.0	11.2	9.6	0.0	12.6	0.0				34.4	0.0	54.2
LnGrp LOS	D	B	A		B					C		D
Approach Vol, veh/h		806			637						812	
Approach Delay, s/veh		16.3			12.6						45.3	
Approach LOS		B			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		85.4		44.6	34.4	51.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		63.5		57.5	12.5	46.5		
Max Q Clear Time (g_c+I1), s		11.8		37.1	6.4	8.0		
Green Ext Time (p_c), s		5.6		3.0	2.4	4.6		

Intersection Summary	
HCM 2010 Ctrl Delay	25.7
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	456	0	0	828	258	68	0	127	0	0	0
Future Volume (veh/h)	380	456	0	0	828	258	68	0	127	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	422	507	0	0	920	0	76	0	141			
Adj No. of Lanes	1	2	0	0	3	1	1	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	502	1919	0	0	1162	362	703	0	627			
Arrive On Green	0.57	1.00	0.00	0.00	0.23	0.00	0.40	0.00	0.40			
Sat Flow, veh/h	1774	3632	0	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	422	507	0	0	920	0	76	0	141			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	25.6	0.0	0.0	0.0	22.2	0.0	3.5	0.0	7.7			
Cycle Q Clear(g_c), s	25.6	0.0	0.0	0.0	22.2	0.0	3.5	0.0	7.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	502	1919	0	0	1162	362	703	0	627			
V/C Ratio(X)	0.84	0.26	0.00	0.00	0.79	0.00	0.11	0.00	0.22			
Avail Cap(c_a), veh/h	502	1919	0	0	1162	362	703	0	627			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.96	0.96	0.00	0.00	0.98	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	25.8	0.0	0.0	0.0	47.2	0.0	24.8	0.0	26.0			
Incr Delay (d2), s/veh	11.6	0.3	0.0	0.0	5.5	0.0	0.3	0.0	0.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.8	0.1	0.0	0.0	11.0	0.0	1.8	0.0	3.5			
LnGrp Delay(d),s/veh	37.4	0.3	0.0	0.0	52.7	0.0	25.1	0.0	26.8			
LnGrp LOS	D	A			D		C		C			
Approach Vol, veh/h		929			920			217				
Approach Delay, s/veh		17.2			52.7			26.2				
Approach LOS		B			D			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		74.5			40.8	33.7		55.5
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		70.0			36.3	29.2		51.0
Max Q Clear Time (g_c+I1), s		2.0			27.6	24.2		9.7
Green Ext Time (p_c), s		5.5			3.2	2.5		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	33.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	402	54	59	779	9	193	12	69	7	7	67
Future Volume (veh/h)	127	402	54	59	779	9	193	12	69	7	7	67
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		1.00	1.00		1.00	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	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	141	447	60	66	866	10	214	13	77	8	8	74
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	1702	523	142	1643	19	280	105	621	24	59	548
Arrive On Green	0.10	0.33	0.33	0.03	0.10	0.10	0.08	0.45	0.44	0.01	0.38	0.38
Sat Flow, veh/h	1774	5085	1581	1774	5182	60	3442	234	1384	1774	156	1440
Grp Volume(v), veh/h	141	447	60	66	566	310	214	0	90	8	0	82
Grp Sat Flow(s),veh/h/ln	1774	1695	1581	1774	1695	1852	1721	0	1617	1774	0	1595
Q Serve(g_s), s	10.1	8.3	3.4	4.8	20.6	20.6	7.9	0.0	4.2	0.6	0.0	4.4
Cycle Q Clear(g_c), s	10.1	8.3	3.4	4.8	20.6	20.6	7.9	0.0	4.2	0.6	0.0	4.4
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.86	1.00		0.90
Lane Grp Cap(c), veh/h	173	1702	523	142	1075	587	280	0	725	24	0	607
V/C Ratio(X)	0.81	0.26	0.11	0.46	0.53	0.53	0.77	0.00	0.12	0.33	0.00	0.14
Avail Cap(c_a), veh/h	252	1702	523	142	1075	587	318	0	725	75	0	607
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.5	31.6	30.3	60.5	49.0	49.0	58.5	0.0	21.1	63.5	0.0	26.4
Incr Delay (d2), s/veh	12.1	0.4	0.4	2.0	1.6	2.9	9.4	0.0	0.4	7.9	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	3.9	1.6	2.4	9.9	11.1	4.1	0.0	2.0	0.3	0.0	2.0
LnGrp Delay(d),s/veh	69.6	31.9	30.7	62.5	50.5	51.9	67.9	0.0	21.4	71.5	0.0	26.9
LnGrp LOS	E	C	C	E	D	D	E		C	E		C
Approach Vol, veh/h		648			942			304			90	
Approach Delay, s/veh		40.0			51.8			54.1			30.9	
Approach LOS		D			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	14.4	47.5	14.6	53.5	16.7	45.2	5.8	62.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	43.0	11.5	49.0	18.0	33.5	5.0	55.5
Max Q Clear Time (g_c+I1), s	6.8	10.3	9.9	6.4	12.1	22.6	2.6	6.2
Green Ext Time (p_c), s	0.1	3.5	0.1	0.5	0.2	4.1	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	47.4
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	255	182	332	408	53	454	263	395	46	182	64
Future Volume (veh/h)	38	255	182	332	408	53	454	263	395	46	182	64
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		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	42	283	0	369	453	59	504	292	439	51	202	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	2	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	430	1252	390	1019	1367	175	1209	1084	484	98	330	148
Arrive On Green	0.32	0.33	0.00	0.30	0.30	0.30	0.24	0.31	0.31	0.03	0.09	0.00
Sat Flow, veh/h	1774	5085	1583	3442	4558	582	5003	3539	1582	3442	3539	1583
Grp Volume(v), veh/h	42	283	0	369	335	177	504	292	439	51	202	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1750	1668	1770	1582	1721	1770	1583
Q Serve(g_s), s	2.2	5.3	0.0	11.0	10.0	10.3	11.0	8.1	34.6	1.9	7.1	0.0
Cycle Q Clear(g_c), s	2.2	5.3	0.0	11.0	10.0	10.3	11.0	8.1	34.6	1.9	7.1	0.0
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	430	1252	390	1019	1017	525	1209	1084	484	98	330	148
V/C Ratio(X)	0.10	0.23	0.00	0.36	0.33	0.34	0.42	0.27	0.91	0.52	0.61	0.00
Avail Cap(c_a), veh/h	430	1252	390	1019	1017	525	1209	1293	578	265	1157	518
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.1	34.7	0.0	36.1	35.3	35.5	41.6	34.1	43.3	62.3	56.7	0.0
Incr Delay (d2), s/veh	0.1	0.4	0.0	0.2	0.9	1.7	0.2	0.1	16.2	4.2	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.5	0.0	5.3	4.8	5.2	5.1	4.0	17.3	1.0	3.6	0.0
LnGrp Delay(d),s/veh	34.2	35.1	0.0	36.3	36.2	37.2	41.8	34.2	59.5	66.5	58.5	0.0
LnGrp LOS	C	D		D	D	D	D	C	E	E	E	
Approach Vol, veh/h		325			881			1235			253	
Approach Delay, s/veh		35.0			36.5			46.3			60.1	
Approach LOS		D			D			D			E	

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	36.0	35.4	16.1	35.5	43.0	7.7	43.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.0	31.5	14.5	42.0	17.0	38.5	9.5	47.0
Max Q Clear Time (g_c+I1), s	13.0	7.3	13.0	9.1	4.2	12.3	3.9	36.6
Green Ext Time (p_c), s	1.1	1.9	0.4	1.3	1.2	3.1	0.1	2.7

Intersection Summary	
HCM 2010 Ctrl Delay	43.0
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	50	117	78	145	63	19
Future Vol, veh/h	50	117	78	145	63	19
Conflicting Peds, #/hr	13	0	0	13	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	130	87	161	70	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	249	0	-	0	409	181
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	241	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1317	-	-	-	599	862
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1301	-	-	-	570	851
Mov Cap-2 Maneuver	-	-	-	-	570	-
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	762	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	11.8
HCM LOS			B

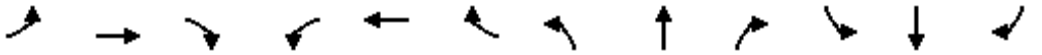
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1301	-	-	-	617
HCM Lane V/C Ratio	0.043	-	-	-	0.148
HCM Control Delay (s)	7.9	0	-	-	11.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	50	117	0	78	145	0	63	19
Future Vol, veh/h	0	50	117	0	78	145	0	63	19
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	56	130	0	87	161	0	70	21
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.8	8.5	8.6
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	0%	77%
Vol Thru, %	70%	35%	0%
Vol Right, %	0%	65%	23%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	167	223	82
LT Vol	50	0	63
Through Vol	117	78	0
RT Vol	0	145	19
Lane Flow Rate	186	248	91
Geometry Grp	1	1	1
Degree of Util (X)	0.23	0.273	0.123
Departure Headway (Hd)	4.461	3.973	4.863
Convergence, Y/N	Yes	Yes	Yes
Cap	807	907	738
Service Time	2.478	1.988	2.889
HCM Lane V/C Ratio	0.23	0.273	0.123
HCM Control Delay	8.8	8.5	8.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.9	1.1	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	168	195	264	118	239	209	816	361	144	519	33
Future Volume (veh/h)	29	168	195	264	118	239	209	816	361	144	519	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.95	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	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	32	187	217	293	131	266	232	907	401	160	577	37
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	212	246	277	734	595	272	1159	502	156	886	57
Arrive On Green	0.03	0.27	0.27	0.16	0.39	0.39	0.15	0.33	0.33	0.09	0.26	0.26
Sat Flow, veh/h	1774	781	907	1774	1863	1509	1774	3539	1534	1774	3377	216
Grp Volume(v), veh/h	32	0	404	293	131	266	232	907	401	160	302	312
Grp Sat Flow(s),veh/h/ln	1774	0	1688	1774	1863	1509	1774	1770	1534	1774	1770	1824
Q Serve(g_s), s	1.8	0.0	23.5	16.0	4.7	13.3	13.0	23.7	24.4	9.0	15.5	15.6
Cycle Q Clear(g_c), s	1.8	0.0	23.5	16.0	4.7	13.3	13.0	23.7	24.4	9.0	15.5	15.6
Prop In Lane	1.00		0.54	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	60	0	459	277	734	595	272	1159	502	156	464	478
V/C Ratio(X)	0.53	0.00	0.88	1.06	0.18	0.45	0.85	0.78	0.80	1.03	0.65	0.65
Avail Cap(c_a), veh/h	108	0	503	277	734	595	310	1159	502	156	464	478
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.6	0.0	35.8	43.2	20.2	22.8	42.2	31.1	31.3	46.7	33.6	33.6
Incr Delay (d2), s/veh	7.0	0.0	15.5	69.6	0.1	0.5	18.3	5.3	12.5	78.8	6.9	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	12.9	13.1	2.4	5.6	7.8	12.4	12.1	7.8	8.4	8.7
LnGrp Delay(d),s/veh	55.6	0.0	51.3	112.7	20.3	23.3	60.5	36.4	43.8	125.8	40.5	40.4
LnGrp LOS	E		D	F	C	C	E	D	D	F	D	D
Approach Vol, veh/h		436			690			1540			774	
Approach Delay, s/veh		51.6			60.7			42.0			58.1	
Approach LOS		D			E			D			E	

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	13.0	37.5	20.0	31.8	19.7	30.8	7.5	44.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	33.0	15.5	30.0	17.4	24.1	5.7	39.8
Max Q Clear Time (g_c+I1), s	11.0	26.4	18.0	25.5	15.0	17.6	3.8	15.3
Green Ext Time (p_c), s	0.0	5.2	0.0	1.8	0.2	5.1	0.0	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	50.6
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	169	0	15	80	0	45
Future Vol, veh/h	169	0	15	80	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	188	0	17	89	0	50

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	188	0	310	188
Stage 1	-	-	-	-	188	-
Stage 2	-	-	-	-	122	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1386	-	682	854
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1386	-	673	854
Mov Cap-2 Maneuver	-	-	-	-	673	-
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.5
HCM LOS			A

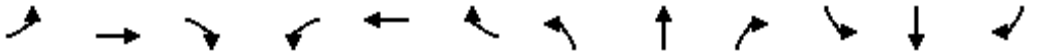
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	854	-	-	1386	-
HCM Lane V/C Ratio	0.059	-	-	0.012	-
HCM Control Delay (s)	9.5	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	169	0	0	15	80	0	0	45
Future Vol, veh/h	0	169	0	0	15	80	0	0	45
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	188	0	0	17	89	0	0	50
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	7.9	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	0%	0%	16%
Vol Thru, %	0%	100%	84%
Vol Right, %	100%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	45	169	95
LT Vol	0	0	15
Through Vol	0	169	80
RT Vol	45	0	0
Lane Flow Rate	50	188	106
Geometry Grp	1	1	1
Degree of Util (X)	0.055	0.214	0.123
Departure Headway (Hd)	3.971	4.101	4.195
Convergence, Y/N	Yes	Yes	Yes
Cap	908	871	848
Service Time	1.971	2.148	2.257
HCM Lane V/C Ratio	0.055	0.216	0.125
HCM Control Delay	7.2	8.3	7.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.8	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	325	106	31	405	13	571	66	153	37	19	205
Future Volume (veh/h)	94	325	106	31	405	13	571	66	153	37	19	205
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	101	349	114	33	435	14	614	71	165	40	20	220
Adj No. of Lanes	2	2	1	1	3	0	2	2	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	190	729	326	64	947	30	750	1929	852	71	684	581
Arrive On Green	0.06	0.21	0.21	0.04	0.19	0.18	0.22	0.54	0.54	0.04	0.37	0.37
Sat Flow, veh/h	3442	3539	1579	1774	5062	162	3442	3539	1563	1774	1863	1583
Grp Volume(v), veh/h	101	349	114	33	291	158	614	71	165	40	20	220
Grp Sat Flow(s),veh/h/ln	1721	1770	1579	1774	1695	1834	1721	1770	1563	1774	1863	1583
Q Serve(g_s), s	2.6	8.0	5.7	1.7	7.1	7.1	15.7	0.9	5.0	2.1	0.6	9.5
Cycle Q Clear(g_c), s	2.6	8.0	5.7	1.7	7.1	7.1	15.7	0.9	5.0	2.1	0.6	9.5
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	190	729	326	64	634	343	750	1929	852	71	684	581
V/C Ratio(X)	0.53	0.48	0.35	0.51	0.46	0.46	0.82	0.04	0.19	0.56	0.03	0.38
Avail Cap(c_a), veh/h	204	1814	810	105	1738	940	1155	1929	852	105	684	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	32.4	31.5	43.9	33.5	33.5	34.5	9.8	10.7	43.7	18.8	21.6
Incr Delay (d2), s/veh	2.3	0.5	0.6	6.2	0.5	1.0	2.8	0.0	0.5	6.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.0	2.5	0.9	3.4	3.7	7.8	0.4	2.2	1.1	0.3	4.2
LnGrp Delay(d),s/veh	44.9	32.9	32.1	50.0	34.0	34.5	37.3	9.8	11.2	50.5	18.8	22.0
LnGrp LOS	D	C	C	D	C	C	D	A	B	D	B	C
Approach Vol, veh/h		564			482			850			280	
Approach Delay, s/veh		34.9			35.3			29.9			25.8	
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	7.7	54.5	7.4	23.1	24.2	38.0	9.1	21.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	50.0	5.0	47.0	30.6	24.4	5.0	47.0
Max Q Clear Time (g_c+I1), s	4.1	7.0	3.7	10.0	17.7	11.5	4.6	9.1
Green Ext Time (p_c), s	0.0	2.0	0.0	6.5	2.0	1.6	0.0	6.5

Intersection Summary	
HCM 2010 Ctrl Delay	31.9
HCM 2010 LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	379	487	129	354	517	177
Future Volume (veh/h)	379	487	129	354	517	177
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	408	524	139	381	556	190
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	466	416	466	396	599	1188
Arrive On Green	0.26	0.26	0.25	0.25	0.34	0.64
Sat Flow, veh/h	1774	1583	1863	1583	1774	1863
Grp Volume(v), veh/h	408	524	139	381	556	190
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863
Q Serve(g_s), s	17.6	21.0	4.8	19.0	24.2	3.3
Cycle Q Clear(g_c), s	17.6	21.0	4.8	19.0	24.2	3.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	466	416	466	396	599	1188
V/C Ratio(X)	0.88	1.26	0.30	0.96	0.93	0.16
Avail Cap(c_a), veh/h	466	416	466	396	621	1188
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	28.3	29.5	24.3	29.6	25.6	5.9
Incr Delay (d2), s/veh	16.9	135.5	1.6	36.8	20.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	24.8	2.7	12.3	15.1	1.8
LnGrp Delay(d),s/veh	45.2	165.0	26.0	66.4	45.6	6.1
LnGrp LOS	D	F	C	E	D	A
Approach Vol, veh/h	932		520			746
Approach Delay, s/veh	112.5		55.6			35.6
Approach LOS	F		E			D

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	31.0	24.0				55.0		25.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	27.5	18.5				50.5		20.5
Max Q Clear Time (g_c+I1), s	26.2	21.0				5.3		23.0
Green Ext Time (p_c), s	0.3	0.0				3.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	72.9
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	942	77	0	748	524	0	0	0	913	22	556
Future Volume (veh/h)	324	942	77	0	748	524	0	0	0	913	22	556
Number	5	2	12	1	6	16				7	4	14
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		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	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	348	1013	83	0	804	0				999	0	598
Adj No. of Lanes	2	2	1	0	3	1				2	0	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	415	1892	824	0	1969	613				1462	0	651
Arrive On Green	0.12	0.53	0.53	0.00	0.13	0.00				0.41	0.00	0.41
Sat Flow, veh/h	3442	3539	1542	0	5253	1583				3548	0	1580
Grp Volume(v), veh/h	348	1013	83	0	804	0				999	0	598
Grp Sat Flow(s),veh/h/ln	1721	1770	1542	0	1695	1583				1774	0	1580
Q Serve(g_s), s	14.8	28.0	4.0	0.0	21.8	0.0				34.6	0.0	53.7
Cycle Q Clear(g_c), s	14.8	28.0	4.0	0.0	21.8	0.0				34.6	0.0	53.7
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	415	1892	824	0	1969	613				1462	0	651
V/C Ratio(X)	0.84	0.54	0.10	0.00	0.41	0.00				0.68	0.00	0.92
Avail Cap(c_a), veh/h	574	1892	824	0	1969	613				1632	0	727
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.48	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	64.5	22.8	17.2	0.0	49.6	0.0				36.1	0.0	41.7
Incr Delay (d2), s/veh	7.8	1.1	0.2	0.0	0.3	0.0				1.0	0.0	15.7
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	7.5	13.9	1.7	0.0	10.3	0.0				17.1	0.0	42.2
LnGrp Delay(d),s/veh	72.3	23.9	17.4	0.0	49.9	0.0				37.1	0.0	57.4
LnGrp LOS	E	C	B		D					D		E
Approach Vol, veh/h		1444			804						1597	
Approach Delay, s/veh		35.2			49.9						44.7	
Approach LOS		D			D						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		84.2		65.8	22.1	62.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		72.5		68.5	24.5	43.5		
Max Q Clear Time (g_c+I1), s		30.0		55.7	16.8	23.8		
Green Ext Time (p_c), s		19.7		5.6	0.8	12.7		

Intersection Summary	
HCM 2010 Ctrl Delay	42.2
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	601	1254	0	0	1014	339	257	0	436	0	0	0
Future Volume (veh/h)	601	1254	0	0	1014	339	257	0	436	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	646	1348	0	0	1090	0	276	0	469			
Adj No. of Lanes	1	2	0	0	3	1	1	0	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	656	2277	0	0	1256	391	538	0	480			
Arrive On Green	0.74	1.00	0.00	0.00	0.25	0.00	0.30	0.00	0.30			
Sat Flow, veh/h	1774	3632	0	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	646	1348	0	0	1090	0	276	0	469			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	52.4	0.0	0.0	0.0	30.8	0.0	19.3	0.0	44.0			
Cycle Q Clear(g_c), s	52.4	0.0	0.0	0.0	30.8	0.0	19.3	0.0	44.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	656	2277	0	0	1256	391	538	0	480			
V/C Ratio(X)	0.98	0.59	0.00	0.00	0.87	0.00	0.51	0.00	0.98			
Avail Cap(c_a), veh/h	674	2277	0	0	1256	391	538	0	480			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.76	0.76	0.00	0.00	0.97	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	19.1	0.0	0.0	0.0	54.1	0.0	43.1	0.0	51.7			
Incr Delay (d2), s/veh	26.2	0.9	0.0	0.0	8.1	0.0	3.5	0.0	35.6			
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	29.5	0.3	0.0	0.0	15.4	0.0	9.9	0.0	24.0			
LnGrp Delay(d),s/veh	45.3	0.9	0.0	0.0	62.2	0.0	46.6	0.0	87.4			
LnGrp LOS	D	A			E		D		F			
Approach Vol, veh/h		1994			1090			745				
Approach Delay, s/veh		15.3			62.2			72.3				
Approach LOS		B			E			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		100.5			59.5	41.0		49.5
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		96.0			56.5	35.0		45.0
Max Q Clear Time (g_c+I1), s		2.0			54.4	32.8		46.0
Green Ext Time (p_c), s		43.1			0.6	2.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	39.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	1320	187	85	1034	3	135	5	62	23	11	114
Future Volume (veh/h)	183	1320	187	85	1034	3	135	5	62	23	11	114
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		0.97	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	197	1419	201	91	1112	3	145	5	67	25	12	123
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	227	1915	576	220	1950	5	216	41	547	44	47	478
Arrive On Green	0.13	0.38	0.37	0.25	0.74	0.74	0.06	0.37	0.36	0.02	0.33	0.33
Sat Flow, veh/h	1774	5085	1542	1774	5236	14	3442	111	1488	1774	141	1450
Grp Volume(v), veh/h	197	1419	201	91	720	395	145	0	72	25	0	135
Grp Sat Flow(s),veh/h/ln	1774	1695	1542	1774	1695	1860	1721	0	1599	1774	0	1591
Q Serve(g_s), s	16.3	36.2	14.1	6.5	14.1	14.1	6.2	0.0	4.5	2.1	0.0	9.4
Cycle Q Clear(g_c), s	16.3	36.2	14.1	6.5	14.1	14.1	6.2	0.0	4.5	2.1	0.0	9.4
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.93	1.00		0.91
Lane Grp Cap(c), veh/h	227	1915	576	220	1263	693	216	0	588	44	0	525
V/C Ratio(X)	0.87	0.74	0.35	0.41	0.57	0.57	0.67	0.00	0.12	0.57	0.00	0.26
Avail Cap(c_a), veh/h	331	1915	576	220	1263	693	275	0	588	75	0	525
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	0.82	0.82	0.82	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.2	40.4	33.9	51.9	13.8	13.8	68.8	0.0	31.5	72.3	0.0	37.0
Incr Delay (d2), s/veh	14.4	2.5	1.6	1.0	1.5	2.8	4.2	0.0	0.4	10.9	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	17.4	6.2	3.2	6.7	7.5	3.1	0.0	2.1	1.2	0.0	4.3
LnGrp Delay(d),s/veh	78.6	42.9	35.4	52.9	15.3	16.6	73.0	0.0	32.0	83.2	0.0	38.1
LnGrp LOS	E	D	D	D	B	B	E		C	F		D
Approach Vol, veh/h		1817			1206			217			160	
Approach Delay, s/veh		45.9			18.6			59.4			45.2	
Approach LOS		D			B			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	22.6	60.5	13.4	53.5	23.2	59.9	7.7	59.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	56.0	11.5	49.0	27.5	44.0	5.8	54.7
Max Q Clear Time (g_c+I1), s	18.3	38.2	8.2	11.4	18.3	16.1	4.1	6.5
Green Ext Time (p_c), s	0.3	10.5	0.2	0.9	0.4	8.3	0.1	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	37.1
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	731	572	167	475	95	460	263	205	154	293	73
Future Volume (veh/h)	160	731	572	167	475	95	460	263	205	154	293	73
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		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	172	786	0	180	511	102	495	283	220	166	315	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	321	2136	665	238	1315	257	621	1200	537	224	991	443
Arrive On Green	0.30	0.70	0.00	0.07	0.31	0.30	0.12	0.34	0.34	0.06	0.28	0.00
Sat Flow, veh/h	1774	5085	1583	3442	4270	834	5003	3539	1582	3442	3539	1583
Grp Volume(v), veh/h	172	786	0	180	403	210	495	283	220	166	315	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1715	1668	1770	1582	1721	1770	1583
Q Serve(g_s), s	12.1	9.3	0.0	7.7	14.0	14.5	14.4	8.6	16.0	7.1	10.6	0.0
Cycle Q Clear(g_c), s	12.1	9.3	0.0	7.7	14.0	14.5	14.4	8.6	16.0	7.1	10.6	0.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	321	2136	665	238	1044	528	621	1200	537	224	991	443
V/C Ratio(X)	0.54	0.37	0.00	0.76	0.39	0.40	0.80	0.24	0.41	0.74	0.32	0.00
Avail Cap(c_a), veh/h	321	2136	665	321	1044	528	714	1200	537	294	991	443
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	47.0	14.4	0.0	68.6	40.8	41.0	63.9	35.6	38.0	68.9	42.7	0.0
Incr Delay (d2), s/veh	1.7	0.5	0.0	6.8	1.1	2.2	5.6	0.5	2.3	7.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	4.3	0.0	3.9	6.7	7.2	7.0	4.3	7.3	3.6	5.3	0.0
LnGrp Delay(d),s/veh	48.8	14.9	0.0	75.4	41.8	43.2	69.4	36.1	40.4	75.9	43.5	0.0
LnGrp LOS	D	B		E	D	D	E	D	D	E	D	
Approach Vol, veh/h		958			793			998			481	
Approach Delay, s/veh		21.0			49.8			53.6			54.7	
Approach LOS		C			D			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	14.4	67.0	22.6	46.0	31.2	50.2	13.7	54.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	56.1	20.9	41.5	23.9	45.7	12.3	50.1
Max Q Clear Time (g_c+I1), s	9.7	11.3	16.4	12.6	14.1	16.5	9.1	18.0
Green Ext Time (p_c), s	0.2	7.2	1.7	2.1	4.2	4.0	0.1	5.0

Intersection Summary	
HCM 2010 Ctrl Delay	43.1
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	54	52	69	51	90	73
Future Vol, veh/h	54	52	69	51	90	73
Conflicting Peds, #/hr	4	0	0	4	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	56	74	55	97	78

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	130	0	-	0	275	107
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	172	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1455	-	-	-	715	947
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	858	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1449	-	-	-	684	942
Mov Cap-2 Maneuver	-	-	-	-	684	-
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	822	-

Approach	EB	WB	SB
HCM Control Delay, s	3.9	0	10.9
HCM LOS			B

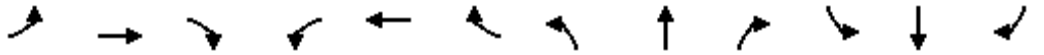
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1449	-	-	-	780
HCM Lane V/C Ratio	0.04	-	-	-	0.225
HCM Control Delay (s)	7.6	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	54	52	0	69	51	0	90	73
Future Vol, veh/h	0	54	52	0	69	51	0	90	73
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	58	56	0	74	55	0	97	78
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.4	8	8.5
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	51%	0%	55%
Vol Thru, %	49%	57%	0%
Vol Right, %	0%	42%	45%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	106	120	163
LT Vol	54	0	90
Through Vol	52	69	0
RT Vol	0	51	73
Lane Flow Rate	114	129	175
Geometry Grp	1	1	1
Degree of Util (X)	0.145	0.151	0.21
Departure Headway (Hd)	4.573	4.21	4.322
Convergence, Y/N	Yes	Yes	Yes
Cap	786	854	833
Service Time	2.59	2.226	2.338
HCM Lane V/C Ratio	0.145	0.151	0.21
HCM Control Delay	8.4	8	8.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.5	0.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	62	136	131	67	75	144	839	160	67	944	21
Future Volume (veh/h)	14	62	136	131	67	75	144	839	160	67	944	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	15	67	146	141	72	81	155	902	172	72	1015	23
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	100	218	186	507	424	202	1552	661	103	1354	31
Arrive On Green	0.02	0.19	0.19	0.10	0.27	0.27	0.11	0.44	0.44	0.06	0.38	0.38
Sat Flow, veh/h	1774	522	1138	1774	1863	1560	1774	3539	1508	1774	3536	80
Grp Volume(v), veh/h	15	0	213	141	72	81	155	902	172	72	508	530
Grp Sat Flow(s),veh/h/ln	1774	0	1660	1774	1863	1560	1774	1770	1508	1774	1770	1846
Q Serve(g_s), s	0.6	0.0	9.2	6.0	2.3	3.1	6.6	14.8	5.6	3.1	19.2	19.2
Cycle Q Clear(g_c), s	0.6	0.0	9.2	6.0	2.3	3.1	6.6	14.8	5.6	3.1	19.2	19.2
Prop In Lane	1.00		0.69	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	43	0	318	186	507	424	202	1552	661	103	678	707
V/C Ratio(X)	0.35	0.00	0.67	0.76	0.14	0.19	0.77	0.58	0.26	0.70	0.75	0.75
Avail Cap(c_a), veh/h	126	0	655	207	819	686	229	1552	661	129	678	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.1	0.0	29.2	33.6	21.3	21.6	33.3	16.4	13.8	35.7	20.6	20.7
Incr Delay (d2), s/veh	4.7	0.0	2.4	13.5	0.1	0.2	13.0	1.6	1.0	11.5	7.5	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	4.4	3.6	1.2	1.4	4.0	7.6	2.5	1.8	10.7	11.1
LnGrp Delay(d),s/veh	41.9	0.0	31.6	47.2	21.4	21.8	46.2	18.0	14.7	47.3	28.1	27.8
LnGrp LOS	D		C	D	C	C	D	B	B	D	C	C
Approach Vol, veh/h		228			294			1229			1110	
Approach Delay, s/veh		32.3			33.9			21.1			29.2	
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	8.5	37.9	12.1	18.8	12.8	33.6	5.9	25.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	33.4	8.5	30.0	9.5	29.0	5.0	33.5
Max Q Clear Time (g_c+I1), s	5.1	16.8	8.0	11.2	8.6	21.2	2.6	5.1
Green Ext Time (p_c), s	0.0	12.0	0.0	1.9	0.0	6.4	0.0	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	26.4
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	108	3	49	183	0	29
Future Vol, veh/h	108	3	49	183	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	116	3	53	197	0	31

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	119	0	420	118
Stage 1	-	-	-	-	118	-
Stage 2	-	-	-	-	302	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1469	-	590	934
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	750	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1469	-	566	934
Mov Cap-2 Maneuver	-	-	-	-	566	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	719	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	9
HCM LOS			A

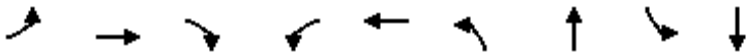
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	934	-	-	1469	-
HCM Lane V/C Ratio	0.033	-	-	0.036	-
HCM Control Delay (s)	9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	108	3	0	49	183	0	0	29
Future Vol, veh/h	0	108	3	0	49	183	0	0	29
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	116	3	0	53	197	0	0	31
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.9	8.8	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	0%	0%	21%
Vol Thru, %	0%	97%	79%
Vol Right, %	100%	3%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	29	111	232
LT Vol	0	0	49
Through Vol	0	108	183
RT Vol	29	3	0
Lane Flow Rate	31	119	249
Geometry Grp	1	1	1
Degree of Util (X)	0.036	0.138	0.286
Departure Headway (Hd)	4.131	4.16	4.121
Convergence, Y/N	Yes	Yes	Yes
Cap	872	852	868
Service Time	2.131	2.231	2.164
HCM Lane V/C Ratio	0.036	0.14	0.287
HCM Control Delay	7.3	7.9	8.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.5	1.2



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	141	447	60	66	876	214	90	8	82
v/c Ratio	0.67	0.25	0.10	0.57	0.60	0.68	0.11	0.11	0.13
Control Delay	70.5	30.2	0.3	82.1	49.8	68.6	11.2	72.6	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.5	30.2	0.3	82.1	49.8	68.6	11.2	72.6	30.9
Queue Length 50th (ft)	115	98	0	60	287	91	20	7	37
Queue Length 95th (ft)	184	128	0	110	336	135	57	m17	82
Internal Link Dist (ft)		260			669		1452		850
Turn Bay Length (ft)	200			210		250			
Base Capacity (vph)	251	1809	624	122	1448	316	807	74	630
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.25	0.10	0.54	0.60	0.68	0.11	0.11	0.13

Intersection Summary

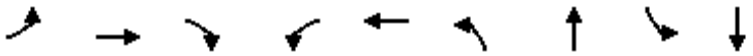
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	32	404	293	131	266	232	907	401	160	614
v/c Ratio	0.30	0.86	1.04	0.18	0.40	0.80	0.77	0.58	1.01	0.67
Control Delay	54.3	50.6	108.1	21.4	12.8	62.3	36.0	13.3	123.1	38.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	50.6	108.1	21.4	12.8	62.3	36.0	13.3	123.1	38.8
Queue Length 50th (ft)	21	224	~213	57	58	146	282	64	~113	195
Queue Length 95th (ft)	52	#368	#389	100	127	#267	370	169	#250	265
Internal Link Dist (ft)		1354		1127			593			1800
Turn Bay Length (ft)	450		140			220		380	220	
Base Capacity (vph)	109	544	281	760	675	315	1180	689	158	911
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.74	1.04	0.17	0.39	0.74	0.77	0.58	1.01	0.67

Intersection Summary

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

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	197	1419	201	91	1115	145	72	25	135
v/c Ratio	0.76	0.73	0.29	0.48	0.64	0.57	0.11	0.34	0.24
Control Delay	79.3	42.2	8.7	38.1	12.4	76.1	14.9	71.5	5.7
Queue Delay	0.0	48.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.3	90.8	9.3	38.1	12.4	76.1	14.9	71.5	5.7
Queue Length 50th (ft)	187	435	24	87	86	71	18	25	12
Queue Length 95th (ft)	267	494	82	m143	333	109	54	m56	47
Internal Link Dist (ft)		330			669		1452		850
Turn Bay Length (ft)	200			210		250			
Base Capacity (vph)	330	1949	684	188	1738	274	642	74	574
Starvation Cap Reductn	0	690	223	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	1.13	0.44	0.48	0.64	0.53	0.11	0.34	0.24

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	15	213	141	72	81	155	902	172	72	1038
v/c Ratio	0.12	0.60	0.68	0.12	0.16	0.68	0.55	0.23	0.56	0.77
Control Delay	39.5	23.0	53.7	20.1	9.4	51.5	18.5	8.6	56.0	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.5	23.0	53.7	20.1	9.4	51.5	18.5	8.6	56.0	27.3
Queue Length 50th (ft)	7	50	65	24	7	71	158	20	33	216
Queue Length 95th (ft)	28	111	#182	60	40	#192	294	74	#108	#422
Internal Link Dist (ft)		1354		1127			593			1792
Turn Bay Length (ft)	450		140			220		380	220	
Base Capacity (vph)	126	714	206	821	707	229	1647	744	128	1350
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.30	0.68	0.09	0.11	0.68	0.55	0.23	0.56	0.77

Intersection Summary

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

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2023	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	556	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	785	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	785	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	12.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line ON / Tracy OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2466	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	677	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	957	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	957	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	14.7	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	3535	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	930	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1315	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1315	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	20.2	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy ON / Naglee OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	3976	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1046	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1479	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1479	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.9	mi/h
Number of lanes, N	3	
Density, D	22.8	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	4906	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	1264	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1787	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1787	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	62.9	mi/h
Number of lanes, N	3	
Density, D	28.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line Rd ON /Tracy Bl OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	5152	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	1328	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1877	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1877	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	61.8	mi/h
Number of lanes, N	3	
Density, D	30.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2423	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	624	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	883	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	883	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	13.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy Blvd ON / Naglee Rd OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2958	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	762	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1077	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1077	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	16.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	158	471	256	234	383	153
Future Volume (veh/h)	158	471	256	234	383	153
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	176	523	284	260	426	170
Adj No. of Lanes	1	2	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	340	1304	640	544	491	1272
Arrive On Green	0.19	0.19	0.34	0.34	0.28	0.68
Sat Flow, veh/h	1774	2787	1863	1583	1774	1863
Grp Volume(v), veh/h	176	523	284	260	426	170
Grp Sat Flow(s),veh/h/ln	1774	1393	1863	1583	1774	1863
Q Serve(g_s), s	5.7	7.8	7.5	8.2	14.6	2.0
Cycle Q Clear(g_c), s	5.7	7.8	7.5	8.2	14.6	2.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	340	1304	640	544	491	1272
V/C Ratio(X)	0.52	0.40	0.44	0.48	0.87	0.13
Avail Cap(c_a), veh/h	515	1580	640	544	585	1272
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	23.1	11.1	16.2	16.4	21.9	3.5
Incr Delay (d2), s/veh	1.2	0.2	2.2	3.0	11.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.0	4.3	4.0	8.7	1.1
LnGrp Delay(d),s/veh	24.3	11.3	18.4	19.4	33.5	3.7
LnGrp LOS	C	B	B	B	C	A
Approach Vol, veh/h	699		544			596
Approach Delay, s/veh	14.6		18.9			25.0
Approach LOS	B		B			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	21.6	25.9				47.5		16.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	20.5	18.0				43.0		18.0
Max Q Clear Time (g_c+I1), s	16.6	10.2				4.0		9.8
Green Ext Time (p_c), s	0.6	2.3				4.0		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	19.2
HCM 2010 LOS	B

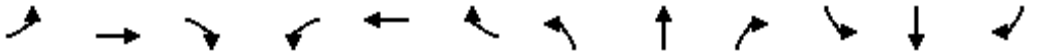
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	379	487	129	354	517	177
Future Volume (veh/h)	379	487	129	354	517	177
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	408	524	139	381	556	190
Adj No. of Lanes	1	2	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	458	1661	471	401	600	1195
Arrive On Green	0.26	0.26	0.25	0.25	0.34	0.64
Sat Flow, veh/h	1774	2787	1863	1583	1774	1863
Grp Volume(v), veh/h	408	524	139	381	556	190
Grp Sat Flow(s),veh/h/ln	1774	1393	1863	1583	1774	1863
Q Serve(g_s), s	17.6	7.4	4.8	18.8	24.0	3.2
Cycle Q Clear(g_c), s	17.6	7.4	4.8	18.8	24.0	3.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	458	1661	471	401	600	1195
V/C Ratio(X)	0.89	0.32	0.29	0.95	0.93	0.16
Avail Cap(c_a), veh/h	468	1678	471	401	625	1195
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	28.4	8.0	24.0	29.2	25.4	5.7
Incr Delay (d2), s/veh	18.6	0.1	1.6	34.2	19.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	2.9	2.7	12.1	15.0	1.7
LnGrp Delay(d),s/veh	47.0	8.1	25.6	63.4	45.1	6.0
LnGrp LOS	D	A	C	E	D	A
Approach Vol, veh/h	932		520			746
Approach Delay, s/veh	25.1		53.3			35.2
Approach LOS	C		D			D

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	30.9	24.1				55.0		24.5
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	27.5	18.5				50.5		20.5
Max Q Clear Time (g_c+I1), s	26.0	20.8				5.2		19.6
Green Ext Time (p_c), s	0.4	0.0				3.6		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	35.2
HCM 2010 LOS	D

APPENDIX B

EXISTING PLUS PROJECT CONDITIONS TECHNICAL CALCULATIONS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	105	214	17	78	3	593	93	70	3	5	49
Future Volume (veh/h)	55	105	214	17	78	3	593	93	70	3	5	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	61	117	238	19	87	3	659	103	78	3	6	54
Adj No. of Lanes	2	2	1	1	3	0	2	2	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	675	302	40	890	30	744	2338	1045	14	842	716
Arrive On Green	0.04	0.19	0.19	0.02	0.18	0.17	0.22	0.66	0.66	0.01	0.45	0.45
Sat Flow, veh/h	3442	3539	1583	1774	5049	172	3442	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	61	117	238	19	58	32	659	103	78	3	6	54
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1695	1831	1721	1770	1583	1774	1863	1583
Q Serve(g_s), s	2.3	3.7	19.3	1.4	1.9	2.0	25.1	1.4	2.4	0.2	0.2	2.6
Cycle Q Clear(g_c), s	2.3	3.7	19.3	1.4	1.9	2.0	25.1	1.4	2.4	0.2	0.2	2.6
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	675	302	40	598	323	744	2338	1045	14	842	716
V/C Ratio(X)	0.48	0.17	0.79	0.47	0.10	0.10	0.89	0.04	0.07	0.22	0.01	0.08
Avail Cap(c_a), veh/h	178	1460	653	76	1369	739	892	2338	1045	72	842	716
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.7	45.7	52.0	65.2	46.6	46.6	51.3	8.0	8.2	66.6	20.3	21.0
Incr Delay (d2), s/veh	2.8	0.1	4.6	8.5	0.1	0.1	9.3	0.0	0.1	8.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.8	8.9	0.8	0.9	1.0	12.9	0.7	1.1	0.1	0.1	1.1
LnGrp Delay(d),s/veh	66.5	45.8	56.6	73.6	46.7	46.8	60.6	8.0	8.3	74.5	20.3	21.0
LnGrp LOS	E	D	E	E	D	D	E	A	A	E	C	C
Approach Vol, veh/h		416			109			840			63	
Approach Delay, s/veh		55.0			51.4			49.3			23.5	
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	5.0	93.2	7.0	29.8	33.2	65.0	9.0	27.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	51.5	5.3	55.2	34.5	22.0	6.5	54.0
Max Q Clear Time (g_c+I1), s	2.2	4.4	3.4	21.3	27.1	4.6	4.3	4.0
Green Ext Time (p_c), s	0.0	1.2	0.0	2.2	1.6	0.9	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	50.0
HCM 2010 LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	172	472	256	234	384	153
Future Volume (veh/h)	172	472	256	234	384	153
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	191	524	284	260	427	170
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	469	418	545	463	482	1158
Arrive On Green	0.26	0.26	0.29	0.29	0.27	0.62
Sat Flow, veh/h	1774	1583	1863	1583	1774	1863
Grp Volume(v), veh/h	191	524	284	260	427	170
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863
Q Serve(g_s), s	6.2	18.5	8.9	9.7	16.2	2.7
Cycle Q Clear(g_c), s	6.2	18.5	8.9	9.7	16.2	2.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	469	418	545	463	482	1158
V/C Ratio(X)	0.41	1.25	0.52	0.56	0.89	0.15
Avail Cap(c_a), veh/h	469	418	545	463	532	1158
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	21.2	25.8	20.7	21.0	24.4	5.5
Incr Delay (d2), s/veh	0.6	131.9	3.5	4.9	15.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	23.4	5.1	4.9	9.9	1.5
LnGrp Delay(d),s/veh	21.8	157.6	24.2	25.8	39.8	5.8
LnGrp LOS	C	F	C	C	D	A
Approach Vol, veh/h	715		544			597
Approach Delay, s/veh	121.3		25.0			30.1
Approach LOS	F		C			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.0	24.5				47.5		22.5
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	20.5	18.0				43.0		18.0
Max Q Clear Time (g_c+I1), s	18.2	11.7				4.7		20.5
Green Ext Time (p_c), s	0.4	2.0				4.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	63.8
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	539	57	0	596	357	0	0	0	310	38	401
Future Volume (veh/h)	132	539	57	0	596	357	0	0	0	310	38	401
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	147	599	63	0	662	0				374	0	446
Adj No. of Lanes	2	2	1	0	3	1				2	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	805	2216	991	0	1839	572				1108	0	494
Arrive On Green	0.23	0.63	0.63	0.00	0.72	0.00				0.31	0.00	0.31
Sat Flow, veh/h	3442	3539	1582	0	5253	1583				3548	0	1583
Grp Volume(v), veh/h	147	599	63	0	662	0				374	0	446
Grp Sat Flow(s),veh/h/ln	1721	1770	1582	0	1695	1583				1774	0	1583
Q Serve(g_s), s	4.4	9.9	2.0	0.0	6.3	0.0				10.5	0.0	35.1
Cycle Q Clear(g_c), s	4.4	9.9	2.0	0.0	6.3	0.0				10.5	0.0	35.1
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	805	2216	991	0	1839	572				1108	0	494
V/C Ratio(X)	0.18	0.27	0.06	0.00	0.36	0.00				0.34	0.00	0.90
Avail Cap(c_a), veh/h	805	2216	991	0	1839	572				1583	0	706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.51	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	39.9	10.9	9.5	0.0	12.4	0.0				34.4	0.0	42.8
Incr Delay (d2), s/veh	0.1	0.3	0.1	0.0	0.3	0.0				0.2	0.0	11.3
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	2.1	4.9	0.9	0.0	2.9	0.0				5.2	0.0	28.6
LnGrp Delay(d),s/veh	40.0	11.2	9.6	0.0	12.7	0.0				34.5	0.0	54.1
LnGrp LOS	D	B	A		B					C		D
Approach Vol, veh/h		809			662						820	
Approach Delay, s/veh		16.3			12.7						45.2	
Approach LOS		B			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		85.4		44.6	34.4	51.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		63.5		57.5	12.5	46.5		
Max Q Clear Time (g_c+I1), s		11.9		37.1	6.4	8.3		
Green Ext Time (p_c), s		5.6		3.0	2.5	4.8		

Intersection Summary	
HCM 2010 Ctrl Delay	25.6
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	469	0	0	885	273	68	0	132	0	0	0
Future Volume (veh/h)	380	469	0	0	885	273	68	0	132	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	422	521	0	0	983	0	76	0	147			
Adj No. of Lanes	1	2	0	0	3	1	1	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	502	1919	0	0	1162	362	703	0	627			
Arrive On Green	0.57	1.00	0.00	0.00	0.23	0.00	0.40	0.00	0.40			
Sat Flow, veh/h	1774	3632	0	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	422	521	0	0	983	0	76	0	147			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	25.6	0.0	0.0	0.0	24.0	0.0	3.5	0.0	8.0			
Cycle Q Clear(g_c), s	25.6	0.0	0.0	0.0	24.0	0.0	3.5	0.0	8.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	502	1919	0	0	1162	362	703	0	627			
V/C Ratio(X)	0.84	0.27	0.00	0.00	0.85	0.00	0.11	0.00	0.23			
Avail Cap(c_a), veh/h	502	1919	0	0	1162	362	703	0	627			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.96	0.96	0.00	0.00	0.98	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	25.8	0.0	0.0	0.0	48.0	0.0	24.8	0.0	26.1			
Incr Delay (d2), s/veh	11.6	0.3	0.0	0.0	7.5	0.0	0.3	0.0	0.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.8	0.1	0.0	0.0	12.1	0.0	1.8	0.0	3.7			
LnGrp Delay(d),s/veh	37.4	0.3	0.0	0.0	55.5	0.0	25.1	0.0	27.0			
LnGrp LOS	D	A			E		C		C			
Approach Vol, veh/h		943			983			223				
Approach Delay, s/veh		16.9			55.5			26.3				
Approach LOS		B			E			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		74.5			40.8	33.7		55.5
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		70.0			36.3	29.2		51.0
Max Q Clear Time (g_c+I1), s		2.0			27.6	26.0		10.0
Green Ext Time (p_c), s		5.6			3.3	1.8		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	35.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	403	71	68	779	9	265	12	105	7	7	67
Future Volume (veh/h)	127	403	71	68	779	9	265	12	105	7	7	67
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		1.00	1.00		1.00	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	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	141	448	79	76	866	10	294	13	117	8	8	74
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	1758	541	103	1355	16	318	74	664	24	59	548
Arrive On Green	0.14	0.35	0.34	0.02	0.09	0.09	0.09	0.46	0.46	0.01	0.38	0.38
Sat Flow, veh/h	1774	5085	1583	1774	5183	60	3442	161	1446	1774	156	1440
Grp Volume(v), veh/h	141	448	79	76	566	310	294	0	130	8	0	82
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1852	1721	0	1606	1774	0	1595
Q Serve(g_s), s	9.6	8.2	3.4	5.5	21.0	21.0	11.0	0.0	6.2	0.6	0.0	4.4
Cycle Q Clear(g_c), s	9.6	8.2	3.4	5.5	21.0	21.0	11.0	0.0	6.2	0.6	0.0	4.4
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.90	1.00		0.90
Lane Grp Cap(c), veh/h	252	1758	541	103	887	484	318	0	738	24	0	607
V/C Ratio(X)	0.56	0.25	0.15	0.74	0.64	0.64	0.93	0.00	0.18	0.33	0.00	0.14
Avail Cap(c_a), veh/h	252	1758	541	123	887	484	318	0	738	75	0	607
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.9	30.5	17.1	62.8	53.5	53.5	58.6	0.0	20.8	63.5	0.0	26.4
Incr Delay (d2), s/veh	2.7	0.3	0.6	14.9	3.0	5.5	31.9	0.0	0.5	7.9	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	3.9	1.6	3.2	10.2	11.5	6.6	0.0	2.9	0.3	0.0	2.0
LnGrp Delay(d),s/veh	54.7	30.9	17.7	77.7	56.5	58.9	90.4	0.0	21.3	71.5	0.0	26.9
LnGrp LOS	D	C	B	E	E	E	F		C	E		C
Approach Vol, veh/h		668			952			424			90	
Approach Delay, s/veh		34.3			59.0			69.2			30.9	
Approach LOS		C			E			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	11.6	48.9	16.0	53.5	22.5	38.0	5.8	63.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	43.0	11.5	49.0	18.0	33.5	5.0	55.5
Max Q Clear Time (g_c+I1), s	7.4	10.2	13.0	6.4	11.6	23.0	2.6	8.2
Green Ext Time (p_c), s	0.0	4.0	0.0	0.5	2.0	3.9	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	52.1
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	277	187	332	412	53	454	263	395	46	182	66
Future Volume (veh/h)	39	277	187	332	412	53	454	263	395	46	182	66
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		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	43	308	0	369	458	59	504	292	439	51	202	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	2	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	430	1252	390	1019	1369	173	1209	1084	484	98	330	148
Arrive On Green	0.16	0.16	0.00	0.30	0.30	0.30	0.24	0.31	0.31	0.03	0.09	0.00
Sat Flow, veh/h	1774	5085	1583	3442	4565	577	5003	3539	1582	3442	3539	1583
Grp Volume(v), veh/h	43	308	0	369	338	179	504	292	439	51	202	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1751	1668	1770	1582	1721	1770	1583
Q Serve(g_s), s	2.7	6.9	0.0	11.0	10.1	10.4	11.0	8.1	34.6	1.9	7.1	0.0
Cycle Q Clear(g_c), s	2.7	6.9	0.0	11.0	10.1	10.4	11.0	8.1	34.6	1.9	7.1	0.0
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	430	1252	390	1019	1017	525	1209	1084	484	98	330	148
V/C Ratio(X)	0.10	0.25	0.00	0.36	0.33	0.34	0.42	0.27	0.91	0.52	0.61	0.00
Avail Cap(c_a), veh/h	430	1252	390	1019	1017	525	1209	1293	578	265	1157	518
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.4	43.8	0.0	36.1	35.4	35.5	41.6	34.1	43.3	62.3	56.7	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.0	0.2	0.9	1.8	0.2	0.1	16.2	4.2	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.3	0.0	5.3	4.8	5.3	5.1	4.0	17.3	1.0	3.6	0.0
LnGrp Delay(d),s/veh	42.5	44.2	0.0	36.3	36.3	37.3	41.8	34.2	59.5	66.5	58.5	0.0
LnGrp LOS	D	D		D	D	D	D	C	E	E	E	
Approach Vol, veh/h		351			886			1235			253	
Approach Delay, s/veh		44.0			36.5			46.3			60.1	
Approach LOS		D			D			D			E	

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	36.0	35.4	16.1	35.5	43.0	7.7	43.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	24.0	31.5	14.5	42.0	17.0	38.5	9.5	47.0
Max Q Clear Time (g_c+I1), s	13.0	8.9	13.0	9.1	4.7	12.4	3.9	36.6
Green Ext Time (p_c), s	1.1	2.0	0.4	1.3	1.1	3.2	0.1	2.7

Intersection Summary	
HCM 2010 Ctrl Delay	44.1
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Traffic Vol, veh/h	50	117	78	150	76	19
Future Vol, veh/h	50	117	78	150	76	19
Conflicting Peds, #/hr	13	0	0	13	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	130	87	167	84	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	254	0	-	0	412	184
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	241	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1311	-	-	-	596	858
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1295	-	-	-	567	847
Mov Cap-2 Maneuver	-	-	-	-	567	-
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	761	-

Approach	EB	WB	SW
HCM Control Delay, s	2.4	0	12.2
HCM LOS			B

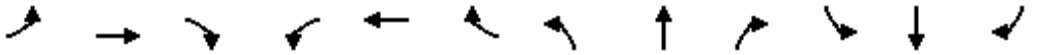
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1295	-	-	-	607
HCM Lane V/C Ratio	0.043	-	-	-	0.174
HCM Control Delay (s)	7.9	0	-	-	12.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SWU	SWL	SWR
Traffic Vol, veh/h	0	50	117	0	78	150	0	76	19
Future Vol, veh/h	0	50	117	0	78	150	0	76	19
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	56	130	0	87	167	0	84	21
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SW
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SW		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SW	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.9	8.6	8.8
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SWLn1
Vol Left, %	30%	0%	80%
Vol Thru, %	70%	34%	0%
Vol Right, %	0%	66%	20%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	167	228	95
LT Vol	50	0	76
Through Vol	117	78	0
RT Vol	0	150	19
Lane Flow Rate	186	253	106
Geometry Grp	1	1	1
Degree of Util (X)	0.232	0.282	0.144
Departure Headway (Hd)	4.509	4.011	4.905
Convergence, Y/N	Yes	Yes	Yes
Cap	798	897	732
Service Time	2.53	2.029	2.934
HCM Lane V/C Ratio	0.233	0.282	0.145
HCM Control Delay	8.9	8.6	8.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.9	1.2	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	168	208	264	118	239	214	816	361	144	524	33
Future Volume (veh/h)	29	168	208	264	118	239	214	816	361	144	524	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.95	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	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	32	187	231	293	131	266	238	907	401	160	582	37
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	207	256	276	739	598	277	1154	500	155	870	55
Arrive On Green	0.03	0.27	0.27	0.16	0.40	0.40	0.16	0.33	0.33	0.09	0.26	0.25
Sat Flow, veh/h	1774	753	930	1774	1863	1509	1774	3539	1534	1774	3379	215
Grp Volume(v), veh/h	32	0	418	293	131	266	238	907	401	160	304	315
Grp Sat Flow(s),veh/h/ln	1774	0	1683	1774	1863	1509	1774	1770	1534	1774	1770	1824
Q Serve(g_s), s	1.8	0.0	24.6	16.0	4.7	13.3	13.4	23.9	24.5	9.0	15.8	15.9
Cycle Q Clear(g_c), s	1.8	0.0	24.6	16.0	4.7	13.3	13.4	23.9	24.5	9.0	15.8	15.9
Prop In Lane	1.00		0.55	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	60	0	462	276	739	598	277	1154	500	155	456	470
V/C Ratio(X)	0.53	0.00	0.90	1.06	0.18	0.44	0.86	0.79	0.80	1.03	0.67	0.67
Avail Cap(c_a), veh/h	107	0	500	276	739	598	309	1154	500	155	456	470
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	0.0	36.1	43.4	20.1	22.7	42.2	31.4	31.6	46.9	34.2	34.3
Incr Delay (d2), s/veh	7.0	0.0	18.9	71.0	0.1	0.5	19.3	5.4	12.7	80.2	7.6	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	13.8	13.2	2.4	5.6	8.0	12.5	12.2	7.8	8.7	9.0
LnGrp Delay(d),s/veh	55.9	0.0	55.0	114.3	20.2	23.2	61.6	36.8	44.3	127.3	41.8	41.7
LnGrp LOS	E		D	F	C	C	E	D	D	F	D	D
Approach Vol, veh/h		450			690			1546			779	
Approach Delay, s/veh		55.1			61.3			42.5			59.3	
Approach LOS		E			E			D			E	

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	13.0	37.5	20.0	32.2	20.1	30.4	7.5	44.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	33.0	15.5	30.0	17.4	24.1	5.7	39.8
Max Q Clear Time (g_c+I1), s	11.0	26.5	18.0	26.6	15.4	17.9	3.8	15.3
Green Ext Time (p_c), s	0.0	5.1	0.0	1.1	0.1	4.9	0.0	4.8

Intersection Summary	
HCM 2010 Ctrl Delay	51.7
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	5	195	82	25	109	13
Future Vol, veh/h	5	195	82	25	109	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	217	91	28	121	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	119	0	-	0	333	105
Stage 1	-	-	-	-	105	-
Stage 2	-	-	-	-	228	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1469	-	-	-	662	949
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	810	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1469	-	-	-	659	949
Mov Cap-2 Maneuver	-	-	-	-	659	-
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	807	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1469	-	-	-	659	949
HCM Lane V/C Ratio	0.004	-	-	-	0.184	0.015
HCM Control Delay (s)	7.5	-	-	-	11.7	8.9
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.7	0

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	278	0	15	105	0	45
Future Vol, veh/h	278	0	15	105	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	309	0	17	117	0	50

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	309	0	459	309
Stage 1	-	-	-	-	309	-
Stage 2	-	-	-	-	150	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1252	-	560	731
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	878	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1252	-	552	731
Mov Cap-2 Maneuver	-	-	-	-	552	-
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	865	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10.3
HCM LOS			B

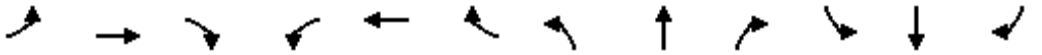
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	731	-	-	1252	-
HCM Lane V/C Ratio	0.068	-	-	0.013	-
HCM Control Delay (s)	10.3	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	278	0	0	15	105	0	0	45
Future Vol, veh/h	0	278	0	0	15	105	0	0	45
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	309	0	0	17	117	0	0	50
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.5	8.2	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	0%	0%	12%
Vol Thru, %	0%	100%	88%
Vol Right, %	100%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	45	278	120
LT Vol	0	0	15
Through Vol	0	278	105
RT Vol	45	0	0
Lane Flow Rate	50	309	133
Geometry Grp	1	1	1
Degree of Util (X)	0.06	0.354	0.159
Departure Headway (Hd)	4.293	4.122	4.381
Convergence, Y/N	Yes	Yes	Yes
Cap	840	865	824
Service Time	2.293	2.189	2.381
HCM Lane V/C Ratio	0.06	0.357	0.161
HCM Control Delay	7.6	9.5	8.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	1.6	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	334	108	31	422	13	577	66	153	37	19	205
Future Volume (veh/h)	94	334	108	31	422	13	577	66	153	37	19	205
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	101	359	116	33	454	14	620	71	165	40	20	220
Adj No. of Lanes	2	2	1	1	3	0	2	2	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	747	333	64	974	30	755	1916	846	71	674	573
Arrive On Green	0.06	0.21	0.21	0.04	0.19	0.19	0.22	0.54	0.54	0.04	0.36	0.36
Sat Flow, veh/h	3442	3539	1580	1774	5069	156	3442	3539	1563	1774	1863	1583
Grp Volume(v), veh/h	101	359	116	33	303	165	620	71	165	40	20	220
Grp Sat Flow(s),veh/h/ln	1721	1770	1580	1774	1695	1835	1721	1770	1563	1774	1863	1583
Q Serve(g_s), s	2.7	8.3	5.8	1.7	7.4	7.5	16.0	0.9	5.0	2.1	0.6	9.6
Cycle Q Clear(g_c), s	2.7	8.3	5.8	1.7	7.4	7.5	16.0	0.9	5.0	2.1	0.6	9.6
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	747	333	64	651	352	755	1916	846	71	674	573
V/C Ratio(X)	0.53	0.48	0.35	0.51	0.47	0.47	0.82	0.04	0.20	0.56	0.03	0.38
Avail Cap(c_a), veh/h	203	1802	804	105	1726	934	1147	1916	846	105	674	573
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.9	32.3	31.3	44.1	33.4	33.5	34.7	10.0	11.0	44.0	19.2	22.1
Incr Delay (d2), s/veh	2.3	0.5	0.6	6.2	0.5	1.0	2.9	0.0	0.5	6.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.1	2.6	0.9	3.5	3.9	7.9	0.4	2.3	1.1	0.3	4.3
LnGrp Delay(d),s/veh	45.2	32.8	32.0	50.4	33.9	34.4	37.6	10.0	11.5	50.9	19.2	22.5
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	C
Approach Vol, veh/h		576			501			856			280	
Approach Delay, s/veh		34.8			35.2			30.3			26.3	
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	7.7	54.5	7.4	23.7	24.5	37.8	9.1	21.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	50.0	5.0	47.0	30.6	24.4	5.0	47.0
Max Q Clear Time (g_c+I1), s	4.1	7.0	3.7	10.3	18.0	11.6	4.7	9.5
Green Ext Time (p_c), s	0.0	2.0	0.0	6.7	2.0	1.6	0.0	6.8

Intersection Summary	
HCM 2010 Ctrl Delay	32.1
HCM 2010 LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	382	489	129	356	520	177
Future Volume (veh/h)	382	489	129	356	520	177
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	411	526	139	383	559	190
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	466	416	463	394	601	1188
Arrive On Green	0.26	0.26	0.25	0.25	0.34	0.64
Sat Flow, veh/h	1774	1583	1863	1583	1774	1863
Grp Volume(v), veh/h	411	526	139	383	559	190
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863
Q Serve(g_s), s	17.8	21.0	4.8	19.2	24.3	3.3
Cycle Q Clear(g_c), s	17.8	21.0	4.8	19.2	24.3	3.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	466	416	463	394	601	1188
V/C Ratio(X)	0.88	1.27	0.30	0.97	0.93	0.16
Avail Cap(c_a), veh/h	466	416	463	394	621	1188
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	28.3	29.5	24.4	29.8	25.5	5.9
Incr Delay (d2), s/veh	17.7	137.4	1.7	39.1	20.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	25.0	2.7	12.7	15.2	1.8
LnGrp Delay(d),s/veh	46.1	166.9	26.1	68.9	45.8	6.1
LnGrp LOS	D	F	C	E	D	A
Approach Vol, veh/h	937		522			749
Approach Delay, s/veh	113.9		57.5			35.8
Approach LOS	F		E			D

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	31.1	23.9				55.0		25.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	27.5	18.5				50.5		20.5
Max Q Clear Time (g_c+I1), s	26.3	21.2				5.3		23.0
Green Ext Time (p_c), s	0.3	0.0				3.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	74.1
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	952	77	0	755	541	0	0	0	943	22	556
Future Volume (veh/h)	324	952	77	0	755	541	0	0	0	943	22	556
Number	5	2	12	1	6	16				7	4	14
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		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	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	348	1024	83	0	812	0				1031	0	598
Adj No. of Lanes	2	2	1	0	3	1				2	0	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	415	1890	823	0	1966	612				1464	0	652
Arrive On Green	0.12	0.53	0.53	0.00	0.13	0.00				0.41	0.00	0.41
Sat Flow, veh/h	3442	3539	1542	0	5253	1583				3548	0	1580
Grp Volume(v), veh/h	348	1024	83	0	812	0				1031	0	598
Grp Sat Flow(s),veh/h/ln	1721	1770	1542	0	1695	1583				1774	0	1580
Q Serve(g_s), s	14.8	28.5	4.0	0.0	22.1	0.0				36.1	0.0	53.7
Cycle Q Clear(g_c), s	14.8	28.5	4.0	0.0	22.1	0.0				36.1	0.0	53.7
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	415	1890	823	0	1966	612				1464	0	652
V/C Ratio(X)	0.84	0.54	0.10	0.00	0.41	0.00				0.70	0.00	0.92
Avail Cap(c_a), veh/h	574	1890	823	0	1966	612				1632	0	727
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.45	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	64.5	22.9	17.2	0.0	49.8	0.0				36.5	0.0	41.6
Incr Delay (d2), s/veh	7.8	1.1	0.2	0.0	0.3	0.0				1.2	0.0	15.6
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	7.5	14.2	1.7	0.0	10.4	0.0				17.9	0.0	42.2
LnGrp Delay(d),s/veh	72.3	24.0	17.5	0.0	50.0	0.0				37.7	0.0	57.2
LnGrp LOS	E	C	B		D					D		E
Approach Vol, veh/h		1455			812						1629	
Approach Delay, s/veh		35.2			50.0						44.8	
Approach LOS		D			D						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		84.1		65.9	22.1	62.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		72.5		68.5	24.5	43.5		
Max Q Clear Time (g_c+I1), s		30.5		55.7	16.8	24.1		
Green Ext Time (p_c), s		19.9		5.8	0.8	12.8		

Intersection Summary	
HCM 2010 Ctrl Delay	42.3
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	601	1294	0	0	1038	344	257	0	456	0	0	0
Future Volume (veh/h)	601	1294	0	0	1038	344	257	0	456	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	646	1391	0	0	1116	0	276	0	490			
Adj No. of Lanes	1	2	0	0	3	1	1	0	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	656	2277	0	0	1256	391	538	0	480			
Arrive On Green	0.74	1.00	0.00	0.00	0.25	0.00	0.30	0.00	0.30			
Sat Flow, veh/h	1774	3632	0	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	646	1391	0	0	1116	0	276	0	490			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	52.4	0.0	0.0	0.0	31.8	0.0	19.3	0.0	45.5			
Cycle Q Clear(g_c), s	52.4	0.0	0.0	0.0	31.8	0.0	19.3	0.0	45.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	656	2277	0	0	1256	391	538	0	480			
V/C Ratio(X)	0.98	0.61	0.00	0.00	0.89	0.00	0.51	0.00	1.02			
Avail Cap(c_a), veh/h	674	2277	0	0	1256	391	538	0	480			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.75	0.75	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	19.1	0.0	0.0	0.0	54.5	0.0	43.1	0.0	52.3			
Incr Delay (d2), s/veh	25.9	0.9	0.0	0.0	9.6	0.0	3.5	0.0	46.3			
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	29.5	0.3	0.0	0.0	16.0	0.0	9.9	0.0	26.1			
LnGrp Delay(d),s/veh	45.1	0.9	0.0	0.0	64.1	0.0	46.6	0.0	98.5			
LnGrp LOS	D	A			E		D		F			
Approach Vol, veh/h		2037			1116			766				
Approach Delay, s/veh		14.9			64.1			79.8				
Approach LOS		B			E			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		100.5			59.5	41.0		49.5
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		96.0			56.5	35.0		45.0
Max Q Clear Time (g_c+I1), s		2.0			54.4	33.8		47.5
Green Ext Time (p_c), s		45.7			0.6	1.2		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	41.6
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	1320	247	124	1035	3	163	5	86	23	11	114
Future Volume (veh/h)	183	1320	247	124	1035	3	163	5	86	23	11	114
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		0.97	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	197	1419	266	133	1113	3	175	5	92	25	12	123
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	227	1915	576	212	1927	5	232	30	557	52	47	478
Arrive On Green	0.13	0.38	0.37	0.24	0.74	0.73	0.07	0.37	0.36	0.03	0.33	0.33
Sat Flow, veh/h	1774	5085	1542	1774	5236	14	3442	82	1512	1774	141	1450
Grp Volume(v), veh/h	197	1419	266	133	721	395	175	0	97	25	0	135
Grp Sat Flow(s),veh/h/ln	1774	1695	1542	1774	1695	1860	1721	0	1594	1774	0	1591
Q Serve(g_s), s	16.3	36.2	19.6	10.1	14.6	14.6	7.5	0.0	6.2	2.1	0.0	9.4
Cycle Q Clear(g_c), s	16.3	36.2	19.6	10.1	14.6	14.6	7.5	0.0	6.2	2.1	0.0	9.4
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.95	1.00		0.91
Lane Grp Cap(c), veh/h	227	1915	576	212	1248	685	232	0	587	52	0	525
V/C Ratio(X)	0.87	0.74	0.46	0.63	0.58	0.58	0.75	0.00	0.17	0.48	0.00	0.26
Avail Cap(c_a), veh/h	331	1915	576	212	1248	685	275	0	587	75	0	525
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.81	0.81	0.81	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.2	40.4	35.6	54.1	14.4	14.4	68.7	0.0	32.1	71.7	0.0	37.0
Incr Delay (d2), s/veh	15.2	2.6	2.7	4.7	1.6	2.9	9.4	0.0	0.6	6.7	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	17.4	8.8	5.2	6.9	7.8	3.9	0.0	2.8	1.1	0.0	4.3
LnGrp Delay(d),s/veh	79.3	43.0	38.3	58.8	16.0	17.3	78.1	0.0	32.7	78.3	0.0	38.1
LnGrp LOS	E	D	D	E	B	B	E		C	E		D
Approach Vol, veh/h		1882			1249			272			160	
Approach Delay, s/veh		46.2			21.0			61.9			44.4	
Approach LOS		D			C			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	21.9	60.5	14.1	53.5	23.2	59.2	8.4	59.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	56.0	11.5	49.0	27.5	44.0	5.8	54.7
Max Q Clear Time (g_c+I1), s	12.1	38.2	9.5	11.4	18.3	16.6	4.1	8.2
Green Ext Time (p_c), s	0.2	10.7	0.1	0.9	0.4	8.4	0.1	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	38.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	746	576	167	505	95	461	262	205	154	293	76
Future Volume (veh/h)	161	746	576	167	505	95	461	262	205	154	293	76
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		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	173	802	0	180	543	102	496	282	220	166	315	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	321	2136	665	238	1329	245	621	1201	537	224	991	443
Arrive On Green	0.36	0.84	0.00	0.07	0.31	0.30	0.12	0.34	0.34	0.06	0.28	0.00
Sat Flow, veh/h	1774	5085	1583	3442	4316	796	5003	3539	1582	3442	3539	1583
Grp Volume(v), veh/h	173	802	0	180	424	221	496	282	220	166	315	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1721	1668	1770	1582	1721	1770	1583
Q Serve(g_s), s	11.6	5.5	0.0	7.7	14.9	15.3	14.5	8.6	16.0	7.1	10.6	0.0
Cycle Q Clear(g_c), s	11.6	5.5	0.0	7.7	14.9	15.3	14.5	8.6	16.0	7.1	10.6	0.0
Prop In Lane	1.00		1.00	1.00		0.46	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	321	2136	665	238	1044	530	621	1201	537	224	991	443
V/C Ratio(X)	0.54	0.38	0.00	0.76	0.41	0.42	0.80	0.23	0.41	0.74	0.32	0.00
Avail Cap(c_a), veh/h	321	2136	665	321	1044	530	714	1201	537	294	991	443
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.9	7.4	0.0	68.6	41.1	41.3	63.9	35.6	38.0	68.9	42.7	0.0
Incr Delay (d2), s/veh	1.8	0.5	0.0	6.8	1.2	2.4	5.6	0.5	2.3	7.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	2.6	0.0	3.9	7.1	7.6	7.0	4.3	7.3	3.6	5.3	0.0
LnGrp Delay(d),s/veh	44.6	7.9	0.0	75.4	42.2	43.7	69.5	36.0	40.3	75.9	43.5	0.0
LnGrp LOS	D	A		E	D	D	E	D	D	E	D	
Approach Vol, veh/h		975			825			998			481	
Approach Delay, s/veh		14.4			49.9			53.6			54.7	
Approach LOS		B			D			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	14.4	67.0	22.6	46.0	31.2	50.2	13.7	54.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	56.1	20.9	41.5	23.9	45.7	12.3	50.1
Max Q Clear Time (g_c+I1), s	9.7	7.5	16.5	12.6	13.6	17.3	9.1	18.0
Green Ext Time (p_c), s	0.2	7.5	1.7	2.1	4.4	4.2	0.1	5.0

Intersection Summary	
HCM 2010 Ctrl Delay	41.2
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Traffic Vol, veh/h	54	52	69	74	103	73
Future Vol, veh/h	54	52	69	74	103	73
Conflicting Peds, #/hr	4	0	0	4	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	56	74	80	111	78

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	155	0	-	0	287	119
Stage 1	-	-	-	-	115	-
Stage 2	-	-	-	-	172	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1425	-	-	-	703	933
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	858	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1420	-	-	-	672	929
Mov Cap-2 Maneuver	-	-	-	-	672	-
Stage 1	-	-	-	-	909	-
Stage 2	-	-	-	-	821	-

Approach	EB	WB	SW
HCM Control Delay, s	3.9	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1420	-	-	-	759
HCM Lane V/C Ratio	0.041	-	-	-	0.249
HCM Control Delay (s)	7.6	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SWU	SWL	SWR
Traffic Vol, veh/h	0	54	52	0	69	74	0	103	73
Future Vol, veh/h	0	54	52	0	69	74	0	103	73
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	58	56	0	74	80	0	111	78
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SW
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SW		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SW	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.5	8.1	8.7
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SWLn1
Vol Left, %	51%	0%	59%
Vol Thru, %	49%	48%	0%
Vol Right, %	0%	52%	41%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	106	143	176
LT Vol	54	0	103
Through Vol	52	69	0
RT Vol	0	74	73
Lane Flow Rate	114	154	189
Geometry Grp	1	1	1
Degree of Util (X)	0.147	0.179	0.231
Departure Headway (Hd)	4.639	4.195	4.4
Convergence, Y/N	Yes	Yes	Yes
Cap	774	856	818
Service Time	2.659	2.214	2.42
HCM Lane V/C Ratio	0.147	0.18	0.231
HCM Control Delay	8.5	8.1	8.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.6	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	65	145	131	67	75	167	839	160	67	948	21
Future Volume (veh/h)	14	65	145	131	67	75	167	839	160	67	948	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	15	70	156	141	72	81	180	902	172	72	1019	23
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	101	224	185	514	431	224	1557	664	103	1315	30
Arrive On Green	0.02	0.20	0.19	0.10	0.28	0.28	0.13	0.44	0.44	0.06	0.37	0.37
Sat Flow, veh/h	1774	514	1146	1774	1863	1560	1774	3539	1509	1774	3536	80
Grp Volume(v), veh/h	15	0	226	141	72	81	180	902	172	72	510	532
Grp Sat Flow(s),veh/h/ln	1774	0	1660	1774	1863	1560	1774	1770	1509	1774	1770	1847
Q Serve(g_s), s	0.7	0.0	10.1	6.1	2.3	3.1	7.8	15.2	5.7	3.2	20.2	20.2
Cycle Q Clear(g_c), s	0.7	0.0	10.1	6.1	2.3	3.1	7.8	15.2	5.7	3.2	20.2	20.2
Prop In Lane	1.00		0.69	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	43	0	325	185	514	431	224	1557	664	103	658	687
V/C Ratio(X)	0.35	0.00	0.70	0.76	0.14	0.19	0.80	0.58	0.26	0.70	0.77	0.77
Avail Cap(c_a), veh/h	123	0	639	201	799	669	224	1557	664	125	658	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	0.0	29.9	34.6	21.6	21.9	33.7	16.7	14.0	36.7	22.0	22.0
Incr Delay (d2), s/veh	4.9	0.0	2.7	14.5	0.1	0.2	18.9	1.6	0.9	12.4	8.7	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	4.8	3.8	1.2	1.4	5.0	7.7	2.5	1.9	11.4	11.8
LnGrp Delay(d),s/veh	43.0	0.0	32.5	49.0	21.7	22.1	52.6	18.3	15.0	49.1	30.6	30.3
LnGrp LOS	D		C	D	C	C	D	B	B	D	C	C
Approach Vol, veh/h		241			294			1254			1114	
Approach Delay, s/veh		33.2			34.9			22.8			31.7	
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	8.6	38.9	12.3	19.5	14.0	33.5	5.9	25.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	33.4	8.5	30.0	9.5	29.0	5.0	33.5
Max Q Clear Time (g_c+I1), s	5.2	17.2	8.1	12.1	9.8	22.2	2.7	5.1
Green Ext Time (p_c), s	0.0	11.8	0.0	1.9	0.0	5.7	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	28.3
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	23	105	163	98	52	13
Future Vol, veh/h	23	105	163	98	52	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	113	175	105	56	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	281	0	-	0	390	228
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	162	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1282	-	-	-	614	811
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	867	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1282	-	-	-	602	811
Mov Cap-2 Maneuver	-	-	-	-	602	-
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	850	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1282	-	-	-	602	811
HCM Lane V/C Ratio	0.019	-	-	-	0.093	0.017
HCM Control Delay (s)	7.9	-	-	-	11.6	9.5
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	131	3	49	281	0	29
Future Vol, veh/h	131	3	49	281	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	141	3	53	302	0	31

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	144	0	550	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	408	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1438	-	496	906
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1438	-	474	906
Mov Cap-2 Maneuver	-	-	-	-	474	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	641	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	9.1
HCM LOS			A

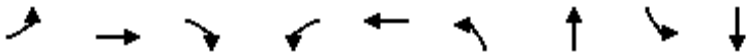
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	906	-	-	1438	-
HCM Lane V/C Ratio	0.034	-	-	0.037	-
HCM Control Delay (s)	9.1	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	131	3	0	49	281	0	0	29
Future Vol, veh/h	0	131	3	0	49	281	0	0	29
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	141	3	0	53	302	0	0	31
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.2	10	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	0%	0%	15%
Vol Thru, %	0%	98%	85%
Vol Right, %	100%	2%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	29	134	330
LT Vol	0	0	49
Through Vol	0	131	281
RT Vol	29	3	0
Lane Flow Rate	31	144	355
Geometry Grp	1	1	1
Degree of Util (X)	0.038	0.17	0.407
Departure Headway (Hd)	4.409	4.242	4.127
Convergence, Y/N	Yes	Yes	Yes
Cap	817	831	866
Service Time	2.409	2.341	2.183
HCM Lane V/C Ratio	0.038	0.173	0.41
HCM Control Delay	7.6	8.2	10
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.6	2



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	141	448	79	76	876	294	130	8	82
v/c Ratio	0.56	0.26	0.13	0.64	0.66	0.93	0.16	0.11	0.13
Control Delay	61.5	31.2	1.4	58.9	42.6	94.1	13.6	84.9	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	31.2	1.4	58.9	42.6	94.1	13.6	84.9	19.7
Queue Length 50th (ft)	112	98	0	64	286	128	38	7	17
Queue Length 95th (ft)	184	128	8	#132	332	#215	87	m17	39
Internal Link Dist (ft)		270			669		1463		850
Turn Bay Length (ft)	200			210		250			
Base Capacity (vph)	251	1719	611	122	1328	316	799	74	630
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.26	0.13	0.62	0.66	0.93	0.16	0.11	0.13

Intersection Summary

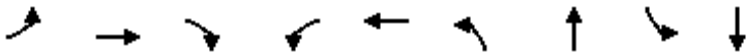
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	32	418	293	131	266	238	907	401	160	619
v/c Ratio	0.30	0.87	1.05	0.17	0.40	0.82	0.78	0.58	1.02	0.69
Control Delay	54.7	52.1	110.9	21.3	12.7	64.4	36.6	13.4	125.8	39.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	52.1	110.9	21.3	12.7	64.4	36.6	13.4	125.8	39.8
Queue Length 50th (ft)	21	236	~220	57	58	154	289	65	~117	201
Queue Length 95th (ft)	52	#391	#389	100	127	#277	370	169	#250	268
Internal Link Dist (ft)		1354		1127			593			1800
Turn Bay Length (ft)	450		140			220		380	220	
Base Capacity (vph)	108	539	279	759	674	312	1170	686	157	896
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.78	1.05	0.17	0.39	0.76	0.78	0.58	1.02	0.69

Intersection Summary

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

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	197	1419	266	133	1116	175	97	25	135
v/c Ratio	0.76	0.73	0.37	0.71	0.65	0.66	0.15	0.34	0.24
Control Delay	79.3	42.6	8.9	49.9	12.3	79.8	18.3	71.4	5.6
Queue Delay	0.5	48.9	1.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.9	91.6	10.0	49.9	12.3	79.8	18.3	71.4	5.6
Queue Length 50th (ft)	187	435	32	134	86	87	34	25	12
Queue Length 95th (ft)	267	494	102	m#213	323	129	77	m55	47
Internal Link Dist (ft)		290			669		1449		850
Turn Bay Length (ft)	200			210		250			
Base Capacity (vph)	330	1934	712	188	1724	274	645	74	574
Starvation Cap Reductn	18	791	250	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	1.24	0.58	0.71	0.65	0.64	0.15	0.34	0.24

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	15	226	141	72	81	180	902	172	72	1042
v/c Ratio	0.12	0.62	0.69	0.12	0.15	0.79	0.55	0.23	0.57	0.78
Control Delay	39.7	24.0	54.3	20.0	9.4	60.8	18.7	8.7	56.5	27.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	24.0	54.3	20.0	9.4	60.8	18.7	8.7	56.5	27.8
Queue Length 50th (ft)	7	56	65	24	7	84	161	20	34	221
Queue Length 95th (ft)	28	121	#182	60	40	#229	294	74	#108	#424
Internal Link Dist (ft)		1354		1127			593			1792
Turn Bay Length (ft)	450		140			220		380	220	
Base Capacity (vph)	125	714	205	815	702	228	1640	741	127	1340
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.32	0.69	0.09	0.12	0.79	0.55	0.23	0.57	0.78

Intersection Summary

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

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2028	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	557	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	787	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	787	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	12.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line ON / Tracy OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2481	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	682	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	963	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	963	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	14.8	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	3557	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	936	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1323	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1323	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	20.4	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy ON / Naglee OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	3982	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1048	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1481	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1481	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.9	mi/h
Number of lanes, N	3	
Density, D	22.8	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	4926	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	1270	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1794	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1794	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	62.8	mi/h
Number of lanes, N	3	
Density, D	28.6	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line Rd ON /Tracy Bl OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	5157	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	1329	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1878	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1878	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	61.8	mi/h
Number of lanes, N	3	
Density, D	30.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2425	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	625	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	883	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	883	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	13.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy Blvd ON / Naglee Rd OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2964	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	764	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1080	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1080	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	16.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	172	472	256	234	384	153
Future Volume (veh/h)	172	472	256	234	384	153
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	191	524	284	260	427	170
Adj No. of Lanes	1	2	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	341	1307	638	542	491	1271
Arrive On Green	0.19	0.19	0.34	0.34	0.28	0.68
Sat Flow, veh/h	1774	2787	1863	1583	1774	1863
Grp Volume(v), veh/h	191	524	284	260	427	170
Grp Sat Flow(s),veh/h/ln	1774	1393	1863	1583	1774	1863
Q Serve(g_s), s	6.2	7.8	7.5	8.2	14.6	2.0
Cycle Q Clear(g_c), s	6.2	7.8	7.5	8.2	14.6	2.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	341	1307	638	542	491	1271
V/C Ratio(X)	0.56	0.40	0.44	0.48	0.87	0.13
Avail Cap(c_a), veh/h	515	1581	638	542	584	1271
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	23.3	11.1	16.3	16.5	21.9	3.5
Incr Delay (d2), s/veh	1.4	0.2	2.2	3.0	11.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.0	4.3	4.1	8.7	1.1
LnGrp Delay(d),s/veh	24.8	11.3	18.5	19.5	33.6	3.8
LnGrp LOS	C	B	B	B	C	A
Approach Vol, veh/h	715		544			597
Approach Delay, s/veh	14.9		19.0			25.1
Approach LOS	B		B			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	21.7	25.8				47.5		16.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	20.5	18.0				43.0		18.0
Max Q Clear Time (g_c+I1), s	16.6	10.2				4.0		9.8
Green Ext Time (p_c), s	0.6	2.3				4.0		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	19.4
HCM 2010 LOS	B

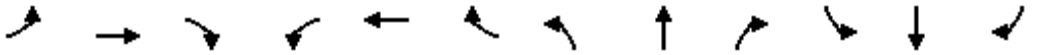
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	382	489	129	356	520	177
Future Volume (veh/h)	382	489	129	356	520	177
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	411	526	139	383	559	190
Adj No. of Lanes	1	2	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	459	722	468	397	602	1193
Arrive On Green	0.26	0.26	0.25	0.25	0.34	0.64
Sat Flow, veh/h	1774	2787	1863	1583	1774	1863
Grp Volume(v), veh/h	411	526	139	383	559	190
Grp Sat Flow(s),veh/h/ln	1774	1393	1863	1583	1774	1863
Q Serve(g_s), s	17.8	13.7	4.8	19.0	24.2	3.3
Cycle Q Clear(g_c), s	17.8	13.7	4.8	19.0	24.2	3.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	459	722	468	397	602	1193
V/C Ratio(X)	0.89	0.73	0.30	0.96	0.93	0.16
Avail Cap(c_a), veh/h	468	735	468	397	624	1193
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	28.5	26.9	24.1	29.5	25.4	5.7
Incr Delay (d2), s/veh	19.2	3.6	1.6	36.9	20.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	5.6	2.7	12.4	15.2	1.7
LnGrp Delay(d),s/veh	47.6	30.6	25.8	66.4	45.4	6.0
LnGrp LOS	D	C	C	E	D	A
Approach Vol, veh/h	937		522			749
Approach Delay, s/veh	38.0		55.5			35.4
Approach LOS	D		E			D

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	31.0	24.0				55.0		24.6
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	27.5	18.5				50.5		20.5
Max Q Clear Time (g_c+I1), s	26.2	21.0				5.3		19.8
Green Ext Time (p_c), s	0.3	0.0				3.6		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	41.3
HCM 2010 LOS	D

APPENDIX C

CUMULATIVE NO PROJECT TECHNICAL CALCULATIONS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	410	10	320	170	20	2550	850	480	25	50	170
Future Volume (veh/h)	205	410	10	320	170	20	2550	850	480	25	50	170
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	228	456	1	356	189	10	2833	944	509	28	56	9
Adj No. of Lanes	2	2	1	1	3	0	3	1	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	639	285	150	1094	57	1692	726	617	403	519	511
Arrive On Green	0.04	0.18	0.18	0.08	0.22	0.22	0.34	0.39	0.39	0.23	0.28	0.28
Sat Flow, veh/h	3442	3539	1579	1774	4947	258	5003	1863	1582	1774	1863	1583
Grp Volume(v), veh/h	228	456	1	356	129	70	2833	944	509	28	56	9
Grp Sat Flow(s),veh/h/ln	1721	1770	1579	1774	1695	1815	1668	1863	1582	1774	1863	1583
Q Serve(g_s), s	6.0	16.5	0.0	11.5	4.2	4.3	46.0	53.0	39.4	1.7	3.0	0.5
Cycle Q Clear(g_c), s	6.0	16.5	0.0	11.5	4.2	4.3	46.0	53.0	39.4	1.7	3.0	0.5
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	639	285	150	750	401	1692	726	617	403	519	511
V/C Ratio(X)	1.50	0.71	0.00	2.37	0.17	0.18	1.67	1.30	0.83	0.07	0.11	0.02
Avail Cap(c_a), veh/h	152	1275	569	150	1359	728	1692	726	617	403	519	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.0	52.4	11.7	62.3	42.9	42.9	45.0	41.5	37.3	41.2	36.5	31.3
Incr Delay (d2), s/veh	256.9	1.5	0.0	638.0	0.1	0.2	306.0	145.2	12.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	8.2	0.0	32.2	2.0	2.2	69.1	56.5	19.2	0.8	1.6	0.2
LnGrp Delay(d),s/veh	321.9	53.9	11.7	700.3	43.0	43.1	351.0	186.7	49.3	41.3	36.5	31.4
LnGrp LOS	F	D	B	F	D	D	F	F	D	D	D	C
Approach Vol, veh/h		685			555			4286			93	
Approach Delay, s/veh		143.0			464.6			279.0			37.5	
Approach LOS		F			F			F			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	34.9	57.0	15.5	28.6	50.0	41.9	10.0	34.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	52.5	11.0	48.5	45.5	12.5	5.5	54.0
Max Q Clear Time (g_c+I1), s	3.7	55.0	13.5	18.5	48.0	5.0	8.0	6.3
Green Ext Time (p_c), s	0.0	0.0	0.0	3.3	0.0	0.2	0.0	2.5

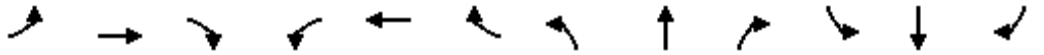
Intersection Summary	
HCM 2010 Ctrl Delay	276.8
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	2390	10	600	1270	430	20	190	380	350	130	10
Future Volume (veh/h)	10	2390	10	600	1270	430	20	190	380	350	130	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	2656	0	667	1411	457	22	211	410	389	144	11
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	891	0	248	812	263	35	102	198	165	426	33
Arrive On Green	0.01	0.48	0.00	0.14	0.60	0.61	0.02	0.18	0.18	0.09	0.25	0.25
Sat Flow, veh/h	1774	1863	0	1774	1349	437	1774	567	1101	1774	1709	131
Grp Volume(v), veh/h	11	2656	0	667	0	1868	22	0	621	389	0	155
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	0	1786	1774	0	1668	1774	0	1840
Q Serve(g_s), s	0.9	72.0	0.0	21.0	0.0	90.7	1.9	0.0	27.0	14.0	0.0	10.4
Cycle Q Clear(g_c), s	0.9	72.0	0.0	21.0	0.0	90.7	1.9	0.0	27.0	14.0	0.0	10.4
Prop In Lane	1.00		0.00	1.00		0.24	1.00		0.66	1.00		0.07
Lane Grp Cap(c), veh/h	22	891	0	248	0	1076	35	0	299	165	0	458
V/C Ratio(X)	0.51	2.98	0.00	2.69	0.00	1.74	0.62	0.00	2.07	2.36	0.00	0.34
Avail Cap(c_a), veh/h	59	891	0	248	0	1076	72	0	299	165	0	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.9	39.3	0.0	64.8	0.0	29.9	73.2	0.0	61.8	68.2	0.0	46.3
Incr Delay (d2), s/veh	17.0	894.2	0.0	773.9	0.0	335.4	16.4	0.0	495.0	629.1	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	258.2	0.0	63.5	0.0	144.7	1.1	0.0	53.5	35.7	0.0	5.6
LnGrp Delay(d),s/veh	90.9	933.5	0.0	838.7	0.0	365.3	89.6	0.0	556.7	697.4	0.0	48.3
LnGrp LOS	F	F		F		F	F		F	F		D
Approach Vol, veh/h		2667			2535			643			544	
Approach Delay, s/veh		930.0			489.8			540.8			512.4	
Approach LOS		F			F			F			F	

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	18.0	31.0	25.0	76.5	7.5	41.5	6.3	95.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	26.5	20.5	72.0	6.1	33.9	5.0	87.5
Max Q Clear Time (g_c+I1), s	16.0	29.0	23.0	74.0	3.9	12.4	2.9	92.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	5.7	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	680.6
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	755	3610	650	0	2640	160	0	0	0	365	70	2570
Future Volume (veh/h)	755	3610	650	0	2640	160	0	0	0	365	70	2570
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	839	4011	0	0	2933	0				462	0	0
Adj No. of Lanes	1	3	1	0	2	1				2	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	259	3968	1235	0	2135	1206				562	0	482
Arrive On Green	0.15	0.78	0.00	0.00	0.40	0.00				0.16	0.00	0.00
Sat Flow, veh/h	1774	5085	1583	0	3632	1583				3548	0	1583
Grp Volume(v), veh/h	839	4011	0	0	2933	0				462	0	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	0	1770	1583				1774	0	1583
Q Serve(g_s), s	19.0	101.4	0.0	0.0	78.4	0.0				16.4	0.0	0.0
Cycle Q Clear(g_c), s	19.0	101.4	0.0	0.0	78.4	0.0				16.4	0.0	0.0
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	259	3968	1235	0	2135	1206				562	0	482
V/C Ratio(X)	3.24	1.01	0.00	0.00	1.37	0.00				0.82	0.00	0.00
Avail Cap(c_a), veh/h	259	3968	1235	0	2135	1206				1215	0	773
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.09	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	55.5	14.3	0.0	0.0	38.7	0.0				52.9	0.0	0.0
Incr Delay (d2), s/veh	1016.1	17.0	0.0	0.0	168.4	0.0				3.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	82.5	52.5	0.0	0.0	88.3	0.0				8.3	0.0	0.0
LnGrp Delay(d),s/veh	1071.6	31.3	0.0	0.0	207.2	0.0				56.0	0.0	0.0
LnGrp LOS	F	F			F					E		
Approach Vol, veh/h		4850			2933						462	
Approach Delay, s/veh		211.3			207.2						56.0	
Approach LOS		F			F						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		105.4		24.6	23.0	82.4		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		77.0		44.0	18.5	54.0		
Max Q Clear Time (g_c+I1), s		103.4		18.4	21.0	80.4		
Green Ext Time (p_c), s		0.0		1.7	0.0	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	201.1
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1690	2280	0	2760	480	40	0	190	0	0	0
Future Volume (veh/h)	0	1690	2280	0	2760	480	40	0	190	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	1878	0	0	3067	0	44	0	0			
Adj No. of Lanes	0	2	1	0	3	1	1	0	1			
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	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1919	1474	0	2758	859	703	0	627			
Arrive On Green	0.00	0.91	0.00	0.00	0.54	0.00	0.40	0.00	0.00			
Sat Flow, veh/h	0	3632	1583	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	0	1878	0	0	3067	0	44	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	57.2	0.0	0.0	70.5	0.0	2.0	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	57.2	0.0	0.0	70.5	0.0	2.0	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1919	1474	0	2758	859	703	0	627			
V/C Ratio(X)	0.00	0.98	0.00	0.00	1.11	0.00	0.06	0.00	0.00			
Avail Cap(c_a), veh/h	0	1919	1474	0	2758	859	703	0	627			
HCM Platoon Ratio	1.00	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.64	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	5.5	0.0	0.0	29.8	0.0	24.3	0.0	0.0			
Incr Delay (d2), s/veh	0.0	2.9	0.0	0.0	54.3	0.0	0.2	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	25.1	0.0	0.0	46.6	0.0	1.0	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	8.4	0.0	0.0	84.1	0.0	24.5	0.0	0.0			
LnGrp LOS		A			F		C					
Approach Vol, veh/h		1878			3067			44				
Approach Delay, s/veh		8.4			84.1			24.5				
Approach LOS		A			F			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		74.5				74.5		55.5
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		70.0				70.0		51.0
Max Q Clear Time (g_c+I1), s		59.2				72.5		4.0
Green Ext Time (p_c), s		10.8				0.0		0.1

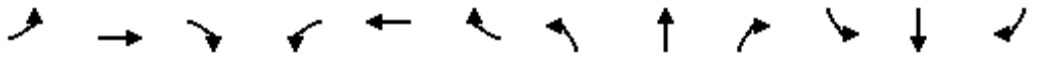
Intersection Summary	
HCM 2010 Ctrl Delay	55.1
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	1700	40	120	3050	10	60	20	130	10	10	80
Future Volume (veh/h)	140	1700	40	120	3050	10	60	20	130	10	10	80
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		1.00	1.00		1.00	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	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	156	1889	40	133	3389	11	67	22	125	11	11	48
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	1973	608	123	1972	6	134	88	498	103	115	501
Arrive On Green	0.08	0.39	0.38	0.09	0.50	0.50	0.04	0.36	0.36	0.06	0.38	0.38
Sat Flow, veh/h	1774	5085	1581	1774	5233	17	3442	242	1376	1774	302	1316
Grp Volume(v), veh/h	156	1889	40	133	2194	1206	67	0	147	11	0	59
Grp Sat Flow(s),veh/h/ln	1774	1695	1581	1774	1695	1860	1721	0	1619	1774	0	1618
Q Serve(g_s), s	10.4	47.0	1.7	9.0	49.0	49.0	2.5	0.0	8.3	0.8	0.0	3.1
Cycle Q Clear(g_c), s	10.4	47.0	1.7	9.0	49.0	49.0	2.5	0.0	8.3	0.8	0.0	3.1
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.85	1.00		0.81
Lane Grp Cap(c), veh/h	143	1973	608	123	1278	701	134	0	585	103	0	616
V/C Ratio(X)	1.09	0.96	0.07	1.08	1.72	1.72	0.50	0.00	0.25	0.11	0.00	0.10
Avail Cap(c_a), veh/h	143	1973	608	123	1278	701	252	0	585	164	0	616
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.8	38.7	17.5	59.0	32.4	32.4	61.2	0.0	29.3	58.0	0.0	26.0
Incr Delay (d2), s/veh	99.7	11.7	0.2	50.1	323.0	324.6	2.9	0.0	1.0	0.5	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	24.2	0.8	6.1	79.9	88.0	1.2	0.0	3.9	0.4	0.0	1.4
LnGrp Delay(d),s/veh	159.5	50.4	17.6	109.1	355.5	357.0	64.1	0.0	30.3	58.5	0.0	26.3
LnGrp LOS	F	D	B	F	F	F	E		C	E		C
Approach Vol, veh/h		2085			3533			214			70	
Approach Delay, s/veh		57.9			346.7			40.9			31.4	
Approach LOS		E			F			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	13.0	54.4	9.1	53.5	14.4	53.0	11.6	51.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	45.5	9.0	49.0	5.5	48.5	11.5	46.5
Max Q Clear Time (g_c+I1), s	11.0	49.0	4.5	5.1	12.4	51.0	2.8	10.3
Green Ext Time (p_c), s	0.0	0.0	0.1	0.3	0.0	0.0	0.1	1.0

Intersection Summary			
HCM 2010 Ctrl Delay		229.9	
HCM 2010 LOS		F	

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	920	850	540	1850	160	1100	1580	710	400	1580	190
Future Volume (veh/h)	60	920	850	540	1850	160	1100	1580	710	400	1580	190
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		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	67	1022	0	600	2056	171	1222	1756	557	444	1756	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	3	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	1760	743	265	1766	146	616	1361	608	346	1171	609
Arrive On Green	0.11	0.69	0.00	0.08	0.37	0.37	0.12	0.38	0.38	0.07	0.33	0.00
Sat Flow, veh/h	1774	5085	1583	3442	4782	395	5003	3539	1582	5003	3539	1583
Grp Volume(v), veh/h	67	1022	0	600	1453	774	1222	1756	557	444	1756	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1787	1668	1770	1582	1668	1770	1583
Q Serve(g_s), s	4.7	13.4	0.0	10.0	48.0	48.0	16.0	50.0	33.1	9.0	43.0	0.0
Cycle Q Clear(g_c), s	4.7	13.4	0.0	10.0	48.0	48.0	16.0	50.0	33.1	9.0	43.0	0.0
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	1760	743	265	1252	660	616	1361	608	346	1171	609
V/C Ratio(X)	0.70	0.58	0.00	2.27	1.16	1.17	1.98	1.29	0.92	1.28	1.50	0.00
Avail Cap(c_a), veh/h	96	1760	743	265	1252	660	616	1361	608	346	1171	609
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.0	15.1	0.0	60.0	41.0	41.1	57.0	40.0	22.1	60.5	43.5	0.0
Incr Delay (d2), s/veh	20.4	1.4	0.0	581.8	81.4	93.6	448.9	136.1	18.6	147.2	229.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	6.3	0.0	26.1	36.6	40.8	32.9	50.1	17.5	8.9	58.3	0.0
LnGrp Delay(d),s/veh	77.4	16.5	0.0	641.8	122.4	134.6	505.9	176.1	40.7	207.7	273.0	0.0
LnGrp LOS	E	B		F	F	F	F	F	D	F	F	
Approach Vol, veh/h		1089			2827			3535			2200	
Approach Delay, s/veh		20.3			236.0			268.8			259.8	
Approach LOS		C			F			F			F	

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	14.0	49.0	20.0	47.0	11.0	52.0	13.0	54.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	44.5	15.5	42.5	6.5	47.5	8.5	49.5
Max Q Clear Time (g_c+I1), s	12.0	15.4	18.0	45.0	6.7	50.0	11.0	52.0
Green Ext Time (p_c), s	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	229.1
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	20	120	80	150	10	20
Future Vol, veh/h	20	120	80	150	10	20
Conflicting Peds, #/hr	13	0	0	13	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	133	89	167	11	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	257	0	-	0	351	186
Stage 1	-	-	-	-	173	-
Stage 2	-	-	-	-	178	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1308	-	-	-	646	856
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	853	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1292	-	-	-	633	845
Mov Cap-2 Maneuver	-	-	-	-	633	-
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	837	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	10
HCM LOS			B

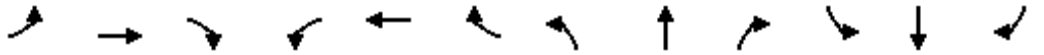
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1292	-	-	-	760
HCM Lane V/C Ratio	0.017	-	-	-	0.044
HCM Control Delay (s)	7.8	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	20	120	0	80	150	0	10	20
Future Vol, veh/h	0	20	120	0	80	150	0	10	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	22	133	0	89	167	0	11	22
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.2	8.1	7.6
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	0%	33%
Vol Thru, %	86%	35%	0%
Vol Right, %	0%	65%	67%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	140	230	30
LT Vol	20	0	10
Through Vol	120	80	0
RT Vol	0	150	20
Lane Flow Rate	156	256	33
Geometry Grp	1	1	1
Degree of Util (X)	0.182	0.264	0.041
Departure Headway (Hd)	4.214	3.718	4.437
Convergence, Y/N	Yes	Yes	Yes
Cap	846	956	812
Service Time	2.268	1.777	2.437
HCM Lane V/C Ratio	0.184	0.268	0.041
HCM Control Delay	8.2	8.1	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	1.1	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	170	120	500	120	310	245	3020	410	150	2780	40
Future Volume (veh/h)	30	170	120	500	120	310	245	3020	410	150	2780	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.94	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	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	33	189	59	556	133	301	272	3356	390	167	3089	43
Adj No. of Lanes	1	1	0	1	1	1	1	3	1	1	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	245	76	317	615	493	165	2348	711	114	2238	31
Arrive On Green	0.03	0.18	0.18	0.18	0.33	0.33	0.09	0.46	0.46	0.06	0.43	0.43
Sat Flow, veh/h	1774	1357	424	1774	1863	1494	1774	5085	1539	1774	5168	72
Grp Volume(v), veh/h	33	0	248	556	133	301	272	3356	390	167	2021	1111
Grp Sat Flow(s),veh/h/ln	1774	0	1780	1774	1863	1494	1774	1695	1539	1774	1695	1850
Q Serve(g_s), s	2.6	0.0	18.5	25.0	7.2	23.6	13.0	64.5	14.0	9.0	60.5	60.5
Cycle Q Clear(g_c), s	2.6	0.0	18.5	25.0	7.2	23.6	13.0	64.5	14.0	9.0	60.5	60.5
Prop In Lane	1.00		0.24	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	52	0	321	317	615	493	165	2348	711	114	1468	801
V/C Ratio(X)	0.63	0.00	0.77	1.75	0.22	0.61	1.65	1.43	0.55	1.46	1.38	1.39
Avail Cap(c_a), veh/h	89	0	389	317	647	519	165	2348	711	114	1468	801
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.0	0.0	54.6	57.3	33.8	39.3	63.3	37.6	8.1	65.3	39.6	39.6
Incr Delay (d2), s/veh	11.9	0.0	7.6	350.8	0.2	1.9	316.9	195.7	3.0	249.1	173.9	181.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	9.8	43.1	3.7	10.0	20.9	72.6	8.6	12.3	63.6	71.1
LnGrp Delay(d),s/veh	79.0	0.0	62.2	408.2	34.0	41.2	380.3	233.3	11.2	314.4	213.5	221.2
LnGrp LOS	E		E	F	C	D	F	F	B	F	F	F
Approach Vol, veh/h		281			990			4018			3299	
Approach Delay, s/veh		64.2			246.3			221.7			221.2	
Approach LOS		E			F			F			F	

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	13.0	68.5	29.0	29.2	17.0	64.5	8.1	50.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	64.0	24.5	30.0	12.5	60.0	6.5	48.0
Max Q Clear Time (g_c+I1), s	11.0	66.5	27.0	20.5	15.0	62.5	4.6	25.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	3.9

Intersection Summary	
HCM 2010 Ctrl Delay	219.2
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	160	10	150	20	10	50
Future Vol, veh/h	160	10	150	20	10	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	178	11	167	22	11	56

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	189	0	539	183
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	356	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1385	-	503	859
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	709	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1385	-	442	859
Mov Cap-2 Maneuver	-	-	-	-	442	-
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	623	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7	10.3
HCM LOS			B

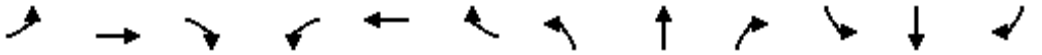
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	742	-	-	1385	-
HCM Lane V/C Ratio	0.09	-	-	0.12	-
HCM Control Delay (s)	10.3	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.4	-

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	160	10	0	150	20	0	10	50
Future Vol, veh/h	0	160	10	0	150	20	0	10	50
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	178	11	0	167	22	0	11	56
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.4	8.8	7.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	17%	0%	88%
Vol Thru, %	0%	94%	12%
Vol Right, %	83%	6%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	60	170	170
LT Vol	10	0	150
Through Vol	0	160	20
RT Vol	50	10	0
Lane Flow Rate	67	189	189
Geometry Grp	1	1	1
Degree of Util (X)	0.08	0.218	0.229
Departure Headway (Hd)	4.303	4.159	4.371
Convergence, Y/N	Yes	Yes	Yes
Cap	837	848	810
Service Time	2.303	2.255	2.458
HCM Lane V/C Ratio	0.08	0.223	0.233
HCM Control Delay	7.7	8.4	8.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.8	0.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	100	30	470	30	50	2360	720	400	175	130	440
Future Volume (veh/h)	30	100	30	470	30	50	2360	720	400	175	130	440
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	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	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	32	108	8	505	32	52	2538	774	413	188	140	381
Adj No. of Lanes	2	2	1	1	3	0	3	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	320	142	115	400	186	2466	1104	926	115	306	319
Arrive On Green	0.04	0.09	0.09	0.06	0.12	0.11	0.49	0.59	0.59	0.06	0.16	0.16
Sat Flow, veh/h	3442	3539	1575	1774	3390	1575	5003	1863	1563	1774	1863	1583
Grp Volume(v), veh/h	32	108	8	505	32	52	2538	774	413	188	140	381
Grp Sat Flow(s),veh/h/ln	1721	1770	1575	1774	1695	1575	1668	1863	1563	1774	1863	1583
Q Serve(g_s), s	0.8	2.4	0.4	5.5	0.7	2.6	42.0	24.7	12.5	5.5	5.8	14.0
Cycle Q Clear(g_c), s	0.8	2.4	0.4	5.5	0.7	2.6	42.0	24.7	12.5	5.5	5.8	14.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	320	142	115	400	186	2466	1104	926	115	306	319
V/C Ratio(X)	0.25	0.34	0.06	4.41	0.08	0.28	1.03	0.70	0.45	1.64	0.46	1.20
Avail Cap(c_a), veh/h	222	1973	878	115	1890	878	2466	1104	926	115	306	319
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	36.4	35.4	39.9	33.5	34.5	21.6	12.1	9.6	39.9	32.2	34.0
Incr Delay (d2), s/veh	1.0	0.6	0.2	1554.6	0.1	0.8	26.1	3.7	1.6	324.6	1.1	114.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.2	0.2	52.1	0.3	1.2	25.1	13.6	5.8	13.0	3.1	17.6
LnGrp Delay(d),s/veh	40.9	37.0	35.6	1594.5	33.5	35.3	47.7	15.8	11.2	364.4	33.2	148.4
LnGrp LOS	D	D	D	F	C	D	F	B	B	F	C	F
Approach Vol, veh/h		148			589			3725			709	
Approach Delay, s/veh		37.7			1372.0			37.0			183.0	
Approach LOS		D			F			D			F	

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	9.5	54.5	9.5	11.7	46.0	18.0	7.2	14.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	50.0	5.0	47.0	41.5	13.5	5.0	47.0
Max Q Clear Time (g_c+I1), s	7.5	26.7	7.5	4.4	44.0	16.0	2.8	4.6
Green Ext Time (p_c), s	0.0	10.7	0.0	1.3	0.0	0.0	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	209.1
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	850	1500	730	850	1500	730	80	1550	520	480	1230	10
Future Volume (veh/h)	850	1500	730	850	1500	730	80	1550	520	480	1230	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	914	1613	780	914	1613	761	86	1667	547	516	1323	10
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	305	147	390	458	216	93	373	122	130	541	4
Arrive On Green	0.09	0.26	0.26	0.22	0.38	0.39	0.05	0.28	0.28	0.07	0.29	0.29
Sat Flow, veh/h	1774	1187	574	1774	1198	565	1774	1344	441	1774	1846	14
Grp Volume(v), veh/h	914	0	2393	914	0	2374	86	0	2214	516	0	1333
Grp Sat Flow(s),veh/h/ln	1774	0	1761	1774	0	1763	1774	0	1785	1774	0	1860
Q Serve(g_s), s	8.5	0.0	24.5	21.0	0.0	36.5	4.6	0.0	26.5	7.0	0.0	28.0
Cycle Q Clear(g_c), s	8.5	0.0	24.5	21.0	0.0	36.5	4.6	0.0	26.5	7.0	0.0	28.0
Prop In Lane	1.00		0.33	1.00		0.32	1.00		0.25	1.00		0.01
Lane Grp Cap(c), veh/h	158	0	452	390	0	674	93	0	495	130	0	545
V/C Ratio(X)	5.79	0.00	5.30	2.34	0.00	3.52	0.93	0.00	4.47	3.97	0.00	2.44
Avail Cap(c_a), veh/h	158	0	452	390	0	674	93	0	495	130	0	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.5	0.0	35.5	37.3	0.0	29.4	45.1	0.0	34.5	44.3	0.0	33.8
Incr Delay (d2), s/veh	2168.5	0.0	1937.9	612.3	0.0	1139.2	69.4	0.0	1566.2	1353.9	0.0	655.3
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	99.2	0.0	255.1	76.5	0.0	230.8	4.0	0.0	228.4	52.3	0.0	113.5
LnGrp Delay(d),s/veh	2212.0	0.0	1973.4	649.5	0.0	1168.6	114.5	0.0	1600.7	1398.2	0.0	689.1
LnGrp LOS	F		F	F		F	F		F	F		F
Approach Vol, veh/h		3307			3288			2300			1849	
Approach Delay, s/veh		2039.4			1024.3			1545.1			887.0	
Approach LOS		F			F			F			F	

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	11.0	30.5	25.0	29.0	9.5	32.0	13.0	41.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	26.0	20.5	24.5	5.0	27.5	8.5	36.5
Max Q Clear Time (g_c+I1), s	9.0	28.5	23.0	26.5	6.6	30.0	10.5	38.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

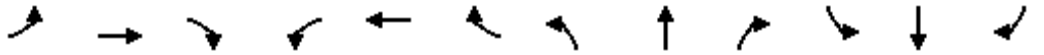
Intersection Summary	
HCM 2010 Ctrl Delay	1424.6
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	480	5580	1240	0	3315	170	0	0	0	380	30	2100
Future Volume (veh/h)	480	5580	1240	0	3315	170	0	0	0	380	30	2100
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	516	6000	0	0	3565	0				432	0	2117
Adj No. of Lanes	1	3	1	0	3	1				2	0	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	319	2780	866	0	1729	1172				1419	0	917
Arrive On Green	0.18	0.55	0.00	0.00	0.34	0.00				0.40	0.00	0.40
Sat Flow, veh/h	1774	5085	1583	0	5253	1583				3548	0	1580
Grp Volume(v), veh/h	516	6000	0	0	3565	0				432	0	2117
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	0	1695	1583				1774	0	1580
Q Serve(g_s), s	27.0	82.0	0.0	0.0	51.0	0.0				12.5	0.0	60.0
Cycle Q Clear(g_c), s	27.0	82.0	0.0	0.0	51.0	0.0				12.5	0.0	60.0
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	319	2780	866	0	1729	1172				1419	0	917
V/C Ratio(X)	1.62	2.16	0.00	0.00	2.06	0.00				0.30	0.00	2.31
Avail Cap(c_a), veh/h	319	2780	866	0	1729	1172				1419	0	917
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	0.00	0.00	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	61.5	34.0	0.0	0.0	49.5	0.0				30.7	0.0	31.5
Incr Delay (d2), s/veh	291.2	522.4	0.0	0.0	478.0	0.0				0.1	0.0	592.4
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	39.0	172.6	0.0	0.0	100.4	0.0				6.1	0.0	204.9
LnGrp Delay(d),s/veh	352.7	556.4	0.0	0.0	527.5	0.0				30.9	0.0	623.9
LnGrp LOS	F	F			F					C		F
Approach Vol, veh/h		6516			3565						2549	
Approach Delay, s/veh		540.3			527.5						523.4	
Approach LOS		F			F						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		86.0		64.0	31.0	55.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		81.5		59.5	26.5	50.5		
Max Q Clear Time (g_c+I1), s		84.0		62.0	29.0	53.0		
Green Ext Time (p_c), s		0.0		0.0	0.0	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	533.3
HCM 2010 LOS	F

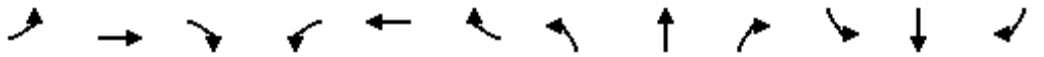
Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2720	3240	0	3245	700	240	0	1270	0	0	0
Future Volume (veh/h)	0	2720	3240	0	3245	700	240	0	1270	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	2925	0	0	3489	0	258	0	0			
Adj No. of Lanes	0	2	1	0	3	1	1	0	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1722	1488	0	2475	771	816	0	728			
Arrive On Green	0.00	0.33	0.00	0.00	0.49	0.00	0.46	0.00	0.00			
Sat Flow, veh/h	0	3632	1583	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	0	2925	0	0	3489	0	258	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	73.0	0.0	0.0	73.0	0.0	13.8	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	73.0	0.0	0.0	73.0	0.0	13.8	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1722	1488	0	2475	771	816	0	728			
V/C Ratio(X)	0.00	1.70	0.00	0.00	1.41	0.00	0.32	0.00	0.00			
Avail Cap(c_a), veh/h	0	1722	1488	0	2475	771	816	0	728			
HCM Platoon Ratio	1.00	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.44	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	50.5	0.0	0.0	38.5	0.0	25.6	0.0	0.0			
Incr Delay (d2), s/veh	0.0	314.4	0.0	0.0	185.5	0.0	1.0	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	110.9	0.0	0.0	76.7	0.0	7.0	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	365.0	0.0	0.0	224.0	0.0	26.6	0.0	0.0			
LnGrp LOS		F			F		C					
Approach Vol, veh/h		2925			3489			258				
Approach Delay, s/veh		365.0			224.0			26.6				
Approach LOS		F			F			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		77.0				77.0		73.0
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		72.5				72.5		68.5
Max Q Clear Time (g_c+I1), s		75.0				75.0		15.8
Green Ext Time (p_c), s		0.0				0.0		0.8

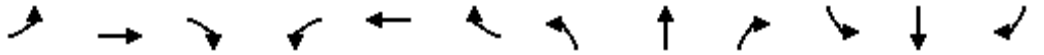
Intersection Summary	
HCM 2010 Ctrl Delay	278.2
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	3795	10	110	3610	10	145	10	110	30	20	120
Future Volume (veh/h)	195	3795	10	110	3610	10	145	10	110	30	20	120
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		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	210	4081	7	118	3882	11	156	11	100	32	22	89
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	2424	731	83	2391	7	138	52	469	82	106	428
Arrive On Green	0.07	0.48	0.47	0.06	0.61	0.60	0.04	0.32	0.32	0.05	0.33	0.33
Sat Flow, veh/h	1774	5085	1544	1774	5235	15	3442	159	1447	1774	321	1298
Grp Volume(v), veh/h	210	4081	7	118	2513	1380	156	0	111	32	0	111
Grp Sat Flow(s),veh/h/ln	1774	1695	1544	1774	1695	1860	1721	0	1606	1774	0	1619
Q Serve(g_s), s	10.0	71.5	0.4	7.0	68.5	68.5	6.0	0.0	7.6	2.6	0.0	7.4
Cycle Q Clear(g_c), s	10.0	71.5	0.4	7.0	68.5	68.5	6.0	0.0	7.6	2.6	0.0	7.4
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.90	1.00		0.80
Lane Grp Cap(c), veh/h	118	2424	731	83	1548	849	138	0	520	82	0	534
V/C Ratio(X)	1.78	1.68	0.01	1.43	1.62	1.63	1.13	0.00	0.21	0.39	0.00	0.21
Avail Cap(c_a), veh/h	118	2424	731	83	1548	849	138	0	520	82	0	534
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.42	0.42	0.42	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.0	39.3	20.9	70.3	29.4	29.5	72.0	0.0	37.0	69.5	0.0	36.3
Incr Delay (d2), s/veh	363.2	308.4	0.0	197.7	280.6	281.8	116.9	0.0	0.9	3.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.8	102.7	0.2	8.0	92.0	101.3	5.1	0.0	3.5	1.4	0.0	3.4
LnGrp Delay(d),s/veh	433.2	347.6	20.9	268.1	310.0	311.3	188.9	0.0	37.9	72.6	0.0	37.2
LnGrp LOS	F	F	C	F	F	F	F		D	E		D
Approach Vol, veh/h		4298			4011			267			143	
Approach Delay, s/veh		351.3			309.2			126.2			45.1	
Approach LOS		F			F			F			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	11.0	75.5	10.0	53.5	14.0	72.5	10.9	52.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	71.0	5.5	49.0	9.5	68.0	6.4	48.1
Max Q Clear Time (g_c+I1), s	9.0	73.5	8.0	9.4	12.0	70.5	4.6	9.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.0	0.0	0.1	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	320.0
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1060	830	2180	210	1800	10	1480	2300	520	90	1500	195
Future Volume (veh/h)	1060	830	2180	210	1800	10	1480	2300	520	90	1500	195
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		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	1140	892	0	226	1935	1	1591	2473	498	97	1613	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	2305	866	138	1750	1	467	1286	575	126	1085	739
Arrive On Green	0.27	0.76	0.00	0.04	0.33	0.33	0.09	0.36	0.36	0.04	0.31	0.00
Sat Flow, veh/h	1774	5085	1583	3442	5250	3	5003	3539	1582	3442	3539	1583
Grp Volume(v), veh/h	1140	892	0	226	1250	686	1591	2473	498	97	1613	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1862	1668	1770	1582	1721	1770	1583
Q Serve(g_s), s	24.0	9.0	0.0	6.0	50.0	50.0	14.0	54.5	43.9	4.2	46.0	0.0
Cycle Q Clear(g_c), s	24.0	9.0	0.0	6.0	50.0	50.0	14.0	54.5	43.9	4.2	46.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	284	2305	866	138	1130	621	467	1286	575	126	1085	739
V/C Ratio(X)	4.02	0.39	0.00	1.64	1.11	1.11	3.41	1.92	0.87	0.77	1.49	0.00
Avail Cap(c_a), veh/h	284	2305	866	138	1130	621	467	1286	575	126	1085	739
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.0	11.1	0.0	72.0	50.0	50.0	68.0	47.8	44.4	71.6	52.0	0.0
Incr Delay (d2), s/veh	1365.7	0.5	0.0	319.0	60.7	68.6	1088.7	418.3	16.0	24.5	223.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	119.4	4.2	0.0	8.9	32.9	37.5	53.5	101.3	21.7	2.4	56.2	0.0
LnGrp Delay(d),s/veh	1420.7	11.6	0.0	391.0	110.7	118.6	1156.7	466.1	60.4	96.1	275.7	0.0
LnGrp LOS	F	B		F	F	F	F	F	E	F	F	
Approach Vol, veh/h		2032			2162			4562			1710	
Approach Delay, s/veh		802.1			142.5			662.7			265.5	
Approach LOS		F			F			F			F	

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	72.0	18.0	50.0	28.0	54.0	9.5	58.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	67.5	13.5	45.5	23.5	49.5	5.0	54.0
Max Q Clear Time (g_c+I1), s	8.0	11.0	16.0	48.0	26.0	52.0	6.2	56.5
Green Ext Time (p_c), s	0.0	19.5	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		517.4
HCM 2010 LOS		F

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	60	60	80	80	50	40
Future Vol, veh/h	60	60	80	80	50	40
Conflicting Peds, #/hr	4	0	0	4	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	65	86	86	54	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	173	0	-	0	324	134
Stage 1	-	-	-	-	130	-
Stage 2	-	-	-	-	194	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1404	-	-	-	670	915
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	839	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1399	-	-	-	637	911
Mov Cap-2 Maneuver	-	-	-	-	637	-
Stage 1	-	-	-	-	895	-
Stage 2	-	-	-	-	798	-

Approach	EB	WB	SB
HCM Control Delay, s	3.8	0	10.6
HCM LOS			B

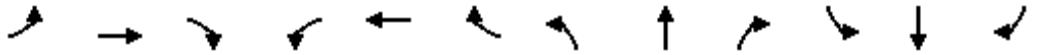
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1399	-	-	-	735
HCM Lane V/C Ratio	0.046	-	-	-	0.132
HCM Control Delay (s)	7.7	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	60	60	0	80	80	0	50	40
Future Vol, veh/h	0	60	60	0	80	80	0	50	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	65	65	0	86	86	0	54	43
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.2	7.9	8
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	0%	56%
Vol Thru, %	50%	50%	0%
Vol Right, %	0%	50%	44%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	120	160	90
LT Vol	60	0	50
Through Vol	60	80	0
RT Vol	0	80	40
Lane Flow Rate	129	172	97
Geometry Grp	1	1	1
Degree of Util (X)	0.155	0.187	0.119
Departure Headway (Hd)	4.337	4.005	4.426
Convergence, Y/N	Yes	Yes	Yes
Cap	814	902	815
Service Time	2.434	2.005	2.426
HCM Lane V/C Ratio	0.158	0.191	0.119
HCM Control Delay	8.2	7.9	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.7	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	110	40	290	130	700	170	3460	610	780	3030	80
Future Volume (veh/h)	140	110	40	290	130	700	170	3460	610	780	3030	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	151	118	28	312	140	667	183	3720	442	839	3258	84
Adj No. of Lanes	1	1	0	1	1	1	1	3	1	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	430	102	118	568	479	101	1937	572	186	2184	56
Arrive On Green	0.06	0.30	0.29	0.07	0.30	0.30	0.06	0.38	0.38	0.10	0.43	0.42
Sat Flow, veh/h	1774	1456	345	1774	1863	1571	1774	5085	1502	1774	5096	130
Grp Volume(v), veh/h	151	0	146	312	140	667	183	3720	442	839	2157	1185
Grp Sat Flow(s),veh/h/ln	1774	0	1801	1774	1863	1571	1774	1695	1502	1774	1695	1836
Q Serve(g_s), s	6.0	0.0	6.5	7.0	5.9	32.0	6.0	40.0	27.1	11.0	45.0	45.0
Cycle Q Clear(g_c), s	6.0	0.0	6.5	7.0	5.9	32.0	6.0	40.0	27.1	11.0	45.0	45.0
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	101	0	532	118	568	479	101	1937	572	186	1453	787
V/C Ratio(X)	1.49	0.00	0.27	2.64	0.25	1.39	1.81	1.92	0.77	4.51	1.48	1.51
Avail Cap(c_a), veh/h	101	0	532	118	568	479	101	1937	572	186	1453	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	28.4	49.0	27.4	36.5	49.5	32.5	28.5	47.0	30.0	30.0
Incr Delay (d2), s/veh	265.2	0.0	0.3	760.9	0.2	189.4	398.5	416.0	9.8	1593.8	221.8	234.3
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	10.4	0.0	3.3	28.4	3.1	39.0	14.2	93.3	12.7	87.6	65.7	74.0
LnGrp Delay(d),s/veh	314.7	0.0	28.7	809.9	27.7	225.9	448.0	448.5	38.3	1640.8	251.8	264.3
LnGrp LOS	F		C	F	C	F	F	F	D	F	F	F
Approach Vol, veh/h		297			1119			4345			4181	
Approach Delay, s/veh		174.1			363.9			406.8			534.1	
Approach LOS		F			F			F			F	

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	15.0	44.0	11.0	35.0	10.0	49.0	10.0	36.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	39.5	6.5	30.5	5.5	44.5	5.5	31.5
Max Q Clear Time (g_c+I1), s	13.0	42.0	9.0	8.5	8.0	47.0	8.0	34.0
Green Ext Time (p_c), s	0.0	0.0	0.0	4.6	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	448.5
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	4.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	130	10	60	80	10	115
Future Vol, veh/h	130	10	60	80	10	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	140	11	65	86	11	124

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	151	0	360	145
Stage 1	-	-	-	-	145	-
Stage 2	-	-	-	-	215	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1430	-	639	902
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	821	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1430	-	608	902
Mov Cap-2 Maneuver	-	-	-	-	608	-
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	782	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	868	-	-	1430	-
HCM Lane V/C Ratio	0.155	-	-	0.045	-
HCM Control Delay (s)	9.9	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	130	10	0	60	80	0	10	115
Future Vol, veh/h	0	130	10	0	60	80	0	10	115
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	140	11	0	65	86	0	11	124
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	8.5	7.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	8%	0%	43%
Vol Thru, %	0%	93%	57%
Vol Right, %	92%	7%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	125	140	140
LT Vol	10	0	60
Through Vol	0	130	80
RT Vol	115	10	0
Lane Flow Rate	134	151	151
Geometry Grp	1	1	1
Degree of Util (X)	0.152	0.177	0.183
Departure Headway (Hd)	4.076	4.355	4.479
Convergence, Y/N	Yes	Yes	Yes
Cap	886	829	805
Service Time	2.076	2.355	2.479
HCM Lane V/C Ratio	0.151	0.182	0.188
HCM Control Delay	7.8	8.3	8.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.6	0.7

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	5400	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	1484	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1573	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1573	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.6	mi/h
Number of lanes, N	4	
Density, D	24.4	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line ON to Tracy OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	7930	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	2179	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2309	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2309	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	53.3	mi/h
Number of lanes, N	4	
Density, D	43.3	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	5800	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1526	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1618	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1618	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.3	mi/h
Number of lanes, N	4	
Density, D	25.2	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy ON / Naglee OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	8580	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2258	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2393	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2393	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	51.0	mi/h
Number of lanes, N	4	
Density, D	46.9	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	9410	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	2425	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2571	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2571	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	45.6	mi/h
Number of lanes, N	4	
Density, D	56.4	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line Rd ON /Tracy Bl OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	11835	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	3050	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	3233	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	3233	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	17.4	mi/h
Number of lanes, N	4	
Density, D	186.3	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	7830	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	2018	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2139	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2139	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	57.3	mi/h
Number of lanes, N	4	
Density, D	37.4	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy Blvd ON / Naglee Rd OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	9410	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	2425	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2571	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

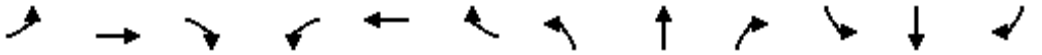
LOS and Performance Measures

Flow rate, vp	2571	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	45.6	mi/h
Number of lanes, N	4	
Density, D	56.4	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

APPENDIX D

CUMULATIVE PLUS PROJECT TECHNICAL CALCULATIONS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	414	10	320	171	20	2550	850	480	21	50	170
Future Volume (veh/h)	206	414	10	320	171	20	2550	850	480	21	50	170
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	229	460	1	356	190	10	2833	944	509	23	56	9
Adj No. of Lanes	2	2	1	1	3	0	3	1	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	644	287	150	1100	57	1692	726	617	401	517	510
Arrive On Green	0.04	0.18	0.18	0.08	0.22	0.22	0.34	0.39	0.39	0.23	0.28	0.28
Sat Flow, veh/h	3442	3539	1579	1774	4949	257	5003	1863	1582	1774	1863	1583
Grp Volume(v), veh/h	229	460	1	356	129	71	2833	944	509	23	56	9
Grp Sat Flow(s),veh/h/ln	1721	1770	1579	1774	1695	1816	1668	1863	1582	1774	1863	1583
Q Serve(g_s), s	6.0	16.6	0.0	11.5	4.2	4.3	46.0	53.0	39.4	1.4	3.0	0.5
Cycle Q Clear(g_c), s	6.0	16.6	0.0	11.5	4.2	4.3	46.0	53.0	39.4	1.4	3.0	0.5
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	644	287	150	754	404	1692	726	617	401	517	510
V/C Ratio(X)	1.51	0.71	0.00	2.37	0.17	0.17	1.67	1.30	0.83	0.06	0.11	0.02
Avail Cap(c_a), veh/h	152	1275	569	150	1359	728	1692	726	617	401	517	510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.0	52.3	11.6	62.3	42.8	42.8	45.0	41.5	37.3	41.2	36.6	31.5
Incr Delay (d2), s/veh	259.7	1.5	0.0	638.0	0.1	0.2	306.0	145.2	12.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	8.2	0.0	32.2	2.0	2.2	69.1	56.5	19.2	0.7	1.6	0.2
LnGrp Delay(d),s/veh	324.7	53.8	11.7	700.3	42.9	43.0	351.0	186.7	49.3	41.3	36.7	31.5
LnGrp LOS	F	D	B	F	D	D	F	F	D	D	D	C
Approach Vol, veh/h		690			556			4286			88	
Approach Delay, s/veh		143.6			463.8			279.0			37.3	
Approach LOS		F			F			F			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	34.8	57.0	15.5	28.7	50.0	41.8	10.0	34.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	52.5	11.0	48.5	45.5	12.5	5.5	54.0
Max Q Clear Time (g_c+I1), s	3.4	55.0	13.5	18.6	48.0	5.0	8.0	6.3
Green Ext Time (p_c), s	0.0	0.0	0.0	3.3	0.0	0.1	0.0	2.5

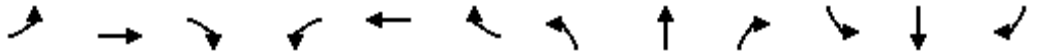
Intersection Summary	
HCM 2010 Ctrl Delay	276.9
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	2390	10	601	1288	431	20	190	380	350	130	10
Future Volume (veh/h)	10	2390	10	601	1288	431	20	190	380	350	130	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	2656	0	668	1431	458	22	211	410	389	144	11
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	891	0	248	815	261	35	102	198	165	426	33
Arrive On Green	0.01	0.48	0.00	0.14	0.60	0.61	0.02	0.18	0.18	0.09	0.25	0.25
Sat Flow, veh/h	1774	1863	0	1774	1353	433	1774	567	1101	1774	1709	131
Grp Volume(v), veh/h	11	2656	0	668	0	1889	22	0	621	389	0	155
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	0	1786	1774	0	1668	1774	0	1840
Q Serve(g_s), s	0.9	72.0	0.0	21.0	0.0	90.7	1.9	0.0	27.0	14.0	0.0	10.4
Cycle Q Clear(g_c), s	0.9	72.0	0.0	21.0	0.0	90.7	1.9	0.0	27.0	14.0	0.0	10.4
Prop In Lane	1.00		0.00	1.00		0.24	1.00		0.66	1.00		0.07
Lane Grp Cap(c), veh/h	22	891	0	248	0	1076	35	0	299	165	0	458
V/C Ratio(X)	0.51	2.98	0.00	2.70	0.00	1.76	0.62	0.00	2.07	2.36	0.00	0.34
Avail Cap(c_a), veh/h	59	891	0	248	0	1076	72	0	299	165	0	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.9	39.3	0.0	64.8	0.0	29.9	73.2	0.0	61.8	68.2	0.0	46.3
Incr Delay (d2), s/veh	17.0	894.2	0.0	775.7	0.0	343.8	16.4	0.0	495.0	629.1	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	258.2	0.0	63.6	0.0	147.3	1.1	0.0	53.5	35.7	0.0	5.6
LnGrp Delay(d),s/veh	90.9	933.5	0.0	840.5	0.0	373.7	89.6	0.0	556.7	697.4	0.0	48.3
LnGrp LOS	F	F		F		F	F		F	F		D
Approach Vol, veh/h		2667			2557			643			544	
Approach Delay, s/veh		930.0			495.6			540.8			512.4	
Approach LOS		F			F			F			F	

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	18.0	31.0	25.0	76.5	7.5	41.5	6.3	95.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	26.5	20.5	72.0	6.1	33.9	5.0	87.5
Max Q Clear Time (g_c+I1), s	16.0	29.0	23.0	74.0	3.9	12.4	2.9	92.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	5.7	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	682.3
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	755	3613	650	0	2674	165	0	0	0	366	70	2570
Future Volume (veh/h)	755	3613	650	0	2674	165	0	0	0	366	70	2570
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	839	4014	0	0	2971	0				463	0	0
Adj No. of Lanes	1	3	1	0	2	1				2	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	259	3966	1235	0	2134	1206				563	0	482
Arrive On Green	0.15	0.78	0.00	0.00	0.40	0.00				0.16	0.00	0.00
Sat Flow, veh/h	1774	5085	1583	0	3632	1583				3548	0	1583
Grp Volume(v), veh/h	839	4014	0	0	2971	0				463	0	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	0	1770	1583				1774	0	1583
Q Serve(g_s), s	19.0	101.4	0.0	0.0	78.4	0.0				16.4	0.0	0.0
Cycle Q Clear(g_c), s	19.0	101.4	0.0	0.0	78.4	0.0				16.4	0.0	0.0
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	259	3966	1235	0	2134	1206				563	0	482
V/C Ratio(X)	3.24	1.01	0.00	0.00	1.39	0.00				0.82	0.00	0.00
Avail Cap(c_a), veh/h	259	3966	1235	0	2134	1206				1215	0	773
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.09	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	55.5	14.3	0.0	0.0	38.7	0.0				52.9	0.0	0.0
Incr Delay (d2), s/veh	1016.1	17.4	0.0	0.0	176.8	0.0				3.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	82.5	52.6	0.0	0.0	90.7	0.0				8.3	0.0	0.0
LnGrp Delay(d),s/veh	1071.6	31.7	0.0	0.0	215.5	0.0				56.0	0.0	0.0
LnGrp LOS	F	F			F					E		
Approach Vol, veh/h		4853			2971						463	
Approach Delay, s/veh		211.4			215.5						56.0	
Approach LOS		F			F						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		105.4		24.6	23.0	82.4		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		77.0		44.0	18.5	54.0		
Max Q Clear Time (g_c+I1), s		103.4		18.4	21.0	80.4		
Green Ext Time (p_c), s		0.0		1.7	0.0	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	204.2
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1694	2280	0	2799	502	40	0	196	0	0	0
Future Volume (veh/h)	0	1694	2280	0	2799	502	40	0	196	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	1882	0	0	3110	0	44	0	0			
Adj No. of Lanes	0	2	1	0	3	1	1	0	1			
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	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1919	853	0	2758	859	703	0	627			
Arrive On Green	0.00	0.91	0.00	0.00	0.54	0.00	0.40	0.00	0.00			
Sat Flow, veh/h	0	3632	1583	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	0	1882	0	0	3110	0	44	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	58.2	0.0	0.0	70.5	0.0	2.0	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	58.2	0.0	0.0	70.5	0.0	2.0	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1919	853	0	2758	859	703	0	627			
V/C Ratio(X)	0.00	0.98	0.00	0.00	1.13	0.00	0.06	0.00	0.00			
Avail Cap(c_a), veh/h	0	1919	853	0	2758	859	703	0	627			
HCM Platoon Ratio	1.00	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.62	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	5.6	0.0	0.0	29.8	0.0	24.3	0.0	0.0			
Incr Delay (d2), s/veh	0.0	3.1	0.0	0.0	60.8	0.0	0.2	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	25.6	0.0	0.0	48.2	0.0	1.0	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	8.7	0.0	0.0	90.6	0.0	24.5	0.0	0.0			
LnGrp LOS		A			F		C					
Approach Vol, veh/h		1882			3110			44				
Approach Delay, s/veh		8.7			90.6			24.5				
Approach LOS		A			F			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		74.5				74.5		55.5
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		70.0				70.0		51.0
Max Q Clear Time (g_c+I1), s		60.2				72.5		4.0
Green Ext Time (p_c), s		9.7				0.0		0.1

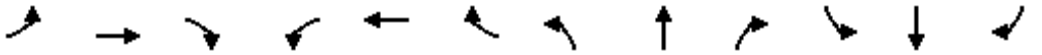
Intersection Summary	
HCM 2010 Ctrl Delay	59.4
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	1700	50	134	3050	10	121	20	167	10	10	80
Future Volume (veh/h)	140	1700	50	134	3050	10	121	20	167	10	10	80
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		1.00	1.00		1.00	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	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	156	1889	50	149	3389	11	134	22	167	11	11	48
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	1878	578	123	1972	6	198	68	514	136	115	501
Arrive On Green	0.06	0.37	0.37	0.09	0.50	0.50	0.06	0.36	0.36	0.08	0.38	0.38
Sat Flow, veh/h	1774	5085	1581	1774	5233	17	3442	187	1423	1774	302	1316
Grp Volume(v), veh/h	156	1889	50	149	2194	1206	134	0	189	11	0	59
Grp Sat Flow(s),veh/h/ln	1774	1695	1581	1774	1695	1860	1721	0	1610	1774	0	1618
Q Serve(g_s), s	8.0	48.0	2.2	9.0	49.0	49.0	5.0	0.0	11.1	0.7	0.0	3.1
Cycle Q Clear(g_c), s	8.0	48.0	2.2	9.0	49.0	49.0	5.0	0.0	11.1	0.7	0.0	3.1
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.88	1.00		0.81
Lane Grp Cap(c), veh/h	109	1878	578	123	1278	701	198	0	582	136	0	616
V/C Ratio(X)	1.43	1.01	0.09	1.21	1.72	1.72	0.68	0.00	0.32	0.08	0.00	0.10
Avail Cap(c_a), veh/h	109	1878	578	123	1278	701	252	0	582	164	0	616
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	61.0	41.0	17.6	59.0	32.4	32.4	60.1	0.0	30.2	55.7	0.0	26.0
Incr Delay (d2), s/veh	233.3	21.3	0.3	102.9	323.0	324.6	4.9	0.0	1.5	0.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	26.1	1.0	7.9	79.9	88.0	2.5	0.0	5.1	0.4	0.0	1.4
LnGrp Delay(d),s/veh	294.3	62.2	17.8	161.9	355.5	357.0	65.0	0.0	31.7	56.0	0.0	26.3
LnGrp LOS	F	F	B	F	F	F	E		C	E		C
Approach Vol, veh/h		2095			3549			323			70	
Approach Delay, s/veh		78.5			347.8			45.5			31.0	
Approach LOS		E			F			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	13.0	52.0	11.5	53.5	12.0	53.0	14.0	51.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	45.5	9.0	49.0	5.5	48.5	11.5	46.5
Max Q Clear Time (g_c+I1), s	11.0	50.0	7.0	5.1	10.0	51.0	2.7	13.1
Green Ext Time (p_c), s	0.0	0.0	0.1	0.3	0.0	0.0	0.3	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	234.5
HCM 2010 LOS	F

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	943	861	540	1857	160	1100	1580	710	400	1580	197
Future Volume (veh/h)	63	943	861	540	1857	160	1100	1580	710	400	1580	197
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		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	70	1048	0	600	2063	168	1222	1756	723	444	1756	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	3	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	1760	743	265	1769	143	616	1361	608	346	1171	609
Arrive On Green	0.11	0.69	0.00	0.08	0.37	0.37	0.12	0.38	0.38	0.07	0.33	0.00
Sat Flow, veh/h	1774	5085	1583	3442	4791	387	5003	3539	1582	5003	3539	1583
Grp Volume(v), veh/h	70	1048	0	600	1455	776	1222	1756	723	444	1756	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1788	1668	1770	1582	1668	1770	1583
Q Serve(g_s), s	5.0	14.0	0.0	10.0	48.0	48.0	16.0	50.0	38.1	9.0	43.0	0.0
Cycle Q Clear(g_c), s	5.0	14.0	0.0	10.0	48.0	48.0	16.0	50.0	38.1	9.0	43.0	0.0
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	1760	743	265	1252	660	616	1361	608	346	1171	609
V/C Ratio(X)	0.73	0.60	0.00	2.27	1.16	1.18	1.98	1.29	1.19	1.28	1.50	0.00
Avail Cap(c_a), veh/h	96	1760	743	265	1252	660	616	1361	608	346	1171	609
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.1	15.2	0.0	60.0	41.0	41.1	57.0	40.0	23.3	60.5	43.5	0.0
Incr Delay (d2), s/veh	24.9	1.5	0.0	581.8	82.2	94.2	448.9	136.1	100.4	147.2	229.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	6.6	0.0	26.1	36.7	40.9	32.9	50.1	33.5	8.9	58.3	0.0
LnGrp Delay(d),s/veh	82.0	16.7	0.0	641.8	123.2	135.3	505.9	176.1	123.7	207.7	273.0	0.0
LnGrp LOS	F	B		F	F	F	F	F	F	F	F	
Approach Vol, veh/h		1118			2831			3701			2200	
Approach Delay, s/veh		20.8			236.4			274.8			259.8	
Approach LOS		C			F			F			F	

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	14.0	49.0	20.0	47.0	11.0	52.0	13.0	54.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	44.5	15.5	42.5	6.5	47.5	8.5	49.5
Max Q Clear Time (g_c+I1), s	12.0	16.0	18.0	45.0	7.0	50.0	11.0	52.0
Green Ext Time (p_c), s	0.0	8.9	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	231.6
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Traffic Vol, veh/h	20	120	80	157	34	20
Future Vol, veh/h	20	120	80	157	34	20
Conflicting Peds, #/hr	13	0	0	13	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	133	89	174	38	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	264	0	-	0	355	190
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	178	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1300	-	-	-	643	852
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	853	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1284	-	-	-	630	841
Mov Cap-2 Maneuver	-	-	-	-	630	-
Stage 1	-	-	-	-	853	-
Stage 2	-	-	-	-	836	-

Approach	EB	WB	SW
HCM Control Delay, s	1.1	0	10.7
HCM LOS			B

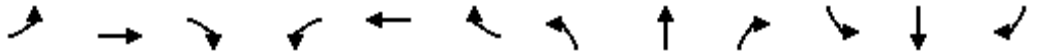
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1284	-	-	-	695
HCM Lane V/C Ratio	0.017	-	-	-	0.086
HCM Control Delay (s)	7.9	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SWU	SWL	SWR
Traffic Vol, veh/h	0	20	120	0	80	157	0	34	20
Future Vol, veh/h	0	20	120	0	80	157	0	34	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	22	133	0	89	174	0	38	22
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SW
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SW		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SW	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.3	8.3	8.1
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SWLn1
Vol Left, %	14%	0%	63%
Vol Thru, %	86%	34%	0%
Vol Right, %	0%	66%	37%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	140	237	54
LT Vol	20	0	34
Through Vol	120	80	0
RT Vol	0	157	20
Lane Flow Rate	156	263	60
Geometry Grp	1	1	1
Degree of Util (X)	0.184	0.275	0.078
Departure Headway (Hd)	4.267	3.758	4.699
Convergence, Y/N	Yes	Yes	Yes
Cap	829	940	767
Service Time	2.355	1.848	2.699
HCM Lane V/C Ratio	0.188	0.28	0.078
HCM Control Delay	8.3	8.3	8.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	1.1	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	170	144	500	120	310	252	3020	410	150	2791	40
Future Volume (veh/h)	30	170	144	500	120	310	252	3020	410	150	2791	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.94	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	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	33	189	86	556	133	301	280	3356	390	167	3101	43
Adj No. of Lanes	1	1	0	1	1	1	1	3	1	1	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	223	102	303	608	487	177	2371	718	114	2226	31
Arrive On Green	0.03	0.18	0.18	0.17	0.33	0.33	0.10	0.47	0.47	0.06	0.43	0.43
Sat Flow, veh/h	1774	1207	549	1774	1863	1493	1774	5085	1539	1774	5169	71
Grp Volume(v), veh/h	33	0	275	556	133	301	280	3356	390	167	2029	1115
Grp Sat Flow(s),veh/h/ln	1774	0	1756	1774	1863	1493	1774	1695	1539	1774	1695	1850
Q Serve(g_s), s	2.6	0.0	21.3	24.0	7.3	23.9	14.0	65.5	14.2	9.0	60.5	60.5
Cycle Q Clear(g_c), s	2.6	0.0	21.3	24.0	7.3	23.9	14.0	65.5	14.2	9.0	60.5	60.5
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	52	0	325	303	608	487	177	2371	718	114	1460	797
V/C Ratio(X)	0.63	0.00	0.85	1.83	0.22	0.62	1.58	1.42	0.54	1.47	1.39	1.40
Avail Cap(c_a), veh/h	88	0	381	303	630	505	177	2371	718	114	1460	797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.4	0.0	55.4	58.2	34.3	39.9	63.2	37.5	8.4	65.7	40.0	40.0
Incr Delay (d2), s/veh	12.1	0.0	14.3	388.0	0.2	2.2	287.8	189.4	2.9	252.6	179.6	187.2
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	11.6	44.4	3.8	10.1	21.0	72.1	8.6	12.4	64.6	72.2
LnGrp Delay(d),s/veh	79.5	0.0	69.7	446.3	34.5	42.1	351.0	226.9	11.3	318.3	219.6	227.2
LnGrp LOS	E		E	F	C	D	F	F	B	F	F	F
Approach Vol, veh/h		308			990			4026			3311	
Approach Delay, s/veh		70.8			268.1			214.6			227.1	
Approach LOS		E			F			F			F	

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	13.0	69.5	28.0	30.0	18.0	64.5	8.1	49.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	65.0	23.5	30.0	13.5	60.0	6.5	47.0
Max Q Clear Time (g_c+I1), s	11.0	67.5	26.0	23.3	16.0	62.5	4.6	25.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	3.9

Intersection Summary	
HCM 2010 Ctrl Delay	220.4
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	7	170	30	24	98	24
Future Vol, veh/h	7	170	30	24	98	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	189	33	27	109	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	60	0	-	0	251	47
Stage 1	-	-	-	-	47	-
Stage 2	-	-	-	-	204	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1544	-	-	-	738	1022
Stage 1	-	-	-	-	975	-
Stage 2	-	-	-	-	830	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1544	-	-	-	734	1022
Mov Cap-2 Maneuver	-	-	-	-	734	-
Stage 1	-	-	-	-	975	-
Stage 2	-	-	-	-	826	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1544	-	-	-	734	1022
HCM Lane V/C Ratio	0.005	-	-	-	0.148	0.026
HCM Control Delay (s)	7.3	-	-	-	10.8	8.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.1

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	258	10	150	44	10	50
Future Vol, veh/h	258	10	150	44	10	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	287	11	167	49	11	56

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	298	0	674	292
Stage 1	-	-	-	-	292	-
Stage 2	-	-	-	-	382	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1263	-	420	747
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	690	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1263	-	363	747
Mov Cap-2 Maneuver	-	-	-	-	363	-
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	596	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.4	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	635	-	-	1263	-
HCM Lane V/C Ratio	0.105	-	-	0.132	-
HCM Control Delay (s)	11.3	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.5	-

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	258	10	0	150	44	0	10	50
Future Vol, veh/h	0	258	10	0	150	44	0	10	50
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	287	11	0	167	49	0	11	56
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.7	9.3	8.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	17%	0%	77%
Vol Thru, %	0%	96%	23%
Vol Right, %	83%	4%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	60	268	194
LT Vol	10	0	150
Through Vol	0	258	44
RT Vol	50	10	0
Lane Flow Rate	67	298	216
Geometry Grp	1	1	1
Degree of Util (X)	0.085	0.356	0.272
Departure Headway (Hd)	4.596	4.299	4.548
Convergence, Y/N	Yes	Yes	Yes
Cap	780	840	791
Service Time	2.623	2.316	2.566
HCM Lane V/C Ratio	0.086	0.355	0.273
HCM Control Delay	8.1	9.7	9.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	1.6	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	102	30	470	30	50	2360	720	400	175	130	441
Future Volume (veh/h)	30	102	30	470	30	50	2360	720	400	175	130	441
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	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	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	32	110	8	505	32	52	2538	774	413	188	140	382
Adj No. of Lanes	2	2	1	1	3	0	3	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	323	144	114	402	187	2464	1103	926	114	306	319
Arrive On Green	0.04	0.09	0.09	0.06	0.12	0.11	0.49	0.59	0.59	0.06	0.16	0.16
Sat Flow, veh/h	3442	3539	1575	1774	3390	1575	5003	1863	1563	1774	1863	1583
Grp Volume(v), veh/h	32	110	8	505	32	52	2538	774	413	188	140	382
Grp Sat Flow(s),veh/h/ln	1721	1770	1575	1774	1695	1575	1668	1863	1563	1774	1863	1583
Q Serve(g_s), s	0.8	2.5	0.4	5.5	0.7	2.6	42.0	24.7	12.5	5.5	5.8	14.0
Cycle Q Clear(g_c), s	0.8	2.5	0.4	5.5	0.7	2.6	42.0	24.7	12.5	5.5	5.8	14.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	323	144	114	402	187	2464	1103	926	114	306	319
V/C Ratio(X)	0.25	0.34	0.06	4.41	0.08	0.28	1.03	0.70	0.45	1.64	0.46	1.20
Avail Cap(c_a), veh/h	222	1972	877	114	1888	877	2464	1103	926	114	306	319
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	36.3	35.4	39.9	33.4	34.5	21.6	12.1	9.6	39.9	32.2	34.1
Incr Delay (d2), s/veh	1.0	0.6	0.2	1556.1	0.1	0.8	26.3	3.7	1.6	325.1	1.1	115.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.2	0.2	52.1	0.3	1.2	25.2	13.6	5.8	13.0	3.1	17.7
LnGrp Delay(d),s/veh	40.9	37.0	35.6	1596.0	33.5	35.3	48.0	15.9	11.2	365.0	33.3	150.0
LnGrp LOS	D	D	D	F	C	D	F	B	B	F	C	F
Approach Vol, veh/h		150			589			3725			710	
Approach Delay, s/veh		37.7			1373.3			37.2			183.9	
Approach LOS		D			F			D			F	

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	9.5	54.5	9.5	11.8	46.0	18.0	7.2	14.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	50.0	5.0	47.0	41.5	13.5	5.0	47.0
Max Q Clear Time (g_c+I1), s	7.5	26.7	7.5	4.5	44.0	16.0	2.8	4.6
Green Ext Time (p_c), s	0.0	10.7	0.0	1.3	0.0	0.0	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	209.5
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	850	1501	730	851	1507	731	80	1550	521	481	1230	10
Future Volume (veh/h)	850	1501	730	851	1507	731	80	1550	521	481	1230	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	914	1614	780	915	1620	762	86	1667	548	517	1323	10
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	305	147	390	458	216	93	373	123	130	541	4
Arrive On Green	0.09	0.26	0.26	0.22	0.38	0.39	0.05	0.28	0.28	0.07	0.29	0.29
Sat Flow, veh/h	1774	1188	574	1774	1199	564	1774	1343	442	1774	1846	14
Grp Volume(v), veh/h	914	0	2394	915	0	2382	86	0	2215	517	0	1333
Grp Sat Flow(s),veh/h/ln	1774	0	1761	1774	0	1763	1774	0	1785	1774	0	1860
Q Serve(g_s), s	8.5	0.0	24.5	21.0	0.0	36.5	4.6	0.0	26.5	7.0	0.0	28.0
Cycle Q Clear(g_c), s	8.5	0.0	24.5	21.0	0.0	36.5	4.6	0.0	26.5	7.0	0.0	28.0
Prop In Lane	1.00		0.33	1.00		0.32	1.00		0.25	1.00		0.01
Lane Grp Cap(c), veh/h	158	0	452	390	0	674	93	0	495	130	0	545
V/C Ratio(X)	5.79	0.00	5.30	2.35	0.00	3.53	0.93	0.00	4.47	3.98	0.00	2.44
Avail Cap(c_a), veh/h	158	0	452	390	0	674	93	0	495	130	0	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.5	0.0	35.5	37.3	0.0	29.4	45.1	0.0	34.5	44.3	0.0	33.8
Incr Delay (d2), s/veh	2168.5	0.0	1938.9	613.4	0.0	1144.3	69.4	0.0	1567.2	1357.4	0.0	655.3
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	99.2	0.0	255.2	76.7	0.0	231.8	4.0	0.0	228.5	52.4	0.0	113.5
LnGrp Delay(d),s/veh	2212.0	0.0	1974.4	650.7	0.0	1173.7	114.5	0.0	1601.7	1401.6	0.0	689.1
LnGrp LOS	F		F	F		F	F		F	F		F
Approach Vol, veh/h		3308			3297			2301			1850	
Approach Delay, s/veh		2040.0			1028.6			1546.1			888.2	
Approach LOS		F			F			F			F	

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	11.0	30.5	25.0	29.0	9.5	32.0	13.0	41.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	26.0	20.5	24.5	5.0	27.5	8.5	36.5
Max Q Clear Time (g_c+I1), s	9.0	28.5	23.0	26.5	6.6	30.0	10.5	38.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	1426.2
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	478	5594	1240	0	3337	173	0	0	0	381	30	2100
Future Volume (veh/h)	478	5594	1240	0	3337	173	0	0	0	381	30	2100
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	514	6015	0	0	3588	0				433	0	2117
Adj No. of Lanes	1	3	1	0	3	1				2	0	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	319	2780	866	0	1729	1172				1419	0	917
Arrive On Green	0.18	0.55	0.00	0.00	0.34	0.00				0.40	0.00	0.40
Sat Flow, veh/h	1774	5085	1583	0	5253	1583				3548	0	1580
Grp Volume(v), veh/h	514	6015	0	0	3588	0				433	0	2117
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	0	1695	1583				1774	0	1580
Q Serve(g_s), s	27.0	82.0	0.0	0.0	51.0	0.0				12.5	0.0	60.0
Cycle Q Clear(g_c), s	27.0	82.0	0.0	0.0	51.0	0.0				12.5	0.0	60.0
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	319	2780	866	0	1729	1172				1419	0	917
V/C Ratio(X)	1.61	2.16	0.00	0.00	2.08	0.00				0.31	0.00	2.31
Avail Cap(c_a), veh/h	319	2780	866	0	1729	1172				1419	0	917
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	0.00	0.00	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	61.5	34.0	0.0	0.0	49.5	0.0				30.8	0.0	31.5
Incr Delay (d2), s/veh	288.5	524.9	0.0	0.0	484.0	0.0				0.1	0.0	592.4
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	38.8	173.2	0.0	0.0	101.3	0.0				6.2	0.0	204.9
LnGrp Delay(d),s/veh	350.0	558.9	0.0	0.0	533.5	0.0				30.9	0.0	623.9
LnGrp LOS	F	F			F					C		F
Approach Vol, veh/h		6529			3588						2550	
Approach Delay, s/veh		542.4			533.5						523.2	
Approach LOS		F			F						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		86.0		64.0	31.0	55.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		81.5		59.5	26.5	50.5		
Max Q Clear Time (g_c+I1), s		84.0		62.0	29.0	53.0		
Green Ext Time (p_c), s		0.0		0.0	0.0	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	536.0
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2735	3240	0	3265	707	240	0	1298	0	0	0
Future Volume (veh/h)	0	2735	3240	0	3265	707	240	0	1298	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	2941	0	0	3511	0	258	0	0			
Adj No. of Lanes	0	2	1	0	3	1	1	0	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1722	1488	0	2475	771	816	0	728			
Arrive On Green	0.00	0.33	0.00	0.00	0.49	0.00	0.46	0.00	0.00			
Sat Flow, veh/h	0	3632	1583	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	0	2941	0	0	3511	0	258	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	73.0	0.0	0.0	73.0	0.0	13.8	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	73.0	0.0	0.0	73.0	0.0	13.8	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1722	1488	0	2475	771	816	0	728			
V/C Ratio(X)	0.00	1.71	0.00	0.00	1.42	0.00	0.32	0.00	0.00			
Avail Cap(c_a), veh/h	0	1722	1488	0	2475	771	816	0	728			
HCM Platoon Ratio	1.00	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.43	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	50.5	0.0	0.0	38.5	0.0	25.6	0.0	0.0			
Incr Delay (d2), s/veh	0.0	318.6	0.0	0.0	189.5	0.0	1.0	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	111.9	0.0	0.0	77.6	0.0	7.0	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	369.1	0.0	0.0	228.0	0.0	26.6	0.0	0.0			
LnGrp LOS		F			F		C					
Approach Vol, veh/h		2941			3511			258				
Approach Delay, s/veh		369.1			228.0			26.6				
Approach LOS		F			F			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		77.0				77.0		73.0
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		72.5				72.5		68.5
Max Q Clear Time (g_c+I1), s		75.0				75.0		15.8
Green Ext Time (p_c), s		0.0				0.0		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	282.1
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	3795	53	156	3610	10	168	10	133	30	20	120
Future Volume (veh/h)	185	3795	53	156	3610	10	168	10	133	30	20	120
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		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	199	4081	53	168	3882	11	181	11	125	32	22	89
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	2424	731	83	2391	7	138	42	477	82	106	428
Arrive On Green	0.07	0.48	0.47	0.06	0.61	0.60	0.04	0.32	0.32	0.05	0.33	0.33
Sat Flow, veh/h	1774	5085	1544	1774	5235	15	3442	130	1472	1774	321	1298
Grp Volume(v), veh/h	199	4081	53	168	2513	1380	181	0	136	32	0	111
Grp Sat Flow(s),veh/h/ln	1774	1695	1544	1774	1695	1860	1721	0	1601	1774	0	1619
Q Serve(g_s), s	10.0	71.5	2.8	7.0	68.5	68.5	6.0	0.0	9.4	2.6	0.0	7.4
Cycle Q Clear(g_c), s	10.0	71.5	2.8	7.0	68.5	68.5	6.0	0.0	9.4	2.6	0.0	7.4
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.92	1.00		0.80
Lane Grp Cap(c), veh/h	118	2424	731	83	1548	849	138	0	519	82	0	534
V/C Ratio(X)	1.68	1.68	0.07	2.03	1.62	1.63	1.31	0.00	0.26	0.39	0.00	0.21
Avail Cap(c_a), veh/h	118	2424	731	83	1548	849	138	0	519	82	0	534
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.41	0.41	0.41	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.0	39.3	21.5	70.3	29.4	29.5	72.0	0.0	37.6	69.5	0.0	36.3
Incr Delay (d2), s/veh	321.7	308.4	0.1	467.0	280.6	281.8	183.8	0.0	1.2	3.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	102.7	1.2	14.2	92.0	101.3	6.4	0.0	4.3	1.4	0.0	3.4
LnGrp Delay(d),s/veh	391.7	347.6	21.6	537.3	310.0	311.3	255.8	0.0	38.9	72.6	0.0	37.2
LnGrp LOS	F	F	C	F	F	F	F		D	E		D
Approach Vol, veh/h		4333			4061			317			143	
Approach Delay, s/veh		345.6			319.9			162.7			45.1	
Approach LOS		F			F			F			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	11.0	75.5	10.0	53.5	14.0	72.5	10.9	52.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	71.0	5.5	49.0	9.5	68.0	6.4	48.1
Max Q Clear Time (g_c+I1), s	9.0	73.5	8.0	9.4	12.0	70.5	4.6	11.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.0	0.0	0.1	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	322.4
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1064	838	2191	210	1824	10	1480	2300	520	90	1500	215
Future Volume (veh/h)	1064	838	2191	210	1824	10	1480	2300	520	90	1500	215
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		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	1144	901	0	226	1961	1	1591	2473	496	97	1613	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	2305	866	138	1750	1	467	1286	575	126	1085	739
Arrive On Green	0.27	0.76	0.00	0.04	0.33	0.33	0.09	0.36	0.36	0.04	0.31	0.00
Sat Flow, veh/h	1774	5085	1583	3442	5250	3	5003	3539	1582	3442	3539	1583
Grp Volume(v), veh/h	1144	901	0	226	1266	696	1591	2473	496	97	1613	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1862	1668	1770	1582	1721	1770	1583
Q Serve(g_s), s	24.0	9.2	0.0	6.0	50.0	50.0	14.0	54.5	43.6	4.2	46.0	0.0
Cycle Q Clear(g_c), s	24.0	9.2	0.0	6.0	50.0	50.0	14.0	54.5	43.6	4.2	46.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	284	2305	866	138	1130	621	467	1286	575	126	1085	739
V/C Ratio(X)	4.03	0.39	0.00	1.64	1.12	1.12	3.41	1.92	0.86	0.77	1.49	0.00
Avail Cap(c_a), veh/h	284	2305	866	138	1130	621	467	1286	575	126	1085	739
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.0	11.1	0.0	72.0	50.0	50.0	68.0	47.8	44.3	71.6	52.0	0.0
Incr Delay (d2), s/veh	1372.0	0.5	0.0	319.0	66.4	74.0	1088.7	418.3	15.7	24.5	223.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	119.9	4.3	0.0	8.9	33.8	38.5	53.5	101.3	21.6	2.4	56.2	0.0
LnGrp Delay(d),s/veh	1427.0	11.6	0.0	391.0	116.4	124.0	1156.7	466.1	60.0	96.1	275.7	0.0
LnGrp LOS	F	B		F	F	F	F	F	E	F	F	
Approach Vol, veh/h		2045			2188			4560			1710	
Approach Delay, s/veh		803.4			147.2			662.9			265.5	
Approach LOS		F			F			F			F	

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	72.0	18.0	50.0	28.0	54.0	9.5	58.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	67.5	13.5	45.5	23.5	49.5	5.0	54.0
Max Q Clear Time (g_c+I1), s	8.0	11.2	16.0	48.0	26.0	52.0	6.2	56.5
Green Ext Time (p_c), s	0.0	19.7	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		518.1
HCM 2010 LOS		F

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Traffic Vol, veh/h	60	60	80	112	50	55
Future Vol, veh/h	60	60	80	112	50	55
Conflicting Peds, #/hr	4	0	0	4	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	65	86	120	54	59

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	207	0	-	0	341	151
Stage 1	-	-	-	-	147	-
Stage 2	-	-	-	-	194	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1364	-	-	-	655	895
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	839	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1359	-	-	-	621	891
Mov Cap-2 Maneuver	-	-	-	-	621	-
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	796	-

Approach	EB	WB	SW
HCM Control Delay, s	3.9	0	10.8
HCM LOS			B

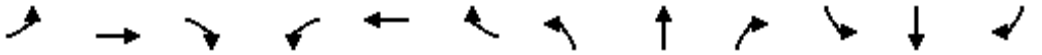
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1359	-	-	-	738
HCM Lane V/C Ratio	0.047	-	-	-	0.153
HCM Control Delay (s)	7.8	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SWU	SWL	SWR
Traffic Vol, veh/h	0	60	60	0	80	112	0	50	55
Future Vol, veh/h	0	60	60	0	80	112	0	50	55
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	65	65	0	86	120	0	54	59
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SW
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SW		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SW	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.4	8.2	8.2
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SWLn1
Vol Left, %	50%	0%	48%
Vol Thru, %	50%	42%	0%
Vol Right, %	0%	58%	52%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	120	192	105
LT Vol	60	0	50
Through Vol	60	80	0
RT Vol	0	112	55
Lane Flow Rate	129	206	113
Geometry Grp	1	1	1
Degree of Util (X)	0.161	0.229	0.139
Departure Headway (Hd)	4.497	3.987	4.432
Convergence, Y/N	Yes	Yes	Yes
Cap	800	902	811
Service Time	2.513	2	2.45
HCM Lane V/C Ratio	0.161	0.228	0.139
HCM Control Delay	8.4	8.2	8.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	0.9	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	116	49	290	137	700	196	3460	610	780	3041	80
Future Volume (veh/h)	140	116	49	290	137	700	196	3460	610	780	3041	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	151	125	38	312	147	667	211	3720	442	839	3270	84
Adj No. of Lanes	1	1	0	1	1	1	1	3	1	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	405	123	118	568	479	101	1937	572	186	2184	56
Arrive On Green	0.06	0.30	0.29	0.07	0.30	0.30	0.06	0.38	0.38	0.10	0.43	0.42
Sat Flow, veh/h	1774	1372	417	1774	1863	1571	1774	5085	1502	1774	5097	130
Grp Volume(v), veh/h	151	0	163	312	147	667	211	3720	442	839	2165	1189
Grp Sat Flow(s),veh/h/ln	1774	0	1789	1774	1863	1571	1774	1695	1502	1774	1695	1836
Q Serve(g_s), s	6.0	0.0	7.4	7.0	6.3	32.0	6.0	40.0	27.1	11.0	45.0	45.0
Cycle Q Clear(g_c), s	6.0	0.0	7.4	7.0	6.3	32.0	6.0	40.0	27.1	11.0	45.0	45.0
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	101	0	528	118	568	479	101	1937	572	186	1453	787
V/C Ratio(X)	1.49	0.00	0.31	2.64	0.26	1.39	2.08	1.92	0.77	4.51	1.49	1.51
Avail Cap(c_a), veh/h	101	0	528	118	568	479	101	1937	572	186	1453	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	28.7	49.0	27.6	36.5	49.5	32.5	28.5	47.0	30.0	30.0
Incr Delay (d2), s/veh	265.2	0.0	0.3	760.9	0.2	189.4	518.7	416.0	9.8	1593.8	224.1	236.7
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	10.4	0.0	3.7	28.4	3.3	39.0	17.5	93.3	12.7	87.6	66.2	74.5
LnGrp Delay(d),s/veh	314.7	0.0	29.1	809.9	27.8	225.9	568.2	448.5	38.3	1640.8	254.1	266.7
LnGrp LOS	F		C	F	C	F	F	F	D	F	F	F
Approach Vol, veh/h		314			1126			4373			4193	
Approach Delay, s/veh		166.4			361.8			412.8			535.2	
Approach LOS		F			F			F			F	

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	15.0	44.0	11.0	35.0	10.0	49.0	10.0	36.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	39.5	6.5	30.5	5.5	44.5	5.5	31.5
Max Q Clear Time (g_c+I1), s	13.0	42.0	9.0	9.4	8.0	47.0	8.0	34.0
Green Ext Time (p_c), s	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	450.6
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	23	149	92	98	52	13
Future Vol, veh/h	23	149	92	98	52	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	160	99	105	56	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	204	0	-	0	362	152
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	210	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1368	-	-	-	637	894
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	825	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1368	-	-	-	625	894
Mov Cap-2 Maneuver	-	-	-	-	625	-
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	810	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1368	-	-	-	625	894
HCM Lane V/C Ratio	0.018	-	-	-	0.089	0.016
HCM Control Delay (s)	7.7	-	-	-	11.3	9.1
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	191	10	60	180	10	115
Future Vol, veh/h	191	10	60	180	10	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	205	11	65	194	11	124

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	216	0	534	211
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	323	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1354	-	507	829
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	734	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1354	-	480	829
Mov Cap-2 Maneuver	-	-	-	-	480	-
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	694	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	10.5
HCM LOS			B

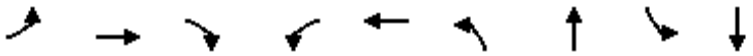
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	783	-	-	1354	-
HCM Lane V/C Ratio	0.172	-	-	0.048	-
HCM Control Delay (s)	10.5	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	191	10	0	60	180	0	10	115
Future Vol, veh/h	0	191	10	0	60	180	0	10	115
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	205	11	0	65	194	0	11	124
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.2	9.7	8.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	8%	0%	25%
Vol Thru, %	0%	95%	75%
Vol Right, %	92%	5%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	125	201	240
LT Vol	10	0	60
Through Vol	0	191	180
RT Vol	115	10	0
Lane Flow Rate	134	216	258
Geometry Grp	1	1	1
Degree of Util (X)	0.167	0.27	0.325
Departure Headway (Hd)	4.462	4.495	4.527
Convergence, Y/N	Yes	Yes	Yes
Cap	802	798	795
Service Time	2.495	2.527	2.558
HCM Lane V/C Ratio	0.167	0.271	0.325
HCM Control Delay	8.4	9.2	9.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	1.1	1.4



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	156	1889	56	149	3400	134	208	11	100
v/c Ratio	1.93	1.05	0.09	1.18	1.76	0.55	0.25	0.11	0.15
Control Delay	490.3	76.5	2.1	139.3	364.1	67.4	5.5	59.4	28.3
Queue Delay	0.0	21.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	490.3	98.3	2.1	139.3	364.1	67.4	5.5	59.4	28.3
Queue Length 50th (ft)	~202	~634	0	~149	~1602	57	9	7	38
Queue Length 95th (ft)	#345	#730	12	m76	m#823	92	66	m8	m45
Internal Link Dist (ft)		260			669		1452		850
Turn Bay Length (ft)	200			210		250			
Base Capacity (vph)	81	1799	599	126	1928	250	830	163	657
Starvation Cap Reductn	0	591	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.93	1.56	0.09	1.18	1.76	0.54	0.25	0.07	0.15

Intersection Summary

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

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

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	33	349	556	133	344	280	3356	456	167	3145
v/c Ratio	0.40	0.94	1.89	0.21	0.59	1.64	1.45	0.54	1.52	1.47
Control Delay	81.1	84.7	444.2	35.9	25.1	348.6	236.5	13.3	316.5	248.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.1	84.7	444.2	35.9	25.1	348.6	236.5	13.3	316.5	248.3
Queue Length 50th (ft)	31	303	~802	91	144	~381	~1584	118	~220	~1506
Queue Length 95th (ft)	69	#490	#1033	146	253	#567	#1650	223	#374	#1579
Internal Link Dist (ft)		1354		1127			593			1800
Turn Bay Length (ft)	450		140			220		380	220	
Base Capacity (vph)	86	386	294	630	585	171	2314	842	110	2133
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.90	1.89	0.21	0.59	1.64	1.45	0.54	1.52	1.47

Intersection Summary

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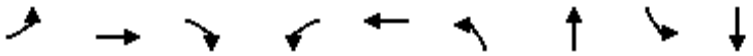
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	199	4081	57	168	3893	181	154	32	151
v/c Ratio	1.69	1.68	0.07	2.05	1.68	1.32	0.24	0.41	0.25
Control Delay	381.7	338.0	2.3	502.3	325.3	238.2	10.8	75.4	3.8
Queue Delay	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	381.7	339.4	2.3	502.3	325.3	238.2	10.8	75.4	3.8
Queue Length 50th (ft)	~284	~2131	0	~256	~2010	~117	22	32	0
Queue Length 95th (ft)	#452	#2172	16	m#139	m#1005	#200	78	m58	m20
Internal Link Dist (ft)		330			669		1452		850
Turn Bay Length (ft)	200			210		250			
Base Capacity (vph)	118	2423	768	82	2322	137	637	81	612
Starvation Cap Reductn	0	255	0	0	19	0	0	0	0
Spillback Cap Reductn	0	953	0	0	0	0	22	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.69	2.78	0.07	2.05	1.69	1.32	0.25	0.40	0.25

Intersection Summary

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

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

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	151	178	312	147	753	211	3720	656	839	3356
v/c Ratio	1.50	0.33	2.64	0.26	1.30	2.09	1.92	0.79	4.54	1.55
Control Delay	303.3	27.4	784.7	29.1	173.1	548.5	439.9	17.3	1615.8	273.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	303.3	27.4	784.7	29.1	173.1	548.5	439.9	17.3	1615.8	273.9
Queue Length 50th (ft)	~141	81	~355	74	~575	~225	~1414	133	~1047	~1178
Queue Length 95th (ft)	#269	142	#526	127	#807	#373	#1494	307	#1282	#1265
Internal Link Dist (ft)		1354		1127			593			1792
Turn Bay Length (ft)	450		140			220		380	220	
Base Capacity (vph)	101	537	118	567	580	101	1937	832	185	2172
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.50	0.33	2.64	0.26	1.30	2.09	1.92	0.79	4.54	1.55

Intersection Summary

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

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

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	5408	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	1486	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1575	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1575	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.6	mi/h
Number of lanes, N	4	
Density, D	24.4	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line ON to Tracy OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	7952	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	2185	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2316	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2316	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	53.1	mi/h
Number of lanes, N	4	
Density, D	43.6	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	5800	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1526	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1618	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1618	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.3	mi/h
Number of lanes, N	4	
Density, D	25.2	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy ON / Naglee OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	8580	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2258	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2393	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2393	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	51.0	mi/h
Number of lanes, N	4	
Density, D	46.9	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	9438	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	2432	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2578	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2578	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	45.3	mi/h
Number of lanes, N	4	
Density, D	56.9	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line Rd ON /Tracy Bl OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	11842	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	3052	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	3235	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	3235	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	17.3	mi/h
Number of lanes, N	4	
Density, D	187.5	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	7830	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	2018	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2139	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2139	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	57.3	mi/h
Number of lanes, N	4	
Density, D	37.4	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy Blvd ON / Naglee Rd OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	9410	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	2425	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2571	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

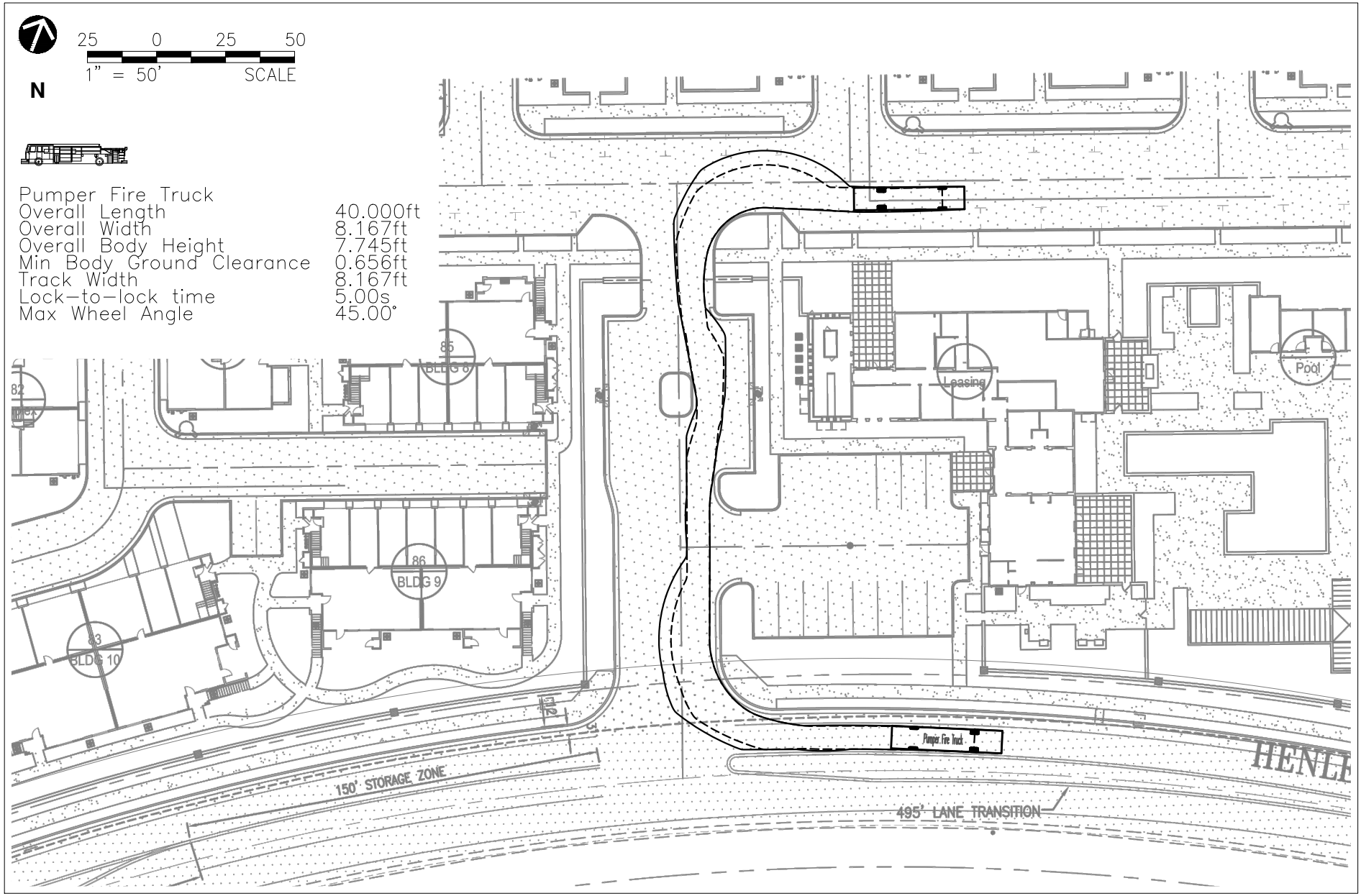
LOS and Performance Measures

Flow rate, vp	2571	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	45.6	mi/h
Number of lanes, N	4	
Density, D	56.4	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

APPENDIX E

SIGHT DISTANCE AND EMERGENCY VEHICLE ACCESS

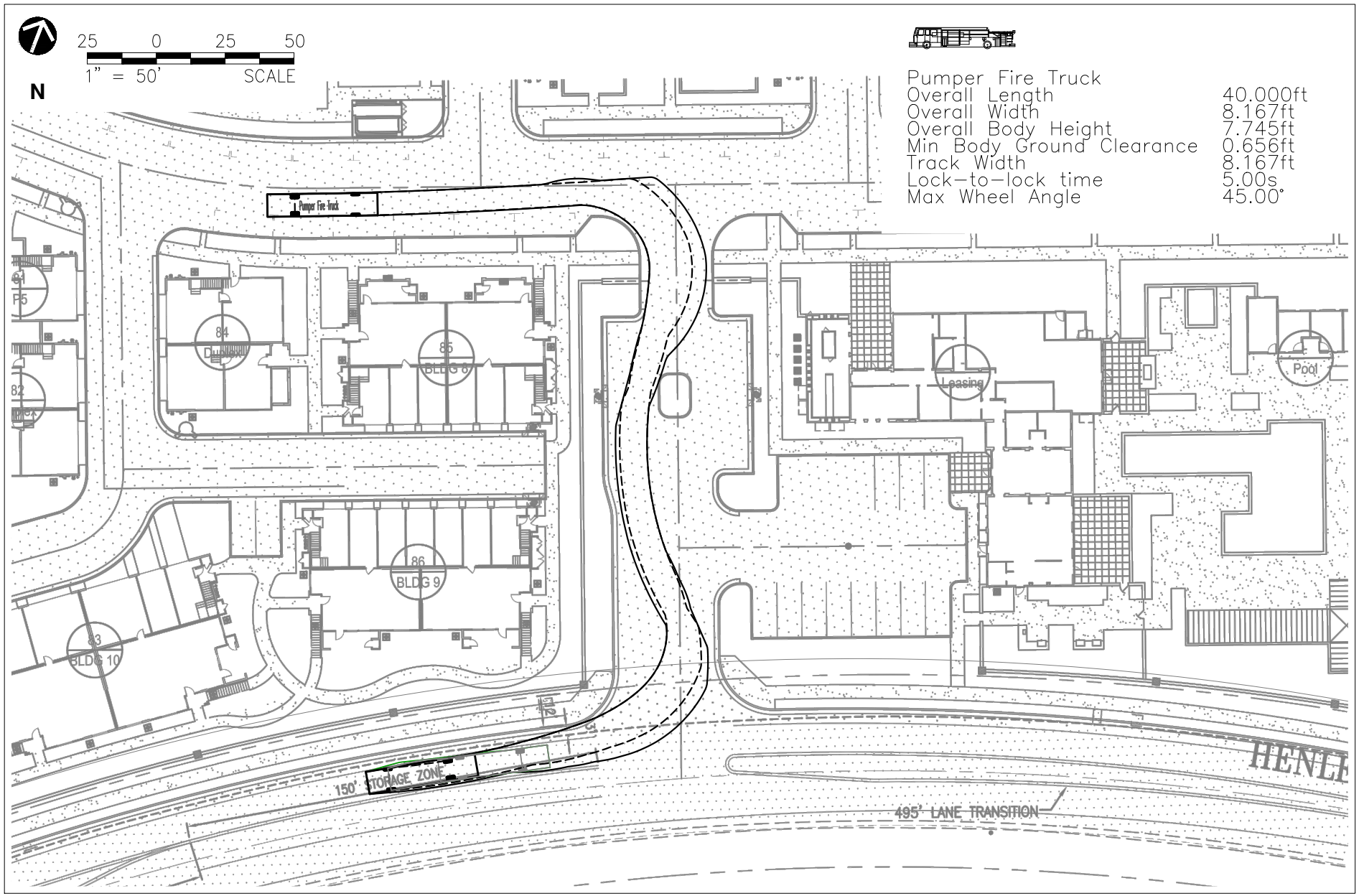


FEHR & PEERS

MAIN DRIVEWAY - FIRE TRUCK INBOUND

EXHIBIT 1

Jan 18, 2017
\\Fpsa03.fpainc.local\Data\2016 projects\3393_harvestintracy\CAD\3393_Exhibits.dwg



FEHR & PEERS

MAIN DRIVEWAY - FIRE TRUCK OUTBOUND

EXHIBIT 2

Jan 18, 2017
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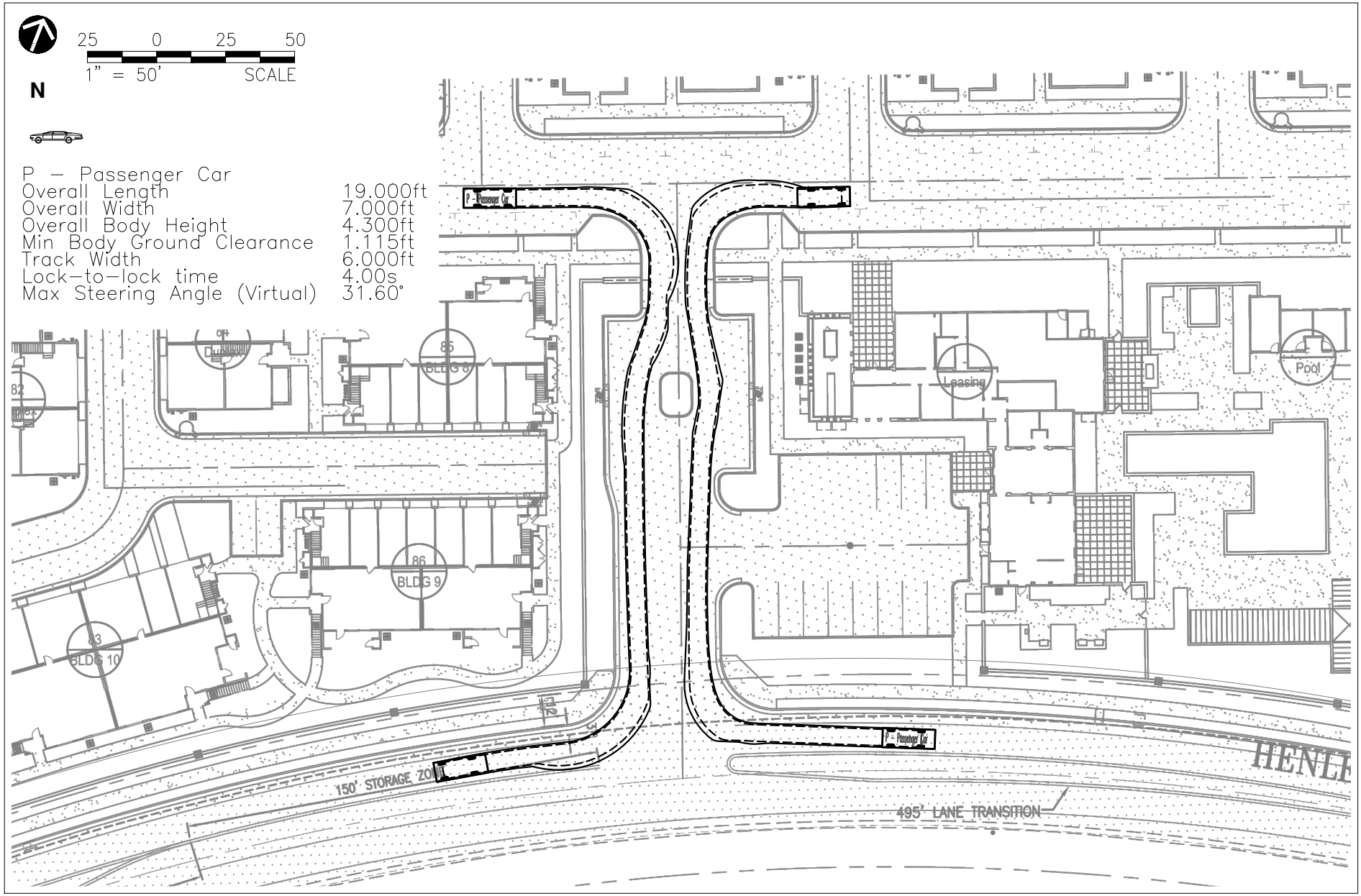

FEHR & PEERS

MAIN DRIVEWAY - POLICE INBOUND AND OUTBOUND

EXHIBIT 3

Jan 18, 2017
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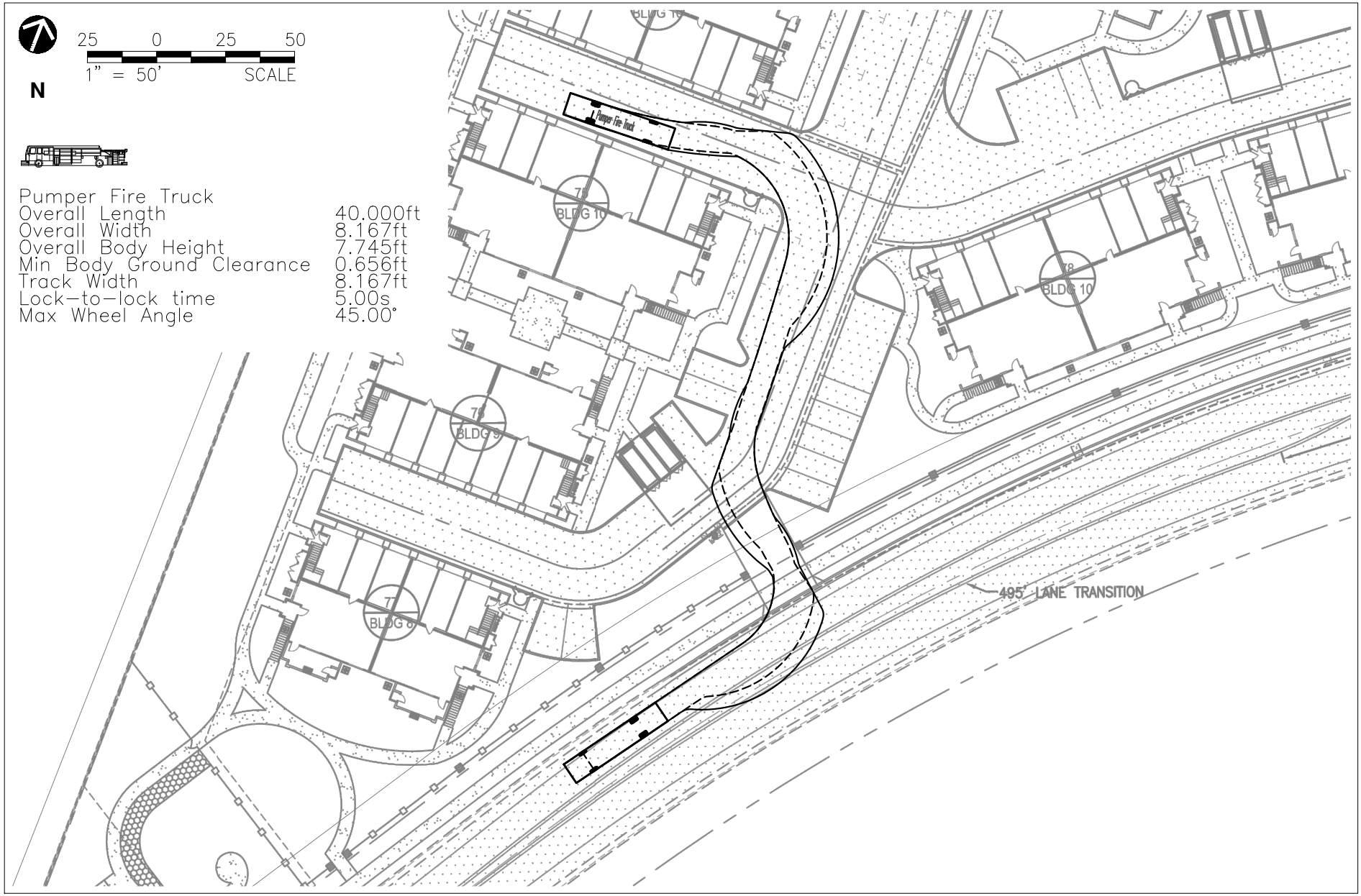

FEHR & PEERS

REAR DRIVEWAY - FIRE TRUCK OUTBOUND

EXHIBIT 4

Jan 18, 2017
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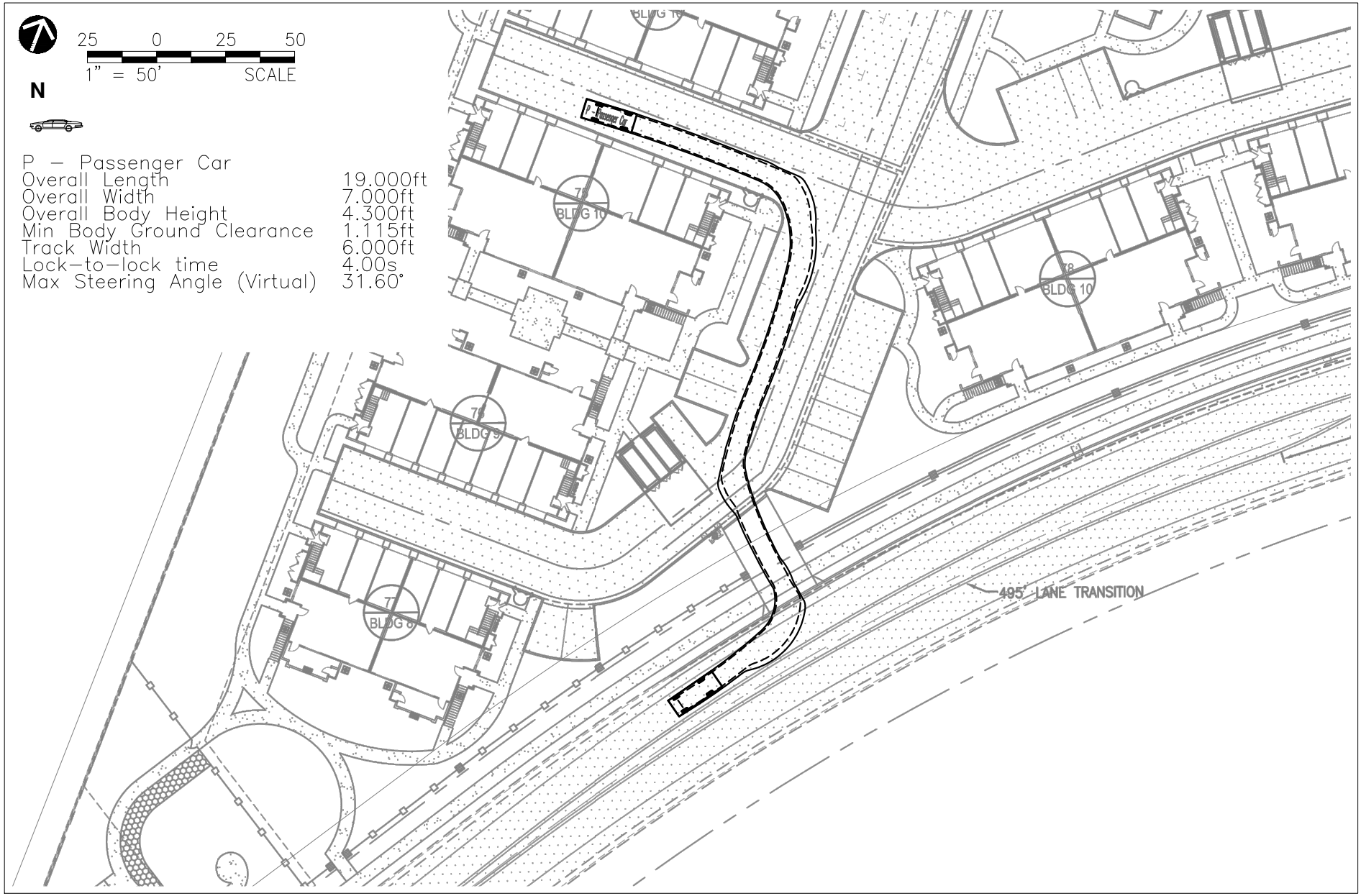

FEHR & PEERS

REAR DRIVEWAY - POLICE OUTBOUND

EXHIBIT 5

Jan 18, 2017
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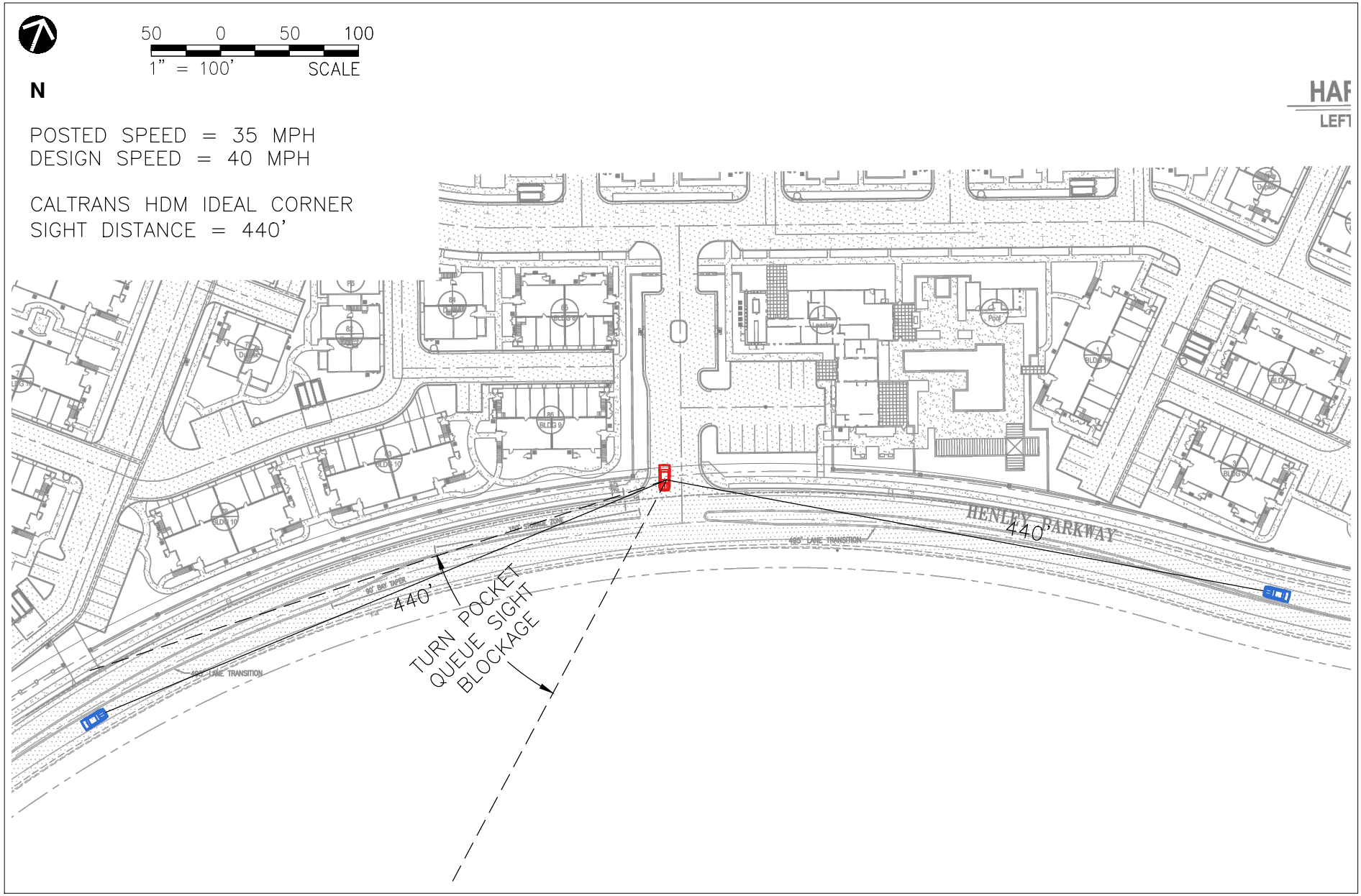

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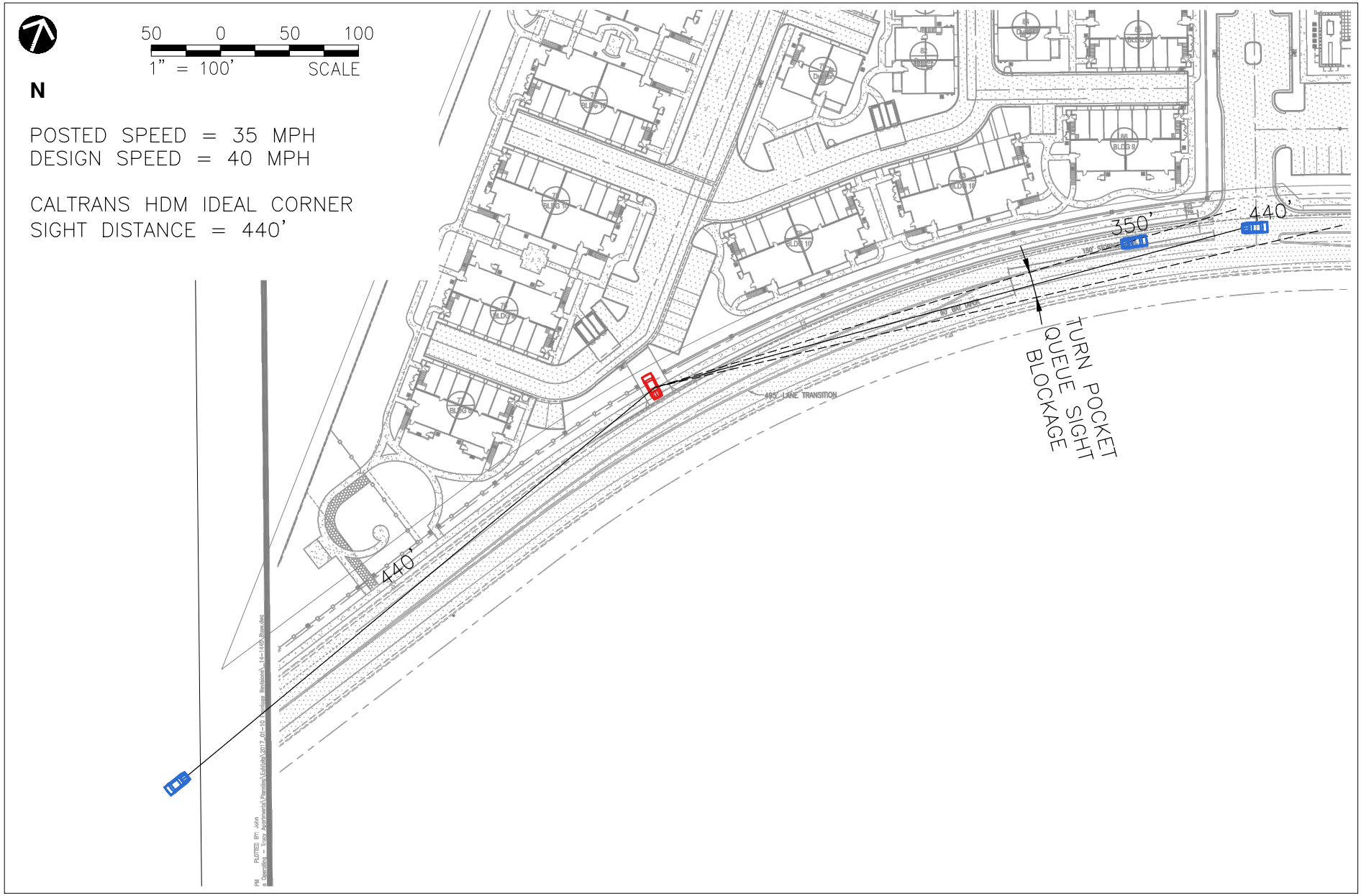
MAIN DRIVEWAY - SIGHT DISTANCE

EXHIBIT 6

Jan 18, 2017
\\Fpsa03.fpainc.local\Data\2016 projects\3393_harvestintracy\CAD\3393_Exhibits.dwg



FEHR & PEERS

REAR DRIVEWAY - SIGHT DISTANCE

EXHIBIT 7

Jan 18, 2017
\\Fpsa03.fpainc.local\Data\2016 projects\3393_harvestintracy\CAD\3393_Exhibits.dwg