APPENDIX A

Opus Office Center Project 2008 IS/MND
Mitigation Monitoring and Reporting Program

Table 1: Mitigation Monitoring and Reporting Program

Mitigation Measures	Mitigation Responsibility	Monitoring/ Reporting Agency	Monitoring Schedule
I. Aesthetics			
VIS-1: As a condition of project approval, a photometric analysis and lighting plan shall be prepared for the proposed project. This analysis shall include an assessment of potential lighting impacts based on the height, location, light fixtures, direction and illumination intensity and hours of operation. This analysis shall identify any potential light spill beyond the site boundaries, including light that could impact water vessel or aircraft navigation. The lighting plan shall be designed to control light energy and ensure that exterior lighting is directed downward and away from adjacent streets and buildings in a manner designed to minimize off-site light spillage and reduce impacts to water vessel and aircraft navigation. The lighting plan shall be submitted to the Planning Department and City Engineer for final approval prior to approval of a building permit.	Project Applicant	Brisbane Planning Department/City Engineer	Prior to issuance of building permit
II. Agricultural Resources			
No mitigation required			
III. Air Quality			
AIR-1: Consistent with guidance from the BAAQMD, the following actions shall be required of construction contracts and specifications for the project. The following controls shall be implemented at all construction sites: • Water all active construction areas at least twice daily and more often during windy periods; active areas adjacent to existing land uses shall be kept damp at all times, or shall be treated with non-toxic stabilizers to control dust; • Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard; • Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites; • Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites; water sweepers shall vacuum up excess water to avoid runoff-related impacts to water quality; • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets; • Apply non-toxic soil stabilizers to inactive construction areas; • Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.); • Limit traffic speeds on unpaved roads to 15 mph; • Install sandbags or other erosion control measures to prevent silt runoff to public roadways; • Replant vegetation in disturbed areas as quickly as possible.	Project Applicant/ Construction Manager	Brisbane Public Works Department	Periodically during demolition, grading and construction activities

Table 1: Mitigation Monitoring and Reporting Program

Mitigation Measures	Mitigation Responsibility	Monitoring/ Reporting Agency	Monitoring Schedule
AIR-1 *Continued* • Install base rock at entryways for all exiting trucks, and wash off the tires or tracks of all trucks and equipment in designated areas before leaving the site; and • Suspend excavation and grading activity when sustained wind speeds exceed 25 mph. Sustained wind speed shall be determined by averaging observed values over a two-minute period. Wind monitoring by the construction manager shall be required at all times during excavation and grading activities.			
AIR-2: Implement Mitigation Measure AIR-1 to reduce construction-period air quality impacts to sensitive receptors.	Project Applicant/ Construction Manager	Brisbane Public Works Department	Periodically during demolition, grading and construction activities
IV. Biological Resources			
BIO-1a: Prior to initiation of grading and construction activities, a temporary construction fence shall be placed along the western edge of the project site along the row of toyon trees to restrict access of construction personnel and equipment into the salt marsh and drainage. A qualified biologist will assist construction personnel in the placement of the construction fencing and will monitor the site periodically during project construction.	Project Applicant/ Qualified Biologist	Brisbane Public Works Department	Prior to initiation of grading or construction activities
BIO-1b: The project applicant shall construct a permanent fence adjacent to the pedestrian path and Bay Trail along the western and northern edge of the project site to restrict access of humans and dogs into the salt marsh. A qualified biologist shall advise the applicant regarding the location and design of the fence. The applicant shall receive approval of fence design, dimensions and location from BCDC and the Planning Department. The upland habitat on the project site should be landscaped with native shrub species such as marsh gum plant, salt grass, California sagebrush, and/or coyote brush to buffer the small marsh from activity on the pathway and provide rails and other marsh birds with shelter during extreme high tides. Such vegetation (e.g., marsh gum-plant) could also provide potential nesting habitat for various species of bird inhabiting the marsh. In the unlikely event that California black rails occur in the salt marsh, the mitigation measures outlined for California clapper rails would also protect black rails. Implementation of this two-part mitigation measure would reduce indirect impacts to California clapper rails to less-than-significant levels.	Project Applicant/ Qualified Biologist	Brisbane Planning Department/San Francisco Bay Conservation and Development Commission	Prior to issuance of a certificate of occupancy permit for Phase 1
BIO-2a: Conduct pile-driving activities for the proposed project during the non-breeding season of the California clapper rail, September 1 through January 15. Pile-driving during this time frame would not impact the nesting activity of clapper rails if they are present in the small salt marsh adjacent to the project site and would reduce potential indirect impacts to California clapper rails to less-than-significant levels.	Project Applicant/ Construction Manager	Brisbane Planning Department/Public Works Department	During the construction period

Table 1: Mitigation Monitoring and Reporting Program

Mitigation Measures	Mitigation Responsibility	Monitoring/ Reporting Agency	Monitoring Schedule
BIO-2b: If pile driving cannot be restricted to the non-breeding season (September 1 through January 15), the applicant must develop a plan and schedule for pile driving subject to review and approval by the California Department of Fish and Game (CDFG), the United States Fish and Wildlife Service (USFWS) and City of Brisbane's Community Development Director to ensure that the project is in compliance with all applicable state and federal laws and regulations pertaining to protection of the Clapper Rail. The plan may require enhanced protocol level surveys (i.e., protocol survey plus 2 to 3 additional surveys) of the adjacent salt marsh prior to pile driving activities, the establishment of appropriate buffer areas, and the use of pile driving techniques that minimize noise and vibrations. The pile driving plan, schedule and any alternative mitigations or solutions that are developed as a result of early consultations, must be reviewed and approved in writing by the CDFG, USFWS and the City of Brisbane's Community Development Director prior to issuance of a building permit to allow pile driving.	Project Applicant/ Qualified Biologist	Brisbane Planning Department/California Department of Fish and Game/U.S. Fish and Wildlife Service	Prior to issuance of a building permit to allow pile driving
BIO-3a: Comprehensive pre-construction surveys for burrowing owl presence shall be conducted no more than 30 days prior to any ground disturbing activities. If ground-disturbing activities are delayed or suspended for more than 30 days after the initial preconstruction surveys, the site shall be re-surveyed. All surveys shall be conducted in accordance with current California Department of Fish and Game (CDFG) burrowing owl survey protocol (CDFG, October 17, 1995). A qualified biologist shall conduct surveys for burrowing owls in all suitable habitats on the site. Surveys shall be conducted regardless of season, as suitable habitat on-site may be used at all times of the year. A report shall be prepared at the end of each construction season detailing the results of the pre-construction surveys. The report shall be submitted to the CDFG by November 30 of each year.	Project Applicant/ Qualified Biologist	Brisbane Planning Department/California Department of Fish and Game	Prior to issuance of grading permit/report completed for surveys
BIO-3b: If burrowing owls are found on the site, CDFG shall be notified and a qualified biologist shall implement a routine monitoring program in coordination with CDFG and establish an exclusion zone around each occupied burrow in which no construction-related activity shall occur until the burrows are confirmed to be unoccupied. No disturbance shall occur within 160 feet (50 meters) of an occupied burrow during the non-breeding season (September 1 through January 31) and within 250 feet (75 meters) of an occupied burrow during the breeding season (February 1 through August 31). If burrows cannot be avoided, passive relocation methods shall be implemented pursuant to CDFG guidelines. All activities shall be coordinated with the CDFG prior to disturbance of the burrows.	Project Applicant/ Qualified Biologist	Brisbane Planning Department/California Department of Fish and Game	CDFG clearance required prior to grading/ construction permit issuance for affected areas
BIO-3c: In the unlikely event that burrowing owls are found nesting on the site, 6.5 acres of suitable habitat, as determined by an experienced wildlife biologist and approved by CDFG, shall be preserved as mitigation for each individual or pair of owls found on-site. A management plan shall be developed for the mitigation area and approved by CDFG and the City. Mitigation may include permanent protection of on-site foraging habitat around the burrow of each pair or unpaired burrowing owl, or the permanent protection of habitat at a nearby off-site location acceptable to CDFG. The mitigation site shall be dedicated in perpetuity as wildlife habitat either through establishment of a conservation easement on the mitigation site or through transfer of ownership of the lands to an appropriate public agency that shall preserve and manage the lands as wildlife habitat.	Project Applicant/ Qualified Biologist	Brisbane Planning Department/California Department of Fish and Game	Approved mitigation agreement prior to grading/construction permit issuance for affected areas

Table 1: Mitigation Monitoring and Reporting Program

Mitigation Measures	Mitigation Responsibility	Monitoring/ Reporting Agency	Monitoring Schedule
<u>BIO-4</u>: If tree removal, grading or construction is scheduled to begin within the breeding season for songbirds (March 1 – August 31), a qualified biologist will conduct surveys on the project site, focusing on the trees to be removed along the Bay Trail, to identify any nesting native bird species. These surveys shall be carried out no sooner than two weeks prior to the start of construction. Impacts to active nests will be avoided by establishing an exclusion zone 25-foot buffer around the active nest. Due to the relatively high levels of local ambient noise and disturbance and the likely acclimation of local nesting birds a 25-foot buffer is deemed adequate to protect nest sites. A qualified biologist will monitor each nest once per week in order to track the status of each nest and inform the project applicant of when a nest area has been cleared for construction. To avoid impacts to birds nesting in the salt marsh and drainage to the west of the project area construction fencing shall be placed along the eastern edge of the fringing vegetation (including the planted toyon) to restrict access of construction personnel and equipment.	Project Applicant/ Qualified Biologist	Brisbane Planning Department/California Department of Fish and Game	Prior to issuance of a grading permit
<u>BIO-5</u>: The project shall comply with conditions of the NPDES Municipal Storm Water permit and Storm Water Pollution Prevention Plan for construction and commercial operations as described in Section VIII, Hydrology and Water Quality.	Project Applicant	Brisbane Planning Department/City Engineer	Prior to issuance of a grading permit
V. Cultural Resources			
No mitigation required			
VI. Geology and Soils			
<u>GEO-1a</u>: All structures shall be designed and constructed in conformance with the most recently adopted California Building Code requirements for seismic design. The City Engineer shall approve all final design and engineering plans.	Project Applicant	City of Brisbane Building Official	Prior to issuance of a building permit
<u>GEO-1b</u>: As a condition of approval and prior to the issuance of a grading permit, the applicant shall submit a final site-specific, design-level geotechnical investigation, to be prepared by a licensed professional, to the City for review and approval. The geotechnical investigation shall include recommendations for grading, avoidance of settlement, and differential settlement of infrastructure and buildings. The recommendations shall be incorporated into all development plans submitted for the project.	Project Applicant	City Engineer	Prior to issuance of a grading permit
<u>GEO-1c</u>: The applicant shall provide information to prospective building occupants regarding earthquake safety. The information shall include one or more of the following publications: • Information obtained from the California Division of Mines and Geology in its 1997 report "Guidelines for Evaluating and Mitigating Seismic Hazards in California" (which can be downloaded from the Division's home page at www.consrv.ca.gov); • "The Commercial Property Owner's Guide to Earthquake Safety," produced by the Seismic Safety Commission (SSC) and available at 1755 Creekside Oaks Drive, Suite 100, Sacramento, CA 95883 or at 916-263-5506); and • "Peace of Mind in Earthquake Country" (Peter Yanev, 1991, Chronicle Books).	Project Applicant	Planning Department	Ongoing to be demonstrated upon request of Planning Department

Table 1: Mitigation Monitoring and Reporting Program

Mitigation Measures	Mitigation Responsibility	Monitoring/ Reporting Agency	Monitoring Schedule
GEO-2a: All structures shall be designed and constructed in conformance with the most recently adopted California Building Code requirements for building design in areas undergoing compaction. The Building Official shall approve all final design and engineering plans.	Project Applicant	Brisbane Planning Department/Building Official	Prior to issuance of a building permit issuance
GEO-2b: As required in Mitigation Measure GEO-1b, the applicant shall prepare and submit to the City for final approval a final design-level geotechnical investigation that includes recommendations for avoidance of settlement and placement of fill materials.	Project Applicant	Brisbane Building Official/City Engineer	Prior to issuance of a grading permit
GEO-2c: The final geotechnical investigation shall include an Inspection and Repair Plan to address future settlement of the project site. The Inspection and Repair Plan shall delineate an inspection schedule for storm water conveyances and other utilities (on at least an annual basis) to determine adverse effects of settlement. The plan shall identify responsibility for repair of any affected improvements (e.g., property owner, lessees, or property management company). The inspection results and repairs shall be documented to the City in a biannual report. (See also Mitigation Measure GEO-3, below).	Project Applicant	Brisbane Building Official/City Engineer	Prior to issuance of a grading permit. Ongoing implementation demonstrated via submission of required biannual report
GEO-3: The applicant shall coordinate with the Sierra Point Environmental Management Association to ensure that the Inspection and Repair Plan (see Mitigation Measure GEO-2c) includes provisions for dike inspections and repairs. The dikes shall be inspected at least annually (and immediately following a seismic event) and necessary repairs to ensure stability shall be implemented. All inspections and repairs shall be conducted by or in accordance with the recommendations of a licensed professional engineer.	Project Applicant/Sierra Point Environmental Management Association	City Engineer	Ongoing yearly reports filed with City Engineer
GEO-4: The applicant shall coordinate with the Sierra Point Environmental Management Association to ensure that the Post-Earthquake Inspection and Corrective Action Plan (Action Plan) is updated to reflect the changes in conditions at the project site since its initial preparation in 1996. The Inspection and Repair Plan (see Mitigation Measure GEO-2c) should work cooperatively with the Action Plan. The revised Action Plan shall be submitted to the City prior to site occupancy.	Project Applicant/Sierra Point Environmental Management Association	City Engineer	Prior to issuance of a certificate of occupancy permit
VII. Hazards and Hazardous Materials			
HAZ-1: Any site development activities must comply with the requirements of the Water Board Order, applicable post-closure SRWCB/CIWMB Title 27 CCR requirements enforced by the LEA, including, but not limited to: ensuring landfill cover and integrity; drainage and erosion control systems; a means to address differential settlement; gas control and monitoring, including installation of a geomembrane (or equivalent system); and development of a post-closure emergency response plan. Construction activities must also comply with San Mateo County requirements for proposed excavation activities on former landfills for worker health and safety, and the requirements of the Brisbane General Plan and other City requirements (Grading Permit, Building Permit).	Project Applicant/ Construction Manager	Brisbane Public Works Department	Prior to issuance of a grading permit and full time inspection for all grading and clay cap placement. Full time inspection for placement of below slab geomembrane material, for all pile penetration sealing operations, for placement of all below slab utilities, and for pile cap, grade beam, and floor slab concrete pours.

Table 1: Mitigation Monitoring and Reporting Program

Mitigation Measures	Mitigation Responsibility	Monitoring/ Reporting Agency	Monitoring Schedule
VIII. Hydrology and Water Quality			
No mitigation required			
IX. Land Use And Planning			
No mitigation required			
X. Mineral Resources			
No mitigation required			
XI. Noise			
NOISE-1: The project shall comply with the following noise reduction measures: • General construction activities shall be allowed only between the hours of 7:00 a.m. to 7:00 p.m. on weekdays and 9:00 a.m. and 7:00 p.m. on weekends and holidays. Pile driving shall be limited to Monday through Friday 8:00 a.m. to 5:00 p.m. and prohibited on Saturdays and Sundays. Construction outside of these hours may be approved through an exception permit issued by the Planning Director. The exception permit shall include appropriate conditions to minimize noise disturbance of affected hotel, office and commercial uses. • All heavy construction equipment used on the project site shall be maintained in good operating condition, with all internal combustion, engine-driven equipment fitted with intake and exhaust mufflers that are in good condition. • All stationary noise-generating equipment shall be located as far away as possible from neighboring property lines. • Post signs prohibiting unnecessary idling of internal combustion engines. • The construction manager shall identify and designate a “noise disturbance coordinator” who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaints and institute reasonable measures warranted to correct the problem. The noise disturbance coordinator shall report all complaints and resolution thereof to the City via monthly reports. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site. • Utilize air compressors that are designated as “quiet” and other “quiet” construction equipment sources where such technology exists.	Project Applicant/ Construction Manager	Brisbane Public Works Department	Periodically during grading and construction activities
XII. Population And Housing			
No mitigation required			
XII. Public Services			
No mitigation required			
XIII. Recreation			
No mitigation required			

Table 1: Mitigation Monitoring and Reporting Program

Mitigation Measures	Mitigation Responsibility	Monitoring/ Reporting Agency	Monitoring Schedule
XV. Traffic			
<u>TRAF-1</u>: Based on the Second Amendment document, the applicant shall be responsible for modifying the intersection of Sierra Point Parkway and Lagoon Way (#8) by signalizing the intersection (or paying their fair share of these improvements should they have been previously completed), to the satisfaction of the City Engineer in regards to design and the timing of the improvements. This mitigation would allow the intersection to operate at LOS B during the AM and PM peak hours.	Project Applicant	Brisbane Public Works Department/City Engineer	Upon reaching traffic volume thresholds established pursuant to adopted 2nd Amendment to Agreement Concerning Project Approval Documents (2nd Amendment Document). Project applicant to monitor traffic volumes on yearly basis or pursuant to the conditions of the recorded development agreement (DA).
<u>TRAF-2</u>: The applicant shall be responsible for installing a signal and restriping to convert the northbound shared-through-left lane to an all-movement lane at the intersection of Sierra Point Parkway and US 101 NB Ramps (#9) (or paying their fair share of these improvements should they have been previously completed), to the satisfaction of the City Engineer in regards to design and the timing of the improvement. This mitigation measure would allow the intersection to operate at LOS C during the AM peak hour and LOS B during the PM peak hour.	Project Applicant	Brisbane Public Works Department/City Engineer	As required by the City Engineer or prior to issuance of certificate of occupancy permit for Phase 2
<u>TRAF-3</u>: Based on the Second Amendment document, the applicant shall be responsible for signalizing the intersection of Sierra Point Parkway and Shoreline Court (#10) and the addition of a second eastbound left-turn lane and the conversion of the northbound through lane to a left-turn lane (or paying their fair share of these improvements should they have been previously completed), to the satisfaction of the City Engineer in regards to design and the timing of the improvement. This mitigation measure would allow the intersection to operate at LOS B during the AM peak hour and LOS D during the PM peak hour.	Project Applicant	Brisbane Public Works Department/City Engineer	See TRAF-1
<u>TRAF-4</u>: The applicant shall be responsible for mitigating the impacts at the intersection of Bayshore Boulevard and Old County Road (#6) to the satisfaction of the City Engineer. Potential mitigations that would result in a satisfactory LOS include: adding a second southbound left-turn lane, or adding a second eastbound left-turn lane and converting the existing shared-through-left to a through lane; or adding a westbound through lane; and/or adjusting the signal timing. The applicant shall pay their fair share of the approved mitigation measure should it be completed prior to construction of the proposed Opus Office project.	Project Applicant	Brisbane Public Works Department/City Engineer	As required by the City Engineer or prior to issuance of certificate of occupancy permit for Phase 2

Table 1: Mitigation Monitoring and Reporting Program

Mitigation Measures	Mitigation Responsibility	Monitoring/ Reporting Agency	Monitoring Schedule
TRAF-5: In accordance with CMP requirements, the project applicant shall identify and implement Travel Demand Management (TDM) measures to reduce project impacts and shall ensure that the TDM measures are implemented by the project applicant or tenants, per the approval of the City Engineer regarding the specific measures and the implementation timing. A list of TDM measures are provided in the San Mateo County Final Congestion Management Program. In coordination with the City and prior to issuance of a building permit, the applicant shall prepare and provide the City with a Traffic Reduction Plan that identifies specific TDM measures to be implemented. Specific measures that could be included in the Plan to reduce trips associated with the project are listed below: • Provide for increased frequencies of existing dedicated shuttle service during the peak period to a rail station or residential area; coordinate with Caltrain shuttle services with respect to locations of stops and related amenities; • Participate in City programs (when and if they are available) aimed at reducing vehicular traffic trips; • Provide a location for a dedicated shuttle stop; • Provide secure bicycle parking; • Provide and operate an on-site commute assistance center to allow for one stop shopping for transit and commute alternatives information, preferably staffed with a live person to assist building tenants with trip planning; • Provide subsidized transit passes; • Provide less parking, charge for parking, and offer employees a parking cash-out program; and • Implement an alternate hours workweek program, also known as flextime. While implementation of this mitigation measure would reduce the impact, mitigation measures, involving implementation of TDM measures are typically designed to achieve a 10 to 20 percent traffic reduction. Even if these reductions could be achieved, the freeway segments could continue to operate above the CMP threshold for significant impacts. The measure would not reduce impacts to a less-than-significant level in the cumulative condition and this impact would remain significant and unavoidable.	Project Applicant	Brisbane Planning Department/County Congestion Management Agency	Prior to issuance of building permit
TRAF-6**:** The mitigation necessary to reduce significant impacts on freeways is the widening of the freeway. Due to the substantial cost, this measure is not considered feasible for a single development project, and this impact would remain significant and unavoidable.	Project Applicant	Brisbane Public Works Department/City Engineer	NA
TRAF-7: The applicant shall provide the amount of parking as required under the parking modification conditional use permit.	Project Applicant	Brisbane Public Works Department/City Engineer	Prior to issuance of certificate of occupancy permit for each phase

Table 1: Mitigation Monitoring and Reporting Program

Mitigation Measures	Mitigation Responsibility	Monitoring/ Reporting Agency	Monitoring Schedule
XVI. Utilities And Services			
UTL-1a: As a condition of approval and prior to issuance of building permits, the applicant shall incorporate a pressure reducing/pressure sustaining valve on the 16-inch interconnection between CalWater and the City of Brisbane Water Districts in a valve box located in the center median of Shoreline Court, or pay their fair share as determined by the Public Works Department if the improvement has already been completed. The valve shall be properly sized and have the ability to provide bidirectional fire flow to Sierra Point and the proposed project while concurrently maintaining the capacity to provide the required fire flow and pressure to the CalWater District. The new interconnection assembly shall comply with the City of Brisbane Public Works Department, CalWater and North County Fire Department specifications.	Project Applicant	Brisbane Public Works Department	Prior to issuance of a building permit
UTL-1b: As a condition of approval and prior to issuance of building permits, an agreement must be made between CalWater and the City of Brisbane Water District and a program prepared that identifies and establishes responsibilities and operating ranges for the pressure reducing/pressure sustaining valve and the routine maintenance and testing of the facility. The applicant shall be responsible for the costs associated with preparation and implementation of the program, or pay their fair share as determined by the Public Works Director if the program is already in place.	Project Applicant	Brisbane Public Works Department	Prior to issuance of a building permit
UTL-1c: The project applicant shall pay their fair share, as determined by the City of Brisbane Public Works Department, for the future development of a water storage tank sized to provide local fire and maximum day demands water volume to serve Sierra Point.	Project Applicant	Brisbane Public Works Department	Within 30 days of issuance of a certificate of occupancy permit for Phase 1
UTL-2: The proposed project shall include a dedicated fire flow supply loop separate from the potable water system properly sized to handle project fire flow requirements and connected, through a double detector check valve assembly, directly into the street main at two separate locations in accordance with Public Works Department and Fire Authority specifications. Each fire supply loop connection to the street main shall include a double detector check valve. A fire loop system separated from the potable water system will allow for smaller water mains to serve the peak daily demand for the project, thereby allowing for quicker water turnover in the potable water system. Separate potable and fire supply systems will also allow for maintenance on either looped system without affecting the other. The separate potable water service shall be looped by connecting directly into the street main at two separate metered locations. As an alternative, the applicant could submit a proposal for a dual-use fire/potable water loop but, as part of such a submittal, must provide sufficient evidence (e.g., hydraulic calculations) to the satisfaction of the City Engineer, that the water would not stagnate in such a dual-use system and that the impact would be mitigated to a less-than-significant level.	Project Applicant	Brisbane Public Works Department	Prior to issuance of a certificate of occupancy permit

Table 1: Mitigation Monitoring and Reporting Program

Mitigation Measures	Mitigation Responsibility	Monitoring/ Reporting Agency	Monitoring Schedule
UTL-2 *Continued* Additional water quality measures may be required in the event that a dual-use fire/potable water loop is installed. Such measures include, but are not limited to, programmable automatic water line flushing units and in-line water quality monitoring stations. Design for the reuse of the flushing discharge water, such as recycling the water back into the landscaping, would be required.			
UTL-3: The project applicant shall pay for the installation of larger pumps or a complete replacement of the Sierra Point Lift Station, as determined by the Public Works Department, to accommodate the increase in peak sewer flows from the project site. In the event the improvements have been completed at such time as the applicant is ready to develop, the applicant shall pay a fair share of such improvements as determined by the Public Works Director. Additional required improvements to the lift station may include replacement of the electrical system and a larger standby generator.	Project Applicant	Brisbane Public Works Department	Prior to issuance of a certificate of occupancy permit for Phase 2
UTL-4: The project applicant shall eliminate all existing service fittings along the 16-inch diameter perimeter water line adjacent to the project site and shall replace the line with a straight length of identical high-density polyethylene (HDPE) pipe with fused joints. All future services shall be cut-in shop fabricated tees. The applicant shall pay for a full-time City inspector to be on site during the installation of the HDPE water pipe. A 2-inch blow-off shall be installed along the northeast end of the property along the 16-inch water main. Future valves shall be installed inside an underground vault.	Project Applicant	Brisbane Public Works Department	During the construction period
UTL-5a: As a condition of approval and prior to the issuance of any building permits for the project, the applicant shall implement additional water conservation measures for the project. The proposed project shall comply with all applicable elements of the SFPUC's Water Conservation Program C, as described in the WSA. In addition, the project shall comply with Program D, as described in the WSA, and shall install waterless urinals, dedicated landscape meters for outdoor irrigation use, and native plants. The program design and demand reduction shall be reviewed and approved by the City Engineer. The specific water conservation measures shall be incorporated into the final building design.	Project Applicant	Brisbane Public Works Department/City Engineer	Prior to issuance of a building permit
UTL-5b: As a condition of approval, the applicant shall also participate in Program E, as described in the WSA, which includes the funding of landscape irrigation retrofits and residential high efficiency toilet retrofit programs for the City.	Project Applicant	Brisbane Public Works Department/City Engineer	Prior to issuance of a building permit
UTL-5c: Future water supply shortages would be managed through water conservation and rationing programs and increased demand management. In accordance with previously adopted Water Conservation Programs, the project site and all other water users in the Brisbane Water Service Area could be subject to mandatory reductions in consumption on a system-wide basis, mandatory reductions in consumption for outside irrigation, restrictions on various types of water use, excess use charges and flow restrictions and termination of water service for non-compliance with the program elements.	Project Occupants	Brisbane Public Works Department	During occupancy, as required

Source: LSA Associates, Inc., 2016.

APPENDIX B

Greenhouse Gas Emission Analysis for the Opus Office Center Project

LSA ASSOCIATES, INC.
2215 FIFTH STREET
BERKELEY, CALIFORNIA 94710

510.540.7331 TEL
510.540.7344 FAX

CARLSBAD
FRESNO

IRVINE
PALM SPRINGS
PT. RICHMOND

RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

MEMORANDUM

DATE: December 7, 2016

TO: John A. Swieki, Community Development Director, City of Brisbane

FROM: Judith Malamut, Principal

SUBJECT: Greenhouse Gas Emission Analysis for the Opus Office Center Project

LSA Associates, Inc. (LSA) has prepared this memorandum to provide the City of Brisbane (City) with the potential greenhouse gas emission impacts associated with the Opus Office Center Project (proposed project).

PROJECT INFORMATION

The Opus Office Center Project would include the development and construction of an office center with two office buildings totaling 445,000 square feet, a five-level parking garage with 1,175 parking spaces, and a surface parking lot with 213 parking spaces on an 8.87-acre site located at 3000-3500 Marina Boulevard (Assessor's Parcel Number 007-165-020). The site is designated as Parcel 3 on the Sierra Point peninsula in the City of Brisbane and is located on the northwestern portion of the peninsula. It is bounded by U.S. Highway 101(US 101) to the west, the San Francisco Bay to the north, and office buildings and parking to the east and south. Primary access to the project site is provided from Marina Boulevard via Sierra Point Parkway.

The project also includes grading and capping of a Class III landfill and various landscape improvements on the site, including landscaping along the street and Bay Trail and internal pedestrian trail, outdoor plazas, building entrances, and surface parking areas. A pedestrian path would partially circumscribe the parcel along the northern, western, and southern portions of the site and would connect to the sidewalk along Marina Parkway.

The Opus Office Center Project was previously evaluated under the California Environmental Quality Act (CEQA) in the November 2008 Initial Study/Mitigated Negative Declaration (2008 IS/MND).[1] The proposed project involves minor modifications to the project evaluated in the 2008 IS/MND (original project). The proposed project would include development of the original project to LEED Gold Standards and installation of solar panels on the top floor of the parking garage. In addition, the proposed project would include the transfer of development rights of the Parcel R site from the developer to the City of Brisbane.

The 2008 IS/MND included a discussion of the project's greenhouse gas emissions in Section III. Air Quality. However, at the time the 2008 IS/MND was prepared, no applicable numeric thresholds had yet been defined. Therefore, this memorandum was prepared consistent with CEQA Guidelines § 15064.4 and evaluates the impacts of project-related greenhouse gas emissions based on the guidance in the Bay Area Air Quality Management District's (BAAQMD's) May 2011 *CEQA Guidelines*.

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[1] LSA Associates Inc., 2008. *Opus Office Center Initial Study/Mitigated Negative Declaration*. November.

ENVIRONMENTAL SETTING

Greenhouse gas emissions are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are:

- Carbon dioxide (CO_2);
- Methane (CH_4);
- Nitrous oxide (N_2O);
- Hydrofluorocarbons (HFCs);
- Perfluorocarbons (PFCs); and
- Sulfur Hexafluoride (SF_6).

Over the last 200 years, humans have caused substantial quantities of greenhouse gases to be released into the atmosphere. These extra emissions are increasing greenhouse gas concentrations in the atmosphere and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade greenhouse gases include naturally-occurring greenhouse gases such as CO_2, methane, and N_2O, some gases, like HFCs, PFCs, and SF_6 are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of greenhouse gases above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each greenhouse gas to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant greenhouse gas; the definition of GWP for a particular greenhouse gas is the ratio of heat trapped by one unit mass of the greenhouse gas to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. Greenhouse gas emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e).

REGULATORY FRAMEWORK

State Laws and Regulations

The California Global Warming Solutions Act of 2006, best known by Assembly Bill (AB) 32, created a first-in-the-country comprehensive program to achieve real, quantifiable, and cost-effective reductions in greenhouse gases. The law set an economy-wide cap on the State's greenhouse gas emissions at 1990 levels by 2020. It directed the California Air Resources Board (ARB) to prepare, approve, and implement a Scoping Plan for achieving the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions. Executive Order (EO) S-20-06, signed in

October 2006, directed the Secretary for Environmental Protection to establish a Market Advisory Committee of national and international experts. The committee made recommendations to the ARB on the design of a market-based program for greenhouse gas emissions reduction. The ARB adopted the first Scoping Plan, which described a portfolio of measures to achieve the target, in December 2008.[2] Based on the Scoping Plan reduction goals, a 29 percent reduction in greenhouse gas levels relative to a "business-as-usual" (BAU) scenario would be required to meet 1990 levels by 2020. The Scoping Plan further recommended that local governments establish a State-aligned reduction goal of 15 percent reduction in greenhouse gas emissions below current (2010) levels by 2020.

The ARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014, which is currently underway. The First Update identifies opportunities to leverage existing and new funds to further drive greenhouse gas emission reductions through strategic planning and targeted low carbon investments. The First Update defines ARB's climate change priorities until 2020, and also sets the groundwork to reach long-term goals set forth in Executive Orders S-3-05 and B-16-2012. The Update highlights California's progress toward meeting the "near-term" 2020 greenhouse gas emission reduction goals as defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" greenhouse gas reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. The ARB is moving forward with a second update to the Scoping Plan to reflect the 2030 target established in Executive Order B-30-15.

On April 29, 2015, Governor Edmund G. Brown Jr. issued EO B-30-15 to establish a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030. EO B-30-15 aligned California's greenhouse gas reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris that was scheduled for late 2015. EO B-30-15 sets a new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050, and directs the ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMT CO_2e). EO B-30-15 also requires the State's climate adaptation plan to be updated every 3 years and for the State to continue its climate change research program, among other provisions. As with EO S-3-05, EO B-30-15 is not legally enforceable against local governments and the private sector. Legislation that would update AB 32 to make post-2020 targets and requirements a mandate is in process in the State Legislature.

Governor Edmund G. Brown Jr. signed Senate Bill (SB) 350 350 Clean Energy and Pollution Reduction Act on October 7, 2015 to update and enhance AB 32 by introducing the following set of objectives in clean energy, clean air, and pollution reduction for 2030: raise California's renewable portfolio standard from 33 percent to 50 percent; and increase energy efficiency in buildings by 50 percent by the year 2030. The 50 percent renewable energy standard will be implemented by the CA Public Utilities Commission for the private utilities and by the CA Energy Commission for municipal utilities. Each utility must submit a procurement plan showing it will purchase clean energy to displace other non-renewable resources. The 50 percent increase in energy efficiency in buildings must be achieved through the use of existing energy efficiency retrofit funding and regulatory tools already available to State energy agencies under existing law. The addition made by this legislation

[2] ARB. 2008. *Climate Change Scoping Plan, a Framework for Change.* December 2008.

requires State energy agencies to plan for, and implement those programs in a manner that achieves the energy efficiency target.

Local Laws and Regulations

The City of Brisbane regulates greenhouse gas emission through implementation of the City's Climate Action Plan (CAP), adopted September 17, 2015.[3] The primary goal of the CAP is to reduce the City of Brisbane's greenhouse gas emissions to comply with AB 32. The CAP outlines specific actions, called "measures" that seek to reduce Brisbane's greenhouse gas emissions. The measures in the CAP relate to energy, water use, solid waste, and road emissions/transportation. These measures are assumed to lead to specific, quantifiable reductions of greenhouse gas emissions.

The City of Brisbane CAP includes an inventory of greenhouse gas emissions. The inventory quantifies greenhouse gas emissions from a wide variety of sources and is arranged by sector to facilitate detailed analyses of emissions sources. In the base year of 2005, the City of Brisbane emitted approximately 70,946 metric tons CO_2e from the residential, commercial, industrial, transportation, waste, and municipal sectors. The largest percentage of greenhouse gas emissions are from the transportation sector, approximately 51 percent, followed by the commercial/industrial sector and the solid waste sector, approximately 33 percent and 8 percent respectively. The residential sector accounts for approximately 8 percent of greenhouse gas emissions.

Based on the 2005 emissions inventories, the City projected a forecast of future emissions for the year 2020. The emission forecast represents a "business-as-usual" prediction of how greenhouse gas emissions would grow in the absence of a greenhouse gas policy. The business-as-usual greenhouse gas emissions for the year 2020 were projected to be approximately 74,180 metric tons CO_2e, which is an increase of 4.6 percent over the 2005 emission inventory. The City's reduction goal is to reduce community-wide greenhouse gas emissions by at least 15 percent by 2020, which is a reduction of 13,876 metric tons of CO_2e.

THRESHOLDS OF SIGNIFICANCE

A single project typically does not generate a sufficient quantity of greenhouse gas emissions to affect global climate change; therefore, the global climate change impacts of the proposed project are discussed in the context of cumulative impacts, following the approach recommended by the BAAQMD. This section establishes the thresholds to determine whether an impact is significant.

The State *CEQA Guidelines* indicate that a project would normally have a significant adverse greenhouse gas emission impact if the project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reduction the emissions of greenhouse gases.

The BAAQMD has further defined these criteria of significance to indicate the project would result in a less-than-significant greenhouse gas impact if it would:

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[3] Brisbane, City of, 2015. *City of Brisbane Climate Action Plan*. September 17.

- Result in operational-related greenhouse gas emissions of less than 1,100 metric tons of CO_2e a year, or
- Result in operational-related greenhouse gas emissions of less than 4.6 metric tons of CO_2e per service population (residents plus employees).

In June 2010, BAAQMD adopted updated draft CEQA Air Quality Guidelines and finalized them in May 2011. These guidelines superseded previously adopted agency air quality guidelines of 1999 and were intended to advise lead agencies on how to evaluate potential air quality impacts.

In late 2010, the Building Industry Association filed a lawsuit in Alameda Superior Court, challenging BAAQMD's CEQA Guidelines on the grounds that the agency did not comply with CEQA. On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds of significance in the BAAQMD CEQA Air Quality Guidelines. The court did not determine whether the thresholds of significance were valid on their merits, but found that the adoption of the thresholds was a project under CEQA. The court issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease dissemination of them until the BAAQMD complied with CEQA. In May of 2012, the BAAQMD filed an appeal of the court's decision. In August of 2013 the First District Court of Appeal overturned the trial court and held that the thresholds of significance were not subject to CEQA review. The Court of Appeal's decision was appealed to the California Supreme Court, which granted limited review.

On December 21, 2015, the California Supreme Court rejected the BAAQMD's requirement for a so-called reverse CEQA analysis, and concluded that CEQA does not generally require a lead agency to consider the effects of existing environmental conditions on a proposed project's future residents. The Court also noted that while assessing the impacts of the environment on the project is not required by CEQA, this approach is not prohibited when the lead agency proposes to undertake its own project.

The BAAQMD has not yet revised the 2011 Guidelines; however, the City supports continued use of the BAAQMD's greenhouse gas numeric thresholds for CEQA review of development projects, which have been incorporated into this analysis for purposes of identifying significant air quality impacts.

PROJECT GREENHOUSE GAS EMISSIONS

There are two aspects of the proposed project that would result in the emissions of greenhouse gases: construction and operation. During construction of the project, greenhouse gas emissions would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically uses fossil-based fuels to operate. During operations, there would be many sources of greenhouse gas emissions, including area sources (i.e. landscaping), energy consumption, on-road transportation, solid waste, and water use. The California Emissions Estimator Model (CalEEMod) was used to estimate the project's greenhouse gas emissions. Assumptions used in CalEEMod are detailed in Attachment A of this letter report.

Construction Emissions

Construction activities associated with the proposed project would produce combustion emissions from various sources. During construction, greenhouse gas emissions would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates greenhouse gases such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The BAAQMD does not have an adopted threshold of significance for construction-related greenhouse gas emissions. However, lead agencies are encouraged to quantify and disclose greenhouse gas emissions that would occur during construction.

Using CalEEMod, it is estimated that the project would generate approximately 738.9 metric tons of CO_2e during the construction period. Implementation of the BAAQMD Best Management Practices construction emission control measures as identified as Mitigation Measure AIR-1 in the 2008 IS/MND would reduce greenhouse gas emissions during the construction period. [4]

Operational Emissions

Long-term operation of the proposed project would generate greenhouse gas emissions from area and mobile sources as well as indirect emissions from sources associated with energy consumption. Mobile-source greenhouse gas emissions would include project-generated vehicle trips associated with employee trips to the project site. Area-source emissions would be associated with activities such as landscaping and maintenance of proposed land uses, and other sources.

Operational emissions estimates for the proposed project are discussed below and were calculated using a method that is consistent with methodology recommended in the BAAQMD's *CEQA Air Quality Guidelines,* as described below.

Methodology. The methodology and/or qualitative description of the sources of greenhouse gas emissions associated with transportation, electricity, water use, and solid waste disposal are described below.

Transportation. Transportation associated with the proposed project would result in greenhouse gas emissions from the combustion of fossil fuels in daily automobile and truck trips. Transportation is the largest source of greenhouse gas emissions in California and represents approximately 38 percent of annual CO_2 emissions in the State. For land use development projects, vehicle miles traveled (VMT) and vehicle trips are the most direct indicators of greenhouse gas emissions associated with the proposed project. The proposed project is expected to generate approximately 4,914 trips per day.

Electricity and Natural Gas. Buildings represent 39 percent of United States primary energy use and 70 percent of electricity consumption.[5] Electricity use can result in greenhouse gas production if the electricity is generated by combusting fossil fuel. The project is anticipated to increase the use of electricity and natural gas; however, as part of the project's compliance with the latest California building code standards, the project is expected to be relatively energy efficient. The project would also install solar panels and would be developed to LEED Gold Standards.

[4] LSA Associates Inc., 2008. *Opus Office Center Initial Study/Mitigated Negative Declaration.* November.
[5] United States Department of Energy, 2003. *Buildings Energy Data Book.*

Water Use. Water and wastewater related greenhouse gas emissions are based on water supply and conveyance, water treatment, water distribution, and wastewater treatment. Each element of the water use cycle has unique energy intensities (kilowatt hours [kWh]/million gallons). Recognizing that the actual energy intensity in each component of the water use cycle will vary by utility, the California Energy Commission (CEC) assumes that approximately 3,950 kWh per million gallons are consumed for water that is supplied, treated, consumed, treated again, and disposed of in northern California.

Solid Waste Disposal. Solid waste generated by the project could contribute to greenhouse gas emissions in a variety of ways. Average waste generation rates from a variety of sources are available from the California Department of Resources, Recycling and Recovery (Cal Recycle).[6] Land filling and other methods of disposal use energy for transporting and managing the waste, and these activities produce additional greenhouse gases to varying degrees. Land filling, the most common waste management practice, results in the release of CH_4 from the anaerobic decomposition of organic materials. CH_4 is 25 times more potent a greenhouse gas than CO_2. However, landfill CH_4 can also be a source of energy. In addition, many materials in landfills do not decompose fully, and the carbon that remains is sequestered in the landfill and not released into the atmosphere.

Project Emissions. When calculating project greenhouse gas emissions to compare to the thresholds of significance, the BAAQMD recommends that the lead agency consider project design features, attributes, and local development requirements as part of the project as proposed and not as mitigation measures. Consistent with BAAQMD guidance, greenhouse gas emissions were estimated using CalEEMod.

Table 1 shows the calculated greenhouse gas emissions for the proposed project. Motor vehicle emissions are the largest source of greenhouse gas emissions for the project at approximately 71 percent of the total. Energy use is the next largest category at 21 percent of CO_2e emissions. Water and solid waste use are each about 4 percent of the total emissions. Additional calculation details are iattached.

Based on the analysis results, the proposed project would generate 5,340.3 metric tons of CO_2e per year which would exceed the BAAQMD's numeric threshold of 1,100 metric tons CO_2e.

[6] California Department of Resources, Recycling and Recovery, 2012. *Estimated Solid Waste Generation and Disposal Rates*. Website: www.calrecycle.ca.gov/wastechar/wastegenrates/.

Table 1: Greenhouse Gas Emissions (Metric Tons Per Year)

Emissions Source	Operational Emissions				
	CO_2	CH_4	N_2O	CO_2e	Percent of Total
Area Source Emissions	0.0	0.0	0.0	0.0	0
Energy Source Emissions	1,087.6	0.1	0.0	1,094.0	21
Mobile Source Emissions	3,809.6	0.2	0.0	3,813.6	71
Waste Source Emissions	84.1	5.0	0.0	208.4	4
Water Source Emissions	141.0	2.6	0.1	224.3	4
Total Annual Emissions				**5,340.3**	**100**

Source: LSA Associates, Inc., November 2016.

The proposed project includes construction of an office center with two office buildings totaling 445,000 square feet which would result in approximately 1,435 employees. The total service population (residents plus employees) would be 1,435 people.[7] Therefore, the project's greenhouse gas emissions would result in a greenhouse gas efficiency of 3.7 metric tons CO_2e per service population, which is below the BAAQMD's threshold of 4.6. According to the BAAQMD, a project would have less-than-significant greenhouse gas emissions if it would meet one or more of the criteria. The annual emissions would exceed the 1,100 meter tons CO_2e threshold, but would meet the threshold of 4.6 metric tons of CO_2e per service population per year. Therefore, the proposed project would not have a significant effect on the environment related to greenhouse gas emissions.

Compliance with the City of Brisbane Climate Action Plan

As discussed above, the City adopted a CAP that identified greenhouse gas emission reduction measures. Consistency with the CAP can be determined if the project would support the goals of the CAP, include applicable control measures, and would not disrupt or hinder implementations of any control measures from the CAP. The project's consistency with these objectives is described in Table 2 below.

Table 2: Project Compliance with Brisbane CAP

Climate Action Plan Measure	Project Compliance
Energy Measures	
EC1: Commercial green building ordinance	***Compliant.*** The proposed project would be LEED Gold certified, and therefore would meet the green building ordinance.
EC5: Promote PG&E commercial and industrial energy efficiency/demand response programs	***Compliant.*** The proposed project would include optimized energy performance including lighting utilizing either solar power or light emitting diode (LED) technology; solar panels on the top floor of the parking garage; water efficient landscaping, high efficiency toilets, and low-flow fixtures; and landscaping throughout the site.
EM1: Energy efficient street lighting	***Compliant.*** The proposed project would include optimized energy performance including lighting utilizing either solar power or LED technology
Solid Waste Measures	
WC1: Set higher diversion rate goal	***Compliant.*** The proposed project would incorporate

[7] LSA Associates Inc., 2008. op. cit.

Table 2: Project Compliance with Brisbane CAP

Climate Action Plan Measure	Project Compliance
	construction waste management measures.
WC4: Yard waste ordinance	***Compliant.*** The proposed project would incorporate construction waste management measures.
Water Measures	
EW1: Water conservation incentives	***Compliant.*** The proposed project would incorporate water efficient landscaping, high efficiency toilets, and low-flow fixtures.
All Sector Measures	
A1: Participate in County Green Business Program	***Compliant.*** The proposed project would be LEED Gold certified.

Source: LSA Associates, Inc., November 2016.

In addition to the measures described above, the proposed project would incorporate the following greenhouse gas reduction measures:

- Public transportation access through a shuttle system serving BART and CalTrain stations;
- Provision of multi-use regional trails;
- Bicycle storage and changing rooms;
- Preferred parking stalls for carpool/vanpool vehicles; and
- Reduced site disturbance, maximized open space.

The proposed project would implement the measures identified in the CAP that are applicable to the project to reduce greenhouse gas emissions. With implementation of these measures as described above, the project would be in compliance with the CAP. The proposed project would implement greenhouse gas reduction strategies in compliance with the CAP and would not be a significant source of greenhouse gas emissions. Therefore, the proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reduction the emissions of greenhouse gases.

Attachment

Opus Office Center Project

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	445.50	1000sqft	8.87	445,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	427	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor per PG&E, 2015

Land Use - Lot size is 8.87 acres

Construction Phase -

Trips and VMT - The export of soil would require approximately 2,084 truck trips based on a typical truckload of 12 cubic yards per load

Grading -

Energy Use -

Energy Mitigation - 2016 building efficiency standards are 28% more efficient than 2013 standards.
Project would be in compliance with LEED Gold standards and would include the installation of solar panels.

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialExported	0.00	25,000.00
tblLandUse	LotAcreage	10.23	8.87
tblProjectCharacteristics	CO2IntensityFactor	641.35	427
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	HaulingTripNumber	3,125.00	2,084.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.5514	5.3384	3.3517	7.9700e-003	0.3469	0.2548	0.6016	0.1353	0.2387	0.3740	0.0000	736.2281	736.2281	0.1066	0.0000	738.8931
2018	2.3806	0.5327	0.4261	8.8000e-004	0.0196	0.0269	0.0465	5.3200e-003	0.0252	0.0305	0.0000	80.2885	80.2885	0.0141	0.0000	80.6402
Maximum	**2.3806**	**5.3384**	**3.3517**	**7.9700e-003**	**0.3469**	**0.2548**	**0.6016**	**0.1353**	**0.2387**	**0.3740**	**0.0000**	**736.2281**	**736.2281**	**0.1066**	**0.0000**	**738.8931**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.5514	5.3384	3.3517	7.9700e-003	0.3469	0.2548	0.6016	0.1353	0.2387	0.3740	0.0000	736.2277	736.2277	0.1066	0.0000	738.8927
2018	2.3806	0.5327	0.4261	8.8000e-004	0.0196	0.0269	0.0465	5.3200e-003	0.0252	0.0305	0.0000	80.2884	80.2884	0.0141	0.0000	80.6402
Maximum	**2.3806**	**5.3384**	**3.3517**	**7.9700e-003**	**0.3469**	**0.2548**	**0.6016**	**0.1353**	**0.2387**	**0.3740**	**0.0000**	**736.2277**	**736.2277**	**0.1066**	**0.0000**	**738.8927**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2017	3-31-2017	1.8108	1.8108
2	4-1-2017	6-30-2017	1.3487	1.3487
3	7-1-2017	9-30-2017	1.3636	1.3636
4	10-1-2017	12-31-2017	1.3747	1.3747
5	1-1-2018	3-31-2018	2.8881	2.8881
		Highest	2.8881	2.8881

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.9726	4.0000e-005	4.1300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9600e-003	7.9600e-003	2.0000e-005	0.0000	8.5000e-003
Energy	0.0467	0.4241	0.3562	2.5400e-003		0.0322	0.0322		0.0322	0.0322	0.0000	1,563.5576	1,563.5576	0.0837	0.0240	1,572.7859
Mobile	1.2071	5.7522	13.7746	0.0416	3.3218	0.0533	3.3751	0.8919	0.0503	0.9422	0.0000	3,809.6373	3,809.6373	0.1573	0.0000	3,813.5699
Waste						0.0000	0.0000		0.0000	0.0000	84.1012	0.0000	84.1012	4.9702	0.0000	208.3571
Water						0.0000	0.0000		0.0000	0.0000	25.1203	115.8811	141.0013	2.5880	0.0626	224.3403
Total	**3.2263**	**6.1764**	**14.1349**	**0.0442**	**3.3218**	**0.0856**	**3.4073**	**0.8919**	**0.0825**	**0.9744**	**109.2215**	**5,489.0839**	**5,598.3053**	**7.7992**	**0.0865**	**5,819.0618**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.9726	4.0000e-005	4.1300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9600e-003	7.9600e-003	2.0000e-005	0.0000	8.5000e-003
Energy	0.0343	0.3115	0.2617	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	1,087.6244	1,087.6244	0.0573	0.0167	1,094.0448
Mobile	1.2071	5.7522	13.7746	0.0416	3.3218	0.0533	3.3751	0.8919	0.0503	0.9422	0.0000	3,809.6373	3,809.6373	0.1573	0.0000	3,813.5699
Waste						0.0000	0.0000		0.0000	0.0000	84.1012	0.0000	84.1012	4.9702	0.0000	208.3571
Water						0.0000	0.0000		0.0000	0.0000	25.1203	115.8811	141.0013	2.5880	0.0626	224.3403
Total	**3.2140**	**6.0638**	**14.0404**	**0.0435**	**3.3218**	**0.0770**	**3.3988**	**0.8919**	**0.0740**	**0.9659**	**109.2215**	**5,013.1507**	**5,122.3722**	**7.7729**	**0.0793**	**5,340.3206**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.38**	**1.82**	**0.67**	**1.52**	**0.00**	**9.99**	**0.25**	**0.00**	**10.36**	**0.88**	**0.00**	**8.67**	**8.50**	**0.34**	**8.35**	**8.23**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/27/2017	5	20	
2	Site Preparation	Site Preparation	1/28/2017	2/10/2017	5	10	
3	Grading	Grading	2/11/2017	3/10/2017	5	20	
4	Building Construction	Building Construction	3/11/2017	1/26/2018	5	230	
5	Paving	Paving	1/27/2018	2/23/2018	5	20	
6	Architectural Coating	Architectural Coating	2/24/2018	3/23/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 668,250; Non-Residential Outdoor: 222,750; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	2,084.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	143.00	73.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	29.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0410	0.4275	0.2301	3.9000e-004		0.0219	0.0219		0.0204	0.0204	0.0000	35.6005	35.6005	9.7300e-003	0.0000	35.8438
Total	**0.0410**	**0.4275**	**0.2301**	**3.9000e-004**		**0.0219**	**0.0219**		**0.0204**	**0.0204**	**0.0000**	**35.6005**	**35.6005**	**9.7300e-003**	**0.0000**	**35.8438**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	5.3000e-004	5.3000e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.1371	1.1371	4.0000e-005	0.0000	1.1380
Total	**6.8000e-004**	**5.3000e-004**	**5.3000e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.1371**	**1.1371**	**4.0000e-005**	**0.0000**	**1.1380**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0410	0.4275	0.2301	3.9000e-004		0.0219	0.0219		0.0204	0.0204	0.0000	35.6005	35.6005	9.7300e-003	0.0000	35.8438
Total	**0.0410**	**0.4275**	**0.2301**	**3.9000e-004**		**0.0219**	**0.0219**		**0.0204**	**0.0204**	**0.0000**	**35.6005**	**35.6005**	**9.7300e-003**	**0.0000**	**35.8438**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	5.3000e-004	5.3000e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.1371	1.1371	4.0000e-005	0.0000	1.1380
Total	**6.8000e-004**	**5.3000e-004**	**5.3000e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.1371**	**1.1371**	**4.0000e-005**	**0.0000**	**1.1380**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0248	0.2614	0.1173	1.9000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	17.6672	17.6672	5.4100e-003	0.0000	17.8025
Total	**0.0248**	**0.2614**	**0.1173**	**1.9000e-004**	**0.0903**	**0.0144**	**0.1047**	**0.0497**	**0.0132**	**0.0629**	**0.0000**	**17.6672**	**17.6672**	**5.4100e-003**	**0.0000**	**17.8025**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	3.2000e-004	3.1800e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6823	0.6823	2.0000e-005	0.0000	0.6828
Total	**4.1000e-004**	**3.2000e-004**	**3.1800e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6823**	**0.6823**	**2.0000e-005**	**0.0000**	**0.6828**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0248	0.2614	0.1173	1.9000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	17.6672	17.6672	5.4100e-003	0.0000	17.8025
Total	**0.0248**	**0.2614**	**0.1173**	**1.9000e-004**	**0.0903**	**0.0144**	**0.1047**	**0.0497**	**0.0132**	**0.0629**	**0.0000**	**17.6672**	**17.6672**	**5.4100e-003**	**0.0000**	**17.8025**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	3.2000e-004	3.1800e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6823	0.6823	2.0000e-005	0.0000	0.6828
Total	**4.1000e-004**	**3.2000e-004**	**3.1800e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6823**	**0.6823**	**2.0000e-005**	**0.0000**	**0.6828**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0669	0.0000	0.0669	0.0339	0.0000	0.0339	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0307	0.3389	0.1710	3.0000e-004		0.0178	0.0178		0.0164	0.0164	0.0000	27.5595	27.5595	8.4400e-003	0.0000	27.7706
Total	**0.0307**	**0.3389**	**0.1710**	**3.0000e-004**	**0.0669**	**0.0178**	**0.0847**	**0.0339**	**0.0164**	**0.0502**	**0.0000**	**27.5595**	**27.5595**	**8.4400e-003**	**0.0000**	**27.7706**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0117	0.3723	0.0722	8.5000e-004	0.0176	2.0900e-003	0.0197	4.8400e-003	2.0000e-003	6.8400e-003	0.0000	82.2031	82.2031	4.4700e-003	0.0000	82.3148
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	5.3000e-004	5.3000e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.1371	1.1371	4.0000e-005	0.0000	1.1380
Total	**0.0124**	**0.3728**	**0.0775**	**8.6000e-004**	**0.0188**	**2.1000e-003**	**0.0209**	**5.1600e-003**	**2.0100e-003**	**7.1600e-003**	**0.0000**	**83.3401**	**83.3401**	**4.5100e-003**	**0.0000**	**83.4529**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0669	0.0000	0.0669	0.0339	0.0000	0.0339	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0307	0.3389	0.1710	3.0000e-004		0.0178	0.0178		0.0164	0.0164	0.0000	27.5594	27.5594	8.4400e-003	0.0000	27.7705
Total	**0.0307**	**0.3389**	**0.1710**	**3.0000e-004**	**0.0669**	**0.0178**	**0.0847**	**0.0339**	**0.0164**	**0.0502**	**0.0000**	**27.5594**	**27.5594**	**8.4400e-003**	**0.0000**	**27.7705**

3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0117	0.3723	0.0722	8.5000e-004	0.0176	2.0900e-003	0.0197	4.8400e-003	2.0000e-003	6.8400e-003	0.0000	82.2031	82.2031	4.4700e-003	0.0000	82.3148
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	5.3000e-004	5.3000e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.1371	1.1371	4.0000e-005	0.0000	1.1380
Total	**0.0124**	**0.3728**	**0.0775**	**8.6000e-004**	**0.0188**	**2.1000e-003**	**0.0209**	**5.1600e-003**	**2.0100e-003**	**7.1600e-003**	**0.0000**	**83.3401**	**83.3401**	**4.5100e-003**	**0.0000**	**83.4529**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3271	2.7882	1.9092	2.8300e-003		0.1877	0.1877		0.1763	0.1763	0.0000	252.5175	252.5175	0.0622	0.0000	254.0728
Total	**0.3271**	**2.7882**	**1.9092**	**2.8300e-003**		**0.1877**	**0.1877**		**0.1763**	**0.1763**	**0.0000**	**252.5175**	**252.5175**	**0.0622**	**0.0000**	**254.0728**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0464	1.0957	0.3075	2.1300e-003	0.0503	9.9800e-003	0.0602	0.0145	9.5400e-003	0.0241	0.0000	203.9020	203.9020	0.0125	0.0000	204.2141
Worker	0.0679	0.0531	0.5306	1.2600e-003	0.1187	8.6000e-004	0.1195	0.0316	7.9000e-004	0.0324	0.0000	113.8220	113.8220	3.7400e-003	0.0000	113.9156
Total	**0.1143**	**1.1488**	**0.8380**	**3.3900e-003**	**0.1689**	**0.0108**	**0.1797**	**0.0461**	**0.0103**	**0.0564**	**0.0000**	**317.7240**	**317.7240**	**0.0162**	**0.0000**	**318.1297**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3271	2.7882	1.9092	2.8300e-003		0.1877	0.1877		0.1763	0.1763	0.0000	252.5172	252.5172	0.0622	0.0000	254.0725
Total	**0.3271**	**2.7882**	**1.9092**	**2.8300e-003**		**0.1877**	**0.1877**		**0.1763**	**0.1763**	**0.0000**	**252.5172**	**252.5172**	**0.0622**	**0.0000**	**254.0725**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0464	1.0957	0.3075	2.1300e-003	0.0503	9.9800e-003	0.0602	0.0145	9.5400e-003	0.0241	0.0000	203.9020	203.9020	0.0125	0.0000	204.2141
Worker	0.0679	0.0531	0.5306	1.2600e-003	0.1187	8.6000e-004	0.1195	0.0316	7.9000e-004	0.0324	0.0000	113.8220	113.8220	3.7400e-003	0.0000	113.9156
Total	**0.1143**	**1.1488**	**0.8380**	**3.3900e-003**	**0.1689**	**0.0108**	**0.1797**	**0.0461**	**0.0103**	**0.0564**	**0.0000**	**317.7240**	**317.7240**	**0.0162**	**0.0000**	**318.1297**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0268	0.2339	0.1758	2.7000e-004		0.0150	0.0150		0.0141	0.0141	0.0000	23.7767	23.7767	5.8300e-003	0.0000	23.9224
Total	**0.0268**	**0.2339**	**0.1758**	**2.7000e-004**		**0.0150**	**0.0150**		**0.0141**	**0.0141**	**0.0000**	**23.7767**	**23.7767**	**5.8300e-003**	**0.0000**	**23.9224**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8400e-003	0.0978	0.0260	2.0000e-004	4.7900e-003	7.5000e-004	5.5400e-003	1.3800e-003	7.2000e-004	2.1000e-003	0.0000	19.3673	19.3673	1.1200e-003	0.0000	19.3951
Worker	5.7500e-003	4.3900e-003	0.0442	1.2000e-004	0.0113	8.0000e-005	0.0114	3.0100e-003	7.0000e-005	3.0800e-003	0.0000	10.5374	10.5374	3.1000e-004	0.0000	10.5451
Total	**9.5900e-003**	**0.1022**	**0.0702**	**3.2000e-004**	**0.0161**	**8.3000e-004**	**0.0169**	**4.3900e-003**	**7.9000e-004**	**5.1800e-003**	**0.0000**	**29.9046**	**29.9046**	**1.4300e-003**	**0.0000**	**29.9403**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0268	0.2339	0.1758	2.7000e-004		0.0150	0.0150		0.0141	0.0141	0.0000	23.7767	23.7767	5.8300e-003	0.0000	23.9223
Total	**0.0268**	**0.2339**	**0.1758**	**2.7000e-004**		**0.0150**	**0.0150**		**0.0141**	**0.0141**	**0.0000**	**23.7767**	**23.7767**	**5.8300e-003**	**0.0000**	**23.9223**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8400e-003	0.0978	0.0260	2.0000e-004	4.7900e-003	7.5000e-004	5.5400e-003	1.3800e-003	7.2000e-004	2.1000e-003	0.0000	19.3673	19.3673	1.1200e-003	0.0000	19.3951
Worker	5.7500e-003	4.3900e-003	0.0442	1.2000e-004	0.0113	8.0000e-005	0.0114	3.0100e-003	7.0000e-005	3.0800e-003	0.0000	10.5374	10.5374	3.1000e-004	0.0000	10.5451
Total	**9.5900e-003**	**0.1022**	**0.0702**	**3.2000e-004**	**0.0161**	**8.3000e-004**	**0.0169**	**4.3900e-003**	**7.9000e-004**	**5.1800e-003**	**0.0000**	**29.9046**	**29.9046**	**1.4300e-003**	**0.0000**	**29.9403**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0164	0.1752	0.1480	2.3000e-004		9.5600e-003	9.5600e-003		8.8000e-003	8.8000e-003	0.0000	20.8116	20.8116	6.4800e-003	0.0000	20.9736
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0164**	**0.1752**	**0.1480**	**2.3000e-004**		**9.5600e-003**	**9.5600e-003**		**8.8000e-003**	**8.8000e-003**	**0.0000**	**20.8116**	**20.8116**	**6.4800e-003**	**0.0000**	**20.9736**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.6000e-004	4.6300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.1053	1.1053	3.0000e-005	0.0000	1.1061
Total	**6.0000e-004**	**4.6000e-004**	**4.6300e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.1053**	**1.1053**	**3.0000e-005**	**0.0000**	**1.1061**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0164	0.1752	0.1480	2.3000e-004		9.5600e-003	9.5600e-003		8.8000e-003	8.8000e-003	0.0000	20.8116	20.8116	6.4800e-003	0.0000	20.9736
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0164**	**0.1752**	**0.1480**	**2.3000e-004**		**9.5600e-003**	**9.5600e-003**		**8.8000e-003**	**8.8000e-003**	**0.0000**	**20.8116**	**20.8116**	**6.4800e-003**	**0.0000**	**20.9736**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.6000e-004	4.6300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.1053	1.1053	3.0000e-005	0.0000	1.1061
Total	**6.0000e-004**	**4.6000e-004**	**4.6300e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.1053**	**1.1053**	**3.0000e-005**	**0.0000**	**1.1061**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.3230					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0185	3.0000e-005		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	2.5533	2.5533	2.4000e-004	0.0000	2.5593
Total	**2.3260**	**0.0201**	**0.0185**	**3.0000e-005**		**1.5100e-003**	**1.5100e-003**		**1.5100e-003**	**1.5100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.4000e-004**	**0.0000**	**2.5593**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1700e-003	8.9000e-004	8.9600e-003	2.0000e-005	2.2900e-003	2.0000e-005	2.3100e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	2.1370	2.1370	6.0000e-005	0.0000	2.1385
Total	**1.1700e-003**	**8.9000e-004**	**8.9600e-003**	**2.0000e-005**	**2.2900e-003**	**2.0000e-005**	**2.3100e-003**	**6.1000e-004**	**1.0000e-005**	**6.2000e-004**	**0.0000**	**2.1370**	**2.1370**	**6.0000e-005**	**0.0000**	**2.1385**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.3230					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0185	3.0000e-005		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	2.5533	2.5533	2.4000e-004	0.0000	2.5593
Total	**2.3260**	**0.0201**	**0.0185**	**3.0000e-005**		**1.5100e-003**	**1.5100e-003**		**1.5100e-003**	**1.5100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.4000e-004**	**0.0000**	**2.5593**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1700e-003	8.9000e-004	8.9600e-003	2.0000e-005	2.2900e-003	2.0000e-005	2.3100e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	2.1370	2.1370	6.0000e-005	0.0000	2.1385
Total	**1.1700e-003**	**8.9000e-004**	**8.9600e-003**	**2.0000e-005**	**2.2900e-003**	**2.0000e-005**	**2.3100e-003**	**6.1000e-004**	**1.0000e-005**	**6.2000e-004**	**0.0000**	**2.1370**	**2.1370**	**6.0000e-005**	**0.0000**	**2.1385**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2071	5.7522	13.7746	0.0416	3.3218	0.0533	3.3751	0.8919	0.0503	0.9422	0.0000	3,809.637 3	3,809.637 3	0.1573	0.0000	3,813.569 9
Unmitigated	1.2071	5.7522	13.7746	0.0416	3.3218	0.0533	3.3751	0.8919	0.0503	0.9422	0.0000	3,809.637 3	3,809.637 3	0.1573	0.0000	3,813.569 9

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	4,913.87	1,095.93	467.78	8,921,640	8,921,640
Total	4,913.87	1,095.93	467.78	8,921,640	8,921,640

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.570523	0.041853	0.194077	0.115893	0.018544	0.005373	0.016909	0.024079	0.002502	0.002562	0.005975	0.000872	0.000837

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	748.4896	748.4896	0.0508	0.0105	752.8947
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,101.874 7	1,101.874 7	0.0748	0.0155	1,108.359 5
NaturalGas Mitigated	0.0343	0.3115	0.2617	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	339.1348	339.1348	6.5000e-003	6.2200e-003	341.1501
NaturalGas Unmitigated	0.0467	0.4241	0.3562	2.5400e-003		0.0322	0.0322		0.0322	0.0322	0.0000	461.6829	461.6829	8.8500e-003	8.4600e-003	464.4264

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	8.65161e+006	0.0467	0.4241	0.3562	2.5400e-003		0.0322	0.0322		0.0322	0.0322	0.0000	461.6829	461.6829	8.8500e-003	8.4600e-003	464.4264
Total		**0.0467**	**0.4241**	**0.3562**	**2.5400e-003**		**0.0322**	**0.0322**		**0.0322**	**0.0322**	**0.0000**	**461.6829**	**461.6829**	**8.8500e-003**	**8.4600e-003**	**464.4264**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	6.35515e+006	0.0343	0.3115	0.2617	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	339.1348	339.1348	6.5000e-003	6.2200e-003	341.1501
Total		**0.0343**	**0.3115**	**0.2617**	**1.8700e-003**		**0.0237**	**0.0237**		**0.0237**	**0.0237**	**0.0000**	**339.1348**	**339.1348**	**6.5000e-003**	**6.2200e-003**	**341.1501**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	5.68904e +006	1,101.874 7	0.0748	0.0155	1,108.359 5
Total		**1,101.874 7**	**0.0748**	**0.0155**	**1,108.359 5**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	3.86449e +006	748.4896	0.0508	0.0105	752.8947
Total		**748.4896**	**0.0508**	**0.0105**	**752.8947**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.9726	4.0000e-005	4.1300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9600e-003	7.9600e-003	2.0000e-005	0.0000	8.5000e-003
Unmitigated	1.9726	4.0000e-005	4.1300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9600e-003	7.9600e-003	2.0000e-005	0.0000	8.5000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2323					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.9000e-004	4.0000e-005	4.1300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9600e-003	7.9600e-003	2.0000e-005	0.0000	8.5000e-003
Total	**1.9726**	**4.0000e-005**	**4.1300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.9600e-003**	**7.9600e-003**	**2.0000e-005**	**0.0000**	**8.5000e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2323					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.9000e-004	4.0000e-005	4.1300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9600e-003	7.9600e-003	2.0000e-005	0.0000	8.5000e-003
Total	**1.9726**	**4.0000e-005**	**4.1300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.9600e-003**	**7.9600e-003**	**2.0000e-005**	**0.0000**	**8.5000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	141.0013	2.5880	0.0626	224.3403
Unmitigated	141.0013	2.5880	0.0626	224.3403

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	79.1804 / 48.5299	141.0013	2.5880	0.0626	224.3403
Total		**141.0013**	**2.5880**	**0.0626**	**224.3403**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	79.1804 / 48.5299	141.0013	2.5880	0.0626	224.3403
Total		**141.0013**	**2.5880**	**0.0626**	**224.3403**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	84.1012	4.9702	0.0000	208.3571
Unmitigated	84.1012	4.9702	0.0000	208.3571

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	414.31	84.1012	4.9702	0.0000	208.3571
Total		**84.1012**	**4.9702**	**0.0000**	**208.3571**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	414.31	84.1012	4.9702	0.0000	208.3571
Total		**84.1012**	**4.9702**	**0.0000**	**208.3571**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX C

Sierra Point Opus Office Center Draft Transportation Impact Analysis

Sierra Point Opus Office Center

Transportation Impact Analysis
Prepared for: LSA

Prepared by

FEHR & PEERS

555 W.Beech Street, Suite 302
San Diego, CA

Katy Cole
K.Cole@fehrandpeers.com
619-758-3001

December 21, 2016

Transportation Impact Analysis for the Sierra Point Opus Office Center

Prepared for:
LSA Associates, Inc.

December 21, 2016

SD16-0222

FEHR PEERS

Table of Contents

Appendices

List of Figures

List of Tables

1.0 EXECUTIVE SUMMARY

This report presents the results of the transportation impact analysis (TIA) for the proposed Sierra Point Opus Office Center project on Marina Boulevard in Brisbane, California. The purpose of this analysis is to update the findings of the TIA previously prepared in 2008 for the project based on a new existing baseline. The updated TIA identifies the impacts of the proposed project on the surrounding transportation system and recommends mitigation measures at impacted locations, and will supplement the Addendum to the Sierra Point Opus Office Center IS/MND adopted by the City in 2008.

As proposed, the project would develop a currently vacant parcel into two office building totaling 445,500 square feet and a total of 1,388 parking spaces on-site. Overall, there is no change to the Sierra Point Opus Office project description as the square footage of the office development previously approved for the project remains the same. Parcel R is also included in the TIA analysis, and is located at 400 Sierra Point Parkway on the Sierra Point Peninsula and could contain up to 37,500 square feet of commercial space. Parcel R was originally analyzed for impacts in the Sierra Point Biotech Project EIR and was a related project in the Sierra Point Opus Office Center IS/MND; therefore, was also already environmentally cleared.

At full buildout the proposed project is estimated to generate 6,515 new daily trips, 731 new AM peak hour trips (634 inbound and 97 outbound), and 803 new PM peak hour trips (180 inbound and 623 outbound). These project trips were distributed and assigned to the transportation network and added to the Existing, Background and Future baseline traffic volumes to determine the "plus project" conditions.

The impacts of the proposed project to the surrounding transportation system were evaluated following the guidelines established by the City of Brisbane, City of San Francisco, City of South San Francisco, City of Daly City, and the congestion management agency for San Mateo County. The traffic operations at 11 key intersections and 3 freeway segments were evaluated during the weekday morning (AM) and evening (PM) peak hour under Existing, Background, and Future Conditions with and without the project.

It should be noted that traffic operations analyses conducted for Future Conditions were provided for informational purposes only and to show the project conditions under a future scenario that includes the maximum development proposed for the Brisbane Baylands, a large pending development project directly north of the project site that is currently under environmental review.

Below is a summary of the project level of service (LOS) impacts at the study intersections. Mitigation measures for impacts are discussed in the report chapters for each scenario.

- Existing plus Project Conditions

    - Intersection 9: US 101 Northbound Ramps & Sierra Point Parkway (LOS F – AM and PM peak hour)
    - Intersection 10: Shoreline Court & Sierra Point Parkway (LOS F – AM and PM peak hour)
    - All freeway segments operate acceptably under Existing plus Project Conditions.
- Background plus Project Conditions
    - Intersection 9: US 101 Northbound Ramps & Sierra Point Parkway (LOS F – AM and PM peak hour)
    - All freeway segments operate acceptably under Existing plus Project Conditions.

The impacts identified under Existing and Background conditions were identified in the adopted 2008 Sierra Point Opus Office Center IS/MND. No new impacts are identified. All significant study intersection impacts under Existing plus Project and Background plus Project were mitigated through proposed roadway improvements previously identified in other traffic studies.

The traffic analysis also includes a speculative future year scenario for informational purposes. This scenario evaluates the project conditions in the future with the maximum development proposed for the Brisbane Baylands project. Brisbane Baylands is a large development project generally located northwest of the Sierra Point Opus Office Center project. The draft EIR for the Brisbane Baylands project identifies several significant and unavoidable intersection level of service impacts. The following list includes the intersections identified with significant and unavoidable impacts where the Sierra Point Opus Office Center project adds traffic.

- Intersection 6: Bayshore Boulevard & Old County Road (LOS F – AM and PM peak hour) – Mitigation measures are identified in the Brisbane Baylands Draft EIR; however, the intersection remains impacted due to the Brisbane Baylands project.
- Intersection 8: Sierra Point Parkway & Lagoon Road (LOS F – AM and PM peak hour) – Mitigation measures are identified in the Brisbane Baylands Draft EIR; however, the intersection remains impacted due to the Brisbane Baylands project.
- Intersection 9: US 101 Northbound Ramps & Sierra Point Parkway (LOS F – AM and PM peak hour) – Mitigation measures are identified in the Brisbane Baylands Draft EIR; however, the intersection remains impacted due to the Brisbane Baylands project.
- US 101 northbound between Sierra Point Parkway and Harney Way (PM peak hour) – Impacted due to Brisbane Baylands project.
- US 101 southbound between Harney Way and Sierra Point Parkway (AM peak hour) – Impact identified in adopted 2008 Sierra Point Opus Office Center IS/MND.
- US 101 northbound between Oyster Point Boulevard and Sierra Point Parkway (AM peak hour) - Impact identified in adopted 2008 Sierra Point Opus Office Center IS/MND.

In the Brisbane Baylands Draft EIR, significant and unavoidable impacts are identified at the three study intersections and the three freeway segments listed above, which this project traffic contributes to. Mitigation measures were evaluated at the three study intersections with impacts identified under Future with Brisbane Baylands plus Project Conditions; however, the mitigation measures do not improve the LOS D or better.

To minimize the potential for an increase in project site development-generated vehicles and the project's contribution to freeway mainline impacts in the future with Brisbane Baylands development in place, implementation of a Travel Demand Management (TDM) program would be required. These measures are provided in the San Mateo County *Final Congestion Management Program,* but are ultimately decided between the project applicant and the City of Brisbane. Another option is to widen the respective impacted freeway segments; however, due to substantial costs and secondary, unintended consequences this measure is not considered feasible for a single development project. Therefore, the freeway segment impacts are considered significant and unavoidable. It should be also noted that these significant impacts are also identified in the Brisbane Baylands EIR and/or other nearby traffic studies conducted in the area.

2.0 INTRODUCTION

This report presents the results of the transportation impact analysis (TIA) conducted by Fehr & Peers for the proposed Sierra Point Opus Office Center (Project) in the southeastern area of Brisbane, California. The TIA identifies the impacts of the proposed project on the surrounding transportation system and recommends mitigation measures at impacted locations. This TIA was conducted in accordance with guidelines and standards of the affected agencies, including the City of Brisbane, the City of San Francisco, the City of South San Francisco, the City of Daly City, as well as the congestion management agency for San Mateo County.

This chapter provides a detailed project background and description as well as describes the study area, analysis methodologies, analysis scenarios, and significance impact criteria.

2.1 PROJECT BACKGROUND

Development on the Sierra Point Peninusla, which includes the Opus Office Center site was studied in the Opus Office Center Initial Study/Mitigated Negative Declaration (2008 IS/MND) that was adopted by the City of Brisbane in 2008. Parcel R was included in the Sierra Point Biotech Project Final Environmental Impact Report that was certified in 2008. Since the projects' initial approvals and development agreements, there have been minor modifications to the Opus Office Center project, including construction of the project to LEED Gold Standards and the installation of solar panels on the top floor of the parking garage. Although there is no change in land use and the type of development allowed on the Sierra Point peninsula compared to what has been previously approved for the project, the environmental setting presented in the TIA previously prepared for the 2008 IS/MND is now outdated. Thus, this TIA was prepared to assess whether the changes to the circumstances surrounding the project would result in new or more severe project-related transportation impacts than were identified in the 2008 IS/MND. The updated Existing Conditions scenario presented in this study uses traffic data collected in 2016, and Background Conditions are updated to reflect traffic conditions for all currently approved development projects and roadway network changes. The findings of this TIA supplement the Addendum to the Sierra Point Opus Office Center IS/MND adopted by the City in 2008 and will help the applicant extend their planning entitlements for the project.

2.2 PROJECT DESCRIPTION

The 8.87-acre project site is located at 3000-3500 Marina Boulevard on the Sierra Point Peninsula in the City of Brisbane in San Mateo County. The traffic analysis also includes Parcel R, which is located at 400 Sierra Point Parkway on the Sierra Point Peninsula. Details of the development project are provided below.

- The construction of an office center with two office buildings totaling 445,500 square feet: the first building is approximately 195,500 square feet and the second building is approximately 250,000 square feet.
- A total of 1,388 parking spaces in a five-level garage (1,175) and surface lots (213) spaces will be provided for the Opus Office Center. The parking garage would be located along the western boundary of the project site.
- Parcel R could contain up to 37,500 square feet of commercial/retail/restaurant uses. In the interim, Parcel R will remain as-is, with passive open space uses; however, since the development rights allowing the commercial development will remain in place, the commercial use was included in the traffic analysis.

Figure 1 illustrates the study area, and **Figure 2** illustrates proposed site plan for the Sierra Point Opus Office Development.

A transportation impact study was prepared for the Project in 2008; however, since it is approximately eight years old, this report was developed with all-new data and analysis.

Study Intersections

Opus Office Center

Parcel R

City of Brisbane

Figure 1

Study Area & Analyzed Locations

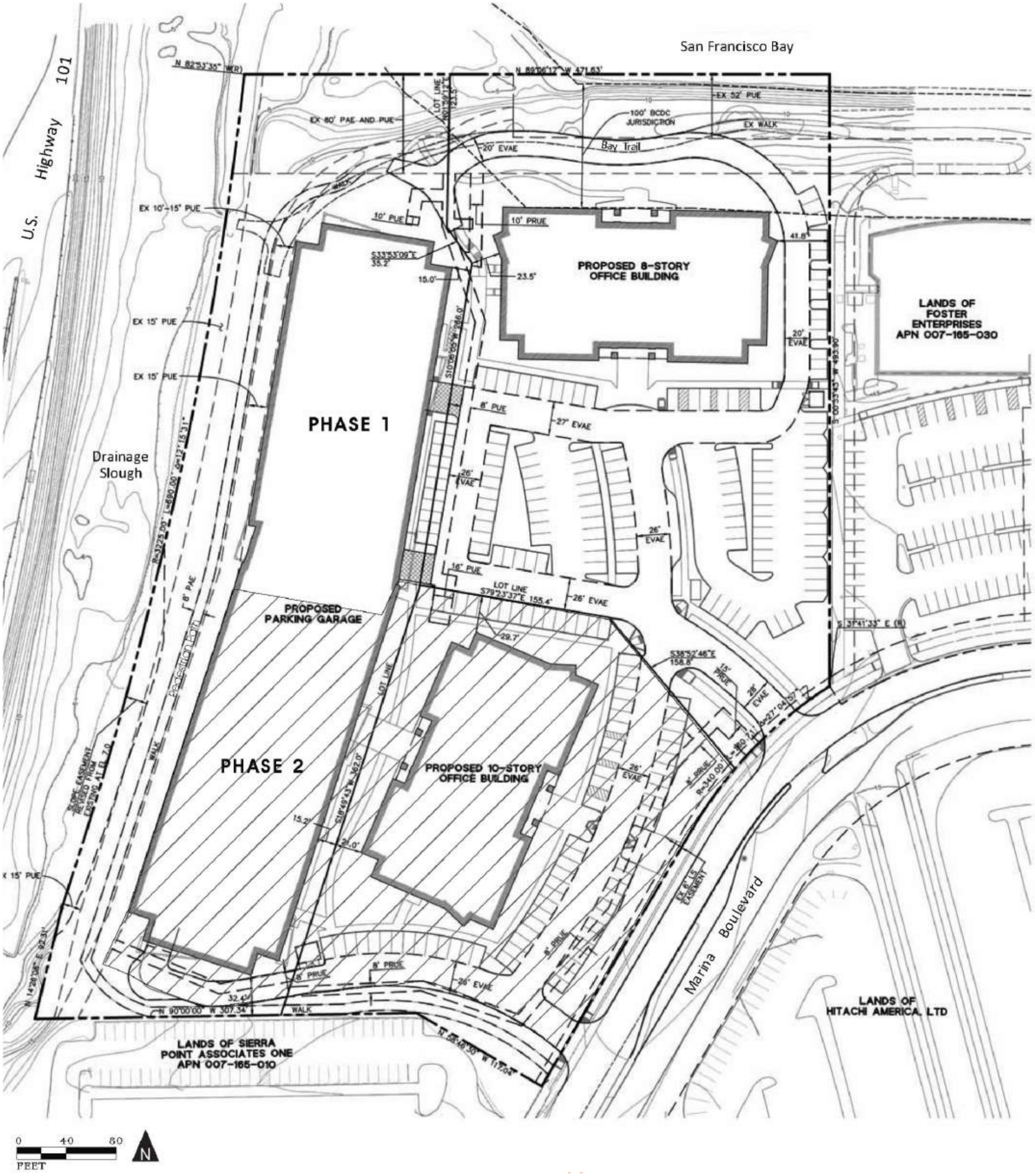


Figure 2
Project Site Plan

2.3 PROJECT STUDY AREA

The study area is generally bounded by Alemany Boulevard and I-280 Freeway to the north, the US-101 Freeway to the east, Sister Cities Boulevard to the south, and Mission Street to the west. Transportation impacts are evaluated for the intersections and freeway segments discussed below, and the intersection study locations are illustrated in **Figure 1**.

2.3.1 STUDY INTERSECTIONS

The TIA focused on evaluating the potential project-related impacts at 11 study intersections, as shown on **Figure 1** and listed in **Table 1**. The study intersections selected for the TIA are consistent with previous traffic studies conducted for the Sierra Point Opus Office Center Development in 2008 (i.e. the original TIA for the Project) and the Sierra Point Biotech Development in 2006.

TABLE 1: STUDY INTERSECTIONS

No.	Intersection	Control Type	Jurisdiction
1	Bayshore Boulevard & Sister Cities/Oyster Point Boulevard	Signal	South San Francisco
2	Congdon Street & Alemany Boulevard	Signal	San Francisco
3	Alemany Boulevard & Geneva Avenue	Signal	San Francisco
4	Mission Street & Geneva Avenue	Signal	San Francisco
5	Bayshore Boulevard & Geneva Avenue	Signal	Daly City & CMP[1]
6	Bayshore Boulevard & Old County Road	Signal	Brisbane
7	Tunnel Avenue & Lagoon Road	All-Way Stop	Brisbane
8	Sierra Point Parkway & Lagoon Road	All-Way Stop	Brisbane
9	US 101 Northbound Ramps & Sierra Point Parkway	Side-Street Stop	Brisbane
10	Sierra Point Parkway & Shoreline Court	All-Way Stop	Brisbane
11	Marina Boulevard & Sierra Point Parkway*	All-Way Stop	Brisbane

Notes:
* Denotes intersection was not previously studied in the original TIA or the Sierra Point Biotech Development TIA
[1] Intersection 5: Bayshore Boulevard & Geneva Avenue is located within the Daly City. Additionally, the San Mateo County Congestion Management Plan (CMP) also establishes a LOS standard for this location, because it is part of the CMP roadway system.

2.3.2 FREEWAY STUDY SEGMENTS

The County of San Mateo monitors congestion on roadway facilities, including freeways, which are part of the Congestion Management Roadway Network. Consistent with the original TIA, the Project's impact on the following Congestion Management Program (CMP) freeway segments were evaluated:

1. US 101 (Northbound & Southbound): Harney Way to Sierra Point Parkway
2. US 101 (Northbound & Southbound): Sierra Point to Oyster Point Boulevard
3. I-280 (Northbound & Southbound): Alemany Boulevard to San Jose Avenue

2.4 ANALYSIS SCENARIOS

The operations of the study intersections and freeway segments were evaluated during the weekday morning (AM) and evening (PM) peak hours for the following scenarios shown in **Table 2**.

TABLE 2: ANALYSIS SCENARIOS

Scenario	Description
Existing Conditions	The analysis of existing conditions was based on August 2016 traffic counts collected for the analyzed peak hours. The existing conditions analysis also includes a description of key area roadways and an assessment of bicycle, pedestrian, and transit facilities and services near the site.
Existing plus Project Conditions	This traffic scenario provides an assessment of operating conditions under Existing Conditions with the addition of project-generated traffic and transportation network infrastructure proposed by the project. The impacts of the proposed project on existing baseline traffic operating conditions were then identified.
Background Conditions	Future traffic forecasts without the proposed project were developed for the Background Conditions by adding traffic from approved but not yet constructed and occupied developments in the vicinity of the project site to the Existing Conditions traffic counts.
Background plus Project Conditions	This traffic scenario provides an assessment of operating conditions under Background Conditions with the addition of project-generated traffic and transportation network infrastructure proposed by the project. The impacts of the proposed project under Background Conditions were then identified.
Future with Brisbane Baylands Conditions	Future forecasts without the proposed project were developed for the long-term with a 2030 horizon year from interpolation of traffic projections used for the Future Conditions plus Baylands' Community Proposed Plan presented in the *Brisbane Baylands Environmental Impact Report* (ESA, 2013) and other proposed developments that are within the project study area.

TABLE 2: ANALYSIS SCENARIOS

Scenario	Description
Future with Brisbane Baylands plus Project Conditions	This traffic scenario provides an assessment of operating conditions under Future with Brisbane Baylands Conditions with the addition of project-generated traffic and transportation network infrastructure proposed by the project. The impacts of the proposed project under Future with Brisbane Baylands Conditions were then identified.

Source: Fehr & Peers, 2016

2.5 ANALYSIS METHODS

The operations of roadway facilities are described with the term level of service (LOS), a qualitative description of traffic flow based on such factors as speed, travel time, delay, and freedom to maneuver. Six levels are defined from LOS A, as the best operating conditions, to LOS F, or the worst operating conditions. LOS E represents “at-capacity” operations. When traffic volumes exceed the intersection capacity, stop-and-go conditions result, and operations are designated as LOS F.

2.5.1 SIGNALIZED INTERSECTIONS

The method described in Chapter 18 of the *Highway Capacity Manual 2010* was used to prepare the LOS calculations for the six (6) signalized study intersections. This LOS method analyzes a signalized intersection’s operation based on average control delay per vehicle. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay includes the initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections is calculated using Synchro 9.0 software and is correlated to a LOS designation as shown in **Table 3** and on **Figure 3**.

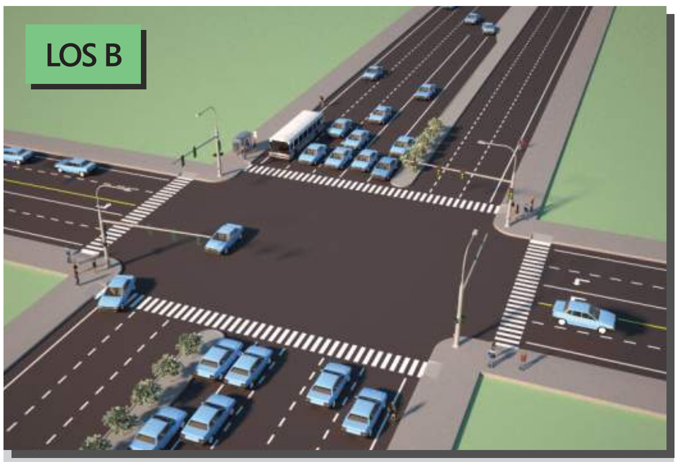
TABLE 3: SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description	Delay in Seconds
A	Progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	≤ 10.0
B	Progression is good, cycle lengths are short, or both. More vehicles stop than with LOS A, causing higher levels of average delay.	> 10.0 to 20.0
C	Higher congestion may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, though many still pass through the intersection without stopping.	> 20.0 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	> 35.0 to 55.0
E	This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0
F	This level is considered unacceptable with oversaturation, which is when arrival flow rates exceed the capacity of the intersection. This level may also occur at high V/C ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to such delay levels.	> 80.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2010.

Intersection Operation: Free Flow

Degree of Delay: Negligible Delays



Intersection Operation: Stable Flow

Degree of Delay: Minimal Delays

Intersection Operation: Stable Flow

Degree of Delay: Moderate Delays

Intersection Operation: Less Stable Flow

Degree of Delay: Long Delays

Intersection Operation: Unstable Flow

Degree of Delay: Substantial Delays Can Occur

Intersection Operation: Unpredictable Flow/Wait Through Multiple Cycles

Degree of Delay: Excessive Delays Can Occur

Figure 3

Signalized Intersection Level of Service Examples

2.5.2 UNSIGNALIZED INTERSECTIONS

The operations of the unsignalized intersections were evaluated either using the method contained in Chapter 19: Two-Way Stop-Controlled Intersections or Chapter 20: All-Way Stop-Controlled Intersections of the *HCM 2010*. LOS ratings for stop-sign-controlled intersections are based on the average control delay expressed in seconds per vehicle. At all-way stop-controlled intersections the overall intersection delay and LOS is reported, and the LOS is characterized solely on control delay. At two-way or side-street-controlled (SSSC) intersections, the average control delay is calculated for each minor-street stopped movement and the major-street left turns, not for the intersection as a whole. For approaches composed of a single lane, the control delay is computed as the average of all movements in that lane. For approaches with multiple lanes, the control delay is computed for each movement; the movement with the worst (i.e., longest) delay is presented for SSSC. As shown in **Table 4**, LOS F is assigned to the movement if the volume-to capacity (V/C) ratio for the movement exceed 1.0 regardless of control delay. With the exception of Intersection 10: Shoreline Court & Sierra Point Parkway, the average control delay for the unsignalized intersections is calculated using Synchro 9.0 analysis software. LOS calculations under Existing and Existing plus Project Conditions for Intersection 10 were performed using Traffix 8.0 since Synchro 9.0 software is unable to analyze AWSC intersections with more than three lanes. Additionally, the intersection operations analysis conducted at Intersection 10 applied methods described in the *HCM 2000*. Overall, the average control delay for the five (5) unsignalized intersections are correlated to a LOS designation as shown in **Table 4**.

TABLE 4: UNSIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Little or no delay.	≤ 10.0
B	Short traffic delay.	> 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, 2010.
Notes:
[1] For approach-based and intersection-wide assessments, such as that used for AWSC intersections, LOS is defined solely by control delay.

2.5.3 FREEWAY SEGMENTS

Freeway mainline operations were assessed using the *HCM* volume-to-capacity (v/c) ratio method, per the San Mateo County CMP traffic LOS guidelines. Under this method, the peak hour volume on a segment in each direction of travel is compared to the segment's vehicle carrying capacity and a v/c ratio is calculated. The capacity is estimated as the number of lanes multiplied by 2,200 vehicles per hour per lane for four-lane freeway segments and 2,300 vehicles per lane for segments with six or more lanes. For this analysis, the freeway free-flow speed was determined to be 65 miles per hour. **Table 5** describes LOS ratings based on the maximum v/c ratio for freeways with a 65 mile per hour free flow speed.

TABLE 5: FREEWAY SEGMENTS LEVEL OF SERVICE DEFINITIONS

Level of Service[1]	Description	Maximum Volume-to-Capacity Ratio[2]
A	Free flow operations with average operating speeds at, or above, the speed limit. Vehicles are unimpeded in their ability to maneuver.	0.295 / 0.283
B	Free flow operations with average operating speeds at the speed limit. Ability to maneuver is slightly restricted. Minor incidents cause some local deterioration in operations.	0.473 / 0.457
C	Stable operations with average operating speeds near the speed limit. Freedom to maneuver is noticeably restricted. Minor incidents cause substantial local deterioration in service.	0.704 / 0.673
D	Speeds begin to decline slightly with increasing flows. Freedom to maneuver is more noticeably restricted. Minor incidents create queuing.	0.887 / 0.849
E	Operations at capacity. Vehicle spacing causes little room to maneuver but speeds exceed 50 miles per hour (mph). Any disruption to the traffic stream can cause a wave of delay that propagates throughout the upstream traffic flow. Minor incidents cause serious breakdown of service with extensive queuing. Maneuverability is extremely limited.	1.00
F	Operations with breakdowns in vehicle flow. Volumes exceed capacity causing bottlenecks and queue formation.	N/A

Source: *Highway Capacity Manual*, Transportation Research Board, 1994; San Mateo County Management Program, 2015.

Notes:

N/A = not applicable

[1] Freeway mainline LOS based on a 65 miles per hour free flow speed.

[2] The Maximum V/C ratio entries have split values depending on the number of lanes, the first value is for four-lane freeways, and the second is for six- and eight-lane freeways.

2.6 SIGNIFICANT IMPACT CRITERIA

The section describes the LOS standards and impact criteria applied to the roadway facility types analyzed for CEQA purposes. Overall, the determination of significance for project impacts is based on applicable guidelines defined by the City of Brisbane and the surrounding jurisdictions of San Mateo County, the City of South San Francisco, and the City of San Francisco. The detailed standards and impact criteria presented below focuses on elements pertaining to roadway system operations.

2.6.1 INTERSECTIONS

Signalized intersection operations and impacts are evaluated based on the appropriate jurisdiction's LOS standards (i.e., minimum threshold for acceptable operations). In the City of Brisbane, acceptable LOS for signalized intersections is defined as LOS D or better during the AM and PM peak period, with some exceptions described below. **Table 6** summarizes the intersection LOS standards for all the jurisdictions analyzed for this report.

TABLE 6: INTERSECTION LOS STANDARDS

Jurisdiction	Intersection LOS Standards	Citation
City of Brisbane	According to Policy C.2 under the Circulation Element of the City of Brisbane's General Plan, the LOS for all arterial streets shall not be less than LOS "D" except for the intersections on Bayshore Boulevard at Old County Road and San Bruno Avenue, which shall not be less than LOS "C." The two intersections having LOS "C" shall not be degraded below that level as a result of increased impacts from other intersections within the City and such impacts shall be mitigated as necessary to maintain the LOS "C" standard at the identified intersections.	City of Brisbane Circulation Element, page 9 (2015)
City of South San Francisco	Strive to maintain LOS D or better on arterial and collector streets, at all intersections during the peak hours. LOS E or LOS F operations are accepted after finding that: 1) There is no practical and feasible way to mitigate the lower level of service; 2) The uses resulting in the lower level of service are of clear, overall public benefit.	South San Francisco General Plan, Section 4 page 14
City of San Francisco	In September 2016, the City of San Francisco had updated the significance thresholds procedure for TIAs. Under the new procedure, LOS thresholds are no longer of metric for determining traffic impacts.	*Updated TIA Significance Thresholds* (San Francisco Planning Department, 2016)

TABLE 6: INTERSECTION LOS STANDARDS

Jurisdiction	Intersection LOS Standards	Citation
City of Daly City	As identified in Task CE-1.6, Daly City's Circulation Element employs a Level of Service "D" standard intended primarily to determine impacts of new land uses on the City's roadway network. Intersection improvements would need to effectively mitigate a location's traffic impact to a level of insignificance (i.e. LOS D or better).	Daly City 2030 General Plan, Task CE-1.6 page 151 (2013)
San Mateo County Congestion Management Program (CMP)	The San Mateo County Congestion Management Plan establishes LOS standards for state highways, principal arterials, and intersections in the CMP's Roadway System. The Congestion Management Program may not establish any standard below LOS E unless the level of service was F at the time the standard was established.	Final San Mateo County Congestion Management Program (2013)

Sources: City of Brisbane, 2015; City of South San Francisco; City of San Francisco, 2016; City of Daly City, 2013; San Mateo County, 2013 .

2.6.1.1 City of Brisbane Impact Criteria

Significant impacts at signalized City of Brisbane study intersections would occur when the addition of project traffic causes one of the following:

- An intersection to deteriorate from an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F); or,
- An intersection already operating at LOS E or F to:
  - Contributes considerably to cumulative traffic increase that would cause deterioration in LOS to unacceptable levels (i.e., equal to or greater than five percent of traffic to a failing critical movement); or
- The project would cause major traffic hazards.

As previously mentioned in **Table 6**, an exception to the LOS D standard established by the City of Brisbane General Plan requires that the signalized intersection at Old County Road/Bayshore Boulevard to operate no worse than LOS C, and traffic impacts should be mitigated as necessary to maintain the LOS C standard at this signalized intersection.

The operational impacts on unsignalized intersections are considered significant if project-related traffic causes the level of service at the worst approach to deteriorate from LOS D or better to LOS E or F <u>and</u> Caltrans signal warrants would be met, or would cause Caltrans signal warrants to be met when the worst approach is already operating at LOS E or F. The project may result in significant adverse impacts at intersections that operate at LOS E or F under existing and future conditions depending upon the magnitude of the project's contribution to the worsening of the average delay per vehicle (i.e., greater than five percent of trips to the worst approach). An exception to the LOS D standard established by the City of Brisbane General Plan requires that the unsignalized intersection of San Bruno Avenue and Bayshore Boulevard to operate no worse than LOS C, and traffic impacts shall be mitigated as necessary to maintain the LOS C standard at this unsignalized intersection.

2.6.1.2 City of South San Francisco & City of Daly City Impact Criteria

Both the City of South San Francisco and City of Daly City strive to maintain LOS D or better at all intersections during the peak hours. Thus, if an intersection within these jurisdictions deteriorate from an acceptable LOS D or better to an unacceptable LOS E or LOS F with the project in place then the project would cause a significant impact.

Similarly, both jurisdictions do not have specific impact criteria for intersections already operating at LOS E or F without the project in place. For the purpose of this study, we will apply the City of Brisbane's impact criteria for intersections operating at undesirable LOS E or LOS F to quantify the project's contribution to cumulative traffic impacts at these City of South San Francisco and City of Daly City locations.

2.6.1.3 City of San Francisco Impact Criteria

As previously mentioned the City of San Francisco has recently updated their significant impact analysis approach where LOS is no longer a metric for determining traffic impacts. Although this jurisdiction does not have an adopted traffic analysis procedure that uses LOS to identify impacts, for purposes of this study, the City of Brisbane's impact criteria has been applied at the three (3) City of San Francisco study intersections.

2.6.1.4 San Mateo County Congestion Management Program Impact Criteria

The San Mateo County CMP strives to maintain LOS E or better for CMP intersections unless the level of service was F at the time the standard was established. The only study intersection that is part of this CMP roadway system is Intersection 5: Bayshore Boulevard & Geneva Avenue. It should be noted that the City of Daly City LOS standard is the more conservative standard (i.e. LOS D or better) than the CMP standard (i.e. LOS E or better). This study evaluates Intersection 5: Bayshore Boulevard & Geneva Avenue under both the Daly City and CMP standards for impacts.

2.6.2 FREEWAY SEGMENTS

The operational impact on freeway facilities is considered significant when[1]:

- Project-related traffic causes the facility level of service to deteriorate from LOS D or better to LOS E or F, or from LOS E to LOS F (deteriorate from an acceptable level as defined by the C/CAG CMP LOS standards to an unacceptable level); or
- Freeway segment v/c ratio to increase by one percent or more, or adds traffic equivalent to one percent or more of the segment's capacity for segments violating the C/CAG CMP LOS standard.

Significant impacts on freeway segments are considered mitigated when the mitigation measure causes the segment to operate at an acceptable level by CMP standards. The LOS standards adopted by C/CAG for the study freeway segments is set to LOS E or better.

2.7 REPORT ORGANIZATION

The remainder of the report is divided into the following chapters:

Chapter 3: Existing Conditions describes the transportation system near the project site, including the surrounding roadway network, existing bicycle, pedestrian, and transit facilities, and current AM and PM peak hour operating conditions of the key intersections and freeway segments.

Chapter 4: Project Traffic Estimates describes the Project trip generation, distribution and assignment methods used in the traffic impact analysis.

Chapter 5: Existing plus Project presents the transportation operations with the project under Existing Conditions.

Chapter 6: Background Conditions identifies the background projects that are expected to influence the study area and presents the transportation operations with and without the project under Background Conditions.

[1] Caltrans maintains jurisdiction over freeway mainline segments. Its policy is to maintain operations at the LOS C/D threshold, except when an existing facility is operating at less than the target LOS, and then the existing measure of effectiveness should be maintained, based on the *Guide for the Preparation of Traffic Impact Studies* (Caltrans, December 2002). For purposes of this EIR, C/CAG impact criteria (which incorporate Caltrans guidelines) were used.

Chapter 7: Future with Brisbane Baylands Conditions presents the transportation operations with and without the project under Future with Brisbane Baylands Conditions.

3.0 EXISTING CONDITIONS

A comprehensive data collection effort was undertaken to identify existing transportation conditions in the vicinity of the proposed project. The assessment of existing conditions relevant to this study includes an inventory of the street system, traffic volumes on the network, and operating conditions at key intersections and freeway segments. Existing public transit service and bicycle and pedestrian facilities in the project study area are also described.

3.1 EXISTING TRANSPORTATION FACILITIES

3.1.1 EXISTING ROADWAY SYSTEM

Direct automobile access to the project site is provided by Sierra Point Parkway and Shoreline Court. Regional access to the site is provided via US 101 and I-280. The key roadways providing access to or in the vicinity of the site are described below. Descriptions of these roadways are presented below and are illustrated on **Figure 1**.

US Highway 101 (US 101) is a north-south freeway that operates near the Pacific coastline between Los Angeles and Olympia, Washington. Near the project site, US 101 is a limited access eight-lane freeway that connects Brisbane and the Peninsula with San Francisco and Marin County to the north and San Jose to the south. US 101 borders the western portion of the Sierra Point Opus Office Center and has southbound on- and off-ramps at Bayshore Boulevard, Lagoon Road, and Oyster Point Boulevard, and northbound on- and off-ramps at Sierra Point Parkway and Oyster Point Boulevard.

Interstate 280 (I-280) is an eight- to ten-lane freeway that runs north-south, parallel to the west of US 101, between San Francisco and San Jose. I-280 is often used as a by-pass for travelers to avoid congestion on US 101, as it does not pass directly through urbanized areas. I-280 is located approximately 4.5 miles west of the Project Site and can be reached via Guadalupe Canyon Parkway and US 101.

Bayshore Boulevard is a four-lane Principal Arterial located to the west of the project site and parallels US 101 between Cesar Chavez Street in San Francisco and South San Francisco, where it becomes Airport Boulevard. The road is designated as a Congestion Management Program (CMP) route in both San Francisco and San Mateo Counties. Bayshore Boulevard also provides a direct connection from the study area to the Third Street corridor in San Francisco. The Muni light-rail T-line operates in the median of Bayshore Boulevard north of Sunnydale Avenue.

Marina Boulevard is a four-lane local roadway that loops north of its intersection with Sierra Point Parkway and Shoreline Court before its second terminus with Sierra Point Parkway in the southeast. Marina Boulevard provides direct access to the project site and the adjacent existing business parks.

Sister Cities Boulevard / Oyster Point Boulevard is a four- to six-lane roadway that runs east-west and provides access to the South San Francisco area east of the 101 including Oyster Point Marina Park. East of the roadway's intersection with Bayshore Boulevard, the facility transitions to Sister Cities Boulevard and provides a connection to the Paradise Valley neighborhood.

Sierra Point Parkway is a two-lane minor arterial roadway running parallel to US 101 and Bayshore Boulevard west of the project site. East of the facility's intersection with Shoreline Court the roadway widens to provide two lanes in each direction and is classified as a local street. Sierra Point Parkway provides direct access to the project site and the US 101.

Shoreline Court is a four-lane, north-south local roadway that provides direct access to the project site. From the northern end, the facility extends from its intersection with Sierra Point Parkway before it terminates approximately about a quarter mile south.

Tunnel Avenue is a two-lane, north-south Minor Arterial. Tunnel Avenue connects to Bayshore Boulevard at both ends. The roadway becomes Old County Road at its southern intersection with Bayshore Boulevard.

3.1.2 EXISTING TRANSIT SERVICES

This section summarizes local and regional transit connectivity in the study area, including bus, light rail, commuter rail, and public and private shuttles. Currently, there is no direct bus or rail service provided at the project site nor in the immediate vicinity as there is no public transit stop within walking distance. However, transit systems that serve the greater study area and surrounding areas are described below and are illustrated in **Figure 4**. Key transit services are also further detailed in **Table 7**.

San Mateo County Transit District (SamTrans) provides bus service to locations in San Mateo County, as well as limited service to select locations in San Francisco including the Transbay Temporary Terminal. Three SamTrans bus routes run adjacent to the Project Site: Route KX, Route 292, and Route 397.

- **Route KX**, is an express route that begins in Downtown San Francisco at the Transbay Terminal, where it travels through downtown to US 101 southbound. It continues along US 101, stopping at San Francisco International Airport (SFO) and the Hillsdale Caltrain Station, at which it takes State Route 82 southeast towards the route's terminus at the Redwood City Transit Center. Although the route runs in proximity to the project site, Route KX does not stop at the project site.

- **Route 292** begins in Downtown San Francisco at the Transbay Terminal, where it travels through downtown to US 101 southbound. It continues along US 101, exiting to stop at the Brisbane Park & Ride then re-entering the freeway shortly after. It continues generally along US 101, stopping at SFO towards the Hillsdale Caltrain Station at its terminus. The closest Route 292 bus stops to the project site is the Bayshore Boulevard/Old County Road stop adjacent to the Brisbane Park & Ride approximately 2.6 miles northwest of the site, and the Airport Boulevard/Baden Avenue stop approximately 2.6 miles southwest of the site. Route 292 operates at approximately 30 minute headways.
- **Route 397** begins in Downtown San Francisco at the Transbay Terminal along the same path as Route 292. It continues past the Hillsdale Caltrain Station along El Camino Real towards the Palo Alto Transit Center at its terminus. Route 397, like Route 292, makes two stops near the project site: the Bayshore Boulevard/Old County Road stop adjacent to the Brisbane Park & Ride approximately 2.6 miles northwest of the site, and the Airport Boulevard/Baden Avenue stop approximately 2.6 miles southwest of the site. Route 397 operates at approximately one-hour headways during night hours.

Caltrain is a commuter rail service that runs from the San Francisco Peninsula, through South San Francisco to San Jose and Gilroy, California. Caltrain provides service to two stations within relative proximity to the project site: the Bayshore Station, which is approximately three miles north of the site, and the South San Francisco Station, which is approximately five miles to the south of site. During most weekday hours of operation, Caltrain service consist of two trains per hour in both directions.

San Francisco Bay Area Rapid Transit District (BART) provides regional heavy-rail rapid transit service connects the San Francisco Bay Area with cities in the East Bay and in northern San Mateo County. There is no station within the direct vicinity of the project site; however, the San Mateo County Transit District facilitates the Sierra Point Shuttle that connects Balboa Park BART Station and the Millbrae Transit Center with major employment sites along Marina Boulevard and Shoreline Court via Sierra Point Parkway. These two separate shuttle routes provide only morning and afternoon commute period connections to the Balboa Park BART Station and the Millbrae Transit Center.

San Francisco Municipal Transit Agency (SFMTA or Muni) provides bus and light rail service, primarily within the borders of the City and County of San Francisco. Although there is no Muni service near the project site, it does provide transit connection to the northern portion of the study area. Additionally, the proposed southern extension of the T-Third line would provide a direct transfer-point with the Bayshore Caltrain Station.

N:\Projects\2016_Projects\0222 Brisbane Opus Office Park IS_MND\GIS\Templates\TransitBrisbane_TransitBasemap.mxd

Opus Office Center
Parcel R
City of Brisbane
BART Station
BART
Caltrain_Station
Caltrain Commuter Rail
SFMTA Bus Routes
SamTrans Bus Routes

Figure 4
Existing Transit Facilities

TABLE 7: EXISTING TRANSIT SERVICES

Route	From	To	Weekdays			Weekends	
			Operating Hours[1]	Headway (Minutes)[2]		Operating Hours[1]	Headway (Minutes)[2]
				Peak	Midday		
SamTrans KX	Transbay Terminal	Redwood City Transit Center	5:15 AM to 8:00 PM	60	60	No weekend service	
SamTrans 292	Transbay Terminal	Hillsdale Caltrain Station	3:55 AM to 2:30 AM	30	30	4:30 AM to 2:00 AM	30
SamTrans 397	Transbay Terminal	Palo Alto Transit Center	12:45 PM to 6:20 PM	60	60	12:45 PM to 6:20 AM	60
Muni Route 8X and 8BX	Downtown	Visitacion Valley	6:20 AM to 7:40 PM	7	7	No weekend service	
Muni Route 9-San Bruno and Route 9L-San Bruno Limited	Downtown San Francisco	Visitacion Valley	5:00 AM to 1:45 AM	12	12	5:00 AM to 1:45 AM	12
Muni Route 56	Visitacion Valley	Visitacion Valley	7:00 AM to 9:30 PM	30	30	8:00 AM to 9:30 PM	30
Muni Line T-Third Street light-rail line	Downtown San Francisco	Balboa Park	24 Hours	8	10	24 Hours	5
Caltrain Northbound (NB) AM Local: 101, 103, 135, and 139.	San Jose	Downtown San Francisco	4:30 AM to 11:50 AM	30	60	No Weekend Service	
Caltrain NB AM Limited 207, 211, 217, 227, 221, 231.	Gilroy	Downtown San Francisco	5:50 AM to 9:50 AM	30	60	No Weekend Service	
Caltrain NB PM Local: 143, 147 151, 155, 159, 191, 193, 195, 197, 199	San Jose	Downtown San Francisco	12:00 PM to 12:00 AM	60	60	No Weekend Service	

TABLE 7: EXISTING TRANSIT SERVICES

Route	From	To	Weekdays			Weekends	
			Operating Hours[1]	Headway (Minutes)[2]		Operating Hours[1]	Headway (Minutes)[2]
				Peak	Midday		
Caltrain NB PM Limited: 263, 273, and 283	Tamien	Downtown San Francisco	4:00 PM to 7:30 PM	60	60	No Weekend Service	
Caltrain Southbound SB AM Local: 102, 104, 134, 138, 142	Downtown San Francisco	Tamien	4:55 AM to 12:00 PM	60	60	No Weekend Service	
Caltrain SB AM Limited: 208, 218, 228	Downtown San Francisco	Tamien	6:24 AM to 9:52 PM	60	60	No Weekend Service	
Caltrain SB PM Local: 146, 150, 152, 156, 190, 192, 194, 196	Downtown San Francisco	San Jose	12:00 PM to 12:15 AM	60	60	No Weekend Service	
Caltrain SB PM Limited: 264, 274, 284	Downtown San Francisco	San Jose	4:30 PM to 8:00 PM	60	60	No Weekend Service	

Sources: SamTrans, September 2016; SFMTA, September 2016; Caltrain, September 2016
<u>Notes:</u>
[1] Operating hours rounded to the nearest five minutes
[2] Headways are defined as the time between vehicles on the same route

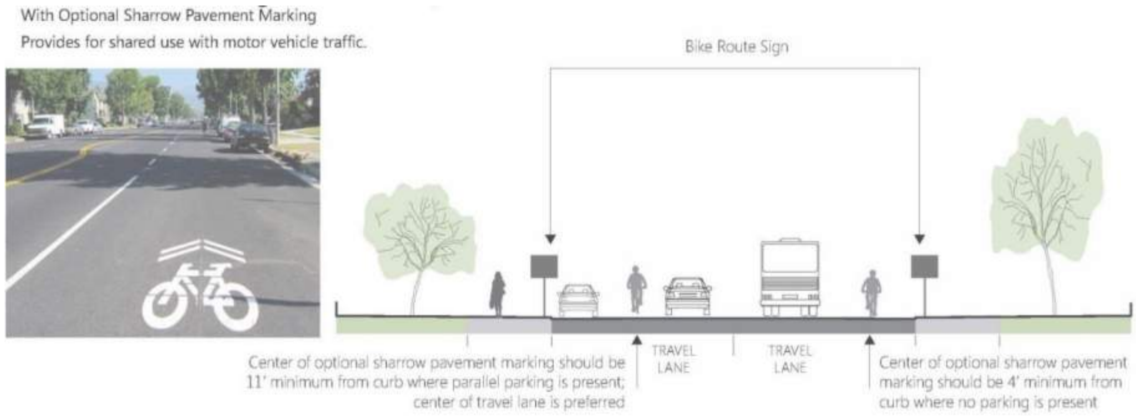
3.1.3 EXISTING BICYCLE FACILITIES

Bicycles may travel on all public roads except where they are specifically prohibited on designated highway or freeway segments. Dedicated bicycle facilities are often provided to help facilitate bicycle travel. Bikeway planning and design in California typically relies on guidelines and design standards established by Caltrans in the *Highway Design Manual* (Chapter 1000: Bikeway Planning and Design and other design documents). Bicycle facilities comprise paths (Class I), lanes (Class II), and routes (Class III) as described below.

- <u>*Class I Bikeway (Bicycle Path)*</u> provides a completely separate right-of-way and is designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized. In general, bike paths serve corridors not served by streets and highways or where sufficient right-of-way exists to allow such facilities to be constructed away from the influence of parallel streets and vehicle conflicts.

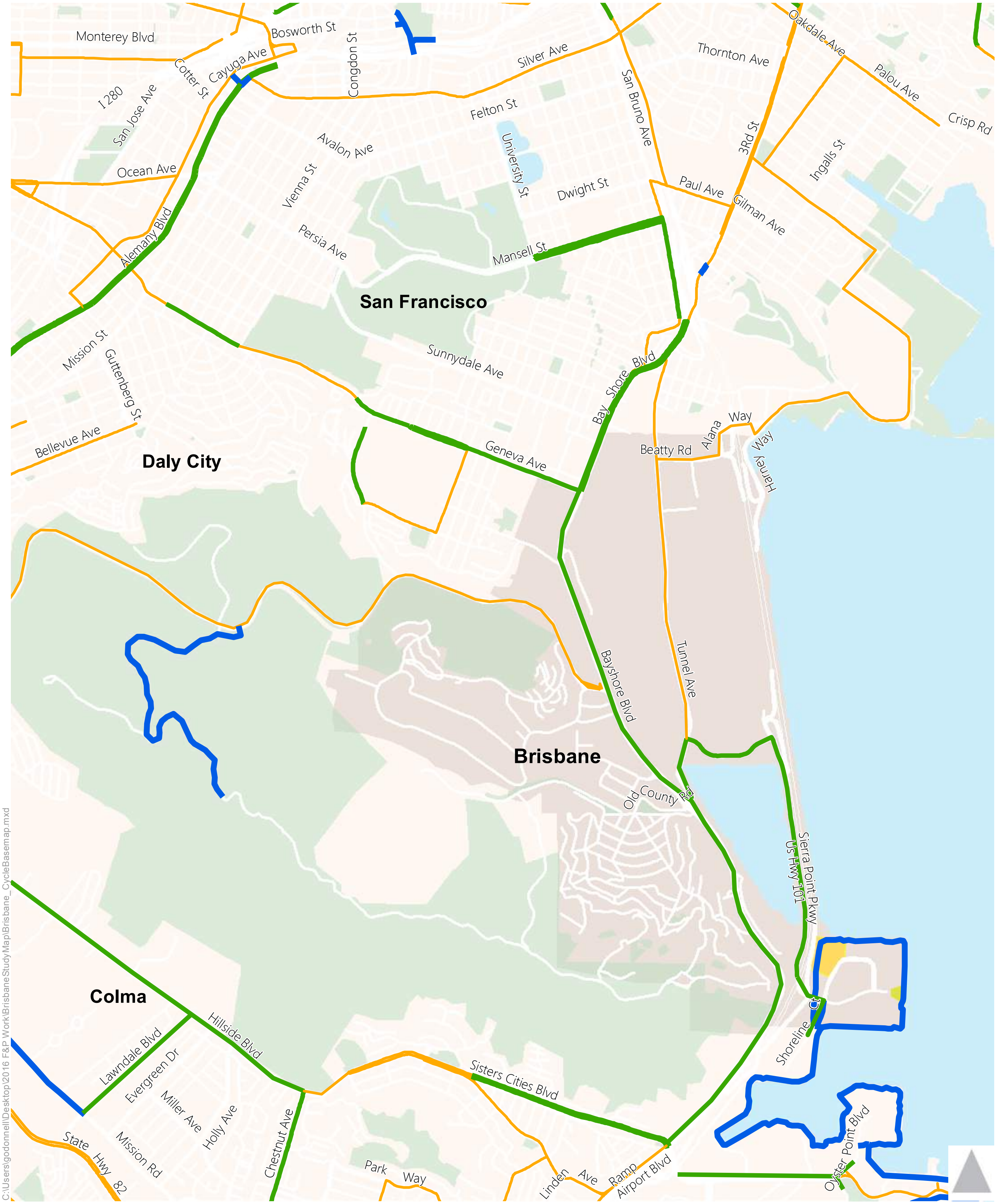
- *Class II Bikeway (Bicycle Lane)* provides a restricted right-of-way generally adjacent to the outer vehicle travel lane and is designated for the use of bicycles. These lanes have special lane markings, pavement legends, and signage. Bicycle lanes are generally four to six feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted.

- *Class III Bikeway (Bicycle Route)* is designated by signs or pavement markings (sharrows) for shared use with pedestrians or motor vehicles but have no separated bike right-of-way or lane striping. Sharrows are a type of pavement marking (bike and arrow stencil) placed to guide bicyclists to the best place to ride on the road, avoid car doors, and remind drivers to share the road with cyclists. Bike routes serve either to: a) provide continuity to other bicycle facilities, or b) designate preferred routes through high demand corridors.



Existing bicycle facilities in the study area are illustrated on **Figure 5**. Detailed below are facilities that provide bicycle access and/or in proximity to the project site.

- **The San Francisco Bay Trail** is an interconnected, multiuse bicycle path that follows the Bay shoreline and will eventually encircle the Bay from San Jose in the south to Napa in the north. Bay Trail segments near the project site include Class I bicycle path segments that loop around the perimeter of the peninsula before traversing south of the intersection of Marina Boulevard and Sierra Point Parkway.
- **Bayshore Boulevard** bikeway provides north-south circulation connecting Brisbane with San Francisco to the north and South San Francisco to the south. Bayshore Boulevard is striped with bicycle lanes north of Geneva Avenue (within the San Francisco city limits), as well as south of Geneva Avenue (within Brisbane) where rumble strips are installed between the bikeway and outside travel lane. Within Brisbane, relatively high travel speeds may discourage the use of Brisbane Boulevard by inexperienced bicyclists.
- **Sierra Point Parkway** provides striped bicycle lanes along the segment between its intersection with Lagoon Road and its intersection with Shoreline Court. Bicyclists on Sierra Point Parkway can directly access the project site by connecting with the San Francisco Bay Trail at the intersection with Shoreline Court.



Project Site
Parcel R
City of Brisbane
Class I - Bicycle Path
Class II - Bicycle Lane
Class III - Shared Bike Route

Figure 5
Existing Bicycle Facilities

3.1.4 EXISTING PEDESTRIAN FACILITIES

Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. The pedestrian environment in the direct vicinity of the project site is include sidewalks along Marina Boulevard and Sierra Point Parkway, and the San Francisco Bay Trail outlining the perimeter of site. Additionally, study intersections with pedestrian facilities are described below:

- Intersection 1: Bayshore Boulevard & Sister Cities / Oyster Point Boulevard
  - Signalized intersection with marked crosswalks and pedestrian signals on the east and south legs
- Intersection 2: Congdon Street & Alemany Boulevard
  - Signalized intersection with marked crosswalks on the south and west legs and pedestrian signals on the west leg
- Intersection 3: Alemany Boulevard & Geneva Avenue
  - Signalized intersection with high visibility marked crosswalks and pedestrian signals on all legs
- Intersection 4: Mission Street & Geneva Avenue
  - Signalized intersection with high visibility marked crosswalks and pedestrian signals on all legs
- Intersection 5: Bayshore Boulevard & Geneva Avenue
  - Signalized intersection with marked crosswalks and pedestrian signals on the north, south, and west legs
- Intersection 6: Bayshore Boulevard & Old County Road
  - Signalized intersection with marked crosswalks and pedestrian signals on all legs
- Intersection 7: Tunnel Avenue & Lagoon Road
  - All-way stop-controlled intersection with a marked crosswalk on the south leg
- Intersection 8: Sierra Point Parkway & Lagoon Road
  - All-way stop-controlled intersection with a marked crosswalk on the north leg
- Intersection 10: Sierra Point Parkway & Shoreline Court
  - All-way stop-controlled intersection with marked crosswalks on all legs

3.2 EXISTING INTERSECTION VOLUMES & LANE CONFIGURATIONS

The operations of the study intersections are evaluated for the highest one-hour volume during the weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak period conditions. Traffic counts were collected at all study intersections during the AM and PM peak periods on Wednesday, August 31st, 2016. Traffic count timing was coordinated with City of Brisbane staff. Traffic count data sheets are provided in **Appendix A**, while **Figure 6** presents the existing AM and PM peak-hour turning movement volumes along with the corresponding lane configurations and traffic control devices at each study intersection.

3.3 EXISTING INTERSECTION LEVEL OF SERVICE

Existing intersection lane configurations, signal timings, and peak hour turning movement volumes were used to calculate the levels of service for the study intersections during the AM and PM peak hours for Existing Conditions. The results of the LOS analysis were completed primarily with Synchro 9.0, with the exception of Intersection 10: Shoreline Court & Sierra Point Parkway, which used Traffix 8.0 software due to the limitations of the Synchro software.[2]

Table 8 presents the results of the intersection operations analysis for Existing Conditions and the corresponding LOS calculation sheets are included in **Appendix B**. The results show that all the study intersections currently operate at acceptable levels (LOS C or better for Intersection 6: Bayshore Boulevard & Old County Road; LOS D for all other study intersections) during the AM and PM peak hours.

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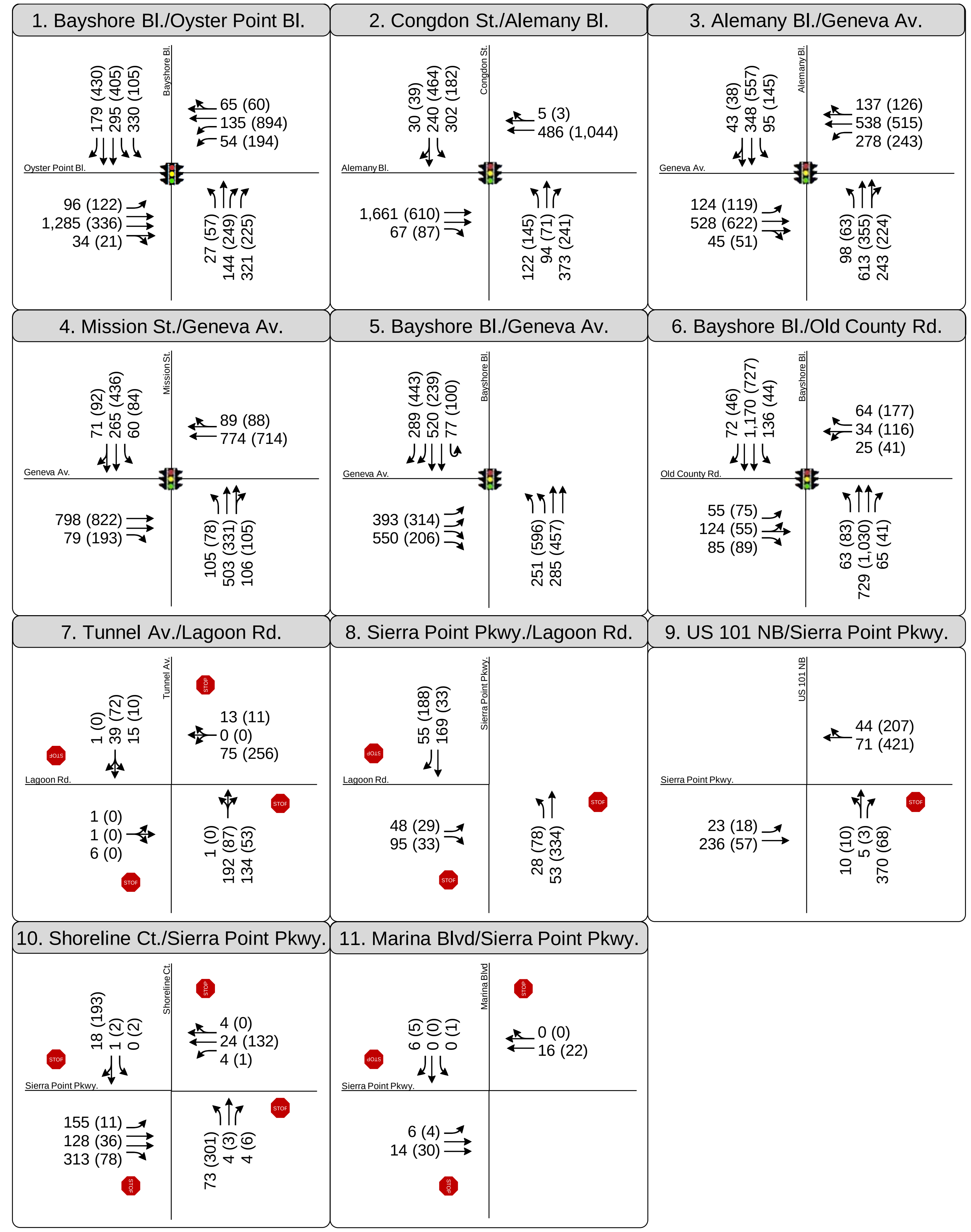
[2] Under the *HCM 2010* method, Synchro is unable to analyze AWSC intersections with more than three lanes.



Study Intersections
Opus Office Center
Parcel R
City of Brisbane
Stop Sign
Signal
Turn Lane
AM (PM) Peak Hour Traffic Volumes

Figure 6
Peak Hour Traffic Volumes & Lane Configurations
Existing Conditions

TABLE 8: EXISTING INTERSECTION LEVEL OF SERVICE

No.	Intersection	Control[1]	Jurisdiction[2]	LOS Threshold[3]	Peak Hour	Existing (2016)	
						Delay[4]	LOS[3,5]
1	Bayshore Boulevard & Sister Cities-Oyster Point Boulevard	Signal	South San Francisco	D	AM	26.4	C
					PM	34.2	C
2	Congdon Street & Alemany Boulevard	Signal	San Francisco	D	AM	26.8	C
					PM	19.0	B
3	Alemany Boulevard & Geneva Avenue	Signal	San Francisco	D	AM	46.4	D
					PM	34.7	C
4	Mission Street & Geneva Avenue	Signal	San Francisco	D	AM	21.9	C
					PM	18.0	B
5	Bayshore Boulevard & Geneva Avenue[6]	Signal	Daly City & CMP	D (Daly City) E (CMP)	AM	28.7	C
					PM	34.1	C
6	Bayshore Boulevard & Old County Road	Signal	Brisbane	C	AM	18.7	B
					PM	17.5	B
7	Tunnel Avenue & Lagoon Road	AWSC	Brisbane	D	AM	9.5	A
					PM	10.0	A

TABLE 8: EXISTING INTERSECTION LEVEL OF SERVICE

No.	Intersection	Control[1]	Jurisdiction[2]	LOS Threshold[3]	Peak Hour	Existing (2016)	
						Delay[4]	LOS[3,5]
8	Sierra Point Parkway & Lagoon Road	AWSC	Brisbane	D	AM	8.7	A
					PM	10.7	B
9	US 101 Northbound Ramps & Sierra Point Parkway	SSSC	Brisbane	D	AM	15.3	C
					PM	15.9	C
10	Shoreline Court & Sierra Point Parkway	AWSC	Brisbane	D	AM	9.7	A
					PM	14.4	B
11	Marina Boulevard & Sierra Point Parkway	AWSC	Brisbane	D	AM	6.7	A
					PM	6.7	A

Source: Fehr & Peers, November 2016.
Notes:
[1] Signal = Signalized Intersection; SSSC = Side-Street Stop-Controlled Intersection; AWSC = All-Way Stop-Controlled Intersection
[2] Intersection jurisdiction
[3] LOS threshold is the lowest acceptable LOS (the threshold between acceptable and unacceptable level of service). Bold indicates unacceptable operations by jurisdiction's level of service standard.
[4] Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections and all-way stop-controlled intersections. Total control delay for the worst approach is presented for side-street stop-controlled intersections. Delay indicated with ** indicated oversaturated conditions and delay cannot be calculated.
[5] LOS calculations for Intersection 10: Shoreline Court & Sierra Point Parkway were performed using Traffix 8.0 due to limitations of the Synchro 9.0 software. All other intersection LOS calculations were conducted using Synchro 9.0. LOS calculations were performed using the methods described in the HCM 2010, with the exception of the intersection operations analysis conducted at Intersection 10: Shoreline Court & Sierra Point Parkway which applied the methods described in the HCM 2000.
[6] The City of Daly City LOS standard is the more conservative standard (i.e. LOS D or better) than the CMP standard (i.e. LOS E or better). This study uses both the City and CMP Standards to evaluate the impacts at this location.

3.4 EXISTING FREEWAY SEGMENT LEVEL OF SERVICE

Freeway mainline analysis was conducted at three segments consistent with the Original TIA. Freeway segment volume and capacity information were obtained using traffic data provided in the Caltrans Performance Measurement System (PeMS). As shown in **Table 9**, all freeway study segments operate acceptably as they experience LOS D or better conditions during the commute periods – either in the AM or PM peak hours.

TABLE 9: EXISTING FREEWAY SEGMENT LEVEL OF SERVICE

Fwy	Segment	LOS Threshold	Dir	Peak Hour	# of Travel Lanes	Capacity	Volume	V/C	LOS
US 101	Harney Way to Sierra Point Parkway	E	SB	AM	4	2,200	7,470	0.85	D
				PM	4	2,200	6,595	0.75	D
US 101	Sierra Point Parkway to Oyster Point Boulevard	E	SB	AM	4	2,200	7,531	0.86	D
				PM	4	2,200	6,932	0.79	D
I - 280	Alemany Boulevard to San Jose Avenue	E	SB	AM	4	2,200	3,545	0.40	B
				PM	4	2,200	6,452	0.73	D
US 101	Sierra Point Parkway to Harney Way	E	NB	AM	4	2,200	7,032	0.80	D
				PM	4	2,200	7,377	0.84	D
US 101	Oyster Point Boulevard to Sierra Point Parkway	E	NB	AM	4	2,200	7,284	0.83	D
				PM	4	2,200	7,261	0.83	D
I - 280	San Jose Avenue to Alemany Boulevard	E	NB	AM	4	2,200	5,983	0.68	C
				PM	4	2,200	4,024	0.46	B

Source: Fehr & Peers, November 2016.
Notes:
Fwy = Freeway; Dir. = Direction; V/C = volume-to-capacity ratio
[1] Based on the San Mateo CMP, the LOS standards for the study freeway segments is set to LOS E or better.
[2] October and November 2016 traffic volumes obtained from Caltrans' PeMS.

4.0 PROJECT TRAFFIC ESTIMATES

The amount of traffic expected to be generated on the study roadway system by the proposed project is estimated using a three-step process: (1) project trip generation, (2) trip distribution, and (3) trip assignment. The first step estimates the amount of project-generated traffic will be added to the roadway network. The second step estimates the direction of travel to and from the project site. During the third step, the new trips are assigned to specific street segments and intersection turning movements. This process is described in more detail in the following sections.

4.1 TRIP GENERATION

The weekday daily and morning and evening peak hour trip generation were calculated using published trip generation rates provided in the Institute of Transportation Engineers (ITE) *Trip Generation*, *9th Edition* (2012). Specifically, rates used to derive project-related trips were obtained from the ITE Land Use Code 710: *General Office Building* for the Sierra Point Opus Office Center and Land Use Code 820: *Shopping Center* for Parcel R.

Table 10 shows the estimated number of trips generated by the Sierra Opus Office Center and Parcel R. The Sierra Point Opus Office Center will generate 4,914 daily trips, with 695 new trips occurring during the AM peak hour and 664 new trips occurring during the PM peak hour. Parcel R is estimated to produce 414 daily trips with 36 trips generated in the AM peak hour and 139 trips generated in the PM peak hour.

Note that the trip generation estimates are conservative because no reductions were taken for travel demand management (TDM) programs.

TABLE 10: SIERRA POINT OPUS OFFICE CENTER & PARCEL R – PROJECT TRIP GENERATION

SUMMARY OF RATES AND PERCENTAGE DISTRIBUTION SPLITS[1]

Land Use	Rate	Daily Rate	AM Peak Hour			PM Peak Hour		
			Rate	In%	Out%	Rate	In%	Out%
General Office	per KSF	11.03	1.56	88%	12%	1.49	17%	83%
Shopping Center	Per KSF	42.79	0.96	62%	38%	3.71	48%	52%

VEHICLE TRIP ESTIMATES

Land Use	Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
Office (Opus Office Center)	445,500	Square Feet	4,914	695	612	83	664	113	551
Shopping Center	37,500	Square Feet	1,601	36	22	14	139	67	72
Total Trips			**6,515**	**731**	**634**	**97**	**803**	**180**	**623**

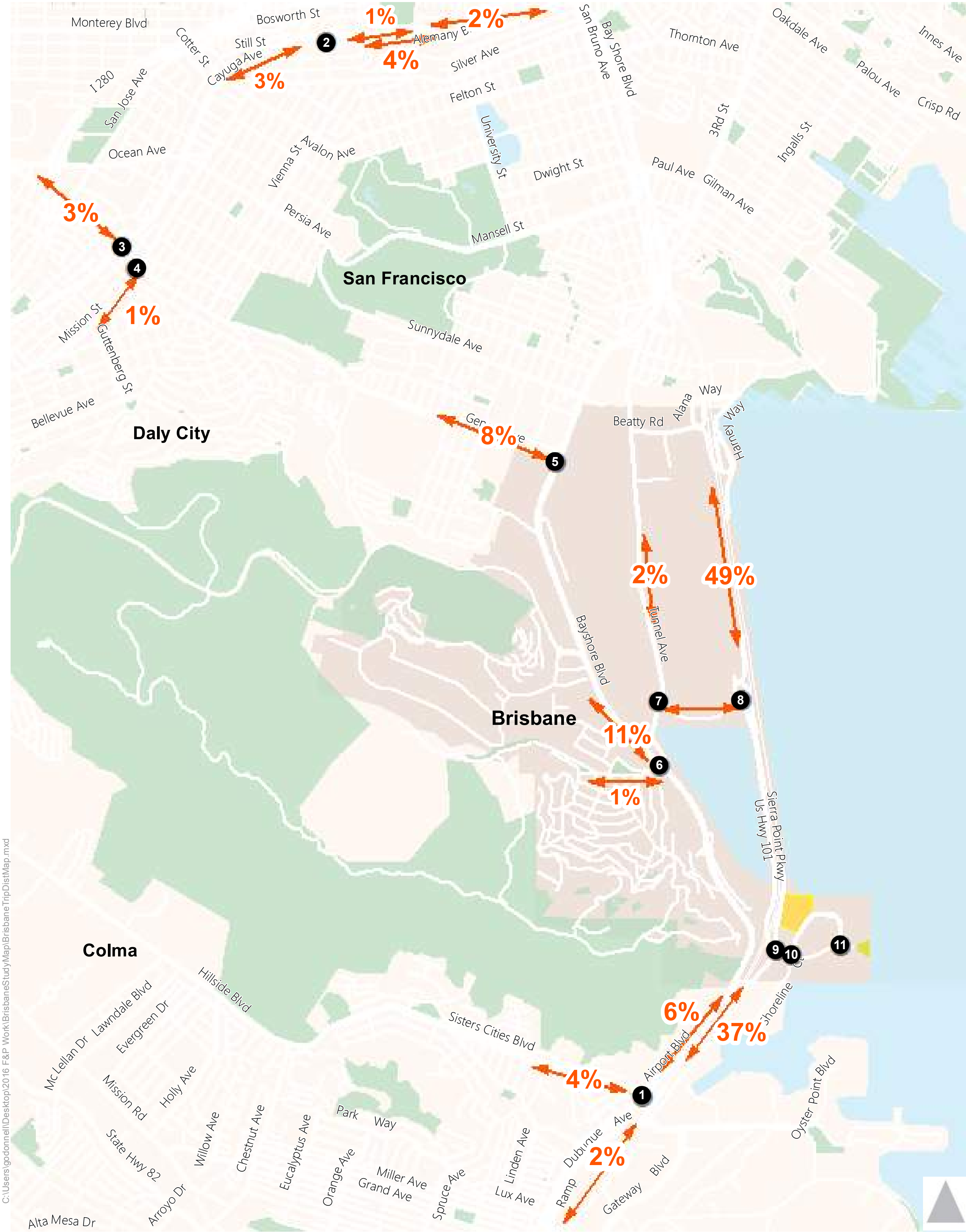
Source: Fehr & Peers, November 2016
<u>Notes:</u>
1,000 square feet = KSF
[1] ITE *Trip Generation Manuel* (9th Edition) land use category 710 – General Office Building (Peak Hour of Generator):
- Daily: T= 11.03 * (X), X = 1,000 Square Feet Gross Leasable Area
- AM Peak Hour: 1.56 * (X), (88% in, 12% out), X = 1,000 Square Feet Gross Leasable Area
- PM Peak Hour: 1.49 * (X), (17% in, 83% out), X = 1,000 Square Feet Gross Leasable Area

[1] ITE *Trip Generation Manuel* (9th Edition) land use category 820 – Shopping Center (Adjacent Street Traffic, 7-9 AM, 4-6 PM):
- Daily: T= 42.70 * (X), X = 1,000 Square Feet Gross Leasable Area
- AM Peak Hour: 0.96 * (X), (62% in, 38% out), X = 1,000 Square Feet Gross Leasable Area
  PM Peak Hour: 3.71 * (X), (48% in, 52% out), X = 1,000 Square Feet Gross Leasable Area

4.2 PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

The geographical distribution of trips generated by the project is based on the locations of complementary land uses, the street system serving the project, and existing travel patterns in the area. The general directions of approach and departure assumed for the project trips are shown on **Figure 7**.

The traffic generated by the project was assigned to the street network using the distribution pattern shown on **Figure 7**. **Figure 8** shows the project-generated peak hour traffic volumes at the study intersections during the weekday AM and PM peak hours. Additionally, the proposed project does not change the roadway network.



Trip Distribution Percentages

Study Intersections

Opus Office Center

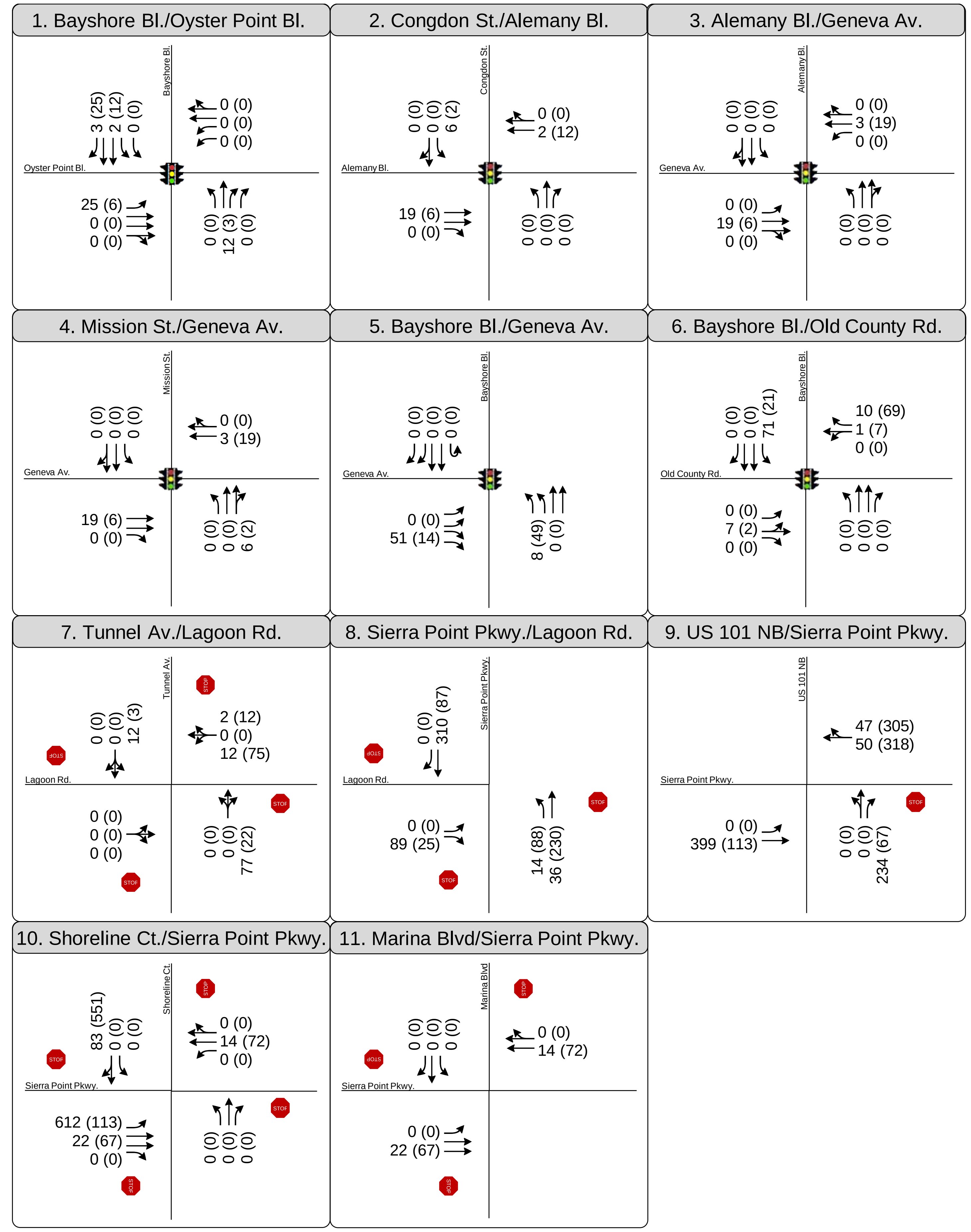
Parcel R

City of Brisbane

G.1.179

Figure 7

Project Trip Distribution



Study Intersections
Opus Office Center
Parcel R
City of Brisbane
Stop Sign
Signal
Turn Lane
AM (PM) Peak Hour Traffic Volumes

Figure 8
Project Trip Assignment

5.0 EXISTING PLUS PROJECT

This chapter presents the results of the operations analysis under the Existing plus Project Condition. Under Existing plus Project Conditions, project traffic estimated and assigned to the study intersections and freeway segments were added to existing traffic volumes. This hypothetical scenario isolates the potential impacts of the project by eliminating the impacts from other proposed projects.

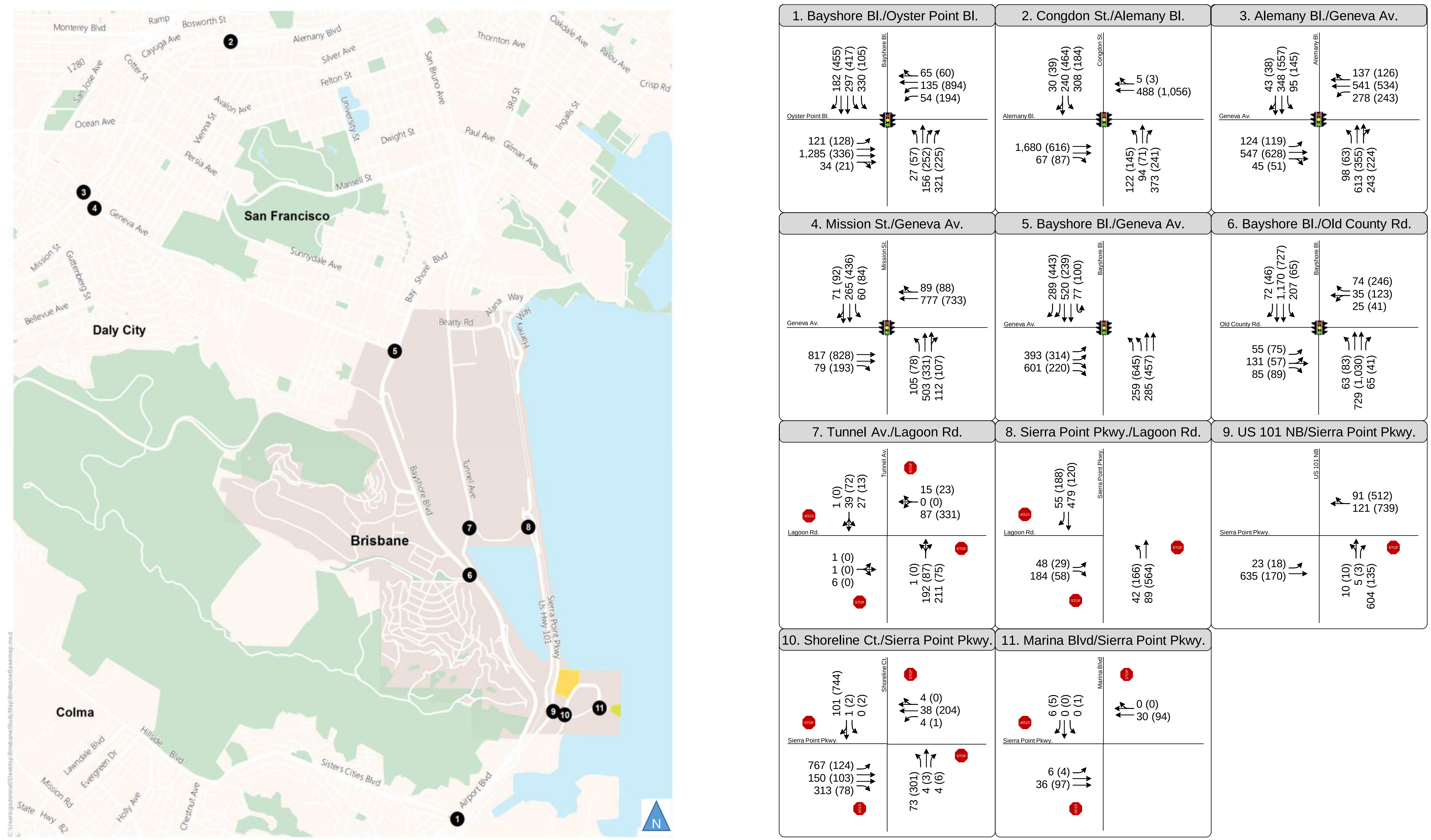
5.1 EXISTING PLUS PROJECT INTERSECTION LEVELS OF SERVICE

Intersection LOS was calculated with the new traffic added by the proposed project to evaluate the operating conditions of the intersections and identify potential impacts to the roadway system. Turning movement traffic volume and intersection lane configuration for the Existing plus Project Conditions are illustrated on **Figure 9**.

Table 11 provides the results of the intersection LOS calculations for Existing plus Project Conditions, while **Appendix B** contains the corresponding calculation sheets. The results for Existing Conditions are included for comparison purposes, along with the projected increases in average intersection delay.

The results of the LOS calculations indicate that nine (9) study intersections are projected to operate at acceptable service levels during the AM and PM peak hours under Existing plus Project Conditions. The remaining two (2) study intersections are projected to operate at a deficient LOS E or F during both analyzed peak hours:

- Intersection 9: US 101 Northbound Ramps & Sierra Point Parkway
- Intersection 10: Shoreline Court & Sierra Point Parkway



Study Intersections
Opus Office Center
Parcel R
City of Brisbane
Stop Sign
Signal
Turn Lane
AM (PM) Peak Hour Traffic Volumes

Figure 9
Peak Hour Traffic Volumes and Lane Configurations
Existing Plus Project Conditions

TABLE 11: EXISTING INTERSECTION LEVEL OF SERVICE & IMPACT ANALYSIS

No.	Intersection	Traffic Control[1]	LOS Threshold[2]	Peak Hour	Existing (2016) Conditions		Existing Plus Project (E+P)		Change (Δ) DELAY[5]	SIGNIFICANT IMPACT?[6]	E + P WITH MITIGATION		Δ DELAY[7]	RESIDUAL IMPACT?[8]
					Delay[3]	LOS[4]	Delay[3]	LOS[2,4]			DELAY[3]	LOS[2,4]		
1	Bayshore Boulevard &	Signal	D	AM	26.4	C	27.3	C	0.9	No	No Mitigation Required			
	Sister Cities-Oyster Point Boulevard			PM	34.2	C	34.2	C	0.0	No				
2	Congdon Street &	Signal	D	AM	26.8	C	27.9	C	1.1	No	No Mitigation Required			
	Alemany Boulevard			PM	19.0	B	19.1	B	0.1	No				
3	Alemany Boulevard &	Signal	D	AM	46.4	D	46.5	D	0.1	No	No Mitigation Required			
	Geneva Avenue			PM	34.7	C	34.8	C	0.1	No				
4	Mission Street &	Signal	D	AM	21.9	C	22.2	C	0.3	No	No Mitigation Required			
	Geneva Avenue			PM	18.0	B	18.2	B	0.2	No				
5	Bayshore Boulevard &	Signal	D (Daly City) E (CMP)	AM	28.7	C	28.8	C	0.1	No	No Mitigation Required			
	Geneva Avenue			PM	34.1	C	36.4	D	2.3	No				
6	Bayshore Boulevard &	Signal	C	AM	18.7	B	20.2	C	1.5	No	No Mitigation Required			
	Old County Road			PM	17.5	B	18.4	B	0.9	No				
7	Tunnel Avenue &	AWSC	D	AM	9.5	A	10.5	B	1.0	No	No Mitigation Required			
	Lagoon Road			PM	10.0	A	11.8	B	1.8	No				
8	Sierra Point Parkway &	AWSC	D	AM	8.7	A	18.0	C	9.3	No	No Mitigation Required			
	Lagoon Road			PM	10.7	B	23.2	C	12.5	No				
9	US 101 Northbound Ramps &	SSSC	D	AM	15.3	C	>180	**F**	**	**Yes**	6.9	A	-8.4	No
	Sierra Point Parkway			PM	15.9	C	37.9	**E**	22.0	**Yes**	9.2	A	-6.7	No
10	Shoreline Court &	AWSC	D	AM	9.7	A	118.9	**F**	109.2	**Yes**	27.5	C	17.8	No
	Sierra Point Parkway			PM	14.4	B	171.9	**F**	157.5	**Yes**	18.6	B	4.2	No

TABLE 11: EXISTING INTERSECTION LEVEL OF SERVICE & IMPACT ANALYSIS

No.	Intersection	Traffic Control[1]	LOS Threshold[2]	Peak Hour	Existing (2016) Conditions		Existing Plus Project (E+P)		Change (Δ) DELAY[5]	SIGNIFICANT IMPACT?[6]	E + P WITH MITIGATION		Δ DELAY[7]	RESIDUAL IMPACT?[8]
					Delay[3]	LOS[4]	Delay[3]	LOS[2,4]			DELAY[3]	LOS[2,4]		
11	Marina Boulevard & Sierra Point Parkway	AWSC	D	AM	6.7	A	6.7	A	0.0	No	No Mitigation Required			
				PM	6.7	A	7.0	A	0.3	No				

Source: Fehr & Peers, November 2016
Notes:
[1] Signal = Signalized Intersection; SSSC = Side-Street Stop-Controlled Intersection; AWSC = All-Way Stop-Controlled Intersection
[2] LOS threshold is the lowest acceptable LOS (the threshold between acceptable and unacceptable level of service). **Bold** indicates unacceptable operations by jurisdiction's level of service standard.
[3] Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections and all-way stop-controlled intersections. Total control delay for the worst approach is presented for side-street stop-controlled intersections. Delay indicated with ** indicated oversaturated conditions and delay cannot be calculated.
[4] LOS calculations for Intersection 10: Shoreline Court & Sierra Point Parkway were performed using Traffix 8.0 due to limitations of the Synchro 9.0 software. All other intersection LOS calculations were conducted using Synchro 9.0. LOS calculations were performed using the methods described in the HCM 2010, with the exception of the intersection operations analysis conducted at Intersection 10: Shoreline Court & Sierra Point Parkway which applied the methods described in the HCM 2000.
[5] Delay change between the "Plus Project" Condition and the "Baseline" or "No Project" Condition.
[6] Significant impact determined based on jurisdiction's impact criteria. **Bold** and highlighted indicates significant impacts.
[7] Change in intersection weighted average control delay between Existing Conditions and Existing plus Project with Mitigation Conditions.
[8] Residual impacts indicate that even with the inclusion of the proposed mitigation measures, the project site development impacts on baseline traffic conditions at the intersection would be significant and unavoidable based on the maximum allowable standard (LOS D or LOS C for Intersection 6: Bayshore Boulevard & Old County Road). Significant and unavoidable impacts are **bold** and highlighted in **red**.

5.2 EXISTING PLUS PROJECT INTERSECTION IMPACTS & MITIGATION MEASURES

Using the City of Brisbane's traffic significance impact criteria, the change in LOS from an acceptable level (LOS D or better) to an unacceptable level (LOS E or F) constitute a significant impact at two (2) of the 11 study intersections during both the AM and PM peak hours:

- Intersection 9: US 101 Northbound Ramps & Sierra Point Parkway
- Intersection 10: Shoreline Court & Sierra Point Parkway

This section of the report also presents the mitigation measures for identified impacts under Existing plus Project Conditions. Full mitigation would be achieved if the mitigation measure improves operations to acceptable levels. Peak hour LOS calculation worksheets including the recommended mitigation measure(s) are provided in **Appendix B**. The resulting mitigated LOS is also shown in **Table 11.**

Intersection 9: US 101 Northbound Ramps & Sierra Point Parkway (LOS F – AM and PM peak hour)

The addition of project traffic degrades operations at this intersection to an unacceptable level of service during both analyzed peak hours based on City of Brisbane criteria. To mitigate the identified project impacts would require the following intersection modifications:

- Installation of a traffic signal, but only when a peak hour signal warrant is met and/or the conditions of the *Second Amendment Concerning Project Documents* require this installation
- Conversion of the northbound shared through/left-turn lane to a shared left-turn/through/right-turn lane
- Conversion of the westbound approach from a shared through/right-turn lane to a through lane and a dedicated right-turn lane

With the exception of the westbound approach modifications, the other proposed improvements were previously identified mitigations in the Original TIA. Overall, these mitigation measures would allow the intersection to operate at LOS A during both the AM and PM peak hour.

Intersection 10: Shoreline Court & Sierra Point Parkway (LOS F – AM and PM peak hour)

The addition of project traffic degrades operations at this intersection to an unacceptable level of service during both analyzed peak hours based on City of Brisbane criteria. To mitigate the identified project impacts would require the following intersection modifications:

- Installation of a traffic signal, but only when a peak hour signal warrant is met and/or the conditions of the *Second Amendment Concerning Project Documents* require this installation
- Inclusion of a second eastbound and northbound left-turn lane
- Inclusion of a dedicated southbound right-turn lane

The improvements were previously identified mitigations in the *Sierra Point Biotech Development TIA* (Hexagon Transportation Consultants, 2006). Based on the Sierra Point Biotech Development's *Second Amendment Concerning Project Approval Document,* the project's Developer and the City have agreed to implement this mitigation measure once traffic volumes reach thresholds described in their TIA. Thus, this TIA has assumed these mitigation measures would be in place by the Background baseline condition.

5.3 EXISTING PLUS PROJECT FREEWAY SEGMENT LEVEL OF SERVICE

Existing plus Project traffic volumes on the freeway segments were established by adding the existing freeway volumes and the project trips on the freeway segments that were derived using the project's trip distribution. The results of the freeway segment operations analysis are presented in **Table 12**. The results show that none of the directional freeway segments analyzed would operate at an unacceptable LOS F during the analyzed peak hours. Thus, no freeway segment impacts were identified under Existing plus Project Conditions and no mitigation measures are required.

Additionally, since the project trips traversing along the I-280 Freeway study segments are nominal (i.e. no more than 6 trips per segment) no future freeway segment impact analysis was conducted.

TABLE 12: EXISTING FREEWAY SEGMENT LEVEL OF SERVICE & IMPACT ANALYSIS

Fwy	Segment	Dir	Peak Hour	Existing Conditions			Existing Plus Project Conditions			Project Trips	
				Volume[1]	V/C[2]	LOS[3]	Volume	V/C	LOS	Volume	% Capacity
US 101	Harney Way to Sierra Point Parkway	SB	AM	7,470	0.849	D	7,781	0.884	D	311	3.5%
			PM	6,595	0.749	D	6,683	0.759	D	88	1.0%
US 101	Sierra Point Parkway to Oyster Point Boulevard	SB	AM	7,531	0.856	D	7,567	0.860	D	36	0.4%
			PM	6,932	0.788	D	7,163	0.814	D	231	2.6%
I - 280	Alemany Boulevard to San Jose Avenue	SB	AM	3,545	0.403	B	3,546	0.403	B	1	0.0%
			PM	6,452	0.733	D	6,458	0.734	D	6	0.1%
US 101	Sierra Point Parkway to Harney Way	NB	AM	7,032	0.799	D	7,080	0.805	D	48	0.5%
			PM	7,377	0.838	D	7,682	0.873	D	305	3.5%
US 101	Oyster Point Boulevard to Sierra Point Parkway	NB	AM	7,284	0.828	D	7,519	0.854	D	235	2.7%
			PM	7,261	0.825	D	7,328	0.833	D	67	0.8%
I - 280	San Jose Avenue to Alemany Boulevard	NB	AM	5,983	0.680	C	5,989	0.681	C	6	0.1%
			PM	4,024	0.457	B	4,026	0.458	B	2	0.0%

Source: Fehr & Peers, November 2016.
Notes:
Fwy = Freeway; Dir. = Direction; V/C = volume-to-capacity ratio
[1] October and November 2016 traffic volumes obtained from Caltrans' PeMS.
[2] There are four travel lanes provided in each direction of the study segments and the capacity of each lane is 2,200 vehicles per hour.
[3] Based on the San Mateo CMP, the LOS standards for the study freeway segments is set to LOS E or better.
[4] Significant impact determined based on CMP guidelines. **Bold** and highlighted LOS indicates significant impacts.

6.0 BACKGROUND CONDITIONS

The Background Condition represents conditions including all previously approved development projects and roadway network changes. To evaluate the potential impact of traffic generated by the proposed project on the surrounding street system, it was necessary to first develop estimates of the Background traffic condition in the area without the project. Traffic conditions without the project under this future scenario reflects traffic increases due to nearby development and any roadway network changes and street improvements. These conditions are referred to as the baseline condition (i.e., "no project" conditions). The forecasted background baseline traffic volumes were then used to identify impacts on the roadway system. This chapter presents the results of the level of service calculations under Background Conditions with and without the Project.

6.1 BACKGROUND TRAFFIC VOLUMES

Traffic volumes for Background Conditions comprise of existing volumes plus traffic generated by the following "approved but not yet built" and "not occupied" developments in the area to account for local growth in the study area:

- Sierra Point Biotech Development
  - The Sierra Point Biotech development would be located immediately south of the proposed Sierra Point Opus Office Center project, on a vacant parcel just east of Shoreline Court on Sierra Point Parkway in the City of Brisbane. The project would consist of up to 630,000 square feet of R&D and 2,500 square feet of retail. The traffic study conducted for this proposed development estimated that the site would generate 784 trips (650 inbound, 134 outbound) in the AM peak hour and 689 trips in the PM peak hour (105 inbound, 584 outbound) (*Sierra Point Biotech Development TIA*, Hexagon Transportation Consultants, 2006).
- Britannia Cove
  - The Britannia Cove development would be located along the north side of Oyster Point Boulevard and along the west and south sides of Veterans Boulevard at 101 Oyster Point Boulevard in the City of South San Francisco. At full buildout the project would include 353,738 square feet of office, 530,606 square feet of R&D, 20,000 square feet of retail, and a 200-room hotel. The traffic study conducted for this proposed development estimated that the site would generate 641 trips (541 inbound, 130 outbound) in the AM peak hour and 716 trips (180 inbound, 536 outbound) in the PM peak hour (*Draft Subsequent Environmental Impact Report for Britannia Cove at Oyster Point Precise Plan,* URS, 2013).

Staff from the City of Brisbane provided information regarding these background development projects. Traffic projections from these projects were directly obtained or interpolated using the trip distribution and assignment provided in their respective traffic reports. The trips for each of the two (2) background projects were further added to the Existing volumes **(Figure 6)** at each study intersection to represent Background Conditions, as shown on **Figure 10**.

6.2 BACKGROUND BASELINE IMPROVEMENTS

With the Sierra Point Biotech Development in place under Background Conditions, the following study intersection modifications were assumed in this analysis:

- Intersection 8: Sierra Point Parkway & Lagoon Road – Based on the Sierra Point Biotech Development's *Second Amendment Concerning Project Approval Document* and the agreed upon mitigation in the *Sierra Point Improvement Phasing Analysis*, this intersection would be signalized with protected left-turn phasing on all approaches and a second northbound through lane would be added (*Sierra Point Biotech Development TIA*, Hexagon Transportation Consultants, 2006).
- Intersection 10: Sierra Point Parkway & Shoreline Court – Based on the Sierra Point Biotech Development's *Second Amendment Concerning Project Approval Document*, this intersection would be signalized with protected left-turn phasing on all approaches and also an overlap phase for the eastbound right-turn movement. Required lane configuration modifications include a second northbound left-turn lane, a second southbound right-turn lane, and a second eastbound left-turn lane (*Sierra Point Biotech Development TIA*, Hexagon Transportation Consultants, 2006).
- Intersection 11: Marina Boulevard & Sierra Point Parkway – The configuration at this location would change to include a south leg consisting of one left-turn lane and one shared through/right-turn lane as it is one of the project driveways of the Biotech site. Additionally, the eastbound and westbound approaches at this unsignalized intersection will be modified to provide access into the Biotech site.

Except as identified above, the existing intersection configuration at each of the other study intersections was assumed to remain the same for the Background Conditions analysis.

6.3 BACKGROUND PLUS PROJECT TRAFFIC VOLUMES

Trips generated from the proposed project **(Figure 8)** were added to the Background traffic projections **(Figure 11)** to develop traffic volumes for Background plus Project Conditions. The resulting volumes at the study intersections are shown on **Figure 12.**

6.4 BACKGROUND INTERSECTION LEVELS OF SERVICE

Table 13 presents the delay and LOS calculation results for the study intersections under Background Conditions and Background plus Project Conditions. **Appendix B** contains the corresponding calculation sheets.

The results of the Background Condition (no project) intersection operations analysis for show that 10 study intersections out of the 11 signalized study intersections are projected to operate at an acceptable service level during all analyzed peak hours, using the HCM methodology and their respective jurisdiction's LOS threshold. The remaining study intersection, Intersection 9: US 101 Northbound & Sierra Point Parkway, is projected to operate at a deficient LOS F during both the AM and PM peak hour.

Under Background plus Project Conditions, ten (10) out of the 11 analyzed intersections will operate at an acceptable service level for all analyzed peak hours. Similar to the background baseline, Intersection 9: US 101 Northbound Ramps & Sierra Point Parkway is projected to continue operating deficiently during both analyzed peak hours.

6.5 BACKGROUND INTERSECTION IMPACTS & MITIGATION MEASURES

Using the City of Brisbane's traffic significance impact criteria, the change in LOS from an acceptable level (LOS D or better) to an unacceptable level (LOS E or F), or considerable contribution to cumulative traffic increases at LOS E or LOS F locations constitute a significant impact at Intersection 9: US 101 Northbound Ramps & Sierra Point Parkway during both analyzed peak hours.

This section of the report also presents the mitigation measures for the one identified impacted location under Background plus Project Conditions. Full mitigation would be achieved if the mitigation measure improves operations to acceptable levels. Peak hour LOS calculation worksheets including the recommended mitigation measure(s) are provided in **Appendix B**. The resulting mitigated LOS is also shown in **Table 13.**

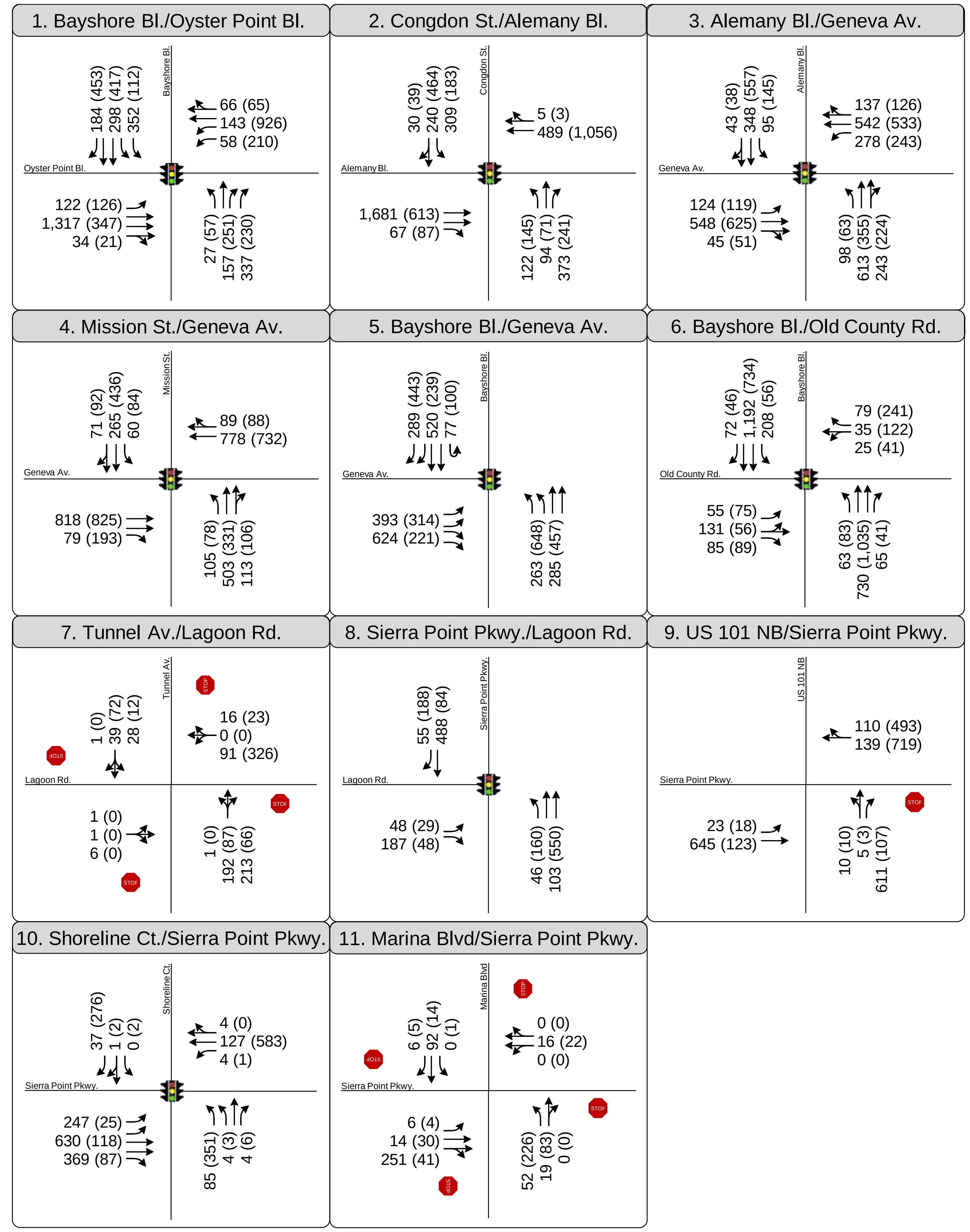
<u>Intersection 9: US 101 Northbound Ramps & Sierra Point Parkway</u> (LOS F – AM and PM peak hour)

The addition of project traffic exacerbates (i.e., adds project traffic equal to or greater than five percent of traffic to a failing critical movement) unacceptable intersection operations during the peak hours based on

City of Brisbane criteria. To mitigate the identified background impacts would require the following intersection modifications:

- Implementation of a traffic signal, but only when a peak hour signal warrant is met and/or the conditions of the *Second Amendment Concerning Project Documents* require this installation
- Conversion of the northbound shared through/left-turn lane to a shared left-turn/through/right-turn lane
- Conversion of the westbound approach from a shared through/right-turn lane to a through lane and a dedicated right-turn lane

With the exception of the westbound approach modifications, the other proposed improvements were previously identified mitigations in the Original TIA. Overall, these mitigation measures (which were also previously identified under Existing plus Project with Mitigation Conditions) would allow the intersection to operate at LOS B during the AM and LOS A during the PM peak hour.



Study Intersections
Opus Office Center
Parcel R
City of Brisbane
Stop Sign
Signal
Turn Lane
AM (PM) Peak Hour Traffic Volumes

Figure 10

Peak Hour Traffic Volumes & Lane Configurations

Background Conditions

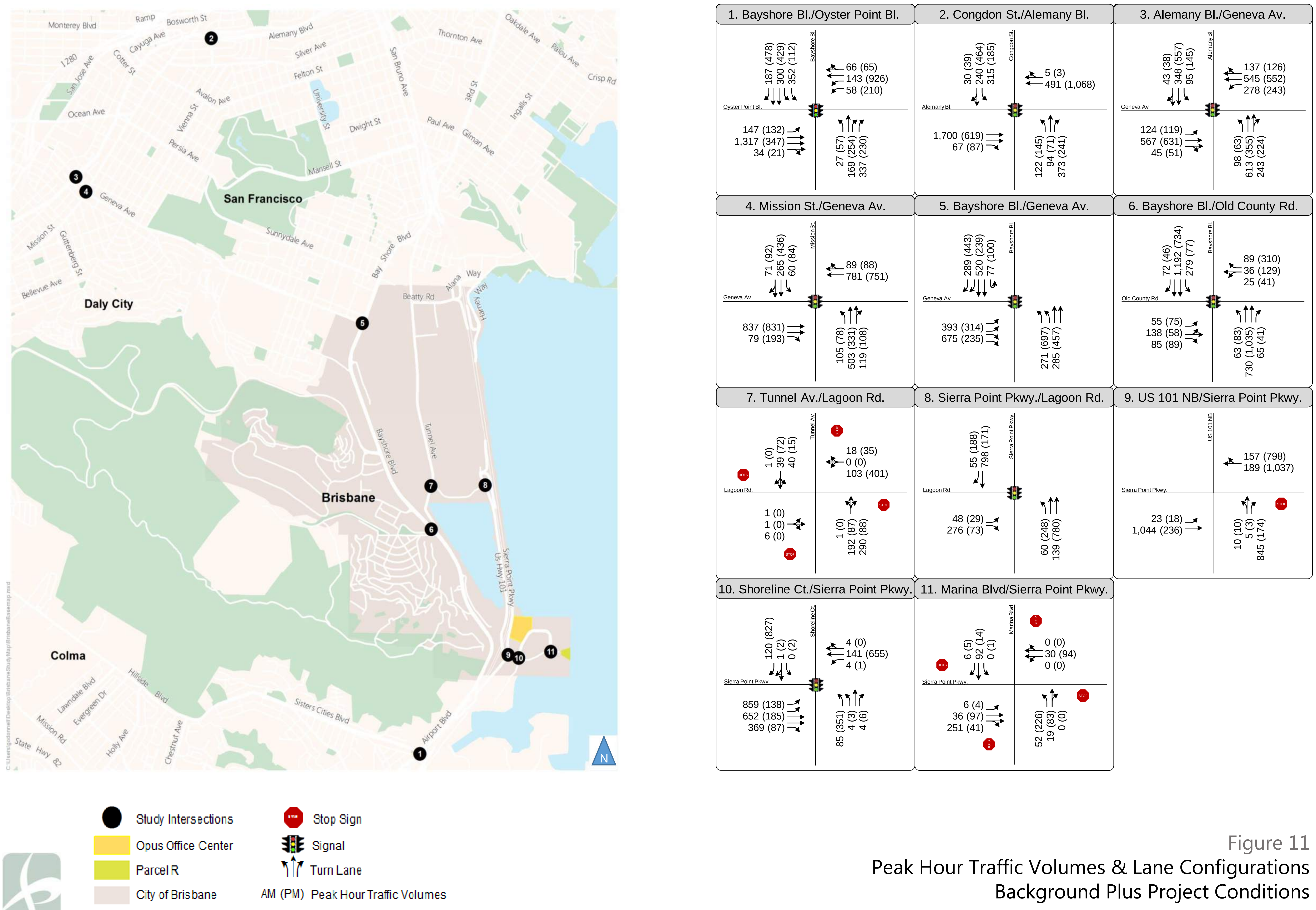


Figure 11
Peak Hour Traffic Volumes & Lane Configurations
Background Plus Project Conditions

TABLE 13: BACKGROUND INTERSECTION LEVEL OF SERVICE & IMPACT ANALYSIS

No.	Intersection	Traffic Control[1]	LOS Threshold[2]	Peak Hour	Background Conditions		Background Plus Project (B+P)		Change (Δ) DELAY[5]	SIGNIFICANT IMPACT?[6]	B + P WITH MITIGATION		Δ DELAY[7]	RESIDUAL IMPACT?[8]
					Delay[3]	LOS[4]	Delay[3]	LOS[2,4]			DELAY[3]	LOS[2,4]		
1	Bayshore Boulevard &	Signal	D	AM	26.8	C	27.7	C	0.9	No	No Mitigation Required			
	Sister Cities-Oyster Point Boulevard			PM	34.8	C	35.0	C	0.2	No				
2	Congdon Street &	Signal	D	AM	24.2	C	25.1	C	0.9	No	No Mitigation Required			
	Alemany Boulevard			PM	19.1	B	19.2	B	0.1	No				
3	Alemany Boulevard &	Signal	D	AM	42.3	D	42.5	D	0.2	No	No Mitigation Required			
	Geneva Avenue			PM	34.8	C	34.8	C	0.0	No				
4	Mission Street &	Signal	D	AM	18.7	B	18.8	B	0.1	No	No Mitigation Required			
	Geneva Avenue			PM	18.1	B	18.3	B	0.2	No				
5	Bayshore Boulevard &	Signal	D (Daly City) E (CMP)	AM	28.3	C	28.3	C	0.0	No	No Mitigation Required			
	Geneva Avenue			PM	36.7	D	43.1	D	6.4	No				
6	Bayshore Boulevard &	Signal	C	AM	19.1	B	20.6	C	1.5	No	No Mitigation Required			
	Old County Road			PM	18.1	B	19.1	B	1.0	No				
7	Tunnel Avenue &	AWSC	D	AM	10.6	B	12.3	B	1.7	No	No Mitigation Required			
	Lagoon Road			PM	11.6	B	14.3	B	2.7	No				
8	Sierra Point Parkway &	Signal	D	AM	8.0	A	14.9	B	6.9	No	No Mitigation Required			
	Lagoon Road			PM	5.6	A	6.1	A	0.5	No				
9	US 101 Northbound Ramps &	SSSC	D	AM	>180	**F**	>180	**F**	**	**Yes**	5.6	B	-334.4	No
	Sierra Point Parkway			PM	53.2	**F**	112.8	**F**	59.6	**Yes**	8.9	A	-44.3	No
10	Shoreline Court &	Signal	D	AM	15.9	B	20.6	C	4.7	No	No Mitigation Required			
	Sierra Point Parkway[9]			PM	27.3	C	22.1	C	-5.2	No				

TABLE 13: BACKGROUND INTERSECTION LEVEL OF SERVICE & IMPACT ANALYSIS

No.	Intersection	Traffic Control[1]	LOS Threshold[2]	Peak Hour	Background Conditions		Background Plus Project (B+P)		Change (Δ) DELAY[5]	SIGNIFICANT IMPACT?[6]	B + P WITH MITIGATION		Δ DELAY[7]	RESIDUAL IMPACT?[8]
					Delay[3]	LOS[4]	Delay[3]	LOS[2,4]			DELAY[3]	LOS[2,4]		
11	Marina Boulevard &	AWSC	D	AM	11.8	B	12.3	B	0.5	No	No Mitigation Required			
	Sierra Point Parkway			PM	10.2	B	10.8	B	0.6	No				

Source: Fehr & Peers, November 2016
Notes:
[1] Signal = Signalized Intersection; SSSC = Side-Street Stop-Controlled Intersection; AWSC = All-Way Stop-Controlled Intersection
[2] LOS threshold is the lowest acceptable LOS (the threshold between acceptable and unacceptable level of service). **Bold** indicates unacceptable operations by jurisdiction's level of service standard.
[3] Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections and all-way stop-controlled intersections. Total control delay for the worst approach is presented for side-street stop-controlled intersections. Delay indicated with ** indicated oversaturated conditions and delay cannot be calculated.
[4] LOS calculations for were conducted using Synchro 9.0. LOS calculations were performed using the methods described in the HCM 2010.
[5] Delay change between the "Plus Project" Condition and the "Baseline" or "No Project" Condition.
[6] Significant impact determined based on jurisdiction's impact criteria. **Bold** and highlighted indicates significant impacts.
[7] Change in intersection weighted average control delay between Background Conditions and Background plus Project with Mitigation Conditions.
[8] Residual impacts indicate that even with the inclusion of the proposed mitigation measures, the project site development impacts on baseline traffic conditions at the intersection would be significant and unavoidable based on the maximum allowable standard (LOS D or LOS C for Intersection 6: Bayshore Boulevard & Old County Road). Significant and unavoidable impacts are **bold** and highlighted in **red**.
9 Signal timings were optimized under the Background plus Project Condition.

6.6 BACKGROUND FREEWAY SEGMENT LEVEL OF SERVICE & IMPACTS

Background baseline freeway segment volumes at the study locations comprise of existing volumes plus respective freeway segment traffic generated by the "approved but not yet built" and "not occupied" developments (i.e. Sierra Point Biotech and Britannia Cove). Background plus Project traffic volumes on the freeway segments were established by adding the background freeway volumes and the project trips on the freeway segments together. The results of the freeway segment operations impact analysis are presented in **Table 14**.

The results show that none of the directional freeway segments analyzed would operate at an unacceptable LOS F during the analyzed peak hours. Thus, no freeway segment impacts were identified under Background plus Project Conditions and no mitigation measures are required.

TABLE 14: BACKGROUND FREEWAY SEGMENT LEVEL OF SERVICE & IMPACT ANALYSIS

Fwy	Segment	Dir	Peak Hour	Background Conditions			Background Plus Project Conditions			Project Trips	
				Volume[1]	V/C[2]	LOS[3]	Volume	V/C	LOS	Volume	% Capacity
US 101	Harney Way to Sierra Point Parkway	SB	AM	7,951	0.90	E	8,262	0.94	E	311	3.5%
			PM	6,696	0.76	D	6,784	0.77	D	88	1.0%
US 101	Sierra Point Parkway to Oyster Point Boulevard	SB	AM	7,743	0.88	D	7,779	0.88	D	36	0.4%
			PM	7,198	0.82	D	7,429	0.84	D	231	2.6%
US 101	Sierra Point Parkway to Harney Way	NB	AM	7,137	0.81	D	7,185	0.82	D	48	0.5%
			PM	7,813	0.89	E	8,118	0.92	E	305	3.5%
US 101	Oyster Point Boulevard to Sierra Point Parkway	NB	AM	7,564	0.86	D	7,799	0.89	D	235	2.7%
			PM	7,450	0.85	D	7,517	0.85	D	67	0.8%

Source: Fehr & Peers, November 2016.
Notes:
Fwy = Freeway; Dir. = Direction; V/C = volume-to-capacity ratio
[1] Existing volumes obtained from Caltrans PEMs plus respective freeway segment traffic generated by the "approved but not yet built" and "not occupied" developments.
[2] There are four travel lanes provided in each direction of the study segments and the capacity of each lane is 2,200 vehicles per hour.
[3] Based on the San Mateo CMP, the LOS standards for the study freeway segments is set to LOS E or better. **Bold** indicates segments operating at a deficient LOS F.
[4] Significant impact determined based on CMP guidelines. **Bold** and highlighted LOS indicates significant impacts.

7.0 FUTURE WITH BRISBANE BAYLANDS CONDITIONS

Both the Sierra Point Opus Office Center project and the commercial uses (included as Parcel R in this study) have not changed in terms of the land use and size when compared to what has been previously proposed and environmentally cleared. Thus, the magnitude of traffic impacts caused by this proposed project within the direct vicinity of the site and general Sierra Point Office Park area using newer data (i.e. traffic counts and approved projects) is similar to projections presented in the Original TIA prepared in 2008. However, for informational purposes, a future analysis has been prepared since the Brisbane Baylands development, a large pending project directly north of the project site, was not included in the cumulative analyses in the Original TIA. A Draft EIR for this project was published in 2013, but it is currently going through the later stages of the CEQA review process and has yet to be certified by the City of Brisbane. Since the likely development scenario for the Baylands site is still under deliberation and the timeframe for implementation of this project is uncertain, the City of Brisbane has determined that it is not reasonably foreseeable to evaluate the potential traffic impacts of the proposed Opus Office Center in a cumulative context assuming approval and buildout of the most intensive Brisbane development concept. Therefore, the Future with Brisbane Baylands Conditions is included in the TIA for informational purposes only and project impacts under this scenario are not considered to be determinative of the severity of impacts associated with the changes in the Sierra Point Opus Office Center project and/or its circumstances.

To evaluate the potential impact of traffic generated by the proposed project on the surrounding transportation network in the future, it was necessary to first develop estimates of the future traffic without the project. Traffic conditions without the project under this scenario reflects traffic increases due to nearby approved and planned development and any roadway network changes and street improvements. These conditions are referred to as the baseline condition (i.e., "no project" conditions). The forecasted future baseline traffic volumes were then used to identify impacts on the roadway system. This chapter presents the results of the level of service calculations under Future with Brisbane Baylands Conditions with and without the Opus Office Center project.

7.1 FUTURE TRAFFIC VOLUMES

The future 2030 forecasts without the proposed project are developed from traffic projections used for the Cumulative Conditions plus Baylands' Community Proposed Plan presented in the *Brisbane Baylands Environmental Impact Report* (ESA, 2013). It should be noted that the Bayland's cumulative traffic projections assumed "reasonably foreseeable projects," which includes this Sierra Point Opus Office Center project and the Sierra Point Biotech development. Therefore, to avoid "double-counting" the project-generated traffic and traffic from the Biotech related project, the trips generated by these sites in the Baylands study were removed from the surrounding street system. Additionally, vehicle trips from Britannia Cove, a newer "approved but not yet built" and "not occupied" development discussed in the previous chapter, were added to the future baseline volumes derived using the Baylands project since it was not included in their future forecasts. Also vehicle trips from Parkside Plan, a pending development project in the study area, were added to the traffic projection. Trip generation estimates from this pending development were estimated based on trip generation rates published in the ITE *Trip Generation, 9th Edition* (2012) and then assigned to the roadway network. The resulting traffic volumes at each study intersection represent Future with Brisbane Baylands Conditions, as shown on **Figure 12**. Provided below are the project descriptions for Brisbane Baylands and Parkside Precise Plan, which are included in the future traffic projections.

- Brisbane Baylands
    - The Brisbane Baylands development is located in the City of Brisbane and is bounded on the east by US Highway 101, on the west and south by Bayshore Boulevard, and on the north by the City and County of San Francisco. Under the Community Proposed Plan scenario (the alternative that generates the most traffic), the project would include 7.7 million square feet of office, industrial, commercial, and institutional uses along with 330 acres of open space and the 135.6-acre lagoon. The traffic study conducted for this proposed development estimated that the site would generate 5,835 trips (3,898 inbound, 1,937 outbound) in the AM peak hour and 6,180 trips in the PM peak hour (2,533 inbound, 3,647 outbound) (*Brisbane Baylands Environmental Impact Report* (ESA, 2013).
- Parkside at Brisbane Village Precise Plan Area
    - The Parkside development would redevelop approximately 25 acres or public and private property east of the Bayshore Boulevard and Old County Road intersection. Under Alternative A (the scenario that generates the most traffic), the project would include 75,000 square feet of new office space, 60,000 square feet of retail, 228 multi-family residential units, and 14 live/work lofts. Using ITE rates, this proposed development is estimated to generate 388 net new trips (229 inbound, 159 outbound) in the AM peak hour and 739 net new trips (330 inbound, 409 outbound) in the PM peak hour.

7.2 FUTURE BASELINE IMPROVEMENTS

Details of key transportation system assumptions made for the study's Future with Brisbane Baylands Conditions are described below. These improvements, whether the result of local capital improvement programs or in connection with planned or approved projects, would result in improved traffic operations and/or capacity changes at study locations when compared to existing and background baseline conditions.

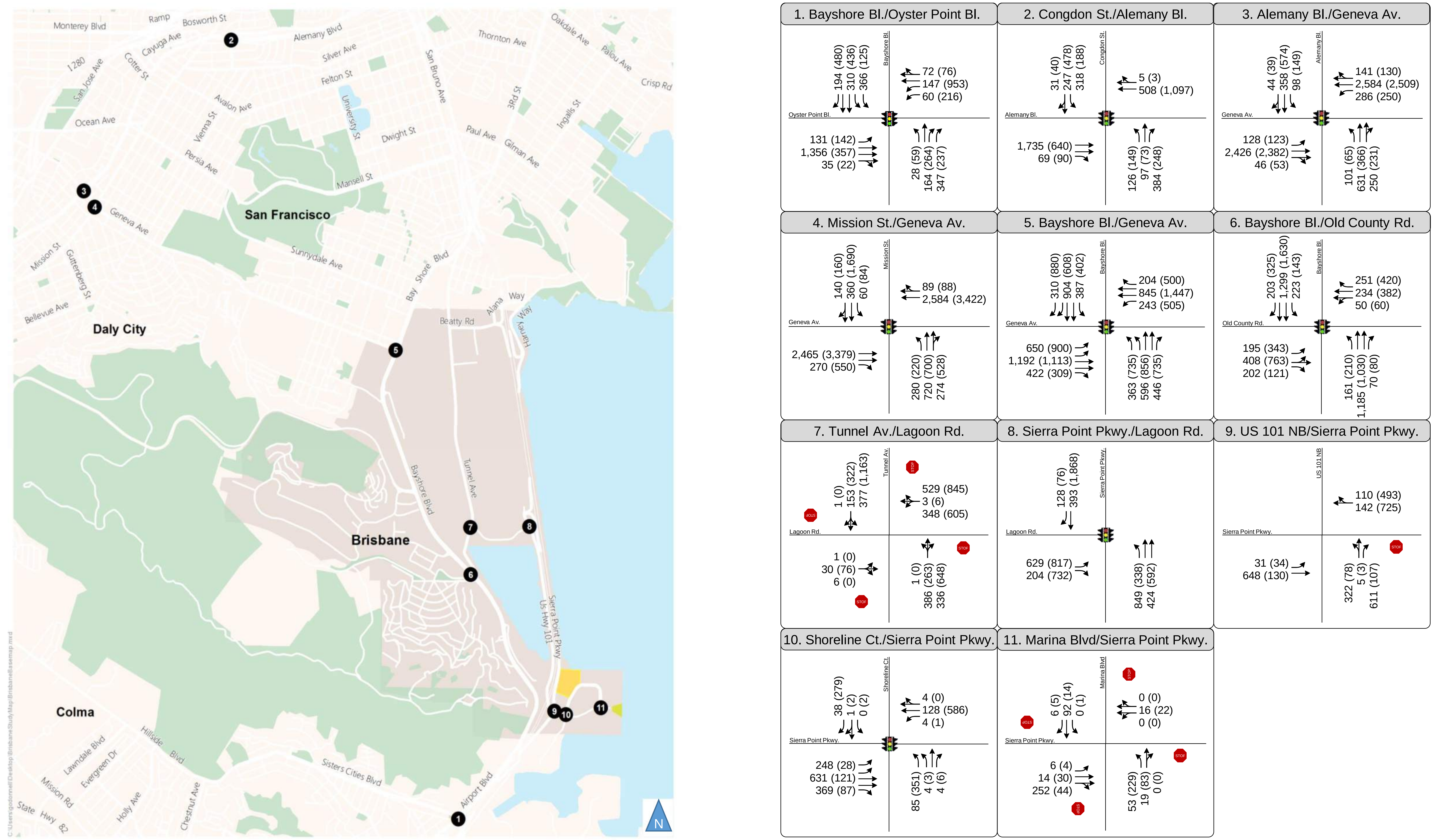
- Intersection 5: Bayshore Boulevard & Geneva Avenue – Geneva Avenue, which currently ends at Bayshore Boulevard, would be extended east to connect to Harney Way, improving east/west access in the area. Due to the Geneva Avenue extension, this intersection would be modified to include a new westbound approach with one left-turn lane, two through lanes, and one right-turn lane, northbound and eastbound approaches with two left-turn lanes, two through lanes, and one right-turn lane, and a southbound approach with one left-turn lane, two through lanes, and two right-turn lanes. Signal modifications at this location include protected left-turn phasing on all approaches and an overlap phase for the southbound right-turn movement.

- Intersection 6: Bayshore Boulevard & Old County Road – As part of the Baylands project, this intersection would be reconfigured to provide a westbound through lane, yielding a westbound approach with on shared through/left-turn lane, one through lane, and shared through/right-turn lane.

- New US 101 Interchange at Geneva Avenue/Harney Way – In conjunction with the extension of Geneva Avenue, the existing Harney Way interchange is proposed to be redesigned as a diamond interchange, subject to review and approval by Caltrans. This new interchange will cause re-distribution or shift in regional traffic in the study area.

7.3 FUTURE WITH BRISBANE BALYANDS PLUS PROJECT TRAFFIC VOLUMES

Trips generated from the proposed project **(Figure 8)** were added to the Future with Brisbane Baylands traffic projections **(Figure 12)** to develop traffic volumes for Future with Brisbane Baylands plus Project Conditions. The resulting volumes are shown on **Figure 13.**



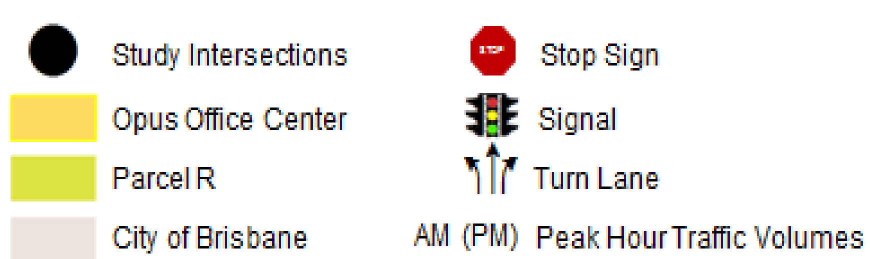


Figure 12
Peak Hour Traffic Volumes & Lane Configurations
Future with Brisbane Baylands Conditions

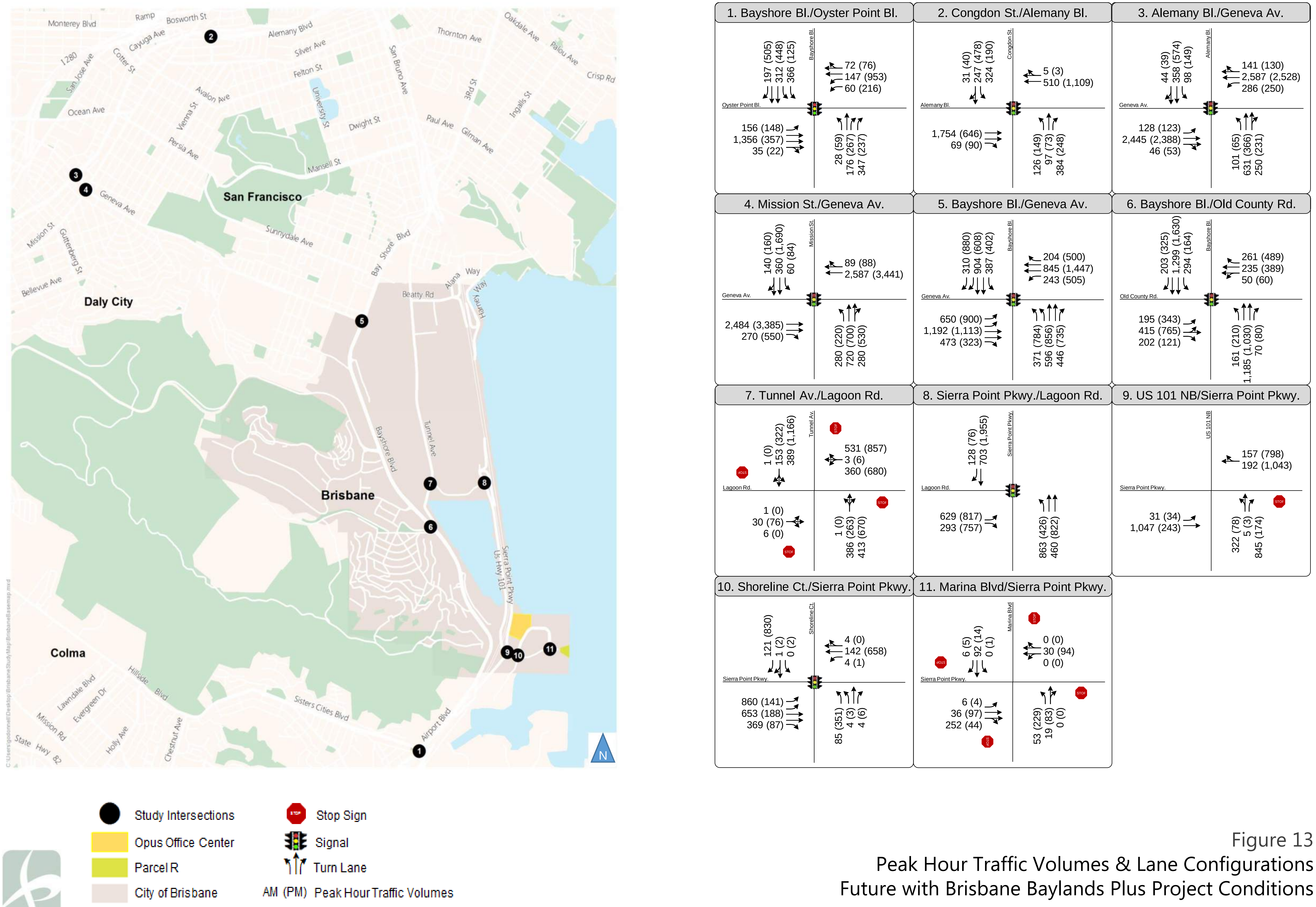


Figure 13
Peak Hour Traffic Volumes & Lane Configurations
Future with Brisbane Baylands Plus Project Conditions

7.4 FUTURE INTERSECTION LEVELS OF SERVICE

Table 15 presents the delay and LOS calculation results for the study intersections under Future with Brisbane Baylands Conditions and Future with Brisbane Baylands plus Project Conditions. **Appendix B** contains the corresponding calculation sheets.

The results of the Future Condition intersection operations analysis show that four (4) of the 11 study intersection are projected to operate at an acceptable service level during all analyzed peak hours, using the HCM methodology and their respective jurisdiction's LOS threshold. The remaining seven (7) study intersections are projected to operate at a deficient LOS (LOS E/F for City intersections and LOS F for regionally significant intersections) during at least one of the analyzed peak hours:

- Intersection 3: Alemany Boulevard & Geneva Avenue (LOS F – AM and PM peak hour)
- Intersection 4: Mission Avenue & Geneva Avenue (LOS F – AM and PM peak hour)
- Intersection 5: Bayshore Boulevard & Geneva Avenue (LOS E – AM peak hour and is identified as deficient under City of Daly City standard; LOS F – PM peak hour and is identified as deficient under both the City of Daly City and CMP standards)
- Intersection 6: Bayshore Boulevard & Old County Road (LOS E – AM peak hour; LOS F – PM peak hour)
- Intersection 7: Tunnel Avenue & Lagoon Road (LOS F – AM and PM peak hour)
- Intersection 8: Sierra Point Parkway & Lagoon Road (LOS F – AM and PM peak hour)
- Intersection 9: US 101 Northbound Ramps & Sierra Point Parkway (LOS F – AM peak hour; LOS E – PM peak hour)

Under Future with Brisbane Baylands plus Project Conditions, all of the above intersections will continue to operate poorly.

7.5 FUTURE INTERSECTION IMPACTS & MITIGATION MEASURES

Using the City of Brisbane's traffic significance impact criteria, the change in LOS from an acceptable level (LOS D or better) to an unacceptable level (LOS E or F) or considerable contribution to future traffic increases at LOS E or LOS F locations constitute a significant impact at three (3) of the 11 study intersections during both the AM and PM peak hours:

- Intersection 6: Bayshore Boulevard & Old County Road
- Intersection 8: Sierra Point Parkway & Lagoon Road
- Intersection 9: US 101 Northbound Ramps & Sierra Point Parkway

This section of the report also presents the mitigation measures for identified impacts under Future with Brisbane Baylands plus Project Conditions. Full mitigation would be achieved if the mitigation measure improves operations to acceptable levels. Peak hour LOS calculation worksheets including the recommended mitigation measure(s) are provided in **Appendix B**. The resulting mitigated LOS is also shown in **Table 15.**

Intersection 6: Bayshore Boulevard & Old County Road (LOS E – AM peak hour; LOS F – PM peak hour)

The addition of project traffic exacerbates (i.e., adds project traffic equal to or greater than five percent of traffic to a failing critical movement) unacceptable intersection operations during the peak hours based on City of Brisbane criteria. To mitigate the identified impacts would require the following intersection modifications:

- Restripe the eastbound approach to create one additional exclusive through lane
- Restripe the southbound approach shall be restriped to create two additional lanes: an added exclusive left-turn pocket and an added through lane for the southbound approach
- Widen eastbound Tunnel Avenue to the east of its existing alignment to accommodate two receiving lanes for the southbound left and eastbound through traffic

The implementation of these measures would improve operations at Bayshore Boulevard and Old County Road to levels better than prior to the addition of project traffic. However, the resulting LOS is still LOS D and LOS E during the AM and PM peak hour, respectively, and will exceed the maximum allowable standard (LOS C) assigned for this intersection per the Brisbane General Plan. Therefore, even with the inclusion of the above mitigation measures, the impact on the future traffic conditions at this intersection would be significant and unavoidable based on the maximum allowable standard (LOS C). Additionally, the mitigation measures and the significant and unavoidable impacts were identified in the *Brisbane Baylands Environmental Impact Report* (ESA, 2013).

Intersection 8: Sierra Point Parkway & Lagoon Road (LOS F – AM and PM peak hour)

The addition of project traffic exacerbates (i.e., adds project traffic equal to or greater than five percent of traffic to a failing critical movement) unacceptable intersection operations during the peak hours based on

City of Brisbane criteria. To mitigate the identified impacts would require the following intersection modifications:

- Widen and restripe the southbound approach to provide two through lanes and one right-turn lane
- Widen and restripe the northbound approach to provide one through lane and two left-turn lanes
- Widen and restripe the eastbound approach to provide two left-turn lanes and one right-turn lane

The implementation of these measures would improve operations at Sierra Point Parkway and Lagoon Road to levels better than prior to the addition of project traffic and fully mitigates the AM peak hour impact. However, the resulting LOS under the PM peak hour is still LOS F, which will exceed the maximum allowable standard (LOS D) assigned for this intersection per the Brisbane General Plan. Therefore, even with the inclusion of the above mitigation measures, the impact on the future traffic conditions at this intersection would be significant and unavoidable based on the maximum allowable standard (LOS D). Additionally, the mitigation measures and the significant and unavoidable impacts were identified in the *Brisbane Baylands Environmental Impact Report* (ESA, 2013).

<u>Intersection 9: US 101 Northbound Ramps & Sierra Point Parkway</u> (LOS F – AM and PM peak hour)

The addition of project traffic exacerbates (i.e., adds project traffic equal to or greater than five percent of traffic to a failing critical movement) unacceptable intersection operations during the peak hours based on City of Brisbane criteria. To mitigate the identified impacts would require the following intersection modifications:

- Implementation of a traffic signal, but only when a peak hour signal warrant is met and/or the conditions of the *Second Amendment Concerning Project Documents* require this installation
- Conversion of the northbound shared through/left-turn lane to a shared left-turn/through/right-turn lane
- Conversion of the westbound approach from a shared through/right-turn lane to a through lane and a dedicated right-turn lane

With the exception of the westbound approach modifications, the other proposed improvements were previously identified mitigations in the Original TIA and the Sierra Point Biotech TIA. The implementation of these measures would improve operations at Sierra Point Parkway and Lagoon Road to levels better than prior to the addition of project traffic and fully mitigates the PM peak hour impact. However, during the AM peak hour the LOS F still remains and will exceed the maximum allowable standard (LOS D) assigned for this intersection per the Brisbane General Plan. Therefore, even with the inclusion of the above mitigation measures, the impact on the future traffic conditions at this intersection would be significant and unavoidable based on the maximum allowable standard (LOS D). Additionally, the significant and unavoidable impact was identified in the *Brisbane Baylands Environmental Impact Report* (ESA, 2013).

TABLE 15: FUTURE WITH BRISBANE BAYLANDS INTERSECTION LEVEL OF SERVICE & IMPACT ANALYSIS

No.	Intersection	Traffic Control[1]	LOS Threshold[2]	Peak Hour	Future with Brisbane Baylands Conditions		Future with Brisbane Baylands Plus Project (F+P)		Change (Δ) DELAY[5]	SIGNIFICANT IMPACT?[6]	F + P WITH MITIGATION		Δ DELAY[7]	RESIDUAL IMPACT?[8]
					Delay[3]	LOS[4]	Delay[3]	LOS[2,4]			DELAY[3]	LOS[2,4]		
1	Bayshore Boulevard &	Signal	D	AM	23.5	C	23.5	C	0.0	No	No Mitigation Required			
	Sister Cities-Oyster Point Boulevard			PM	27.1	C	27.8	C	0.7	No				
2	Congdon Street &	Signal	D	AM	26.7	C	27.9	C	1.2	No	No Mitigation Required			
	Alemany Boulevard			PM	18.0	B	18.2	B	0.2	No				
3	Alemany Boulevard &	Signal	D	AM	>180	**F**	>180	**F**	2.2	No	No Mitigation Required			
	Geneva Avenue			PM	>180	**F**	>180	**F**	2.2	No				
4	Mission Street &	Signal	D	AM	145	**F**	146.9	**F**	1.9	No	No Mitigation Required			
	Geneva Avenue			PM	>180	**F**	>180	**F**	2.4	No				
5	Bayshore Boulevard &	Signal	D (Daly City) E (CMP)	AM	78.4	**E**	78.5	**E**	0.1	No	No Mitigation Required			
	Geneva Avenue			PM	162.5	**F**	162.4	**F**	-0.1	No				
6	Bayshore Boulevard &	Signal	C	AM	65.1	**E**	73.2	**E**	8.1	**Yes**	41.7	D	-23.4	**Yes**
	Old County Road			PM	>180	**F**	>180	**F**	2.0	**Yes**	62.3	**E**	-121.5	**Yes**
7	Tunnel Avenue &	AWSC	D	AM	>180	**F**	>180	**F**	30.9	No				
	Lagoon Road			PM	>180	**F**	>180	**F**	39.9	No				
8	Sierra Point Parkway &	Signal	D	AM	149.5	**F**	>180	**F**	68.5	**Yes**	27.2	C	-122.3	No
	Lagoon Road			PM	>180	**F**	>180	**F**	27.9	**Yes**	132.1	**F**	-269.1	**Yes**
9	US 101 Northbound &	SSSC	D	AM	227.1	**F**	>180	**F**	**	**Yes**	87.7	**F**	-139.4	**Yes**
	Sierra Point Parkway			PM	47.1	**E**	>180	**F**	**	**Yes**	15	B	-623.2	No
10	Shoreline Court &	Signal	D	AM	15.6	B	31.0	C	15.4	No	No Mitigation Required			
	Sierra Point Parkway			PM	18.6	B	19.8	B	1.2	No				

TABLE 15: FUTURE WITH BRISBANE BAYLANDS INTERSECTION LEVEL OF SERVICE & IMPACT ANALYSIS

No.	Intersection	Traffic Control[1]	LOS Threshold[2]	Peak Hour	Future with Brisbane Baylands Conditions		Future with Brisbane Baylands Plus Project (F+P)		Change (Δ) DELAY[5]	SIGNIFICANT IMPACT?[6]	F + P WITH MITIGATION		Δ DELAY[7]	RESIDUAL IMPACT?[8]
					Delay[3]	LOS[4]	Delay[3]	LOS[2,4]			DELAY[3]	LOS[2,4]		
11	Marina Boulevard & Sierra Point Parkway	AWSC	D	AM	9.1	A	9.2	A	0.1	No	No Mitigation Required			
				PM	9.7	A	10.0	A	0.3	No				

Source: Fehr & Peers, November 2016
Notes:
[1] Signal = Signalized Intersection; SSSC = Side-Street Stop-Controlled Intersection; AWSC = All-Way Stop-Controlled Intersection
[2] LOS threshold is the lowest acceptable LOS (the threshold between acceptable and unacceptable level of service). **Bold** indicates unacceptable operations by jurisdiction's level of service standard.
[3] Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections and all-way stop-controlled intersections. Total control delay for the worst approach is presented for side-street stop-controlled intersections. Delay indicated with ** indicated oversaturated conditions and delay cannot be calculated.
[4] LOS calculations for were conducted using Synchro 9.0. LOS calculations were performed using the methods described in the HCM 2010.
[5] Delay change between the "Plus Project" Condition and the “Baseline” or “No Project” Condition.
[6] Significant impact determined based on jurisdiction's impact criteria. **Bold** and highlighted indicates significant impacts.
[7] Change in intersection weighted average control delay between Future with Brisbane Baylands Conditions and Future with Brisbane Baylands plus Project with Mitigation Conditions.
[8] Residual impacts indicate that even with the inclusion of the proposed mitigation measures, the project site development impacts on baseline traffic conditions at the intersection would be significant and unavoidable based on the maximum allowable standard (LOS D or LOS C for Intersection 6: Bayshore Boulevard & Old County Road). Significant and unavoidable impacts are **bold** and highlighted in **red**.

7.6 FUTURE FREEWAY SEGMENT LEVEL OF SERVICE & IMPACTS

Future baseline freeway segment volumes at the study locations were obtained from the C/CAG future Travel Demand Forecasting Model used in the Brisbane Baylands EIR. Future with Brisbane Baylands plus Project traffic volumes on the freeway segments were established by adding the Future with Brisbane Baylands freeway volumes and the project trips on the freeway segments together. The results of the freeway segment operations impact analysis are presented in **Table 16**.

The results show that three of the directional freeway study segments analyzed would operate at an unacceptable LOS F during at least one of the peak hours under Future with Brisbane Baylands Conditions. Project traffic would constitute one percent or more of freeway capacity at these segments. Therefore, based on the CMP criteria, the project would contribute cumulatively significant impacts on freeways at the following segments:

- US 101 northbound between Sierra Point Parkway and Harney Way (PM peak hour)
- US 101 southbound between Harney Way and Sierra Point Parkway (AM peak hour)
- US 101 northbound between Oyster Point Boulevard and Sierra Point Parkway (AM peak hour)

The remaining study directional freeway segments would operate at an acceptable LOS E or better.

7.7 FUTURE FREEWAY SEGMENT MITIGATION MEASURES

To minimize the potential for an increase in project site development-generated vehicles and the project's contribution to freeway mainline impacts, implementation of a Travel Demand Management (TDM) program would be required. These measures are provided in the San Mateo County *Final Congestion Management Program,* but are ultimately decided between the project applicant and the City of Brisbane. As presented in the Original TIA, some of the measures that could be implemented include:

- Provide for increased frequencies of existing dedicated shuttle service during the peak period to a rail station or residential area; coordinate with Caltrain shuttle services with respect to locations of stops and related amenities.
- Provide secure bicycle parking
- Operation of a commute assistance center, offering on site, one stop shopping for transit and commute alternatives information, preferably staffed with a live person to assist building tenants with trip planning.

- Flextime: Implementation of an alternate hours workweek program.

The physical mitigation necessary to reduce the significant freeway impacts would be to widen the respective impacted freeway segments; however, due to substantial costs and secondary, unintended consequences this measure is not considered feasible for a single development project. Therefore, the three (3) freeway segment impacts are considered significant and unavoidable.

It should be noted that the future freeway impacts identified were considered significant and unavoidable in other nearby traffic studies. These consistencies are outlined below.

- US 101 southbound segment between Harney Way and Sierra Point Parkway was also impacted and considered significant and unavoidable under the Future with Brisbane Baylands plus Project Condition for Brisbane Baylands, the Original TIA, and the Sierra Point Biotech
- US 101 northbound segment between Sierra Point and Harney Way was also impacted and considered significant and unavoidable under the Future with Brisbane Baylands plus Project Condition for Brisbane Baylands
- US 101 northbound segment between Oyster Point Boulevard and Sierra Point Parkway was also impacted and considered significant and unavoidable in the Future with Brisbane Baylands plus Project Condition for the Original TIA and the Sierra Point Biotech

TABLE 16: FUTURE WITH BRISBANE BAYLANDS FREEWAY SEGMENT LEVEL OF SERVICE & IMPACT ANALYSIS

Fwy	Segment	Dir	Peak Hour	Future with Brisbane Baylands Conditions			Future with Brisbane Baylands Plus Project Conditions			Project Trips	
				Volume[1]	V/C[2]	LOS[3]	Volume	V/C	LOS	Volume	% Capacity
US 101	Harney Way to Sierra Point Parkway	SB	AM	9,735	1.11	**F**	10,046	1.14	**F**	311	3.5%
			PM	8,604	0.98	E	8,692	0.99	E	88	1.0%
US 101	Sierra Point Parkway to Oyster Point Boulevard	SB	AM	8,370	0.95	E	8,406	0.96	E	36	0.4%
			PM	8,305	0.94	E	8,536	0.97	E	231	2.6%
US 101	Sierra Point Parkway to Harney Way	NB	AM	8,115	0.92	E	8,163	0.93	E	48	0.5%
			PM	8,954	1.02	**F**	9,259	1.05	**F**	305	3.5%
US 101	Oyster Point Boulevard to Sierra Point Parkway	NB	AM	9,279	1.05	**F**	9,514	1.08	**F**	235	2.7%
			PM	10,044	1.14	**F**	10,111	1.15	**F**	67	0.8%

Source: Fehr & Peers, November 2016.

Notes:

Fwy = Freeway; Dir. = Direction; V/C = volume-to-capacity ratio

[1] Derived from the C/CAG future Travel Demand Forecasting Model used in the Brisbane Baylands EIR

[2] There are four travel lanes provided in each direction of the study segments and the capacity of each lane is 2,200 vehicles per hour.

[3] Based on the San Mateo CMP, the LOS standards for the study freeway segments is set to LOS E or better. **Bold** indicates segments operating at a deficient LOS F.

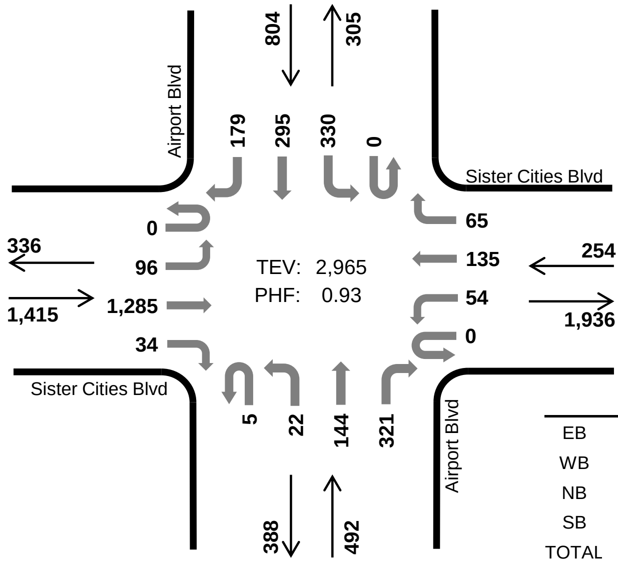
[4] Significant impact determined based on CMP guidelines. **Bold** and highlighted LOS indicates significant impacts.

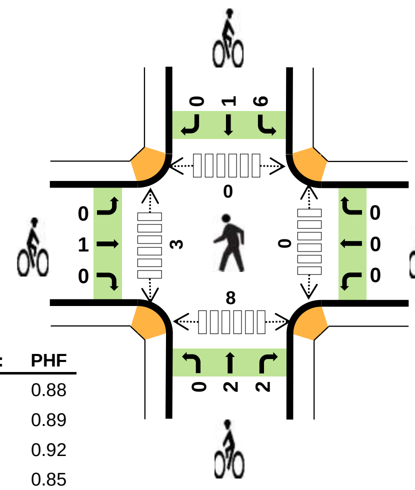
APPENDIX A: TRAFFIC COUNT DATA

Airport Blvd
Sister Cities Blvd

Date: 08/31/2016
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM

Peak Hour





	HV %:	PHF
EB	2.3%	0.88
WB	9.1%	0.89
NB	4.3%	0.92
SB	7.2%	0.85
TOTAL	4.5%	0.93

Two-Hour Count Summaries

Interval Start		Sister Cities Blvd Eastbound UT	LT	TH	RT	Sister Cities Blvd Westbound UT	LT	TH	RT	Airport Blvd Northbound UT	LT	TH	RT	Airport Blvd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM		0	19	225	6	0	16	26	7	0	3	20	80	0	38	53	34	527	0
7:15 AM		0	14	309	4	0	16	25	6	1	1	28	106	0	46	62	29	647	0
7:30 AM		0	21	329	8	0	12	28	13	0	4	32	100	0	65	69	39	720	0
7:45 AM		**0**	**32**	**253**	**5**	**0**	**10**	**27**	**12**	**0**	**4**	**39**	**88**	**0**	**76**	**71**	**32**	**649**	2,543
8:00 AM		**0**	**28**	**329**	**11**	**0**	**16**	**37**	**18**	**1**	**6**	**35**	**81**	**0**	**97**	**71**	**69**	**799**	2,815
8:15 AM		**0**	**20**	**323**	**14**	**0**	**18**	**38**	**15**	**2**	**4**	**43**	**84**	**0**	**72**	**74**	**44**	**751**	2,919
8:30 AM		**0**	**16**	**380**	**4**	**0**	**10**	**33**	**20**	**2**	**8**	**27**	**68**	**0**	**85**	**79**	**34**	**766**	**2,965**
8:45 AM		0	29	284	11	0	21	33	16	0	4	22	45	0	71	67	45	648	2,964
Count Total		0	179	2,432	63	0	119	247	107	6	34	246	652	0	550	546	326	5,507	0
Peak Hour	**All**	**0**	**96**	**1,285**	**34**	**0**	**54**	**135**	**65**	**5**	**22**	**144**	**321**	**0**	**330**	**295**	**179**	**2,965**	**0**
	HV	**0**	**5**	**26**	**1**	**0**	**4**	**14**	**5**	**0**	**1**	**9**	**11**	**0**	**18**	**25**	**15**	**134**	**0**
	HV%	**-**	**5%**	**2%**	**3%**	**-**	**7%**	**10%**	**8%**	**0%**	**5%**	**6%**	**3%**	**-**	**5%**	**8%**	**8%**	**5%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	6	2	14	*23*	0	0	0	2	*2*	0	0	0	0	*0*
7:15 AM	4	5	6	18	*33*	0	0	0	1	*1*	0	2	0	0	*2*
7:30 AM	4	4	5	13	*26*	0	1	0	3	*4*	0	2	0	4	*6*
7:45 AM	**6**	**6**	**4**	**16**	***32***	**1**	**0**	**1**	**3**	***5***	**0**	**0**	**0**	**1**	*1*
8:00 AM	**5**	**5**	**4**	**15**	***29***	**0**	**0**	**0**	**3**	***3***	**0**	**0**	**0**	**3**	*3*
8:15 AM	**11**	**6**	**9**	**19**	***45***	**0**	**0**	**2**	**1**	***3***	**0**	**3**	**0**	**4**	*7*
8:30 AM	**10**	**6**	**4**	**8**	***28***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
8:45 AM	5	5	2	15	*27*	0	0	2	4	*6*	0	2	0	1	*3*
Count Total	46	43	36	118	*243*	1	1	6	17	*25*	0	9	0	13	*22*
Peak Hour	**32**	**23**	**21**	**58**	***134***	**1**	**0**	**4**	**7**	***12***	**0**	**3**	**0**	**8**	***11***

Deon Fouche: 415 - 757 - 7714

deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Sister Cities Blvd Eastbound				Sister Cities Blvd Westbound				Airport Blvd Northbound				Airport Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	0	0	0	2	2	2	0	0	1	1	0	6	7	1	23	0
7:15 AM	0	0	4	0	0	3	1	1	0	0	2	4	0	3	13	2	33	0
7:30 AM	0	1	3	0	0	0	2	2	0	0	2	3	0	2	10	1	26	0
7:45 AM	**0**	**0**	**6**	**0**	**0**	**1**	**4**	**1**	**0**	**0**	**2**	**2**	**0**	**5**	**9**	**2**	**32**	114
8:00 AM	**0**	**1**	**4**	**0**	**0**	**2**	**2**	**1**	**0**	**1**	**2**	**1**	**0**	**5**	**6**	**4**	**29**	120
8:15 AM	**0**	**3**	**7**	**1**	**0**	**0**	**5**	**1**	**0**	**0**	**3**	**6**	**0**	**5**	**8**	**6**	**45**	132
8:30 AM	**0**	**1**	**9**	**0**	**0**	**1**	**3**	**2**	**0**	**0**	**2**	**2**	**0**	**3**	**2**	**3**	**28**	**134**
8:45 AM	0	1	4	0	0	2	2	1	0	1	1	0	0	5	9	1	27	129
Count Total	0	8	37	1	0	11	21	11	0	2	15	19	0	34	64	20	243	0
Peak Hour	**0**	**5**	**26**	**1**	**0**	**4**	**14**	**5**	**0**	**1**	**9**	**11**	**0**	**18**	**25**	**15**	**134**	**0**

Two-Hour Count Summaries - Bikes

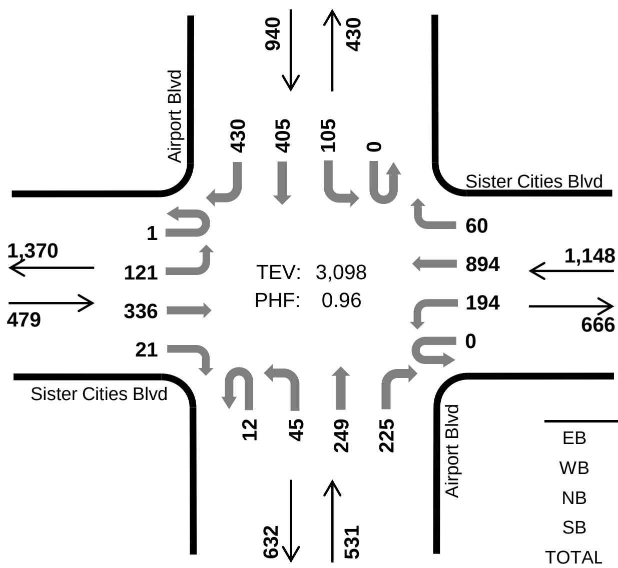
Interval Start	Sister Cities Blvd Eastbound			Sister Cities Blvd Westbound			Airport Blvd Northbound			Airport Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	2	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:30 AM	0	0	0	0	0	1	0	0	0	0	3	0	4	0
7:45 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**5**	12
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**3**	13
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**3**	15
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**12**
8:45 AM	0	0	0	0	0	0	0	2	0	2	2	0	6	13
Count Total	0	1	0	0	0	1	0	4	2	10	7	0	25	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**6**	**1**	**0**	**12**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

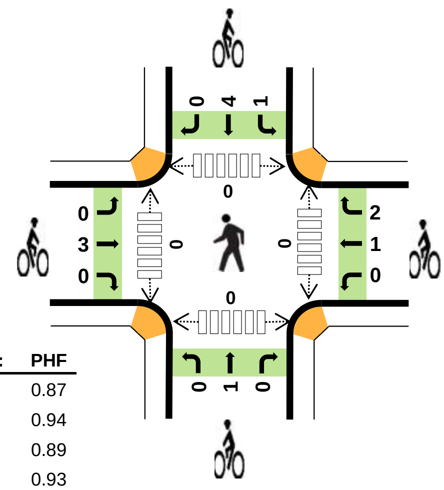
Airport Blvd
Sister Cities Blvd

Date: 08/31/2016
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

Peak Hour



	HV %:	PHF
EB	1.3%	0.87
WB	1.7%	0.94
NB	1.9%	0.89
SB	2.6%	0.93
TOTAL	1.9%	0.96



Two-Hour Count Summaries

Interval Start	Sister Cities Blvd Eastbound UT	LT	TH	RT	Sister Cities Blvd Westbound UT	LT	TH	RT	Airport Blvd Northbound UT	LT	TH	RT	Airport Blvd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	19	74	8	0	41	121	17	5	6	42	33	0	32	88	94	580	0
4:15 PM	0	18	78	4	0	29	156	11	2	7	41	41	0	18	72	87	564	0
4:30 PM	0	24	84	11	0	39	187	11	1	8	46	56	0	28	90	89	674	0
4:45 PM	**0**	**39**	**91**	**7**	**0**	**52**	**194**	**14**	**3**	**6**	**49**	**50**	**0**	**34**	**80**	**97**	**716**	2,534
5:00 PM	**0**	**27**	**92**	**1**	**0**	**50**	**231**	**5**	**1**	**22**	**60**	**66**	**0**	**28**	**114**	**112**	**809**	2,763
5:15 PM	**1**	**28**	**79**	**7**	**0**	**47**	**234**	**24**	**4**	**8**	**78**	**58**	**0**	**18**	**107**	**111**	**804**	3,003
5:30 PM	**0**	**27**	**74**	**6**	**0**	**45**	**235**	**17**	**4**	**9**	**62**	**51**	**0**	**25**	**104**	**110**	**769**	**3,098**
5:45 PM	0	22	103	9	0	42	188	24	1	13	63	43	0	30	87	89	714	3,096
Count Total	1	204	675	53	0	345	1,546	123	21	79	441	398	0	213	742	789	5,630	0
Peak Hour All	**1**	**121**	**336**	**21**	**0**	**194**	**894**	**60**	**12**	**45**	**249**	**225**	**0**	**105**	**405**	**430**	**3,098**	**0**
Peak Hour HV	**0**	**2**	**4**	**0**	**0**	**2**	**10**	**8**	**0**	**1**	**6**	**3**	**0**	**11**	**8**	**5**	**60**	**0**
Peak Hour HV%	**0%**	**2%**	**1%**	**0%**	**-**	**1%**	**1%**	**13%**	**0%**	**2%**	**2%**	**1%**	**-**	**10%**	**2%**	**1%**	**2%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	3	4	7	9	*23*	0	0	2	2	*4*	0	0	0	5	*5*
4:15 PM	4	5	2	4	*15*	0	0	0	2	*2*	0	0	0	0	*0*
4:30 PM	6	1	2	5	*14*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	**3**	**8**	**3**	**8**	***22***	**0**	**2**	**0**	**1**	***3***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**1**	**5**	**2**	**6**	***14***	**3**	**1**	**0**	**2**	***6***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**2**	**3**	**4**	**3**	***12***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
5:30 PM	**0**	**4**	**1**	**7**	***12***	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**0**	***0***
5:45 PM	4	3	3	5	*15*	0	1	2	2	*5*	0	0	0	0	*0*
Count Total	23	33	24	47	*127*	3	4	5	11	*23*	0	0	0	5	*5*
Peak Hour	**6**	**20**	**10**	**24**	***60***	**3**	**3**	**1**	**5**	***12***	**0**	**0**	**0**	**0**	***0***

Deon Fouche: 415 - 757 - 7714
deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Sister Cities Blvd Eastbound				Sister Cities Blvd Westbound				Airport Blvd Northbound				Airport Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	3	0	0	2	1	1	0	0	4	3	0	6	3	0	23	0
4:15 PM	0	0	4	0	0	1	3	1	0	0	1	1	0	0	2	2	15	0
4:30 PM	0	3	2	1	0	1	0	0	0	0	1	1	0	4	0	1	14	0
4:45 PM	**0**	**0**	**3**	**0**	**0**	**1**	**3**	**4**	**0**	**0**	**2**	**1**	**0**	**6**	**1**	**1**	**22**	74
5:00 PM	**0**	**1**	**0**	**0**	**0**	**1**	**3**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	**2**	**1**	**14**	65
5:15 PM	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**1**	**0**	**1**	**3**	**0**	**0**	**2**	**1**	**0**	**12**	62
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**4**	**3**	**12**	**60**
5:45 PM	0	1	3	0	0	0	2	1	0	0	2	1	0	4	1	0	15	53
Count Total	0	6	16	1	0	6	16	11	0	1	14	9	0	25	14	8	127	0
Peak Hour	**0**	**2**	**4**	**0**	**0**	**2**	**10**	**8**	**0**	**1**	**6**	**3**	**0**	**11**	**8**	**5**	**60**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Sister Cities Blvd Eastbound			Sister Cities Blvd Westbound			Airport Blvd Northbound			Airport Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	2	0	0	2	0	4	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	9
5:00 PM	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**6**	11
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	10
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**2**	**12**
5:45 PM	0	0	0	1	0	0	0	2	0	0	2	0	5	14
Count Total	0	3	0	1	1	2	0	5	0	1	10	0	23	0
Peak Hour	**0**	**3**	**0**	**0**	**1**	**2**	**0**	**1**	**0**	**1**	**4**	**0**	**12**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

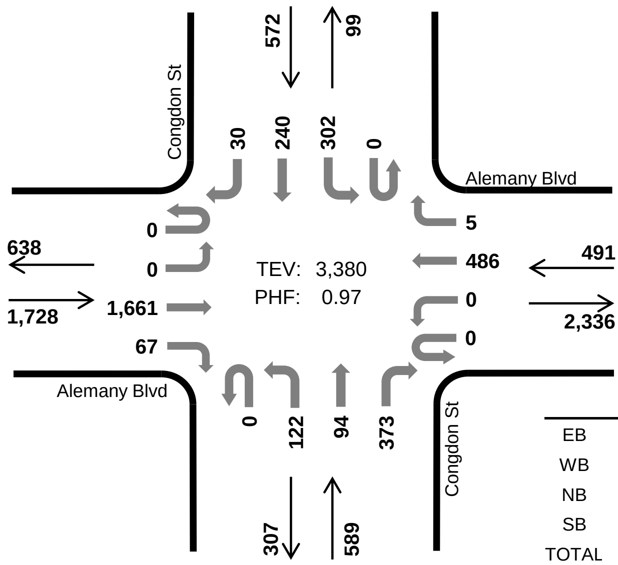
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

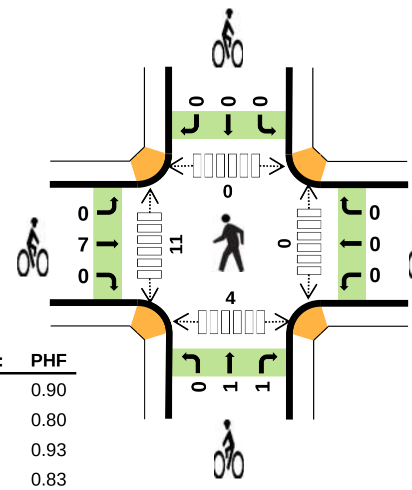
Congdon St
Alemany Blvd

Date: 08/31/2016
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM

N

Peak Hour





	HV %:	PHF
EB	2.1%	0.90
WB	5.9%	0.80
NB	1.0%	0.93
SB	2.3%	0.83
TOTAL	2.5%	0.97

Two-Hour Count Summaries

Interval Start		Alemany Blvd Eastbound				Alemany Blvd Westbound				Congdon St Northbound				Congdon St Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	218	4	0	0	78	0	0	33	13	110	0	48	45	4	553	0
7:15 AM		0	0	343	8	0	0	115	0	0	40	16	99	0	44	61	3	729	0
7:30 AM		**0**	**0**	**393**	**12**	**0**	**0**	**108**	**0**	**0**	**34**	**14**	**102**	**0**	**65**	**54**	**7**	**789**	0
7:45 AM		**0**	**0**	**411**	**14**	**0**	**0**	**150**	**3**	**0**	**27**	**34**	**97**	**0**	**64**	**60**	**11**	**871**	2,942
8:00 AM		**0**	**0**	**398**	**22**	**0**	**0**	**121**	**2**	**0**	**29**	**21**	**87**	**0**	**90**	**74**	**8**	**852**	3,241
8:15 AM		**0**	**0**	**459**	**19**	**0**	**0**	**107**	**0**	**0**	**32**	**25**	**87**	**0**	**83**	**52**	**4**	**868**	**3,380**
8:30 AM		0	0	354	16	1	0	118	2	0	40	20	83	0	67	59	7	767	3,358
8:45 AM		0	0	296	24	0	0	100	0	0	43	19	82	0	59	52	7	682	3,169
Count Total		0	0	2,872	119	1	0	897	7	0	278	162	747	0	520	457	51	6,111	0
Peak Hour	**All**	**0**	**0**	**1,661**	**67**	**0**	**0**	**486**	**5**	**0**	**122**	**94**	**373**	**0**	**302**	**240**	**30**	**3,380**	**0**
	HV	**0**	**0**	**35**	**2**	**0**	**0**	**29**	**0**	**0**	**1**	**0**	**5**	**0**	**5**	**8**	**0**	**85**	**0**
	HV%	**-**	**-**	**2%**	**3%**	**-**	**-**	**6%**	**0%**	**-**	**1%**	**0%**	**1%**	**-**	**2%**	**3%**	**0%**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	3	11	3	2	*19*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	6	9	0	6	*21*	1	0	2	0	*3*	0	1	0	1	*2*
7:30 AM	**5**	**10**	**0**	**4**	***19***	**2**	**0**	**1**	**0**	***3***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**10**	**8**	**2**	**3**	***23***	**2**	**0**	**0**	**0**	***2***	**0**	**3**	**0**	**2**	*5*
8:00 AM	**12**	**4**	**3**	**1**	***20***	**1**	**0**	**0**	**0**	***1***	**0**	**8**	**0**	**1**	*9*
8:15 AM	**10**	**7**	**1**	**5**	***23***	**2**	**0**	**1**	**0**	***3***	**0**	**0**	**0**	**1**	***1***
8:30 AM	8	10	3	2	*23*	2	0	1	0	*3*	0	3	0	0	*3*
8:45 AM	8	5	4	5	*22*	2	0	1	0	*3*	0	5	0	0	*5*
Count Total	62	64	16	28	*170*	12	0	6	0	*18*	0	20	0	5	*25*
Peak Hour	**37**	**29**	**6**	**13**	***85***	**7**	**0**	**2**	**0**	***9***	**0**	**11**	**0**	**4**	***15***

Deon Fouche: 415 - 757 - 7714
deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Alemany Blvd				Alemany Blvd				Congdon St				Congdon St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	3	0	0	0	11	0	0	0	2	1	0	1	1	0	19	0
7:15 AM	0	0	5	1	0	0	9	0	0	0	0	0	0	2	3	1	21	0
7:30 AM	**0**	**0**	**5**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**19**	0
7:45 AM	**0**	**0**	**9**	**1**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**2**	**0**	**23**	82
8:00 AM	**0**	**0**	**12**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**0**	**20**	83
8:15 AM	**0**	**0**	**9**	**1**	**0**	**0**	**7**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**3**	**0**	**23**	**85**
8:30 AM	0	0	8	0	1	0	9	0	0	0	0	3	0	1	1	0	23	89
8:45 AM	0	0	8	0	0	0	5	0	0	1	1	2	0	3	2	0	22	88
Count Total	0	0	59	3	1	0	63	0	0	2	3	11	0	12	15	1	170	0
Peak Hour	**0**	**0**	**35**	**2**	**0**	**0**	**29**	**0**	**0**	**1**	**0**	**5**	**0**	**5**	**8**	**0**	**85**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Alemany Blvd			Alemany Blvd			Congdon St			Congdon St			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	0	2	0	0	0	0	3	0
7:30 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	0
7:45 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	8
8:00 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	9
8:15 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**9**
8:30 AM	0	2	0	0	0	0	1	0	0	0	0	0	3	9
8:45 AM	0	2	0	0	0	0	0	0	1	0	0	0	3	10
Count Total	0	11	1	0	0	0	1	3	2	0	0	0	18	0
Peak Hour	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**9**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

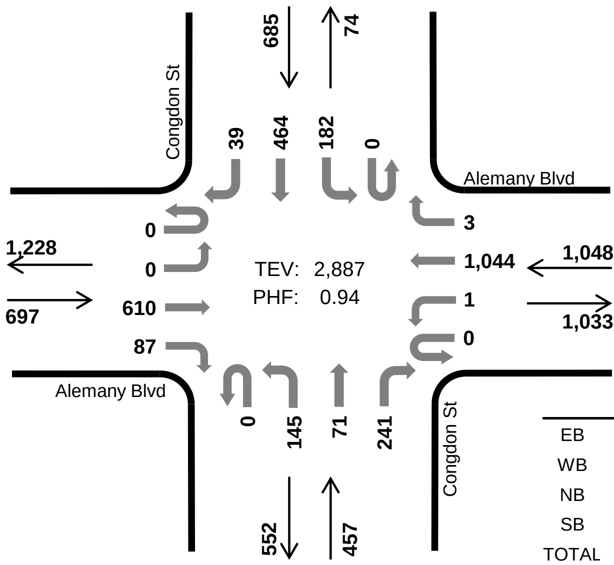
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

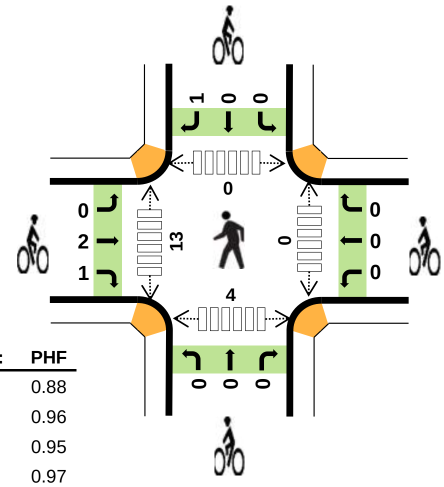
Congdon St
Alemany Blvd

Date: 08/31/2016
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM

N

Peak Hour





	HV %:	PHF
EB	1.9%	0.88
WB	0.7%	0.96
NB	0.2%	0.95
SB	1.2%	0.97
TOTAL	1.0%	0.94

Two-Hour Count Summaries

Interval Start		Alemany Blvd Eastbound				Alemany Blvd Westbound				Congdon St Northbound				Congdon St Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	133	21	0	0	178	1	0	27	13	81	0	40	89	7	590	0
4:15 PM		0	0	159	11	0	0	180	2	0	21	18	53	0	38	96	3	581	0
4:30 PM		0	0	129	13	0	0	272	1	0	36	15	73	0	43	131	9	722	0
4:45 PM		0	0	133	19	0	0	242	0	0	32	13	63	0	42	103	5	652	2,545
5:00 PM		**0**	**0**	**147**	**23**	**0**	**1**	**247**	**1**	**0**	**32**	**19**	**62**	**0**	**50**	**111**	**13**	**706**	2,661
5:15 PM		**0**	**0**	**174**	**24**	**0**	**0**	**273**	**0**	**0**	**33**	**23**	**60**	**0**	**47**	**119**	**11**	**764**	2,844
5:30 PM		**0**	**0**	**148**	**22**	**0**	**0**	**260**	**0**	**0**	**29**	**14**	**65**	**0**	**44**	**121**	**4**	**707**	2,829
5:45 PM		**0**	**0**	**141**	**18**	**0**	**0**	**264**	**2**	**0**	**51**	**15**	**54**	**0**	**41**	**113**	**11**	**710**	**2,887**
Count Total		0	0	1,164	151	0	1	1,916	7	0	261	130	511	0	345	883	63	5,432	0
Peak Hour	**All**	**0**	**0**	**610**	**87**	**0**	**1**	**1,044**	**3**	**0**	**145**	**71**	**241**	**0**	**182**	**464**	**39**	**2,887**	**0**
	HV	**0**	**0**	**13**	**0**	**0**	**0**	**7**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**7**	**0**	**29**	**0**
	HV%	**-**	**-**	**2%**	**0%**	**-**	**0%**	**1%**	**0%**	**-**	**1%**	**0%**	**0%**	**-**	**1%**	**2%**	**0%**	**1%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	7	1	3	4	*15*	1	0	0	0	*1*	0	0	0	0	*0*
4:15 PM	7	2	0	6	*15*	2	0	0	0	*2*	0	4	0	0	*4*
4:30 PM	10	8	1	2	*21*	1	0	1	0	*2*	0	3	0	1	*4*
4:45 PM	3	3	0	2	*8*	1	0	0	0	*1*	0	2	0	0	*2*
5:00 PM	**3**	**4**	**0**	**0**	***7***	**1**	**0**	**0**	**1**	***2***	**0**	**3**	**0**	**0**	*3*
5:15 PM	**4**	**2**	**0**	**1**	***7***	**2**	**0**	**0**	**0**	***2***	**0**	**1**	**0**	**4**	*5*
5:30 PM	**2**	**0**	**1**	**3**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**4**	**0**	**0**	*4*
5:45 PM	**4**	**1**	**0**	**4**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**5**	**0**	**0**	***5***
Count Total	40	21	5	22	*88*	8	0	1	1	*10*	0	22	0	5	*27*
Peak Hour	**13**	**7**	**1**	**8**	***29***	**3**	**0**	**0**	**1**	***4***	**0**	**13**	**0**	**4**	***17***

Deon Fouche: 415 - 757 - 7714
deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Alemany Blvd				Alemany Blvd				Congdon St				Congdon St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	7	0	0	0	1	0	0	0	1	2	0	0	4	0	15	0
4:15 PM	0	0	7	0	0	0	2	0	0	0	0	0	0	2	4	0	15	0
4:30 PM	0	0	9	1	0	0	8	0	0	0	0	1	0	0	2	0	21	0
4:45 PM	0	0	3	0	0	0	3	0	0	0	0	0	0	0	2	0	8	59
5:00 PM	**0**	**0**	**3**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	51
5:15 PM	**0**	**0**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**7**	43
5:30 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**2**	**0**	**6**	28
5:45 PM	**0**	**0**	**4**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**9**	**29**
Count Total	0	0	39	1	0	0	21	0	0	1	1	3	0	3	19	0	88	0
Peak Hour	**0**	**0**	**13**	**0**	**0**	**0**	**7**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**7**	**0**	**29**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Alemany Blvd			Alemany Blvd			Congdon St			Congdon St			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	1	1	0	0	0	0	0	0	0	0	0	2	0
4:30 PM	0	1	0	0	0	0	0	1	0	0	0	0	2	0
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	6
5:00 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	7
5:15 PM	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	7
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	5
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
Count Total	0	6	2	0	0	0	0	1	0	0	0	1	10	0
Peak Hour	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**0**

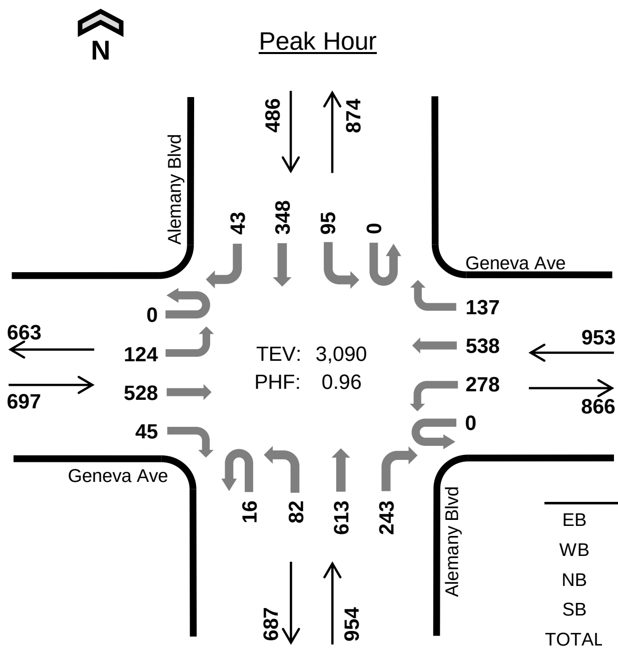
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714

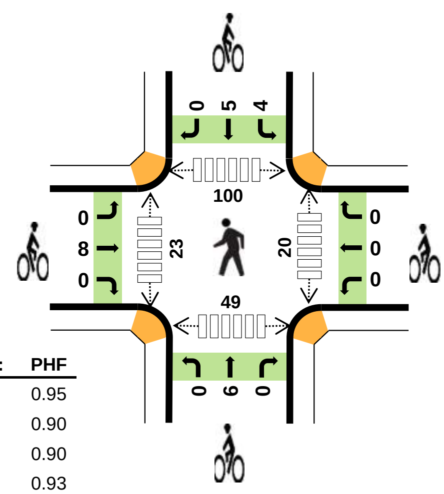
deon.fouche@idaxdata.com

Alemany Blvd
Geneva Ave

Date: 08/31/2016
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	7.5%	0.95
WB	4.8%	0.90
NB	2.2%	0.90
SB	3.1%	0.93
TOTAL	4.3%	0.96



Two-Hour Count Summaries

Interval Start	Geneva Ave Eastbound UT	LT	TH	RT	Geneva Ave Westbound UT	LT	TH	RT	Alemany Blvd Northbound UT	LT	TH	RT	Alemany Blvd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	20	78	6	0	62	136	19	0	16	69	29	0	10	43	3	491	0
7:15 AM	0	26	78	9	1	75	163	44	2	14	114	48	0	17	44	6	641	0
7:30 AM	**0**	**27**	**127**	**4**	**0**	**71**	**150**	**43**	**2**	**24**	**178**	**61**	**0**	**19**	**93**	**5**	**804**	0
7:45 AM	**0**	**22**	**144**	**15**	**0**	**74**	**138**	**49**	**2**	**20**	**167**	**56**	**0**	**18**	**85**	**12**	**802**	2,738
8:00 AM	**0**	**37**	**132**	**14**	**0**	**65**	**123**	**30**	**7**	**11**	**151**	**61**	**0**	**34**	**83**	**14**	**762**	3,009
8:15 AM	**0**	**38**	**125**	**12**	**0**	**68**	**127**	**15**	**5**	**27**	**117**	**65**	**0**	**24**	**87**	**12**	**722**	**3,090**
8:30 AM	0	25	127	7	0	60	141	34	1	12	106	36	0	22	88	10	669	2,955
8:45 AM	0	23	129	6	0	68	139	42	0	14	92	35	0	20	77	13	658	2,811
Count Total	0	218	940	73	1	543	1,117	276	19	138	994	391	0	164	600	75	5,549	0
Peak Hour All	**0**	**124**	**528**	**45**	**0**	**278**	**538**	**137**	**16**	**82**	**613**	**243**	**0**	**95**	**348**	**43**	**3,090**	**0**
Peak Hour HV	**0**	**4**	**46**	**2**	**0**	**10**	**35**	**1**	**0**	**0**	**15**	**6**	**0**	**4**	**10**	**1**	**134**	**0**
Peak Hour HV%	**-**	**3%**	**9%**	**4%**	**-**	**4%**	**7%**	**1%**	**0%**	**0%**	**2%**	**2%**	**-**	**4%**	**3%**	**2%**	**4%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	15	10	2	2	*29*	2	1	1	4	*8*	3	0	10	6	*19*
7:15 AM	7	15	8	1	*31*	0	0	2	1	*3*	3	4	18	8	*33*
7:30 AM	**16**	**8**	**4**	**2**	***30***	**4**	**0**	**3**	**4**	***11***	**3**	**6**	**27**	**14**	*50*
7:45 AM	**11**	**14**	**8**	**6**	***39***	**2**	**0**	**2**	**2**	***6***	**6**	**5**	**31**	**9**	*51*
8:00 AM	**13**	**12**	**6**	**4**	***35***	**1**	**0**	**0**	**3**	***4***	**1**	**11**	**23**	**16**	*51*
8:15 AM	**12**	**12**	**3**	**3**	***30***	**1**	**0**	**1**	**0**	***2***	**10**	**1**	**19**	**10**	*40*
8:30 AM	10	12	6	5	*33*	1	1	1	1	*4*	9	3	25	7	*44*
8:45 AM	8	13	4	2	*27*	1	0	0	1	*2*	4	1	23	12	*40*
Count Total	92	96	41	25	*254*	12	2	10	16	*40*	39	31	176	82	*328*
Peak Hour	**52**	**46**	**21**	**15**	***134***	**8**	**0**	**6**	**9**	***23***	**20**	**23**	**100**	**49**	***192***

Deon Fouche: 415 - 757 - 7714
deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Geneva Ave Eastbound UT	LT	TH	RT	Geneva Ave Westbound UT	LT	TH	RT	Alemany Blvd Northbound UT	LT	TH	RT	Alemany Blvd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	1	14	0	0	0	10	0	0	1	1	0	0	0	2	0	29	0
7:15 AM	0	0	7	0	0	4	11	0	0	0	7	1	0	1	0	0	31	0
7:30 AM	**0**	**1**	**14**	**1**	**0**	**2**	**6**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**2**	**0**	**30**	0
7:45 AM	**0**	**0**	**11**	**0**	**0**	**1**	**12**	**1**	**0**	**0**	**5**	**3**	**0**	**2**	**4**	**0**	**39**	129
8:00 AM	**0**	**1**	**11**	**1**	**0**	**5**	**7**	**0**	**0**	**0**	**4**	**2**	**0**	**1**	**2**	**1**	**35**	135
8:15 AM	**0**	**2**	**10**	**0**	**0**	**2**	**10**	**0**	**0**	**0**	**2**	**1**	**0**	**1**	**2**	**0**	**30**	**134**
8:30 AM	0	0	10	0	0	2	8	2	0	0	5	1	0	1	3	1	33	137
8:45 AM	0	3	5	0	0	2	9	2	0	0	4	0	0	1	1	0	27	125
Count Total	0	8	82	2	0	18	73	5	0	1	32	8	0	7	16	2	254	0
Peak Hour	**0**	**4**	**46**	**2**	**0**	**10**	**35**	**1**	**0**	**0**	**15**	**6**	**0**	**4**	**10**	**1**	**134**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Geneva Ave Eastbound LT	TH	RT	Geneva Ave Westbound LT	TH	RT	Alemany Blvd Northbound LT	TH	RT	Alemany Blvd Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	2	0	0	1	0	0	1	0	2	2	0	8	0
7:15 AM	0	0	0	0	0	0	0	1	1	0	1	0	3	0
7:30 AM	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**2**	**2**	**0**	**11**	0
7:45 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**1**	**0**	**6**	28
8:00 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**4**	24
8:15 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**23**
8:30 AM	0	1	0	0	1	0	0	1	0	1	0	0	4	16
8:45 AM	0	1	0	0	0	0	0	0	0	0	1	0	2	12
Count Total	0	12	0	0	2	0	0	9	1	7	9	0	40	0
Peak Hour	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**4**	**5**	**0**	**23**	**0**

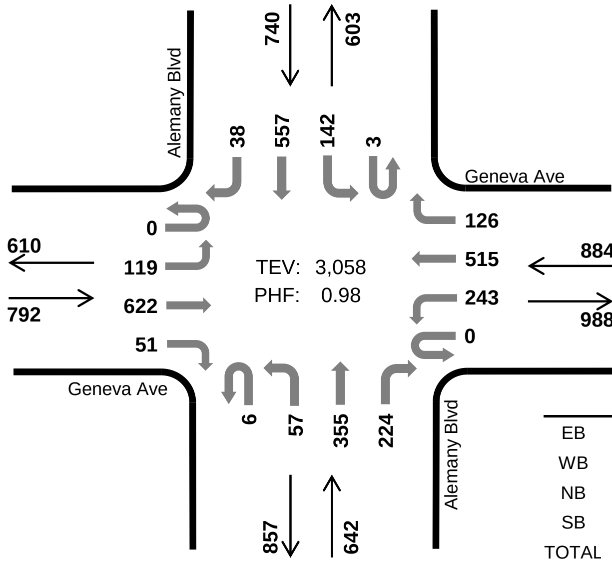
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714

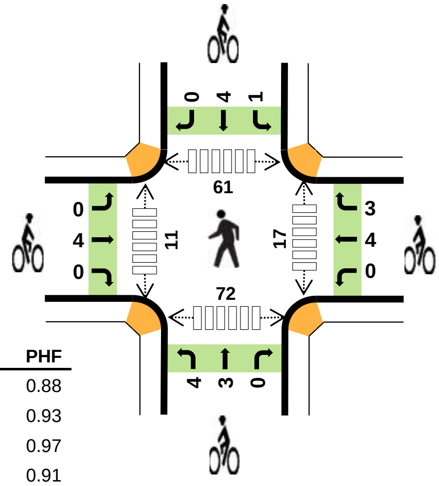
deon.fouche@idaxdata.com

Alemany Blvd
Geneva Ave

Date: 08/31/2016
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	5.1%	0.88
WB	3.4%	0.93
NB	1.9%	0.97
SB	0.7%	0.91
TOTAL	2.8%	0.98



Two-Hour Count Summaries

Interval Start	Geneva Ave Eastbound UT	LT	TH	RT	Geneva Ave Westbound UT	LT	TH	RT	Alemany Blvd Northbound UT	LT	TH	RT	Alemany Blvd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	35	150	17	0	49	109	25	3	13	89	49	1	23	82	9	654	0
4:15 PM	0	28	154	12	0	54	119	24	4	14	67	41	0	17	75	11	620	0
4:30 PM	0	27	140	15	0	68	125	25	5	13	75	36	0	27	87	11	654	0
4:45 PM	0	30	127	18	0	77	133	23	2	19	90	55	0	36	87	12	709	2,637
5:00 PM	**0**	**36**	**178**	**12**	**0**	**53**	**112**	**33**	**0**	**15**	**92**	**44**	**3**	**38**	**141**	**13**	**770**	2,753
5:15 PM	**0**	**29**	**148**	**13**	**0**	**66**	**132**	**34**	**2**	**18**	**87**	**59**	**0**	**33**	**124**	**6**	**751**	2,884
5:30 PM	**0**	**31**	**164**	**13**	**0**	**67**	**140**	**30**	**3**	**6**	**91**	**61**	**0**	**33**	**136**	**9**	**784**	3,014
5:45 PM	**0**	**23**	**132**	**13**	**0**	**57**	**131**	**29**	**1**	**18**	**85**	**60**	**0**	**38**	**156**	**10**	**753**	**3,058**
Count Total	0	239	1,193	113	0	491	1,001	223	20	116	676	405	4	245	888	81	5,695	0
Peak Hour All	**0**	**119**	**622**	**51**	**0**	**243**	**515**	**126**	**6**	**57**	**355**	**224**	**3**	**142**	**557**	**38**	**3,058**	**0**
Peak Hour HV	**0**	**3**	**37**	**0**	**0**	**2**	**24**	**4**	**0**	**1**	**9**	**2**	**0**	**3**	**2**	**0**	**87**	**0**
Peak Hour HV%	**-**	**3%**	**6%**	**0%**	**-**	**1%**	**5%**	**3%**	**0%**	**2%**	**3%**	**1%**	**0%**	**2%**	**0%**	**0%**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	9	8	5	1	*23*	0	1	2	0	*3*	8	1	12	8	*29*
4:15 PM	13	9	5	1	*28*	0	0	2	0	*2*	6	2	7	18	*33*
4:30 PM	11	12	3	2	*28*	3	0	0	0	*3*	6	4	9	9	*28*
4:45 PM	11	11	6	1	*29*	1	0	0	3	*4*	3	2	9	3	*17*
5:00 PM	**9**	**8**	**3**	**3**	***23***	**1**	**0**	**4**	**1**	***6***	**6**	**0**	**15**	**17**	*38*
5:15 PM	**7**	**9**	**3**	**0**	***19***	**1**	**1**	**2**	**0**	***4***	**5**	**5**	**17**	**27**	*54*
5:30 PM	**13**	**8**	**3**	**0**	***24***	**0**	**5**	**1**	**3**	***9***	**3**	**4**	**16**	**18**	*41*
5:45 PM	**11**	**5**	**3**	**2**	***21***	**2**	**1**	**0**	**1**	***4***	**3**	**2**	**13**	**10**	***28***
Count Total	84	70	31	10	*195*	8	8	11	8	*35*	40	20	98	110	*268*
Peak Hour	**40**	**30**	**12**	**5**	***87***	**4**	**7**	**7**	**5**	***23***	**17**	**11**	**61**	**72**	***161***

Deon Fouche: 415 - 757 - 7714
deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Geneva Ave Eastbound UT	LT	TH	RT	Geneva Ave Westbound UT	LT	TH	RT	Alemany Blvd Northbound UT	LT	TH	RT	Alemany Blvd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	1	8	0	0	1	7	0	0	0	4	1	0	0	1	0	23	0
4:15 PM	0	0	12	1	0	0	8	1	0	0	4	1	0	0	1	0	28	0
4:30 PM	0	0	9	2	0	2	9	1	0	0	2	1	0	1	1	0	28	0
4:45 PM	0	0	11	0	0	1	10	0	0	0	2	4	0	0	1	0	29	108
5:00 PM	**0**	**0**	**9**	**0**	**0**	**1**	**6**	**1**	**0**	**0**	**3**	**0**	**0**	**2**	**1**	**0**	**23**	108
5:15 PM	**0**	**0**	**7**	**0**	**0**	**1**	**6**	**2**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**19**	99
5:30 PM	**0**	**2**	**11**	**0**	**0**	**0**	**7**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**24**	95
5:45 PM	**0**	**1**	**10**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**2**	**1**	**0**	**1**	**1**	**0**	**21**	**87**
Count Total	0	4	77	3	0	6	58	6	0	1	21	9	0	4	6	0	195	0
Peak Hour	**0**	**3**	**37**	**0**	**0**	**2**	**24**	**4**	**0**	**1**	**9**	**2**	**0**	**3**	**2**	**0**	**87**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Geneva Ave Eastbound LT	TH	RT	Geneva Ave Westbound LT	TH	RT	Alemany Blvd Northbound LT	TH	RT	Alemany Blvd Southbound LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	0	1	0	0	0	2	0	0	0	0	3	0
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	0
4:30 PM	0	3	0	0	0	0	0	0	0	0	0	0	3	0
4:45 PM	0	1	0	0	0	0	0	0	0	0	3	0	4	12
5:00 PM	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**1**	**0**	**1**	**0**	**0**	**6**	15
5:15 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**4**	17
5:30 PM	**0**	**0**	**0**	**0**	**3**	**2**	**1**	**0**	**0**	**0**	**3**	**0**	**9**	23
5:45 PM	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**23**
Count Total	0	8	0	1	4	3	4	7	0	1	7	0	35	0
Peak Hour	**0**	**4**	**0**	**0**	**4**	**3**	**4**	**3**	**0**	**1**	**4**	**0**	**23**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

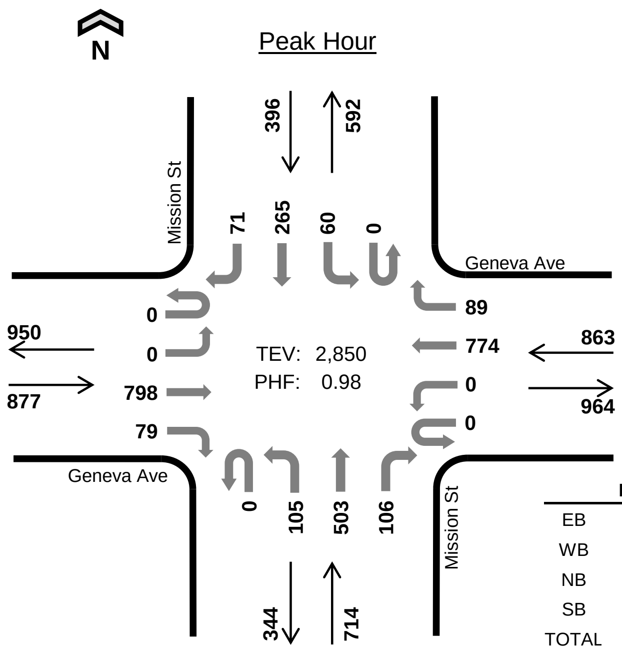
Deon Fouche: 415 - 757 - 7714

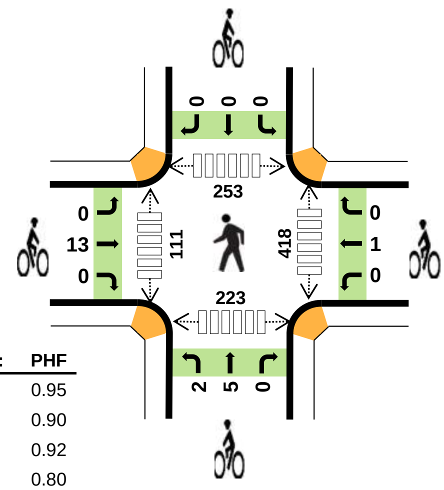
deon.fouche@idaxdata.com

Mission St
Geneva Ave

Date: 08/31/2016
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM

Peak Hour





	HV %:	PHF
EB	6.3%	0.95
WB	5.2%	0.90
NB	5.5%	0.92
SB	7.6%	0.80
TOTAL	5.9%	0.98

Two-Hour Count Summaries

Interval Start	Geneva Ave Eastbound UT	LT	TH	RT	Geneva Ave Westbound UT	LT	TH	RT	Mission St Northbound UT	LT	TH	RT	Mission St Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	101	16	0	0	179	13	0	34	99	12	0	7	29	14	504	0
7:15 AM	0	0	124	11	0	0	209	18	0	39	119	22	0	9	32	11	594	0
7:30 AM	**0**	**0**	**182**	**27**	**0**	**0**	**218**	**23**	**0**	**32**	**129**	**32**	**0**	**15**	**54**	**18**	**730**	0
7:45 AM	**0**	**0**	**201**	**11**	**0**	**0**	**207**	**20**	**0**	**31**	**116**	**25**	**0**	**9**	**60**	**12**	**692**	2,520
8:00 AM	**0**	**0**	**206**	**20**	**0**	**0**	**179**	**23**	**0**	**20**	**137**	**24**	**0**	**20**	**62**	**22**	**713**	2,729
8:15 AM	**0**	**0**	**209**	**21**	**0**	**0**	**170**	**23**	**0**	**22**	**121**	**25**	**0**	**16**	**89**	**19**	**715**	**2,850**
8:30 AM	0	0	158	25	0	0	180	9	0	29	113	19	0	12	71	18	634	2,754
8:45 AM	0	0	152	26	0	0	179	17	0	31	89	20	0	10	53	21	598	2,660
Count Total	0	0	1,333	157	0	0	1,521	146	0	238	923	179	0	98	450	135	5,180	0
Peak Hour All	**0**	**0**	**798**	**79**	**0**	**0**	**774**	**89**	**0**	**105**	**503**	**106**	**0**	**60**	**265**	**71**	**2,850**	**0**
Peak Hour HV	**0**	**0**	**48**	**7**	**0**	**0**	**40**	**5**	**0**	**5**	**28**	**6**	**0**	**3**	**20**	**7**	**169**	**0**
Peak Hour HV%	**-**	**-**	**6%**	**9%**	**-**	**-**	**5%**	**6%**	**-**	**5%**	**6%**	**6%**	**-**	**5%**	**8%**	**10%**	**6%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	12	7	9	6	*34*	5	0	0	0	*5*	77	27	42	46	*192*
7:15 AM	8	12	9	4	*33*	1	0	2	0	*3*	94	22	51	54	*221*
7:30 AM	**13**	**8**	**8**	**7**	***36***	**5**	**1**	**4**	**0**	***10***	**88**	**21**	**61**	**40**	*210*
7:45 AM	**16**	**11**	**10**	**4**	***41***	**4**	**0**	**1**	**0**	***5***	**132**	**35**	**85**	**60**	*312*
8:00 AM	**14**	**12**	**14**	**8**	***48***	**3**	**0**	**1**	**0**	***4***	**102**	**19**	**55**	**46**	*222*
8:15 AM	**12**	**14**	**7**	**11**	***44***	**1**	**0**	**1**	**0**	***2***	**96**	**36**	**52**	**77**	***261***
8:30 AM	12	8	13	7	*40*	3	0	0	0	*3*	102	25	47	56	*230*
8:45 AM	7	9	9	9	*34*	2	0	0	0	*2*	102	20	41	59	*222*
Count Total	94	81	79	56	*310*	24	1	9	0	*34*	793	205	434	438	*1,870*
Peak Hour	**55**	**45**	**39**	**30**	***169***	**13**	**1**	**7**	**0**	***21***	**418**	**111**	**253**	**223**	***1,005***

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deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Geneva Ave Eastbound				Geneva Ave Westbound				Mission St Northbound				Mission St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	11	1	0	0	7	0	0	1	8	0	0	0	4	2	34	0
7:15 AM	0	0	6	2	0	0	11	1	0	1	7	1	0	0	3	1	33	0
7:30 AM	**0**	**0**	**10**	**3**	**0**	**0**	**7**	**1**	**0**	**1**	**6**	**1**	**0**	**1**	**4**	**2**	**36**	0
7:45 AM	**0**	**0**	**15**	**1**	**0**	**0**	**10**	**1**	**0**	**0**	**8**	**2**	**0**	**0**	**3**	**1**	**41**	144
8:00 AM	**0**	**0**	**12**	**2**	**0**	**0**	**10**	**2**	**0**	**3**	**9**	**2**	**0**	**0**	**6**	**2**	**48**	158
8:15 AM	**0**	**0**	**11**	**1**	**0**	**0**	**13**	**1**	**0**	**1**	**5**	**1**	**0**	**2**	**7**	**2**	**44**	**169**
8:30 AM	0	0	8	4	0	0	6	2	0	1	11	1	0	3	3	1	40	173
8:45 AM	0	0	7	0	0	0	9	0	0	0	7	2	0	0	5	4	34	166
Count Total	0	0	80	14	0	0	73	8	0	8	61	10	0	6	35	15	310	0
Peak Hour	**0**	**0**	**48**	**7**	**0**	**0**	**40**	**5**	**0**	**5**	**28**	**6**	**0**	**3**	**20**	**7**	**169**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Geneva Ave Eastbound			Geneva Ave Westbound			Mission St Northbound			Mission St Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	5	0	0	0	0	0	0	0	0	0	0	5	0
7:15 AM	0	1	0	0	0	0	1	1	0	0	0	0	3	0
7:30 AM	**0**	**5**	**0**	**0**	**1**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**10**	0
7:45 AM	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	23
8:00 AM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	22
8:15 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**21**
8:30 AM	0	3	0	0	0	0	0	0	0	0	0	0	3	14
8:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	2	11
Count Total	0	24	0	0	1	0	3	6	0	0	0	0	34	0
Peak Hour	**0**	**13**	**0**	**0**	**1**	**0**	**2**	**5**	**0**	**0**	**0**	**0**	**21**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

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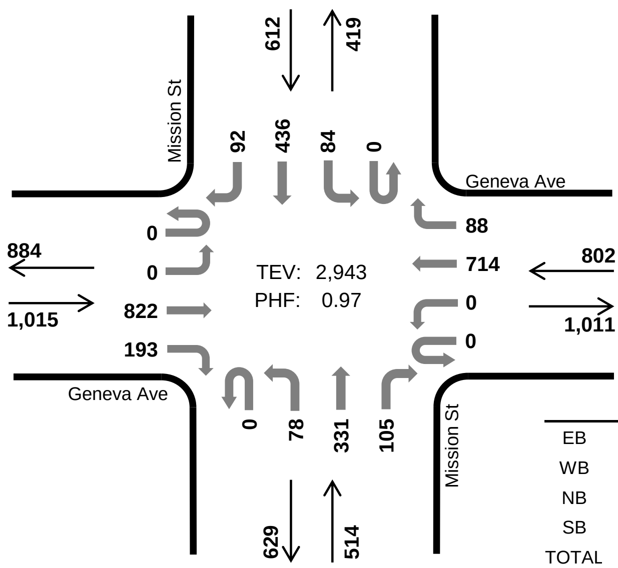
Mission St
Geneva Ave

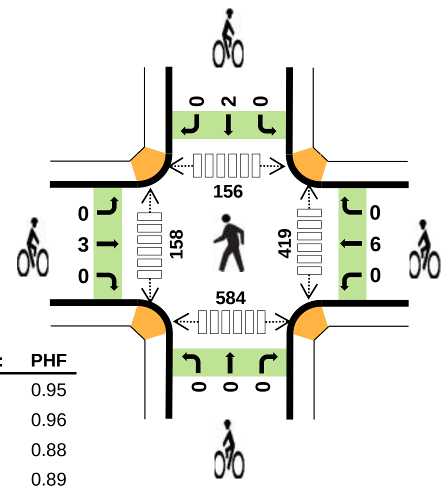
Date: 08/31/2016
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM

N

Peak Hour



	HV %:	PHF
EB	4.2%	0.95
WB	2.5%	0.96
NB	4.1%	0.88
SB	5.4%	0.89
TOTAL	4.0%	0.97



Two-Hour Count Summaries

Interval Start	Geneva Ave Eastbound UT	LT	TH	RT	Geneva Ave Westbound UT	LT	TH	RT	Mission St Northbound UT	LT	TH	RT	Mission St Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	181	44	0	0	126	21	0	24	78	28	0	17	88	28	635	0
4:15 PM	0	0	165	52	0	0	164	17	0	26	64	31	0	20	76	29	644	0
4:30 PM	0	0	174	45	0	0	168	23	0	20	73	29	0	20	87	29	668	0
4:45 PM	0	0	193	36	0	0	187	22	0	21	90	25	0	24	87	22	707	2,654
5:00 PM	**0**	**0**	**201**	**48**	**0**	**0**	**159**	**26**	**0**	**17**	**73**	**25**	**0**	**12**	**103**	**26**	**690**	2,709
5:15 PM	**0**	**0**	**202**	**53**	**0**	**0**	**186**	**22**	**0**	**25**	**69**	**28**	**0**	**27**	**110**	**22**	**744**	2,809
5:30 PM	**0**	**0**	**228**	**38**	**0**	**0**	**184**	**17**	**0**	**20**	**101**	**25**	**0**	**23**	**99**	**19**	**754**	2,895
5:45 PM	**0**	**0**	**191**	**54**	**0**	**0**	**185**	**23**	**0**	**16**	**88**	**27**	**0**	**22**	**124**	**25**	**755**	**2,943**
Count Total	0	0	1,535	370	0	0	1,359	171	0	169	636	218	0	165	774	200	5,597	0
Peak Hour All	**0**	**0**	**822**	**193**	**0**	**0**	**714**	**88**	**0**	**78**	**331**	**105**	**0**	**84**	**436**	**92**	**2,943**	**0**
Peak Hour HV	**0**	**0**	**30**	**13**	**0**	**0**	**20**	**0**	**0**	**1**	**20**	**0**	**0**	**4**	**24**	**5**	**117**	**0**
Peak Hour HV%	**-**	**-**	**4%**	**7%**	**-**	**-**	**3%**	**0%**	**-**	**1%**	**6%**	**0%**	**-**	**5%**	**6%**	**5%**	**4%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	10	7	6	8	*31*	2	1	0	1	*4*	99	48	30	126	*303*
4:15 PM	13	5	6	9	*33*	0	1	0	0	*1*	114	44	42	163	*363*
4:30 PM	11	10	7	14	*42*	4	2	0	0	*6*	116	31	46	167	*360*
4:45 PM	14	12	6	8	*40*	2	1	0	1	*4*	82	36	37	116	*271*
5:00 PM	**12**	**4**	**7**	**9**	***32***	**1**	**1**	**0**	**0**	***2***	**98**	**34**	**49**	**151**	*332*
5:15 PM	**9**	**7**	**6**	**8**	***30***	**1**	**2**	**0**	**1**	***4***	**107**	**49**	**43**	**141**	*340*
5:30 PM	**11**	**5**	**3**	**6**	***25***	**1**	**2**	**0**	**0**	***3***	**103**	**29**	**28**	**116**	*276*
5:45 PM	**11**	**4**	**5**	**10**	***30***	**0**	**1**	**0**	**1**	***2***	**111**	**46**	**36**	**176**	***369***
Count Total	91	54	46	72	*263*	11	11	0	4	*26*	830	317	311	1,156	*2,614*
Peak Hour	**43**	**20**	**21**	**33**	***117***	**3**	**6**	**0**	**2**	***11***	**419**	**158**	**156**	**584**	***1,317***

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Geneva Ave Eastbound				Geneva Ave Westbound				Mission St Northbound				Mission St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	8	2	0	0	7	0	0	0	4	2	0	2	3	3	31	0
4:15 PM	0	0	11	2	0	0	4	1	0	0	5	1	0	0	8	1	33	0
4:30 PM	0	0	7	4	0	0	9	1	0	1	6	0	0	2	10	2	42	0
4:45 PM	0	0	11	3	0	0	10	2	0	1	4	1	0	0	7	1	40	146
5:00 PM	**0**	**0**	**8**	**4**	**0**	**0**	**4**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**7**	**2**	**32**	147
5:15 PM	**0**	**0**	**6**	**3**	**0**	**0**	**7**	**0**	**0**	**1**	**5**	**0**	**0**	**2**	**5**	**1**	**30**	144
5:30 PM	**0**	**0**	**9**	**2**	**0**	**0**	**5**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**3**	**2**	**25**	127
5:45 PM	**0**	**0**	**7**	**4**	**0**	**0**	**4**	**0**	**0**	**0**	**5**	**0**	**0**	**1**	**9**	**0**	**30**	**117**
Count Total	0	0	67	24	0	0	50	4	0	3	39	4	0	8	52	12	263	0
Peak Hour	**0**	**0**	**30**	**13**	**0**	**0**	**20**	**0**	**0**	**1**	**20**	**0**	**0**	**4**	**24**	**5**	**117**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Geneva Ave Eastbound			Geneva Ave Westbound			Mission St Northbound			Mission St Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	2	0	0	1	0	0	0	0	0	1	0	4	0
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0
4:30 PM	0	4	0	0	1	1	0	0	0	0	0	0	6	0
4:45 PM	0	2	0	0	1	0	0	0	0	0	1	0	4	15
5:00 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	13
5:15 PM	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	16
5:30 PM	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	13
5:45 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**11**
Count Total	0	11	0	0	10	1	0	0	0	0	4	0	26	0
Peak Hour	**0**	**3**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**11**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

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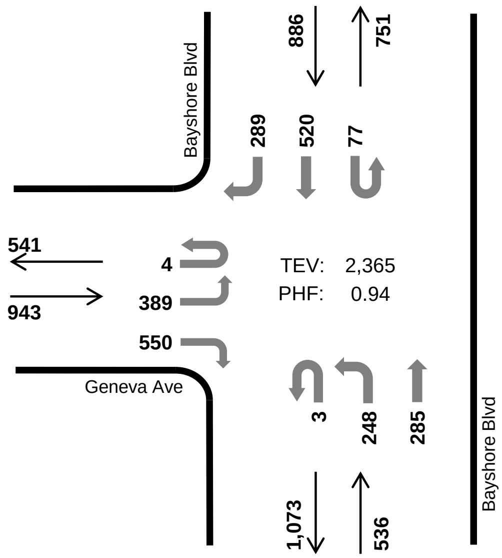
Bayshore Blvd
Geneva Ave

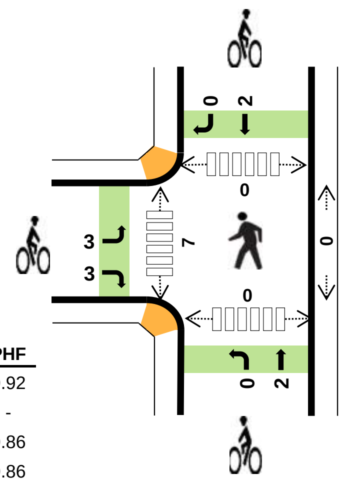
Date: 08/31/2016
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM

N

Peak Hour



	HV %:	PHF
EB	5.2%	0.92
WB	-	-
NB	11.2%	0.86
SB	6.0%	0.86
TOTAL	6.8%	0.94



Two-Hour Count Summaries

Interval Start	Geneva Ave Eastbound UT	LT	TH	RT	0 Westbound UT	LT	TH	RT	Bayshore Blvd Northbound UT	LT	TH	RT	Bayshore Blvd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	106	0	88	0	0	0	0	2	54	63	0	21	0	76	41	451	0
7:15 AM	4	103	0	120	0	0	0	0	2	55	61	0	16	0	129	53	543	0
7:30 AM	**1**	**104**	**0**	**151**	**0**	**0**	**0**	**0**	**0**	**48**	**52**	**0**	**14**	**0**	**111**	**63**	**544**	0
7:45 AM	**2**	**82**	**0**	**144**	**0**	**0**	**0**	**0**	**3**	**72**	**60**	**0**	**21**	**0**	**146**	**76**	**606**	2,144
8:00 AM	**0**	**92**	**0**	**125**	**0**	**0**	**0**	**0**	**0**	**70**	**86**	**0**	**16**	**0**	**150**	**91**	**630**	2,323
8:15 AM	**1**	**111**	**0**	**130**	**0**	**0**	**0**	**0**	**0**	**58**	**87**	**0**	**26**	**0**	**113**	**59**	**585**	**2,365**
8:30 AM	0	87	0	137	0	0	0	0	0	59	69	0	22	0	105	61	540	2,361
8:45 AM	2	91	0	118	0	0	0	0	0	51	58	0	23	0	104	44	491	2,246
Count Total	10	776	0	1,013	0	0	0	0	7	467	536	0	159	0	934	488	4,390	0
Peak Hour All	**4**	**389**	**0**	**550**	**0**	**0**	**0**	**0**	**3**	**248**	**285**	**0**	**77**	**0**	**520**	**289**	**2,365**	**0**
Peak Hour HV	**0**	**28**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**15**	**45**	**0**	**1**	**0**	**26**	**26**	**162**	**0**
Peak Hour HV%	**0%**	**7%**	**-**	**4%**	**-**	**-**	**-**	**-**	**0%**	**6%**	**16%**	**-**	**1%**	**-**	**5%**	**9%**	**7%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	8	0	21	12	*41*	1	0	1	4	*6*	0	5	0	0	*5*
7:15 AM	11	0	16	9	*36*	4	0	0	2	*6*	0	3	0	0	*3*
7:30 AM	**11**	**0**	**15**	**11**	***37***	**1**	**0**	**0**	**1**	***2***	**0**	**3**	**0**	**0**	*3*
7:45 AM	**6**	**0**	**12**	**12**	***30***	**2**	**0**	**0**	**0**	***2***	**0**	**2**	**0**	**0**	*2*
8:00 AM	**15**	**0**	**13**	**19**	***47***	**0**	**0**	**2**	**0**	***2***	**0**	**1**	**0**	**0**	*1*
8:15 AM	**17**	**0**	**20**	**11**	***48***	**3**	**0**	**0**	**1**	***4***	**0**	**1**	**0**	**0**	***1***
8:30 AM	16	0	12	11	*39*	0	0	0	0	*0*	0	4	0	0	*4*
8:45 AM	7	0	13	15	*35*	3	0	0	0	*3*	0	0	0	0	*0*
Count Total	91	0	122	100	*313*	14	0	3	8	*25*	0	19	0	0	*19*
Peak Hr	**49**	**0**	**60**	**53**	***162***	**6**	**0**	**2**	**2**	***10***	**0**	**7**	**0**	**0**	***7***

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Geneva Ave				0				Bayshore Blvd				Bayshore Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	6	0	2	0	0	0	0	1	2	18	0	0	0	5	7	41	0
7:15 AM	1	7	0	3	0	0	0	0	0	6	10	0	2	0	4	3	36	0
7:30 AM	**0**	**9**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**5**	**10**	**0**	**0**	**0**	**7**	**4**	**37**	0
7:45 AM	**0**	**3**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**4**	**8**	**0**	**0**	**0**	**6**	**6**	**30**	144
8:00 AM	**0**	**7**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**2**	**11**	**0**	**1**	**0**	**9**	**9**	**47**	150
8:15 AM	**0**	**9**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**4**	**16**	**0**	**0**	**0**	**4**	**7**	**48**	**162**
8:30 AM	0	6	0	10	0	0	0	0	0	4	8	0	0	0	5	6	39	164
8:45 AM	0	3	0	4	0	0	0	0	0	5	8	0	1	0	7	7	35	169
Count Total	1	50	0	40	0	0	0	0	1	32	89	0	4	0	47	49	313	0
Peak Hour	**0**	**28**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**15**	**45**	**0**	**1**	**0**	**26**	**26**	**162**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Geneva Ave			0			Bayshore Blvd			Bayshore Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	1	0	0	0	0	0	0	1	0	0	4	0	6	0
7:15 AM	2	0	2	0	0	0	0	0	0	0	2	0	6	0
7:30 AM	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	0
7:45 AM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	16
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	12
8:15 AM	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**10**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	8
8:45 AM	3	0	0	0	0	0	0	0	0	0	0	0	3	9
Count Total	9	0	5	0	0	0	0	3	0	0	8	0	25	0
Peak Hour	**3**	**0**	**3**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**10**	**0**

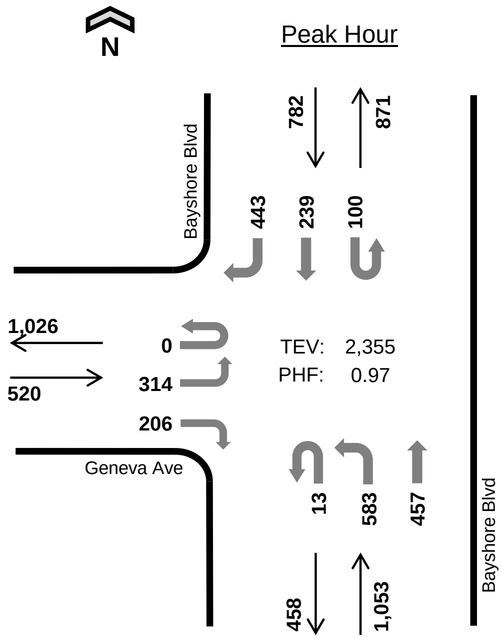
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714

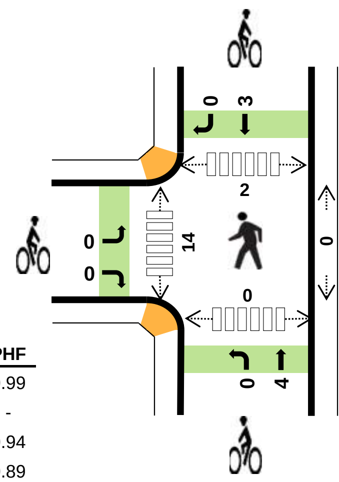
deon.fouche@idaxdata.com

Bayshore Blvd
Geneva Ave

Date:	08/31/2016
Count Period:	4:00 PM to 6:00 PM
Peak Hour:	5:00 PM to 6:00 PM



	HV %:	PHF
EB	6.5%	0.99
WB	-	-
NB	2.0%	0.94
SB	3.5%	0.89
TOTAL	3.5%	0.97



Two-Hour Count Summaries

Interval Start	Geneva Ave				0				Bayshore Blvd				Bayshore Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	69	0	71	0	0	0	0	0	107	74	0	30	0	64	95	510	0
4:15 PM	0	59	0	44	0	0	0	0	0	127	84	0	28	0	66	92	500	0
4:30 PM	0	69	0	59	0	0	0	0	0	122	130	0	28	0	69	73	550	0
4:45 PM	1	90	0	53	0	0	0	0	6	105	96	0	19	0	80	96	546	2,106
5:00 PM	**0**	**85**	**0**	**45**	**0**	**0**	**0**	**0**	**1**	**146**	**134**	**0**	**22**	**0**	**51**	**105**	**589**	2,185
5:15 PM	**0**	**71**	**0**	**57**	**0**	**0**	**0**	**0**	**4**	**155**	**118**	**0**	**24**	**0**	**54**	**108**	**591**	2,276
5:30 PM	**0**	**73**	**0**	**58**	**0**	**0**	**0**	**0**	**5**	**159**	**111**	**0**	**26**	**0**	**66**	**107**	**605**	2,331
5:45 PM	**0**	**85**	**0**	**46**	**0**	**0**	**0**	**0**	**3**	**123**	**94**	**0**	**28**	**0**	**68**	**123**	**570**	**2,355**
Count Total	1	601	0	433	0	0	0	0	19	1,044	841	0	205	0	518	799	4,461	0
Peak Hour All	**0**	**314**	**0**	**206**	**0**	**0**	**0**	**0**	**13**	**583**	**457**	**0**	**100**	**0**	**239**	**443**	**2,355**	**0**
Peak Hour HV	**0**	**20**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**6**	**15**	**0**	**6**	**0**	**14**	**7**	**82**	**0**
Peak Hour HV%	**-**	**6%**	**-**	**7%**	**-**	**-**	**-**	**-**	**0%**	**1%**	**3%**	**-**	**6%**	**-**	**6%**	**2%**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	12	0	4	9	*25*	0	0	1	0	*1*	0	2	0	1	*3*
4:15 PM	3	0	8	6	*17*	0	0	1	0	*1*	0	5	0	0	*5*
4:30 PM	7	0	4	5	*16*	0	0	0	0	*0*	0	1	1	1	*3*
4:45 PM	10	0	2	9	*21*	1	0	0	0	*1*	0	1	0	0	*1*
5:00 PM	**12**	**0**	**5**	**5**	***22***	**0**	**0**	**1**	**3**	***4***	**0**	**2**	**2**	**0**	*4*
5:15 PM	**7**	**0**	**6**	**8**	***21***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
5:30 PM	**10**	**0**	**6**	**10**	***26***	**0**	**0**	**2**	**0**	***2***	**0**	**7**	**0**	**0**	*7*
5:45 PM	**5**	**0**	**4**	**4**	***13***	**0**	**0**	**1**	**0**	***1***	**0**	**4**	**0**	**0**	*4*
Count Total	66	0	39	56	*161*	1	0	6	3	*10*	0	23	3	2	*28*
Peak Hr	**34**	**0**	**21**	**27**	***82***	**0**	**0**	**4**	**3**	***7***	**0**	**14**	**2**	**0**	***16***

Deon Fouche: 415 - 757 - 7714
deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Geneva Ave				0				Bayshore Blvd				Bayshore Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	7	0	5	0	0	0	0	0	1	3	0	1	0	5	3	25	0
4:15 PM	0	3	0	0	0	0	0	0	0	4	4	0	0	0	6	0	17	0
4:30 PM	0	2	0	5	0	0	0	0	0	3	1	0	0	0	4	1	16	0
4:45 PM	0	9	0	1	0	0	0	0	0	0	2	0	0	0	5	4	21	79
5:00 PM	**0**	**6**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**0**	**1**	**0**	**2**	**2**	**22**	76
5:15 PM	**0**	**5**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**3**	**0**	**1**	**0**	**5**	**2**	**21**	80
5:30 PM	**0**	**6**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**2**	**0**	**5**	**3**	**26**	90
5:45 PM	**0**	**3**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**2**	**0**	**2**	**0**	**13**	**82**
Count Total	0	41	0	25	0	0	0	0	0	14	25	0	7	0	34	15	161	0
Peak Hour	**0**	**20**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**6**	**15**	**0**	**6**	**0**	**14**	**7**	**82**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Geneva Ave			0			Bayshore Blvd			Bayshore Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	3
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**0**	**4**	6
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	5
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	7
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**7**
Count Total	1	0	0	0	0	0	0	6	0	0	3	0	10	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**3**	**0**	**7**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

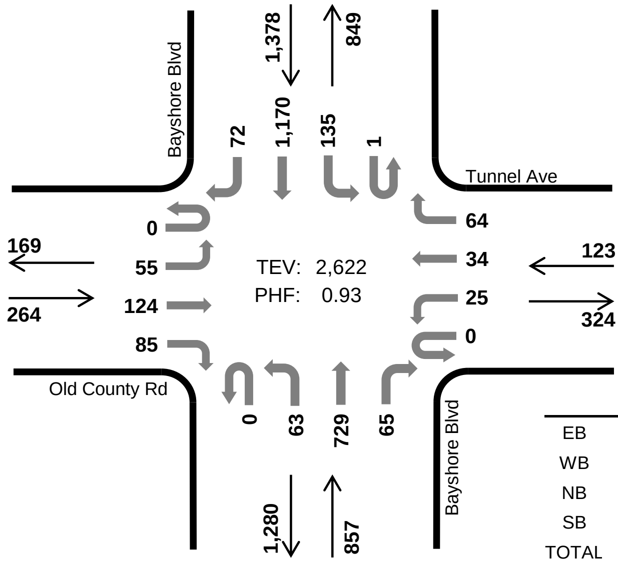
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

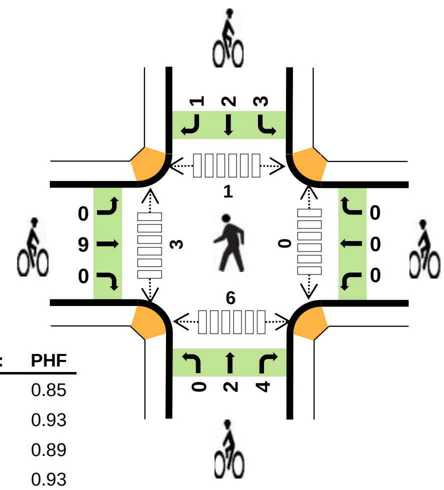
Bayshore Blvd
Old County Rd

Date: 08/31/2016
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM

N

Peak Hour





	HV %:	PHF
EB	4.2%	0.85
WB	6.5%	0.93
NB	8.5%	0.89
SB	6.2%	0.93
TOTAL	6.8%	0.93

Two-Hour Count Summaries

Interval Start	Old County Rd Eastbound UT	LT	TH	RT	Tunnel Ave Westbound UT	LT	TH	RT	Bayshore Blvd Northbound UT	LT	TH	RT	Bayshore Blvd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	13	29	19	0	0	11	12	0	14	134	7	0	13	186	6	444	0
7:15 AM	0	9	32	16	0	3	7	10	0	11	135	19	0	11	274	7	534	0
7:30 AM	0	11	35	23	0	4	15	9	0	11	153	14	1	27	250	12	565	0
7:45 AM	**0**	**11**	**28**	**18**	**0**	**5**	**10**	**18**	**0**	**15**	**212**	**15**	**0**	**37**	**316**	**17**	**702**	2,245
8:00 AM	**0**	**14**	**37**	**22**	**0**	**7**	**6**	**19**	**0**	**13**	**176**	**17**	**1**	**41**	**300**	**21**	**674**	2,475
8:15 AM	**0**	**19**	**32**	**27**	**0**	**8**	**8**	**13**	**0**	**22**	**154**	**20**	**0**	**36**	**283**	**20**	**642**	2,583
8:30 AM	**0**	**11**	**27**	**18**	**0**	**5**	**10**	**14**	**0**	**13**	**187**	**13**	**0**	**21**	**271**	**14**	**604**	**2,622**
8:45 AM	0	16	21	18	0	6	8	15	0	12	128	11	1	26	255	15	532	2,452
Count Total	0	104	241	161	0	38	75	110	0	111	1,279	116	3	212	2,135	112	4,697	0
Peak Hour All	**0**	**55**	**124**	**85**	**0**	**25**	**34**	**64**	**0**	**63**	**729**	**65**	**1**	**135**	**1,170**	**72**	**2,622**	**0**
Peak Hour HV	**0**	**2**	**3**	**6**	**0**	**2**	**0**	**6**	**0**	**3**	**59**	**11**	**0**	**6**	**74**	**5**	**177**	**0**
Peak Hour HV%	**-**	**4%**	**2%**	**7%**	**-**	**8%**	**0%**	**9%**	**-**	**5%**	**8%**	**17%**	**0%**	**4%**	**6%**	**7%**	**7%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	3	3	11	22	*39*	0	0	1	2	*3*	0	0	0	2	*2*
7:15 AM	2	2	16	19	*39*	3	0	0	4	*7*	0	0	0	1	*1*
7:30 AM	3	2	14	19	*38*	2	0	1	1	*4*	1	0	0	4	*5*
7:45 AM	**4**	**2**	**14**	**20**	***40***	**5**	**0**	**1**	**5**	***11***	**0**	**0**	**1**	**1**	*2*
8:00 AM	**2**	**1**	**19**	**21**	***43***	**1**	**0**	**1**	**0**	***2***	**0**	**1**	**0**	**1**	*2*
8:15 AM	**4**	**4**	**23**	**25**	***56***	**2**	**0**	**2**	**1**	***5***	**0**	**2**	**0**	**0**	*2*
8:30 AM	**1**	**1**	**17**	**19**	***38***	**1**	**0**	**2**	**0**	***3***	**0**	**0**	**0**	**4**	***4***
8:45 AM	4	1	14	20	*39*	1	3	0	1	*5*	0	0	0	2	*2*
Count Total	23	16	128	165	*332*	15	3	8	14	*40*	1	3	1	15	*20*
Peak Hour	**11**	**8**	**73**	**85**	***177***	**9**	**0**	**6**	**6**	***21***	**0**	**3**	**1**	**6**	***10***

Deon Fouche: 415 - 757 - 7714
deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Old County Rd				Tunnel Ave				Bayshore Blvd				Bayshore Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	2	0	0	1	2	0	4	6	1	0	4	18	0	39	0
7:15 AM	0	1	0	1	0	0	1	1	0	0	13	3	0	1	18	0	39	0
7:30 AM	0	0	0	3	0	1	0	1	0	1	12	1	0	3	12	4	38	0
7:45 AM	**0**	**1**	**0**	**3**	**0**	**1**	**0**	**1**	**0**	**0**	**12**	**2**	**0**	**2**	**18**	**0**	**40**	156
8:00 AM	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**16**	**3**	**0**	**1**	**20**	**0**	**43**	160
8:15 AM	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**4**	**0**	**2**	**19**	**2**	**0**	**1**	**21**	**3**	**56**	177
8:30 AM	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**12**	**4**	**0**	**2**	**15**	**2**	**38**	**177**
8:45 AM	0	3	1	0	0	0	0	1	0	0	10	4	0	4	16	0	39	176
Count Total	0	6	5	12	0	3	2	11	0	8	100	20	0	18	138	9	332	0
Peak Hour	**0**	**2**	**3**	**6**	**0**	**2**	**0**	**6**	**0**	**3**	**59**	**11**	**0**	**6**	**74**	**5**	**177**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Old County Rd			Tunnel Ave			Bayshore Blvd			Bayshore Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	1	0	2	0	3	0
7:15 AM	0	2	1	0	0	0	0	0	0	2	2	0	7	0
7:30 AM	0	2	0	0	0	0	0	0	1	0	1	0	4	0
7:45 AM	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**2**	**1**	**11**	25
8:00 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	24
8:15 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**5**	22
8:30 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**21**
8:45 AM	0	1	0	1	0	2	0	0	0	0	1	0	5	15
Count Total	0	14	1	1	0	2	0	2	6	5	8	1	40	0
Peak Hour	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**2**	**4**	**3**	**2**	**1**	**21**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714

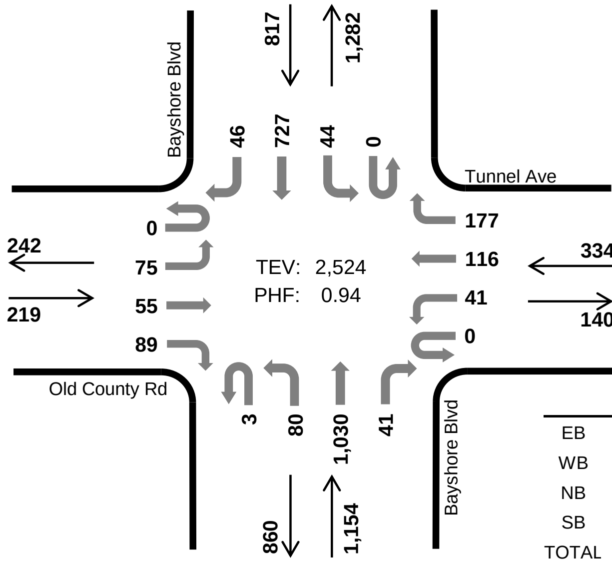
deon.fouche@idaxdata.com

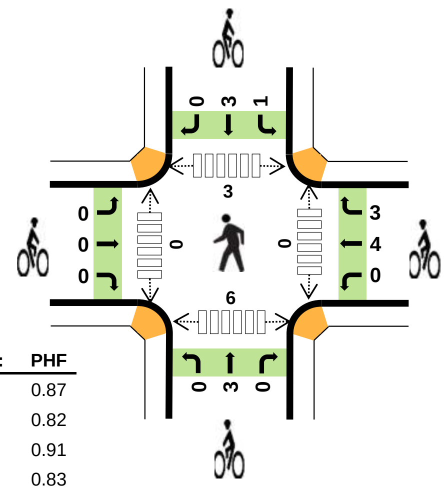
Bayshore Blvd
Old County Rd

Date: 08/31/2016
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM

N

Peak Hour





	HV %:	PHF
EB	1.4%	0.87
WB	6.0%	0.82
NB	4.9%	0.91
SB	5.6%	0.83
TOTAL	5.0%	0.94

Two-Hour Count Summaries

Interval Start	Old County Rd Eastbound UT	LT	TH	RT	Tunnel Ave Westbound UT	LT	TH	RT	Bayshore Blvd Northbound UT	LT	TH	RT	Bayshore Blvd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	20	17	27	0	10	15	24	1	17	210	6	0	10	179	10	546	0
4:15 PM	0	14	5	19	0	9	32	28	0	25	207	6	0	13	152	20	530	0
4:30 PM	0	16	15	29	0	7	37	36	0	21	245	2	0	8	196	20	632	0
4:45 PM	0	20	8	24	0	8	29	25	1	16	226	6	1	12	167	12	555	2,263
5:00 PM	**0**	**20**	**14**	**23**	**0**	**8**	**17**	**40**	**2**	**24**	**252**	**8**	**0**	**16**	**213**	**16**	**653**	2,370
5:15 PM	**0**	**25**	**14**	**17**	**0**	**7**	**31**	**41**	**0**	**18**	**255**	**9**	**0**	**10**	**187**	**14**	**628**	2,468
5:30 PM	**0**	**18**	**15**	**30**	**0**	**12**	**27**	**49**	**0**	**22**	**284**	**12**	**0**	**10**	**187**	**8**	**674**	2,510
5:45 PM	**0**	**12**	**12**	**19**	**0**	**14**	**41**	**47**	**1**	**16**	**239**	**12**	**0**	**8**	**140**	**8**	**569**	**2,524**
Count Total	0	145	100	188	0	75	229	290	5	159	1,918	61	1	87	1,421	108	4,787	0
Peak Hour All	**0**	**75**	**55**	**89**	**0**	**41**	**116**	**177**	**3**	**80**	**1,030**	**41**	**0**	**44**	**727**	**46**	**2,524**	**0**
HV	**0**	**1**	**0**	**2**	**0**	**0**	**2**	**18**	**1**	**1**	**48**	**6**	**0**	**4**	**38**	**4**	**125**	**0**
HV%	**-**	**1%**	**0%**	**2%**	**-**	**0%**	**2%**	**10%**	**33%**	**1%**	**5%**	**15%**	**-**	**9%**	**5%**	**9%**	**5%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	0	4	20	12	*36*	0	2	3	1	*6*	0	0	0	0	*0*
4:15 PM	0	4	17	14	*35*	0	0	3	0	*3*	0	0	0	1	*1*
4:30 PM	1	0	14	17	*32*	0	2	0	1	*3*	0	0	0	4	*4*
4:45 PM	0	4	13	14	*31*	0	0	0	0	*0*	2	1	2	5	*10*
5:00 PM	**1**	**5**	**13**	**9**	***28***	**0**	**1**	**1**	**1**	***3***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**1**	**2**	**15**	**13**	***31***	**0**	**2**	**0**	**1**	***3***	**0**	**0**	**3**	**1**	*4*
5:30 PM	**1**	**5**	**16**	**14**	***36***	**0**	**1**	**1**	**1**	***3***	**0**	**0**	**0**	**2**	*2*
5:45 PM	**0**	**8**	**12**	**10**	***30***	**0**	**3**	**1**	**1**	***5***	**0**	**0**	**0**	**3**	***3***
Count Total	4	32	120	103	*259*	0	11	9	6	*26*	2	1	5	16	*24*
Peak Hour	**3**	**20**	**56**	**46**	***125***	**0**	**7**	**3**	**4**	***14***	**0**	**0**	**3**	**6**	***9***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Old County Rd				Tunnel Ave				Bayshore Blvd				Bayshore Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	1	0	3	0	0	19	1	0	2	10	0	36	0
4:15 PM	0	0	0	0	0	0	0	4	0	0	16	1	0	3	11	0	35	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	13	1	0	1	14	2	32	0
4:45 PM	0	0	0	0	0	1	0	3	0	1	10	2	0	0	12	2	31	134
5:00 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	**1**	**1**	**9**	**2**	**0**	**1**	**8**	**0**	**28**	126
5:15 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**14**	**1**	**0**	**1**	**10**	**2**	**31**	122
5:30 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**5**	**0**	**0**	**13**	**3**	**0**	**1**	**12**	**1**	**36**	126
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**6**	**0**	**0**	**12**	**0**	**0**	**1**	**8**	**1**	**30**	**125**
Count Total	0	1	1	2	0	2	2	28	1	2	106	11	0	10	85	8	259	0
Peak Hour	**0**	**1**	**0**	**2**	**0**	**0**	**2**	**18**	**1**	**1**	**48**	**6**	**0**	**4**	**38**	**4**	**125**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Old County Rd			Tunnel Ave			Bayshore Blvd			Bayshore Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	2	0	0	3	0	0	1	0	6	0
4:15 PM	0	0	0	0	0	0	0	2	1	0	0	0	3	0
4:30 PM	0	0	0	1	0	1	0	0	0	0	0	1	3	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	12
5:00 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**3**	9
5:15 PM	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	9
5:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**3**	9
5:45 PM	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**5**	**14**
Count Total	0	0	0	1	6	4	0	8	1	1	4	1	26	0
Peak Hour	**0**	**0**	**0**	**0**	**4**	**3**	**0**	**3**	**0**	**1**	**3**	**0**	**14**	**0**

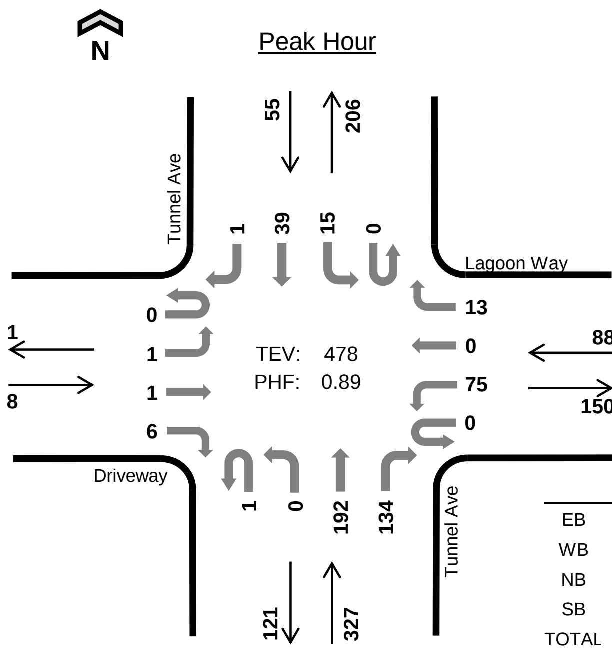
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

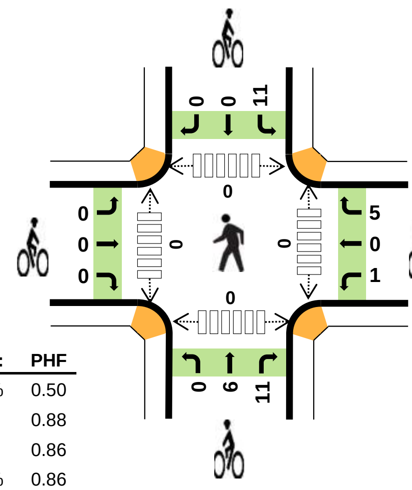
Tunnel Ave
Lagoon Way

Date: 08/31/2016
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM

Peak Hour



	HV %:	PHF
EB	12.5%	0.50
WB	6.8%	0.88
NB	5.2%	0.86
SB	21.8%	0.86
TOTAL	7.5%	0.89



Two-Hour Count Summaries

Interval Start	Driveway Eastbound UT	LT	TH	RT	Lagoon Way Westbound UT	LT	TH	RT	Tunnel Ave Northbound UT	LT	TH	RT	Tunnel Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	0	0	17	0	0	0	0	34	13	0	4	6	0	74	0
7:15 AM	0	0	0	0	0	20	0	2	0	1	50	12	0	5	4	0	94	0
7:30 AM	**0**	**0**	**0**	**3**	**0**	**16**	**0**	**1**	**0**	**0**	**43**	**28**	**0**	**2**	**9**	**0**	**102**	0
7:45 AM	**0**	**1**	**1**	**2**	**0**	**21**	**0**	**4**	**0**	**0**	**51**	**27**	**0**	**5**	**8**	**1**	**121**	391
8:00 AM	**0**	**0**	**0**	**1**	**0**	**17**	**0**	**4**	**0**	**0**	**40**	**43**	**0**	**3**	**13**	**0**	**121**	438
8:15 AM	**0**	**0**	**0**	**0**	**0**	**21**	**0**	**4**	**1**	**0**	**58**	**36**	**0**	**5**	**9**	**0**	**134**	**478**
8:30 AM	0	0	1	0	0	18	0	1	0	2	42	25	0	1	8	0	98	474
8:45 AM	0	0	0	0	0	16	0	2	0	1	27	28	0	6	11	0	91	444
Count Total	0	1	2	6	0	146	0	18	1	4	345	212	0	31	68	1	835	0
Peak Hour All	**0**	**1**	**1**	**6**	**0**	**75**	**0**	**13**	**1**	**0**	**192**	**134**	**0**	**15**	**39**	**1**	**478**	**0**
HV	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**3**	**0**	**0**	**13**	**4**	**0**	**6**	**5**	**1**	**36**	**0**
HV%	**-**	**100%**	**0%**	**0%**	**-**	**4%**	**-**	**23%**	**0%**	**-**	**7%**	**3%**	**-**	**40%**	**13%**	**100%**	**8%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	0	2	6	2	*10*	0	1	0	22	*23*	0	0	0	0	*0*
7:15 AM	0	3	5	2	*10*	0	0	3	3	*6*	0	0	0	0	*0*
7:30 AM	**0**	**0**	**4**	**1**	***5***	**0**	**1**	**4**	**4**	***9***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**1**	**3**	**3**	**5**	***12***	**0**	**0**	**3**	**1**	***4***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**0**	**0**	**6**	**3**	***9***	**0**	**3**	**7**	**4**	***14***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**0**	**3**	**4**	**3**	***10***	**0**	**2**	**3**	**2**	***7***	**0**	**0**	**0**	**0**	***0***
8:30 AM	0	1	8	1	*10*	0	0	1	3	*4*	0	0	0	0	*0*
8:45 AM	0	3	7	2	*12*	0	2	1	4	*7*	0	0	0	0	*0*
Count Total	1	15	43	19	*78*	0	9	22	43	*74*	0	0	0	0	*0*
Peak Hour	**1**	**6**	**17**	**12**	***36***	**0**	**6**	**17**	**11**	***34***	**0**	**0**	**0**	**0**	***0***

Deon Fouche: 415 - 757 - 7714
deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Driveway Eastbound UT	LT	TH	RT	Lagoon Way Westbound UT	LT	TH	RT	Tunnel Ave Northbound UT	LT	TH	RT	Tunnel Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	0	0	2	0	0	0	0	2	4	0	2	0	0	10	0
7:15 AM	0	0	0	0	0	3	0	0	0	0	5	0	0	2	0	0	10	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**1**	**0**	**5**	0
7:45 AM	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**3**	**0**	**0**	**2**	**2**	**1**	**12**	37
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**2**	**0**	**3**	**0**	**0**	**9**	36
8:15 AM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**2**	**2**	**0**	**1**	**2**	**0**	**10**	**36**
8:30 AM	0	0	0	0	0	0	0	1	0	0	8	0	0	1	0	0	10	41
8:45 AM	0	0	0	0	0	2	0	1	0	0	6	1	0	2	0	0	12	41
Count Total	0	1	0	0	0	10	0	5	0	0	34	9	0	13	5	1	78	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**3**	**0**	**0**	**13**	**4**	**0**	**6**	**5**	**1**	**36**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Driveway Eastbound LT	TH	RT	Lagoon Way Westbound LT	TH	RT	Tunnel Ave Northbound LT	TH	RT	Tunnel Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	0	0	1	0	0	0	22	0	0	23	0
7:15 AM	0	0	0	0	0	0	0	1	2	3	0	0	6	0
7:30 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**2**	**4**	**0**	**0**	**9**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**0**	**0**	**4**	42
8:00 AM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**4**	**3**	**4**	**0**	**0**	**14**	33
8:15 AM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**3**	**2**	**0**	**0**	**7**	**34**
8:30 AM	0	0	0	0	0	0	0	1	0	2	1	0	4	29
8:45 AM	0	0	0	2	0	0	0	1	0	4	0	0	7	32
Count Total	0	0	0	3	0	6	0	9	13	42	1	0	74	0
Peak Hour	**0**	**0**	**0**	**1**	**0**	**5**	**0**	**6**	**11**	**11**	**0**	**0**	**34**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714

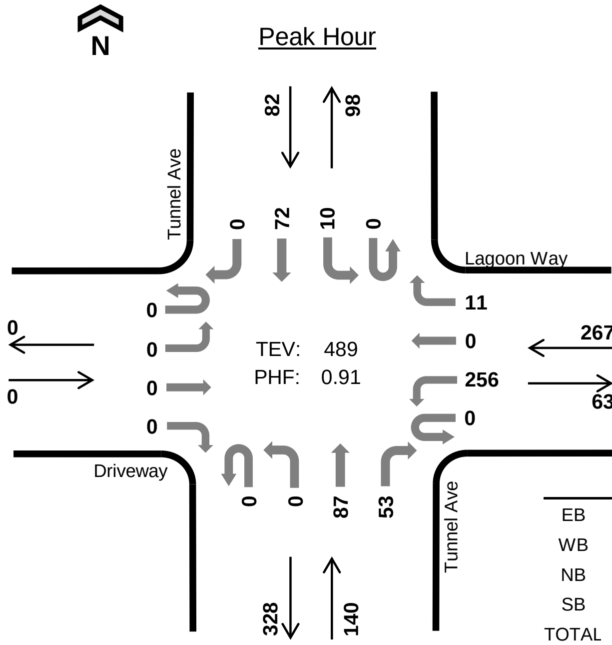
deon.fouche@idaxdata.com

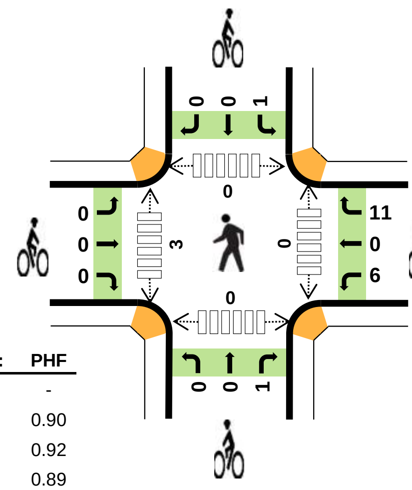
Tunnel Ave
Lagoon Way

idax

Peak Hour

Date: 08/31/2016
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM





	HV %:	PHF
EB	-	-
WB	6.4%	0.90
NB	6.4%	0.92
SB	9.8%	0.89
TOTAL	7.0%	0.91

Two-Hour Count Summaries

Interval Start	Driveway Eastbound UT	LT	TH	RT	Lagoon Way Westbound UT	LT	TH	RT	Tunnel Ave Northbound UT	LT	TH	RT	Tunnel Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	1	1	0	31	0	2	0	0	18	14	0	8	15	0	90	0
4:15 PM	0	0	0	0	0	51	0	0	0	0	13	13	0	5	25	0	107	0
4:30 PM	0	0	0	0	0	58	0	3	0	0	18	12	0	3	16	0	110	0
4:45 PM	0	0	0	0	0	45	0	3	0	0	15	15	0	2	19	0	99	406
5:00 PM	**0**	**0**	**0**	**0**	**0**	**49**	**0**	**2**	**0**	**0**	**19**	**18**	**0**	**2**	**17**	**0**	**107**	423
5:15 PM	**0**	**0**	**0**	**0**	**0**	**65**	**0**	**4**	**0**	**0**	**21**	**12**	**0**	**4**	**17**	**0**	**123**	439
5:30 PM	**0**	**0**	**0**	**0**	**0**	**70**	**0**	**3**	**0**	**0**	**25**	**13**	**0**	**4**	**19**	**0**	**134**	463
5:45 PM	**0**	**0**	**0**	**0**	**0**	**72**	**0**	**2**	**0**	**0**	**22**	**10**	**0**	**0**	**19**	**0**	**125**	**489**
Count Total	0	0	1	1	0	441	0	19	0	0	151	107	0	28	147	0	895	0
Peak Hour All	**0**	**0**	**0**	**0**	**0**	**256**	**0**	**11**	**0**	**0**	**87**	**53**	**0**	**10**	**72**	**0**	**489**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**1**	**0**	**0**	**8**	**1**	**0**	**4**	**4**	**0**	**34**	**0**
Peak Hour HV%	**-**	**-**	**-**	**-**	**-**	**6%**	**-**	**9%**	**-**	**-**	**9%**	**2%**	**-**	**40%**	**6%**	**-**	**7%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	0	4	3	1	*8*	0	0	0	3	*3*	1	0	0	0	*1*
4:15 PM	0	3	4	3	*10*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	0	0	3	0	*3*	0	2	1	0	*3*	0	0	0	0	*0*
4:45 PM	0	3	3	1	*7*	0	1	2	1	*4*	0	0	0	0	*0*
5:00 PM	**0**	**5**	**3**	**2**	***10***	**0**	**2**	**1**	**0**	***3***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**2**	**2**	**2**	***6***	**0**	**5**	**0**	**1**	***6***	**0**	**3**	**0**	**0**	*3*
5:30 PM	**0**	**5**	**4**	**1**	***10***	**0**	**5**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	*0*
5:45 PM	**0**	**5**	**0**	**3**	***8***	**0**	**5**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***
Count Total	0	27	22	13	*62*	0	20	4	5	*29*	1	3	0	0	*4*
Peak Hour	**0**	**17**	**9**	**8**	***34***	**0**	**17**	**1**	**1**	***19***	**0**	**3**	**0**	**0**	***3***

Deon Fouche: 415 - 757 - 7714
deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Driveway Eastbound UT	LT	TH	RT	Lagoon Way Westbound UT	LT	TH	RT	Tunnel Ave Northbound UT	LT	TH	RT	Tunnel Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	0	0	0	4	0	0	0	0	2	1	0	1	0	0	8	0
4:15 PM	0	0	0	0	0	3	0	0	0	0	2	2	0	2	1	0	10	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0
4:45 PM	0	0	0	0	0	3	0	0	0	0	3	0	0	0	1	0	7	28
5:00 PM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**1**	**1**	**0**	**10**	30
5:15 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**6**	26
5:30 PM	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**3**	**1**	**0**	**1**	**0**	**0**	**10**	33
5:45 PM	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**8**	**34**
Count Total	0	0	0	0	0	26	0	1	0	0	18	4	0	7	6	0	62	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**1**	**0**	**0**	**8**	**1**	**0**	**4**	**4**	**0**	**34**	**0**

Two-Hour Count Summaries - Bikes

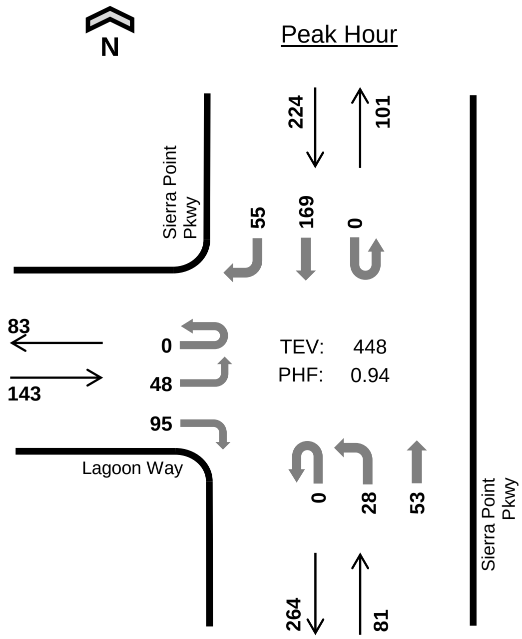
Interval Start	Driveway Eastbound LT	TH	RT	Lagoon Way Westbound LT	TH	RT	Tunnel Ave Northbound LT	TH	RT	Tunnel Ave Southbound LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	2	0	0	0	1	0	0	0	0	3	0
4:45 PM	0	0	0	0	0	1	0	1	1	0	1	0	4	10
5:00 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	10
5:15 PM	**0**	**0**	**0**	**2**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**6**	16
5:30 PM	**0**	**0**	**0**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	18
5:45 PM	**0**	**0**	**0**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**19**
Count Total	0	0	0	8	0	12	0	2	2	1	4	0	29	0
Peak Hour	**0**	**0**	**0**	**6**	**0**	**11**	**0**	**0**	**1**	**1**	**0**	**0**	**19**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

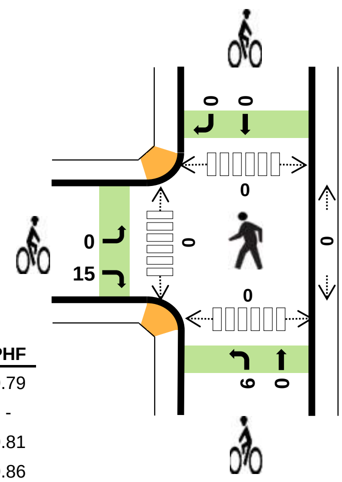
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Sierra Point Pkwy
Lagoon Way

Date: 08/31/2016
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	7.0%	0.79
WB	-	-
NB	9.9%	0.81
SB	4.5%	0.86
TOTAL	6.3%	0.94



Two-Hour Count Summaries

Interval Start	Lagoon Way				0				Sierra Point Pkwy				Sierra Point Pkwy				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	7	0	13	0	0	0	0	0	4	13	0	0	0	9	13	59	0
7:15 AM	0	9	0	8	0	0	0	0	0	9	17	0	0	0	17	12	72	0
7:30 AM	0	10	0	21	0	0	0	0	0	10	13	0	0	0	18	9	81	0
7:45 AM	0	15	0	18	0	0	0	0	0	11	12	0	0	0	40	14	110	322
8:00 AM	**0**	**15**	**0**	**30**	**0**	**0**	**0**	**0**	**0**	**5**	**14**	**0**	**0**	**0**	**40**	**15**	**119**	382
8:15 AM	**0**	**13**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**9**	**16**	**0**	**0**	**0**	**36**	**16**	**111**	421
8:30 AM	**0**	**10**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**8**	**10**	**0**	**0**	**0**	**41**	**11**	**101**	441
8:45 AM	**0**	**10**	**0**	**23**	**0**	**0**	**0**	**0**	**0**	**6**	**13**	**0**	**0**	**0**	**52**	**13**	**117**	**448**
Count Total	0	89	0	155	0	0	0	0	0	62	108	0	0	0	253	103	770	0
Peak Hour All	**0**	**48**	**0**	**95**	**0**	**0**	**0**	**0**	**0**	**28**	**53**	**0**	**0**	**0**	**169**	**55**	**448**	**0**
Peak Hour HV	**0**	**8**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**6**	**0**	**0**	**0**	**4**	**6**	**28**	**0**
Peak Hour HV%	**-**	**17%**	**-**	**2%**	**-**	**-**	**-**	**-**	**-**	**7%**	**11%**	**-**	**-**	**-**	**2%**	**11%**	**6%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	4	0	0	1	*5*	15	0	0	0	*15*	0	0	0	0	*0*
7:15 AM	4	0	1	3	*8*	4	0	0	0	*4*	0	0	0	0	*0*
7:30 AM	1	0	1	1	*3*	2	0	0	0	*2*	0	0	0	0	*0*
7:45 AM	2	0	1	4	*7*	4	0	0	0	*4*	0	0	0	0	*0*
8:00 AM	**4**	**0**	**3**	**1**	***8***	**7**	**0**	**3**	**0**	***10***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**2**	**0**	**1**	**3**	***6***	**5**	**0**	**2**	**0**	***7***	**0**	**0**	**0**	**0**	*0*
8:30 AM	**2**	**0**	**3**	**1**	***6***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
8:45 AM	**2**	**0**	**1**	**5**	***8***	**2**	**0**	**1**	**0**	***3***	**0**	**0**	**0**	**0**	***0***
Count Total	21	0	11	19	*51*	40	0	6	0	*46*	0	0	0	0	*0*
Peak Hr	**10**	**0**	**8**	**10**	***28***	**15**	**0**	**6**	**0**	***21***	**0**	**0**	**0**	**0**	***0***

Deon Fouche: 415 - 757 - 7714
deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Lagoon Way				0				Sierra Point Pkwy				Sierra Point Pkwy				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	1	5	0
7:15 AM	0	2	0	2	0	0	0	0	0	0	1	0	0	0	0	3	8	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	3	0
7:45 AM	0	2	0	0	0	0	0	0	0	0	1	0	0	0	1	3	7	23
8:00 AM	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**8**	26
8:15 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**2**	**6**	24
8:30 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**6**	27
8:45 AM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**4**	**8**	**28**
Count Total	0	16	0	5	0	0	0	0	0	2	9	0	0	0	6	13	51	0
Peak Hour	**0**	**8**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**6**	**0**	**0**	**0**	**4**	**6**	**28**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Lagoon Way			0			Sierra Point Pkwy			Sierra Point Pkwy			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	15	0	0	0	0	0	0	0	0	0	15	0
7:15 AM	0	0	4	0	0	0	0	0	0	0	0	0	4	0
7:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	2	0
7:45 AM	0	0	4	0	0	0	0	0	0	0	0	0	4	25
8:00 AM	**0**	**0**	**7**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**10**	20
8:15 AM	**0**	**0**	**5**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**7**	23
8:30 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	22
8:45 AM	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**21**
Count Total	0	0	40	0	0	0	6	0	0	0	0	0	46	0
Peak Hour	**0**	**0**	**15**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**21**	**0**

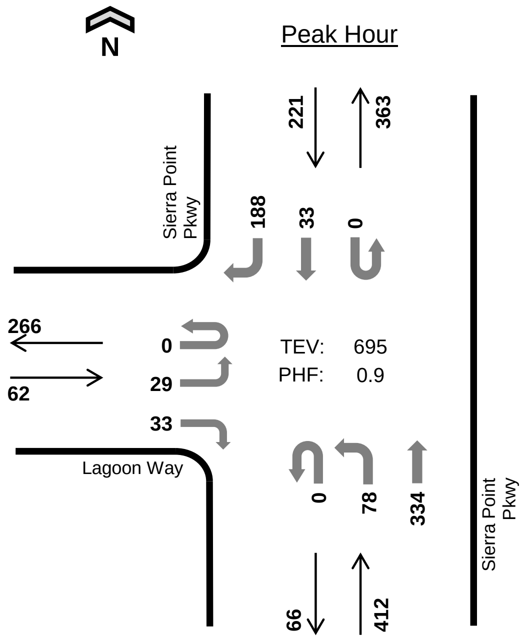
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714
deon.fouche@idaxdata.com

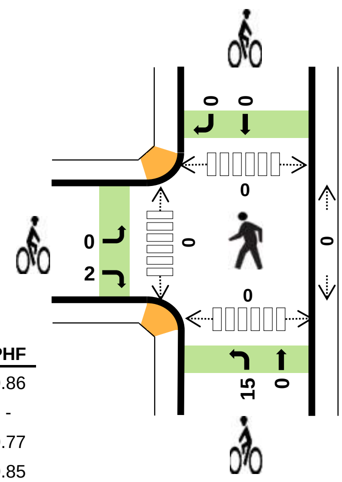
Sierra Point Pkwy
Lagoon Way

Date: 08/31/2016
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM

Peak Hour



	HV %:	PHF
EB	8.1%	0.86
WB	-	-
NB	1.0%	0.77
SB	8.6%	0.85
TOTAL	4.0%	0.90



Two-Hour Count Summaries

Interval Start	Lagoon Way Eastbound UT	LT	TH	RT	0 Westbound UT	LT	TH	RT	Sierra Point Pkwy Northbound UT	LT	TH	RT	Sierra Point Pkwy Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	11	0	8	0	0	0	0	0	9	56	0	0	0	14	24	122	0
4:15 PM	0	12	0	10	0	0	0	0	0	8	48	0	0	0	3	44	125	0
4:30 PM	0	6	0	6	0	0	0	0	0	15	60	0	0	0	14	46	147	0
4:45 PM	0	10	0	10	0	0	0	0	0	21	72	0	0	0	9	27	149	543
5:00 PM	**0**	**9**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**18**	**116**	**0**	**0**	**0**	**11**	**31**	**193**	614
5:15 PM	**0**	**7**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**24**	**83**	**0**	**0**	**0**	**9**	**44**	**177**	666
5:30 PM	**0**	**10**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**21**	**75**	**0**	**0**	**0**	**8**	**53**	**175**	694
5:45 PM	**0**	**3**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**15**	**60**	**0**	**0**	**0**	**5**	**60**	**150**	**695**
Count Total	0	68	0	67	0	0	0	0	0	131	570	0	0	0	73	329	1,238	0
Peak Hour All	**0**	**29**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**78**	**334**	**0**	**0**	**0**	**33**	**188**	**695**	**0**
Peak Hour HV	**0**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**3**	**16**	**28**	**0**
Peak Hour HV%	**-**	**7%**	**-**	**9%**	**-**	**-**	**-**	**-**	**-**	**0%**	**1%**	**-**	**-**	**-**	**9%**	**9%**	**4%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	1	0	1	4	*6*	0	0	0	0	*0*	0	1	0	0	*1*
4:15 PM	5	0	3	3	*11*	0	0	1	0	*1*	0	0	0	0	*0*
4:30 PM	0	0	2	1	*3*	0	0	2	0	*2*	0	0	0	0	*0*
4:45 PM	0	0	4	0	*4*	0	0	2	0	*2*	0	0	0	0	*0*
5:00 PM	**1**	**0**	**1**	**5**	***7***	**1**	**0**	**1**	**0**	***2***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**2**	**0**	**1**	**2**	***5***	**1**	**0**	**6**	**0**	***7***	**0**	**0**	**0**	**0**	*0*
5:30 PM	**2**	**0**	**1**	**6**	***9***	**0**	**0**	**4**	**0**	***4***	**0**	**0**	**0**	**0**	*0*
5:45 PM	**0**	**0**	**1**	**6**	***7***	**0**	**0**	**4**	**0**	***4***	**0**	**0**	**0**	**0**	***0***
Count Total	11	0	14	27	*52*	2	0	20	0	*22*	0	1	0	0	*1*
Peak Hr	**5**	**0**	**4**	**19**	***28***	**2**	**0**	**15**	**0**	***17***	**0**	**0**	**0**	**0**	***0***

Deon Fouche: 415 - 757 - 7714
deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Lagoon Way				0				Sierra Point Pkwy				Sierra Point Pkwy				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	4	6	0
4:15 PM	0	3	0	2	0	0	0	0	0	0	3	0	0	0	0	3	11	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
4:45 PM	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4	24
5:00 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**4**	**7**	25
5:15 PM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**5**	19
5:30 PM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**5**	**9**	25
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**5**	**7**	**28**
Count Total	0	6	0	5	0	0	0	0	0	3	11	0	0	0	4	23	52	0
Peak Hour	**0**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**3**	**16**	**28**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Lagoon Way			0			Sierra Point Pkwy			Sierra Point Pkwy			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	2	0
4:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	2	5
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	7
5:15 PM	**0**	**0**	**1**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**7**	13
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**4**	15
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**4**	**17**
Count Total	0	0	2	0	0	0	20	0	0	0	0	0	22	0
Peak Hour	**0**	**0**	**2**	**0**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**17**	**0**

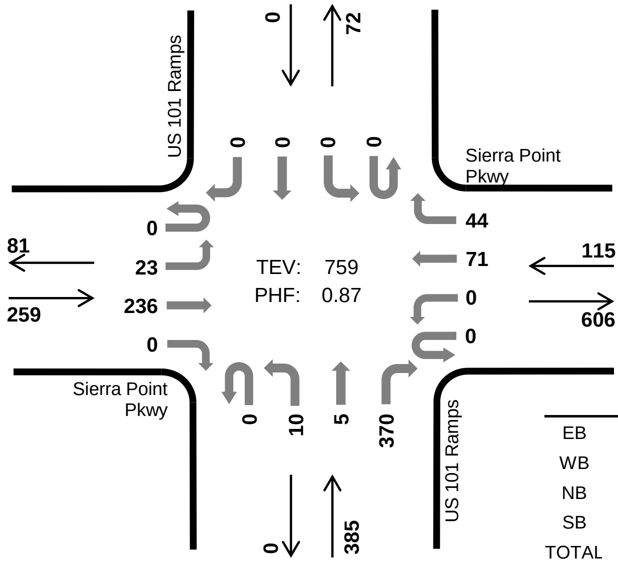
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714

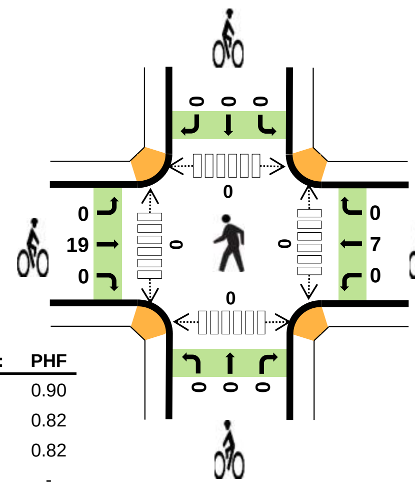
deon.fouche@idaxdata.com

US 101 Ramps
Sierra Point Pkwy

Date:	08/31/2016
Count Period:	7:00 AM to 9:00 AM
Peak Hour:	8:00 AM to 9:00 AM



	HV %:	PHF
EB	2.3%	0.90
WB	7.8%	0.82
NB	2.9%	0.82
SB	-	-
TOTAL	3.4%	0.87



Two-Hour Count Summaries

Interval Start	Sierra Point Pkwy Eastbound				Sierra Point Pkwy Westbound				US 101 Ramps Northbound				US 101 Ramps Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	6	16	0	0	0	19	8	0	2	0	28	0	0	0	0	79	0
7:15 AM	0	5	22	0	0	0	21	7	0	5	0	43	0	0	0	0	103	0
7:30 AM	0	13	27	0	0	0	17	10	0	2	1	50	0	0	0	0	120	0
7:45 AM	0	2	57	0	0	0	21	12	0	4	0	69	0	0	0	0	165	467
8:00 AM	**0**	**6**	**64**	**0**	**0**	**0**	**16**	**8**	**0**	**2**	**1**	**69**	**0**	**0**	**0**	**0**	**166**	554
8:15 AM	**0**	**9**	**48**	**0**	**0**	**0**	**24**	**11**	**0**	**3**	**1**	**93**	**0**	**0**	**0**	**0**	**189**	640
8:30 AM	**0**	**2**	**58**	**0**	**0**	**0**	**11**	**15**	**0**	**1**	**1**	**97**	**0**	**0**	**0**	**0**	**185**	705
8:45 AM	**0**	**6**	**66**	**0**	**0**	**0**	**20**	**10**	**0**	**4**	**2**	**111**	**0**	**0**	**0**	**0**	**219**	**759**
Count Total	0	49	358	0	0	0	149	81	0	23	6	560	0	0	0	0	1,226	0
Peak Hour All	**0**	**23**	**236**	**0**	**0**	**0**	**71**	**44**	**0**	**10**	**5**	**370**	**0**	**0**	**0**	**0**	**759**	**0**
Peak Hour HV	**0**	**3**	**3**	**0**	**0**	**0**	**5**	**4**	**0**	**2**	**4**	**5**	**0**	**0**	**0**	**0**	**26**	**0**
Peak Hour HV%	**-**	**13%**	**1%**	**-**	**-**	**-**	**7%**	**9%**	**-**	**20%**	**80%**	**1%**	**-**	**-**	**-**	**-**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	2	0	0	*3*	17	0	0	0	*17*	0	0	0	1	*1*
7:15 AM	2	1	3	0	*6*	9	1	0	0	*10*	0	0	0	0	*0*
7:30 AM	1	0	3	0	*4*	3	1	0	0	*4*	0	0	0	0	*0*
7:45 AM	1	5	2	0	*8*	8	0	0	0	*8*	0	0	0	0	*0*
8:00 AM	**2**	**3**	**1**	**0**	***6***	**10**	**3**	**0**	**0**	***13***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**1**	**2**	**4**	**0**	***7***	**4**	**2**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	*0*
8:30 AM	**1**	**2**	**2**	**0**	***5***	**2**	**0**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	*0*
8:45 AM	**2**	**2**	**4**	**0**	***8***	**3**	**2**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***
Count Total	11	17	19	0	*47*	56	9	0	0	*65*	0	0	0	1	*1*
Peak Hour	**6**	**9**	**11**	**0**	***26***	**19**	**7**	**0**	**0**	***26***	**0**	**0**	**0**	**0**	***0***

Deon Fouche: 415 - 757 - 7714
deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Sierra Point Pkwy Eastbound UT	LT	TH	RT	Sierra Point Pkwy Westbound UT	LT	TH	RT	US 101 Ramps Northbound UT	LT	TH	RT	US 101 Ramps Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	3	0
7:15 AM	0	2	0	0	0	0	1	0	0	0	0	3	0	0	0	0	6	0
7:30 AM	0	0	1	0	0	0	0	0	0	0	1	2	0	0	0	0	4	0
7:45 AM	0	0	1	0	0	0	2	3	0	0	0	2	0	0	0	0	8	21
8:00 AM	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**6**	24
8:15 AM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**7**	25
8:30 AM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	26
8:45 AM	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**8**	**26**
Count Total	0	6	5	0	0	0	9	8	0	2	5	12	0	0	0	0	47	0
Peak Hour	**0**	**3**	**3**	**0**	**0**	**0**	**5**	**4**	**0**	**2**	**4**	**5**	**0**	**0**	**0**	**0**	**26**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Sierra Point Pkwy Eastbound LT	TH	RT	Sierra Point Pkwy Westbound LT	TH	RT	US 101 Ramps Northbound LT	TH	RT	US 101 Ramps Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	17	0	0	0	0	0	0	0	0	0	0	17	0
7:15 AM	0	9	0	0	1	0	0	0	0	0	0	0	10	0
7:30 AM	0	3	0	0	1	0	0	0	0	0	0	0	4	0
7:45 AM	0	8	0	0	0	0	0	0	0	0	0	0	8	39
8:00 AM	**0**	**10**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	35
8:15 AM	**0**	**4**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	31
8:30 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	29
8:45 AM	**0**	**3**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**26**
Count Total	0	56	0	0	9	0	0	0	0	0	0	0	65	0
Peak Hour	**0**	**19**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**26**	**0**

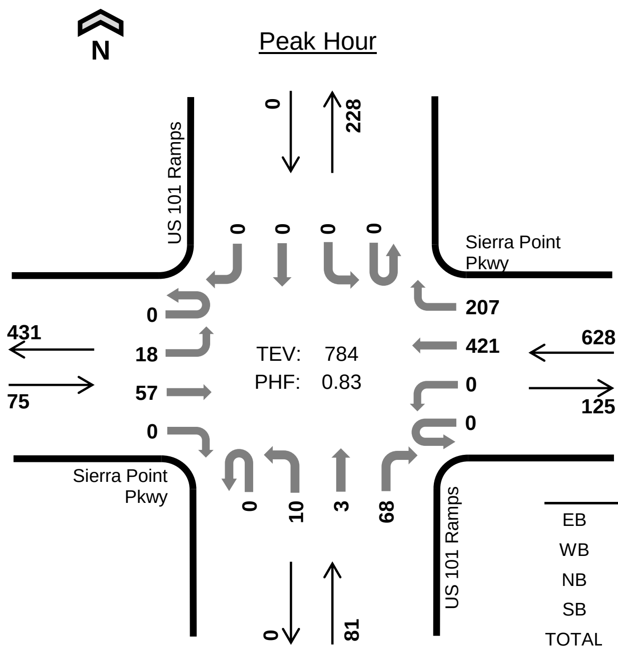
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714

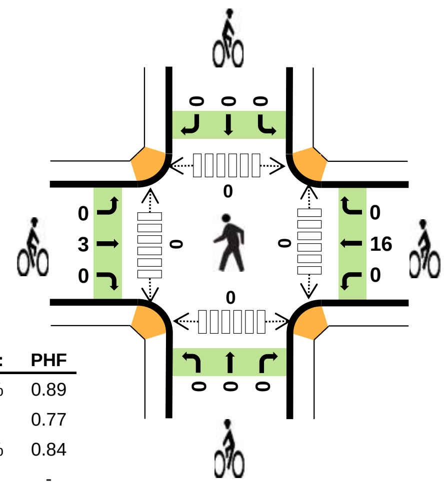
deon.fouche@idaxdata.com

US 101 Ramps
Sierra Point Pkwy

Date: 08/31/2016
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	12.0%	0.89
WB	1.4%	0.77
NB	11.1%	0.84
SB	-	-
TOTAL	3.4%	0.83



Two-Hour Count Summaries

Interval Start	Sierra Point Pkwy				Sierra Point Pkwy				US 101 Ramps				US 101 Ramps				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	4	21	0	0	0	62	33	0	2	2	17	0	0	0	0	141	0
4:15 PM	0	7	8	0	0	0	51	32	0	2	1	21	0	0	0	0	122	0
4:30 PM	0	4	14	0	0	0	81	40	0	1	2	22	0	0	0	0	164	0
4:45 PM	**0**	**3**	**16**	**0**	**0**	**0**	**95**	**33**	**0**	**2**	**0**	**22**	**0**	**0**	**0**	**0**	**171**	598
5:00 PM	**0**	**8**	**13**	**0**	**0**	**0**	**135**	**69**	**0**	**1**	**1**	**10**	**0**	**0**	**0**	**0**	**237**	694
5:15 PM	**0**	**4**	**15**	**0**	**0**	**0**	**98**	**52**	**0**	**4**	**2**	**17**	**0**	**0**	**0**	**0**	**192**	764
5:30 PM	**0**	**3**	**13**	**0**	**0**	**0**	**93**	**53**	**0**	**3**	**0**	**19**	**0**	**0**	**0**	**0**	**184**	**784**
5:45 PM	0	2	9	0	0	0	65	25	0	7	1	10	0	0	0	0	119	732
Count Total	0	35	109	0	0	0	680	337	0	22	9	138	0	0	0	0	1,330	0
Peak Hour All	**0**	**18**	**57**	**0**	**0**	**0**	**421**	**207**	**0**	**10**	**3**	**68**	**0**	**0**	**0**	**0**	**784**	**0**
Peak Hour HV	**0**	**3**	**6**	**0**	**0**	**0**	**6**	**3**	**0**	**2**	**3**	**4**	**0**	**0**	**0**	**0**	**27**	**0**
Peak Hour HV%	**-**	**17%**	**11%**	**-**	**-**	**-**	**1%**	**1%**	**-**	**20%**	**100%**	**6%**	**-**	**-**	**-**	**-**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	3	4	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	2	4	1	0	*7*	0	3	0	0	*3*	0	0	0	2	*2*
4:30 PM	0	2	2	0	*4*	0	1	0	0	*1*	0	0	0	0	*0*
4:45 PM	**0**	**3**	**2**	**0**	***5***	**0**	**2**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**5**	**1**	**3**	**0**	***9***	**2**	**4**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**2**	**2**	**3**	**0**	***7***	**0**	**5**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	*0*
5:30 PM	**2**	**3**	**1**	**0**	***6***	**1**	**5**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	***0***
5:45 PM	1	1	1	0	*3*	0	3	0	0	*3*	0	0	0	0	*0*
Count Total	13	19	17	0	*49*	3	23	0	0	*26*	0	0	0	2	*2*
Peak Hour	**9**	**9**	**9**	**0**	***27***	**3**	**16**	**0**	**0**	***19***	**0**	**0**	**0**	**0**	***0***

Deon Fouche: 415 - 757 - 7714
deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Sierra Point Pkwy Eastbound				Sierra Point Pkwy Westbound				US 101 Ramps Northbound				US 101 Ramps Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	3	0	0	1	1	2	0	0	0	0	8	0
4:15 PM	0	1	1	0	0	0	2	2	0	0	0	1	0	0	0	0	7	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	4	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	24
5:00 PM	**0**	**2**	**3**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**9**	25
5:15 PM	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**7**	25
5:30 PM	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	**27**
5:45 PM	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	3	25
Count Total	0	4	9	0	0	0	13	6	0	3	6	8	0	0	0	0	49	0
Peak Hour	**0**	**3**	**6**	**0**	**0**	**0**	**6**	**3**	**0**	**2**	**3**	**4**	**0**	**0**	**0**	**0**	**27**	**0**

Two-Hour Count Summaries - Bikes

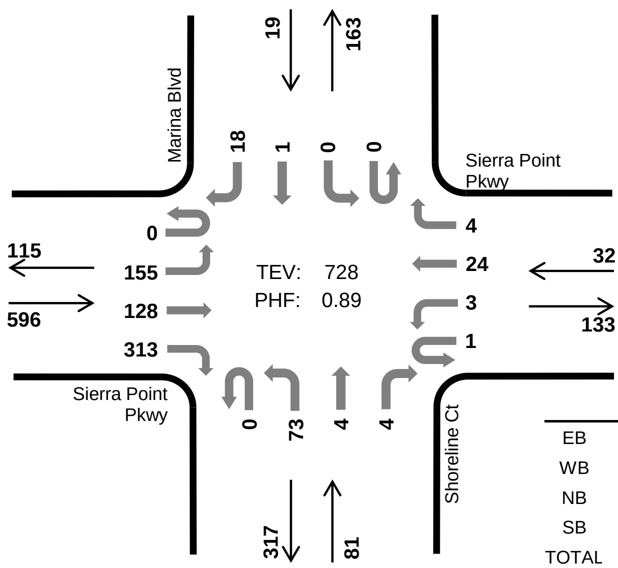
Interval Start	Sierra Point Pkwy Eastbound			Sierra Point Pkwy Westbound			US 101 Ramps Northbound			US 101 Ramps Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	3	0	0	0	0	0	0	0	3	0
4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0
4:45 PM	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	6
5:00 PM	**0**	**2**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	12
5:15 PM	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	14
5:30 PM	**0**	**1**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**19**
5:45 PM	0	0	0	0	3	0	0	0	0	0	0	0	3	20
Count Total	0	3	0	0	23	0	0	0	0	0	0	0	26	0
Peak Hour	**0**	**3**	**0**	**0**	**16**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

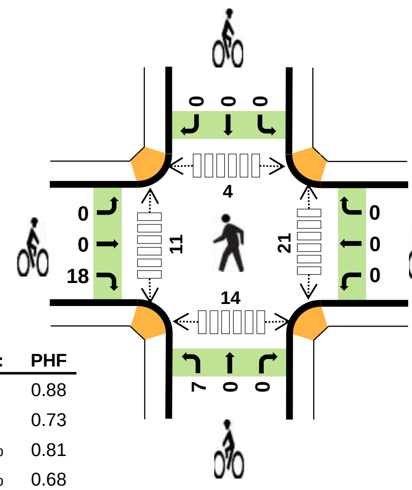
Shoreline Ct
Sierra Point Pkwy

idax

Date: 08/31/2016
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	1.0%	0.88
WB	0.0%	0.73
NB	12.3%	0.81
SB	21.1%	0.68
TOTAL	2.7%	0.89



Two-Hour Count Summaries

Interval Start	Sierra Point Pkwy Eastbound UT	LT	TH	RT	Sierra Point Pkwy Westbound UT	LT	TH	RT	Shoreline Ct Northbound UT	LT	TH	RT	Marina Blvd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	12	9	22	0	0	2	0	0	24	2	0	0	0	0	1	72	0
7:15 AM	0	9	10	43	0	0	6	0	0	21	0	0	0	1	1	1	92	0
7:30 AM	0	22	7	43	0	0	3	0	0	21	2	0	0	0	0	4	102	0
7:45 AM	0	35	25	58	0	0	4	0	0	20	2	2	0	0	0	8	154	420
8:00 AM	**0**	**30**	**19**	**72**	**0**	**1**	**3**	**2**	**0**	**18**	**1**	**2**	**0**	**0**	**0**	**3**	**151**	499
8:15 AM	**0**	**46**	**26**	**81**	**0**	**0**	**9**	**0**	**0**	**23**	**1**	**1**	**0**	**0**	**0**	**4**	**191**	598
8:30 AM	**0**	**42**	**39**	**71**	**1**	**0**	**3**	**2**	**0**	**18**	**1**	**0**	**0**	**0**	**1**	**4**	**182**	678
8:45 AM	**0**	**37**	**44**	**89**	**0**	**2**	**9**	**0**	**0**	**14**	**1**	**1**	**0**	**0**	**0**	**7**	**204**	**728**
Count Total	0	233	179	479	1	3	39	4	0	159	10	6	0	1	2	32	1,148	0
Peak Hour All	**0**	**155**	**128**	**313**	**1**	**3**	**24**	**4**	**0**	**73**	**4**	**4**	**0**	**0**	**1**	**18**	**728**	**0**
Peak Hour HV	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**6**	**2**	**2**	**0**	**0**	**0**	**4**	**20**	**0**
Peak Hour HV%	**-**	**0%**	**0%**	**2%**	**0%**	**0%**	**0%**	**0%**	**-**	**8%**	**50%**	**50%**	**-**	**-**	**0%**	**22%**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	0	1	1	0	*2*	18	0	0	0	*18*	0	1	0	0	*1*
7:15 AM	3	0	1	0	*4*	7	1	0	0	*8*	2	0	2	0	*4*
7:30 AM	3	0	0	0	*3*	5	0	1	0	*6*	3	2	1	0	*6*
7:45 AM	3	1	4	2	*10*	8	0	0	0	*8*	3	3	0	0	*6*
8:00 AM	**1**	**0**	**3**	**1**	***5***	**9**	**0**	**3**	**0**	***12***	**4**	**3**	**0**	**2**	*9*
8:15 AM	**2**	**0**	**3**	**1**	***6***	**4**	**0**	**2**	**0**	***6***	**6**	**2**	**0**	**5**	*13*
8:30 AM	**1**	**0**	**2**	**0**	***3***	**2**	**0**	**0**	**0**	***2***	**7**	**5**	**3**	**3**	*18*
8:45 AM	**2**	**0**	**2**	**2**	***6***	**3**	**0**	**2**	**0**	***5***	**4**	**1**	**1**	**4**	***10***
Count Total	15	2	16	6	*39*	56	1	8	0	*65*	29	17	7	14	*67*
Peak Hour	**6**	**0**	**10**	**4**	***20***	**18**	**0**	**7**	**0**	***25***	**21**	**11**	**4**	**14**	***50***

Deon Fouche: 415 - 757 - 7714

deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Sierra Point Pkwy Eastbound				Sierra Point Pkwy Westbound				Shoreline Ct Northbound				Marina Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0
7:15 AM	0	0	1	2	0	0	0	0	0	1	0	0	0	0	0	0	4	0
7:30 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0
7:45 AM	0	0	0	3	0	0	1	0	0	2	1	1	0	0	0	2	10	19
8:00 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**1**	**5**	22
8:15 AM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**1**	**6**	24
8:30 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	24
8:45 AM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**6**	**20**
Count Total	0	0	1	14	0	0	2	0	0	10	3	3	0	0	0	6	39	0
Peak Hour	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**6**	**2**	**2**	**0**	**0**	**0**	**4**	**20**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Sierra Point Pkwy Eastbound			Sierra Point Pkwy Westbound			Shoreline Ct Northbound			Marina Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	18	0	0	0	0	0	0	0	0	0	18	0
7:15 AM	0	0	7	0	1	0	0	0	0	0	0	0	8	0
7:30 AM	0	0	5	0	0	0	1	0	0	0	0	0	6	0
7:45 AM	0	0	8	0	0	0	0	0	0	0	0	0	8	40
8:00 AM	**0**	**0**	**9**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**12**	34
8:15 AM	**0**	**0**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**6**	32
8:30 AM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	28
8:45 AM	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**5**	**25**
Count Total	0	0	56	0	1	0	8	0	0	0	0	0	65	0
Peak Hour	**0**	**0**	**18**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**25**	**0**

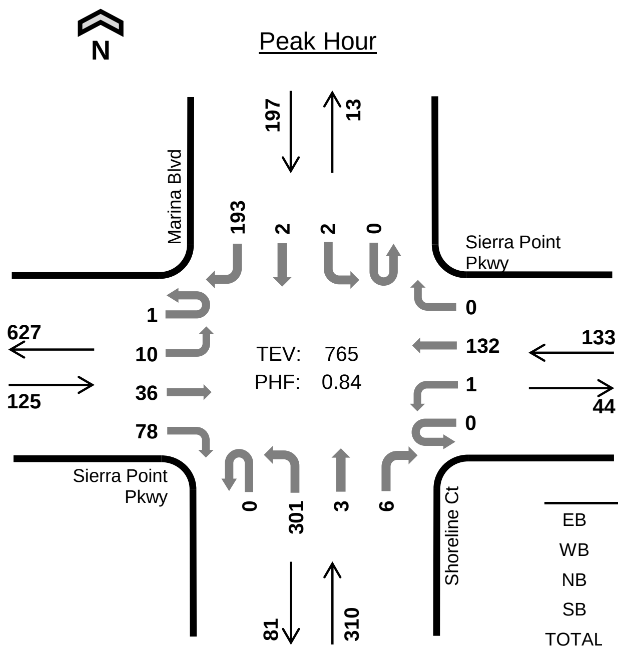
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

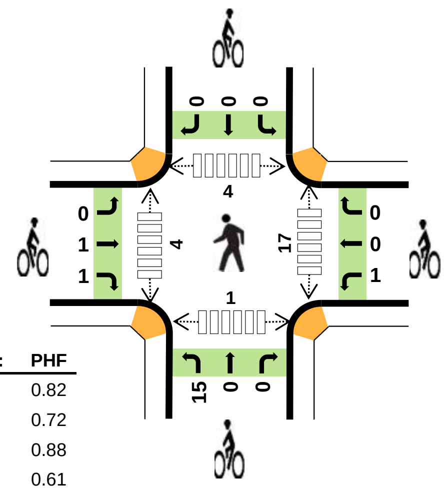
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Shoreline Ct
Sierra Point Pkwy

Date: 08/31/2016
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

Peak Hour





	HV %:	PHF
EB	7.2%	0.82
WB	0.0%	0.72
NB	2.3%	0.88
SB	3.0%	0.61
TOTAL	2.9%	0.84

Two-Hour Count Summaries

Interval Start		Sierra Point Pkwy Eastbound				Sierra Point Pkwy Westbound				Shoreline Ct Northbound				Marina Blvd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	8	9	21	0	2	26	0	0	44	1	0	0	0	0	22	133	0
4:15 PM		0	4	7	14	0	1	21	0	0	47	0	2	0	0	2	17	115	0
4:30 PM		0	4	11	23	0	0	25	1	0	71	2	0	0	1	0	19	157	0
4:45 PM		**0**	**1**	**11**	**26**	**0**	**0**	**21**	**0**	**0**	**73**	**0**	**3**	**0**	**2**	**1**	**34**	**172**	577
5:00 PM		**0**	**4**	**5**	**15**	**0**	**0**	**36**	**0**	**0**	**87**	**0**	**1**	**0**	**0**	**1**	**80**	**229**	673
5:15 PM		**1**	**2**	**7**	**23**	**0**	**0**	**30**	**0**	**0**	**65**	**2**	**2**	**0**	**0**	**0**	**57**	**189**	747
5:30 PM		**0**	**3**	**13**	**14**	**0**	**1**	**45**	**0**	**0**	**76**	**1**	**0**	**0**	**0**	**0**	**22**	**175**	765
5:45 PM		0	3	4	14	0	0	24	2	0	46	1	1	0	0	0	27	122	715
Count Total		1	29	67	150	0	4	228	3	0	509	7	9	0	3	4	278	1,292	0
Peak Hour	**All**	**1**	**10**	**36**	**78**	**0**	**1**	**132**	**0**	**0**	**301**	**3**	**6**	**0**	**2**	**2**	**193**	**765**	**0**
	HV	**0**	**1**	**1**	**7**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**4**	**0**	**0**	**0**	**6**	**22**	**0**
	HV%	**0%**	**10%**	**3%**	**9%**	**-**	**0%**	**0%**	**-**	**-**	**1%**	**0%**	**67%**	**-**	**0%**	**0%**	**3%**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	3	2	0	0	*5*	0	0	0	0	*0*	5	0	0	2	*7*
4:15 PM	3	3	4	2	*12*	0	1	2	0	*3*	3	1	1	0	*5*
4:30 PM	0	0	2	1	*3*	0	0	2	0	*2*	1	0	0	3	*4*
4:45 PM	**1**	**0**	**3**	**2**	***6***	**0**	**0**	**1**	**0**	***1***	**15**	**3**	**1**	**0**	*19*
5:00 PM	**3**	**0**	**1**	**1**	***5***	**1**	**1**	**4**	**0**	***6***	**1**	**0**	**0**	**1**	*2*
5:15 PM	**2**	**0**	**2**	**2**	***6***	**0**	**0**	**5**	**0**	***5***	**1**	**1**	**1**	**0**	*3*
5:30 PM	**3**	**0**	**1**	**1**	***5***	**1**	**0**	**5**	**0**	***6***	**0**	**0**	**2**	**0**	*2*
5:45 PM	2	0	1	1	*4*	0	0	3	0	*3*	0	1	0	0	*1*
Count Total	17	5	14	10	*46*	2	2	22	0	*26*	26	6	5	6	*43*
Peak Hour	**9**	**0**	**7**	**6**	***22***	**2**	**1**	**15**	**0**	***18***	**17**	**4**	**4**	**1**	***26***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Sierra Point Pkwy				Sierra Point Pkwy				Shoreline Ct				Marina Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	2	0	1	1	0	0	0	0	0	0	0	0	0	5	0
4:15 PM	0	0	0	3	0	1	2	0	0	2	0	2	0	0	0	2	12	0
4:30 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	3	0
4:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**2**	**6**	26
5:00 PM	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**5**	26
5:15 PM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**6**	20
5:30 PM	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**22**
5:45 PM	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	1	4	20
Count Total	0	1	3	13	0	2	3	0	0	6	1	7	0	0	0	10	46	0
Peak Hour	**0**	**1**	**1**	**7**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**4**	**0**	**0**	**0**	**6**	**22**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Sierra Point Pkwy			Sierra Point Pkwy			Shoreline Ct			Marina Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	1	0	2	0	0	0	0	0	3	0
4:30 PM	0	0	0	0	0	0	1	1	0	0	0	0	2	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	6
5:00 PM	**0**	**1**	**0**	**1**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**6**	12
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**5**	14
5:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**6**	**18**
5:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	3	20
Count Total	0	1	1	1	1	0	21	1	0	0	0	0	26	0
Peak Hour	**0**	**1**	**1**	**1**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**18**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

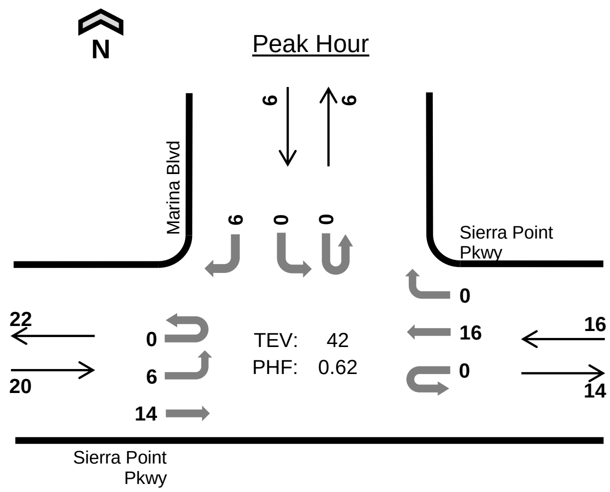
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

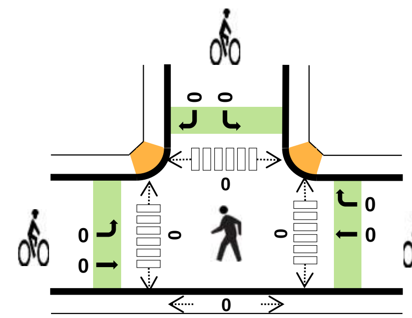
Marina Blvd
Sierra Point Pkwy

idax

Date: 08/31/2016
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour





	HV %:	PHF
EB	0.0%	0.71
WB	0.0%	0.50
NB	-	-
SB	0.0%	0.75
TOTAL	0.0%	0.62

Two-Hour Count Summaries

Interval Start		Sierra Point Pkwy Eastbound UT	LT	TH	RT	Sierra Point Pkwy Westbound UT	LT	TH	RT	0 Northbound UT	LT	TH	RT	Marina Blvd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM		0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	1	6	0
7:15 AM		0	2	1	0	0	0	6	1	0	0	0	0	0	0	0	0	10	0
7:30 AM		0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	0
7:45 AM		0	0	5	0	0	0	3	0	0	0	0	0	0	0	0	1	9	28
8:00 AM		**0**	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**6**	28
8:15 AM		**0**	**0**	**2**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**10**	28
8:30 AM		**0**	**1**	**5**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**9**	34
8:45 AM		**0**	**2**	**5**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**17**	**42**
Count Total		0	8	23	0	0	0	30	1	0	0	0	0	0	0	0	8	70	0
Peak Hour	**All**	**0**	**6**	**14**	**0**	**0**	**0**	**16**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**42**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	HV%	**-**	**0%**	**0%**	**-**	**-**	**-**	**0%**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0%**	**0%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	1	0	0	0	*1*	0	1	0	0	*1*	0	0	0	0	*0*
7:30 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:30 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:45 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	1	2	0	0	*3*	0	1	0	0	*1*	0	0	0	0	*0*
Peak Hr	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Deon Fouche: 415 - 757 - 7714

deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Sierra Point Pkwy Eastbound				Sierra Point Pkwy Westbound				0 Northbound				Marina Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	3
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	2
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Sierra Point Pkwy Eastbound			Sierra Point Pkwy Westbound			0 Northbound			Marina Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

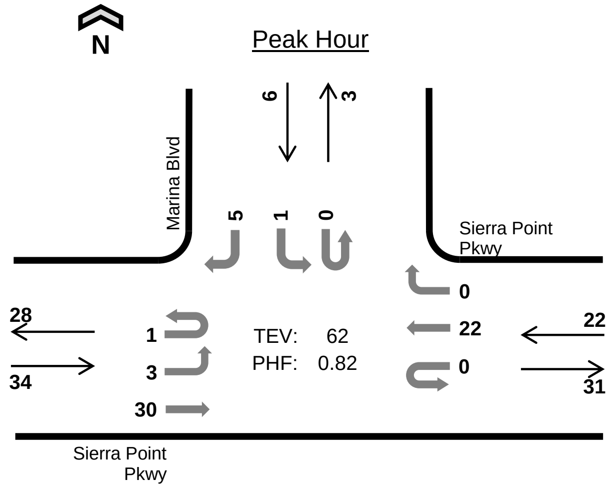
Deon Fouche: 415 - 757 - 7714

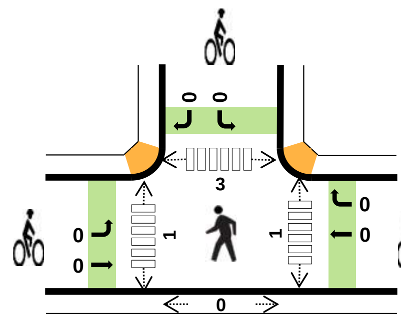
deon.fouche@idaxdata.com

Marina Blvd
Sierra Point Pkwy

Date: 08/31/2016
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM

Peak Hour





	HV %:	PHF
EB	0.0%	0.65
WB	18.2%	0.55
NB	-	-
SB	0.0%	0.50
TOTAL	6.5%	0.82

Two-Hour Count Summaries

Interval Start		Sierra Point Pkwy				Sierra Point Pkwy				0				Marina Blvd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	1	7	0	0	0	10	0	0	0	0	0	0	0	0	1	19	0
4:15 PM		0	1	4	0	0	0	7	0	0	0	0	0	0	0	0	1	13	0
4:30 PM		1	0	7	0	0	0	3	0	0	0	0	0	0	1	0	2	14	0
4:45 PM		0	1	12	0	0	0	2	0	0	0	0	0	0	0	0	1	16	62
5:00 PM		0	0	4	0	0	0	7	0	0	0	0	0	0	0	0	0	11	54
5:15 PM		0	0	5	0	0	0	2	0	0	0	0	0	0	1	0	0	8	49
5:30 PM		0	0	8	0	0	0	5	0	0	0	0	0	0	0	0	1	14	49
5:45 PM		0	0	4	0	0	0	6	0	0	0	0	0	0	0	0	1	11	44
Count Total		1	3	51	0	0	0	42	0	0	0	0	0	0	2	0	7	106	0
Peak Hour	All	1	3	30	0	0	0	22	0	0	0	0	0	0	1	0	5	62	0
	HV	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	0
	HV%	0%	0%	0%	-	-	-	18%	-	-	-	-	-	-	0%	-	0%	6%	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	2	0	0	*2*	0	0	0	0	*0*	0	0	2	0	*2*
4:15 PM	0	2	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	1	0	0	*1*
4:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	0	1	0	*2*
5:00 PM	0	0	0	0	*0*	2	0	0	0	*2*	1	0	1	0	*2*
5:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	2	0	*2*
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	2	0	0	0	*2*	0	0	0	0	*0*	0	0	1	0	*1*
Count Total	2	4	0	0	*6*	2	0	0	0	*2*	2	1	7	0	*10*
Peak Hr	0	4	0	0	*4*	0	0	0	0	*0*	1	1	3	0	*5*

Deon Fouche: 415 - 757 - 7714
deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Sierra Point Pkwy Eastbound UT	LT	TH	RT	Sierra Point Pkwy Westbound UT	LT	TH	RT	0 Northbound UT	LT	TH	RT	Marina Blvd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Count Total	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	6	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Sierra Point Pkwy Eastbound LT	TH	RT	Sierra Point Pkwy Westbound LT	TH	RT	0 Northbound LT	TH	RT	Marina Blvd Southbound LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	2	0	0	0	0	0	0	0	0	0	0	2	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714

deon.fouche@idaxdata.com

APPENDIX B: LOS WORKSHEETS

LOS Worksheets – Existing Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1285	34	54	135	65	27	144	321	330	295	179
Future Volume (veh/h)	96	1285	34	54	135	65	27	144	321	330	295	179
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1862	1900	1776	1738	1900	1810	1792	1845	1810	1759	1759
Adj Flow Rate, veh/h	103	1382	33	58	145	24	29	155	345	355	317	36
Adj No. of Lanes	1	3	0	2	2	0	1	1	2	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, %	5	2	2	7	10	10	5	6	3	5	8	8
Cap, veh/h	130	2437	58	178	1297	211	102	202	455	438	615	270
Arrive On Green	0.08	0.48	0.48	0.05	0.46	0.46	0.06	0.11	0.11	0.13	0.18	0.18
Sat Flow, veh/h	1723	5106	122	3281	2845	462	1723	1792	2716	3343	3343	1468
Grp Volume(v), veh/h	103	917	498	58	83	86	29	155	345	355	317	36
Grp Sat Flow(s),veh/h/ln	1723	1695	1838	1640	1651	1656	1723	1792	1358	1672	1671	1468
Q Serve(g_s), s	4.7	15.5	15.5	1.4	2.3	2.4	1.3	6.7	9.0	8.3	6.8	1.6
Cycle Q Clear(g_c), s	4.7	15.5	15.5	1.4	2.3	2.4	1.3	6.7	9.0	8.3	6.8	1.6
Prop In Lane	1.00		0.07	1.00		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	1617	877	178	752	755	102	202	455	438	615	270
V/C Ratio(X)	0.79	0.57	0.57	0.33	0.11	0.11	0.28	0.77	0.76	0.81	0.52	0.13
Avail Cap(c_a), veh/h	237	1617	877	369	752	755	215	202	455	543	615	270
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	15.0	15.0	36.4	12.5	12.5	36.0	34.5	31.8	33.8	29.4	27.3
Incr Delay (d2), s/veh	4.0	1.4	2.7	0.4	0.3	0.3	0.6	14.9	6.5	6.0	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	7.6	8.5	0.6	1.1	1.1	0.6	4.2	4.0	4.2	3.2	0.7
LnGrp Delay(d),s/veh	40.3	16.4	17.6	36.8	12.8	12.8	36.6	49.4	38.3	39.8	29.8	27.4
LnGrp LOS	D	B	B	D	B	B	D	D	D	D	C	C
Approach Vol, veh/h		1518			227			529			708	
Approach Delay, s/veh		18.5			18.9			41.4			34.7	
Approach LOS		B			B			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	8.8	19.7	10.1	41.5	14.5	14.0	8.3	43.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	9.0	11.0	8.0	13.0	9.0	9.0	31.0
Max Q Clear Time (g_c+I1), s	3.3	8.8	6.7	4.4	10.3	11.0	3.4	17.5
Green Ext Time (p_c), s	0.0	0.1	0.0	2.3	0.2	0.0	0.0	5.8

Intersection Summary			
HCM 2010 Ctrl Delay			26.4
HCM 2010 LOS			C

Notes
User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1661	67	0	486	5	122	94	373	302	240	30
Future Volume (veh/h)	0	1661	67	0	486	5	122	94	373	302	240	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	0.99		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1845	0	1793	1900	1881	1900	1881	1863	1851	1900
Adj Flow Rate, veh/h	0	1712	38	0	501	4	126	97	360	311	247	25
Adj No. of Lanes	0	2	1	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	3	0	6	6	1	0	1	2	3	3
Cap, veh/h	0	1792	771	0	1754	14	367	689	567	394	599	61
Arrive On Green	0.00	0.51	0.51	0.00	0.51	0.51	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	0	3632	1523	0	3554	28	1108	1900	1565	926	1652	167
Grp Volume(v), veh/h	0	1712	38	0	246	259	126	97	360	311	0	272
Grp Sat Flow(s),veh/h/ln	0	1770	1523	0	1704	1789	1108	1900	1565	926	0	1819
Q Serve(g_s), s	0.0	37.0	1.0	0.0	6.7	6.7	7.7	2.7	15.2	26.3	0.0	9.0
Cycle Q Clear(g_c), s	0.0	37.0	1.0	0.0	6.7	6.7	16.7	2.7	15.2	29.0	0.0	9.0
Prop In Lane	0.00		1.00	0.00		0.02	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	0	1792	771	0	863	905	367	689	567	394	0	660
V/C Ratio(X)	0.00	0.96	0.05	0.00	0.29	0.29	0.34	0.14	0.63	0.79	0.00	0.41
Avail Cap(c_a), veh/h	0	1792	771	0	863	905	367	689	567	394	0	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.9	10.0	0.0	11.4	11.4	25.4	17.1	21.1	27.2	0.0	19.1
Incr Delay (d2), s/veh	0.0	13.1	0.1	0.0	0.8	0.8	0.6	0.1	2.3	10.3	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	21.1	0.4	0.0	3.3	3.5	2.4	1.4	6.9	8.0	0.0	4.5
LnGrp Delay(d),s/veh	0.0	31.9	10.1	0.0	12.2	12.2	25.9	17.2	23.4	37.5	0.0	19.5
LnGrp LOS		C	B		B	B	C	B	C	D		B
Approach Vol, veh/h		1750			505			583			583	
Approach Delay, s/veh		31.5			12.2			22.9			29.1	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		46.0		34.0		46.0		34.0
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0
Max Green Setting (Gmax), s		40.5		29.0		40.5		29.0
Max Q Clear Time (g_c+I1), s		39.0		31.0		8.7		18.7
Green Ext Time (p_c), s		1.4		0.0		21.8		4.5

Intersection Summary	
HCM 2010 Ctrl Delay	26.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	528	45	278	538	137	98	613	243	95	348	43
Future Volume (veh/h)	124	528	45	278	538	137	98	613	243	95	348	43
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		0.93	1.00		0.91	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1749	1900	1827	1796	1900	1900	1863	1900	1827	1847	1900
Adj Flow Rate, veh/h	129	550	43	290	560	127	102	639	218	99	362	37
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	9	9	4	7	7	0	2	2	4	3	3
Cap, veh/h	158	830	65	295	940	212	129	759	259	124	935	95
Arrive On Green	0.09	0.27	0.27	0.17	0.35	0.35	0.07	0.30	0.30	0.07	0.29	0.29
Sat Flow, veh/h	1757	3105	242	1740	2714	612	1810	2565	874	1740	3203	325
Grp Volume(v), veh/h	129	294	299	290	351	336	102	441	416	99	197	202
Grp Sat Flow(s),veh/h/ln	1757	1662	1685	1740	1706	1620	1810	1770	1670	1740	1754	1774
Q Serve(g_s), s	8.1	17.7	17.8	18.7	19.0	19.2	6.2	26.2	26.3	6.3	10.1	10.2
Cycle Q Clear(g_c), s	8.1	17.7	17.8	18.7	19.0	19.2	6.2	26.2	26.3	6.3	10.1	10.2
Prop In Lane	1.00		0.14	1.00		0.38	1.00		0.52	1.00		0.18
Lane Grp Cap(c), veh/h	158	444	450	295	591	561	129	524	494	124	512	518
V/C Ratio(X)	0.82	0.66	0.66	0.98	0.59	0.60	0.79	0.84	0.84	0.80	0.38	0.39
Avail Cap(c_a), veh/h	297	444	450	295	591	561	242	725	684	248	719	727
HCM Platoon Ratio	1.00	1.00	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	50.2	36.6	36.6	46.5	30.2	30.2	51.3	37.0	37.1	51.3	31.7	31.8
Incr Delay (d2), s/veh	9.7	7.5	7.6	48.1	4.3	4.7	10.3	4.7	5.1	10.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	9.0	9.2	12.9	9.7	9.3	3.5	13.4	12.8	3.4	4.9	5.0
LnGrp Delay(d),s/veh	59.9	44.1	44.2	94.6	34.5	34.9	61.7	41.8	42.1	62.2	31.9	31.9
LnGrp LOS	E	D	D	F	C	C	E	D	D	E	C	C
Approach Vol, veh/h		722			977			959			498	
Approach Delay, s/veh		47.0			52.5			44.0			37.9	
Approach LOS		D			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	13.0	39.2	24.0	36.0	13.5	38.8	15.1	44.9
Change Period (Y+Rc), s	5.0	* 6	5.0	6.0	5.5	6.0	5.0	6.0
Max Green Setting (Gmax), s	16.0	* 46	19.0	30.0	15.0	46.0	19.0	30.0
Max Q Clear Time (g_c+I1), s	8.3	28.3	20.7	19.8	8.2	12.2	10.1	21.2
Green Ext Time (p_c), s	0.1	5.0	0.0	4.4	0.1	5.7	0.2	4.0

Intersection Summary			
HCM 2010 Ctrl Delay			46.4
HCM 2010 LOS			D

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	798	79	0	774	89	105	503	106	60	265	71
Future Volume (veh/h)	0	798	79	0	774	89	105	503	106	60	265	71
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		0.79	1.00		0.77	0.85		0.75	0.93		0.74
Parking Bus, Adj	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	0	1792	1743	0	1808	1900	1810	1792	1900	1810	1752	1900
Adj Flow Rate, veh/h	0	814	81	0	790	91	107	513	108	61	270	72
Adj No. of Lanes	0	2	1	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	6	9	0	5	5	5	6	6	5	8	8
Cap, veh/h	0	1143	391	0	1006	116	452	1263	262	355	1168	293
Arrive On Green	0.00	0.34	0.34	0.00	0.34	0.34	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	0	3495	1166	0	3086	345	853	2639	548	719	2441	612
Grp Volume(v), veh/h	0	814	81	0	453	428	107	328	293	61	179	163
Grp Sat Flow(s),veh/h/ln	0	1703	1166	0	1717	1623	853	1703	1484	719	1665	1389
Q Serve(g_s), s	0.0	14.6	3.5	0.0	16.6	16.7	5.9	8.7	9.0	4.2	4.4	4.9
Cycle Q Clear(g_c), s	0.0	14.6	3.5	0.0	16.6	16.7	10.8	8.7	9.0	13.2	4.4	4.9
Prop In Lane	0.00		1.00	0.00		0.21	1.00		0.37	1.00		0.44
Lane Grp Cap(c), veh/h	0	1143	391	0	577	545	452	815	710	355	797	665
V/C Ratio(X)	0.00	0.71	0.21	0.00	0.79	0.79	0.24	0.40	0.41	0.17	0.22	0.25
Avail Cap(c_a), veh/h	0	1143	391	0	577	545	452	815	710	355	797	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.3	16.6	0.0	21.0	21.0	14.0	11.8	11.9	16.1	10.7	10.8
Incr Delay (d2), s/veh	0.0	3.8	1.2	0.0	10.3	10.9	1.2	1.5	1.8	1.1	0.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.4	1.2	0.0	9.4	9.0	1.6	4.3	4.0	0.9	2.1	2.0
LnGrp Delay(d),s/veh	0.0	24.1	17.8	0.0	31.3	31.9	15.2	13.3	13.6	17.2	11.3	11.7
LnGrp LOS		C	B		C	C	B	B	B	B	B	B
Approach Vol, veh/h		895			881			728			403	
Approach Delay, s/veh		23.5			31.6			13.7			12.3	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.0		30.0		40.0		30.0
Change Period (Y+Rc), s		6.5		6.5		6.5		6.5
Max Green Setting (Gmax), s		33.5		23.5		33.5		23.5
Max Q Clear Time (g_c+I1), s		12.8		16.6		15.2		18.7
Green Ext Time (p_c), s		8.0		5.4		7.6		3.9

Intersection Summary		
HCM 2010 Ctrl Delay		21.9
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	393	0	550	0	0	0	251	285	0	77	520	289
Future Volume (veh/h)	393	0	550	0	0	0	251	285	0	77	520	289
Number	7	4	14				5	2	12	1	6	16
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		0.96
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	1776	0	1827				1792	1638	0	1900	1810	1743
Adj Flow Rate, veh/h	418	0	262				267	303	0	82	553	71
Adj No. of Lanes	2	0	2				2	2	0	1	2	2
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	0	4				6	16	0	0	5	9
Cap, veh/h	1618	0	1348				332	963	0	106	919	672
Arrive On Green	0.49	0.00	0.49				0.10	0.31	0.00	0.06	0.27	0.27
Sat Flow, veh/h	3281	0	2733				3312	3194	0	1810	3438	2515
Grp Volume(v), veh/h	418	0	262				267	303	0	82	553	71
Grp Sat Flow(s),veh/h/ln	1640	0	1367				1656	1556	0	1810	1719	1257
Q Serve(g_s), s	7.0	0.0	5.1				7.5	7.1	0.0	4.2	13.3	2.0
Cycle Q Clear(g_c), s	7.0	0.0	5.1				7.5	7.1	0.0	4.2	13.3	2.0
Prop In Lane	1.00		1.00				1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1618	0	1348				332	963	0	106	919	672
V/C Ratio(X)	0.26	0.00	0.19				0.80	0.31	0.00	0.78	0.60	0.11
Avail Cap(c_a), veh/h	1618	0	1348				349	963	0	190	919	672
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.0	0.0	13.5				41.8	25.1	0.0	44.1	30.4	26.2
Incr Delay (d2), s/veh	0.4	0.0	0.3				12.3	0.9	0.0	4.5	2.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	5.2				4.0	3.1	0.0	2.3	6.7	0.7
LnGrp Delay(d),s/veh	14.4	0.0	13.8				54.1	26.0	0.0	48.6	33.3	26.6
LnGrp LOS	B		B				D	C		D	C	C
Approach Vol, veh/h		680						570			706	
Approach Delay, s/veh		14.2						39.1			34.4	
Approach LOS		B						D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	9.5	34.0		51.5	13.5	30.0		
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		
Max Green Setting (Gmax), s	10.0	25.4		46.4	10.0	25.4		
Max Q Clear Time (g_c+I1), s	6.2	9.1		9.0	9.5	15.3		
Green Ext Time (p_c), s	0.0	5.2		2.7	0.1	4.0		

Intersection Summary		
HCM 2010 Ctrl Delay		28.7
HCM 2010 LOS		C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	124	85	25	34	64	63	729	65	136	1170	72
Future Volume (veh/h)	55	124	85	25	34	64	63	729	65	136	1170	72
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	1827	1861	1776	1900	1838	1743	1810	1759	1624	1827	1792	1776
Adj Flow Rate, veh/h	59	133	0	27	37	0	68	784	0	146	1258	0
Adj No. of Lanes	1	1	1	0	1	1	1	2	1	1	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, %	4	2	7	0	0	9	5	8	17	4	6	7
Cap, veh/h	200	214	174	47	64	91	87	1581	653	183	1797	797
Arrive On Green	0.12	0.12	0.00	0.06	0.06	0.00	0.05	0.47	0.00	0.11	0.53	0.00
Sat Flow, veh/h	1740	1861	1509	759	1041	1482	1723	3343	1380	1740	3406	1509
Grp Volume(v), veh/h	59	133	0	64	0	0	68	784	0	146	1258	0
Grp Sat Flow(s),veh/h/ln	1740	1861	1509	1800	0	1482	1723	1671	1380	1740	1703	1509
Q Serve(g_s), s	2.4	5.2	0.0	2.6	0.0	0.0	3.0	12.3	0.0	6.3	21.1	0.0
Cycle Q Clear(g_c), s	2.4	5.2	0.0	2.6	0.0	0.0	3.0	12.3	0.0	6.3	21.1	0.0
Prop In Lane	1.00		1.00	0.42		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	200	214	174	111	0	91	87	1581	653	183	1797	797
V/C Ratio(X)	0.29	0.62	0.00	0.58	0.00	0.00	0.78	0.50	0.00	0.80	0.70	0.00
Avail Cap(c_a), veh/h	911	975	791	943	0	776	677	1751	723	684	1797	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	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.9	32.2	0.0	34.9	0.0	0.0	35.8	13.9	0.0	33.4	13.5	0.0
Incr Delay (d2), s/veh	0.3	1.1	0.0	1.8	0.0	0.0	5.6	0.5	0.0	3.0	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.7	0.0	1.4	0.0	0.0	1.6	5.8	0.0	3.2	10.2	0.0
LnGrp Delay(d),s/veh	31.2	33.3	0.0	36.6	0.0	0.0	41.5	14.4	0.0	36.4	15.1	0.0
LnGrp LOS	C	C		D			D	B		D	B	
Approach Vol, veh/h		192			64			852			1404	
Approach Delay, s/veh		32.7			36.6			16.5			17.3	
Approach LOS		C			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	41.8		13.3	7.9	46.0		9.2
Change Period (Y+Rc), s	4.0	5.7		4.5	4.0	5.7		4.5
Max Green Setting (Gmax), s	30.0	40.0		40.0	30.0	40.0		40.0
Max Q Clear Time (g_c+I1), s	8.3	14.3		7.2	5.0	23.1		4.6
Green Ext Time (p_c), s	0.2	21.8		0.5	0.1	15.2		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	18.7
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations			✣				✣				✣				✣	
Traffic Vol, veh/h	0	1	1	6	0	75	0	13	0	1	192	134	0	15	39	1
Future Vol, veh/h	0	1	1	6	0	75	0	13	0	1	192	134	0	15	39	1
Peak Hour Factor	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89
Heavy Vehicles, %	2	100	0	0	2	4	0	23	2	0	7	3	2	40	13	100
Mvmt Flow	0	1	1	7	0	84	0	15	0	1	216	151	0	17	44	1
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	8.8	9.8	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	12%	85%	27%
Vol Thru, %	59%	12%	0%	71%
Vol Right, %	41%	75%	15%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	327	8	88	55
LT Vol	1	1	75	15
Through Vol	192	1	0	39
RT Vol	134	6	13	1
Lane Flow Rate	367	9	99	62
Geometry Grp	1	1	1	1
Degree of Util (X)	0.41	0.016	0.137	0.09
Departure Headway (Hd)	4.02	6.256	4.994	5.272
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	896	572	718	680
Service Time	2.033	4.291	3.023	3.296
HCM Lane V/C Ratio	0.41	0.016	0.138	0.091
HCM Control Delay	9.8	9.4	8.8	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	2	0	0.5	0.3

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations									
Traffic Vol, veh/h	0	48	95	0	28	53	0	169	55
Future Vol, veh/h	0	48	95	0	28	53	0	169	55
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.94	0.94
Heavy Vehicles, %	2	17	2	2	7	11	2	2	11
Mvmt Flow	0	51	101	0	30	56	0	180	59
Number of Lanes	0	1	1	0	1	1	0	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	8.5	8.6	8.9
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	28	53	48	95	169	55
LT Vol	28	0	48	0	0	0
Through Vol	0	53	0	0	169	0
RT Vol	0	0	0	95	0	55
Lane Flow Rate	30	56	51	101	180	59
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.047	0.083	0.086	0.13	0.25	0.073
Departure Headway (Hd)	5.729	5.294	6.081	4.62	5.012	4.462
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	626	677	590	776	717	803
Service Time	3.459	3.024	3.806	2.346	2.736	2.186
HCM Lane V/C Ratio	0.048	0.083	0.086	0.13	0.251	0.073
HCM Control Delay	8.7	8.5	9.4	8	9.4	7.5
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.3	0.4	1	0.2

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	236	0	0	71	44	10	5	370	0	0	0
Future Vol, veh/h	23	236	0	0	71	44	10	5	370	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	120	-	-	-	-	-	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	13	1	0	0	7	9	20	80	1	0	0	0
Mvmt Flow	26	271	0	0	82	51	11	6	425	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	132	0	-	-	-	0	431	456	271
Stage 1	-	-	-	-	-	-	324	324	-
Stage 2	-	-	-	-	-	-	107	132	-
Critical Hdwy	4.23	-	-	-	-	-	6.6	7.3	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.6	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.6	6.3	-
Follow-up Hdwy	2.317	-	-	-	-	-	3.68	4.72	3.309
Pot Cap-1 Maneuver	1388	-	0	0	-	-	549	402	770
Stage 1	-	-	0	0	-	-	694	531	-
Stage 2	-	-	0	0	-	-	874	659	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1388	-	-	-	-	-	539	0	770
Mov Cap-2 Maneuver	-	-	-	-	-	-	539	0	-
Stage 1	-	-	-	-	-	-	681	0	-
Stage 2	-	-	-	-	-	-	874	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.7	0	15.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	539	770	1388	-	-	-
HCM Lane V/C Ratio	0.032	0.552	0.019	-	-	-
HCM Control Delay (s)	11.9	15.3	7.6	-	-	-
HCM Lane LOS	B	C	A	-	-	-
HCM 95th %tile Q(veh)	0.1	3.4	0.1	-	-	-

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---------------------------------------------------------------------------------
            Sierra Point Opus Office Center Transportation Analysis
                          Existing (2016) Conditions
                                 AM Peak Hour
---------------------------------------------------------------------------------

                      Level Of Service Computation Report
             2000 HCM 4-Way Stop Method (Base Volume Alternative)
*********************************************************************************
Intersection #10 Cleveland Street/Mission Avenue
*********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):         0.425
Loss Time (sec):       0                Average Delay (sec/veh):         9.7
Optimal Cycle:         0                Level Of Service:                  A
*********************************************************************************
Street Name:          Cleveland Street                    Mission Avenue
Approach:      North Bound       South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign         Stop Sign         Stop Sign         Stop Sign
Rights:          Include           Include           Include           Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        1  0  1  0  1    1  0  0  1  0    1  0  2  0  1    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      73    4     4     0    1    18   155  128   313     4   24     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   73    4     4     0    1    18   155  128   313     4   24     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89
PHF Volume:    82    4     4     0    1    20   174  144   352     4   27     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   82    4     4     0    1    20   174  144   352     4   27     4
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   82    4     4     0    1    20   174  144   352     4   27     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.00  1.00  1.00 0.05  0.95  1.00 2.00  1.00  1.00 1.71  0.29
Final Sat.:   510  546   611   510   32   578   648 1422   828   521  975   165
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.01  0.01  0.00 0.03  0.03  0.27 0.10  0.42  0.01 0.03  0.03
Crit Moves:  ****                  ****                   ****        ****
Delay/Veh:   10.5  8.9   8.2   0.0  8.3   8.3  10.1  8.2  10.0   9.3  8.8   8.7
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  10.5  8.9   8.2   0.0  8.3   8.3  10.1  8.2  10.0   9.3  8.8   8.7
LOS by Move:    B    A     A     *    A     A     B    A     B     A    A     A
ApproachDel:      10.3               8.3               9.7               8.8
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       10.3               8.3               9.7               8.8
LOS by Appr:         B                 A                 A                 A
AllWayAvgQ:    0.2  0.0   0.0   0.0  0.0   0.0   0.4  0.1   0.7   0.0  0.0   0.0
*********************************************************************************
Note: Queue reported is the number of cars per lane.
*********************************************************************************
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Intersection	
Intersection Delay, s/veh	6.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	6	14	0	0	0	16	0	0	0	0	0	0	0	0	6
Future Vol, veh/h	0	6	14	0	0	0	16	0	0	0	0	0	0	0	0	6
Peak Hour Factor	0.92	0.62	0.62	0.62	0.92	0.62	0.62	0.62	0.92	0.62	0.62	0.62	0.92	0.62	0.62	0.62
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	10	23	0	0	0	26	0	0	0	0	0	0	0	0	10
Number of Lanes	0	1	2	0	0	0	2	0	0	0	0	0	0	1	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	3	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	3	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	3	3
HCM Control Delay	6.9	6.5	6.7
HCM LOS	A	A	A

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	0%	100%	100%	100%	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	7	7	8	8	0	0	6
LT Vol	6	0	0	0	0	0	0	0
Through Vol	0	7	7	8	8	0	0	0
RT Vol	0	0	0	0	0	0	0	6
Lane Flow Rate	10	11	11	13	13	0	0	10
Geometry Grp	8	8	8	8	8	7	7	7
Degree of Util (X)	0.014	0.014	0.009	0.016	0.01	0	0	0.01
Departure Headway (Hd)	5.053	4.553	2.853	4.563	2.862	4.593	4.593	3.893
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	711	789	1258	787	1252	0	0	920
Service Time	2.762	2.261	0.561	2.277	0.576	2.315	2.315	1.615
HCM Lane V/C Ratio	0.014	0.014	0.009	0.017	0.01	0	0	0.011
HCM Control Delay	7.8	7.3	5.6	7.4	5.6	7.3	7.3	6.7
HCM Lane LOS	A	A	A	A	A	N	N	A
HCM 95th-tile Q	0	0	0	0	0	0	0	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	336	21	194	894	60	57	249	225	105	405	430
Future Volume (veh/h)	122	336	21	194	894	60	57	249	225	105	405	430
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1882	1900	1881	1867	1900	1863	1863	1881	1727	1863	1881
Adj Flow Rate, veh/h	127	350	17	202	931	58	59	259	234	109	422	224
Adj No. of Lanes	1	3	0	2	2	0	1	1	2	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	1	1	1	1	1	2	2	1	10	2	1
Cap, veh/h	319	2526	122	265	1324	82	108	349	710	280	758	337
Arrive On Green	0.18	0.50	0.49	0.08	0.39	0.38	0.06	0.19	0.18	0.09	0.21	0.21
Sat Flow, veh/h	1774	5020	242	3476	3387	211	1774	1863	2777	3191	3539	1573
Grp Volume(v), veh/h	127	238	129	202	488	501	59	259	234	109	422	224
Grp Sat Flow(s),veh/h/ln	1774	1713	1836	1738	1774	1825	1774	1863	1388	1596	1770	1573
Q Serve(g_s), s	7.0	4.1	4.1	6.3	25.4	25.4	3.6	14.4	7.5	3.5	11.7	9.2
Cycle Q Clear(g_c), s	7.0	4.1	4.1	6.3	25.4	25.4	3.6	14.4	7.5	3.5	11.7	9.2
Prop In Lane	1.00		0.13	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	319	1724	924	265	693	713	108	349	710	280	758	337
V/C Ratio(X)	0.40	0.14	0.14	0.76	0.70	0.70	0.55	0.74	0.33	0.39	0.56	0.66
Avail Cap(c_a), veh/h	319	1724	924	411	693	713	129	508	947	290	1030	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	14.6	14.6	49.8	28.1	28.2	50.2	42.2	33.4	47.4	38.6	16.4
Incr Delay (d2), s/veh	0.3	0.2	0.3	1.7	5.9	5.7	1.6	1.4	0.1	0.3	0.2	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	2.0	2.2	3.1	13.6	14.0	1.8	7.6	2.9	1.6	5.8	4.1
LnGrp Delay(d),s/veh	40.2	14.8	15.0	51.5	34.0	33.9	51.8	43.6	33.5	47.7	38.8	17.3
LnGrp LOS	D	B	B	D	C	C	D	D	C	D	D	B
Approach Vol, veh/h		494			1191			552			755	
Approach Delay, s/veh		21.3			37.0			40.2			33.7	
Approach LOS		C			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	27.6	24.8	47.0	13.6	24.6	12.4	59.4
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	31.0	11.0	* 42	10.0	29.0	13.0	40.0
Max Q Clear Time (g_c+I1), s	5.6	13.7	9.0	27.4	5.5	16.4	8.3	6.1
Green Ext Time (p_c), s	0.0	3.5	0.1	3.4	0.1	3.2	0.1	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	34.2
HCM 2010 LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	610	87	0	1044	3	145	71	241	182	464	39
Future Volume (veh/h)	0	610	87	0	1044	3	145	71	241	182	464	39
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		1.00	1.00		0.99	0.99		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	0	1863	1900	0	1881	1900	1881	1900	1900	1881	1866	1900
Adj Flow Rate, veh/h	0	649	43	0	1111	3	154	76	157	194	494	37
Adj No. of Lanes	0	2	1	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	1	1	1	0	0	1	2	2
Cap, veh/h	0	1618	719	0	1672	5	280	841	709	571	759	57
Arrive On Green	0.00	0.46	0.46	0.00	0.46	0.44	0.44	0.44	0.44	0.44	0.44	0.43
Sat Flow, veh/h	0	3632	1573	0	3751	10	876	1900	1601	1147	1713	128
Grp Volume(v), veh/h	0	649	43	0	543	571	154	76	157	194	0	531
Grp Sat Flow(s),veh/h/ln	0	1770	1573	0	1787	1879	876	1900	1601	1147	0	1842
Q Serve(g_s), s	0.0	9.8	1.2	0.0	18.9	19.0	13.4	1.9	4.8	9.5	0.0	18.1
Cycle Q Clear(g_c), s	0.0	9.8	1.2	0.0	18.9	19.0	31.4	1.9	4.8	11.3	0.0	18.1
Prop In Lane	0.00		1.00	0.00		0.01	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	0	1618	719	0	817	859	280	841	709	571	0	815
V/C Ratio(X)	0.00	0.40	0.06	0.00	0.66	0.66	0.55	0.09	0.22	0.34	0.00	0.65
Avail Cap(c_a), veh/h	0	1618	719	0	817	859	286	855	720	579	0	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.4	12.1	0.0	16.9	16.9	29.8	12.9	13.8	16.2	0.0	17.5
Incr Delay (d2), s/veh	0.0	0.7	0.2	0.0	4.2	4.0	2.1	0.0	0.2	0.3	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.9	0.6	0.0	10.3	10.8	3.4	1.0	2.2	3.0	0.0	9.6
LnGrp Delay(d),s/veh	0.0	15.2	12.3	0.0	21.2	21.0	31.9	13.0	13.9	16.6	0.0	19.3
LnGrp LOS		B	B		C	C	C	B	B	B		B
Approach Vol, veh/h		692			1114			387			725	
Approach Delay, s/veh		15.0			21.1			20.9			18.5	
Approach LOS		B			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.6		39.4		40.6		39.4
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0
Max Green Setting (Gmax), s		34.5		35.0		34.5		35.0
Max Q Clear Time (g_c+I1), s		11.8		20.1		21.0		33.4
Green Ext Time (p_c), s		12.8		5.8		9.1		1.0

Intersection Summary		
HCM 2010 Ctrl Delay		19.0
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	622	51	243	515	126	63	355	224	145	557	38
Future Volume (veh/h)	119	622	51	243	515	126	63	355	224	145	557	38
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		0.92	1.00		0.94	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1800	1900	1881	1816	1900	1863	1859	1900	1863	1900	1900
Adj Flow Rate, veh/h	121	635	48	248	526	115	64	362	135	148	568	34
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	6	6	1	5	5	2	3	3	2	0	0
Cap, veh/h	169	1035	78	299	1097	238	131	581	213	197	949	57
Arrive On Green	0.10	0.32	0.30	0.17	0.39	0.37	0.07	0.23	0.22	0.11	0.27	0.25
Sat Flow, veh/h	1757	3200	241	1792	2783	605	1774	2504	916	1774	3455	206
Grp Volume(v), veh/h	121	339	344	248	325	316	64	253	244	148	296	306
Grp Sat Flow(s),veh/h/ln	1757	1710	1731	1792	1726	1662	1774	1766	1654	1774	1805	1857
Q Serve(g_s), s	6.6	16.5	16.7	13.3	13.9	14.2	3.4	12.7	13.2	8.0	14.1	14.2
Cycle Q Clear(g_c), s	6.6	16.5	16.7	13.3	13.9	14.2	3.4	12.7	13.2	8.0	14.1	14.2
Prop In Lane	1.00		0.14	1.00		0.36	1.00		0.55	1.00		0.11
Lane Grp Cap(c), veh/h	169	553	560	299	680	655	131	410	384	197	496	510
V/C Ratio(X)	0.72	0.61	0.61	0.83	0.48	0.48	0.49	0.62	0.63	0.75	0.60	0.60
Avail Cap(c_a), veh/h	355	553	560	362	680	655	296	847	794	305	875	900
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	28.3	28.4	39.9	22.4	22.7	44.1	34.1	34.6	42.7	31.1	31.3
Incr Delay (d2), s/veh	5.6	5.0	5.0	12.8	2.4	2.5	2.8	0.6	0.7	5.6	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	8.6	8.7	7.6	7.0	6.9	1.8	6.3	6.1	4.2	7.1	7.3
LnGrp Delay(d),s/veh	49.0	33.3	33.4	52.7	24.8	25.3	46.9	34.6	35.3	48.3	31.6	31.7
LnGrp LOS	D	C	C	D	C	C	D	C	D	D	C	C
Approach Vol, veh/h		804			889			561			750	
Approach Delay, s/veh		35.7			32.7			36.3			34.9	
Approach LOS		D			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	27.5	20.5	36.0	11.3	31.2	13.5	43.0
Change Period (Y+Rc), s	5.0	* 6	5.0	6.0	5.5	6.0	5.0	6.0
Max Green Setting (Gmax), s	16.0	* 46	19.0	30.0	15.0	46.0	19.0	30.0
Max Q Clear Time (g_c+I1), s	10.0	15.2	15.3	18.7	5.4	16.2	8.6	16.2
Green Ext Time (p_c), s	0.2	4.6	0.3	4.8	0.1	4.6	0.2	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	34.7
HCM 2010 LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	822	193	0	714	88	78	331	105	84	436	92
Future Volume (veh/h)	0	822	193	0	714	88	78	331	105	84	436	92
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		0.70	1.00		0.85	0.90		0.76	0.90		0.73
Parking Bus, Adj	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	0	1827	1776	0	1851	1900	1881	1817	1900	1810	1795	1900
Adj Flow Rate, veh/h	0	847	199	0	736	91	80	341	108	87	449	95
Adj No. of Lanes	0	2	1	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	4	7	0	3	3	1	6	6	5	6	6
Cap, veh/h	0	1289	395	0	1144	141	422	1242	375	454	1351	279
Arrive On Green	0.00	0.37	0.37	0.00	0.37	0.34	0.51	0.51	0.48	0.51	0.51	0.48
Sat Flow, veh/h	0	3563	1064	0	3173	381	781	2415	730	822	2626	543
Grp Volume(v), veh/h	0	847	199	0	420	407	80	239	210	87	288	256
Grp Sat Flow(s),veh/h/ln	0	1736	1064	0	1758	1703	781	1726	1419	822	1706	1464
Q Serve(g_s), s	0.0	14.2	10.1	0.0	13.8	13.9	4.7	5.5	6.1	4.7	6.9	7.4
Cycle Q Clear(g_c), s	0.0	14.2	10.1	0.0	13.8	13.9	12.1	5.5	6.1	10.8	6.9	7.4
Prop In Lane	0.00		1.00	0.00		0.22	1.00		0.51	1.00		0.37
Lane Grp Cap(c), veh/h	0	1289	395	0	653	633	422	888	730	454	877	753
V/C Ratio(X)	0.00	0.66	0.50	0.00	0.64	0.64	0.19	0.27	0.29	0.19	0.33	0.34
Avail Cap(c_a), veh/h	0	1289	395	0	653	633	422	888	730	454	877	753
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	18.3	17.0	0.0	18.2	18.4	13.6	9.6	10.1	12.8	9.9	10.3
Incr Delay (d2), s/veh	0.0	2.6	4.5	0.0	4.8	5.0	1.0	0.7	1.0	0.9	1.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.2	3.4	0.0	7.5	7.4	1.1	2.8	2.5	1.2	3.4	3.2
LnGrp Delay(d),s/veh	0.0	20.9	21.5	0.0	23.0	23.4	14.6	10.3	11.1	13.8	10.9	11.5
LnGrp LOS		C	C		C	C	B	B	B	B	B	B
Approach Vol, veh/h		1046			827			529			631	
Approach Delay, s/veh		21.0			23.2			11.3			11.6	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.0		30.0		40.0		30.0
Change Period (Y+Rc), s		6.5		6.5		6.5		6.5
Max Green Setting (Gmax), s		33.5		23.5		33.5		23.5
Max Q Clear Time (g_c+I1), s		14.1		16.2		12.8		15.9
Green Ext Time (p_c), s		8.0		5.8		8.3		6.0

Intersection Summary		
HCM 2010 Ctrl Delay		18.0
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	314	0	206	0	0	0	596	457	0	100	239	443
Future Volume (veh/h)	314	0	206	0	0	0	596	457	0	100	239	443
Number	7	4	14				5	2	12	1	6	16
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		0.95
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	1792	0	1776				1881	1845	0	1900	1792	1863
Adj Flow Rate, veh/h	324	0	34				614	471	0	103	246	128
Adj No. of Lanes	2	0	2				2	2	0	1	2	2
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	6	0	7				1	3	0	0	6	2
Cap, veh/h	451	0	361				686	1512	0	131	1044	815
Arrive On Green	0.14	0.00	0.14				0.20	0.43	0.00	0.07	0.31	0.31
Sat Flow, veh/h	3312	0	2656				3476	3597	0	1810	3406	2659
Grp Volume(v), veh/h	324	0	34				614	471	0	103	246	128
Grp Sat Flow(s),veh/h/ln	1656	0	1328				1738	1752	0	1810	1703	1329
Q Serve(g_s), s	8.4	0.0	1.0				15.5	7.9	0.0	5.0	4.9	3.2
Cycle Q Clear(g_c), s	8.4	0.0	1.0				15.5	7.9	0.0	5.0	4.9	3.2
Prop In Lane	1.00		1.00				1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	451	0	361				686	1512	0	131	1044	815
V/C Ratio(X)	0.72	0.00	0.09				0.90	0.31	0.00	0.78	0.24	0.16
Avail Cap(c_a), veh/h	1178	0	945				711	1512	0	209	1044	815
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	0.0	34.0				35.2	16.8	0.0	41.0	23.3	22.7
Incr Delay (d2), s/veh	2.2	0.0	0.1				13.7	0.5	0.0	3.9	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.8				8.7	3.9	0.0	2.7	2.4	1.2
LnGrp Delay(d),s/veh	39.4	0.0	34.1				48.9	17.3	0.0	44.9	23.8	23.1
LnGrp LOS	D		C				D	B		D	C	C
Approach Vol, veh/h		358						1085			477	
Approach Delay, s/veh		38.9						35.2			28.2	
Approach LOS		D						D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	10.5	42.8		16.2	21.8	31.6		
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		
Max Green Setting (Gmax), s	10.4	26.4		31.4	18.4	27.0		
Max Q Clear Time (g_c+I1), s	7.0	9.9		10.4	17.5	6.9		
Green Ext Time (p_c), s	0.0	4.6		1.2	0.3	5.0		

Intersection Summary			
HCM 2010 Ctrl Delay			34.1
HCM 2010 LOS			C

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	55	89	41	116	177	83	1030	41	44	727	46
Future Volume (veh/h)	75	55	89	41	116	177	83	1030	41	44	727	46
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	1881	1897	1863	1900	1872	1727	1881	1810	1652	1743	1810	1743
Adj Flow Rate, veh/h	70	74	0	44	123	0	88	1096	0	47	773	0
Adj No. of Lanes	1	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	0	2	2	2	10	1	5	15	9	5	9
Cap, veh/h	180	190	159	64	179	193	115	1788	730	57	1687	727
Arrive On Green	0.10	0.10	0.00	0.13	0.13	0.00	0.06	0.52	0.00	0.03	0.49	0.00
Sat Flow, veh/h	1792	1897	1583	487	1361	1468	1792	3438	1404	1660	3438	1482
Grp Volume(v), veh/h	70	74	0	167	0	0	88	1096	0	47	773	0
Grp Sat Flow(s),veh/h/ln	1792	1897	1583	1848	0	1468	1792	1719	1404	1660	1719	1482
Q Serve(g_s), s	2.7	2.7	0.0	6.5	0.0	0.0	3.6	16.8	0.0	2.1	11.1	0.0
Cycle Q Clear(g_c), s	2.7	2.7	0.0	6.5	0.0	0.0	3.6	16.8	0.0	2.1	11.1	0.0
Prop In Lane	1.00		1.00	0.26		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	180	190	159	243	0	193	115	1788	730	57	1687	727
V/C Ratio(X)	0.39	0.39	0.00	0.69	0.00	0.00	0.77	0.61	0.00	0.82	0.46	0.00
Avail Cap(c_a), veh/h	968	1025	856	999	0	793	717	1913	781	665	1913	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.6	31.6	0.0	31.1	0.0	0.0	34.5	12.7	0.0	35.9	12.5	0.0
Incr Delay (d2), s/veh	0.5	0.5	0.0	1.3	0.0	0.0	4.0	0.9	0.0	10.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.5	0.0	3.4	0.0	0.0	1.9	8.1	0.0	1.1	5.3	0.0
LnGrp Delay(d),s/veh	32.1	32.0	0.0	32.4	0.0	0.0	38.5	13.5	0.0	46.1	13.0	0.0
LnGrp LOS	C	C		C			D	B		D	B	
Approach Vol, veh/h		144			167			1184			820	
Approach Delay, s/veh		32.1			32.4			15.4			14.9	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.6	43.0		11.5	8.8	40.8		13.9
Change Period (Y+Rc), s	4.0	5.7		4.5	4.0	5.7		4.5
Max Green Setting (Gmax), s	30.0	40.0		40.0	30.0	40.0		40.0
Max Q Clear Time (g_c+I1), s	4.1	18.8		4.7	5.6	13.1		8.5
Green Ext Time (p_c), s	0.0	17.9		0.3	0.1	22.0		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	17.5
HCM 2010 LOS	B

Notes
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations			✣				✣				✣				✣	
Traffic Vol, veh/h	0	0	0	0	0	256	0	11	0	0	87	53	0	10	72	0
Future Vol, veh/h	0	0	0	0	0	256	0	11	0	0	87	53	0	10	72	0
Peak Hour Factor	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	0	0	0	2	6	0	9	2	0	9	2	2	40	6	0
Mvmt Flow	0	0	0	0	0	281	0	12	0	0	96	58	0	11	79	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	10.8	8.9	9.5
HCM LOS	-	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	96%	12%
Vol Thru, %	62%	100%	0%	88%
Vol Right, %	38%	0%	4%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	140	0	267	82
LT Vol	0	0	256	10
Through Vol	87	0	0	72
RT Vol	53	0	11	0
Lane Flow Rate	154	0	293	90
Geometry Grp	1	1	1	1
Degree of Util (X)	0.201	0	0.389	0.139
Departure Headway (Hd)	4.693	4.883	4.778	5.536
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	763	0	751	647
Service Time	2.731	2.939	2.815	3.579
HCM Lane V/C Ratio	0.202	0	0.39	0.139
HCM Control Delay	8.9	7.9	10.8	9.5
HCM Lane LOS	A	N	B	A
HCM 95th-tile Q	0.7	0	1.9	0.5

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations		↰	↱		↰	↑		↑	↱
Traffic Vol, veh/h	0	29	33	0	78	334	0	33	188
Future Vol, veh/h	0	29	33	0	78	334	0	33	188
Peak Hour Factor	0.92	0.90	0.90	0.92	0.90	0.90	0.92	0.90	0.90
Heavy Vehicles, %	2	7	9	2	0	1	2	9	9
Mvmt Flow	0	32	37	0	87	371	0	37	209
Number of Lanes	0	1	1	0	1	1	0	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	9.2	11.9	8.8
HCM LOS	A	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	78	334	29	33	33	188
LT Vol	78	0	29	0	0	0
Through Vol	0	334	0	0	33	0
RT Vol	0	0	0	33	0	188
Lane Flow Rate	87	371	32	37	37	209
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.13	0.506	0.06	0.056	0.054	0.265
Departure Headway (Hd)	5.397	4.912	6.686	5.51	5.263	4.559
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	665	735	535	648	680	788
Service Time	3.127	2.642	4.439	3.263	2.996	2.292
HCM Lane V/C Ratio	0.131	0.505	0.06	0.057	0.054	0.265
HCM Control Delay	8.9	12.6	9.9	8.6	8.3	8.9
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.4	2.9	0.2	0.2	0.2	1.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	57	0	0	421	207	10	3	68	0	0	0
Future Vol, veh/h	18	57	0	0	421	207	10	3	68	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	120	-	-	-	-	-	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	17	11	0	0	1	1	20	100	6	0	0	0
Mvmt Flow	22	69	0	0	507	249	12	4	82	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	757	0	-	-	-	0	744	869	69
Stage 1	-	-	-	-	-	-	112	112	-
Stage 2	-	-	-	-	-	-	632	757	-
Critical Hdwy	4.27	-	-	-	-	-	6.6	7.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	5.6	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.6	6.5	-
Follow-up Hdwy	2.353	-	-	-	-	-	3.68	4.9	3.354
Pot Cap-1 Maneuver	790	-	0	0	-	-	357	205	983
Stage 1	-	-	0	0	-	-	870	647	-
Stage 2	-	-	0	0	-	-	497	300	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	790	-	-	-	-	-	347	0	983
Mov Cap-2 Maneuver	-	-	-	-	-	-	347	0	-
Stage 1	-	-	-	-	-	-	846	0	-
Stage 2	-	-	-	-	-	-	497	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2.3	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	347	983	790	-	-	-
HCM Lane V/C Ratio	0.045	0.083	0.027	-	-	-
HCM Control Delay (s)	15.9	9	9.7	-	-	-
HCM Lane LOS	C	A	A	-	-	-
HCM 95th %tile Q(veh)	0.1	0.3	0.1	-	-	-

Sierra Point Opus Office Center Transportation Analysis
Existing (2016) Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #10 Cleveland Street/Mission Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	0.662
Loss Time (sec):	0	Average Delay (sec/veh):	14.4
Optimal Cycle:	0	Level Of Service:	B

Street Name:	Cleveland Street						Mission Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 1 0 1			1 0 0 1 0			1 0 2 0 1			1 0 1 1 0		
Volume Module:												
Base Vol:	301	3	6	2	2	193	11	36	78	1	132	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	301	3	6	2	2	193	11	36	78	1	132	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	358	4	7	2	2	230	13	43	93	1	157	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	358	4	7	2	2	230	13	43	93	1	157	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	358	4	7	2	2	230	13	43	93	1	157	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.01	0.99	1.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	541	573	645	529	7	643	455	971	539	458	984	0
Capacity Analysis Module:												
Vol/Sat:	0.66	0.01	0.01	0.00	0.36	0.36	0.03	0.04	0.17	0.00	0.16	xxxx
Crit Moves:	****					****			****		****	
Delay/Veh:	20.5	8.8	8.1	9.2	10.6	10.6	10.2	9.8	9.9	10.0	10.6	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.5	8.8	8.1	9.2	10.6	10.6	10.2	9.8	9.9	10.0	10.6	0.0
LOS by Move:	C	A	A	A	B	B	B	A	A	A	B	*
ApproachDel:		20.2			10.6			9.9			10.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		20.2			10.6			9.9			10.6	
LOS by Appr:		C			B			A			B	
AllWayAvgQ:	1.7	0.0	0.0	0.0	0.5	0.5	0.0	0.0	0.2	0.0	0.2	0.2

Note: Queue reported is the number of cars per lane.

Intersection	
Intersection Delay, s/veh	6.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	4	30	0	0	0	22	0	0	0	0	0	0	1	0	5
Future Vol, veh/h	0	4	30	0	0	0	22	0	0	0	0	0	0	1	0	5
Peak Hour Factor	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82
Heavy Vehicles, %	2	0	0	0	2	0	18	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	5	37	0	0	0	27	0	0	0	0	0	0	1	0	6
Number of Lanes	0	1	2	0	0	0	2	0	0	0	0	0	0	1	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	3	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	3	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	3	3
HCM Control Delay	6.7	6.7	6.9
HCM LOS	A	A	A

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	100%	100%	100%	0%	100%	0%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	15	15	11	11	1	0	5
LT Vol	4	0	0	0	0	1	0	0
Through Vol	0	15	15	11	11	0	0	0
RT Vol	0	0	0	0	0	0	0	5
Lane Flow Rate	5	18	18	13	13	1	0	6
Geometry Grp	8	8	8	8	8	7	7	7
Degree of Util (X)	0.007	0.023	0.014	0.018	0.011	0.002	0	0.007
Departure Headway (Hd)	5.049	4.549	2.849	4.872	2.866	5.11	4.61	3.91
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	711	789	1258	736	1249	701	0	915
Service Time	2.764	2.263	0.563	2.591	0.584	2.833	2.333	1.633
HCM Lane V/C Ratio	0.007	0.023	0.014	0.018	0.01	0.001	0	0.007
HCM Control Delay	7.8	7.4	5.6	7.7	5.6	7.8	7.3	6.7
HCM Lane LOS	A	A	A	A	A	A	N	A
HCM 95th-tile Q	0	0.1	0	0.1	0	0	0	0

LOS WORKSHEETS – EXISTING PLUS PROJECT CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	1285	34	54	135	65	27	156	321	330	297	182
Future Volume (veh/h)	121	1285	34	54	135	65	27	156	321	330	297	182
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1862	1900	1776	1738	1900	1810	1792	1845	1810	1759	1759
Adj Flow Rate, veh/h	130	1382	33	58	145	24	29	168	345	355	319	37
Adj No. of Lanes	1	3	0	2	2	0	1	1	2	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, %	5	2	2	7	10	10	5	6	3	5	8	8
Cap, veh/h	162	2437	58	178	1245	202	102	202	455	438	615	270
Arrive On Green	0.09	0.48	0.48	0.05	0.44	0.44	0.06	0.11	0.11	0.13	0.18	0.18
Sat Flow, veh/h	1723	5106	122	3281	2845	462	1723	1792	2716	3343	3343	1468
Grp Volume(v), veh/h	130	917	498	58	83	86	29	168	345	355	319	37
Grp Sat Flow(s),veh/h/ln	1723	1695	1838	1640	1651	1656	1723	1792	1358	1672	1671	1468
Q Serve(g_s), s	5.9	15.5	15.5	1.4	2.4	2.5	1.3	7.3	9.0	8.3	6.9	1.7
Cycle Q Clear(g_c), s	5.9	15.5	15.5	1.4	2.4	2.5	1.3	7.3	9.0	8.3	6.9	1.7
Prop In Lane	1.00		0.07	1.00		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	162	1617	877	178	722	725	102	202	455	438	615	270
V/C Ratio(X)	0.80	0.57	0.57	0.33	0.11	0.12	0.28	0.83	0.76	0.81	0.52	0.14
Avail Cap(c_a), veh/h	237	1617	877	369	722	725	215	202	455	543	615	270
HCM Platoon Ratio	1.00	1.00	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	35.5	15.0	15.0	36.4	13.3	13.3	36.0	34.8	31.8	33.8	29.4	27.3
Incr Delay (d2), s/veh	7.1	1.4	2.7	0.4	0.3	0.3	0.6	23.5	6.5	6.0	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	7.6	8.5	0.6	1.1	1.2	0.6	5.0	4.0	4.2	3.2	0.7
LnGrp Delay(d),s/veh	42.6	16.4	17.6	36.8	13.6	13.7	36.6	58.3	38.3	39.8	29.8	27.4
LnGrp LOS	D	B	B	D	B	B	D	E	D	D	C	C
Approach Vol, veh/h		1545			227			542			711	
Approach Delay, s/veh		19.0			19.6			44.4			34.7	
Approach LOS		B			B			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	8.8	19.7	11.5	40.0	14.5	14.0	8.3	43.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	9.0	11.0	8.0	13.0	9.0	9.0	31.0
Max Q Clear Time (g_c+I1), s	3.3	8.9	7.9	4.5	10.3	11.0	3.4	17.5
Green Ext Time (p_c), s	0.0	0.0	0.0	2.2	0.2	0.0	0.0	5.8

Intersection Summary	
HCM 2010 Ctrl Delay	27.3
HCM 2010 LOS	C

Notes
User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1680	67	0	488	5	122	94	373	308	240	30
Future Volume (veh/h)	0	1680	67	0	488	5	122	94	373	308	240	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	0.99		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1845	0	1793	1900	1881	1900	1881	1863	1851	1900
Adj Flow Rate, veh/h	0	1732	38	0	503	4	126	97	360	318	247	25
Adj No. of Lanes	0	2	1	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	3	0	6	6	1	0	1	2	3	3
Cap, veh/h	0	1792	771	0	1754	14	367	689	567	394	599	61
Arrive On Green	0.00	0.51	0.51	0.00	0.51	0.51	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	0	3632	1523	0	3554	28	1108	1900	1565	926	1652	167
Grp Volume(v), veh/h	0	1732	38	0	247	260	126	97	360	318	0	272
Grp Sat Flow(s),veh/h/ln	0	1770	1523	0	1704	1789	1108	1900	1565	926	0	1819
Q Serve(g_s), s	0.0	37.9	1.0	0.0	6.7	6.7	7.7	2.7	15.2	26.3	0.0	9.0
Cycle Q Clear(g_c), s	0.0	37.9	1.0	0.0	6.7	6.7	16.7	2.7	15.2	29.0	0.0	9.0
Prop In Lane	0.00		1.00	0.00		0.02	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	0	1792	771	0	863	905	367	689	567	394	0	660
V/C Ratio(X)	0.00	0.97	0.05	0.00	0.29	0.29	0.34	0.14	0.63	0.81	0.00	0.41
Avail Cap(c_a), veh/h	0	1792	771	0	863	905	367	689	567	394	0	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.1	10.0	0.0	11.4	11.4	25.4	17.1	21.1	27.4	0.0	19.1
Incr Delay (d2), s/veh	0.0	14.7	0.1	0.0	0.8	0.8	0.6	0.1	2.3	11.7	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	0.0	21.9	0.4	0.0	3.4	3.5	2.4	1.4	6.9	8.3	0.0	4.5
LnGrp Delay(d),s/veh	0.0	33.8	10.1	0.0	12.2	12.2	25.9	17.2	23.4	39.2	0.0	19.5
LnGrp LOS		C	B		B	B	C	B	C	D		B
Approach Vol, veh/h		1770			507			583			590	
Approach Delay, s/veh		33.3			12.2			22.9			30.1	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		46.0		34.0		46.0		34.0
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0
Max Green Setting (Gmax), s		40.5		29.0		40.5		29.0
Max Q Clear Time (g_c+I1), s		39.9		31.0		8.7		18.7
Green Ext Time (p_c), s		0.6		0.0		22.0		4.5

Intersection Summary	
HCM 2010 Ctrl Delay	27.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	547	45	278	541	137	98	613	243	95	348	43
Future Volume (veh/h)	124	547	45	278	541	137	98	613	243	95	348	43
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		0.93	1.00		0.91	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1749	1900	1827	1796	1900	1900	1863	1900	1827	1847	1900
Adj Flow Rate, veh/h	129	570	43	290	564	127	102	639	218	99	362	37
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	9	9	4	7	7	0	2	2	4	3	3
Cap, veh/h	158	832	63	295	942	211	129	759	259	124	935	95
Arrive On Green	0.09	0.27	0.27	0.17	0.35	0.35	0.07	0.30	0.30	0.07	0.29	0.29
Sat Flow, veh/h	1757	3114	234	1740	2718	609	1810	2565	874	1740	3203	325
Grp Volume(v), veh/h	129	303	310	290	353	338	102	441	416	99	197	202
Grp Sat Flow(s),veh/h/ln	1757	1662	1687	1740	1706	1621	1810	1770	1670	1740	1754	1774
Q Serve(g_s), s	8.1	18.4	18.5	18.7	19.1	19.3	6.2	26.2	26.3	6.3	10.1	10.2
Cycle Q Clear(g_c), s	8.1	18.4	18.5	18.7	19.1	19.3	6.2	26.2	26.3	6.3	10.1	10.2
Prop In Lane	1.00		0.14	1.00		0.38	1.00		0.52	1.00		0.18
Lane Grp Cap(c), veh/h	158	444	451	295	591	562	129	524	494	124	512	518
V/C Ratio(X)	0.82	0.68	0.69	0.98	0.60	0.60	0.79	0.84	0.84	0.80	0.38	0.39
Avail Cap(c_a), veh/h	297	444	451	295	591	562	242	725	684	248	719	727
HCM Platoon Ratio	1.00	1.00	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	50.2	36.9	36.9	46.5	30.2	30.3	51.3	37.0	37.1	51.3	31.7	31.8
Incr Delay (d2), s/veh	9.7	8.3	8.3	48.1	4.4	4.7	10.3	4.7	5.1	10.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	9.4	9.6	12.9	9.7	9.4	3.5	13.4	12.8	3.4	4.9	5.0
LnGrp Delay(d),s/veh	59.9	45.1	45.2	94.6	34.6	35.0	61.7	41.8	42.1	62.2	31.9	31.9
LnGrp LOS	E	D	D	F	C	D	E	D	D	E	C	C
Approach Vol, veh/h		742			981			959			498	
Approach Delay, s/veh		47.7			52.5			44.0			37.9	
Approach LOS		D			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	13.0	39.2	24.0	36.0	13.5	38.8	15.1	44.9
Change Period (Y+Rc), s	5.0	* 6	5.0	6.0	5.5	6.0	5.0	6.0
Max Green Setting (Gmax), s	16.0	* 46	19.0	30.0	15.0	46.0	19.0	30.0
Max Q Clear Time (g_c+I1), s	10.3	28.3	20.7	20.5	8.2	12.2	10.1	21.3
Green Ext Time (p_c), s	0.1	5.0	0.0	4.2	0.1	5.7	0.2	4.0

Intersection Summary		
HCM 2010 Ctrl Delay		46.5
HCM 2010 LOS		D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	817	79	0	777	89	105	503	112	60	265	71
Future Volume (veh/h)	0	817	79	0	777	89	105	503	112	60	265	71
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		0.79	1.00		0.77	0.85		0.75	0.93		0.74
Parking Bus, Adj	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	0	1792	1743	0	1808	1900	1810	1792	1900	1810	1752	1900
Adj Flow Rate, veh/h	0	834	81	0	793	91	107	513	114	61	270	72
Adj No. of Lanes	0	2	1	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	6	9	0	5	5	5	6	6	5	8	8
Cap, veh/h	0	1143	391	0	1006	115	452	1246	273	352	1168	293
Arrive On Green	0.00	0.34	0.34	0.00	0.34	0.34	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	0	3495	1166	0	3088	344	853	2604	570	716	2441	612
Grp Volume(v), veh/h	0	834	81	0	454	430	107	333	294	61	179	163
Grp Sat Flow(s),veh/h/ln	0	1703	1166	0	1717	1624	853	1703	1471	716	1665	1389
Q Serve(g_s), s	0.0	15.1	3.5	0.0	16.7	16.7	5.9	8.9	9.1	4.3	4.4	4.9
Cycle Q Clear(g_c), s	0.0	15.1	3.5	0.0	16.7	16.7	10.8	8.9	9.1	13.4	4.4	4.9
Prop In Lane	0.00		1.00	0.00		0.21	1.00		0.39	1.00		0.44
Lane Grp Cap(c), veh/h	0	1143	391	0	577	545	452	815	704	352	797	665
V/C Ratio(X)	0.00	0.73	0.21	0.00	0.79	0.79	0.24	0.41	0.42	0.17	0.22	0.25
Avail Cap(c_a), veh/h	0	1143	391	0	577	545	452	815	704	352	797	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.5	16.6	0.0	21.0	21.0	14.0	11.8	11.9	16.3	10.7	10.8
Incr Delay (d2), s/veh	0.0	4.1	1.2	0.0	10.4	11.0	1.2	1.5	1.8	1.1	0.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.7	1.2	0.0	9.5	9.1	1.6	4.5	4.0	0.9	2.1	2.0
LnGrp Delay(d),s/veh	0.0	24.6	17.8	0.0	31.4	32.0	15.2	13.3	13.7	17.3	11.3	11.7
LnGrp LOS		C	B		C	C	B	B	B	B	B	B
Approach Vol, veh/h		915			884			734			403	
Approach Delay, s/veh		24.0			31.7			13.8			12.4	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.0		30.0		40.0		30.0
Change Period (Y+Rc), s		6.5		6.5		6.5		6.5
Max Green Setting (Gmax), s		33.5		23.5		33.5		23.5
Max Q Clear Time (g_c+I1), s		12.8		17.1		15.4		18.7
Green Ext Time (p_c), s		8.1		5.1		7.6		3.9

Intersection Summary			
HCM 2010 Ctrl Delay			22.2
HCM 2010 LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	393	0	601	0	0	0	259	285	0	77	520	289
Future Volume (veh/h)	393	0	601	0	0	0	259	285	0	77	520	289
Number	7	4	14				5	2	12	1	6	16
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		0.96
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	1776	0	1827				1792	1638	0	1900	1810	1743
Adj Flow Rate, veh/h	418	0	294				276	303	0	82	553	71
Adj No. of Lanes	2	0	2				2	2	0	1	2	2
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	0	4				6	16	0	0	5	9
Cap, veh/h	1610	0	1342				341	970	0	106	919	672
Arrive On Green	0.49	0.00	0.49				0.10	0.31	0.00	0.06	0.27	0.27
Sat Flow, veh/h	3281	0	2733				3312	3194	0	1810	3438	2515
Grp Volume(v), veh/h	418	0	294				276	303	0	82	553	71
Grp Sat Flow(s),veh/h/ln	1640	0	1367				1656	1556	0	1810	1719	1257
Q Serve(g_s), s	7.1	0.0	5.8				7.7	7.1	0.0	4.2	13.3	2.0
Cycle Q Clear(g_c), s	7.1	0.0	5.8				7.7	7.1	0.0	4.2	13.3	2.0
Prop In Lane	1.00		1.00				1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1610	0	1342				341	970	0	106	919	672
V/C Ratio(X)	0.26	0.00	0.22				0.81	0.31	0.00	0.78	0.60	0.11
Avail Cap(c_a), veh/h	1610	0	1342				349	970	0	190	919	672
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.1	0.0	13.8				41.7	24.9	0.0	44.1	30.4	26.2
Incr Delay (d2), s/veh	0.4	0.0	0.4				13.2	0.8	0.0	4.5	2.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	5.9				4.2	3.1	0.0	2.3	6.7	0.7
LnGrp Delay(d),s/veh	14.5	0.0	14.2				54.9	25.8	0.0	48.6	33.3	26.6
LnGrp LOS	B		B				D	C		D	C	C
Approach Vol, veh/h		712						579			706	
Approach Delay, s/veh		14.4						39.6			34.4	
Approach LOS		B						D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	9.5	34.2		51.2	13.8	30.0		
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		
Max Green Setting (Gmax), s	10.0	25.4		46.4	10.0	25.4		
Max Q Clear Time (g_c+I1), s	6.2	9.1		9.1	9.7	15.3		
Green Ext Time (p_c), s	0.0	5.2		2.8	0.0	4.0		

Intersection Summary		
HCM 2010 Ctrl Delay		28.8
HCM 2010 LOS		C

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	131	85	25	35	74	63	729	65	207	1170	72
Future Volume (veh/h)	55	131	85	25	35	74	63	729	65	207	1170	72
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	1827	1861	1776	1900	1839	1743	1810	1759	1624	1827	1792	1776
Adj Flow Rate, veh/h	59	141	0	27	38	0	68	784	0	223	1258	0
Adj No. of Lanes	1	1	1	0	1	1	1	2	1	1	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, %	4	2	7	0	0	9	5	8	17	4	6	7
Cap, veh/h	207	221	179	46	64	91	87	1438	594	265	1811	803
Arrive On Green	0.12	0.12	0.00	0.06	0.06	0.00	0.05	0.43	0.00	0.15	0.53	0.00
Sat Flow, veh/h	1740	1861	1509	748	1053	1482	1723	3343	1380	1740	3406	1509
Grp Volume(v), veh/h	59	141	0	65	0	0	68	784	0	223	1258	0
Grp Sat Flow(s),veh/h/ln	1740	1861	1509	1801	0	1482	1723	1671	1380	1740	1703	1509
Q Serve(g_s), s	2.4	5.7	0.0	2.8	0.0	0.0	3.1	13.7	0.0	9.8	21.6	0.0
Cycle Q Clear(g_c), s	2.4	5.7	0.0	2.8	0.0	0.0	3.1	13.7	0.0	9.8	21.6	0.0
Prop In Lane	1.00		1.00	0.42		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	207	221	179	110	0	91	87	1438	594	265	1811	803
V/C Ratio(X)	0.29	0.64	0.00	0.59	0.00	0.00	0.78	0.55	0.00	0.84	0.69	0.00
Avail Cap(c_a), veh/h	885	946	768	916	0	753	657	1700	702	664	1811	803
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.6	33.1	0.0	36.0	0.0	0.0	36.9	16.7	0.0	32.4	13.7	0.0
Incr Delay (d2), s/veh	0.3	1.1	0.0	1.9	0.0	0.0	5.6	0.7	0.0	2.8	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.0	0.0	1.4	0.0	0.0	1.6	6.5	0.0	4.9	10.3	0.0
LnGrp Delay(d),s/veh	31.9	34.2	0.0	37.8	0.0	0.0	42.5	17.4	0.0	35.2	15.2	0.0
LnGrp LOS	C	C		D			D	B		D	B	
Approach Vol, veh/h		200			65			852			1481	
Approach Delay, s/veh		33.5			37.8			19.4			18.2	
Approach LOS		C			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	39.5		13.8	8.0	47.5		9.3
Change Period (Y+Rc), s	4.0	5.7		4.5	4.0	5.7		4.5
Max Green Setting (Gmax), s	30.0	40.0		40.0	30.0	40.0		40.0
Max Q Clear Time (g_c+I1), s	11.8	15.7		7.7	5.1	23.6		4.8
Green Ext Time (p_c), s	0.3	18.1		0.5	0.1	14.9		0.2

Intersection Summary		
HCM 2010 Ctrl Delay		20.2
HCM 2010 LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations			✣				✣				✣				✣	
Traffic Vol, veh/h	0	1	1	6	0	87	0	15	0	1	192	211	0	27	39	1
Future Vol, veh/h	0	1	1	6	0	87	0	15	0	1	192	211	0	27	39	1
Peak Hour Factor	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89
Heavy Vehicles, %	2	100	0	0	2	4	0	23	2	0	7	3	2	40	13	100
Mvmt Flow	0	1	1	7	0	98	0	17	0	1	216	237	0	30	44	1
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	9.3	11.1	9.2
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	12%	85%	40%
Vol Thru, %	48%	12%	0%	58%
Vol Right, %	52%	75%	15%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	404	8	102	67
LT Vol	1	1	87	27
Through Vol	192	1	0	39
RT Vol	211	6	15	1
Lane Flow Rate	454	9	115	75
Geometry Grp	1	1	1	1
Degree of Util (X)	0.507	0.016	0.166	0.114
Departure Headway (Hd)	4.023	6.503	5.201	5.438
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	899	549	688	659
Service Time	2.045	4.561	3.248	3.476
HCM Lane V/C Ratio	0.505	0.016	0.167	0.114
HCM Control Delay	11.1	9.7	9.3	9.2
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.9	0	0.6	0.4

Intersection	
Intersection Delay, s/veh	18
Intersection LOS	C

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations									
Traffic Vol, veh/h	0	48	184	0	42	89	0	479	55
Future Vol, veh/h	0	48	184	0	42	89	0	479	55
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.94	0.94
Heavy Vehicles, %	2	17	2	2	7	11	2	2	11
Mvmt Flow	0	51	196	0	45	95	0	510	59
Number of Lanes	0	1	1	0	1	1	0	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	10.9	10	23.1
HCM LOS	B	A	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	89	48	184	479	55
LT Vol	42	0	48	0	0	0
Through Vol	0	89	0	0	479	0
RT Vol	0	0	0	184	0	55
Lane Flow Rate	45	95	51	196	510	59
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.081	0.161	0.102	0.309	0.779	0.08
Departure Headway (Hd)	6.557	6.119	7.156	5.686	5.501	4.949
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	547	587	501	632	662	728
Service Time	4.289	3.851	4.892	3.422	3.201	2.649
HCM Lane V/C Ratio	0.082	0.162	0.102	0.31	0.77	0.081
HCM Control Delay	9.9	10	10.7	11	24.8	8.1
HCM Lane LOS	A	A	B	B	C	A
HCM 95th-tile Q	0.3	0.6	0.3	1.3	7.5	0.3

Intersection	
Int Delay, s/veh	130.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	635	0	0	121	91	10	5	604	0	0	0
Future Vol, veh/h	23	635	0	0	121	91	10	5	604	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	120	-	-	-	-	-	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	13	1	0	0	7	9	20	80	1	0	0	0
Mvmt Flow	26	730	0	0	139	105	11	6	694	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	244	0	-	-	-	0	974	1027	730
Stage 1	-	-	-	-	-	-	783	783	-
Stage 2	-	-	-	-	-	-	191	244	-
Critical Hdwy	4.23	-	-	-	-	-	6.6	7.3	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.6	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.6	6.3	-
Follow-up Hdwy	2.317	-	-	-	-	-	3.68	4.72	3.309
Pot Cap-1 Maneuver	1260	-	0	0	-	-	259	173	~ 424
Stage 1	-	-	0	0	-	-	420	310	-
Stage 2	-	-	0	0	-	-	800	581	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1260	-	-	-	-	-	254	0	~ 424
Mov Cap-2 Maneuver	-	-	-	-	-	-	254	0	-
Stage 1	-	-	-	-	-	-	411	0	-
Stage 2	-	-	-	-	-	-	800	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.3	0	$ 313.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	254	424	1260	-	-	-
HCM Lane V/C Ratio	0.068	1.637	0.021	-	-	-
HCM Control Delay (s)	20.2	$ 320.7	7.9	-	-	-
HCM Lane LOS	C	F	A	-	-	-
HCM 95th %tile Q(veh)	0.2	40.2	0.1	-	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

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-------------------------------------------------------------------------------
            Sierra Point Opus Office Center Transportation Analysis
                       Existing Plus Project Conditions
                                 AM Peak Hour
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM 4-Way Stop Method (Base Volume Alternative)
*******************************************************************************
Intersection #10 Cleveland Street/Mission Avenue
*******************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         1.421
Loss Time (sec):       0              Average Delay (sec/veh):       118.9
Optimal Cycle:         0              Level Of Service:                  F
*******************************************************************************
Street Name:         Cleveland Street                  Mission Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        1  0  1  0  1   1  0  0  1  0   1  0  2  0  1   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      73     4     4     0     1   101   767   150   313     4    38     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   73     4     4     0     1   101   767   150   313     4    38     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89
PHF Volume:    82     4     4     0     1   113   862   169   352     4    43     4
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   82     4     4     0     1   113   862   169   352     4    43     4
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   82     4     4     0     1   113   862   169   352     4    43     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.00  1.00  1.00 0.01  0.99  1.00 2.00  1.00  1.00 1.81  0.19
Final Sat.:   441  469   516   463    5   544   606 1309   753   448  871    93
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.01  0.01  0.00 0.21  0.21  1.42 0.13  0.47  0.01 0.05  0.05
Crit Moves:  ****                        ****  ****                   ****
Delay/Veh:   12.4 10.2   9.5   0.0 10.7  10.7 216.4  8.9  11.4  10.5 10.2  10.2
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  12.4 10.2   9.5   0.0 10.7  10.7 216.4  8.9  11.4  10.5 10.2  10.2
LOS by Move:    B    B     A     *    B     B     F    A     B     B    B     B
ApproachDel:      12.1              10.7             138.9              10.3
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       12.1              10.7             138.9              10.3
LOS by Appr:         B                 B                 F                 B
AllWayAvgQ:   0.2  0.0   0.0   0.0  0.2   0.2  35.0  0.1   0.8   0.0  0.0   0.0
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************
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Intersection	
Intersection Delay, s/veh	6.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	6	36	0	0	0	30	0	0	0	0	0	0	0	0	6
Future Vol, veh/h	0	6	36	0	0	0	30	0	0	0	0	0	0	0	0	6
Peak Hour Factor	0.92	0.62	0.62	0.62	0.92	0.62	0.62	0.62	0.92	0.62	0.62	0.62	0.92	0.62	0.62	0.62
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	10	58	0	0	0	48	0	0	0	0	0	0	0	0	10
Number of Lanes	0	1	2	0	0	0	2	0	0	0	0	0	0	1	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	3	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	3	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	3	3
HCM Control Delay	6.8	6.6	6.8
HCM LOS	A	A	A

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	0%	100%	100%	100%	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	18	18	15	15	0	0	6
LT Vol	6	0	0	0	0	0	0	0
Through Vol	0	18	18	15	15	0	0	0
RT Vol	0	0	0	0	0	0	0	6
Lane Flow Rate	10	29	29	24	24	0	0	10
Geometry Grp	8	8	8	8	8	7	7	7
Degree of Util (X)	0.014	0.037	0.023	0.031	0.02	0	0	0.011
Departure Headway (Hd)	5.087	4.586	2.886	4.61	2.909	4.691	4.691	3.991
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	706	783	1242	777	1228	0	0	894
Service Time	2.802	2.301	0.6	2.333	0.633	2.426	2.426	1.726
HCM Lane V/C Ratio	0.014	0.037	0.023	0.031	0.02	0	0	0.011
HCM Control Delay	7.9	7.5	5.7	7.5	5.7	7.4	7.4	6.8
HCM Lane LOS	A	A	A	A	A	N	N	A
HCM 95th-tile Q	0	0.1	0.1	0.1	0.1	0	0	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	336	21	194	894	60	57	252	225	105	417	455
Future Volume (veh/h)	128	336	21	194	894	60	57	252	225	105	417	455
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1882	1900	1881	1867	1900	1863	1863	1881	1727	1863	1881
Adj Flow Rate, veh/h	133	350	17	202	931	58	59	262	234	109	434	253
Adj No. of Lanes	1	3	0	2	2	0	1	1	2	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	1	1	1	1	1	2	2	1	10	2	1
Cap, veh/h	315	2515	121	265	1324	82	108	353	716	280	766	341
Arrive On Green	0.18	0.50	0.49	0.08	0.39	0.38	0.06	0.19	0.18	0.09	0.22	0.22
Sat Flow, veh/h	1774	5020	242	3476	3387	211	1774	1863	2777	3191	3539	1573
Grp Volume(v), veh/h	133	238	129	202	488	501	59	262	234	109	434	253
Grp Sat Flow(s),veh/h/ln	1774	1713	1836	1738	1774	1825	1774	1863	1389	1596	1770	1573
Q Serve(g_s), s	7.3	4.1	4.2	6.3	25.4	25.4	3.6	14.6	7.5	3.5	12.0	10.7
Cycle Q Clear(g_c), s	7.3	4.1	4.2	6.3	25.4	25.4	3.6	14.6	7.5	3.5	12.0	10.7
Prop In Lane	1.00		0.13	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	315	1716	920	265	693	713	108	353	716	280	766	341
V/C Ratio(X)	0.42	0.14	0.14	0.76	0.70	0.70	0.55	0.74	0.33	0.39	0.57	0.74
Avail Cap(c_a), veh/h	315	1716	920	411	693	713	129	508	947	290	1030	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	14.7	14.8	49.8	28.1	28.2	50.2	42.0	33.2	47.4	38.5	16.8
Incr Delay (d2), s/veh	0.3	0.2	0.3	1.7	5.9	5.7	1.6	1.6	0.1	0.3	0.2	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	2.0	2.2	3.1	13.6	14.0	1.8	7.7	2.9	1.6	5.9	4.9
LnGrp Delay(d),s/veh	40.6	14.9	15.1	51.5	34.0	33.9	51.8	43.6	33.3	47.7	38.7	19.4
LnGrp LOS	D	B	B	D	C	C	D	D	C	D	D	B
Approach Vol, veh/h		500			1191			555			796	
Approach Delay, s/veh		21.8			37.0			40.1			33.8	
Approach LOS		C			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	27.8	24.5	47.0	13.6	24.9	12.4	59.1
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	31.0	11.0	* 42	10.0	29.0	13.0	40.0
Max Q Clear Time (g_c+I1), s	5.6	14.0	9.3	27.4	5.5	16.6	8.3	6.2
Green Ext Time (p_c), s	0.0	3.6	0.1	3.4	0.1	3.3	0.1	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	34.2
HCM 2010 LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	616	87	0	1056	3	145	71	241	184	464	39
Future Volume (veh/h)	0	616	87	0	1056	3	145	71	241	184	464	39
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		1.00	1.00		0.99	0.99		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	0	1863	1900	0	1881	1900	1881	1900	1900	1881	1866	1900
Adj Flow Rate, veh/h	0	655	45	0	1123	3	154	76	153	196	494	37
Adj No. of Lanes	0	2	1	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	1	1	1	0	0	1	2	2
Cap, veh/h	0	1618	719	0	1672	4	280	841	709	573	759	57
Arrive On Green	0.00	0.46	0.46	0.00	0.46	0.44	0.44	0.44	0.44	0.44	0.44	0.43
Sat Flow, veh/h	0	3632	1573	0	3751	10	876	1900	1601	1151	1713	128
Grp Volume(v), veh/h	0	655	45	0	549	577	154	76	153	196	0	531
Grp Sat Flow(s),veh/h/ln	0	1770	1573	0	1787	1880	876	1900	1601	1151	0	1842
Q Serve(g_s), s	0.0	9.9	1.3	0.0	19.2	19.2	13.4	1.9	4.7	9.5	0.0	18.1
Cycle Q Clear(g_c), s	0.0	9.9	1.3	0.0	19.2	19.2	31.4	1.9	4.7	11.4	0.0	18.1
Prop In Lane	0.00		1.00	0.00		0.01	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	0	1618	719	0	817	859	280	841	709	573	0	815
V/C Ratio(X)	0.00	0.40	0.06	0.00	0.67	0.67	0.55	0.09	0.22	0.34	0.00	0.65
Avail Cap(c_a), veh/h	0	1618	719	0	817	859	286	855	720	581	0	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.5	12.1	0.0	17.0	17.0	29.8	12.9	13.7	16.2	0.0	17.5
Incr Delay (d2), s/veh	0.0	0.8	0.2	0.0	4.4	4.2	2.1	0.0	0.2	0.4	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.0	0.6	0.0	10.4	10.9	3.4	1.0	2.1	3.1	0.0	9.6
LnGrp Delay(d),s/veh	0.0	15.2	12.3	0.0	21.4	21.2	31.9	13.0	13.9	16.6	0.0	19.3
LnGrp LOS		B	B		C	C	C	B	B	B		B
Approach Vol, veh/h		700			1126			383			727	
Approach Delay, s/veh		15.0			21.3			21.0			18.5	
Approach LOS		B			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.6		39.4		40.6		39.4
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0
Max Green Setting (Gmax), s		34.5		35.0		34.5		35.0
Max Q Clear Time (g_c+I1), s		11.9		20.1		21.2		33.4
Green Ext Time (p_c), s		12.9		5.8		9.0		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	19.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	628	51	243	534	126	63	355	224	145	557	38
Future Volume (veh/h)	119	628	51	243	534	126	63	355	224	145	557	38
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		0.92	1.00		0.94	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1800	1900	1881	1816	1900	1863	1859	1900	1863	1900	1900
Adj Flow Rate, veh/h	121	641	48	248	545	116	64	362	135	148	568	35
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	6	6	1	5	5	2	3	3	2	0	0
Cap, veh/h	169	1035	77	299	1102	233	131	581	213	197	947	58
Arrive On Green	0.10	0.32	0.30	0.17	0.39	0.37	0.07	0.23	0.22	0.11	0.27	0.25
Sat Flow, veh/h	1757	3203	239	1792	2798	592	1774	2504	916	1774	3448	212
Grp Volume(v), veh/h	121	342	347	248	335	326	64	253	244	148	297	306
Grp Sat Flow(s),veh/h/ln	1757	1710	1732	1792	1725	1665	1774	1766	1654	1774	1805	1855
Q Serve(g_s), s	6.6	16.7	16.8	13.3	14.4	14.7	3.4	12.7	13.2	8.0	14.1	14.2
Cycle Q Clear(g_c), s	6.6	16.7	16.8	13.3	14.4	14.7	3.4	12.7	13.2	8.0	14.1	14.2
Prop In Lane	1.00		0.14	1.00		0.36	1.00		0.55	1.00		0.11
Lane Grp Cap(c), veh/h	169	553	560	299	680	656	131	410	384	197	496	510
V/C Ratio(X)	0.72	0.62	0.62	0.83	0.49	0.50	0.49	0.62	0.63	0.75	0.60	0.60
Avail Cap(c_a), veh/h	355	553	560	362	680	656	296	847	794	305	875	900
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	28.3	28.5	39.9	22.6	22.9	44.1	34.1	34.6	42.7	31.2	31.3
Incr Delay (d2), s/veh	5.6	5.1	5.1	12.8	2.5	2.7	2.8	0.6	0.7	5.6	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	8.7	8.8	7.6	7.4	7.2	1.8	6.3	6.1	4.2	7.1	7.3
LnGrp Delay(d),s/veh	49.0	33.4	33.6	52.7	25.1	25.6	46.9	34.6	35.3	48.3	31.6	31.7
LnGrp LOS	D	C	C	D	C	C	D	C	D	D	C	C
Approach Vol, veh/h		810			909			561			751	
Approach Delay, s/veh		35.8			32.8			36.3			34.9	
Approach LOS		D			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	27.5	20.5	36.0	11.3	31.2	13.5	43.0
Change Period (Y+Rc), s	5.0	* 6	5.0	6.0	5.5	6.0	5.0	6.0
Max Green Setting (Gmax), s	16.0	* 46	19.0	30.0	15.0	46.0	19.0	30.0
Max Q Clear Time (g_c+I1), s	10.0	15.2	15.3	18.8	5.4	16.2	8.6	16.7
Green Ext Time (p_c), s	0.2	4.6	0.3	4.8	0.1	4.6	0.2	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	34.8
HCM 2010 LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	828	193	0	733	88	78	331	107	84	436	92
Future Volume (veh/h)	0	828	193	0	733	88	78	331	107	84	436	92
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		0.70	1.00		0.85	0.90		0.76	0.90		0.73
Parking Bus, Adj	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	0	1827	1776	0	1850	1900	1881	1818	1900	1810	1795	1900
Adj Flow Rate, veh/h	0	854	199	0	756	91	80	341	110	87	449	95
Adj No. of Lanes	0	2	1	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	4	7	0	3	3	1	6	6	5	6	6
Cap, veh/h	0	1289	395	0	1149	138	422	1235	380	453	1351	279
Arrive On Green	0.00	0.37	0.37	0.00	0.37	0.34	0.51	0.51	0.48	0.51	0.51	0.48
Sat Flow, veh/h	0	3563	1064	0	3185	372	781	2402	739	821	2626	543
Grp Volume(v), veh/h	0	854	199	0	430	417	80	241	210	87	288	256
Grp Sat Flow(s),veh/h/ln	0	1736	1064	0	1758	1707	781	1727	1414	821	1706	1464
Q Serve(g_s), s	0.0	14.4	10.1	0.0	14.2	14.3	4.7	5.5	6.1	4.8	6.9	7.4
Cycle Q Clear(g_c), s	0.0	14.4	10.1	0.0	14.2	14.3	12.1	5.5	6.1	10.9	6.9	7.4
Prop In Lane	0.00		1.00	0.00		0.22	1.00		0.52	1.00		0.37
Lane Grp Cap(c), veh/h	0	1289	395	0	653	634	422	888	727	453	877	753
V/C Ratio(X)	0.00	0.66	0.50	0.00	0.66	0.66	0.19	0.27	0.29	0.19	0.33	0.34
Avail Cap(c_a), veh/h	0	1289	395	0	653	634	422	888	727	453	877	753
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	18.3	17.0	0.0	18.3	18.6	13.6	9.6	10.1	12.9	9.9	10.3
Incr Delay (d2), s/veh	0.0	2.7	4.5	0.0	5.1	5.3	1.0	0.8	1.0	0.9	1.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.4	3.4	0.0	7.7	7.7	1.1	2.8	2.5	1.2	3.4	3.2
LnGrp Delay(d),s/veh	0.0	21.0	21.5	0.0	23.4	23.9	14.6	10.3	11.1	13.8	10.9	11.5
LnGrp LOS		C	C		C	C	B	B	B	B	B	B
Approach Vol, veh/h		1053			847			531			631	
Approach Delay, s/veh		21.1			23.6			11.3			11.6	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.0		30.0		40.0		30.0
Change Period (Y+Rc), s		6.5		6.5		6.5		6.5
Max Green Setting (Gmax), s		33.5		23.5		33.5		23.5
Max Q Clear Time (g_c+I1), s		14.1		16.4		12.9		16.3
Green Ext Time (p_c), s		8.0		5.8		8.3		5.8

Intersection Summary	
HCM 2010 Ctrl Delay	18.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	314	0	220	0	0	0	645	457	0	100	239	443
Future Volume (veh/h)	314	0	220	0	0	0	645	457	0	100	239	443
Number	7	4	14				5	2	12	1	6	16
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		0.95
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	1792	0	1776				1881	1845	0	1900	1792	1863
Adj Flow Rate, veh/h	324	0	37				665	471	0	103	246	134
Adj No. of Lanes	2	0	2				2	2	0	1	2	2
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	6	0	7				1	3	0	0	6	2
Cap, veh/h	451	0	362				711	1537	0	131	1044	815
Arrive On Green	0.14	0.00	0.14				0.20	0.44	0.00	0.07	0.31	0.31
Sat Flow, veh/h	3312	0	2656				3476	3597	0	1810	3406	2659
Grp Volume(v), veh/h	324	0	37				665	471	0	103	246	134
Grp Sat Flow(s),veh/h/ln	1656	0	1328				1738	1752	0	1810	1703	1329
Q Serve(g_s), s	8.4	0.0	1.1				16.9	7.8	0.0	5.0	4.9	3.3
Cycle Q Clear(g_c), s	8.4	0.0	1.1				16.9	7.8	0.0	5.0	4.9	3.3
Prop In Lane	1.00		1.00				1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	451	0	362				711	1537	0	131	1044	815
V/C Ratio(X)	0.72	0.00	0.10				0.94	0.31	0.00	0.78	0.24	0.16
Avail Cap(c_a), veh/h	1178	0	945				711	1537	0	209	1044	815
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	0.0	34.1				35.2	16.4	0.0	41.0	23.3	22.8
Incr Delay (d2), s/veh	2.2	0.0	0.1				19.7	0.5	0.0	3.9	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.9				10.1	3.9	0.0	2.7	2.4	1.3
LnGrp Delay(d),s/veh	39.4	0.0	34.2				55.0	16.9	0.0	44.9	23.8	23.2
LnGrp LOS	D		C				D	B		D	C	C
Approach Vol, veh/h		361						1136			483	
Approach Delay, s/veh		38.9						39.2			28.2	
Approach LOS		D						D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	10.5	43.5		16.3	22.4	31.6		
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		
Max Green Setting (Gmax), s	10.4	26.4		31.4	18.4	27.0		
Max Q Clear Time (g_c+I1), s	7.0	9.8		10.4	18.9	6.9		
Green Ext Time (p_c), s	0.0	4.7		1.2	0.0	5.0		

Intersection Summary		
HCM 2010 Ctrl Delay		36.4
HCM 2010 LOS		D

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	57	89	41	123	246	83	1030	41	65	727	46
Future Volume (veh/h)	75	57	89	41	123	246	83	1030	41	65	727	46
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	1881	1897	1863	1900	1872	1727	1881	1810	1652	1743	1810	1743
Adj Flow Rate, veh/h	70	74	0	44	131	0	88	1096	0	69	773	0
Adj No. of Lanes	1	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	0	2	2	2	10	1	5	15	9	5	9
Cap, veh/h	177	187	156	63	188	199	115	1735	709	87	1695	730
Arrive On Green	0.10	0.10	0.00	0.14	0.14	0.00	0.06	0.50	0.00	0.05	0.49	0.00
Sat Flow, veh/h	1792	1897	1583	465	1384	1468	1792	3438	1404	1660	3438	1482
Grp Volume(v), veh/h	70	74	0	175	0	0	88	1096	0	69	773	0
Grp Sat Flow(s),veh/h/ln	1792	1897	1583	1849	0	1468	1792	1719	1404	1660	1719	1482
Q Serve(g_s), s	2.8	2.8	0.0	6.9	0.0	0.0	3.7	17.8	0.0	3.1	11.3	0.0
Cycle Q Clear(g_c), s	2.8	2.8	0.0	6.9	0.0	0.0	3.7	17.8	0.0	3.1	11.3	0.0
Prop In Lane	1.00		1.00	0.25		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	177	187	156	251	0	199	115	1735	709	87	1695	730
V/C Ratio(X)	0.40	0.40	0.00	0.70	0.00	0.00	0.77	0.63	0.00	0.79	0.46	0.00
Avail Cap(c_a), veh/h	947	1002	837	977	0	776	701	1870	764	650	1870	806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.4	32.4	0.0	31.6	0.0	0.0	35.3	13.8	0.0	35.9	12.7	0.0
Incr Delay (d2), s/veh	0.5	0.5	0.0	1.3	0.0	0.0	4.0	1.0	0.0	6.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.5	0.0	3.6	0.0	0.0	2.0	8.6	0.0	1.6	5.4	0.0
LnGrp Delay(d),s/veh	32.9	32.9	0.0	32.9	0.0	0.0	39.3	14.8	0.0	41.9	13.1	0.0
LnGrp LOS	C	C		C			D	B		D	B	
Approach Vol, veh/h		144			175			1184			842	
Approach Delay, s/veh		32.9			32.9			16.6			15.5	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	42.7		11.6	8.9	41.8		14.4
Change Period (Y+Rc), s	4.0	5.7		4.5	4.0	5.7		4.5
Max Green Setting (Gmax), s	30.0	40.0		40.0	30.0	40.0		40.0
Max Q Clear Time (g_c+I1), s	5.1	19.8		4.8	5.7	13.3		8.9
Green Ext Time (p_c), s	0.1	17.2		0.3	0.1	21.9		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	18.4
HCM 2010 LOS	B

Notes
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations			✣				✣				✣				✣	
Traffic Vol, veh/h	0	0	0	0	0	331	0	23	0	0	87	75	0	13	72	0
Future Vol, veh/h	0	0	0	0	0	331	0	23	0	0	87	75	0	13	72	0
Peak Hour Factor	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	0	0	0	2	6	0	9	2	0	9	2	2	40	6	0
Mvmt Flow	0	0	0	0	0	364	0	25	0	0	96	82	0	14	79	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	13.2	9.6	10
HCM LOS	-	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	94%	15%
Vol Thru, %	54%	100%	0%	85%
Vol Right, %	46%	0%	6%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	162	0	354	85
LT Vol	0	0	331	13
Through Vol	87	0	0	72
RT Vol	75	0	23	0
Lane Flow Rate	178	0	389	93
Geometry Grp	1	1	1	1
Degree of Util (X)	0.243	0	0.524	0.151
Departure Headway (Hd)	4.904	5.105	4.845	5.835
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	728	0	743	611
Service Time	2.967	3.192	2.896	3.91
HCM Lane V/C Ratio	0.245	0	0.524	0.152
HCM Control Delay	9.6	8.2	13.2	10
HCM Lane LOS	A	N	B	A
HCM 95th-tile Q	0.9	0	3.1	0.5

Intersection	
Intersection Delay, s/veh	23.2
Intersection LOS	C

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations		↰	↱		↰	↑		↑	↱
Traffic Vol, veh/h	0	29	58	0	166	564	0	120	188
Future Vol, veh/h	0	29	58	0	166	564	0	120	188
Peak Hour Factor	0.92	0.90	0.90	0.92	0.90	0.90	0.92	0.90	0.90
Heavy Vehicles, %	2	7	9	2	0	1	2	9	9
Mvmt Flow	0	32	64	0	184	627	0	133	209
Number of Lanes	0	1	1	0	1	1	0	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	10.3	30.3	10.1
HCM LOS	B	D	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	166	564	29	58	120	188
LT Vol	166	0	29	0	0	0
Through Vol	0	564	0	0	120	0
RT Vol	0	0	0	58	0	188
Lane Flow Rate	184	627	32	64	133	209
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.289	0.896	0.069	0.116	0.218	0.3
Departure Headway (Hd)	5.632	5.146	7.673	6.488	5.883	5.175
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	633	696	469	555	613	700
Service Time	3.422	2.936	5.384	4.198	3.583	2.875
HCM Lane V/C Ratio	0.291	0.901	0.068	0.115	0.217	0.299
HCM Control Delay	10.7	36.1	11	10	10.2	10.1
HCM Lane LOS	B	E	B	A	B	B
HCM 95th-tile Q	1.2	11.4	0.2	0.4	0.8	1.3

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	170	0	0	739	512	10	3	135	0	0	0
Future Vol, veh/h	18	170	0	0	739	512	10	3	135	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	120	-	-	-	-	-	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	17	11	0	0	1	1	20	100	6	0	0	0
Mvmt Flow	22	205	0	0	890	617	12	4	163	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1507	0	-	-	-	0	1447	1755	205
Stage 1	-	-	-	-	-	-	248	248	-
Stage 2	-	-	-	-	-	-	1199	1507	-
Critical Hdwy	4.27	-	-	-	-	-	6.6	7.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	5.6	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.6	6.5	-
Follow-up Hdwy	2.353	-	-	-	-	-	3.68	4.9	3.354
Pot Cap-1 Maneuver	403	-	0	0	-	-	132	50	826
Stage 1	-	-	0	0	-	-	753	553	-
Stage 2	-	-	0	0	-	-	263	114	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	403	-	-	-	-	-	125	0	826
Mov Cap-2 Maneuver	-	-	-	-	-	-	125	0	-
Stage 1	-	-	-	-	-	-	712	0	-
Stage 2	-	-	-	-	-	-	263	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.4	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	125	826	403	-	-	-
HCM Lane V/C Ratio	0.125	0.197	0.054	-	-	-
HCM Control Delay (s)	37.9	10.4	14.4	-	-	-
HCM Lane LOS	E	B	B	-	-	-
HCM 95th %tile Q(veh)	0.4	0.7	0.2	-	-	-

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--------------------------------------------------------------------------------
            Sierra Point Opus Office Center Transportation Analysis
                       Existing Plus Project Conditions
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM 4-Way Stop Method (Base Volume Alternative)
********************************************************************************
Intersection #10 Cleveland Street/Mission Avenue
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):         1.679
Loss Time (sec):       0               Average Delay (sec/veh):       171.9
Optimal Cycle:         0               Level Of Service:                  F
********************************************************************************
Street Name:          Cleveland Street                  Mission Avenue
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        1  0  1  0  1   1  0  0  1  0   1  0  2  0  1   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     301    3     6     2     2   744   124  103    78     1  204     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  301    3     6     2     2   744   124  103    78     1  204     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.84 0.84  0.84  0.84 0.84  0.84  0.84 0.84  0.84  0.84 0.84  0.84
PHF Volume:   358    4     7     2     2   886   148  123    93     1  243     0
Reduct Vol:     0    0     0     0     0     0     0    0     0     0    0     0
Reduced Vol:  358    4     7     2     2   886   148  123    93     1  243     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  358    4     7     2     2   886   148  123    93     1  243     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 1.00  1.00  1.00 0.01  0.99  1.00 2.00  1.00  1.00 2.00  0.00
Final Sat.:   406  422   460   432    1   527   384  807   439   367  778     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.88 0.01  0.02  0.01 1.68  1.68  0.38 0.15  0.21  0.00 0.31  xxxx
Crit Moves:  ****                      ****  ****                    ****
Delay/Veh:   48.9 11.1  10.4  10.7  331 331.3  17.2 12.8  12.7  12.2 15.4   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  48.9 11.1  10.4  10.7  331 331.3  17.2 12.8  12.7  12.2 15.4   0.0
LOS by Move:    E    B     B     B    F     F     C    B     B     B    C     *
ApproachDel:      47.8             330.4              14.5              15.4
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       47.8             330.4              14.5              15.4
LOS by Appr:         E                F                 B                 C
AllWayAvgQ:   4.2  0.0   0.0   0.0 47.3  47.3   0.6  0.2   0.2   0.0  0.4   0.4
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	4	97	0	0	0	94	0	0	0	0	0	0	1	0	5
Future Vol, veh/h	0	4	97	0	0	0	94	0	0	0	0	0	0	1	0	5
Peak Hour Factor	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82
Heavy Vehicles, %	2	0	0	0	2	0	18	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	5	118	0	0	0	115	0	0	0	0	0	0	1	0	6
Number of Lanes	0	1	2	0	0	0	2	0	0	0	0	0	0	1	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	3	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	3	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	3	3
HCM Control Delay	6.9	7.1	7.2
HCM LOS	A	A	A

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	100%	100%	100%	0%	100%	0%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	49	49	47	47	1	0	5
LT Vol	4	0	0	0	0	1	0	0
Through Vol	0	49	49	47	47	0	0	0
RT Vol	0	0	0	0	0	0	0	5
Lane Flow Rate	5	59	59	57	57	1	0	6
Geometry Grp	8	8	8	8	8	7	7	7
Degree of Util (X)	0.007	0.077	0.049	0.079	0.047	0.002	0	0.007
Departure Headway (Hd)	5.166	4.666	2.965	4.98	2.974	5.38	4.88	4.179
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	691	765	1198	718	1196	659	0	845
Service Time	2.909	2.408	0.707	2.72	0.713	3.161	2.661	1.961
HCM Lane V/C Ratio	0.007	0.077	0.049	0.079	0.048	0.002	0	0.007
HCM Control Delay	7.9	7.8	5.9	8.2	5.9	8.2	7.7	7
HCM Lane LOS	A	A	A	A	A	A	N	A
HCM 95th-tile Q	0	0.2	0.2	0.3	0.1	0	0	0

LOS WORKSHEETS – BACKGROUND CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	1317	34	58	143	66	27	157	337	352	298	184
Future Volume (veh/h)	122	1317	34	58	143	66	27	157	337	352	298	184
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1862	1900	1776	1737	1900	1810	1792	1845	1810	1759	1759
Adj Flow Rate, veh/h	131	1416	33	62	154	25	29	169	362	378	320	40
Adj No. of Lanes	1	3	0	2	2	0	1	1	2	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, %	5	2	2	7	10	10	5	6	3	5	8	8
Cap, veh/h	163	2460	57	184	1264	201	102	224	460	459	679	298
Arrive On Green	0.09	0.48	0.47	0.06	0.44	0.43	0.06	0.13	0.11	0.14	0.20	0.20
Sat Flow, veh/h	1723	5109	119	3281	2853	455	1723	1792	2716	3343	3343	1469
Grp Volume(v), veh/h	131	939	510	62	88	91	29	169	362	378	320	40
Grp Sat Flow(s),veh/h/ln	1723	1695	1839	1640	1650	1657	1723	1792	1358	1672	1671	1469
Q Serve(g_s), s	6.0	15.9	15.9	1.5	2.5	2.6	1.3	7.3	9.0	8.8	6.7	1.8
Cycle Q Clear(g_c), s	6.0	15.9	15.9	1.5	2.5	2.6	1.3	7.3	9.0	8.8	6.7	1.8
Prop In Lane	1.00		0.06	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	163	1632	885	184	731	734	102	224	460	459	679	298
V/C Ratio(X)	0.80	0.58	0.58	0.34	0.12	0.12	0.28	0.75	0.79	0.82	0.47	0.13
Avail Cap(c_a), veh/h	237	1632	885	369	731	734	215	224	460	543	679	298
HCM Platoon Ratio	1.00	1.00	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	35.5	14.9	14.9	36.3	13.1	13.2	36.0	33.8	31.9	33.6	28.1	26.1
Incr Delay (d2), s/veh	7.4	1.5	2.7	0.4	0.3	0.3	0.6	12.2	8.1	7.3	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	7.8	8.7	0.7	1.2	1.3	0.6	4.4	4.4	4.5	3.1	0.7
LnGrp Delay(d),s/veh	42.9	16.4	17.6	36.7	13.4	13.6	36.6	46.0	40.0	40.9	28.3	26.2
LnGrp LOS	D	B	B	D	B	B	D	D	D	D	C	C
Approach Vol, veh/h		1580			241			560			738	
Approach Delay, s/veh		19.0			19.5			41.6			34.6	
Approach LOS		B			B			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	8.8	20.2	11.6	39.4	15.0	14.0	8.5	42.5
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	9.0	11.0	8.0	13.0	9.0	9.0	31.0
Max Q Clear Time (g_c+I1), s	3.3	8.7	8.0	4.6	10.8	11.0	3.5	17.9
Green Ext Time (p_c), s	0.0	0.1	0.0	2.2	0.2	0.0	0.0	5.9

Intersection Summary			
HCM 2010 Ctrl Delay			26.8
HCM 2010 LOS			C

Notes

User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1681	67	0	489	5	122	94	373	309	240	30
Future Volume (veh/h)	0	1681	67	0	489	5	122	94	373	309	240	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	0.99		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1845	0	1793	1900	1881	1900	1881	1863	1851	1900
Adj Flow Rate, veh/h	0	1733	39	0	504	4	126	97	361	319	247	25
Adj No. of Lanes	0	2	1	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	3	0	6	6	1	0	1	2	3	3
Cap, veh/h	0	1858	800	0	1819	14	384	712	587	406	620	63
Arrive On Green	0.00	0.52	0.52	0.00	0.52	0.51	0.38	0.38	0.38	0.38	0.38	0.36
Sat Flow, veh/h	0	3632	1523	0	3555	27	1108	1900	1565	926	1652	167
Grp Volume(v), veh/h	0	1733	39	0	248	260	126	97	361	319	0	272
Grp Sat Flow(s),veh/h/ln	0	1770	1523	0	1704	1789	1108	1900	1565	926	0	1819
Q Serve(g_s), s	0.0	36.5	1.0	0.0	6.5	6.5	7.5	2.7	15.0	27.3	0.0	8.8
Cycle Q Clear(g_c), s	0.0	36.5	1.0	0.0	6.5	6.5	16.3	2.7	15.0	30.0	0.0	8.8
Prop In Lane	0.00		1.00	0.00		0.02	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	0	1858	800	0	894	939	384	713	587	406	0	682
V/C Ratio(X)	0.00	0.93	0.05	0.00	0.28	0.28	0.33	0.14	0.62	0.79	0.00	0.40
Avail Cap(c_a), veh/h	0	1858	800	0	894	939	384	713	587	406	0	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.7	9.3	0.0	10.6	10.6	24.4	16.5	20.3	26.5	0.0	18.4
Incr Delay (d2), s/veh	0.0	10.1	0.1	0.0	0.8	0.7	0.5	0.1	1.9	9.8	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	0.0	20.2	0.4	0.0	3.2	3.4	2.4	1.4	6.7	8.1	0.0	4.5
LnGrp Delay(d),s/veh	0.0	27.8	9.4	0.0	11.3	11.3	24.9	16.6	22.2	36.3	0.0	18.8
LnGrp LOS		C	A		B	B	C	B	C	D		B
Approach Vol, veh/h		1772			508			584			591	
Approach Delay, s/veh		27.4			11.3			21.9			28.2	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		46.0		34.0		46.0		34.0
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0
Max Green Setting (Gmax), s		40.5		29.0		40.5		29.0
Max Q Clear Time (g_c+I1), s		38.5		32.0		8.5		18.3
Green Ext Time (p_c), s		1.9		0.0		22.1		4.6

Intersection Summary			
HCM 2010 Ctrl Delay			24.2
HCM 2010 LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	548	45	278	542	137	98	613	243	95	348	43
Future Volume (veh/h)	124	548	45	278	542	137	98	613	243	95	348	43
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		0.93	1.00		0.91	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1749	1900	1827	1796	1900	1900	1863	1900	1827	1847	1900
Adj Flow Rate, veh/h	129	571	43	290	565	127	102	639	218	99	362	37
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	9	9	4	7	7	0	2	2	4	3	3
Cap, veh/h	173	892	67	311	998	223	152	788	268	139	985	100
Arrive On Green	0.10	0.29	0.27	0.18	0.37	0.35	0.08	0.31	0.29	0.08	0.31	0.29
Sat Flow, veh/h	1757	3115	234	1740	2719	608	1810	2565	874	1740	3203	325
Grp Volume(v), veh/h	129	304	310	290	353	339	102	441	416	99	197	202
Grp Sat Flow(s),veh/h/ln	1757	1662	1687	1740	1706	1621	1810	1770	1670	1740	1754	1774
Q Serve(g_s), s	8.0	17.9	18.0	18.3	18.5	18.8	6.1	25.7	25.8	6.2	9.8	10.0
Cycle Q Clear(g_c), s	8.0	17.9	18.0	18.3	18.5	18.8	6.1	25.7	25.8	6.2	9.8	10.0
Prop In Lane	1.00		0.14	1.00		0.38	1.00		0.52	1.00		0.18
Lane Grp Cap(c), veh/h	173	476	483	311	626	595	152	543	513	139	540	545
V/C Ratio(X)	0.75	0.64	0.64	0.93	0.56	0.57	0.67	0.81	0.81	0.71	0.37	0.37
Avail Cap(c_a), veh/h	314	476	483	311	626	595	267	752	710	265	754	762
HCM Platoon Ratio	1.00	1.00	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	49.0	34.8	35.0	45.2	28.2	28.6	49.7	35.7	36.1	50.1	30.2	30.4
Incr Delay (d2), s/veh	6.3	6.4	6.4	33.5	3.7	3.9	5.1	3.3	3.5	6.6	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	9.0	9.2	11.7	9.4	9.1	3.3	13.0	12.3	3.3	4.8	4.9
LnGrp Delay(d),s/veh	55.3	41.3	41.4	78.7	31.9	32.6	54.8	39.0	39.6	56.7	30.3	30.5
LnGrp LOS	E	D	D	E	C	C	D	D	D	E	C	C
Approach Vol, veh/h		743			982			959			498	
Approach Delay, s/veh		43.8			45.9			40.9			35.7	
Approach LOS		D			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	12.9	38.8	24.0	36.0	13.4	38.4	15.0	45.0
Change Period (Y+Rc), s	5.0	* 6	5.0	6.0	5.5	6.0	5.0	6.0
Max Green Setting (Gmax), s	16.0	* 46	19.0	30.0	15.0	46.0	19.0	30.0
Max Q Clear Time (g_c+I1), s	8.2	27.8	20.3	20.0	8.1	12.0	10.0	20.8
Green Ext Time (p_c), s	0.1	5.0	0.0	4.4	0.1	5.7	0.2	4.2

Intersection Summary	
HCM 2010 Ctrl Delay	42.3
HCM 2010 LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	818	79	0	778	89	105	503	113	60	265	71
Future Volume (veh/h)	0	818	79	0	778	89	105	503	113	60	265	71
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		0.81	1.00		0.77	0.86		0.75	0.93		0.74
Parking Bus, Adj	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	0	1792	1743	0	1808	1900	1810	1792	1900	1810	1752	1900
Adj Flow Rate, veh/h	0	835	81	0	794	91	107	513	115	61	270	72
Adj No. of Lanes	0	2	1	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	6	9	0	5	5	5	6	6	5	8	8
Cap, veh/h	0	1265	444	0	1113	128	490	1336	295	383	1255	315
Arrive On Green	0.00	0.37	0.37	0.00	0.37	0.34	0.51	0.51	0.48	0.51	0.51	0.48
Sat Flow, veh/h	0	3495	1194	0	3088	343	865	2598	574	719	2441	612
Grp Volume(v), veh/h	0	835	81	0	455	430	107	334	294	61	179	163
Grp Sat Flow(s),veh/h/ln	0	1703	1194	0	1717	1624	865	1703	1469	719	1665	1389
Q Serve(g_s), s	0.0	14.3	3.2	0.0	15.8	15.9	5.5	8.3	8.7	4.0	4.1	4.7
Cycle Q Clear(g_c), s	0.0	14.3	3.2	0.0	15.8	15.9	10.1	8.3	8.7	12.7	4.1	4.7
Prop In Lane	0.00		1.00	0.00		0.21	1.00		0.39	1.00		0.44
Lane Grp Cap(c), veh/h	0	1265	444	0	638	603	490	876	756	383	856	714
V/C Ratio(X)	0.00	0.66	0.18	0.00	0.71	0.71	0.22	0.38	0.39	0.16	0.21	0.23
Avail Cap(c_a), veh/h	0	1265	444	0	638	603	490	876	756	383	856	714
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	18.3	14.8	0.0	18.8	19.1	12.2	10.3	10.7	14.2	9.2	9.7
Incr Delay (d2), s/veh	0.0	2.7	0.9	0.0	6.7	7.0	1.0	1.3	1.5	0.9	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.1	1.2	0.0	8.6	8.3	1.4	4.2	3.8	0.9	2.0	1.9
LnGrp Delay(d),s/veh	0.0	21.0	15.7	0.0	25.5	26.1	13.2	11.5	12.2	15.1	9.8	10.4
LnGrp LOS		C	B		C	C	B	B	B	B	A	B
Approach Vol, veh/h		916			885			735			403	
Approach Delay, s/veh		20.6			25.8			12.0			10.9	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.0		30.0		40.0		30.0
Change Period (Y+Rc), s		6.5		6.5		6.5		6.5
Max Green Setting (Gmax), s		33.5		23.5		33.5		23.5
Max Q Clear Time (g_c+I1), s		12.1		16.3		14.7		17.9
Green Ext Time (p_c), s		8.2		5.7		7.7		4.5

Intersection Summary	
HCM 2010 Ctrl Delay	18.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	393	0	624	0	0	0	263	285	0	77	520	289
Future Volume (veh/h)	393	0	624	0	0	0	263	285	0	77	520	289
Number	7	4	14				5	2	12	1	6	16
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		0.96
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	1776	0	1827				1792	1638	0	1900	1810	1743
Adj Flow Rate, veh/h	418	0	320				280	303	0	82	553	73
Adj No. of Lanes	2	0	2				2	2	0	1	2	2
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	0	4				6	16	0	0	5	9
Cap, veh/h	1628	0	1356				344	993	0	106	941	689
Arrive On Green	0.50	0.00	0.50				0.10	0.32	0.00	0.06	0.27	0.27
Sat Flow, veh/h	3281	0	2733				3312	3194	0	1810	3438	2516
Grp Volume(v), veh/h	418	0	320				280	303	0	82	553	73
Grp Sat Flow(s),veh/h/ln	1640	0	1367				1656	1556	0	1810	1719	1258
Q Serve(g_s), s	7.0	0.0	6.3				7.9	7.0	0.0	4.2	13.2	2.1
Cycle Q Clear(g_c), s	7.0	0.0	6.3				7.9	7.0	0.0	4.2	13.2	2.1
Prop In Lane	1.00		1.00				1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1628	0	1356				344	993	0	106	941	689
V/C Ratio(X)	0.26	0.00	0.24				0.81	0.31	0.00	0.78	0.59	0.11
Avail Cap(c_a), veh/h	1628	0	1356				349	993	0	190	941	689
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	0.0	13.7				41.7	24.4	0.0	44.1	29.9	25.8
Incr Delay (d2), s/veh	0.4	0.0	0.4				13.6	0.8	0.0	4.5	2.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	6.4				4.2	3.1	0.0	2.3	6.6	0.7
LnGrp Delay(d),s/veh	14.2	0.0	14.1				55.3	25.2	0.0	48.6	32.5	26.1
LnGrp LOS	B		B				E	C		D	C	C
Approach Vol, veh/h		738						583			708	
Approach Delay, s/veh		14.1						39.6			33.7	
Approach LOS		B						D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	9.5	34.3		51.1	13.9	30.0		
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		
Max Green Setting (Gmax), s	10.0	25.4		46.4	10.0	25.4		
Max Q Clear Time (g_c+I1), s	6.2	9.0		9.0	9.9	15.2		
Green Ext Time (p_c), s	0.0	5.2		3.0	0.0	4.0		

Intersection Summary	
HCM 2010 Ctrl Delay	28.3
HCM 2010 LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	131	85	25	35	79	63	730	65	208	1192	72
Future Volume (veh/h)	55	131	85	25	35	79	63	730	65	208	1192	72
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	1827	1861	1776	1900	1839	1743	1810	1759	1624	1827	1792	1776
Adj Flow Rate, veh/h	59	141	0	27	38	0	68	785	0	224	1282	0
Adj No. of Lanes	1	1	1	0	1	1	1	2	1	1	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, %	4	2	7	0	0	9	5	8	17	4	6	7
Cap, veh/h	217	232	188	51	71	100	87	1509	623	266	1886	836
Arrive On Green	0.12	0.12	0.00	0.07	0.07	0.00	0.05	0.45	0.00	0.15	0.55	0.00
Sat Flow, veh/h	1740	1861	1509	748	1053	1482	1723	3343	1380	1740	3406	1509
Grp Volume(v), veh/h	59	141	0	65	0	0	68	785	0	224	1282	0
Grp Sat Flow(s),veh/h/ln	1740	1861	1509	1801	0	1482	1723	1671	1380	1740	1703	1509
Q Serve(g_s), s	2.4	5.6	0.0	2.7	0.0	0.0	3.1	13.2	0.0	9.8	21.2	0.0
Cycle Q Clear(g_c), s	2.4	5.6	0.0	2.7	0.0	0.0	3.1	13.2	0.0	9.8	21.2	0.0
Prop In Lane	1.00		1.00	0.42		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	217	232	188	122	0	100	87	1509	623	266	1886	836
V/C Ratio(X)	0.27	0.61	0.00	0.53	0.00	0.00	0.78	0.52	0.00	0.84	0.68	0.00
Avail Cap(c_a), veh/h	896	959	778	928	0	763	658	1773	732	664	1886	836
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.2	32.6	0.0	35.5	0.0	0.0	36.9	15.5	0.0	32.4	12.5	0.0
Incr Delay (d2), s/veh	0.2	1.0	0.0	1.4	0.0	0.0	5.6	0.6	0.0	2.8	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.0	0.0	1.4	0.0	0.0	1.6	6.2	0.0	4.9	10.1	0.0
LnGrp Delay(d),s/veh	31.4	33.6	0.0	36.8	0.0	0.0	42.5	16.1	0.0	35.2	13.9	0.0
LnGrp LOS	C	C		D			D	B		D	B	
Approach Vol, veh/h		200			65			853			1506	
Approach Delay, s/veh		32.9			36.8			18.2			17.0	
Approach LOS		C			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	39.5		13.8	8.0	47.5		9.3
Change Period (Y+Rc), s	4.0	5.7		4.5	4.0	5.7		4.5
Max Green Setting (Gmax), s	30.0	40.0		40.0	30.0	40.0		40.0
Max Q Clear Time (g_c+I1), s	11.8	15.2		7.6	5.1	23.2		4.7
Green Ext Time (p_c), s	0.3	18.6		0.5	0.1	15.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	19.1
HCM 2010 LOS	B

Notes
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations			✥				✥				✥				✥	
Traffic Vol, veh/h	0	1	1	6	0	91	0	16	0	1	192	213	0	28	39	1
Future Vol, veh/h	0	1	1	6	0	91	0	16	0	1	192	213	0	28	39	1
Peak Hour Factor	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89
Heavy Vehicles, %	2	100	0	0	2	4	0	23	2	0	7	3	2	40	13	100
Mvmt Flow	0	1	1	7	0	102	0	18	0	1	216	239	0	31	44	1
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	9.4	11.2	9.2
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	12%	85%	41%
Vol Thru, %	47%	12%	0%	57%
Vol Right, %	52%	75%	15%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	406	8	107	68
LT Vol	1	1	91	28
Through Vol	192	1	0	39
RT Vol	213	6	16	1
Lane Flow Rate	456	9	120	76
Geometry Grp	1	1	1	1
Degree of Util (X)	0.512	0.016	0.174	0.116
Departure Headway (Hd)	4.041	6.522	5.209	5.463
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	894	547	686	656
Service Time	2.061	4.584	3.258	3.5
HCM Lane V/C Ratio	0.51	0.016	0.175	0.116
HCM Control Delay	11.2	9.7	9.4	9.2
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	3	0	0.6	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	48	187	46	103	488	55
Future Volume (veh/h)	48	187	46	103	488	55
Number	7	14	5	2	6	16
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	1624	1863	1776	1712	1863	1712
Adj Flow Rate, veh/h	51	34	49	110	519	35
Adj No. of Lanes	1	1	1	2	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	17	2	7	11	2	11
Cap, veh/h	157	161	123	2042	782	611
Arrive On Green	0.10	0.10	0.07	0.63	0.42	0.42
Sat Flow, veh/h	1547	1583	1691	3338	1863	1455
Grp Volume(v), veh/h	51	34	49	110	519	35
Grp Sat Flow(s),veh/h/ln	1547	1583	1691	1626	1863	1455
Q Serve(g_s), s	0.9	0.6	0.8	0.4	6.6	0.4
Cycle Q Clear(g_c), s	0.9	0.6	0.8	0.4	6.6	0.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	157	161	123	2042	782	611
V/C Ratio(X)	0.32	0.21	0.40	0.05	0.66	0.06
Avail Cap(c_a), veh/h	1489	1524	314	3680	1510	1180
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	12.3	12.2	13.1	2.1	6.9	5.1
Incr Delay (d2), s/veh	1.2	0.6	2.1	0.0	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.6	0.5	0.2	3.5	0.2
LnGrp Delay(d),s/veh	13.5	12.8	15.2	2.1	7.9	5.1
LnGrp LOS	B	B	B	A	A	A
Approach Vol, veh/h	85			159	554	
Approach Delay, s/veh	13.3			6.1	7.7	
Approach LOS	B			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		22.6		7.0	6.2	16.4		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		33.0		28.0	5.0	23.5		
Max Q Clear Time (g_c+I1), s		2.4		2.9	2.8	8.6		
Green Ext Time (p_c), s		4.0		0.2	0.0	3.3		

Intersection Summary			
HCM 2010 Ctrl Delay			8.0
HCM 2010 LOS			A

Intersection	
Int Delay, s/veh	134.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	645	0	0	139	110	10	5	611	0	0	0
Future Vol, veh/h	23	645	0	0	139	110	10	5	611	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	120	-	-	-	-	-	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	13	1	0	0	7	9	20	80	1	0	0	0
Mvmt Flow	26	741	0	0	160	126	11	6	702	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	286	0	-	-	-	0	1017	1080	741
Stage 1	-	-	-	-	-	-	794	794	-
Stage 2	-	-	-	-	-	-	223	286	-
Critical Hdwy	4.23	-	-	-	-	-	6.6	7.3	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.6	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.6	6.3	-
Follow-up Hdwy	2.317	-	-	-	-	-	3.68	4.72	3.309
Pot Cap-1 Maneuver	1216	-	0	0	-	-	244	160	~ 418
Stage 1	-	-	0	0	-	-	415	306	-
Stage 2	-	-	0	0	-	-	773	554	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1216	-	-	-	-	-	239	0	~ 418
Mov Cap-2 Maneuver	-	-	-	-	-	-	239	0	-
Stage 1	-	-	-	-	-	-	406	0	-
Stage 2	-	-	-	-	-	-	773	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.3	0	$ 332
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	239	418	1216	-	-	-
HCM Lane V/C Ratio	0.072	1.68	0.022	-	-	-
HCM Control Delay (s)	21.2	$ 339.6	8	-	-	-
HCM Lane LOS	C	F	A	-	-	-
HCM 95th %tile Q(veh)	0.2	41.8	0.1	-	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	630	369	4	127	4	85	4	4	0	1	37
Future Volume (veh/h)	247	630	369	4	127	4	85	4	4	0	1	37
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	1900	1900	1863	1900	1900	1900	1759	1267	1267	1900	1564	1557
Adj Flow Rate, veh/h	278	708	0	4	143	0	96	4	0	0	1	0
Adj No. of Lanes	2	2	1	1	2	0	2	1	1	1	1	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	2	0	0	0	8	50	50	0	0	22
Cap, veh/h	441	1295	702	28	897	0	275	483	410	4	337	271
Arrive On Green	0.13	0.36	0.00	0.02	0.25	0.00	0.08	0.38	0.00	0.00	0.22	0.00
Sat Flow, veh/h	3510	3610	1583	1810	3705	0	3250	1267	1077	1810	1564	1324
Grp Volume(v), veh/h	278	708	0	4	143	0	96	4	0	0	1	0
Grp Sat Flow(s),veh/h/ln	1755	1805	1583	1810	1805	0	1625	1267	1077	1810	1564	1324
Q Serve(g_s), s	3.7	7.7	0.0	0.1	1.5	0.0	1.4	0.1	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.7	7.7	0.0	0.1	1.5	0.0	1.4	0.1	0.0	0.0	0.0	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	441	1295	702	28	897	0	275	483	410	4	337	271
V/C Ratio(X)	0.63	0.55	0.00	0.14	0.16	0.00	0.35	0.01	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	522	2008	1014	203	1875	0	371	663	564	203	816	677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	20.4	12.6	0.0	23.8	14.4	0.0	21.2	9.4	0.0	0.0	15.1	0.0
Incr Delay (d2), s/veh	1.8	0.4	0.0	2.3	0.1	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.8	0.0	0.1	0.8	0.0	0.6	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	22.2	12.9	0.0	26.1	14.5	0.0	22.0	9.4	0.0	0.0	15.1	0.0
LnGrp LOS	C	B		C	B		C	A			B	
Approach Vol, veh/h		986			147			100			1	
Approach Delay, s/veh		15.5			14.8			21.5			15.1	
Approach LOS		B			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	22.7	4.8	21.6	8.1	14.6	10.2	16.2
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	25.2	5.0	26.8	5.1	25.1	6.8	25.0
Max Q Clear Time (g_c+I1), s	0.0	2.1	2.1	9.7	3.4	2.0	5.7	3.5
Green Ext Time (p_c), s	0.0	0.0	0.0	4.9	0.0	0.0	0.1	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.9
HCM 2010 LOS	B

Notes
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	6	14	251	0	0	16	0	0	52	19	0	0	0	92	6
Future Vol, veh/h	0	6	14	251	0	0	16	0	0	52	19	0	0	0	92	6
Peak Hour Factor	0.92	0.62	0.62	0.62	0.92	0.62	0.62	0.62	0.92	0.62	0.62	0.62	0.92	0.62	0.62	0.62
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	10	23	405	0	0	26	0	0	84	31	0	0	0	148	10
Number of Lanes	0	1	2	0	0	0	2	0	0	1	1	0	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	3
HCM Control Delay	12.8	8.3	10.2	10.6
HCM LOS	B	A	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	0%	100%	0%	100%	2%	100%	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	0%	98%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	52	19	6	9	256	8	8	0	92	6
LT Vol	52	0	6	0	0	0	0	0	0	0
Through Vol	0	19	0	9	5	8	8	0	92	0
RT Vol	0	0	0	0	251	0	0	0	0	6
Lane Flow Rate	84	31	10	15	412	13	13	0	148	10
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.155	0.052	0.016	0.023	0.542	0.023	0.017	0	0.249	0.014
Departure Headway (Hd)	6.644	6.141	5.928	5.425	4.734	6.324	4.604	6.051	6.051	5.347
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	542	586	598	653	751	568	779	0	597	672
Service Time	4.355	3.852	3.722	3.219	2.527	4.043	2.322	3.76	3.76	3.057
HCM Lane V/C Ratio	0.155	0.053	0.017	0.023	0.549	0.023	0.017	0	0.248	0.015
HCM Control Delay	10.6	9.2	8.8	8.3	13.1	9.2	7.4	8.8	10.8	8.1
HCM Lane LOS	B	A	A	A	B	A	A	N	B	A
HCM 95th-tile Q	0.5	0.2	0	0.1	3.3	0.1	0.1	0	1	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	347	21	210	926	65	57	251	230	112	417	453
Future Volume (veh/h)	126	347	21	210	926	65	57	251	230	112	417	453
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1882	1900	1881	1867	1900	1863	1863	1881	1727	1863	1881
Adj Flow Rate, veh/h	131	361	17	219	965	64	59	261	240	117	434	253
Adj No. of Lanes	1	3	0	2	2	0	1	1	2	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	1	1	1	1	1	2	2	1	10	2	1
Cap, veh/h	314	2493	116	282	1318	87	108	352	729	282	767	341
Arrive On Green	0.18	0.50	0.49	0.08	0.39	0.38	0.06	0.19	0.18	0.09	0.22	0.22
Sat Flow, veh/h	1774	5028	235	3476	3371	224	1774	1863	2777	3191	3539	1573
Grp Volume(v), veh/h	131	245	133	219	508	521	59	261	240	117	434	253
Grp Sat Flow(s),veh/h/ln	1774	1713	1837	1738	1773	1822	1774	1863	1389	1596	1770	1573
Q Serve(g_s), s	7.2	4.3	4.3	6.8	26.9	26.9	3.6	14.5	7.7	3.8	12.0	10.7
Cycle Q Clear(g_c), s	7.2	4.3	4.3	6.8	26.9	26.9	3.6	14.5	7.7	3.8	12.0	10.7
Prop In Lane	1.00		0.13	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	1698	911	282	693	712	108	352	729	282	767	341
V/C Ratio(X)	0.42	0.14	0.15	0.78	0.73	0.73	0.55	0.74	0.33	0.41	0.57	0.74
Avail Cap(c_a), veh/h	314	1698	911	411	693	712	129	508	961	290	1030	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	15.1	15.1	49.5	28.6	28.6	50.2	42.0	32.8	47.4	38.4	16.8
Incr Delay (d2), s/veh	0.3	0.2	0.3	3.0	6.7	6.6	1.6	1.5	0.1	0.4	0.2	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	2.0	2.3	3.4	14.4	14.8	1.8	7.6	3.0	1.7	5.9	4.9
LnGrp Delay(d),s/veh	40.6	15.2	15.5	52.6	35.3	35.2	51.8	43.6	32.9	47.8	38.7	19.4
LnGrp LOS	D	B	B	D	D	D	D	D	C	D	D	B
Approach Vol, veh/h		509			1248			560			804	
Approach Delay, s/veh		21.8			38.3			39.9			34.0	
Approach LOS		C			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	27.9	24.5	47.0	13.7	24.8	12.9	58.5
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	31.0	11.0	* 42	10.0	29.0	13.0	40.0
Max Q Clear Time (g_c+I1), s	5.6	14.0	9.2	28.9	5.8	16.5	8.8	6.3
Green Ext Time (p_c), s	0.0	3.6	0.1	3.5	0.1	3.3	0.2	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	34.8
HCM 2010 LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	613	87	0	1056	3	145	71	241	183	464	39
Future Volume (veh/h)	0	613	87	0	1056	3	145	71	241	183	464	39
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		1.00	1.00		0.99	0.99		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	0	1863	1900	0	1881	1900	1881	1900	1900	1881	1866	1900
Adj Flow Rate, veh/h	0	652	45	0	1123	3	154	76	152	195	494	37
Adj No. of Lanes	0	2	1	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	1	1	1	0	0	1	2	2
Cap, veh/h	0	1618	719	0	1672	4	280	841	709	573	759	57
Arrive On Green	0.00	0.46	0.46	0.00	0.46	0.44	0.44	0.44	0.44	0.44	0.44	0.43
Sat Flow, veh/h	0	3632	1573	0	3751	10	876	1900	1601	1152	1713	128
Grp Volume(v), veh/h	0	652	45	0	549	577	154	76	152	195	0	531
Grp Sat Flow(s),veh/h/ln	0	1770	1573	0	1787	1880	876	1900	1601	1152	0	1842
Q Serve(g_s), s	0.0	9.8	1.3	0.0	19.2	19.2	13.4	1.9	4.7	9.5	0.0	18.1
Cycle Q Clear(g_c), s	0.0	9.8	1.3	0.0	19.2	19.2	31.4	1.9	4.7	11.3	0.0	18.1
Prop In Lane	0.00		1.00	0.00		0.01	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	0	1618	719	0	817	859	280	841	709	573	0	815
V/C Ratio(X)	0.00	0.40	0.06	0.00	0.67	0.67	0.55	0.09	0.21	0.34	0.00	0.65
Avail Cap(c_a), veh/h	0	1618	719	0	817	859	286	855	720	582	0	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.4	12.1	0.0	17.0	17.0	29.8	12.9	13.7	16.2	0.0	17.5
Incr Delay (d2), s/veh	0.0	0.7	0.2	0.0	4.4	4.2	2.1	0.0	0.1	0.3	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.0	0.6	0.0	10.4	10.9	3.4	1.0	2.1	3.0	0.0	9.6
LnGrp Delay(d),s/veh	0.0	15.2	12.3	0.0	21.4	21.2	31.9	13.0	13.9	16.6	0.0	19.3
LnGrp LOS		B	B		C	C	C	B	B	B		B
Approach Vol, veh/h		697			1126			382			726	
Approach Delay, s/veh		15.0			21.3			21.0			18.5	
Approach LOS		B			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.6		39.4		40.6		39.4
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0
Max Green Setting (Gmax), s		34.5		35.0		34.5		35.0
Max Q Clear Time (g_c+I1), s		11.8		20.1		21.2		33.4
Green Ext Time (p_c), s		12.9		5.8		9.0		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	19.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	119	625	51	243	533	126	63	355	224	145	557	38
Future Volume (veh/h)	119	625	51	243	533	126	63	355	224	145	557	38
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		0.92	1.00		0.94	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1800	1900	1881	1816	1900	1863	1859	1900	1863	1900	1900
Adj Flow Rate, veh/h	121	638	48	248	544	116	64	362	135	148	568	35
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	6	6	1	5	5	2	3	3	2	0	0
Cap, veh/h	169	1035	78	299	1102	234	131	581	213	197	947	58
Arrive On Green	0.10	0.32	0.30	0.17	0.39	0.37	0.07	0.23	0.22	0.11	0.27	0.25
Sat Flow, veh/h	1757	3201	240	1792	2797	593	1774	2504	916	1774	3448	212
Grp Volume(v), veh/h	121	340	346	248	334	326	64	253	244	148	297	306
Grp Sat Flow(s),veh/h/ln	1757	1710	1732	1792	1725	1665	1774	1766	1654	1774	1805	1855
Q Serve(g_s), s	6.6	16.6	16.7	13.3	14.4	14.7	3.4	12.7	13.2	8.0	14.1	14.2
Cycle Q Clear(g_c), s	6.6	16.6	16.7	13.3	14.4	14.7	3.4	12.7	13.2	8.0	14.1	14.2
Prop In Lane	1.00		0.14	1.00		0.36	1.00		0.55	1.00		0.11
Lane Grp Cap(c), veh/h	169	553	560	299	680	656	131	410	384	197	496	510
V/C Ratio(X)	0.72	0.62	0.62	0.83	0.49	0.50	0.49	0.62	0.63	0.75	0.60	0.60
Avail Cap(c_a), veh/h	355	553	560	362	680	656	296	847	794	305	875	900
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	28.3	28.4	39.9	22.5	22.9	44.1	34.1	34.6	42.7	31.2	31.3
Incr Delay (d2), s/veh	5.6	5.1	5.0	12.8	2.5	2.7	2.8	0.6	0.7	5.6	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	8.6	8.8	7.6	7.4	7.2	1.8	6.3	6.1	4.2	7.1	7.3
LnGrp Delay(d),s/veh	49.0	33.4	33.5	52.7	25.1	25.6	46.9	34.6	35.3	48.3	31.6	31.7
LnGrp LOS	D	C	C	D	C	C	D	C	D	D	C	C
Approach Vol, veh/h		807			908			561			751	
Approach Delay, s/veh		35.8			32.8			36.3			34.9	
Approach LOS		D			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	27.5	20.5	36.0	11.3	31.2	13.5	43.0
Change Period (Y+Rc), s	5.0	* 6	5.0	6.0	5.5	6.0	5.0	6.0
Max Green Setting (Gmax), s	16.0	* 46	19.0	30.0	15.0	46.0	19.0	30.0
Max Q Clear Time (g_c+I1), s	10.0	15.2	15.3	18.7	5.4	16.2	8.6	16.7
Green Ext Time (p_c), s	0.2	4.6	0.3	4.8	0.1	4.6	0.2	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	34.8
HCM 2010 LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	825	193	0	732	88	78	331	106	84	436	92
Future Volume (veh/h)	0	825	193	0	732	88	78	331	106	84	436	92
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		0.70	1.00		0.85	0.90		0.76	0.90		0.73
Parking Bus, Adj	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	0	1827	1776	0	1850	1900	1881	1817	1900	1810	1795	1900
Adj Flow Rate, veh/h	0	851	199	0	755	91	80	341	109	87	449	95
Adj No. of Lanes	0	2	1	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	4	7	0	3	3	1	6	6	5	6	6
Cap, veh/h	0	1289	395	0	1148	138	422	1239	378	454	1351	279
Arrive On Green	0.00	0.37	0.37	0.00	0.37	0.34	0.51	0.51	0.48	0.51	0.51	0.48
Sat Flow, veh/h	0	3563	1064	0	3184	372	781	2408	735	822	2626	543
Grp Volume(v), veh/h	0	851	199	0	429	417	80	240	210	87	288	256
Grp Sat Flow(s),veh/h/ln	0	1736	1064	0	1758	1706	781	1727	1417	822	1706	1464
Q Serve(g_s), s	0.0	14.3	10.1	0.0	14.2	14.3	4.7	5.5	6.1	4.7	6.9	7.4
Cycle Q Clear(g_c), s	0.0	14.3	10.1	0.0	14.2	14.3	12.1	5.5	6.1	10.9	6.9	7.4
Prop In Lane	0.00		1.00	0.00		0.22	1.00		0.52	1.00		0.37
Lane Grp Cap(c), veh/h	0	1289	395	0	653	634	422	888	729	454	877	753
V/C Ratio(X)	0.00	0.66	0.50	0.00	0.66	0.66	0.19	0.27	0.29	0.19	0.33	0.34
Avail Cap(c_a), veh/h	0	1289	395	0	653	634	422	888	729	454	877	753
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	18.3	17.0	0.0	18.3	18.6	13.6	9.6	10.1	12.9	9.9	10.3
Incr Delay (d2), s/veh	0.0	2.7	4.5	0.0	5.1	5.3	1.0	0.7	1.0	0.9	1.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.2	3.4	0.0	7.7	7.6	1.1	2.8	2.5	1.2	3.4	3.2
LnGrp Delay(d),s/veh	0.0	21.0	21.5	0.0	23.4	23.8	14.6	10.3	11.1	13.8	10.9	11.5
LnGrp LOS		C	C		C	C	B	B	B	B	B	B
Approach Vol, veh/h		1050			846			530			631	
Approach Delay, s/veh		21.1			23.6			11.3			11.6	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.0		30.0		40.0		30.0
Change Period (Y+Rc), s		6.5		6.5		6.5		6.5
Max Green Setting (Gmax), s		33.5		23.5		33.5		23.5
Max Q Clear Time (g_c+I1), s		14.1		16.3		12.9		16.3
Green Ext Time (p_c), s		8.0		5.8		8.3		5.8

Intersection Summary		
HCM 2010 Ctrl Delay		18.1
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	314	0	221	0	0	0	648	457	0	100	239	443
Future Volume (veh/h)	314	0	221	0	0	0	648	457	0	100	239	443
Number	7	4	14				5	2	12	1	6	16
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		0.95
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	1792	0	1776				1881	1845	0	1900	1792	1863
Adj Flow Rate, veh/h	324	0	37				668	471	0	103	246	134
Adj No. of Lanes	2	0	2				2	2	0	1	2	2
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	6	0	7				1	3	0	0	6	2
Cap, veh/h	451	0	362				711	1537	0	131	1044	815
Arrive On Green	0.14	0.00	0.14				0.20	0.44	0.00	0.07	0.31	0.31
Sat Flow, veh/h	3312	0	2656				3476	3597	0	1810	3406	2659
Grp Volume(v), veh/h	324	0	37				668	471	0	103	246	134
Grp Sat Flow(s),veh/h/ln	1656	0	1328				1738	1752	0	1810	1703	1329
Q Serve(g_s), s	8.4	0.0	1.1				17.0	7.8	0.0	5.0	4.9	3.3
Cycle Q Clear(g_c), s	8.4	0.0	1.1				17.0	7.8	0.0	5.0	4.9	3.3
Prop In Lane	1.00		1.00				1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	451	0	362				711	1537	0	131	1044	815
V/C Ratio(X)	0.72	0.00	0.10				0.94	0.31	0.00	0.78	0.24	0.16
Avail Cap(c_a), veh/h	1178	0	945				711	1537	0	209	1044	815
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	0.0	34.1				35.3	16.4	0.0	41.0	23.3	22.8
Incr Delay (d2), s/veh	2.2	0.0	0.1				20.5	0.5	0.0	3.9	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.9				10.2	3.9	0.0	2.7	2.4	1.3
LnGrp Delay(d),s/veh	39.4	0.0	34.2				55.7	16.9	0.0	44.9	23.8	23.2
LnGrp LOS	D		C				E	B		D	C	C
Approach Vol, veh/h		361						1139			483	
Approach Delay, s/veh		38.9						39.7			28.2	
Approach LOS		D						D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	10.5	43.5		16.3	22.4	31.6		
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		
Max Green Setting (Gmax), s	10.4	26.4		31.4	18.4	27.0		
Max Q Clear Time (g_c+I1), s	7.0	9.8		10.4	19.0	6.9		
Green Ext Time (p_c), s	0.0	4.7		1.2	0.0	5.0		

Intersection Summary	
HCM 2010 Ctrl Delay	36.7
HCM 2010 LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	56	89	41	122	241	83	1035	41	56	734	46
Future Volume (veh/h)	75	56	89	41	122	241	83	1035	41	56	734	46
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	1881	1897	1863	1900	1872	1727	1881	1810	1652	1743	1810	1743
Adj Flow Rate, veh/h	70	74	0	44	130	0	88	1101	0	60	781	0
Adj No. of Lanes	1	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	0	2	2	2	10	1	5	15	9	5	9
Cap, veh/h	178	188	157	63	187	199	115	1752	715	75	1687	727
Arrive On Green	0.10	0.10	0.00	0.14	0.14	0.00	0.06	0.51	0.00	0.05	0.49	0.00
Sat Flow, veh/h	1792	1897	1583	467	1381	1468	1792	3438	1404	1660	3438	1482
Grp Volume(v), veh/h	70	74	0	174	0	0	88	1101	0	60	781	0
Grp Sat Flow(s),veh/h/ln	1792	1897	1583	1849	0	1468	1792	1719	1404	1660	1719	1482
Q Serve(g_s), s	2.8	2.8	0.0	6.8	0.0	0.0	3.7	17.5	0.0	2.7	11.4	0.0
Cycle Q Clear(g_c), s	2.8	2.8	0.0	6.8	0.0	0.0	3.7	17.5	0.0	2.7	11.4	0.0
Prop In Lane	1.00		1.00	0.25		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	188	157	250	0	199	115	1752	715	75	1687	727
V/C Ratio(X)	0.39	0.39	0.00	0.70	0.00	0.00	0.77	0.63	0.00	0.80	0.46	0.00
Avail Cap(c_a), veh/h	956	1012	845	986	0	783	708	1888	771	656	1888	814
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.0	32.0	0.0	31.3	0.0	0.0	35.0	13.4	0.0	35.9	12.7	0.0
Incr Delay (d2), s/veh	0.5	0.5	0.0	1.3	0.0	0.0	4.0	1.0	0.0	7.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.5	0.0	3.6	0.0	0.0	1.9	8.5	0.0	1.4	5.4	0.0
LnGrp Delay(d),s/veh	32.6	32.5	0.0	32.6	0.0	0.0	39.0	14.4	0.0	43.1	13.2	0.0
LnGrp LOS	C	C		C			D	B		D	B	
Approach Vol, veh/h		144			174			1189			841	
Approach Delay, s/veh		32.6			32.6			16.2			15.3	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.4	42.7		11.5	8.9	41.2		14.3
Change Period (Y+Rc), s	4.0	5.7		4.5	4.0	5.7		4.5
Max Green Setting (Gmax), s	30.0	40.0		40.0	30.0	40.0		40.0
Max Q Clear Time (g_c+I1), s	4.7	19.5		4.8	5.7	13.4		8.8
Green Ext Time (p_c), s	0.1	17.4		0.3	0.1	21.9		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	18.1
HCM 2010 LOS	B

Notes
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	0	0	0	0	326	0	23	0	0	87	66	0	12	72	0
Future Vol, veh/h	0	0	0	0	0	326	0	23	0	0	87	66	0	12	72	0
Peak Hour Factor	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	0	0	0	2	6	0	9	2	0	9	2	2	40	6	0
Mvmt Flow	0	0	0	0	0	358	0	25	0	0	96	73	0	13	79	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	12.9	9.4	9.9
HCM LOS	-	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	93%	14%
Vol Thru, %	57%	100%	0%	86%
Vol Right, %	43%	0%	7%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	153	0	349	84
LT Vol	0	0	326	12
Through Vol	87	0	0	72
RT Vol	66	0	23	0
Lane Flow Rate	168	0	384	92
Geometry Grp	1	1	1	1
Degree of Util (X)	0.229	0	0.513	0.149
Departure Headway (Hd)	4.902	5.063	4.816	5.802
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	728	0	744	615
Service Time	2.961	3.146	2.866	3.87
HCM Lane V/C Ratio	0.231	0	0.516	0.15
HCM Control Delay	9.4	8.1	12.9	9.9
HCM Lane LOS	A	N	B	A
HCM 95th-tile Q	0.9	0	3	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	48	160	550	84	188
Future Volume (veh/h)	29	48	160	550	84	188
Number	7	14	5	2	6	16
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	1776	1743	1900	1881	1743	1743
Adj Flow Rate, veh/h	32	3	178	611	93	55
Adj No. of Lanes	1	1	1	2	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	7	9	0	1	9	9
Cap, veh/h	74	64	266	2030	395	336
Arrive On Green	0.04	0.04	0.15	0.57	0.23	0.23
Sat Flow, veh/h	1691	1482	1810	3668	1743	1482
Grp Volume(v), veh/h	32	3	178	611	93	55
Grp Sat Flow(s),veh/h/ln	1691	1482	1810	1787	1743	1482
Q Serve(g_s), s	0.4	0.0	2.2	2.1	1.0	0.7
Cycle Q Clear(g_c), s	0.4	0.0	2.2	2.1	1.0	0.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	74	64	266	2030	395	336
V/C Ratio(X)	0.43	0.05	0.67	0.30	0.24	0.16
Avail Cap(c_a), veh/h	2044	1791	742	3549	677	576
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	10.8	10.6	9.3	2.6	7.3	7.2
Incr Delay (d2), s/veh	4.0	0.3	2.9	0.1	0.3	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	0.3	0.0	1.3	1.0	0.5	0.3
LnGrp Delay(d),s/veh	14.8	10.9	12.2	2.7	7.6	7.4
LnGrp LOS	B	B	B	A	A	A
Approach Vol, veh/h	35			789	148	
Approach Delay, s/veh	14.5			4.8	7.5	
Approach LOS	B			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		17.7		5.5	7.9	9.7		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		23.0		28.0	9.5	9.0		
Max Q Clear Time (g_c+I1), s		4.1		2.4	4.2	3.0		
Green Ext Time (p_c), s		4.2		0.1	0.2	2.2		

Intersection Summary		
HCM 2010 Ctrl Delay		5.6
HCM 2010 LOS		A

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	123	0	0	719	493	10	3	107	0	0	0
Future Vol, veh/h	18	123	0	0	719	493	10	3	107	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	120	-	-	-	-	-	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	17	11	0	0	1	1	20	100	6	0	0	0
Mvmt Flow	22	148	0	0	866	594	12	4	129	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1460	0	-	-	-	0	1355	1652	148
Stage 1	-	-	-	-	-	-	192	192	-
Stage 2	-	-	-	-	-	-	1163	1460	-
Critical Hdwy	4.27	-	-	-	-	-	7.3	7.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	6.5	-
Follow-up Hdwy	2.353	-	-	-	-	-	3.68	4.9	3.354
Pot Cap-1 Maneuver	420	-	0	0	-	-	116	59	888
Stage 1	-	-	0	0	-	-	770	590	-
Stage 2	-	-	0	0	-	-	218	121	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	420	-	-	-	-	-	111	56	888
Mov Cap-2 Maneuver	-	-	-	-	-	-	111	56	-
Stage 1	-	-	-	-	-	-	730	559	-
Stage 2	-	-	-	-	-	-	218	121	-

Approach	EB	WB	NB
HCM Control Delay, s	1.8	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	90	888	420	-	-	-
HCM Lane V/C Ratio	0.174	0.145	0.052	-	-	-
HCM Control Delay (s)	53.2	9.7	14	-	-	-
HCM Lane LOS	F	A	B	-	-	-
HCM 95th %tile Q(veh)	0.6	0.5	0.2	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	118	87	1	583	0	351	3	6	2	2	276
Future Volume (veh/h)	25	118	87	1	583	0	351	3	6	2	2	276
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	1727	1845	1743	1900	1900	1900	1881	1900	1138	1900	1845	1845
Adj Flow Rate, veh/h	30	140	0	1	694	0	418	4	0	2	2	0
Adj No. of Lanes	2	2	1	1	2	0	2	1	1	1	1	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	10	3	9	0	0	0	1	0	67	0	0	3
Cap, veh/h	108	1176	686	4	1094	0	442	585	298	5	338	287
Arrive On Green	0.03	0.34	0.00	0.00	0.30	0.00	0.13	0.31	0.00	0.00	0.18	0.00
Sat Flow, veh/h	3191	3505	1482	1810	3705	0	3476	1900	967	1810	1845	1568
Grp Volume(v), veh/h	30	140	0	1	694	0	418	4	0	2	2	0
Grp Sat Flow(s),veh/h/ln	1596	1752	1482	1810	1805	0	1738	1900	967	1810	1845	1568
Q Serve(g_s), s	0.5	1.4	0.0	0.0	8.5	0.0	6.1	0.1	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.5	1.4	0.0	0.0	8.5	0.0	6.1	0.1	0.0	0.1	0.0	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	108	1176	686	4	1094	0	442	585	298	5	338	287
V/C Ratio(X)	0.28	0.12	0.00	0.28	0.63	0.00	0.95	0.01	0.00	0.40	0.01	0.00
Avail Cap(c_a), veh/h	312	1715	914	177	1767	0	442	1004	511	177	921	783
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.1	11.7	0.0	25.5	15.4	0.0	22.1	12.3	0.0	25.4	17.1	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	38.6	0.6	0.0	29.3	0.0	0.0	45.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.7	0.0	0.1	4.2	0.0	4.7	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	25.4	11.8	0.0	64.0	16.0	0.0	51.4	12.3	0.0	70.8	17.1	0.0
LnGrp LOS	C	B		E	B		D	B		E	B	
Approach Vol, veh/h		170			695			422			4	
Approach Delay, s/veh		14.2			16.0			51.0			43.9	
Approach LOS		B			B			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	4.6	20.2	4.6	21.6	11.0	13.9	6.2	20.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	27.0	5.0	25.0	6.5	25.5	5.0	25.0
Max Q Clear Time (g_c+I1), s	2.1	2.1	2.0	3.4	8.1	2.0	2.5	10.5
Green Ext Time (p_c), s	0.0	0.0	0.0	5.2	0.0	0.0	0.0	4.4

Intersection Summary	
HCM 2010 Ctrl Delay	27.3
HCM 2010 LOS	C

Notes
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	4	30	41	0	0	22	0	0	226	83	0	0	1	14	5
Future Vol, veh/h	0	4	30	41	0	0	22	0	0	226	83	0	0	1	14	5
Peak Hour Factor	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82
Heavy Vehicles, %	2	0	0	0	2	0	18	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	5	37	50	0	0	27	0	0	276	101	0	0	1	17	6
Number of Lanes	0	1	2	0	0	0	2	0	0	1	1	0	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	3
HCM Control Delay	8.4	8	10.9	8.3
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	100%	20%	100%	100%	0%	100%	0%
Vol Right, %	0%	0%	0%	0%	80%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	226	83	4	20	51	11	11	1	14	5
LT Vol	226	0	4	0	0	0	0	1	0	0
Through Vol	0	83	0	20	10	11	11	0	14	0
RT Vol	0	0	0	0	41	0	0	0	0	5
Lane Flow Rate	276	101	5	24	62	13	13	1	17	6
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.412	0.137	0.008	0.038	0.088	0.023	0.015	0.002	0.027	0.008
Departure Headway (Hd)	5.379	4.878	6.153	5.652	5.088	6.103	4.087	6.103	5.6	4.897
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	670	735	582	634	704	586	872	586	638	729
Service Time	3.108	2.607	3.885	3.384	2.82	3.845	1.828	3.847	3.345	2.641
HCM Lane V/C Ratio	0.412	0.137	0.009	0.038	0.088	0.022	0.015	0.002	0.027	0.008
HCM Control Delay	11.8	8.4	8.9	8.6	8.3	9	6.9	8.9	8.5	7.7
HCM Lane LOS	B	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	2	0.5	0	0.1	0.3	0.1	0	0	0.1	0

LOS WORKSHEETS – BACKGROUND PLUS PROJECT CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	1317	34	58	143	66	27	169	337	352	300	187
Future Volume (veh/h)	147	1317	34	58	143	66	27	169	337	352	300	187
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1862	1900	1776	1737	1900	1810	1792	1845	1810	1759	1759
Adj Flow Rate, veh/h	158	1416	33	62	154	23	29	182	362	378	323	41
Adj No. of Lanes	1	3	0	2	2	0	1	1	2	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, %	5	2	2	7	10	10	5	6	3	5	8	8
Cap, veh/h	192	2460	57	184	1230	181	102	224	460	459	679	298
Arrive On Green	0.11	0.48	0.47	0.06	0.43	0.41	0.06	0.13	0.11	0.14	0.20	0.20
Sat Flow, veh/h	1723	5109	119	3281	2888	424	1723	1792	2716	3343	3343	1469
Grp Volume(v), veh/h	158	939	510	62	87	90	29	182	362	378	323	41
Grp Sat Flow(s),veh/h/ln	1723	1695	1839	1640	1650	1662	1723	1792	1358	1672	1671	1469
Q Serve(g_s), s	7.2	15.9	15.9	1.5	2.6	2.6	1.3	7.9	9.0	8.8	6.8	1.8
Cycle Q Clear(g_c), s	7.2	15.9	15.9	1.5	2.6	2.6	1.3	7.9	9.0	8.8	6.8	1.8
Prop In Lane	1.00		0.06	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	192	1632	885	184	703	708	102	224	460	459	679	298
V/C Ratio(X)	0.82	0.58	0.58	0.34	0.12	0.13	0.28	0.81	0.79	0.82	0.48	0.14
Avail Cap(c_a), veh/h	237	1632	885	369	703	708	215	224	460	543	679	298
HCM Platoon Ratio	1.00	1.00	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	34.8	14.9	14.9	36.3	13.9	14.0	36.0	34.1	31.9	33.6	28.1	26.1
Incr Delay (d2), s/veh	14.1	1.5	2.7	0.4	0.4	0.4	0.6	18.6	8.1	7.3	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	7.8	8.7	0.7	1.2	1.3	0.6	5.1	4.4	4.5	3.2	0.7
LnGrp Delay(d),s/veh	48.9	16.4	17.6	36.7	14.3	14.4	36.6	52.7	40.0	40.9	28.3	26.2
LnGrp LOS	D	B	B	D	B	B	D	D	D	D	C	C
Approach Vol, veh/h		1607			239			573			742	
Approach Delay, s/veh		20.0			20.1			43.8			34.6	
Approach LOS		B			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	20.2	12.9	38.1	15.0	14.0	8.5	42.5
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	9.0	11.0	8.0	13.0	9.0	9.0	31.0
Max Q Clear Time (g_c+I1), s	3.3	8.8	9.2	4.6	10.8	11.0	3.5	17.9
Green Ext Time (p_c), s	0.0	0.1	0.0	2.2	0.2	0.0	0.0	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	27.7
HCM 2010 LOS	C

Notes
User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1700	67	0	491	5	122	94	373	315	240	30
Future Volume (veh/h)	0	1700	67	0	491	5	122	94	373	315	240	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	0.99		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1845	0	1793	1900	1881	1900	1881	1863	1851	1900
Adj Flow Rate, veh/h	0	1753	39	0	506	4	126	97	361	325	247	25
Adj No. of Lanes	0	2	1	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	3	0	6	6	1	0	1	2	3	3
Cap, veh/h	0	1858	800	0	1819	14	384	712	587	406	620	63
Arrive On Green	0.00	0.52	0.52	0.00	0.52	0.51	0.38	0.38	0.38	0.38	0.38	0.36
Sat Flow, veh/h	0	3632	1523	0	3555	27	1108	1900	1565	926	1652	167
Grp Volume(v), veh/h	0	1753	39	0	249	261	126	97	361	325	0	272
Grp Sat Flow(s),veh/h/ln	0	1770	1523	0	1704	1789	1108	1900	1565	926	0	1819
Q Serve(g_s), s	0.0	37.3	1.0	0.0	6.5	6.5	7.5	2.7	15.0	27.3	0.0	8.8
Cycle Q Clear(g_c), s	0.0	37.3	1.0	0.0	6.5	6.5	16.3	2.7	15.0	30.0	0.0	8.8
Prop In Lane	0.00		1.00	0.00		0.02	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	0	1858	800	0	894	939	384	713	587	406	0	682
V/C Ratio(X)	0.00	0.94	0.05	0.00	0.28	0.28	0.33	0.14	0.62	0.80	0.00	0.40
Avail Cap(c_a), veh/h	0	1858	800	0	894	939	384	713	587	406	0	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.9	9.3	0.0	10.6	10.6	24.4	16.5	20.3	26.7	0.0	18.4
Incr Delay (d2), s/veh	0.0	11.2	0.1	0.0	0.8	0.7	0.5	0.1	1.9	10.9	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	0.0	20.9	0.4	0.0	3.2	3.4	2.4	1.4	6.7	8.4	0.0	4.5
LnGrp Delay(d),s/veh	0.0	29.1	9.4	0.0	11.3	11.3	24.9	16.6	22.2	37.6	0.0	18.8
LnGrp LOS		C	A		B	B	C	B	C	D		B
Approach Vol, veh/h		1792			510			584			597	
Approach Delay, s/veh		28.7			11.3			21.9			29.0	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		46.0		34.0		46.0		34.0
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0
Max Green Setting (Gmax), s		40.5		29.0		40.5		29.0
Max Q Clear Time (g_c+I1), s		39.3		32.0		8.5		18.3
Green Ext Time (p_c), s		1.1		0.0		22.4		4.7

Intersection Summary		
HCM 2010 Ctrl Delay		25.1
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	567	45	278	545	137	98	613	243	95	348	43
Future Volume (veh/h)	124	567	45	278	545	137	98	613	243	95	348	43
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		0.93	1.00		0.91	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1749	1900	1827	1796	1900	1900	1863	1900	1827	1847	1900
Adj Flow Rate, veh/h	129	591	43	290	568	127	102	639	218	99	362	37
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	9	9	4	7	7	0	2	2	4	3	3
Cap, veh/h	173	894	65	311	999	222	152	788	268	139	985	100
Arrive On Green	0.10	0.29	0.27	0.18	0.37	0.35	0.08	0.31	0.29	0.08	0.31	0.29
Sat Flow, veh/h	1757	3123	227	1740	2723	606	1810	2565	874	1740	3203	325
Grp Volume(v), veh/h	129	314	320	290	355	340	102	441	416	99	197	202
Grp Sat Flow(s),veh/h/ln	1757	1662	1688	1740	1706	1622	1810	1770	1670	1740	1754	1774
Q Serve(g_s), s	8.0	18.6	18.7	18.3	18.6	18.9	6.1	25.7	25.8	6.2	9.8	10.0
Cycle Q Clear(g_c), s	8.0	18.6	18.7	18.3	18.6	18.9	6.1	25.7	25.8	6.2	9.8	10.0
Prop In Lane	1.00		0.13	1.00		0.37	1.00		0.52	1.00		0.18
Lane Grp Cap(c), veh/h	173	476	484	311	626	595	152	543	513	139	540	545
V/C Ratio(X)	0.75	0.66	0.66	0.93	0.57	0.57	0.67	0.81	0.81	0.71	0.37	0.37
Avail Cap(c_a), veh/h	314	476	484	311	626	595	267	752	710	265	754	762
HCM Platoon Ratio	1.00	1.00	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	49.0	35.1	35.2	45.2	28.3	28.7	49.7	35.7	36.1	50.1	30.2	30.4
Incr Delay (d2), s/veh	6.3	7.0	7.0	33.5	3.7	4.0	5.1	3.3	3.5	6.6	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	9.5	9.7	11.7	9.4	9.1	3.3	13.0	12.3	3.3	4.8	4.9
LnGrp Delay(d),s/veh	55.3	42.1	42.2	78.7	32.0	32.6	54.8	39.0	39.6	56.7	30.3	30.5
LnGrp LOS	E	D	D	E	C	C	D	D	D	E	C	C
Approach Vol, veh/h		763			985			959			498	
Approach Delay, s/veh		44.4			46.0			40.9			35.7	
Approach LOS		D			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	12.9	38.8	24.0	36.0	13.4	38.4	15.0	45.0
Change Period (Y+Rc), s	5.0	* 6	5.0	6.0	5.5	6.0	5.0	6.0
Max Green Setting (Gmax), s	16.0	* 46	19.0	30.0	15.0	46.0	19.0	30.0
Max Q Clear Time (g_c+I1), s	8.2	27.8	20.3	20.7	8.1	12.0	10.0	20.9
Green Ext Time (p_c), s	0.1	5.0	0.0	4.3	0.1	5.7	0.2	4.2

Intersection Summary	
HCM 2010 Ctrl Delay	42.5
HCM 2010 LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	837	79	0	781	89	105	503	119	60	265	71
Future Volume (veh/h)	0	837	79	0	781	89	105	503	119	60	265	71
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		0.81	1.00		0.77	0.86		0.75	0.93		0.74
Parking Bus, Adj	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	0	1792	1743	0	1808	1900	1810	1792	1900	1810	1752	1900
Adj Flow Rate, veh/h	0	854	81	0	797	91	107	513	121	61	270	72
Adj No. of Lanes	0	2	1	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	6	9	0	5	5	5	6	6	5	8	8
Cap, veh/h	0	1265	444	0	1114	127	490	1319	306	381	1255	315
Arrive On Green	0.00	0.37	0.37	0.00	0.37	0.34	0.51	0.51	0.48	0.51	0.51	0.48
Sat Flow, veh/h	0	3495	1194	0	3090	342	865	2564	596	716	2441	612
Grp Volume(v), veh/h	0	854	81	0	456	432	107	338	296	61	179	163
Grp Sat Flow(s),veh/h/ln	0	1703	1194	0	1717	1624	865	1703	1457	716	1665	1389
Q Serve(g_s), s	0.0	14.7	3.2	0.0	15.9	16.0	5.5	8.4	8.9	4.0	4.1	4.7
Cycle Q Clear(g_c), s	0.0	14.7	3.2	0.0	15.9	16.0	10.1	8.4	8.9	12.9	4.1	4.7
Prop In Lane	0.00		1.00	0.00		0.21	1.00		0.41	1.00		0.44
Lane Grp Cap(c), veh/h	0	1265	444	0	638	603	490	876	749	381	856	714
V/C Ratio(X)	0.00	0.68	0.18	0.00	0.72	0.72	0.22	0.39	0.39	0.16	0.21	0.23
Avail Cap(c_a), veh/h	0	1265	444	0	638	603	490	876	749	381	856	714
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	18.5	14.8	0.0	18.8	19.1	12.2	10.3	10.7	14.3	9.2	9.7
Incr Delay (d2), s/veh	0.0	2.9	0.9	0.0	6.7	7.1	1.0	1.3	1.6	0.9	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.4	1.2	0.0	8.7	8.3	1.4	4.3	3.8	0.9	2.0	1.9
LnGrp Delay(d),s/veh	0.0	21.4	15.7	0.0	25.6	26.2	13.2	11.6	12.3	15.2	9.8	10.4
LnGrp LOS		C	B		C	C	B	B	B	B	A	B
Approach Vol, veh/h		935			888			741			403	
Approach Delay, s/veh		20.9			25.9			12.1			10.9	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.0		30.0		40.0		30.0
Change Period (Y+Rc), s		6.5		6.5		6.5		6.5
Max Green Setting (Gmax), s		33.5		23.5		33.5		23.5
Max Q Clear Time (g_c+I1), s		12.1		16.7		14.9		18.0
Green Ext Time (p_c), s		8.3		5.4		7.8		4.5

Intersection Summary		
HCM 2010 Ctrl Delay		18.8
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	393	0	675	0	0	0	271	285	0	77	520	289
Future Volume (veh/h)	393	0	675	0	0	0	271	285	0	77	520	289
Number	7	4	14				5	2	12	1	6	16
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		0.96
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	1776	0	1827				1792	1638	0	1900	1810	1743
Adj Flow Rate, veh/h	418	0	374				288	303	0	82	553	73
Adj No. of Lanes	2	0	2				2	2	0	1	2	2
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	0	4				6	16	0	0	5	9
Cap, veh/h	1623	0	1352				349	998	0	106	941	689
Arrive On Green	0.49	0.00	0.49				0.11	0.32	0.00	0.06	0.27	0.27
Sat Flow, veh/h	3281	0	2733				3312	3194	0	1810	3438	2516
Grp Volume(v), veh/h	418	0	374				288	303	0	82	553	73
Grp Sat Flow(s),veh/h/ln	1640	0	1367				1656	1556	0	1810	1719	1258
Q Serve(g_s), s	7.0	0.0	7.6				8.1	7.0	0.0	4.2	13.2	2.1
Cycle Q Clear(g_c), s	7.0	0.0	7.6				8.1	7.0	0.0	4.2	13.2	2.1
Prop In Lane	1.00		1.00				1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1623	0	1352				349	998	0	106	941	689
V/C Ratio(X)	0.26	0.00	0.28				0.83	0.30	0.00	0.78	0.59	0.11
Avail Cap(c_a), veh/h	1623	0	1352				349	998	0	190	941	689
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	0.0	14.0				41.6	24.3	0.0	44.1	29.9	25.8
Incr Delay (d2), s/veh	0.4	0.0	0.5				15.0	0.8	0.0	4.5	2.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	7.5				4.4	3.1	0.0	2.3	6.6	0.7
LnGrp Delay(d),s/veh	14.3	0.0	14.6				56.6	25.1	0.0	48.6	32.5	26.1
LnGrp LOS	B		B				E	C		D	C	C
Approach Vol, veh/h		792						591			708	
Approach Delay, s/veh		14.4						40.5			33.7	
Approach LOS		B						D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	9.5	34.5		51.0	14.0	30.0		
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		
Max Green Setting (Gmax), s	10.0	25.4		46.4	10.0	25.4		
Max Q Clear Time (g_c+I1), s	6.2	9.0		9.6	10.1	15.2		
Green Ext Time (p_c), s	0.0	5.2		3.2	0.0	4.0		

Intersection Summary		
HCM 2010 Ctrl Delay		28.3
HCM 2010 LOS		C

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	138	85	25	36	89	63	730	65	279	1192	72
Future Volume (veh/h)	55	138	85	25	36	89	63	730	65	279	1192	72
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	1827	1861	1776	1900	1840	1743	1810	1759	1624	1827	1792	1776
Adj Flow Rate, veh/h	59	148	0	27	39	0	68	785	0	300	1282	0
Adj No. of Lanes	1	1	1	0	1	1	1	2	1	1	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, %	4	2	7	0	0	9	5	8	17	4	6	7
Cap, veh/h	222	237	192	49	71	99	87	1375	568	342	1898	841
Arrive On Green	0.13	0.13	0.00	0.07	0.07	0.00	0.05	0.41	0.00	0.20	0.56	0.00
Sat Flow, veh/h	1740	1861	1509	738	1065	1482	1723	3343	1380	1740	3406	1509
Grp Volume(v), veh/h	59	148	0	66	0	0	68	785	0	300	1282	0
Grp Sat Flow(s),veh/h/ln	1740	1861	1509	1803	0	1482	1723	1671	1380	1740	1703	1509
Q Serve(g_s), s	2.5	6.1	0.0	2.9	0.0	0.0	3.2	14.6	0.0	13.5	21.6	0.0
Cycle Q Clear(g_c), s	2.5	6.1	0.0	2.9	0.0	0.0	3.2	14.6	0.0	13.5	21.6	0.0
Prop In Lane	1.00		1.00	0.41		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	222	237	192	121	0	99	87	1375	568	342	1898	841
V/C Ratio(X)	0.27	0.62	0.00	0.55	0.00	0.00	0.78	0.57	0.00	0.88	0.68	0.00
Avail Cap(c_a), veh/h	872	933	756	904	0	743	640	1725	712	646	1898	841
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.8	33.4	0.0	36.5	0.0	0.0	37.9	18.3	0.0	31.5	12.7	0.0
Incr Delay (d2), s/veh	0.2	1.0	0.0	1.4	0.0	0.0	5.6	0.8	0.0	2.9	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.2	0.0	1.5	0.0	0.0	1.6	6.8	0.0	6.8	10.3	0.0
LnGrp Delay(d),s/veh	32.1	34.4	0.0	38.0	0.0	0.0	43.5	19.1	0.0	34.4	14.0	0.0
LnGrp LOS	C	C		D			D	B		C	B	
Approach Vol, veh/h		207			66			853			1582	
Approach Delay, s/veh		33.8			38.0			21.0			17.9	
Approach LOS		C			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	19.9	37.2		14.3	8.1	49.0		9.4
Change Period (Y+Rc), s	4.0	5.7		4.5	4.0	5.7		4.5
Max Green Setting (Gmax), s	30.0	40.0		40.0	30.0	40.0		40.0
Max Q Clear Time (g_c+I1), s	15.5	16.6		8.1	5.2	23.6		4.9
Green Ext Time (p_c), s	0.4	15.0		0.6	0.1	14.9		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations			✥				✥				✥				✥	
Traffic Vol, veh/h	0	1	1	6	0	103	0	18	0	1	192	290	0	40	39	1
Future Vol, veh/h	0	1	1	6	0	103	0	18	0	1	192	290	0	40	39	1
Peak Hour Factor	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89
Heavy Vehicles, %	2	100	0	0	2	4	0	23	2	0	7	3	2	40	13	100
Mvmt Flow	0	1	1	7	0	116	0	20	0	1	216	326	0	45	44	1
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10	9.9	13.4	9.6
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	12%	85%	50%
Vol Thru, %	40%	12%	0%	49%
Vol Right, %	60%	75%	15%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	483	8	121	80
LT Vol	1	1	103	40
Through Vol	192	1	0	39
RT Vol	290	6	18	1
Lane Flow Rate	543	9	136	90
Geometry Grp	1	1	1	1
Degree of Util (X)	0.614	0.017	0.205	0.141
Departure Headway (Hd)	4.072	6.78	5.42	5.629
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	885	524	658	635
Service Time	2.102	4.87	3.492	3.686
HCM Lane V/C Ratio	0.614	0.017	0.207	0.142
HCM Control Delay	13.4	10	9.9	9.6
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	4.3	0.1	0.8	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	48	276	60	139	798	55
Future Volume (veh/h)	48	276	60	139	798	55
Number	7	14	5	2	6	16
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	1624	1863	1776	1712	1863	1712
Adj Flow Rate, veh/h	51	107	64	148	849	45
Adj No. of Lanes	1	1	1	2	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	17	2	7	11	2	11
Cap, veh/h	178	182	126	2256	975	761
Arrive On Green	0.11	0.11	0.07	0.69	0.52	0.52
Sat Flow, veh/h	1547	1583	1691	3338	1863	1455
Grp Volume(v), veh/h	51	107	64	148	849	45
Grp Sat Flow(s),veh/h/ln	1547	1583	1691	1626	1863	1455
Q Serve(g_s), s	1.3	2.7	1.5	0.6	16.7	0.6
Cycle Q Clear(g_c), s	1.3	2.7	1.5	0.6	16.7	0.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	178	182	126	2256	975	761
V/C Ratio(X)	0.29	0.59	0.51	0.07	0.87	0.06
Avail Cap(c_a), veh/h	1055	1080	223	2607	1070	835
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	16.9	17.6	18.6	2.1	8.7	4.9
Incr Delay (d2), s/veh	0.9	3.0	3.1	0.0	7.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.5	0.8	0.3	10.3	0.3
LnGrp Delay(d),s/veh	17.8	20.6	21.7	2.1	16.2	4.9
LnGrp LOS	B	C	C	A	B	A
Approach Vol, veh/h	158			212	894	
Approach Delay, s/veh	19.7			8.0	15.6	
Approach LOS	B			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		33.0		8.8	7.1	25.9		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		33.0		28.0	5.0	23.5		
Max Q Clear Time (g_c+I1), s		2.6		4.7	3.5	18.7		
Green Ext Time (p_c), s		7.8		0.4	0.0	2.7		

Intersection Summary		
HCM 2010 Ctrl Delay		14.9
HCM 2010 LOS		B

Intersection	
Int Delay, s/veh	564.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	1044	0	0	189	157	10	5	845	0	0	0
Future Vol, veh/h	23	1044	0	0	189	157	10	5	845	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	120	-	-	-	-	-	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	13	1	0	0	7	9	20	80	1	0	0	0
Mvmt Flow	26	1200	0	0	217	180	11	6	971	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	398	0	-	-	-	0	1560	1651	1200
Stage 1	-	-	-	-	-	-	1253	1253	-
Stage 2	-	-	-	-	-	-	307	398	-
Critical Hdwy	4.23	-	-	-	-	-	6.6	7.3	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.6	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.6	6.3	-
Follow-up Hdwy	2.317	-	-	-	-	-	3.68	4.72	3.309
Pot Cap-1 Maneuver	1103	-	0	0	-	-	112	66	~ 227
Stage 1	-	-	0	0	-	-	247	173	-
Stage 2	-	-	0	0	-	-	707	488	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1103	-	-	-	-	-	109	0	~ 227
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	0	-
Stage 1	-	-	-	-	-	-	241	0	-
Stage 2	-	-	-	-	-	-	707	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	$ 1491
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	109	227	1103	-	-	-
HCM Lane V/C Ratio	0.158	4.279	0.024	-	-	-
HCM Control Delay (s)	44.1	$ 1516.7	8.3	-	-	-
HCM Lane LOS	E	F	A	-	-	-
HCM 95th %tile Q(veh)	0.5	96.8	0.1	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	859	652	369	4	141	4	85	4	4	0	1	120
Future Volume (veh/h)	859	652	369	4	141	4	85	4	4	0	1	120
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	1900	1900	1863	1900	1900	1900	1759	1267	1267	1900	1559	1557
Adj Flow Rate, veh/h	965	733	0	4	158	0	96	4	0	0	1	0
Adj No. of Lanes	2	2	1	1	2	0	2	1	1	1	1	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	2	0	0	0	8	50	50	0	0	22
Cap, veh/h	1137	1857	922	23	733	0	220	381	324	3	275	224
Arrive On Green	0.32	0.51	0.00	0.01	0.20	0.00	0.07	0.30	0.00	0.00	0.18	0.00
Sat Flow, veh/h	3510	3610	1583	1810	3705	0	3250	1267	1077	1810	1559	1324
Grp Volume(v), veh/h	965	733	0	4	158	0	96	4	0	0	1	0
Grp Sat Flow(s),veh/h/ln	1755	1805	1583	1810	1805	0	1625	1267	1077	1810	1559	1324
Q Serve(g_s), s	17.9	8.6	0.0	0.2	2.5	0.0	2.0	0.2	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	17.9	8.6	0.0	0.2	2.5	0.0	2.0	0.2	0.0	0.0	0.0	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	1137	1857	922	23	733	0	220	381	324	3	275	224
V/C Ratio(X)	0.85	0.39	0.00	0.18	0.22	0.00	0.44	0.01	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	1358	2430	1173	143	1318	0	270	472	401	143	574	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	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	22.0	10.3	0.0	34.1	23.2	0.0	31.3	17.1	0.0	0.0	23.7	0.0
Incr Delay (d2), s/veh	4.5	0.1	0.0	3.7	0.1	0.0	1.4	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	4.3	0.0	0.1	1.3	0.0	0.9	0.1	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	26.5	10.5	0.0	37.8	23.3	0.0	32.6	17.1	0.0	0.0	23.7	0.0
LnGrp LOS	C	B		D	C		C	B			C	
Approach Vol, veh/h		1698			162			100			1	
Approach Delay, s/veh		19.6			23.7			32.0			23.7	
Approach LOS		B			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	0.0	25.0	4.9	39.9	8.7	16.3	26.6	18.2
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	25.5	5.0	46.5	5.3	25.2	26.5	25.0
Max Q Clear Time (g_c+I1), s	0.0	2.2	2.2	10.6	4.0	2.0	19.9	4.5
Green Ext Time (p_c), s	0.0	0.0	0.0	6.3	0.0	0.0	2.2	5.5

Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Notes

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	6	36	251	0	0	30	0	0	52	19	0	0	0	92	6
Future Vol, veh/h	0	6	36	251	0	0	30	0	0	52	19	0	0	0	92	6
Peak Hour Factor	0.92	0.62	0.62	0.62	0.92	0.62	0.62	0.62	0.92	0.62	0.62	0.62	0.92	0.62	0.62	0.62
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	10	58	405	0	0	48	0	0	84	31	0	0	0	148	10
Number of Lanes	0	1	2	0	0	0	2	0	0	1	1	0	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	3
HCM Control Delay	13.6	8.6	10.4	10.9
HCM LOS	B	A	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	0%	100%	0%	100%	5%	100%	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	0%	95%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	52	19	6	24	263	15	15	0	92	6
LT Vol	52	0	6	0	0	0	0	0	0	0
Through Vol	0	19	0	24	12	15	15	0	92	0
RT Vol	0	0	0	0	251	0	0	0	0	6
Lane Flow Rate	84	31	10	39	424	24	24	0	148	10
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.159	0.054	0.016	0.06	0.581	0.043	0.032	0	0.256	0.015
Departure Headway (Hd)	6.814	6.31	6.104	5.6	4.928	6.421	4.7	6.216	6.216	5.512
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	526	567	590	643	738	557	758	0	577	648
Service Time	4.557	4.053	3.804	3.3	2.628	4.169	2.448	3.957	3.957	3.253
HCM Lane V/C Ratio	0.16	0.055	0.017	0.061	0.575	0.043	0.032	0	0.256	0.015
HCM Control Delay	10.8	9.4	8.9	8.7	14.2	9.5	7.6	9	11.1	8.3
HCM Lane LOS	B	A	A	A	B	A	A	N	B	A
HCM 95th-tile Q	0.6	0.2	0	0.2	3.8	0.1	0.1	0	1	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	347	21	210	926	65	57	254	230	112	429	478
Future Volume (veh/h)	132	347	21	210	926	65	57	254	230	112	429	478
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1882	1900	1881	1867	1900	1863	1863	1881	1727	1863	1881
Adj Flow Rate, veh/h	138	361	16	219	965	64	59	265	240	117	447	282
Adj No. of Lanes	1	3	0	2	2	0	1	1	2	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	1	1	1	1	1	2	2	1	10	2	1
Cap, veh/h	309	2486	109	282	1318	87	108	358	737	282	777	346
Arrive On Green	0.17	0.49	0.48	0.08	0.39	0.38	0.06	0.19	0.18	0.09	0.22	0.22
Sat Flow, veh/h	1774	5044	222	3476	3371	224	1774	1863	2777	3191	3539	1573
Grp Volume(v), veh/h	138	244	133	219	508	521	59	265	240	117	447	282
Grp Sat Flow(s),veh/h/ln	1774	1713	1840	1738	1773	1822	1774	1863	1389	1596	1770	1573
Q Serve(g_s), s	7.7	4.3	4.3	6.8	26.9	26.9	3.6	14.7	7.7	3.8	12.4	12.2
Cycle Q Clear(g_c), s	7.7	4.3	4.3	6.8	26.9	26.9	3.6	14.7	7.7	3.8	12.4	12.2
Prop In Lane	1.00		0.12	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	309	1689	907	282	693	712	108	358	737	282	777	346
V/C Ratio(X)	0.45	0.14	0.15	0.78	0.73	0.73	0.55	0.74	0.33	0.41	0.58	0.82
Avail Cap(c_a), veh/h	309	1689	907	411	693	712	129	508	961	290	1030	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	15.2	15.3	49.5	28.6	28.6	50.2	41.9	32.6	47.4	38.3	17.2
Incr Delay (d2), s/veh	0.4	0.2	0.3	3.0	6.7	6.6	1.6	1.7	0.1	0.4	0.3	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	2.1	2.3	3.4	14.4	14.8	1.8	7.8	2.9	1.7	6.1	5.8
LnGrp Delay(d),s/veh	41.1	15.4	15.6	52.6	35.3	35.2	51.8	43.6	32.7	47.8	38.6	23.5
LnGrp LOS	D	B	B	D	D	D	D	D	C	D	D	C
Approach Vol, veh/h		515			1248			564			846	
Approach Delay, s/veh		22.3			38.3			39.8			34.8	
Approach LOS		C			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	28.2	24.2	47.0	13.7	25.1	12.9	58.2
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	31.0	11.0	* 42	10.0	29.0	13.0	40.0
Max Q Clear Time (g_c+I1), s	5.6	14.4	9.7	28.9	5.8	16.7	8.8	6.3
Green Ext Time (p_c), s	0.0	3.7	0.1	3.5	0.1	3.4	0.2	1.6

Intersection Summary		
HCM 2010 Ctrl Delay		35.0
HCM 2010 LOS		D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	619	87	0	1068	3	145	71	241	185	464	39
Future Volume (veh/h)	0	619	87	0	1068	3	145	71	241	185	464	39
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		1.00	1.00		0.99	0.99		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	0	1863	1900	0	1881	1900	1881	1900	1900	1881	1866	1900
Adj Flow Rate, veh/h	0	659	45	0	1136	3	154	76	154	197	494	37
Adj No. of Lanes	0	2	1	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	1	1	1	0	0	1	2	2
Cap, veh/h	0	1618	719	0	1672	4	280	841	709	572	759	57
Arrive On Green	0.00	0.46	0.46	0.00	0.46	0.44	0.44	0.44	0.44	0.44	0.44	0.43
Sat Flow, veh/h	0	3632	1573	0	3751	10	876	1900	1601	1150	1713	128
Grp Volume(v), veh/h	0	659	45	0	555	584	154	76	154	197	0	531
Grp Sat Flow(s),veh/h/ln	0	1770	1573	0	1787	1880	876	1900	1601	1150	0	1842
Q Serve(g_s), s	0.0	9.9	1.3	0.0	19.6	19.6	13.4	1.9	4.7	9.6	0.0	18.1
Cycle Q Clear(g_c), s	0.0	9.9	1.3	0.0	19.6	19.6	31.4	1.9	4.7	11.5	0.0	18.1
Prop In Lane	0.00		1.00	0.00		0.01	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	0	1618	719	0	817	859	280	841	709	572	0	815
V/C Ratio(X)	0.00	0.41	0.06	0.00	0.68	0.68	0.55	0.09	0.22	0.34	0.00	0.65
Avail Cap(c_a), veh/h	0	1618	719	0	817	859	286	855	720	581	0	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.5	12.1	0.0	17.1	17.1	29.8	12.9	13.7	16.3	0.0	17.5
Incr Delay (d2), s/veh	0.0	0.8	0.2	0.0	4.5	4.3	2.1	0.0	0.2	0.4	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.0	0.6	0.0	10.6	11.1	3.4	1.0	2.1	3.1	0.0	9.6
LnGrp Delay(d),s/veh	0.0	15.2	12.3	0.0	21.6	21.4	31.9	13.0	13.9	16.6	0.0	19.3
LnGrp LOS		B	B		C	C	C	B	B	B		B
Approach Vol, veh/h		704			1139			384			728	
Approach Delay, s/veh		15.1			21.5			20.9			18.5	
Approach LOS		B			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.6		39.4		40.6		39.4
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0
Max Green Setting (Gmax), s		34.5		35.0		34.5		35.0
Max Q Clear Time (g_c+I1), s		11.9		20.1		21.6		33.4
Green Ext Time (p_c), s		13.0		5.8		8.9		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	19.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	631	51	243	552	126	63	355	224	145	557	38
Future Volume (veh/h)	119	631	51	243	552	126	63	355	224	145	557	38
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		0.92	1.00		0.94	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1800	1900	1881	1816	1900	1863	1859	1900	1863	1900	1900
Adj Flow Rate, veh/h	121	644	48	248	563	116	64	362	135	148	568	35
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	6	6	1	5	5	2	3	3	2	0	0
Cap, veh/h	169	1036	77	299	1110	228	131	581	213	197	947	58
Arrive On Green	0.10	0.32	0.30	0.17	0.39	0.37	0.07	0.23	0.22	0.11	0.27	0.25
Sat Flow, veh/h	1757	3204	238	1792	2816	578	1774	2504	916	1774	3448	212
Grp Volume(v), veh/h	121	343	349	248	344	335	64	253	244	148	297	306
Grp Sat Flow(s),veh/h/ln	1757	1710	1732	1792	1725	1669	1774	1766	1654	1774	1805	1855
Q Serve(g_s), s	6.6	16.8	16.9	13.3	14.9	15.2	3.4	12.7	13.2	8.0	14.1	14.2
Cycle Q Clear(g_c), s	6.6	16.8	16.9	13.3	14.9	15.2	3.4	12.7	13.2	8.0	14.1	14.2
Prop In Lane	1.00		0.14	1.00		0.35	1.00		0.55	1.00		0.11
Lane Grp Cap(c), veh/h	169	553	560	299	680	658	131	410	384	197	496	510
V/C Ratio(X)	0.72	0.62	0.62	0.83	0.51	0.51	0.49	0.62	0.63	0.75	0.60	0.60
Avail Cap(c_a), veh/h	355	553	560	362	680	658	296	847	794	305	875	900
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	28.4	28.5	39.9	22.7	23.0	44.1	34.1	34.6	42.7	31.2	31.3
Incr Delay (d2), s/veh	5.6	5.2	5.2	12.8	2.7	2.8	2.8	0.6	0.7	5.6	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	8.7	8.9	7.6	7.6	7.4	1.8	6.3	6.1	4.2	7.1	7.3
LnGrp Delay(d),s/veh	49.0	33.5	33.7	52.7	25.4	25.8	46.9	34.6	35.3	48.3	31.6	31.7
LnGrp LOS	D	C	C	D	C	C	D	C	D	D	C	C
Approach Vol, veh/h		813			927			561			751	
Approach Delay, s/veh		35.9			32.9			36.3			34.9	
Approach LOS		D			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	27.5	20.5	36.0	11.3	31.2	13.5	43.0
Change Period (Y+Rc), s	5.0	* 6	5.0	6.0	5.5	6.0	5.0	6.0
Max Green Setting (Gmax), s	16.0	* 46	19.0	30.0	15.0	46.0	19.0	30.0
Max Q Clear Time (g_c+I1), s	10.0	15.2	15.3	18.9	5.4	16.2	8.6	17.2
Green Ext Time (p_c), s	0.2	4.6	0.3	4.9	0.1	4.6	0.2	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	34.8
HCM 2010 LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	831	193	0	751	88	78	331	108	84	436	92
Future Volume (veh/h)	0	831	193	0	751	88	78	331	108	84	436	92
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		0.70	1.00		0.85	0.90		0.76	0.90		0.73
Parking Bus, Adj	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	0	1827	1776	0	1850	1900	1881	1818	1900	1810	1795	1900
Adj Flow Rate, veh/h	0	857	199	0	774	91	80	341	111	87	449	95
Adj No. of Lanes	0	2	1	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	4	7	0	3	3	1	6	6	5	6	6
Cap, veh/h	0	1289	395	0	1152	135	422	1232	382	453	1351	279
Arrive On Green	0.00	0.37	0.37	0.00	0.37	0.34	0.51	0.51	0.48	0.51	0.51	0.48
Sat Flow, veh/h	0	3563	1064	0	3195	365	781	2395	744	821	2626	543
Grp Volume(v), veh/h	0	857	199	0	438	427	80	241	211	87	288	256
Grp Sat Flow(s),veh/h/ln	0	1736	1064	0	1758	1709	781	1727	1412	821	1706	1464
Q Serve(g_s), s	0.0	14.4	10.1	0.0	14.6	14.7	4.7	5.5	6.2	4.8	6.9	7.4
Cycle Q Clear(g_c), s	0.0	14.4	10.1	0.0	14.6	14.7	12.1	5.5	6.2	10.9	6.9	7.4
Prop In Lane	0.00		1.00	0.00		0.21	1.00		0.53	1.00		0.37
Lane Grp Cap(c), veh/h	0	1289	395	0	653	635	422	888	726	453	877	753
V/C Ratio(X)	0.00	0.66	0.50	0.00	0.67	0.67	0.19	0.27	0.29	0.19	0.33	0.34
Avail Cap(c_a), veh/h	0	1289	395	0	653	635	422	888	726	453	877	753
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	18.4	17.0	0.0	18.4	18.7	13.6	9.6	10.1	12.9	9.9	10.3
Incr Delay (d2), s/veh	0.0	2.7	4.5	0.0	5.4	5.6	1.0	0.8	1.0	0.9	1.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.4	3.4	0.0	8.0	7.9	1.1	2.8	2.6	1.2	3.4	3.2
LnGrp Delay(d),s/veh	0.0	21.1	21.5	0.0	23.9	24.3	14.6	10.4	11.1	13.8	10.9	11.5
LnGrp LOS		C	C		C	C	B	B	B	B	B	B
Approach Vol, veh/h		1056			865			532			631	
Approach Delay, s/veh		21.2			24.1			11.3			11.6	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.0		30.0		40.0		30.0
Change Period (Y+Rc), s		6.5		6.5		6.5		6.5
Max Green Setting (Gmax), s		33.5		23.5		33.5		23.5
Max Q Clear Time (g_c+I1), s		14.1		16.4		12.9		16.7
Green Ext Time (p_c), s		8.0		5.8		8.3		5.5

Intersection Summary		
HCM 2010 Ctrl Delay		18.3
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	314	0	235	0	0	0	697	457	0	100	239	443
Future Volume (veh/h)	314	0	235	0	0	0	697	457	0	100	239	443
Number	7	4	14				5	2	12	1	6	16
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		0.95
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	1792	0	1776				1881	1845	0	1900	1792	1863
Adj Flow Rate, veh/h	324	0	39				719	471	0	103	246	134
Adj No. of Lanes	2	0	2				2	2	0	1	2	2
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	6	0	7				1	3	0	0	6	2
Cap, veh/h	451	0	362				711	1537	0	131	1044	815
Arrive On Green	0.14	0.00	0.14				0.20	0.44	0.00	0.07	0.31	0.31
Sat Flow, veh/h	3312	0	2656				3476	3597	0	1810	3406	2659
Grp Volume(v), veh/h	324	0	39				719	471	0	103	246	134
Grp Sat Flow(s),veh/h/ln	1656	0	1328				1738	1752	0	1810	1703	1329
Q Serve(g_s), s	8.4	0.0	1.2				18.4	7.8	0.0	5.0	4.9	3.3
Cycle Q Clear(g_c), s	8.4	0.0	1.2				18.4	7.8	0.0	5.0	4.9	3.3
Prop In Lane	1.00		1.00				1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	451	0	362				711	1537	0	131	1044	815
V/C Ratio(X)	0.72	0.00	0.11				1.01	0.31	0.00	0.78	0.24	0.16
Avail Cap(c_a), veh/h	1178	0	945				711	1537	0	209	1044	815
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	0.0	34.1				35.8	16.4	0.0	41.0	23.3	22.8
Incr Delay (d2), s/veh	2.2	0.0	0.1				36.7	0.5	0.0	3.9	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.9				12.4	3.9	0.0	2.7	2.4	1.3
LnGrp Delay(d),s/veh	39.4	0.0	34.2				72.5	16.9	0.0	44.9	23.8	23.2
LnGrp LOS	D		C				F	B		D	C	C
Approach Vol, veh/h		363						1190			483	
Approach Delay, s/veh		38.8						50.5			28.2	
Approach LOS		D						D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		
Phs Duration (G+Y+Rc), s	10.5	43.5		16.3	22.4	31.6		
Change Period (Y+Rc), s	4.0	4.6		4.6	4.0	4.6		
Max Green Setting (Gmax), s	10.4	26.4		31.4	18.4	27.0		
Max Q Clear Time (g_c+I1), s	7.0	9.8		10.4	20.4	6.9		
Green Ext Time (p_c), s	0.0	4.7		1.2	0.0	5.0		

Intersection Summary	
HCM 2010 Ctrl Delay	43.1
HCM 2010 LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	58	89	41	129	310	83	1035	41	77	734	46
Future Volume (veh/h)	75	58	89	41	129	310	83	1035	41	77	734	46
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	1881	1897	1863	1900	1872	1727	1881	1810	1652	1743	1810	1743
Adj Flow Rate, veh/h	71	75	0	44	137	0	88	1101	0	82	781	0
Adj No. of Lanes	1	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	0	2	2	2	10	1	5	15	9	5	9
Cap, veh/h	174	185	154	62	194	203	115	1709	698	104	1705	735
Arrive On Green	0.10	0.10	0.00	0.14	0.14	0.00	0.06	0.50	0.00	0.06	0.50	0.00
Sat Flow, veh/h	1792	1897	1583	450	1400	1468	1792	3438	1404	1660	3438	1482
Grp Volume(v), veh/h	71	75	0	181	0	0	88	1101	0	82	781	0
Grp Sat Flow(s),veh/h/ln	1792	1897	1583	1849	0	1468	1792	1719	1404	1660	1719	1482
Q Serve(g_s), s	2.9	2.9	0.0	7.3	0.0	0.0	3.8	18.5	0.0	3.8	11.6	0.0
Cycle Q Clear(g_c), s	2.9	2.9	0.0	7.3	0.0	0.0	3.8	18.5	0.0	3.8	11.6	0.0
Prop In Lane	1.00		1.00	0.24		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	174	185	154	256	0	203	115	1709	698	104	1705	735
V/C Ratio(X)	0.41	0.41	0.00	0.71	0.00	0.00	0.77	0.64	0.00	0.79	0.46	0.00
Avail Cap(c_a), veh/h	927	981	819	957	0	759	686	1831	748	636	1831	789
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.2	33.2	0.0	32.2	0.0	0.0	36.1	14.6	0.0	36.2	12.9	0.0
Incr Delay (d2), s/veh	0.6	0.5	0.0	1.3	0.0	0.0	4.0	1.1	0.0	4.9	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.5	0.0	3.8	0.0	0.0	2.0	9.0	0.0	1.9	5.5	0.0
LnGrp Delay(d),s/veh	33.8	33.7	0.0	33.6	0.0	0.0	40.1	15.6	0.0	41.1	13.3	0.0
LnGrp LOS	C	C		C			D	B		D	B	
Approach Vol, veh/h		146			181			1189			863	
Approach Delay, s/veh		33.8			33.6			17.5			15.9	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	42.9		11.6	9.0	42.8		14.8
Change Period (Y+Rc), s	4.0	5.7		4.5	4.0	5.7		4.5
Max Green Setting (Gmax), s	30.0	40.0		40.0	30.0	40.0		40.0
Max Q Clear Time (g_c+I1), s	5.8	20.5		4.9	5.8	13.6		9.3
Green Ext Time (p_c), s	0.1	16.7		0.3	0.1	21.7		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	19.1
HCM 2010 LOS	B

Notes
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	0	0	0	0	401	0	35	0	0	87	88	0	15	72	0
Future Vol, veh/h	0	0	0	0	0	401	0	35	0	0	87	88	0	15	72	0
Peak Hour Factor	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	0	0	0	2	6	0	9	2	0	9	2	2	40	6	0
Mvmt Flow	0	0	0	0	0	441	0	38	0	0	96	97	0	16	79	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	16.7	10.2	10.4
HCM LOS	-	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	92%	17%
Vol Thru, %	50%	100%	0%	83%
Vol Right, %	50%	0%	8%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	175	0	436	87
LT Vol	0	0	401	15
Through Vol	87	0	0	72
RT Vol	88	0	35	0
Lane Flow Rate	192	0	479	96
Geometry Grp	1	1	1	1
Degree of Util (X)	0.274	0	0.651	0.165
Departure Headway (Hd)	5.128	5.418	4.895	6.214
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	692	0	733	580
Service Time	3.216	3.424	2.966	4.214
HCM Lane V/C Ratio	0.277	0	0.653	0.166
HCM Control Delay	10.2	8.4	16.7	10.4
HCM Lane LOS	B	N	C	B
HCM 95th-tile Q	1.1	0	4.9	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	73	248	780	171	188
Future Volume (veh/h)	29	73	248	780	171	188
Number	7	14	5	2	6	16
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	1776	1743	1900	1881	1743	1743
Adj Flow Rate, veh/h	32	4	276	867	190	41
Adj No. of Lanes	1	1	1	2	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	7	9	0	1	9	9
Cap, veh/h	74	65	361	2231	451	384
Arrive On Green	0.04	0.04	0.20	0.62	0.26	0.26
Sat Flow, veh/h	1691	1482	1810	3668	1743	1482
Grp Volume(v), veh/h	32	4	276	867	190	41
Grp Sat Flow(s),veh/h/ln	1691	1482	1810	1787	1743	1482
Q Serve(g_s), s	0.5	0.1	3.9	3.3	2.5	0.6
Cycle Q Clear(g_c), s	0.5	0.1	3.9	3.3	2.5	0.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	74	65	361	2231	451	384
V/C Ratio(X)	0.43	0.06	0.76	0.39	0.42	0.11
Avail Cap(c_a), veh/h	1746	1530	634	3032	579	492
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	12.6	12.4	10.3	2.5	8.4	7.7
Incr Delay (d2), s/veh	3.9	0.4	3.4	0.1	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	2.3	1.6	1.2	0.2
LnGrp Delay(d),s/veh	16.6	12.8	13.7	2.6	9.0	7.8
LnGrp LOS	B	B	B	A	A	A
Approach Vol, veh/h	36			1143	231	
Approach Delay, s/veh	16.2			5.3	8.8	
Approach LOS	B			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		21.4		5.7	9.9	11.5		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		23.0		28.0	9.5	9.0		
Max Q Clear Time (g_c+I1), s		5.3		2.5	5.9	4.5		
Green Ext Time (p_c), s		6.4		0.1	0.3	2.6		

Intersection Summary		
HCM 2010 Ctrl Delay		6.1
HCM 2010 LOS		A

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	236	0	0	1037	798	10	3	174	0	0	0
Future Vol, veh/h	18	236	0	0	1037	798	10	3	174	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	120	-	-	-	-	-	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	17	11	0	0	1	1	20	100	6	0	0	0
Mvmt Flow	22	284	0	0	1249	961	12	4	210	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	2211	0	-	-	-	0	2058	2539	284
Stage 1	-	-	-	-	-	-	328	328	-
Stage 2	-	-	-	-	-	-	1730	2211	-
Critical Hdwy	4.27	-	-	-	-	-	6.6	7.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	5.6	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.6	6.5	-
Follow-up Hdwy	2.353	-	-	-	-	-	3.68	4.9	3.354
Pot Cap-1 Maneuver	210	-	0	0	-	-	54	13	746
Stage 1	-	-	0	0	-	-	691	504	-
Stage 2	-	-	0	0	-	-	141	43	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	210	-	-	-	-	-	48	0	746
Mov Cap-2 Maneuver	-	-	-	-	-	-	48	0	-
Stage 1	-	-	-	-	-	-	619	0	-
Stage 2	-	-	-	-	-	-	141	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.7	0	18.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	48	746	210	-	-	-
HCM Lane V/C Ratio	0.326	0.281	0.103	-	-	-
HCM Control Delay (s)	112.8	11.7	24.1	-	-	-
HCM Lane LOS	F	B	C	-	-	-
HCM 95th %tile Q(veh)	1.1	1.2	0.3	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	185	87	1	655	0	351	3	6	2	2	827
Future Volume (veh/h)	138	185	87	1	655	0	351	3	6	2	2	827
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	1727	1845	1743	1900	1900	1900	1881	1900	1138	1900	1845	1845
Adj Flow Rate, veh/h	164	220	0	1	780	0	418	4	0	2	2	0
Adj No. of Lanes	2	2	1	1	2	0	2	1	1	1	1	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	10	3	9	0	0	0	1	0	67	0	0	3
Cap, veh/h	250	1348	804	3	1110	0	550	608	309	5	303	258
Arrive On Green	0.08	0.38	0.00	0.00	0.31	0.00	0.16	0.32	0.00	0.00	0.16	0.00
Sat Flow, veh/h	3191	3505	1482	1810	3705	0	3476	1900	967	1810	1845	1568
Grp Volume(v), veh/h	164	220	0	1	780	0	418	4	0	2	2	0
Grp Sat Flow(s),veh/h/ln	1596	1752	1482	1810	1805	0	1738	1900	967	1810	1845	1568
Q Serve(g_s), s	3.1	2.5	0.0	0.0	11.8	0.0	7.1	0.1	0.0	0.1	0.1	0.0
Cycle Q Clear(g_c), s	3.1	2.5	0.0	0.0	11.8	0.0	7.1	0.1	0.0	0.1	0.1	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	250	1348	804	3	1110	0	550	608	309	5	303	258
V/C Ratio(X)	0.66	0.16	0.00	0.34	0.70	0.00	0.76	0.01	0.00	0.40	0.01	0.00
Avail Cap(c_a), veh/h	336	1533	882	147	1491	0	760	2308	1175	147	1987	1689
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.6	12.5	0.0	30.8	18.9	0.0	24.9	14.3	0.0	30.7	21.6	0.0
Incr Delay (d2), s/veh	2.9	0.1	0.0	57.6	1.0	0.0	3.0	0.0	0.0	45.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.2	0.0	0.1	6.0	0.0	3.6	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	30.6	12.5	0.0	88.4	19.8	0.0	27.8	14.3	0.0	76.5	21.6	0.0
LnGrp LOS	C	B		F	B		C	B		E	C	
Approach Vol, veh/h		384			781			422			4	
Approach Delay, s/veh		20.2			19.9			27.7			49.0	
Approach LOS		C			B			C			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	4.7	24.2	4.6	28.2	14.3	14.6	9.3	23.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	75.0	5.0	27.0	13.5	66.5	6.5	25.5
Max Q Clear Time (g_c+I1), s	2.1	2.1	2.0	4.5	9.1	2.1	5.1	13.8
Green Ext Time (p_c), s	0.0	0.0	0.0	6.5	0.7	0.0	0.1	4.8

Intersection Summary	
HCM 2010 Ctrl Delay	22.1
HCM 2010 LOS	C

Notes

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	4	97	41	0	0	94	0	0	226	83	0	0	1	14	5
Future Vol, veh/h	0	4	97	41	0	0	94	0	0	226	83	0	0	1	14	5
Peak Hour Factor	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82	0.92	0.82	0.82	0.82
Heavy Vehicles, %	2	0	0	0	2	0	18	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	5	118	50	0	0	115	0	0	276	101	0	0	1	17	6
Number of Lanes	0	1	2	0	0	0	2	0	0	1	1	0	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	3
HCM Control Delay	9.4	8.7	12.2	8.9
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	100%	44%	100%	100%	0%	100%	0%
Vol Right, %	0%	0%	0%	0%	56%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	226	83	4	65	73	47	47	1	14	5
LT Vol	226	0	4	0	0	0	0	1	0	0
Through Vol	0	83	0	65	32	47	47	0	14	0
RT Vol	0	0	0	0	41	0	0	0	0	5
Lane Flow Rate	276	101	5	79	89	57	57	1	17	6
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.447	0.15	0.009	0.129	0.136	0.101	0.069	0.002	0.03	0.009
Departure Headway (Hd)	5.841	5.34	6.386	5.884	5.491	6.335	4.317	6.743	6.239	5.533
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	612	664	556	604	647	561	816	534	577	651
Service Time	3.633	3.132	4.178	3.675	3.282	4.133	2.114	4.443	3.939	3.233
HCM Lane V/C Ratio	0.451	0.152	0.009	0.131	0.138	0.102	0.07	0.002	0.029	0.009
HCM Control Delay	13.3	9.1	9.2	9.6	9.2	9.9	7.4	9.5	9.1	8.3
HCM Lane LOS	B	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	2.3	0.5	0	0.4	0.5	0.3	0.2	0	0.1	0

LOS WORKSHEETS – CUMULATIVE CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	1356	35	60	147	72	28	164	347	366	310	194
Future Volume (veh/h)	131	1356	35	60	147	72	28	164	347	366	310	194
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1862	1900	1776	1738	1900	1810	1792	1845	1810	1759	1759
Adj Flow Rate, veh/h	138	1427	33	63	155	22	29	173	365	385	326	42
Adj No. of Lanes	1	3	0	2	2	0	1	1	2	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	5	2	2	7	10	10	5	6	3	5	8	8
Cap, veh/h	247	2175	50	199	956	134	106	230	477	476	748	329
Arrive On Green	0.14	0.43	0.41	0.06	0.33	0.31	0.06	0.13	0.11	0.14	0.22	0.22
Sat Flow, veh/h	1723	5110	118	3281	2910	407	1723	1792	2716	3343	3343	1470
Grp Volume(v), veh/h	138	946	514	63	87	90	29	173	365	385	326	42
Grp Sat Flow(s),veh/h/ln	1723	1695	1839	1640	1651	1666	1723	1792	1358	1672	1671	1470
Q Serve(g_s), s	5.2	15.6	15.6	1.3	2.6	2.7	1.1	6.5	5.2	7.8	5.9	1.0
Cycle Q Clear(g_c), s	5.2	15.6	15.6	1.3	2.6	2.7	1.1	6.5	5.2	7.8	5.9	1.0
Prop In Lane	1.00		0.06	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	247	1443	783	199	542	547	106	230	477	476	748	329
V/C Ratio(X)	0.56	0.66	0.66	0.32	0.16	0.16	0.27	0.75	0.76	0.81	0.44	0.13
Avail Cap(c_a), veh/h	295	1443	783	281	542	547	246	230	477	478	748	329
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	16.0	16.0	31.5	16.7	16.8	31.4	29.4	11.3	29.1	23.4	8.2
Incr Delay (d2), s/veh	0.7	2.3	4.3	0.3	0.6	0.6	0.5	11.5	6.5	9.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	7.7	8.8	0.6	1.3	1.3	0.5	4.0	2.4	4.2	2.7	0.4
LnGrp Delay(d),s/veh	28.7	18.4	20.3	31.8	17.3	17.4	31.9	41.0	17.8	38.4	23.5	8.2
LnGrp LOS	C	B	C	C	B	B	C	D	B	D	C	A
Approach Vol, veh/h		1598			240			567			753	
Approach Delay, s/veh		19.9			21.2			25.6			30.3	
Approach LOS		B			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	8.3	19.7	15.0	27.0	15.0	13.0	8.2	33.8
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	10.0	8.0	12.0	* 22	10.0	* 8	6.0	28.0
Max Q Clear Time (g_c+I1), s	3.1	7.9	7.2	4.7	9.8	8.5	3.3	17.6
Green Ext Time (p_c), s	0.0	0.0	2.7	0.5	0.0	0.0	0.0	4.9

Intersection Summary	
HCM 2010 Ctrl Delay	23.5
HCM 2010 LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1735	69	0	508	5	126	97	384	318	247	31
Future Volume (veh/h)	0	1735	69	0	508	5	126	97	384	318	247	31
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		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1845	0	1793	1900	1881	1900	1881	1863	1851	1900
Adj Flow Rate, veh/h	0	1789	40	0	524	4	130	100	372	328	255	26
Adj No. of Lanes	0	2	1	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	3	0	6	6	1	0	1	2	3	3
Cap, veh/h	0	1858	800	0	1820	14	377	712	587	401	619	63
Arrive On Green	0.00	0.52	0.52	0.00	0.52	0.51	0.38	0.38	0.38	0.38	0.38	0.36
Sat Flow, veh/h	0	3632	1523	0	3556	26	1099	1900	1565	914	1651	168
Grp Volume(v), veh/h	0	1789	40	0	258	270	130	100	372	328	0	281
Grp Sat Flow(s),veh/h/ln	0	1770	1523	0	1704	1789	1099	1900	1565	914	0	1819
Q Serve(g_s), s	0.0	38.8	1.0	0.0	6.8	6.8	7.9	2.8	15.6	27.2	0.0	9.1
Cycle Q Clear(g_c), s	0.0	38.8	1.0	0.0	6.8	6.8	17.1	2.8	15.6	30.0	0.0	9.1
Prop In Lane	0.00		1.00	0.00		0.01	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	0	1858	800	0	894	939	377	713	587	401	0	682
V/C Ratio(X)	0.00	0.96	0.05	0.00	0.29	0.29	0.35	0.14	0.63	0.82	0.00	0.41
Avail Cap(c_a), veh/h	0	1858	800	0	894	939	377	713	587	401	0	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.2	9.3	0.0	10.6	10.6	24.8	16.5	20.5	27.1	0.0	18.5
Incr Delay (d2), s/veh	0.0	13.8	0.1	0.0	0.8	0.8	0.5	0.1	2.2	12.5	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	0.0	22.2	0.4	0.0	3.3	3.5	2.5	1.5	7.1	8.6	0.0	4.6
LnGrp Delay(d),s/veh	0.0	32.0	9.4	0.0	11.4	11.4	25.3	16.6	22.7	39.6	0.0	18.9
LnGrp LOS		C	A		B	B	C	B	C	D		B
Approach Vol, veh/h		1829			528			602			609	
Approach Delay, s/veh		31.5			11.4			22.3			30.1	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		46.0		34.0		46.0		34.0
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0
Max Green Setting (Gmax), s		40.5		29.0		40.5		29.0
Max Q Clear Time (g_c+I1), s		40.8		32.0		8.8		19.1
Green Ext Time (p_c), s		0.0		0.0		22.8		4.6

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	2426	46	286	2584	141	101	631	250	98	358	44
Future Volume (veh/h)	128	2426	46	286	2584	141	101	631	250	98	358	44
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		0.95	1.00		0.94	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1745	1900	1827	1781	1900	1900	1863	1900	1827	1847	1900
Adj Flow Rate, veh/h	133	2527	47	298	2692	144	105	657	230	102	373	40
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	9	9	4	7	7	0	2	2	4	3	3
Cap, veh/h	109	1623	30	203	1769	93	144	576	201	96	654	70
Arrive On Green	0.06	0.49	0.47	0.12	0.54	0.53	0.08	0.23	0.22	0.05	0.21	0.19
Sat Flow, veh/h	1757	3326	62	1740	3258	172	1810	2538	888	1740	3181	338
Grp Volume(v), veh/h	133	1254	1320	298	1382	1454	105	458	429	102	204	209
Grp Sat Flow(s),veh/h/ln	1757	1657	1730	1740	1692	1738	1810	1770	1657	1740	1754	1765
Q Serve(g_s), s	9.0	71.0	71.0	17.0	79.0	79.0	8.2	33.0	33.0	8.0	15.2	15.5
Cycle Q Clear(g_c), s	9.0	71.0	71.0	17.0	79.0	79.0	8.2	33.0	33.0	8.0	15.2	15.5
Prop In Lane	1.00		0.04	1.00		0.10	1.00		0.54	1.00		0.19
Lane Grp Cap(c), veh/h	109	809	844	203	919	944	144	401	376	96	360	363
V/C Ratio(X)	1.22	1.55	1.56	1.47	1.50	1.54	0.73	1.14	1.14	1.07	0.57	0.58
Avail Cap(c_a), veh/h	109	809	844	203	919	944	147	401	376	96	360	363
HCM Platoon Ratio	1.00	1.00	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	68.3	37.3	37.3	64.3	33.2	33.3	65.4	56.3	56.7	68.8	52.0	52.3
Incr Delay (d2), s/veh	158.4	253.9	259.3	234.5	232.5	248.7	16.3	89.2	90.9	111.1	1.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	89.4	94.6	21.4	96.1	103.0	4.8	26.0	24.5	6.8	7.5	7.8
LnGrp Delay(d),s/veh	226.6	291.1	296.6	298.8	265.8	282.1	81.7	145.5	147.6	180.4	53.3	53.7
LnGrp LOS	F	F	F	F	F	F	F	F	F	F	D	D
Approach Vol, veh/h		2707			3134			992			515	
Approach Delay, s/veh		290.6			276.5			139.6			78.6	
Approach LOS		F			F			F			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	12.0	37.5	21.0	75.0	15.6	33.9	13.0	83.0
Change Period (Y+Rc), s	5.0	* 6	5.0	6.0	5.5	6.0	5.0	6.0
Max Green Setting (Gmax), s	7.0	* 32	16.0	69.0	10.3	27.2	8.0	77.0
Max Q Clear Time (g_c+I1), s	10.0	35.0	19.0	73.0	10.2	17.5	11.0	81.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	249.4
HCM 2010 LOS	F

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2465	270	0	2584	89	280	720	274	60	360	140
Future Volume (veh/h)	0	2465	270	0	2584	89	280	720	274	60	360	140
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		0.90	1.00		0.89	0.94		0.78	1.00		0.75
Parking Bus, Adj	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	0	1792	1743	0	1809	1900	1810	1792	1900	1810	1750	1900
Adj Flow Rate, veh/h	0	2515	276	0	2637	91	286	735	280	61	367	143
Adj No. of Lanes	0	2	1	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	6	9	0	5	5	5	6	6	5	8	8
Cap, veh/h	0	1965	765	0	1947	66	234	801	305	79	779	290
Arrive On Green	0.00	0.58	0.58	0.00	0.58	0.56	0.36	0.36	0.34	0.36	0.36	0.34
Sat Flow, veh/h	0	3495	1326	0	3465	115	808	2217	844	537	2154	801
Grp Volume(v), veh/h	0	2515	276	0	1329	1399	286	565	450	61	279	231
Grp Sat Flow(s),veh/h/ln	0	1703	1326	0	1719	1771	808	1703	1358	537	1663	1293
Q Serve(g_s), s	0.0	75.0	14.5	0.0	75.0	75.0	28.8	41.2	41.3	5.7	16.8	18.2
Cycle Q Clear(g_c), s	0.0	75.0	14.5	0.0	75.0	75.0	47.0	41.2	41.3	47.0	16.8	18.2
Prop In Lane	0.00		1.00	0.00		0.07	1.00		0.62	1.00		0.62
Lane Grp Cap(c), veh/h	0	1965	765	0	991	1022	234	616	491	79	601	467
V/C Ratio(X)	0.00	1.28	0.36	0.00	1.34	1.37	1.22	0.92	0.92	0.77	0.46	0.49
Avail Cap(c_a), veh/h	0	1965	765	0	991	1022	234	616	491	79	601	467
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	27.5	14.7	0.0	27.5	27.6	54.0	39.6	40.4	63.9	31.8	32.9
Incr Delay (d2), s/veh	0.0	130.1	1.3	0.0	160.1	172.4	132.0	20.8	24.5	51.4	2.6	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	70.4	5.6	0.0	79.3	85.3	17.0	22.8	18.8	3.3	8.1	7.0
LnGrp Delay(d),s/veh	0.0	157.6	16.0	0.0	187.6	199.9	186.0	60.4	65.0	115.3	34.4	36.6
LnGrp LOS		F	B		F	F	F	E	E	F	C	D
Approach Vol, veh/h		2791			2728			1301			571	
Approach Delay, s/veh		143.6			193.9			89.6			44.0	
Approach LOS		F			F			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		51.0		79.0		51.0		79.0
Change Period (Y+Rc), s		6.5		6.5		6.5		6.5
Max Green Setting (Gmax), s		44.5		72.5		44.5		72.5
Max Q Clear Time (g_c+I1), s		49.0		77.0		49.0		77.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	145.0
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	650	1192	422	243	845	204	363	596	446	387	904	310
Future Volume (veh/h)	650	1192	422	243	845	204	363	596	446	387	904	310
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		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1776	1900	1827	1900	1900	1900	1792	1638	1900	1900	1810	1743
Adj Flow Rate, veh/h	684	1255	237	256	889	68	382	627	245	407	952	282
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	1	2	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	0	4	0	0	0	6	16	0	0	5	9
Cap, veh/h	676	1161	499	245	905	405	408	661	338	376	1021	1286
Arrive On Green	0.21	0.32	0.32	0.14	0.25	0.25	0.12	0.21	0.21	0.21	0.30	0.30
Sat Flow, veh/h	3281	3610	1553	1810	3610	1615	3312	3112	1592	1810	3438	2519
Grp Volume(v), veh/h	684	1255	237	256	889	68	382	627	245	407	952	282
Grp Sat Flow(s),veh/h/ln	1640	1805	1553	1810	1805	1615	1656	1556	1592	1810	1719	1259
Q Serve(g_s), s	26.8	41.8	15.9	17.6	31.8	2.7	14.9	25.8	18.6	27.0	35.0	4.5
Cycle Q Clear(g_c), s	26.8	41.8	15.9	17.6	31.8	2.7	14.9	25.8	18.6	27.0	35.0	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	676	1161	499	245	905	405	408	661	338	376	1021	1286
V/C Ratio(X)	1.01	1.08	0.47	1.04	0.98	0.17	0.94	0.95	0.72	1.08	0.93	0.22
Avail Cap(c_a), veh/h	676	1161	499	245	905	405	408	661	338	376	1021	1286
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.6	44.1	35.3	56.2	48.4	15.1	56.5	50.5	47.7	51.5	44.4	7.2
Incr Delay (d2), s/veh	37.4	51.3	3.2	69.8	25.5	0.2	29.2	24.5	12.7	70.5	16.0	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	15.6	29.1	7.2	13.5	19.0	1.2	8.4	13.3	9.4	20.8	18.9	1.6
LnGrp Delay(d),s/veh	89.0	95.4	38.5	126.0	73.9	15.3	85.7	75.0	60.4	122.0	60.4	7.6
LnGrp LOS	F	F	D	F	E	B	F	E	E	F	E	A
Approach Vol, veh/h		2176			1213			1254			1641	
Approach Delay, s/veh		87.2			81.6			75.4			66.6	
Approach LOS		F			F			E			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	31.0	31.6	21.6	45.8	20.0	42.6	30.8	36.6
Change Period (Y+Rc), s	4.0	4.6	4.5	4.6	4.0	4.6	4.6	4.5
Max Green Setting (Gmax), s	27.0	27.0	17.1	41.2	16.0	38.0	26.2	32.1
Max Q Clear Time (g_c+I1), s	29.0	27.8	19.6	43.8	16.9	37.0	28.8	33.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	78.4
HCM 2010 LOS	E

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	408	202	50	234	251	161	1185	70	223	1299	203
Future Volume (veh/h)	195	408	202	50	234	251	161	1185	70	223	1299	203
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	1827	1861	1776	1900	1873	1743	1810	1759	1624	1827	1792	1776
Adj Flow Rate, veh/h	205	429	0	53	246	0	169	1247	0	235	1367	0
Adj No. of Lanes	1	1	1	0	2	1	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	2	7	0	0	9	5	8	17	4	6	7
Cap, veh/h	430	460	373	68	334	164	164	1273	526	229	1464	649
Arrive On Green	0.25	0.25	0.00	0.11	0.11	0.00	0.10	0.38	0.00	0.13	0.43	0.00
Sat Flow, veh/h	1740	1861	1509	611	3011	1482	1723	3343	1380	1740	3406	1509
Grp Volume(v), veh/h	205	429	0	160	139	0	169	1247	0	235	1367	0
Grp Sat Flow(s),veh/h/ln	1740	1861	1509	1843	1780	1482	1723	1671	1380	1740	1703	1509
Q Serve(g_s), s	13.8	30.8	0.0	11.5	10.3	0.0	13.0	50.4	0.0	18.0	52.3	0.0
Cycle Q Clear(g_c), s	13.8	30.8	0.0	11.5	10.3	0.0	13.0	50.4	0.0	18.0	52.3	0.0
Prop In Lane	1.00		1.00	0.33		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	430	460	373	204	197	164	164	1273	526	229	1464	649
V/C Ratio(X)	0.48	0.93	0.00	0.78	0.71	0.00	1.03	0.98	0.00	1.03	0.93	0.00
Avail Cap(c_a), veh/h	450	482	391	384	371	309	164	1273	526	229	1464	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	43.9	50.4	0.0	59.2	58.7	0.0	61.9	41.8	0.0	59.4	37.2	0.0
Incr Delay (d2), s/veh	0.3	24.0	0.0	2.5	1.7	0.0	79.0	20.5	0.0	66.6	11.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	18.9	0.0	6.0	5.2	0.0	9.7	26.8	0.0	12.8	26.9	0.0
LnGrp Delay(d),s/veh	44.2	74.3	0.0	61.7	60.4	0.0	141.2	62.4	0.0	126.1	48.8	0.0
LnGrp LOS	D	E		E	E		F	E		F	D	
Approach Vol, veh/h		634			299			1416			1602	
Approach Delay, s/veh		64.6			61.1			71.8			60.1	
Approach LOS		E			E			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	23.7	56.1		37.8	17.0	62.8		19.2
Change Period (Y+Rc), s	5.7	* 5.7		4.5	4.0	5.7		4.5
Max Green Setting (Gmax), s	18.0	* 50		34.9	13.0	55.4		28.0
Max Q Clear Time (g_c+I1), s	20.0	52.4		32.8	15.0	54.3		13.5
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	1.0		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	65.1
HCM 2010 LOS	E

Notes
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	285.1
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations			✣				✣				✣				✣	
Traffic Vol, veh/h	0	1	30	6	0	348	3	529	0	1	386	336	0	377	153	1
Future Vol, veh/h	0	1	30	6	0	348	3	529	0	1	386	336	0	377	153	1
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	100	0	0	2	4	0	23	2	0	7	3	2	40	13	100
Mvmt Flow	0	1	32	6	0	366	3	557	0	1	406	354	0	397	161	1
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	21.8	393.2	252.5	168.8
HCM LOS	C	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	3%	40%	71%
Vol Thru, %	53%	81%	0%	29%
Vol Right, %	46%	16%	60%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	723	37	880	531
LT Vol	1	1	348	377
Through Vol	386	30	3	153
RT Vol	336	6	529	1
Lane Flow Rate	761	39	926	559
Geometry Grp	1	1	1	1
Degree of Util (X)	1.474	0.121	1.81	1.253
Departure Headway (Hd)	9.603	16.538	8.206	11.187
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	388	218	454	330
Service Time	7.603	14.538	6.206	9.187
HCM Lane V/C Ratio	1.961	0.179	2.04	1.694
HCM Control Delay	252.5	21.8	393.2	168.8
HCM Lane LOS	F	C	F	F
HCM 95th-tile Q	29.3	0.4	50.3	18.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	629	204	849	424	393	128
Future Volume (veh/h)	629	204	849	424	393	128
Number	7	14	5	2	6	16
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	1624	1863	1776	1712	1863	1712
Adj Flow Rate, veh/h	662	135	894	446	414	94
Adj No. of Lanes	1	1	1	2	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	17	2	7	11	2	11
Cap, veh/h	536	549	665	1951	335	262
Arrive On Green	0.35	0.35	0.39	0.60	0.18	0.18
Sat Flow, veh/h	1547	1583	1691	3338	1863	1455
Grp Volume(v), veh/h	662	135	894	446	414	94
Grp Sat Flow(s),veh/h/ln	1547	1583	1691	1626	1863	1455
Q Serve(g_s), s	52.0	9.1	59.0	9.5	27.0	8.5
Cycle Q Clear(g_c), s	52.0	9.1	59.0	9.5	27.0	8.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	536	549	665	1951	335	262
V/C Ratio(X)	1.23	0.25	1.34	0.23	1.23	0.36
Avail Cap(c_a), veh/h	536	549	665	1951	335	262
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	49.0	35.0	45.5	13.9	61.5	53.9
Incr Delay (d2), s/veh	121.0	0.2	164.7	0.1	128.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	40.2	9.3	58.0	4.3	25.9	3.5
LnGrp Delay(d),s/veh	170.0	35.2	210.2	14.0	190.3	54.7
LnGrp LOS	F	D	F	B	F	D
Approach Vol, veh/h	797			1340	508	
Approach Delay, s/veh	147.2			144.9	165.2	
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		94.0		56.0	63.0	31.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		89.5		51.5	58.5	26.5		
Max Q Clear Time (g_c+I1), s		11.5		54.0	61.0	29.0		
Green Ext Time (p_c), s		6.3		0.0	0.0	0.0		

Intersection Summary		
HCM 2010 Ctrl Delay		149.5
HCM 2010 LOS		F

Intersection	
Int Delay, s/veh	111.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	648	0	0	142	110	322	5	611	0	0	0
Future Vol, veh/h	31	648	0	0	142	110	322	5	611	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	120	-	-	-	-	-	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	13	1	0	0	7	9	20	80	1	0	0	0
Mvmt Flow	33	682	0	0	149	116	339	5	643	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	265	0	-	-	-	0	954	1012	682
Stage 1	-	-	-	-	-	-	747	747	-
Stage 2	-	-	-	-	-	-	207	265	-
Critical Hdwy	4.23	-	-	-	-	-	6.6	7.3	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.6	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.6	6.3	-
Follow-up Hdwy	2.317	-	-	-	-	-	3.68	4.72	3.309
Pot Cap-1 Maneuver	1238	-	0	0	-	-	~ 266	177	~ 452
Stage 1	-	-	0	0	-	-	438	324	-
Stage 2	-	-	0	0	-	-	787	568	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1238	-	-	-	-	-	~ 259	0	~ 452
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 259	0	-
Stage 1	-	-	-	-	-	-	426	0	-
Stage 2	-	-	-	-	-	-	787	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.4	0	221.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	259	452	1238	-	-	-
HCM Lane V/C Ratio	1.329	1.423	0.026	-	-	-
HCM Control Delay (s)	210.4	227.1	8	-	-	-
HCM Lane LOS	F	F	A	-	-	-
HCM 95th %tile Q(veh)	17.9	31.5	0.1	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	631	369	4	128	4	85	4	4	0	1	38
Future Volume (veh/h)	248	631	369	4	128	4	85	4	4	0	1	38
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	1900	1900	1863	1900	1900	1900	1759	1267	1267	1900	1564	1557
Adj Flow Rate, veh/h	261	664	0	4	135	0	89	4	0	0	1	0
Adj No. of Lanes	2	2	1	1	2	0	2	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	2	0	0	0	8	50	50	0	0	22
Cap, veh/h	426	1264	685	29	883	0	269	487	414	4	341	289
Arrive On Green	0.12	0.35	0.00	0.02	0.24	0.00	0.08	0.38	0.00	0.00	0.22	0.00
Sat Flow, veh/h	3510	3610	1583	1810	3705	0	3250	1267	1077	1810	1564	1324
Grp Volume(v), veh/h	261	664	0	4	135	0	89	4	0	0	1	0
Grp Sat Flow(s),veh/h/ln	1755	1805	1583	1810	1805	0	1625	1267	1077	1810	1564	1324
Q Serve(g_s), s	3.4	7.0	0.0	0.1	1.4	0.0	1.2	0.1	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	7.0	0.0	0.1	1.4	0.0	1.2	0.1	0.0	0.0	0.0	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	426	1264	685	29	883	0	269	487	414	4	341	289
V/C Ratio(X)	0.61	0.53	0.00	0.14	0.15	0.00	0.33	0.01	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	512	2030	1021	207	1917	0	379	686	583	207	844	714
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	20.0	12.4	0.0	23.3	14.2	0.0	20.8	9.1	0.0	0.0	14.7	0.0
Incr Delay (d2), s/veh	1.5	0.3	0.0	2.2	0.1	0.0	0.7	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	3.6	0.0	0.1	0.7	0.0	0.6	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	21.6	12.8	0.0	25.5	14.3	0.0	21.5	9.1	0.0	0.0	14.7	0.0
LnGrp LOS	C	B		C	B		C	A			B	
Approach Vol, veh/h		925			139			93			1	
Approach Delay, s/veh		15.2			14.6			20.9			14.7	
Approach LOS		B			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	22.4	4.8	20.8	8.0	14.5	9.8	15.7
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	5.0	25.5	5.0	26.5	5.1	25.4	6.5	25.0
Max Q Clear Time (g_c+I1), s	0.0	2.1	2.1	9.0	3.2	2.0	5.4	3.4
Green Ext Time (p_c), s	0.0	0.0	0.0	4.6	0.0	0.0	0.1	5.0

Intersection Summary	
HCM 2010 Ctrl Delay	15.6
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	6	14	252	0	0	16	0	0	53	19	0	0	0	92	6
Future Vol, veh/h	0	6	14	252	0	0	16	0	0	53	19	0	0	0	92	6
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	6	15	265	0	0	17	0	0	56	20	0	0	0	97	6
Number of Lanes	0	1	2	0	0	0	2	0	0	1	1	0	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	3
HCM Control Delay	9.2	7.5	9.1	9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	0%	100%	0%	100%	2%	100%	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	0%	98%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	53	19	6	9	257	8	8	0	92	6
LT Vol	53	0	6	0	0	0	0	0	0	0
Through Vol	0	19	0	9	5	8	8	0	92	0
RT Vol	0	0	0	0	252	0	0	0	0	6
Lane Flow Rate	56	20	6	10	270	8	8	0	97	6
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.092	0.03	0.01	0.014	0.329	0.013	0.009	0	0.145	0.008
Departure Headway (Hd)	5.948	5.447	5.58	5.079	4.389	5.555	3.845	5.4	5.4	4.698
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	601	655	642	706	819	643	925	0	662	759
Service Time	3.697	3.196	3.306	2.804	2.114	3.304	1.594	3.147	3.147	2.445
HCM Lane V/C Ratio	0.093	0.031	0.009	0.014	0.33	0.012	0.009	0	0.147	0.008
HCM Control Delay	9.3	8.4	8.4	7.9	9.3	8.4	6.6	8.1	9.1	7.5
HCM Lane LOS	A	A	A	A	A	A	A	N	A	A
HCM 95th-tile Q	0.3	0.1	0	0	1.4	0	0	0	0.5	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	357	22	216	953	76	59	264	237	125	436	480
Future Volume (veh/h)	142	357	22	216	953	76	59	264	237	125	436	480
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1882	1900	1881	1865	1900	1863	1863	1881	1727	1863	1881
Adj Flow Rate, veh/h	148	372	14	225	993	71	61	275	247	130	454	160
Adj No. of Lanes	1	3	0	2	2	0	1	1	2	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	1	1	1	1	1	2	2	1	10	2	1
Cap, veh/h	185	2033	76	613	1629	116	141	266	853	420	690	307
Arrive On Green	0.10	0.40	0.39	0.18	0.49	0.47	0.08	0.14	0.13	0.13	0.19	0.19
Sat Flow, veh/h	1774	5082	190	3476	3349	239	1774	1863	2776	3191	3539	1573
Grp Volume(v), veh/h	148	250	136	225	525	539	61	275	247	130	454	160
Grp Sat Flow(s),veh/h/ln	1774	1713	1846	1738	1772	1817	1774	1863	1388	1596	1770	1573
Q Serve(g_s), s	5.7	3.3	3.4	4.0	15.2	15.2	2.3	10.0	1.3	2.6	8.3	6.4
Cycle Q Clear(g_c), s	5.7	3.3	3.4	4.0	15.2	15.2	2.3	10.0	1.3	2.6	8.3	6.4
Prop In Lane	1.00		0.10	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	1370	738	613	862	884	141	266	853	420	690	307
V/C Ratio(X)	0.80	0.18	0.18	0.37	0.61	0.61	0.43	1.03	0.29	0.31	0.66	0.52
Avail Cap(c_a), veh/h	228	1370	738	613	862	884	203	266	853	456	690	307
HCM Platoon Ratio	1.00	1.00	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	30.6	13.6	13.6	25.4	13.1	13.2	30.7	30.0	9.4	27.5	26.0	25.3
Incr Delay (d2), s/veh	12.2	0.3	0.6	0.1	3.2	3.1	0.8	64.1	0.1	0.2	1.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	1.6	1.8	1.9	8.1	8.3	1.1	9.8	1.2	1.1	4.2	2.8
LnGrp Delay(d),s/veh	42.8	13.9	14.2	25.5	16.3	16.3	31.5	94.1	9.5	27.7	27.9	26.0
LnGrp LOS	D	B	B	C	B	B	C	F	A	C	C	C
Approach Vol, veh/h		534			1289			583			744	
Approach Delay, s/veh		22.0			17.9			51.7			27.4	
Approach LOS		C			B			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	9.6	17.6	11.3	38.2	13.2	14.0	17.5	32.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	8.0	11.0	9.0	24.0	10.0	9.0	6.0	* 27
Max Q Clear Time (g_c+I1), s	4.3	10.3	7.7	17.2	4.6	12.0	6.0	5.4
Green Ext Time (p_c), s	0.0	0.4	0.0	2.8	0.1	0.0	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	27.1
HCM 2010 LOS	C

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	640	90	0	1097	3	149	73	248	188	478	40
Future Volume (veh/h)	0	640	90	0	1097	3	149	73	248	188	478	40
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		1.00	1.00		0.99	0.99		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	0	1863	1900	0	1881	1900	1881	1900	1900	1881	1866	1900
Adj Flow Rate, veh/h	0	674	40	0	1155	3	157	77	204	198	503	36
Adj No. of Lanes	0	2	1	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	0	1	1	1	0	0	1	2	2
Cap, veh/h	0	1394	619	0	1441	4	341	898	757	615	813	58
Arrive On Green	0.00	0.39	0.39	0.00	0.39	0.37	0.47	0.47	0.47	0.47	0.47	0.46
Sat Flow, veh/h	0	3632	1572	0	3751	9	869	1900	1602	1099	1720	123
Grp Volume(v), veh/h	0	674	40	0	564	594	157	77	204	198	0	539
Grp Sat Flow(s),veh/h/ln	0	1770	1572	0	1787	1880	869	1900	1602	1099	0	1843
Q Serve(g_s), s	0.0	8.6	0.9	0.0	16.8	16.8	9.9	1.3	4.6	7.3	0.0	13.1
Cycle Q Clear(g_c), s	0.0	8.6	0.9	0.0	16.8	16.8	23.0	1.3	4.6	8.6	0.0	13.1
Prop In Lane	0.00		1.00	0.00		0.01	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	0	1394	619	0	704	740	341	898	757	615	0	871
V/C Ratio(X)	0.00	0.48	0.06	0.00	0.80	0.80	0.46	0.09	0.27	0.32	0.00	0.62
Avail Cap(c_a), veh/h	0	1394	619	0	704	740	365	950	801	645	0	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.6	11.3	0.0	16.1	16.1	20.4	8.7	9.6	11.1	0.0	11.8
Incr Delay (d2), s/veh	0.0	1.2	0.2	0.0	9.4	8.9	1.0	0.0	0.2	0.3	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.4	0.4	0.0	10.0	10.4	2.4	0.7	2.1	2.3	0.0	6.9
LnGrp Delay(d),s/veh	0.0	14.8	11.5	0.0	25.5	25.0	21.3	8.7	9.7	11.4	0.0	13.0
LnGrp LOS		B	B		C	C	C	A	A	B		B
Approach Vol, veh/h		714			1158			438			737	
Approach Delay, s/veh		14.6			25.2			13.7			12.5	
Approach LOS		B			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		27.6		32.4		27.6		32.4
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0
Max Green Setting (Gmax), s		20.5		29.0		20.5		29.0
Max Q Clear Time (g_c+I1), s		10.6		15.1		18.8		25.0
Green Ext Time (p_c), s		7.3		5.9		1.5		2.4

Intersection Summary	
HCM 2010 Ctrl Delay	18.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	2382	53	250	2509	130	65	366	231	149	574	39
Future Volume (veh/h)	123	2382	53	250	2509	130	65	366	231	149	574	39
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		0.94	1.00		0.95	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1795	1900	1881	1811	1900	1863	1859	1900	1863	1900	1900
Adj Flow Rate, veh/h	126	2431	53	255	2560	130	66	373	166	152	586	37
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	6	6	1	5	5	2	3	3	2	0	0
Cap, veh/h	98	1775	39	187	1895	95	101	450	196	123	710	45
Arrive On Green	0.06	0.52	0.51	0.10	0.57	0.56	0.06	0.19	0.18	0.07	0.21	0.19
Sat Flow, veh/h	1757	3408	74	1792	3326	167	1774	2358	1030	1774	3441	217
Grp Volume(v), veh/h	126	1210	1274	255	1311	1379	66	277	262	152	307	316
Grp Sat Flow(s),veh/h/ln	1757	1705	1777	1792	1721	1772	1774	1766	1622	1774	1805	1853
Q Serve(g_s), s	8.0	75.0	75.0	15.0	82.0	82.0	5.2	21.7	22.4	10.0	23.4	23.5
Cycle Q Clear(g_c), s	8.0	75.0	75.0	15.0	82.0	82.0	5.2	21.7	22.4	10.0	23.4	23.5
Prop In Lane	1.00		0.04	1.00		0.09	1.00		0.63	1.00		0.12
Lane Grp Cap(c), veh/h	98	888	926	187	980	1010	101	337	309	123	373	382
V/C Ratio(X)	1.29	1.36	1.38	1.37	1.34	1.37	0.65	0.82	0.85	1.23	0.82	0.83
Avail Cap(c_a), veh/h	98	888	926	187	980	1010	108	356	327	123	379	389
HCM Platoon Ratio	1.00	1.00	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	68.0	34.5	34.5	64.5	31.0	31.1	66.5	55.9	56.7	67.0	54.6	54.8
Incr Delay (d2), s/veh	187.7	170.3	176.1	195.0	158.6	171.2	11.9	12.8	16.3	156.7	12.7	12.6
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	9.0	77.1	81.8	17.5	81.8	87.8	2.9	11.8	11.4	10.3	13.0	13.4
LnGrp Delay(d),s/veh	255.7	204.8	210.6	259.5	189.6	202.3	78.3	68.8	73.0	223.7	67.3	67.4
LnGrp LOS	F	F	F	F	F	F	E	E	E	F	E	E
Approach Vol, veh/h		2610			2945			605			775	
Approach Delay, s/veh		210.1			201.6			71.7			98.0	
Approach LOS		F			F			E			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	31.9	19.0	79.0	12.2	33.7	12.0	86.0
Change Period (Y+Rc), s	5.0	* 6	5.0	6.0	5.5	6.0	5.0	6.0
Max Green Setting (Gmax), s	9.0	* 28	14.0	73.0	7.3	28.2	7.0	80.0
Max Q Clear Time (g_c+I1), s	12.0	24.4	17.0	77.0	7.2	25.5	10.0	84.0
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.0	1.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	181.9
HCM 2010 LOS	F

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	3379	550	0	3422	88	220	700	528	84	1690	160
Future Volume (veh/h)	0	3379	550	0	3422	88	220	700	528	84	1690	160
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		0.83	1.00		0.88	1.00		0.83	1.00		0.79
Parking Bus, Adj	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	0	1827	1776	0	1846	1900	1881	1837	1900	1810	1794	1900
Adj Flow Rate, veh/h	0	3484	567	0	3528	91	227	722	544	87	1742	165
Adj No. of Lanes	0	2	1	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	4	7	0	3	3	1	6	6	5	6	6
Cap, veh/h	0	1620	581	0	1624	42	60	818	600	91	1437	131
Arrive On Green	0.00	0.47	0.47	0.00	0.47	0.45	0.47	0.47	0.45	0.47	0.47	0.45
Sat Flow, veh/h	0	3563	1245	0	3573	89	237	1753	1286	424	3079	280
Grp Volume(v), veh/h	0	3484	567	0	1763	1856	227	719	547	87	932	975
Grp Sat Flow(s),veh/h/ln	0	1736	1245	0	1754	1816	237	1745	1294	424	1704	1655
Q Serve(g_s), s	0.0	56.0	53.5	0.0	56.0	56.0	0.0	44.8	47.2	8.8	56.0	56.0
Cycle Q Clear(g_c), s	0.0	56.0	53.5	0.0	56.0	56.0	56.0	44.8	47.2	56.0	56.0	56.0
Prop In Lane	0.00		1.00	0.00		0.05	1.00		0.99	1.00		0.17
Lane Grp Cap(c), veh/h	0	1620	581	0	818	848	60	814	604	91	795	772
V/C Ratio(X)	0.00	2.15	0.98	0.00	2.15	2.19	3.78	0.88	0.91	0.96	1.17	1.26
Avail Cap(c_a), veh/h	0	1620	581	0	818	848	60	814	604	91	795	772
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	32.0	31.3	0.0	32.0	32.1	60.0	29.0	30.8	58.4	32.0	32.2
Incr Delay (d2), s/veh	0.0	519.9	31.8	0.0	523.5	539.2	1292.0	13.3	19.7	83.0	90.6	128.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	143.7	23.4	0.0	146.1	155.0	23.5	24.6	20.1	5.0	46.3	53.0
LnGrp Delay(d),s/veh	0.0	551.9	63.1	0.0	555.5	571.2	1352.0	42.3	50.5	141.4	122.6	160.4
LnGrp LOS		F	E		F	F	F	D	D	F	F	F
Approach Vol, veh/h		4051			3619			1493			1994	
Approach Delay, s/veh		483.5			563.6			244.4			141.9	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		60.0		60.0		60.0		60.0
Change Period (Y+Rc), s		6.5		6.5		6.5		6.5
Max Green Setting (Gmax), s		53.5		53.5		53.5		53.5
Max Q Clear Time (g_c+I1), s		58.0		58.0		58.0		58.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	416.4
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	900	1113	309	505	1447	500	735	856	735	402	608	880
Future Volume (veh/h)	900	1113	309	505	1447	500	735	856	735	402	608	880
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		0.98	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1900	1776	1900	1900	1900	1881	1845	1900	1900	1792	1863
Adj Flow Rate, veh/h	928	1147	176	521	1492	337	758	882	495	414	627	861
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	1	2	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	6	0	7	0	0	0	1	3	0	0	6	2
Cap, veh/h	596	1107	463	338	1131	505	556	902	409	265	817	1135
Arrive On Green	0.18	0.31	0.31	0.19	0.31	0.31	0.16	0.26	0.26	0.15	0.24	0.24
Sat Flow, veh/h	3312	3610	1509	1810	3610	1612	3476	3505	1590	1810	3406	2639
Grp Volume(v), veh/h	928	1147	176	521	1492	337	758	882	495	414	627	861
Grp Sat Flow(s),veh/h/ln	1656	1805	1509	1810	1805	1612	1738	1752	1590	1810	1703	1319
Q Serve(g_s), s	27.0	46.0	13.7	28.0	47.0	27.2	24.0	37.5	25.9	22.0	25.7	24.4
Cycle Q Clear(g_c), s	27.0	46.0	13.7	28.0	47.0	27.2	24.0	37.5	25.9	22.0	25.7	24.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	596	1107	463	338	1131	505	556	902	409	265	817	1135
V/C Ratio(X)	1.56	1.04	0.38	1.54	1.32	0.67	1.36	0.98	1.21	1.56	0.77	0.76
Avail Cap(c_a), veh/h	596	1107	463	338	1131	505	556	902	409	265	817	1135
HCM Platoon Ratio	1.00	1.00	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	61.5	52.0	40.8	61.0	51.5	44.7	63.0	55.3	25.1	64.0	53.1	16.3
Incr Delay (d2), s/veh	258.7	36.8	0.5	258.4	149.9	3.3	174.7	25.1	115.2	269.6	6.8	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	33.8	28.6	5.8	38.2	47.0	12.5	25.0	21.3	24.4	30.9	12.9	9.5
LnGrp Delay(d),s/veh	320.2	88.8	41.3	319.4	201.4	48.1	237.7	80.4	140.3	333.6	59.9	21.1
LnGrp LOS	F	F	D	F	F	D	F	F	F	F	E	C
Approach Vol, veh/h		2251			2350			2135			1902	
Approach Delay, s/veh		180.5			205.6			150.1			101.9	
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	26.0	42.6	32.0	50.0	28.6	40.0	31.0	51.0
Change Period (Y+Rc), s	4.0	4.6	4.5	4.6	4.6	* 4.6	4.6	4.5
Max Green Setting (Gmax), s	22.0	37.4	27.5	45.4	24.0	* 35	26.4	46.5
Max Q Clear Time (g_c+I1), s	24.0	39.5	30.0	48.0	26.0	27.7	29.0	49.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	162.5
HCM 2010 LOS	F

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	343	763	121	60	382	420	210	1030	80	143	1630	325
Future Volume (veh/h)	343	763	121	60	382	420	210	1030	80	143	1630	325
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	1881	1899	1863	1900	1868	1727	1881	1810	1652	1743	1810	1743
Adj Flow Rate, veh/h	361	803	0	63	402	0	221	1084	0	151	1716	0
Adj No. of Lanes	1	1	1	0	2	1	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	2	2	2	10	1	5	15	9	5	9
Cap, veh/h	578	613	511	74	497	231	123	1179	482	91	1172	505
Arrive On Green	0.32	0.32	0.00	0.16	0.16	0.00	0.07	0.34	0.00	0.05	0.34	0.00
Sat Flow, veh/h	1792	1899	1583	468	3151	1468	1792	3438	1404	1660	3438	1482
Grp Volume(v), veh/h	361	803	0	248	217	0	221	1084	0	151	1716	0
Grp Sat Flow(s),veh/h/ln	1792	1899	1583	1844	1774	1468	1792	1719	1404	1660	1719	1482
Q Serve(g_s), s	24.9	47.0	0.0	19.1	17.1	0.0	10.0	44.0	0.0	8.0	49.6	0.0
Cycle Q Clear(g_c), s	24.9	47.0	0.0	19.1	17.1	0.0	10.0	44.0	0.0	8.0	49.6	0.0
Prop In Lane	1.00		1.00	0.25		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	578	613	511	291	280	231	123	1179	482	91	1172	505
V/C Ratio(X)	0.62	1.31	0.00	0.85	0.77	0.00	1.80	0.92	0.00	1.66	1.46	0.00
Avail Cap(c_a), veh/h	578	613	511	361	347	287	123	1193	487	91	1172	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.8	49.3	0.0	59.7	58.8	0.0	67.8	45.9	0.0	68.8	48.0	0.0
Incr Delay (d2), s/veh	1.6	151.0	0.0	12.9	6.4	0.0	388.6	11.8	0.0	338.3	213.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	50.2	0.0	10.8	8.9	0.0	18.2	22.9	0.0	12.2	58.2	0.0
LnGrp Delay(d),s/veh	43.4	200.3	0.0	72.6	65.2	0.0	456.4	57.7	0.0	407.1	261.5	0.0
LnGrp LOS	D	F		E	E		F	E		F	F	
Approach Vol, veh/h		1164			465			1305			1867	
Approach Delay, s/veh		151.6			69.2			125.2			273.3	
Approach LOS		F			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.7	53.9		51.0	14.0	53.6		27.0
Change Period (Y+Rc), s	5.7	* 5.7		4.5	4.0	5.7		4.5
Max Green Setting (Gmax), s	8.0	* 49		46.5	10.0	46.8		28.0
Max Q Clear Time (g_c+I1), s	10.0	46.0		49.0	12.0	51.6		21.1
Green Ext Time (p_c), s	0.0	2.2		0.0	0.0	0.0		1.0

Intersection Summary		
HCM 2010 Ctrl Delay		183.8
HCM 2010 LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	844.8
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations			✣				✣				✣				✣	
Traffic Vol, veh/h	0	0	76	0	0	605	6	845	0	0	263	648	0	1163	322	0
Future Vol, veh/h	0	0	76	0	0	605	6	845	0	0	263	648	0	1163	322	0
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	0	0	0	2	6	0	9	2	0	9	2	2	40	6	0
Mvmt Flow	0	0	80	0	0	637	6	889	0	0	277	682	0	1224	339	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	55	993.3	481.8	1226.9
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	42%	78%
Vol Thru, %	29%	100%	0%	22%
Vol Right, %	71%	0%	58%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	911	76	1456	1485
LT Vol	0	0	605	1163
Through Vol	263	76	6	322
RT Vol	648	0	845	0
Lane Flow Rate	959	80	1533	1563
Geometry Grp	1	1	1	1
Degree of Util (X)	1.933	0.213	3.136	3.633
Departure Headway (Hd)	20.352	41.207	11.911	16.605
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	192	89	322	234
Service Time	18.352	39.207	9.911	14.605
HCM Lane V/C Ratio	4.995	0.899	4.761	6.679
HCM Control Delay	481.8	55	993.3	1226.9
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	25.6	0.7	84.9	75.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	817	732	338	592	1868	76
Future Volume (veh/h)	817	732	338	592	1868	76
Number	7	14	5	2	6	16
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	1776	1743	1900	1881	1743	1743
Adj Flow Rate, veh/h	860	632	356	623	1966	75
Adj No. of Lanes	1	1	1	2	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	9	0	1	9	9
Cap, veh/h	541	474	193	2240	860	731
Arrive On Green	0.32	0.32	0.11	0.63	0.49	0.49
Sat Flow, veh/h	1691	1482	1810	3668	1743	1482
Grp Volume(v), veh/h	860	632	356	623	1966	75
Grp Sat Flow(s),veh/h/ln	1691	1482	1810	1787	1743	1482
Q Serve(g_s), s	48.0	48.0	16.0	11.8	74.0	4.1
Cycle Q Clear(g_c), s	48.0	48.0	16.0	11.8	74.0	4.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	541	474	193	2240	860	731
V/C Ratio(X)	1.59	1.33	1.84	0.28	2.29	0.10
Avail Cap(c_a), veh/h	541	474	193	2240	860	731
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	51.0	51.0	67.0	12.7	38.0	20.3
Incr Delay (d2), s/veh	273.8	163.7	399.4	0.1	582.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	63.6	54.6	29.4	5.8	174.7	1.7
LnGrp Delay(d),s/veh	324.8	214.7	466.4	12.7	620.5	20.3
LnGrp LOS	F	F	F	B	F	C
Approach Vol, veh/h	1492			979	2041	
Approach Delay, s/veh	278.2			177.7	598.4	
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		98.0		52.0	20.0	78.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		93.5		47.5	15.5	73.5		
Max Q Clear Time (g_c+I1), s		13.8		50.0	18.0	76.0		
Green Ext Time (p_c), s		78.6		0.0	0.0	0.0		

Intersection Summary		
HCM 2010 Ctrl Delay		401.2
HCM 2010 LOS		F

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	130	0	0	725	493	78	3	107	0	0	0
Future Vol, veh/h	34	130	0	0	725	493	78	3	107	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	120	-	-	-	-	-	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	17	11	0	0	1	1	20	100	6	0	0	0
Mvmt Flow	36	137	0	0	763	519	82	3	113	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1282	0	-	-	-	0	1231	1490	137
Stage 1	-	-	-	-	-	-	208	208	-
Stage 2	-	-	-	-	-	-	1023	1282	-
Critical Hdwy	4.27	-	-	-	-	-	6.6	7.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	5.6	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.6	6.5	-
Follow-up Hdwy	2.353	-	-	-	-	-	3.68	4.9	3.354
Pot Cap-1 Maneuver	494	-	0	0	-	-	180	77	901
Stage 1	-	-	0	0	-	-	786	579	-
Stage 2	-	-	0	0	-	-	321	153	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	494	-	-	-	-	-	167	0	901
Mov Cap-2 Maneuver	-	-	-	-	-	-	167	0	-
Stage 1	-	-	-	-	-	-	729	0	-
Stage 2	-	-	-	-	-	-	321	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2.7	0	25.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	167	901	494	-	-	-
HCM Lane V/C Ratio	0.511	0.125	0.072	-	-	-
HCM Control Delay (s)	47.1	9.6	12.9	-	-	-
HCM Lane LOS	E	A	B	-	-	-
HCM 95th %tile Q(veh)	2.5	0.4	0.2	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	121	87	1	586	0	351	3	6	2	2	279
Future Volume (veh/h)	28	121	87	1	586	0	351	3	6	2	2	279
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	1727	1845	1743	1900	1900	1900	1881	1900	1138	1900	1845	1845
Adj Flow Rate, veh/h	29	127	0	1	617	0	369	3	0	2	2	0
Adj No. of Lanes	2	2	1	1	2	0	2	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	10	3	9	0	0	0	1	0	67	0	0	3
Cap, veh/h	139	1103	680	21	1020	0	502	379	193	261	368	313
Arrive On Green	0.04	0.31	0.00	0.01	0.28	0.00	0.14	0.20	0.00	0.14	0.20	0.00
Sat Flow, veh/h	3191	3505	1482	1810	3705	0	3476	1900	967	1810	1845	1568
Grp Volume(v), veh/h	29	127	0	1	617	0	369	3	0	2	2	0
Grp Sat Flow(s),veh/h/ln	1596	1752	1482	1810	1805	0	1738	1900	967	1810	1845	1568
Q Serve(g_s), s	0.4	1.2	0.0	0.0	7.2	0.0	4.9	0.1	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	1.2	0.0	0.0	7.2	0.0	4.9	0.1	0.0	0.0	0.0	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	139	1103	680	21	1020	0	502	379	193	261	368	313
V/C Ratio(X)	0.21	0.12	0.00	0.05	0.60	0.00	0.74	0.01	0.00	0.01	0.01	0.00
Avail Cap(c_a), veh/h	362	1843	993	205	1898	0	502	1078	548	261	989	841
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.4	11.8	0.0	23.7	15.0	0.0	19.9	15.6	0.0	17.8	15.6	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.9	0.6	0.0	5.6	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.6	0.0	0.0	3.6	0.0	2.7	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	23.1	11.9	0.0	24.6	15.6	0.0	25.4	15.6	0.0	17.8	15.6	0.0
LnGrp LOS	C	B		C	B		C	B		B	B	
Approach Vol, veh/h		156			618			372			4	
Approach Delay, s/veh		14.0			15.6			25.4			16.7	
Approach LOS		B			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	13.7	4.6	19.3	11.0	13.7	6.1	17.7
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	5.0	27.0	5.0	25.0	6.5	25.5	5.0	25.0
Max Q Clear Time (g_c+I1), s	2.0	2.1	2.0	3.2	6.9	2.0	2.4	9.2
Green Ext Time (p_c), s	0.4	0.0	0.0	0.7	0.0	0.0	0.2	3.4

Intersection Summary	
HCM 2010 Ctrl Delay	18.6
HCM 2010 LOS	B

Notes
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	4	30	44	0	0	22	0	0	229	83	0	0	1	14	5
Future Vol, veh/h	0	4	30	44	0	0	22	0	0	229	83	0	0	1	14	5
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	0	0	0	2	0	18	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	4	32	46	0	0	23	0	0	241	87	0	0	1	15	5
Number of Lanes	0	1	2	0	0	0	2	0	0	1	1	0	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	3
HCM Control Delay	8.2	7.8	10.3	8.1
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	100%	19%	100%	100%	0%	100%	0%
Vol Right, %	0%	0%	0%	0%	81%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	229	83	4	20	54	11	11	1	14	5
LT Vol	229	0	4	0	0	0	0	1	0	0
Through Vol	0	83	0	20	10	11	11	0	14	0
RT Vol	0	0	0	0	44	0	0	0	0	5
Lane Flow Rate	241	87	4	21	57	12	12	1	15	5
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.357	0.117	0.007	0.032	0.078	0.019	0.013	0.002	0.022	0.007
Departure Headway (Hd)	5.328	4.827	6.006	5.505	4.933	5.942	3.927	5.962	5.46	4.757
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	675	744	597	651	727	603	910	600	655	751
Service Time	3.053	2.552	3.73	3.229	2.658	3.674	1.658	3.697	3.195	2.492
HCM Lane V/C Ratio	0.357	0.117	0.007	0.032	0.078	0.02	0.013	0.002	0.023	0.007
HCM Control Delay	11	8.2	8.8	8.4	8.1	8.8	6.7	8.7	8.3	7.5
HCM Lane LOS	B	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	1.6	0.4	0	0.1	0.3	0.1	0	0	0.1	0

LOS WORKSHEETS – CUMULATIVE PLUS PROJECT CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	1356	35	60	147	72	28	176	347	366	312	197
Future Volume (veh/h)	156	1356	35	60	147	72	28	176	347	366	312	197
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1862	1900	1776	1738	1900	1810	1792	1845	1810	1759	1759
Adj Flow Rate, veh/h	164	1427	33	63	155	18	29	185	365	385	328	46
Adj No. of Lanes	1	3	0	2	2	0	1	1	2	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	5	2	2	7	10	10	5	6	3	5	8	8
Cap, veh/h	273	2107	49	199	896	103	106	254	514	476	792	348
Arrive On Green	0.16	0.41	0.40	0.06	0.30	0.29	0.06	0.14	0.13	0.14	0.24	0.24
Sat Flow, veh/h	1723	5110	118	3281	2986	342	1723	1792	2717	3343	3343	1470
Grp Volume(v), veh/h	164	946	514	63	85	88	29	185	365	385	328	46
Grp Sat Flow(s),veh/h/ln	1723	1695	1839	1640	1651	1677	1723	1792	1358	1672	1671	1470
Q Serve(g_s), s	6.2	15.9	15.9	1.3	2.7	2.7	1.1	6.9	5.1	7.8	5.8	1.0
Cycle Q Clear(g_c), s	6.2	15.9	15.9	1.3	2.7	2.7	1.1	6.9	5.1	7.8	5.8	1.0
Prop In Lane	1.00		0.06	1.00		0.20	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	273	1398	758	199	495	503	106	254	514	476	792	348
V/C Ratio(X)	0.60	0.68	0.68	0.32	0.17	0.18	0.27	0.73	0.71	0.81	0.41	0.13
Avail Cap(c_a), veh/h	320	1398	758	281	495	503	246	256	516	478	792	348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.4	16.8	16.8	31.5	18.1	18.2	31.4	28.7	10.8	29.1	22.6	7.2
Incr Delay (d2), s/veh	1.0	2.7	4.8	0.3	0.7	0.8	0.5	8.6	3.8	9.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	7.9	9.0	0.6	1.3	1.4	0.5	4.0	2.1	4.2	2.7	0.4
LnGrp Delay(d),s/veh	28.4	19.4	21.6	31.8	18.8	18.9	31.9	37.4	14.6	38.4	22.7	7.3
LnGrp LOS	C	B	C	C	B	B	C	D	B	D	C	A
Approach Vol, veh/h		1624			236			579			759	
Approach Delay, s/veh		21.0			22.3			22.7			29.7	
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	8.3	20.6	16.1	25.0	15.0	13.9	8.2	32.9
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	5.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	10.0	9.0	13.0	* 20	10.0	* 9	6.0	27.0
Max Q Clear Time (g_c+I1), s	3.1	7.8	8.2	4.7	9.8	8.9	3.3	17.9
Green Ext Time (p_c), s	0.0	0.4	2.5	0.4	0.0	0.0	0.0	4.5

Intersection Summary	
HCM 2010 Ctrl Delay	23.5
HCM 2010 LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1754	69	0	510	5	126	97	384	324	247	31
Future Volume (veh/h)	0	1754	69	0	510	5	126	97	384	324	247	31
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		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1845	0	1793	1900	1881	1900	1881	1863	1851	1900
Adj Flow Rate, veh/h	0	1808	40	0	526	4	130	100	372	334	255	26
Adj No. of Lanes	0	2	1	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	3	0	6	6	1	0	1	2	3	3
Cap, veh/h	0	1858	800	0	1820	14	377	712	587	401	619	63
Arrive On Green	0.00	0.52	0.52	0.00	0.52	0.51	0.38	0.38	0.38	0.38	0.38	0.36
Sat Flow, veh/h	0	3632	1523	0	3556	26	1099	1900	1565	914	1651	168
Grp Volume(v), veh/h	0	1808	40	0	258	272	130	100	372	334	0	281
Grp Sat Flow(s),veh/h/ln	0	1770	1523	0	1704	1789	1099	1900	1565	914	0	1819
Q Serve(g_s), s	0.0	39.7	1.0	0.0	6.8	6.8	7.9	2.8	15.6	27.2	0.0	9.1
Cycle Q Clear(g_c), s	0.0	39.7	1.0	0.0	6.8	6.8	17.1	2.8	15.6	30.0	0.0	9.1
Prop In Lane	0.00		1.00	0.00		0.01	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	0	1858	800	0	894	939	377	713	587	401	0	682
V/C Ratio(X)	0.00	0.97	0.05	0.00	0.29	0.29	0.35	0.14	0.63	0.83	0.00	0.41
Avail Cap(c_a), veh/h	0	1858	800	0	894	939	377	713	587	401	0	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.5	9.3	0.0	10.6	10.6	24.8	16.5	20.5	27.3	0.0	18.5
Incr Delay (d2), s/veh	0.0	15.4	0.1	0.0	0.8	0.8	0.5	0.1	2.2	13.9	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	0.0	23.1	0.4	0.0	3.4	3.5	2.5	1.5	7.1	8.9	0.0	4.6
LnGrp Delay(d),s/veh	0.0	33.9	9.4	0.0	11.5	11.4	25.3	16.6	22.7	41.3	0.0	18.9
LnGrp LOS		C	A		B	B	C	B	C	D		B
Approach Vol, veh/h		1848			530			602			615	
Approach Delay, s/veh		33.3			11.4			22.3			31.1	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		46.0		34.0		46.0		34.0
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0
Max Green Setting (Gmax), s		40.5		29.0		40.5		29.0
Max Q Clear Time (g_c+I1), s		41.7		32.0		8.8		19.1
Green Ext Time (p_c), s		0.0		0.0		23.0		4.6

Intersection Summary	
HCM 2010 Ctrl Delay	27.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	2445	46	286	2587	141	101	631	250	98	358	44
Future Volume (veh/h)	128	2445	46	286	2587	141	101	631	250	98	358	44
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		0.95	1.00		0.94	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1745	1900	1827	1781	1900	1900	1863	1900	1827	1847	1900
Adj Flow Rate, veh/h	133	2547	47	298	2695	144	105	657	230	102	373	40
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	9	9	4	7	7	0	2	2	4	3	3
Cap, veh/h	109	1623	30	203	1769	93	144	576	201	96	654	70
Arrive On Green	0.06	0.49	0.47	0.12	0.54	0.53	0.08	0.23	0.22	0.05	0.21	0.19
Sat Flow, veh/h	1757	3327	61	1740	3258	172	1810	2538	888	1740	3181	338
Grp Volume(v), veh/h	133	1264	1330	298	1383	1456	105	458	429	102	204	209
Grp Sat Flow(s),veh/h/ln	1757	1657	1730	1740	1692	1738	1810	1770	1657	1740	1754	1765
Q Serve(g_s), s	9.0	71.0	71.0	17.0	79.0	79.0	8.2	33.0	33.0	8.0	15.2	15.5
Cycle Q Clear(g_c), s	9.0	71.0	71.0	17.0	79.0	79.0	8.2	33.0	33.0	8.0	15.2	15.5
Prop In Lane	1.00		0.04	1.00		0.10	1.00		0.54	1.00		0.19
Lane Grp Cap(c), veh/h	109	809	844	203	919	944	144	401	376	96	360	363
V/C Ratio(X)	1.22	1.56	1.58	1.47	1.51	1.54	0.73	1.14	1.14	1.07	0.57	0.58
Avail Cap(c_a), veh/h	109	809	844	203	919	944	147	401	376	96	360	363
HCM Platoon Ratio	1.00	1.00	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	68.3	37.3	37.3	64.3	33.3	33.3	65.4	56.3	56.7	68.8	52.0	52.3
Incr Delay (d2), s/veh	158.4	259.2	264.7	234.5	233.3	249.4	16.3	89.2	90.9	111.1	1.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	90.6	95.9	21.4	96.3	103.2	4.8	26.0	24.5	6.8	7.5	7.8
LnGrp Delay(d),s/veh	226.6	296.5	302.0	298.8	266.5	282.8	81.7	145.5	147.6	180.4	53.3	53.7
LnGrp LOS	F	F	F	F	F	F	F	F	F	F	D	D
Approach Vol, veh/h		2727			3137			992			515	
Approach Delay, s/veh		295.7			277.1			139.6			78.6	
Approach LOS		F			F			F			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	12.0	37.5	21.0	75.0	15.6	33.9	13.0	83.0
Change Period (Y+Rc), s	5.0	* 6	5.0	6.0	5.5	6.0	5.0	6.0
Max Green Setting (Gmax), s	7.0	* 32	16.0	69.0	10.3	27.2	8.0	77.0
Max Q Clear Time (g_c+I1), s	10.0	35.0	19.0	73.0	10.2	17.5	11.0	81.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	251.6
HCM 2010 LOS	F

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2484	270	0	2587	89	280	720	280	60	360	140
Future Volume (veh/h)	0	2484	270	0	2587	89	280	720	280	60	360	140
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		0.90	1.00		0.89	0.94		0.78	1.00		0.75
Parking Bus, Adj	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	0	1792	1743	0	1809	1900	1810	1792	1900	1810	1750	1900
Adj Flow Rate, veh/h	0	2535	276	0	2640	91	286	735	286	61	367	143
Adj No. of Lanes	0	2	1	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	6	9	0	5	5	5	6	6	5	8	8
Cap, veh/h	0	1965	765	0	1947	66	234	795	309	77	779	290
Arrive On Green	0.00	0.58	0.58	0.00	0.58	0.56	0.36	0.36	0.34	0.36	0.36	0.34
Sat Flow, veh/h	0	3495	1326	0	3465	115	808	2199	855	534	2154	801
Grp Volume(v), veh/h	0	2535	276	0	1330	1401	286	569	452	61	279	231
Grp Sat Flow(s),veh/h/ln	0	1703	1326	0	1719	1771	808	1703	1352	534	1663	1293
Q Serve(g_s), s	0.0	75.0	14.5	0.0	75.0	75.0	28.8	41.6	41.8	5.2	16.8	18.2
Cycle Q Clear(g_c), s	0.0	75.0	14.5	0.0	75.0	75.0	47.0	41.6	41.8	47.0	16.8	18.2
Prop In Lane	0.00		1.00	0.00		0.06	1.00		0.63	1.00		0.62
Lane Grp Cap(c), veh/h	0	1965	765	0	991	1022	234	616	489	77	601	467
V/C Ratio(X)	0.00	1.29	0.36	0.00	1.34	1.37	1.22	0.92	0.92	0.79	0.46	0.49
Avail Cap(c_a), veh/h	0	1965	765	0	991	1022	234	616	489	77	601	467
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	27.5	14.7	0.0	27.5	27.6	54.0	39.8	40.6	64.1	31.8	32.9
Incr Delay (d2), s/veh	0.0	134.5	1.3	0.0	160.7	173.0	132.0	21.8	25.7	56.1	2.6	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	71.6	5.6	0.0	79.5	85.4	17.0	23.3	19.1	3.4	8.1	7.0
LnGrp Delay(d),s/veh	0.0	162.0	16.0	0.0	188.2	200.6	186.0	61.6	66.3	120.2	34.4	36.6
LnGrp LOS		F	B		F	F	F	E	E	F	C	D
Approach Vol, veh/h		2811			2731			1307			571	
Approach Delay, s/veh		147.7			194.6			90.4			44.5	
Approach LOS		F			F			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		51.0		79.0		51.0		79.0
Change Period (Y+Rc), s		6.5		6.5		6.5		6.5
Max Green Setting (Gmax), s		44.5		72.5		44.5		72.5
Max Q Clear Time (g_c+I1), s		49.0		77.0		49.0		77.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	146.9
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	650	1192	473	243	845	204	371	596	446	387	904	310
Future Volume (veh/h)	650	1192	473	243	845	204	371	596	446	387	904	310
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		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1776	1900	1827	1900	1900	1900	1792	1638	1900	1900	1810	1743
Adj Flow Rate, veh/h	684	1255	291	256	889	68	391	627	245	407	952	282
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	1	2	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	0	4	0	0	0	6	16	0	0	5	9
Cap, veh/h	676	1161	499	245	905	405	408	661	338	376	1021	1286
Arrive On Green	0.21	0.32	0.32	0.14	0.25	0.25	0.12	0.21	0.21	0.21	0.30	0.30
Sat Flow, veh/h	3281	3610	1553	1810	3610	1615	3312	3112	1592	1810	3438	2519
Grp Volume(v), veh/h	684	1255	291	256	889	68	391	627	245	407	952	282
Grp Sat Flow(s),veh/h/ln	1640	1805	1553	1810	1805	1615	1656	1556	1592	1810	1719	1259
Q Serve(g_s), s	26.8	41.8	20.3	17.6	31.8	2.7	15.3	25.8	18.6	27.0	35.0	4.5
Cycle Q Clear(g_c), s	26.8	41.8	20.3	17.6	31.8	2.7	15.3	25.8	18.6	27.0	35.0	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	676	1161	499	245	905	405	408	661	338	376	1021	1286
V/C Ratio(X)	1.01	1.08	0.58	1.04	0.98	0.17	0.96	0.95	0.72	1.08	0.93	0.22
Avail Cap(c_a), veh/h	676	1161	499	245	905	405	408	661	338	376	1021	1286
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.6	44.1	36.8	56.2	48.4	15.1	56.7	50.5	47.7	51.5	44.4	7.2
Incr Delay (d2), s/veh	37.4	51.3	4.9	69.8	25.5	0.2	34.1	24.5	12.7	70.5	16.0	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	15.6	29.1	9.4	13.5	19.0	1.2	8.9	13.3	9.4	20.8	18.9	1.6
LnGrp Delay(d),s/veh	89.0	95.4	41.7	126.0	73.9	15.3	90.7	75.0	60.4	122.0	60.4	7.6
LnGrp LOS	F	F	D	F	E	B	F	E	E	F	E	A
Approach Vol, veh/h		2230			1213			1263			1641	
Approach Delay, s/veh		86.4			81.6			77.0			66.6	
Approach LOS		F			F			E			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	31.0	31.6	21.6	45.8	20.0	42.6	30.8	36.6
Change Period (Y+Rc), s	4.0	4.6	4.5	4.6	4.0	4.6	4.6	4.5
Max Green Setting (Gmax), s	27.0	27.0	17.1	41.2	16.0	38.0	26.2	32.1
Max Q Clear Time (g_c+I1), s	29.0	27.8	19.6	43.8	17.3	37.0	28.8	33.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		78.5
HCM 2010 LOS		E

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	415	202	50	235	261	161	1185	70	294	1299	203
Future Volume (veh/h)	195	415	202	50	235	261	161	1185	70	294	1299	203
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	1827	1861	1776	1900	1874	1743	1810	1759	1624	1827	1792	1776
Adj Flow Rate, veh/h	205	437	0	53	247	0	169	1247	0	309	1367	0
Adj No. of Lanes	1	1	1	0	2	1	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	2	7	0	0	9	5	8	17	4	6	7
Cap, veh/h	436	467	379	68	336	165	152	1220	504	269	1469	651
Arrive On Green	0.25	0.25	0.00	0.11	0.11	0.00	0.09	0.36	0.00	0.15	0.43	0.00
Sat Flow, veh/h	1740	1861	1509	610	3013	1482	1723	3343	1380	1740	3406	1509
Grp Volume(v), veh/h	205	437	0	160	140	0	169	1247	0	309	1367	0
Grp Sat Flow(s),veh/h/ln	1740	1861	1509	1843	1780	1482	1723	1671	1380	1740	1703	1509
Q Serve(g_s), s	13.6	31.2	0.0	11.5	10.3	0.0	12.0	49.5	0.0	21.0	51.7	0.0
Cycle Q Clear(g_c), s	13.6	31.2	0.0	11.5	10.3	0.0	12.0	49.5	0.0	21.0	51.7	0.0
Prop In Lane	1.00		1.00	0.33		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	436	467	379	205	198	165	152	1220	504	269	1469	651
V/C Ratio(X)	0.47	0.94	0.00	0.78	0.70	0.00	1.11	1.02	0.00	1.15	0.93	0.00
Avail Cap(c_a), veh/h	449	480	389	387	374	311	152	1220	504	269	1469	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	43.1	49.7	0.0	58.6	58.1	0.0	61.8	43.1	0.0	57.3	36.6	0.0
Incr Delay (d2), s/veh	0.3	25.1	0.0	2.4	1.7	0.0	104.9	31.5	0.0	100.5	11.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	19.3	0.0	6.0	5.1	0.0	10.1	28.0	0.0	17.5	26.6	0.0
LnGrp Delay(d),s/veh	43.4	74.9	0.0	61.1	59.8	0.0	166.7	74.6	0.0	157.8	47.8	0.0
LnGrp LOS	D	E		E	E		F	F		F	D	
Approach Vol, veh/h		642			300			1416			1676	
Approach Delay, s/veh		64.8			60.5			85.6			68.1	
Approach LOS		E			E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	25.0	53.5		38.0	16.0	62.5		19.1
Change Period (Y+Rc), s	4.0	5.7		4.5	4.0	5.7		4.5
Max Green Setting (Gmax), s	21.0	47.8		34.5	12.0	56.8		28.0
Max Q Clear Time (g_c+I1), s	23.0	51.5		33.2	14.0	53.7		13.5
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	3.0		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	73.2
HCM 2010 LOS	E

Notes
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	316
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations			✣				✣				✣				✣	
Traffic Vol, veh/h	0	1	30	6	0	360	3	531	0	1	386	413	0	389	153	1
Future Vol, veh/h	0	1	30	6	0	360	3	531	0	1	386	413	0	389	153	1
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	100	0	0	2	4	0	23	2	0	7	3	2	40	13	100
Mvmt Flow	0	1	32	6	0	379	3	559	0	1	406	435	0	409	161	1
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	22.8	408.4	317.3	181.8
HCM LOS	C	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	3%	40%	72%
Vol Thru, %	48%	81%	0%	28%
Vol Right, %	52%	16%	59%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	800	37	894	543
LT Vol	1	1	360	389
Through Vol	386	30	3	153
RT Vol	413	6	531	1
Lane Flow Rate	842	39	941	572
Geometry Grp	1	1	1	1
Degree of Util (X)	1.625	0.121	1.843	1.283
Departure Headway (Hd)	9.711	17.42	8.439	11.569
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	387	207	442	320
Service Time	7.711	15.42	6.439	9.569
HCM Lane V/C Ratio	2.176	0.188	2.129	1.788
HCM Control Delay	317.3	22.8	408.4	181.8
HCM Lane LOS	F	C	F	F
HCM 95th-tile Q	35.4	0.4	50.8	18.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	629	293	863	460	703	128
Future Volume (veh/h)	629	293	863	460	703	128
Number	7	14	5	2	6	16
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	1624	1863	1776	1712	1863	1712
Adj Flow Rate, veh/h	662	193	908	484	740	112
Adj No. of Lanes	1	1	1	2	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	17	2	7	11	2	11
Cap, veh/h	495	507	564	2038	497	388
Arrive On Green	0.32	0.32	0.33	0.63	0.27	0.27
Sat Flow, veh/h	1547	1583	1691	3338	1863	1455
Grp Volume(v), veh/h	662	193	908	484	740	112
Grp Sat Flow(s),veh/h/ln	1547	1583	1691	1626	1863	1455
Q Serve(g_s), s	48.0	14.2	50.0	9.8	40.0	9.2
Cycle Q Clear(g_c), s	48.0	14.2	50.0	9.8	40.0	9.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	495	507	564	2038	497	388
V/C Ratio(X)	1.34	0.38	1.61	0.24	1.49	0.29
Avail Cap(c_a), veh/h	495	507	564	2038	497	388
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	51.0	39.5	50.0	12.3	55.0	43.7
Incr Delay (d2), s/veh	165.2	0.5	283.0	0.1	230.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	43.2	13.5	67.6	4.4	52.4	3.7
LnGrp Delay(d),s/veh	216.2	40.0	333.0	12.3	285.9	44.1
LnGrp LOS	F	D	F	B	F	D
Approach Vol, veh/h	855			1392	852	
Approach Delay, s/veh	176.4			221.5	254.1	
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		98.0		52.0	54.0	44.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		93.5		47.5	49.5	39.5		
Max Q Clear Time (g_c+I1), s		11.8		50.0	52.0	42.0		
Green Ext Time (p_c), s		11.0		0.0	0.0	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	218.0
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	475

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	1047	0	0	192	157	322	5	845	0	0	0
Future Vol, veh/h	31	1047	0	0	192	157	322	5	845	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	120	-	-	-	-	-	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	13	1	0	0	7	9	20	80	1	0	0	0
Mvmt Flow	33	1102	0	0	202	165	339	5	889	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	367	0	-	-	-	0	1452	1534	1102
Stage 1	-	-	-	-	-	-	1167	1167	-
Stage 2	-	-	-	-	-	-	285	367	-
Critical Hdwy	4.23	-	-	-	-	-	6.6	7.3	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	5.6	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.6	6.3	-
Follow-up Hdwy	2.317	-	-	-	-	-	3.68	4.72	3.309
Pot Cap-1 Maneuver	1133	-	0	0	-	-	~ 131	79	~ 259
Stage 1	-	-	0	0	-	-	~ 273	193	-
Stage 2	-	-	0	0	-	-	724	506	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1133	-	-	-	-	-	~ 127	0	~ 259
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 127	0	-
Stage 1	-	-	-	-	-	-	~ 265	0	-
Stage 2	-	-	-	-	-	-	724	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	$ 1053.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	127	259	1133	-	-	-
HCM Lane V/C Ratio	2.71	3.434	0.029	-	-	-
HCM Control Delay (s)	$ 845.5	$ 1133.6	8.3	-	-	-
HCM Lane LOS	F	F	A	-	-	-
HCM 95th %tile Q(veh)	31.3	82.8	0.1	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	860	653	369	4	142	4	85	4	4	0	1	121
Future Volume (veh/h)	860	653	369	4	142	4	85	4	4	0	1	121
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	1900	1900	1863	1900	1900	1900	1759	1267	1267	1900	1560	1557
Adj Flow Rate, veh/h	905	687	0	4	149	0	89	4	0	0	1	0
Adj No. of Lanes	2	2	1	1	2	0	2	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	2	0	0	0	8	50	50	0	0	22
Cap, veh/h	919	1671	847	25	775	0	234	414	352	3	296	251
Arrive On Green	0.26	0.46	0.00	0.01	0.21	0.00	0.07	0.33	0.00	0.00	0.19	0.00
Sat Flow, veh/h	3510	3610	1583	1810	3705	0	3250	1267	1077	1810	1560	1324
Grp Volume(v), veh/h	905	687	0	4	149	0	89	4	0	0	1	0
Grp Sat Flow(s),veh/h/ln	1755	1805	1583	1810	1805	0	1625	1267	1077	1810	1560	1324
Q Serve(g_s), s	15.7	7.7	0.0	0.1	2.1	0.0	1.6	0.1	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.7	7.7	0.0	0.1	2.1	0.0	1.6	0.1	0.0	0.0	0.0	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	919	1671	847	25	775	0	234	414	352	3	296	251
V/C Ratio(X)	0.98	0.41	0.00	0.16	0.19	0.00	0.38	0.01	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	919	2126	1047	163	1506	0	293	560	476	163	689	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	22.4	10.9	0.0	29.8	19.7	0.0	27.1	13.9	0.0	0.0	20.1	0.0
Incr Delay (d2), s/veh	25.9	0.2	0.0	3.1	0.1	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	3.9	0.0	0.1	1.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	48.3	11.0	0.0	32.9	19.8	0.0	28.1	13.9	0.0	0.0	20.1	0.0
LnGrp LOS	D	B		C	B		C	B			C	
Approach Vol, veh/h		1592			153			93			1	
Approach Delay, s/veh		32.2			20.1			27.5			20.1	
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	0.0	24.0	4.8	32.3	8.4	15.6	20.0	17.1
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	26.5	5.0	35.5	5.0	26.5	15.5	25.0
Max Q Clear Time (g_c+I1), s	0.0	2.1	2.1	9.7	3.6	2.0	17.7	4.1
Green Ext Time (p_c), s	0.0	0.0	0.0	5.5	0.0	0.0	0.0	5.2

Intersection Summary		
HCM 2010 Ctrl Delay		31.0
HCM 2010 LOS		C

Notes
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	6	36	252	0	0	30	0	0	53	19	0	0	0	92	6
Future Vol, veh/h	0	6	36	252	0	0	30	0	0	53	19	0	0	0	92	6
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	6	38	265	0	0	32	0	0	56	20	0	0	0	97	6
Number of Lanes	0	1	2	0	0	0	2	0	0	1	1	0	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	3
HCM Control Delay	9.4	7.6	9.2	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	0%	100%	0%	100%	5%	100%	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	0%	95%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	53	19	6	24	264	15	15	0	92	6
LT Vol	53	0	6	0	0	0	0	0	0	0
Through Vol	0	19	0	24	12	15	15	0	92	0
RT Vol	0	0	0	0	252	0	0	0	0	6
Lane Flow Rate	56	20	6	25	278	16	16	0	97	6
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.094	0.031	0.01	0.036	0.343	0.025	0.017	0	0.148	0.008
Departure Headway (Hd)	6.045	5.543	5.614	5.112	4.441	5.603	3.893	5.495	5.495	4.793
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	591	643	637	700	809	636	911	0	650	742
Service Time	3.804	3.302	3.349	2.847	2.176	3.365	1.654	3.252	3.252	2.55
HCM Lane V/C Ratio	0.095	0.031	0.009	0.036	0.344	0.025	0.018	0	0.149	0.008
HCM Control Delay	9.4	8.5	8.4	8	9.5	8.5	6.7	8.3	9.2	7.6
HCM Lane LOS	A	A	A	A	A	A	A	N	A	A
HCM 95th-tile Q	0.3	0.1	0	0.1	1.5	0.1	0.1	0	0.5	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	357	22	216	953	76	59	267	237	125	448	505
Future Volume (veh/h)	148	357	22	216	953	76	59	267	237	125	448	505
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1882	1900	1881	1865	1900	1863	1863	1881	1727	1863	1881
Adj Flow Rate, veh/h	154	372	14	225	993	71	61	278	247	130	467	187
Adj No. of Lanes	1	3	0	2	2	0	1	1	2	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	1	1	1	1	1	2	2	1	10	2	1
Cap, veh/h	192	2033	76	613	1616	116	141	266	853	420	690	307
Arrive On Green	0.11	0.40	0.39	0.18	0.48	0.47	0.08	0.14	0.13	0.13	0.19	0.19
Sat Flow, veh/h	1774	5082	190	3476	3349	239	1774	1863	2776	3191	3539	1573
Grp Volume(v), veh/h	154	250	136	225	525	539	61	278	247	130	467	187
Grp Sat Flow(s),veh/h/ln	1774	1713	1846	1738	1772	1817	1774	1863	1388	1596	1770	1573
Q Serve(g_s), s	5.9	3.3	3.4	4.0	15.3	15.3	2.3	10.0	1.3	2.6	8.6	7.6
Cycle Q Clear(g_c), s	5.9	3.3	3.4	4.0	15.3	15.3	2.3	10.0	1.3	2.6	8.6	7.6
Prop In Lane	1.00		0.10	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	192	1370	738	613	855	877	141	266	853	420	690	307
V/C Ratio(X)	0.80	0.18	0.18	0.37	0.61	0.61	0.43	1.04	0.29	0.31	0.68	0.61
Avail Cap(c_a), veh/h	228	1370	738	613	855	877	203	266	853	456	690	307
HCM Platoon Ratio	1.00	1.00	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	30.5	13.6	13.6	25.4	13.3	13.4	30.7	30.0	9.4	27.5	26.1	25.7
Incr Delay (d2), s/veh	13.5	0.3	0.6	0.1	3.3	3.2	0.8	67.3	0.1	0.2	2.2	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	1.6	1.8	1.9	8.2	8.4	1.1	10.1	1.2	1.1	4.4	3.5
LnGrp Delay(d),s/veh	44.0	13.9	14.2	25.5	16.6	16.6	31.5	97.3	9.5	27.7	28.3	28.3
LnGrp LOS	D	B	B	C	B	B	C	F	A	C	C	C
Approach Vol, veh/h		540			1289			586			784	
Approach Delay, s/veh		22.5			18.2			53.4			28.2	
Approach LOS		C			B			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	9.6	17.6	11.6	37.9	13.2	14.0	17.5	32.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	8.0	11.0	9.0	24.0	10.0	9.0	6.0	* 27
Max Q Clear Time (g_c+I1), s	4.3	10.6	7.9	17.3	4.6	12.0	6.0	5.4
Green Ext Time (p_c), s	0.0	0.2	0.0	2.8	0.1	0.0	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	27.8
HCM 2010 LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↱		↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	0	646	90	0	1109	3	149	73	248	190	478	40
Future Volume (veh/h)	0	646	90	0	1109	3	149	73	248	190	478	40
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		1.00	1.00		0.99	0.99		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	0	1863	1900	0	1881	1900	1881	1900	1900	1881	1866	1900
Adj Flow Rate, veh/h	0	680	40	0	1167	3	157	77	205	200	503	36
Adj No. of Lanes	0	2	1	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	0	1	1	1	0	0	1	2	2
Cap, veh/h	0	1394	619	0	1441	4	341	898	757	614	813	58
Arrive On Green	0.00	0.39	0.39	0.00	0.39	0.37	0.47	0.47	0.47	0.47	0.47	0.46
Sat Flow, veh/h	0	3632	1572	0	3751	9	869	1900	1602	1098	1720	123
Grp Volume(v), veh/h	0	680	40	0	570	600	157	77	205	200	0	539
Grp Sat Flow(s),veh/h/ln	0	1770	1572	0	1787	1880	869	1900	1602	1098	0	1843
Q Serve(g_s), s	0.0	8.6	0.9	0.0	17.0	17.0	9.9	1.3	4.6	7.3	0.0	13.1
Cycle Q Clear(g_c), s	0.0	8.6	0.9	0.0	17.0	17.0	23.0	1.3	4.6	8.7	0.0	13.1
Prop In Lane	0.00		1.00	0.00		0.01	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	0	1394	619	0	704	740	341	898	757	614	0	871
V/C Ratio(X)	0.00	0.49	0.06	0.00	0.81	0.81	0.46	0.09	0.27	0.33	0.00	0.62
Avail Cap(c_a), veh/h	0	1394	619	0	704	740	365	950	801	644	0	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.6	11.3	0.0	16.2	16.2	20.4	8.7	9.6	11.1	0.0	11.8
Incr Delay (d2), s/veh	0.0	1.2	0.2	0.0	9.8	9.3	1.0	0.0	0.2	0.3	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.4	0.4	0.0	10.1	10.6	2.4	0.7	2.1	2.3	0.0	6.9
LnGrp Delay(d),s/veh	0.0	14.9	11.5	0.0	26.0	25.5	21.3	8.7	9.8	11.4	0.0	13.0
LnGrp LOS		B	B		C	C	C	A	A	B		B
Approach Vol, veh/h		720			1170			439			739	
Approach Delay, s/veh		14.7			25.7			13.7			12.5	
Approach LOS		B			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		27.6		32.4		27.6		32.4
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0
Max Green Setting (Gmax), s		20.5		29.0		20.5		29.0
Max Q Clear Time (g_c+I1), s		10.6		15.1		19.0		25.0
Green Ext Time (p_c), s		7.3		5.9		1.3		2.4

Intersection Summary		
HCM 2010 Ctrl Delay		18.2
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	123	2388	53	250	2528	130	65	366	231	149	574	39
Future Volume (veh/h)	123	2388	53	250	2528	130	65	366	231	149	574	39
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		0.94	1.00		0.95	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1795	1900	1881	1811	1900	1863	1859	1900	1863	1900	1900
Adj Flow Rate, veh/h	126	2437	53	255	2580	130	66	373	166	152	586	37
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	6	6	1	5	5	2	3	3	2	0	0
Cap, veh/h	98	1776	38	187	1896	94	101	450	196	123	710	45
Arrive On Green	0.06	0.52	0.51	0.10	0.57	0.56	0.06	0.19	0.18	0.07	0.21	0.19
Sat Flow, veh/h	1757	3408	74	1792	3327	166	1774	2358	1030	1774	3441	217
Grp Volume(v), veh/h	126	1213	1277	255	1320	1390	66	277	262	152	307	316
Grp Sat Flow(s),veh/h/ln	1757	1705	1777	1792	1721	1773	1774	1766	1622	1774	1805	1853
Q Serve(g_s), s	8.0	75.0	75.0	15.0	82.0	82.0	5.2	21.7	22.4	10.0	23.4	23.5
Cycle Q Clear(g_c), s	8.0	75.0	75.0	15.0	82.0	82.0	5.2	21.7	22.4	10.0	23.4	23.5
Prop In Lane	1.00		0.04	1.00		0.09	1.00		0.63	1.00		0.12
Lane Grp Cap(c), veh/h	98	888	926	187	980	1010	101	337	309	123	373	382
V/C Ratio(X)	1.29	1.37	1.38	1.37	1.35	1.38	0.65	0.82	0.85	1.23	0.82	0.83
Avail Cap(c_a), veh/h	98	888	926	187	980	1010	108	356	327	123	379	389
HCM Platoon Ratio	1.00	1.00	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	68.0	34.5	34.5	64.5	31.0	31.1	66.5	55.9	56.7	67.0	54.6	54.8
Incr Delay (d2), s/veh	187.7	171.7	177.6	195.0	162.9	175.6	11.9	12.8	16.3	156.7	12.7	12.6
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	9.0	77.4	82.2	17.5	83.0	89.1	2.9	11.8	11.4	10.3	13.0	13.4
LnGrp Delay(d),s/veh	255.7	206.2	212.1	259.5	193.9	206.7	78.3	68.8	73.0	223.7	67.3	67.4
LnGrp LOS	F	F	F	F	F	F	E	E	E	F	E	E
Approach Vol, veh/h		2616			2965			605			775	
Approach Delay, s/veh		211.5			205.5			71.7			98.0	
Approach LOS		F			F			E			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	31.9	19.0	79.0	12.2	33.7	12.0	86.0
Change Period (Y+Rc), s	5.0	* 6	5.0	6.0	5.5	6.0	5.0	6.0
Max Green Setting (Gmax), s	9.0	* 28	14.0	73.0	7.3	28.2	7.0	80.0
Max Q Clear Time (g_c+I1), s	12.0	24.4	17.0	77.0	7.2	25.5	10.0	84.0
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.0	1.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	184.1
HCM 2010 LOS	F

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	0	3385	550	0	3441	88	220	700	530	84	1690	160
Future Volume (veh/h)	0	3385	550	0	3441	88	220	700	530	84	1690	160
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		0.82	1.00		0.88	1.00		0.81	1.00		0.77
Parking Bus, Adj	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	0	1827	1776	0	1846	1900	1881	1837	1900	1810	1794	1900
Adj Flow Rate, veh/h	0	3490	567	0	3547	91	227	722	546	87	1742	165
Adj No. of Lanes	0	2	1	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	4	7	0	3	3	1	6	6	5	6	6
Cap, veh/h	0	1609	571	0	1614	41	65	809	590	90	1425	129
Arrive On Green	0.00	0.46	0.46	0.00	0.46	0.44	0.46	0.46	0.44	0.46	0.46	0.44
Sat Flow, veh/h	0	3563	1232	0	3574	89	237	1745	1272	423	3073	279
Grp Volume(v), veh/h	0	3490	567	0	1772	1866	227	722	546	87	932	975
Grp Sat Flow(s),veh/h/ln	0	1736	1232	0	1754	1816	237	1745	1272	423	1704	1647
Q Serve(g_s), s	0.0	51.0	50.3	0.0	51.0	51.0	0.0	41.6	44.6	6.4	51.0	51.0
Cycle Q Clear(g_c), s	0.0	51.0	50.3	0.0	51.0	51.0	51.0	41.6	44.6	51.0	51.0	51.0
Prop In Lane	0.00		1.00	0.00		0.05	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	0	1609	571	0	813	842	65	809	590	90	790	764
V/C Ratio(X)	0.00	2.17	0.99	0.00	2.18	2.22	3.47	0.89	0.93	0.97	1.18	1.28
Avail Cap(c_a), veh/h	0	1609	571	0	813	842	65	809	590	90	790	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	29.5	29.3	0.0	29.5	29.6	55.0	27.0	29.0	54.1	29.5	29.7
Incr Delay (d2), s/veh	0.0	527.9	36.0	0.0	535.0	550.8	1148.0	14.2	22.7	86.2	93.9	134.3
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	0.0	142.4	22.7	0.0	145.4	154.3	22.9	23.1	19.3	4.8	44.5	51.6
LnGrp Delay(d),s/veh	0.0	557.4	65.3	0.0	564.5	580.4	1203.0	41.2	51.7	140.3	123.4	164.0
LnGrp LOS		F	E		F	F	F	D	D	F	F	F
Approach Vol, veh/h		4057			3638			1495			1994	
Approach Delay, s/veh		488.6			572.6			221.4			144.0	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		55.0		55.0		55.0		55.0
Change Period (Y+Rc), s		6.5		6.5		6.5		6.5
Max Green Setting (Gmax), s		48.5		48.5		48.5		48.5
Max Q Clear Time (g_c+I1), s		53.0		53.0		53.0		53.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	418.8
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	900	1113	323	505	1447	500	784	856	735	402	608	880
Future Volume (veh/h)	900	1113	323	505	1447	500	784	856	735	402	608	880
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		0.98	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1900	1776	1900	1900	1900	1881	1845	1900	1900	1792	1863
Adj Flow Rate, veh/h	928	1147	182	521	1492	337	808	882	495	414	627	841
Adj No. of Lanes	2	2	1	1	2	1	2	2	1	1	2	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	6	0	7	0	0	0	1	3	0	0	6	2
Cap, veh/h	596	1107	463	338	1131	505	626	888	403	265	749	1080
Arrive On Green	0.18	0.31	0.31	0.19	0.31	0.31	0.18	0.25	0.25	0.15	0.22	0.22
Sat Flow, veh/h	3312	3610	1509	1810	3610	1612	3476	3505	1590	1810	3406	2630
Grp Volume(v), veh/h	928	1147	182	521	1492	337	808	882	495	414	627	841
Grp Sat Flow(s),veh/h/ln	1656	1805	1509	1810	1805	1612	1738	1752	1590	1810	1703	1315
Q Serve(g_s), s	27.0	46.0	14.3	28.0	47.0	19.0	27.0	37.7	38.0	22.0	26.4	23.7
Cycle Q Clear(g_c), s	27.0	46.0	14.3	28.0	47.0	19.0	27.0	37.7	38.0	22.0	26.4	23.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	596	1107	463	338	1131	505	626	888	403	265	749	1080
V/C Ratio(X)	1.56	1.04	0.39	1.54	1.32	0.67	1.29	0.99	1.23	1.56	0.84	0.78
Avail Cap(c_a), veh/h	596	1107	463	338	1131	505	626	888	403	265	749	1080
HCM Platoon Ratio	1.00	1.00	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	61.5	52.0	41.0	61.0	51.5	21.8	61.5	55.9	56.0	64.0	55.9	16.9
Incr Delay (d2), s/veh	258.7	36.8	0.5	258.4	149.9	3.3	142.9	28.6	123.1	269.6	10.7	5.5
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	33.8	28.6	6.0	38.2	47.0	8.9	25.4	21.8	30.4	30.9	13.6	9.4
LnGrp Delay(d),s/veh	320.2	88.8	41.5	319.4	201.4	25.2	204.4	84.5	179.1	333.6	66.7	22.4
LnGrp LOS	F	F	D	F	F	C	F	F	F	F	E	C
Approach Vol, veh/h		2257			2350			2185			1882	
Approach Delay, s/veh		180.1			202.3			150.3			105.6	
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	26.0	42.0	32.0	50.0	31.0	37.0	31.0	51.0
Change Period (Y+Rc), s	4.0	4.6	4.5	4.6	4.0	4.6	4.6	4.5
Max Green Setting (Gmax), s	22.0	37.4	27.5	45.4	27.0	32.4	26.4	46.5
Max Q Clear Time (g_c+I1), s	24.0	40.0	30.0	48.0	29.0	28.4	29.0	49.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	162.4
HCM 2010 LOS	F

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	343	765	121	60	389	489	210	1030	80	164	1630	325
Future Volume (veh/h)	343	765	121	60	389	489	210	1030	80	164	1630	325
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	1881	1899	1863	1900	1868	1727	1881	1810	1652	1743	1810	1743
Adj Flow Rate, veh/h	361	805	0	63	409	0	221	1084	0	173	1716	0
Adj No. of Lanes	1	1	1	0	2	1	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	2	2	2	10	1	5	15	9	5	9
Cap, veh/h	569	604	503	74	507	236	124	1159	474	103	1176	507
Arrive On Green	0.32	0.32	0.00	0.16	0.16	0.00	0.07	0.34	0.00	0.06	0.34	0.00
Sat Flow, veh/h	1792	1899	1583	461	3158	1468	1792	3438	1404	1660	3438	1482
Grp Volume(v), veh/h	361	805	0	252	220	0	221	1084	0	173	1716	0
Grp Sat Flow(s),veh/h/ln	1792	1899	1583	1845	1774	1468	1792	1719	1404	1660	1719	1482
Q Serve(g_s), s	24.9	46.0	0.0	19.2	17.2	0.0	10.0	44.2	0.0	9.0	49.5	0.0
Cycle Q Clear(g_c), s	24.9	46.0	0.0	19.2	17.2	0.0	10.0	44.2	0.0	9.0	49.5	0.0
Prop In Lane	1.00		1.00	0.25		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	569	604	503	296	285	236	124	1159	474	103	1176	507
V/C Ratio(X)	0.63	1.33	0.00	0.85	0.77	0.00	1.79	0.94	0.00	1.68	1.46	0.00
Avail Cap(c_a), veh/h	569	604	503	382	368	304	124	1164	476	103	1176	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.2	49.4	0.0	59.1	58.2	0.0	67.4	46.4	0.0	67.9	47.6	0.0
Incr Delay (d2), s/veh	1.8	161.3	0.0	11.2	5.3	0.0	383.7	14.0	0.0	342.4	211.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	51.0	0.0	10.7	8.9	0.0	18.1	23.2	0.0	13.9	57.9	0.0
LnGrp Delay(d),s/veh	43.9	210.6	0.0	70.2	63.5	0.0	451.1	60.4	0.0	410.3	259.1	0.0
LnGrp LOS	D	F		E	E		F	E		F	F	
Approach Vol, veh/h		1166			472			1305			1889	
Approach Delay, s/veh		159.0			67.1			126.6			272.9	
Approach LOS		F			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.7	52.8		50.0	14.0	53.5		27.2
Change Period (Y+Rc), s	5.7	* 5.7		4.5	4.0	5.7		4.5
Max Green Setting (Gmax), s	9.0	* 47		45.5	10.0	46.3		29.5
Max Q Clear Time (g_c+I1), s	11.0	46.2		48.0	12.0	51.5		21.2
Green Ext Time (p_c), s	0.0	0.9		0.0	0.0	0.0		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	185.8
HCM 2010 LOS	F

Notes
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	984.7
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	0	76	0	0	680	6	857	0	0	263	670	0	1166	322	0
Future Vol, veh/h	0	0	76	0	0	680	6	857	0	0	263	670	0	1166	322	0
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	0	0	0	2	6	0	9	2	0	9	2	2	40	6	0
Mvmt Flow	0	0	80	0	0	716	6	902	0	0	277	705	0	1227	339	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	58.3	1082.1	504.1	1232.3
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	44%	78%
Vol Thru, %	28%	100%	0%	22%
Vol Right, %	72%	0%	56%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	933	76	1543	1488
LT Vol	0	0	680	1166
Through Vol	263	76	6	322
RT Vol	670	0	857	0
Lane Flow Rate	982	80	1624	1566
Geometry Grp	1	1	1	1
Degree of Util (X)	1.979	0.213	3.334	3.641
Departure Headway (Hd)	21.19	43.819	11.955	17.356
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	187	83	325	235
Service Time	19.19	41.819	9.955	15.356
HCM Lane V/C Ratio	5.251	0.964	4.997	6.664
HCM Control Delay	504.1	58.3	1082.1	1232.3
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	25.7	0.7	91.9	72.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	817	757	426	822	1955	76
Future Volume (veh/h)	817	757	426	822	1955	76
Number	7	14	5	2	6	16
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	1776	1743	1900	1881	1743	1743
Adj Flow Rate, veh/h	860	634	448	865	2058	75
Adj No. of Lanes	1	1	1	2	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	9	0	1	9	9
Cap, veh/h	530	464	229	2264	837	711
Arrive On Green	0.31	0.31	0.13	0.63	0.48	0.48
Sat Flow, veh/h	1691	1482	1810	3668	1743	1482
Grp Volume(v), veh/h	860	634	448	865	2058	75
Grp Sat Flow(s),veh/h/ln	1691	1482	1810	1787	1743	1482
Q Serve(g_s), s	47.0	47.0	19.0	17.6	72.0	4.2
Cycle Q Clear(g_c), s	47.0	47.0	19.0	17.6	72.0	4.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	530	464	229	2264	837	711
V/C Ratio(X)	1.62	1.37	1.95	0.38	2.46	0.11
Avail Cap(c_a), veh/h	530	464	229	2264	837	711
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	51.5	51.5	65.5	13.3	39.0	21.4
Incr Delay (d2), s/veh	288.9	177.9	445.1	0.1	660.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	64.5	55.4	37.8	8.7	188.1	1.7
LnGrp Delay(d),s/veh	340.4	229.4	510.6	13.4	699.5	21.4
LnGrp LOS	F	F	F	B	F	C
Approach Vol, veh/h	1494			1313	2133	
Approach Delay, s/veh	293.3			183.0	675.6	
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		99.0		51.0	23.0	76.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		94.5		46.5	18.5	71.5		
Max Q Clear Time (g_c+I1), s		19.6		49.0	21.0	74.0		
Green Ext Time (p_c), s		74.7		0.0	0.0	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	429.1
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	12.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	243	0	0	1043	798	78	3	174	0	0	0
Future Vol, veh/h	34	243	0	0	1043	798	78	3	174	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	120	-	-	-	-	-	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	17	11	0	0	1	1	20	100	6	0	0	0
Mvmt Flow	36	256	0	0	1098	840	82	3	183	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1938	0	-	-	-	0	1845	2265	256
Stage 1	-	-	-	-	-	-	327	327	-
Stage 2	-	-	-	-	-	-	1518	1938	-
Critical Hdwy	4.27	-	-	-	-	-	6.6	7.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	5.6	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.6	6.5	-
Follow-up Hdwy	2.353	-	-	-	-	-	3.68	4.9	3.354
Pot Cap-1 Maneuver	271	-	0	0	-	-	~ 74	21	773
Stage 1	-	-	0	0	-	-	692	504	-
Stage 2	-	-	0	0	-	-	182	63	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	271	-	-	-	-	-	~ 64	0	773
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 64	0	-
Stage 1	-	-	-	-	-	-	600	0	-
Stage 2	-	-	-	-	-	-	182	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2.5	0	113.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	64	773	271	-	-	-
HCM Lane V/C Ratio	1.332	0.237	0.132	-	-	-
HCM Control Delay (s)	$ 334.3	11.1	20.3	-	-	-
HCM Lane LOS	F	B	C	-	-	-
HCM 95th %tile Q(veh)	7.1	0.9	0.5	-	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	188	87	1	658	0	351	3	6	2	2	830
Future Volume (veh/h)	141	188	87	1	658	0	351	3	6	2	2	830
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	1727	1845	1743	1900	1900	1900	1881	1900	1138	1900	1845	1845
Adj Flow Rate, veh/h	148	198	0	1	693	0	369	3	0	2	2	0
Adj No. of Lanes	2	2	1	1	2	0	2	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	10	3	9	0	0	0	1	0	67	0	0	3
Cap, veh/h	279	1323	787	18	1083	0	535	612	312	21	332	282
Arrive On Green	0.09	0.38	0.00	0.01	0.30	0.00	0.15	0.32	0.00	0.01	0.18	0.00
Sat Flow, veh/h	3191	3505	1482	1810	3705	0	3476	1900	967	1810	1845	1568
Grp Volume(v), veh/h	148	198	0	1	693	0	369	3	0	2	2	0
Grp Sat Flow(s),veh/h/ln	1596	1752	1482	1810	1805	0	1738	1900	967	1810	1845	1568
Q Serve(g_s), s	2.5	2.1	0.0	0.0	9.5	0.0	5.8	0.1	0.0	0.1	0.1	0.0
Cycle Q Clear(g_c), s	2.5	2.1	0.0	0.0	9.5	0.0	5.8	0.1	0.0	0.1	0.1	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	279	1323	787	18	1083	0	535	612	312	21	332	282
V/C Ratio(X)	0.53	0.15	0.00	0.05	0.64	0.00	0.69	0.00	0.00	0.10	0.01	0.00
Avail Cap(c_a), veh/h	345	1618	912	173	1622	0	775	2201	1120	173	1902	1617
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.1	11.8	0.0	28.1	17.4	0.0	23.0	13.2	0.0	28.1	19.3	0.0
Incr Delay (d2), s/veh	1.6	0.1	0.0	1.2	0.6	0.0	1.6	0.0	0.0	2.0	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	1.0	0.0	0.0	4.8	0.0	2.9	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	26.6	11.8	0.0	29.4	18.0	0.0	24.6	13.2	0.0	30.1	19.3	0.0
LnGrp LOS	C	B		C	B		C	B		C	B	
Approach Vol, veh/h		346			694			372			4	
Approach Delay, s/veh		18.2			18.1			24.5			24.7	
Approach LOS		B			B			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	4.7	22.5	4.6	25.7	12.8	14.3	9.0	21.2
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	66.0	5.0	26.0	12.3	58.7	5.7	25.3
Max Q Clear Time (g_c+I1), s	2.1	2.1	2.0	4.1	7.8	2.1	4.5	11.5
Green Ext Time (p_c), s	0.0	0.0	0.0	5.6	0.6	0.0	0.0	4.6

Intersection Summary	
HCM 2010 Ctrl Delay	19.8
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	4	97	44	0	0	94	0	0	229	83	0	0	1	14	5
Future Vol, veh/h	0	4	97	44	0	0	94	0	0	229	83	0	0	1	14	5
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	0	0	0	2	0	18	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	4	102	46	0	0	99	0	0	241	87	0	0	1	15	5
Number of Lanes	0	1	2	0	0	0	2	0	0	1	1	0	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	3
HCM Control Delay	9	8.3	11.1	8.6
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	100%	42%	100%	100%	0%	100%	0%
Vol Right, %	0%	0%	0%	0%	58%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	229	83	4	65	76	47	47	1	14	5
LT Vol	229	0	4	0	0	0	0	1	0	0
Through Vol	0	83	0	65	32	47	47	0	14	0
RT Vol	0	0	0	0	44	0	0	0	0	5
Lane Flow Rate	241	87	4	68	80	49	49	1	15	5
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.383	0.127	0.007	0.108	0.118	0.084	0.057	0.002	0.024	0.008
Departure Headway (Hd)	5.727	5.226	6.201	5.699	5.294	6.136	4.12	6.395	5.892	5.188
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	624	681	574	626	673	581	860	555	602	682
Service Time	3.494	2.992	3.967	3.465	3.06	3.908	1.891	4.189	3.686	2.981
HCM Lane V/C Ratio	0.386	0.128	0.007	0.109	0.119	0.084	0.057	0.002	0.025	0.007
HCM Control Delay	12	8.8	9	9.2	8.8	9.5	7.1	9.2	8.8	8
HCM Lane LOS	B	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	1.8	0.4	0	0.4	0.4	0.3	0.2	0	0.1	0

LOS WORKSHEETS – EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑			↑	↱		✥	↱			
Traffic Volume (veh/h)	23	635	0	0	121	91	10	5	604	0	0	0
Future Volume (veh/h)	23	635	0	0	121	91	10	5	604	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1681	1881	0	0	1776	1743	1900	1846	1881			
Adj Flow Rate, veh/h	26	730	0	0	139	36	11	6	0			
Adj No. of Lanes	1	1	0	0	1	1	0	1	1			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87			
Percent Heavy Veh, %	13	1	0	0	7	9	1	80	1			
Cap, veh/h	52	1009	0	0	631	512	192	104	265			
Arrive On Green	0.03	0.54	0.00	0.00	0.36	0.36	0.17	0.17	0.00			
Sat Flow, veh/h	1601	1881	0	0	1776	1441	1157	631	1599			
Grp Volume(v), veh/h	26	730	0	0	139	36	17	0	0			
Grp Sat Flow(s),veh/h/ln	1601	1881	0	0	1776	1441	1788	0	1599			
Q Serve(g_s), s	0.5	8.9	0.0	0.0	1.7	0.5	0.2	0.0	0.0			
Cycle Q Clear(g_c), s	0.5	8.9	0.0	0.0	1.7	0.5	0.2	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.65		1.00			
Lane Grp Cap(c), veh/h	52	1009	0	0	631	512	296	0	265			
V/C Ratio(X)	0.50	0.72	0.00	0.00	0.22	0.07	0.06	0.00	0.00			
Avail Cap(c_a), veh/h	265	1837	0	0	1176	954	977	0	873			
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	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	14.4	5.3	0.0	0.0	6.8	6.4	10.6	0.0	0.0			
Incr Delay (d2), s/veh	7.3	1.0	0.0	0.0	0.2	0.1	0.1	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.3	4.7	0.0	0.0	0.8	0.2	0.1	0.0	0.0			
LnGrp Delay(d),s/veh	21.6	6.3	0.0	0.0	7.0	6.5	10.7	0.0	0.0			
LnGrp LOS	C	A			A	A	B					
Approach Vol, veh/h		756			175			17				
Approach Delay, s/veh		6.8			6.9			10.7				
Approach LOS		A			A			B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		9.5		20.7			5.5	15.2
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5
Max Green Setting (Gmax), s		16.5		29.5			5.0	20.0
Max Q Clear Time (g_c+I1), s		2.2		10.9			2.5	3.7
Green Ext Time (p_c), s		0.0		5.3			0.0	5.1

Intersection Summary		
HCM 2010 Ctrl Delay		6.9
HCM 2010 LOS		A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	767	150	313	4	38	4	73	4	4	0	1	101
Future Volume (veh/h)	767	150	313	4	38	4	73	4	4	0	1	101
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	1900	1900	1863	1900	1900	1900	1759	1267	1267	1900	1562	1557
Adj Flow Rate, veh/h	862	169	0	4	43	0	82	4	0	0	1	0
Adj No. of Lanes	2	2	1	1	2	0	2	2	1	1	1	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	2	0	0	0	8	50	50	0	0	22
Cap, veh/h	957	1531	773	10	566	0	208	800	358	3	296	250
Arrive On Green	0.27	0.42	0.00	0.01	0.16	0.00	0.06	0.33	0.00	0.00	0.19	0.00
Sat Flow, veh/h	3510	3610	1583	1810	3705	0	3250	2407	1077	1810	1562	1324
Grp Volume(v), veh/h	862	169	0	4	43	0	82	4	0	0	1	0
Grp Sat Flow(s),veh/h/ln	1755	1805	1583	1810	1805	0	1625	1203	1077	1810	1562	1324
Q Serve(g_s), s	13.4	1.6	0.0	0.1	0.6	0.0	1.4	0.1	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.4	1.6	0.0	0.1	0.6	0.0	1.4	0.1	0.0	0.0	0.0	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	957	1531	773	10	566	0	208	800	358	3	296	250
V/C Ratio(X)	0.90	0.11	0.00	0.41	0.08	0.00	0.39	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	960	2260	1092	160	1591	0	287	1125	503	160	730	619
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	19.9	9.9	0.0	28.1	20.4	0.0	25.5	12.7	0.0	0.0	18.7	0.0
Incr Delay (d2), s/veh	11.4	0.0	0.0	25.4	0.1	0.0	1.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.8	0.0	0.1	0.3	0.0	0.7	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	31.3	9.9	0.0	53.5	20.5	0.0	26.7	12.7	0.0	0.0	18.7	0.0
LnGrp LOS	C	A		D	C		C	B			B	
Approach Vol, veh/h		1031			47			86			1	
Approach Delay, s/veh		27.8			23.3			26.0			18.7	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	23.4	4.8	28.5	8.1	15.2	20.0	13.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	26.5	5.0	35.5	5.0	26.5	15.5	25.0
Max Q Clear Time (g_c+I1), s	0.0	2.1	2.1	3.6	3.4	2.0	15.4	2.6
Green Ext Time (p_c), s	0.0	0.0	0.0	1.2	0.0	0.0	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	27.5
HCM 2010 LOS	C

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	170	0	0	739	512	10	3	135	0	0	0
Future Volume (veh/h)	18	170	0	0	739	512	10	3	135	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1624	1712	0	0	1881	1881	1900	1357	1792			
Adj Flow Rate, veh/h	22	205	0	0	890	300	12	16	-8			
Adj No. of Lanes	1	1	0	0	1	1	0	1	1			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83			
Percent Heavy Veh, %	17	11	0	0	1	1	6	100	6			
Cap, veh/h	41	1199	0	0	1086	895	61	81	163			
Arrive On Green	0.03	0.70	0.00	0.00	0.58	0.58	0.11	0.11	0.00			
Sat Flow, veh/h	1547	1712	0	0	1881	1551	569	759	1524			
Grp Volume(v), veh/h	22	205	0	0	890	300	28	0	-8			
Grp Sat Flow(s),veh/h/ln	1547	1712	0	0	1881	1551	1329	0	1524			
Q Serve(g_s), s	0.7	1.9	0.0	0.0	17.7	4.7	0.9	0.0	0.0			
Cycle Q Clear(g_c), s	0.7	1.9	0.0	0.0	17.7	4.7	0.9	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.43		1.00			
Lane Grp Cap(c), veh/h	41	1199	0	0	1086	895	142	0	163			
V/C Ratio(X)	0.54	0.17	0.00	0.00	0.82	0.34	0.20	0.00	-0.05			
Avail Cap(c_a), veh/h	166	1613	0	0	1390	1145	199	0	228			
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	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	22.4	2.4	0.0	0.0	7.9	5.2	19.0	0.0	0.0			
Incr Delay (d2), s/veh	10.4	0.1	0.0	0.0	3.2	0.2	0.7	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.4	0.9	0.0	0.0	9.9	2.1	0.4	0.0	0.0			
LnGrp Delay(d),s/veh	32.8	2.5	0.0	0.0	11.1	5.4	19.7	0.0	0.0			
LnGrp LOS	C	A			B	A	B					
Approach Vol, veh/h		227			1190			20				
Approach Delay, s/veh		5.4			9.6			27.6				
Approach LOS		A			A			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		9.5		37.2			5.7	31.5
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5
Max Green Setting (Gmax), s		7.0		44.0			5.0	34.5
Max Q Clear Time (g_c+I1), s		2.9		3.9			2.7	19.7
Green Ext Time (p_c), s		0.0		10.7			0.0	7.2

Intersection Summary	
HCM 2010 Ctrl Delay	9.2
HCM 2010 LOS	A

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	103	78	1	204	0	301	3	6	2	2	744
Future Volume (veh/h)	124	103	78	1	204	0	301	3	6	2	2	744
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	1727	1845	1743	1900	1900	1900	1881	1900	1138	1900	1845	1845
Adj Flow Rate, veh/h	148	123	0	1	243	0	358	4	0	2	2	0
Adj No. of Lanes	2	2	1	1	2	0	2	2	1	1	1	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	10	3	9	0	0	0	1	0	67	0	0	3
Cap, veh/h	294	899	612	4	598	0	544	1259	337	5	360	306
Arrive On Green	0.09	0.26	0.00	0.00	0.17	0.00	0.16	0.35	0.00	0.00	0.19	0.00
Sat Flow, veh/h	3191	3505	1482	1810	3705	0	3476	3610	967	1810	1845	1568
Grp Volume(v), veh/h	148	123	0	1	243	0	358	4	0	2	2	0
Grp Sat Flow(s),veh/h/ln	1596	1752	1482	1810	1805	0	1738	1805	967	1810	1845	1568
Q Serve(g_s), s	2.0	1.2	0.0	0.0	2.8	0.0	4.5	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	2.0	1.2	0.0	0.0	2.8	0.0	4.5	0.0	0.0	0.1	0.0	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	294	899	612	4	598	0	544	1259	337	5	360	306
V/C Ratio(X)	0.50	0.14	0.00	0.25	0.41	0.00	0.66	0.00	0.00	0.40	0.01	0.00
Avail Cap(c_a), veh/h	478	2047	1097	196	1959	0	1079	5885	1577	196	2635	2240
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.9	13.2	0.0	23.0	17.2	0.0	18.3	9.8	0.0	22.9	14.9	0.0
Incr Delay (d2), s/veh	1.3	0.1	0.0	31.0	0.4	0.0	1.4	0.0	0.0	45.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.6	0.0	0.0	1.4	0.0	2.2	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	21.2	13.3	0.0	53.9	17.6	0.0	19.6	9.8	0.0	68.2	15.0	0.0
LnGrp LOS	C	B		D	B		B	A		E	B	
Approach Vol, veh/h		271			244			362			4	
Approach Delay, s/veh		17.6			17.8			19.5			41.6	
Approach LOS		B			B			B			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	4.6	20.6	4.6	16.3	11.7	13.5	8.7	12.1
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	75.1	5.0	26.9	14.3	65.8	6.9	25.0
Max Q Clear Time (g_c+I1), s	2.1	2.0	2.0	3.2	6.5	2.0	4.0	4.8
Green Ext Time (p_c), s	0.0	0.0	0.0	2.1	0.8	0.0	0.1	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	18.6
HCM 2010 LOS	B

Notes

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

LOS WORKSHEETS – BACKGROUND PLUS PROJECT CONDITIONS WITH MITIGATION

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	1044	0	0	189	157	10	5	845	0	0	0
Future Volume (veh/h)	23	1044	0	0	189	157	10	5	845	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00			
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	1681	1881	0	0	1776	1743	1900	1346	1881			
Adj Flow Rate, veh/h	26	1200	0	0	217	59	11	19	-8			
Adj No. of Lanes	1	1	0	0	1	1	0	1	1			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87			
Percent Heavy Veh, %	13	1	0	0	7	9	1	80	1			
Cap, veh/h	49	1478	0	0	1174	956	13	22	42			
Arrive On Green	0.03	0.79	0.00	0.00	0.66	0.66	0.03	0.03	0.00			
Sat Flow, veh/h	1601	1881	0	0	1776	1446	485	837	1599			
Grp Volume(v), veh/h	26	1200	0	0	217	59	30	0	-8			
Grp Sat Flow(s),veh/h/ln	1601	1881	0	0	1776	1446	1322	0	1599			
Q Serve(g_s), s	0.8	18.1	0.0	0.0	2.3	0.7	1.1	0.0	0.0			
Cycle Q Clear(g_c), s	0.8	18.1	0.0	0.0	2.3	0.7	1.1	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.37		1.00			
Lane Grp Cap(c), veh/h	49	1478	0	0	1174	956	35	0	42			
V/C Ratio(X)	0.53	0.81	0.00	0.00	0.18	0.06	0.86	0.00	-0.19			
Avail Cap(c_a), veh/h	234	2769	0	0	2187	1781	1945	0	2353			
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	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	22.9	3.0	0.0	0.0	3.1	2.9	23.2	0.0	0.0			
Incr Delay (d2), s/veh	8.7	1.1	0.0	0.0	0.1	0.0	40.7	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.5	9.1	0.0	0.0	1.1	0.3	0.8	0.0	0.0			
LnGrp Delay(d),s/veh	31.6	4.2	0.0	0.0	3.2	2.9	64.0	0.0	0.0			
LnGrp LOS	C	A			A	A	E					
Approach Vol, veh/h		1226			276			22				
Approach Delay, s/veh		4.7			3.1			87.2				
Approach LOS		A			A			F				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		5.8		42.1			6.0	36.2
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5
Max Green Setting (Gmax), s		70.5		70.5			7.0	59.0
Max Q Clear Time (g_c+I1), s		3.1		20.1			2.8	4.3
Green Ext Time (p_c), s		0.1		17.5			0.0	17.9

Intersection Summary		
HCM 2010 Ctrl Delay		5.6
HCM 2010 LOS		A

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	236	0	0	1037	798	10	3	174	0	0	0
Future Volume (veh/h)	18	236	0	0	1037	798	10	3	174	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1624	1712	0	0	1881	1881	1900	1357	1792			
Adj Flow Rate, veh/h	22	284	0	0	1249	651	12	16	-8			
Adj No. of Lanes	1	1	0	0	1	1	0	1	1			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83			
Percent Heavy Veh, %	17	11	0	0	1	1	6	100	6			
Cap, veh/h	38	1453	0	0	1430	1182	13	17	35			
Arrive On Green	0.02	0.85	0.00	0.00	0.76	0.76	0.02	0.02	0.00			
Sat Flow, veh/h	1547	1712	0	0	1881	1555	569	759	1524			
Grp Volume(v), veh/h	22	284	0	0	1249	651	28	0	-8			
Grp Sat Flow(s),veh/h/ln	1547	1712	0	0	1881	1555	1329	0	1524			
Q Serve(g_s), s	1.0	2.1	0.0	0.0	33.3	12.2	1.5	0.0	0.0			
Cycle Q Clear(g_c), s	1.0	2.1	0.0	0.0	33.3	12.2	1.5	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.43		1.00			
Lane Grp Cap(c), veh/h	38	1453	0	0	1430	1182	31	0	35			
V/C Ratio(X)	0.57	0.20	0.00	0.00	0.87	0.55	0.92	0.00	-0.23			
Avail Cap(c_a), veh/h	110	1751	0	0	1671	1381	170	0	195			
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	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	33.9	1.0	0.0	0.0	6.0	3.5	34.3	0.0	0.0			
Incr Delay (d2), s/veh	12.7	0.1	0.0	0.0	4.8	0.4	56.1	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	0.6	1.0	0.0	0.0	18.6	5.2	1.0	0.0	0.0			
LnGrp Delay(d),s/veh	46.7	1.0	0.0	0.0	10.8	3.9	90.4	0.0	0.0			
LnGrp LOS	D	A			B	A	F					
Approach Vol, veh/h		306			1900			20				
Approach Delay, s/veh		4.3			8.5			126.6				
Approach LOS		A			A			F				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		6.1		64.3			6.2	58.0
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5
Max Green Setting (Gmax), s		9.0		72.0			5.0	62.5
Max Q Clear Time (g_c+I1), s		3.5		4.1			3.0	35.3
Green Ext Time (p_c), s		0.0		29.6			0.0	18.2

Intersection Summary			
HCM 2010 Ctrl Delay			8.9
HCM 2010 LOS			A

Notes
User approved volume balancing among the lanes for turning movement.

LOS WORKSHEETS – CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	415	202	50	235	261	161	1185	70	294	1299	203
Future Volume (veh/h)	195	415	202	50	235	261	161	1185	70	294	1299	203
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	1827	1861	1776	1900	1874	1743	1810	1759	1624	1827	1792	1776
Adj Flow Rate, veh/h	205	437	0	53	247	0	169	1247	0	309	1367	0
Adj No. of Lanes	1	2	1	0	2	1	1	2	1	1	3	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	2	7	0	0	9	5	8	17	4	6	7
Cap, veh/h	270	577	412	70	344	460	196	1363	734	334	2377	982
Arrive On Green	0.16	0.16	0.00	0.11	0.11	0.00	0.11	0.41	0.00	0.19	0.49	0.00
Sat Flow, veh/h	1740	3722	1509	610	3013	1482	1723	3343	1380	1740	4893	1509
Grp Volume(v), veh/h	205	437	0	160	140	0	169	1247	0	309	1367	0
Grp Sat Flow(s),veh/h/ln	1740	1861	1509	1843	1780	1482	1723	1671	1380	1740	1631	1509
Q Serve(g_s), s	13.8	13.7	0.0	10.3	9.2	0.0	11.7	43.0	0.0	21.3	24.3	0.0
Cycle Q Clear(g_c), s	13.8	13.7	0.0	10.3	9.2	0.0	11.7	43.0	0.0	21.3	24.3	0.0
Prop In Lane	1.00		1.00	0.33		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	270	577	412	211	203	460	196	1363	734	334	2377	982
V/C Ratio(X)	0.76	0.76	0.00	0.76	0.69	0.00	0.86	0.92	0.00	0.93	0.58	0.00
Avail Cap(c_a), veh/h	392	840	518	431	416	636	339	1453	771	357	2377	982
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.3	49.3	0.0	52.4	51.9	0.0	53.1	34.1	0.0	48.4	22.4	0.0
Incr Delay (d2), s/veh	2.5	1.1	0.0	2.1	1.5	0.0	4.3	9.6	0.0	27.8	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	7.1	0.0	5.4	4.6	0.0	5.8	21.6	0.0	12.8	11.0	0.0
LnGrp Delay(d),s/veh	51.8	50.4	0.0	54.5	53.4	0.0	57.4	43.8	0.0	76.2	22.9	0.0
LnGrp LOS	D	D		D	D		E	D		E	C	
Approach Vol, veh/h		642			300			1416			1676	
Approach Delay, s/veh		50.9			54.0			45.4			32.8	
Approach LOS		D			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	27.4	53.7		22.9	17.9	63.2		17.9
Change Period (Y+Rc), s	4.0	5.7		4.5	4.0	5.7		4.5
Max Green Setting (Gmax), s	25.0	51.3		27.0	24.0	52.3		28.0
Max Q Clear Time (g_c+I1), s	23.3	45.0		15.8	13.7	26.3		12.3
Green Ext Time (p_c), s	0.1	3.0		1.7	0.1	24.6		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	41.7
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	629	293	863	460	703	128
Future Volume (veh/h)	629	293	863	460	703	128
Number	7	14	5	2	6	16
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	1624	1863	1776	1712	1863	1712
Adj Flow Rate, veh/h	662	77	908	484	740	62
Adj No. of Lanes	2	1	2	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	17	2	7	11	2	11
Cap, veh/h	801	423	1029	1079	939	386
Arrive On Green	0.27	0.27	0.31	0.63	0.27	0.27
Sat Flow, veh/h	3000	1583	3281	1712	3632	1455
Grp Volume(v), veh/h	662	77	908	484	740	62
Grp Sat Flow(s),veh/h/ln	1500	1583	1640	1712	1770	1455
Q Serve(g_s), s	16.2	2.9	20.5	11.4	15.1	2.5
Cycle Q Clear(g_c), s	16.2	2.9	20.5	11.4	15.1	2.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	801	423	1029	1079	939	386
V/C Ratio(X)	0.83	0.18	0.88	0.45	0.79	0.16
Avail Cap(c_a), veh/h	1098	579	1137	1175	1022	420
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.9	22.0	25.4	7.4	26.6	22.0
Incr Delay (d2), s/veh	3.8	0.2	7.8	0.3	3.9	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	7.1	2.9	10.3	5.3	7.9	1.0
LnGrp Delay(d),s/veh	30.7	22.2	33.2	7.7	30.5	22.2
LnGrp LOS	C	C	C	A	C	C
Approach Vol, veh/h	739			1392	802	
Approach Delay, s/veh	29.8			24.3	29.8	
Approach LOS	C			C	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		53.1		24.8	28.4	24.7		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		53.0		28.0	26.5	22.0		
Max Q Clear Time (g_c+I1), s		13.4		18.2	22.5	17.1		
Green Ext Time (p_c), s		9.7		2.1	1.5	3.0		
Intersection Summary								
HCM 2010 Ctrl Delay			27.2					
HCM 2010 LOS			C					

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	1047	0	0	192	157	322	5	845	0	0	0
Future Volume (veh/h)	31	1047	0	0	192	157	322	5	845	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1681	1881	0	0	1776	1743	1900	1572	1881			
Adj Flow Rate, veh/h	33	1102	0	0	202	63	339	263	-172			
Adj No. of Lanes	1	1	0	0	1	1	0	1	1			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	13	1	0	0	7	9	1	80	1			
Cap, veh/h	42	972	0	0	814	662	360	279	669			
Arrive On Green	0.03	0.52	0.00	0.00	0.46	0.46	0.42	0.42	0.00			
Sat Flow, veh/h	1601	1881	0	0	1776	1444	861	668	1599			
Grp Volume(v), veh/h	33	1102	0	0	202	63	602	0	-172			
Grp Sat Flow(s),veh/h/ln	1601	1881	0	0	1776	1444	1529	0	1599			
Q Serve(g_s), s	2.8	71.5	0.0	0.0	9.6	3.4	52.3	0.0	0.0			
Cycle Q Clear(g_c), s	2.8	71.5	0.0	0.0	9.6	3.4	52.3	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.56		1.00			
Lane Grp Cap(c), veh/h	42	972	0	0	814	662	639	0	669			
V/C Ratio(X)	0.79	1.13	0.00	0.00	0.25	0.10	0.94	0.00	-0.26			
Avail Cap(c_a), veh/h	89	972	0	0	814	662	768	0	803			
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	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	67.0	33.4	0.0	0.0	22.9	21.2	38.6	0.0	0.0			
Incr Delay (d2), s/veh	27.7	73.0	0.0	0.0	0.2	0.1	17.9	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	56.7	0.0	0.0	4.7	1.4	25.2	0.0	0.0			
LnGrp Delay(d),s/veh	94.7	106.4	0.0	0.0	23.1	21.3	56.5	0.0	0.0			
LnGrp LOS	F	F			C	C	E					
Approach Vol, veh/h		1135			265			430				
Approach Delay, s/veh		106.1			22.6			79.1				
Approach LOS		F			C			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		62.3		76.0			8.1	67.9
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5
Max Green Setting (Gmax), s		69.5		71.5			7.7	59.3
Max Q Clear Time (g_c+I1), s		54.3		73.5			4.8	11.6
Green Ext Time (p_c), s		3.6		0.0			0.0	14.2

Intersection Summary	
HCM 2010 Ctrl Delay	87.7
HCM 2010 LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	343	765	121	60	389	489	210	1030	80	164	1630	325
Future Volume (veh/h)	343	765	121	60	389	489	210	1030	80	164	1630	325
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	1881	1899	1863	1900	1868	1727	1881	1810	1652	1743	1810	1743
Adj Flow Rate, veh/h	361	805	0	63	409	0	221	1084	0	173	1716	0
Adj No. of Lanes	1	2	1	0	2	1	1	2	1	1	3	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	2	2	2	10	1	5	15	9	5	9
Cap, veh/h	425	901	583	74	507	437	228	1180	720	222	1787	900
Arrive On Green	0.24	0.24	0.00	0.16	0.16	0.00	0.13	0.34	0.00	0.13	0.36	0.00
Sat Flow, veh/h	1792	3798	1583	461	3158	1468	1792	3438	1404	1660	4940	1482
Grp Volume(v), veh/h	361	805	0	252	220	0	221	1084	0	173	1716	0
Grp Sat Flow(s),veh/h/ln	1792	1899	1583	1845	1774	1468	1792	1719	1404	1660	1647	1482
Q Serve(g_s), s	27.2	29.0	0.0	18.8	16.8	0.0	17.4	42.8	0.0	14.3	48.1	0.0
Cycle Q Clear(g_c), s	27.2	29.0	0.0	18.8	16.8	0.0	17.4	42.8	0.0	14.3	48.1	0.0
Prop In Lane	1.00		1.00	0.25		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	425	901	583	296	285	437	228	1180	720	222	1787	900
V/C Ratio(X)	0.85	0.89	0.00	0.85	0.77	0.00	0.97	0.92	0.00	0.78	0.96	0.00
Avail Cap(c_a), veh/h	461	977	614	372	357	497	228	1193	725	235	1787	900
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	51.5	52.2	0.0	57.7	56.9	0.0	61.5	44.5	0.0	59.3	44.1	0.0
Incr Delay (d2), s/veh	12.2	9.5	0.0	12.0	5.9	0.0	50.5	11.7	0.0	13.1	13.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.9	16.4	0.0	10.6	8.7	0.0	11.8	22.2	0.0	7.3	24.0	0.0
LnGrp Delay(d),s/veh	63.7	61.7	0.0	69.7	62.8	0.0	112.0	56.3	0.0	72.3	57.5	0.0
LnGrp LOS	E	E		E	E		F	E		E	E	
Approach Vol, veh/h		1166			472			1305			1889	
Approach Delay, s/veh		62.3			66.5			65.7			58.8	
Approach LOS		E			E			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.6	52.6		37.6	22.0	55.2		26.7
Change Period (Y+Rc), s	5.7	* 5.7		4.5	4.0	5.7		4.5
Max Green Setting (Gmax), s	20.0	* 47		35.9	18.0	49.4		28.0
Max Q Clear Time (g_c+I1), s	16.3	44.8		31.0	19.4	50.1		20.8
Green Ext Time (p_c), s	2.7	2.1		2.0	0.0	0.0		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	62.3
HCM 2010 LOS	E

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	817	757	426	822	1955	76
Future Volume (veh/h)	817	757	426	822	1955	76
Number	7	14	5	2	6	16
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	1776	1743	1900	1881	1743	1743
Adj Flow Rate, veh/h	860	666	448	865	2058	71
Adj No. of Lanes	2	1	2	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	9	0	1	9	9
Cap, veh/h	1101	497	351	1142	1585	709
Arrive On Green	0.34	0.34	0.10	0.61	0.48	0.48
Sat Flow, veh/h	3281	1482	3510	1881	3399	1482
Grp Volume(v), veh/h	860	666	448	865	2058	71
Grp Sat Flow(s),veh/h/ln	1640	1482	1755	1881	1656	1482
Q Serve(g_s), s	33.0	47.0	14.0	46.8	67.0	3.7
Cycle Q Clear(g_c), s	33.0	47.0	14.0	46.8	67.0	3.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1101	497	351	1142	1585	709
V/C Ratio(X)	0.78	1.34	1.28	0.76	1.30	0.10
Avail Cap(c_a), veh/h	1101	497	351	1142	1585	709
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	41.9	46.5	63.0	20.0	36.5	20.0
Incr Delay (d2), s/veh	3.7	165.7	144.6	3.0	139.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	54.9	13.8	25.0	61.2	1.5
LnGrp Delay(d),s/veh	45.5	212.2	207.6	23.0	175.6	20.1
LnGrp LOS	D	F	F	C	F	C
Approach Vol, veh/h	1526			1313	2129	
Approach Delay, s/veh	118.3			86.0	170.4	
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		89.0		51.0	18.0	71.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.5		46.5	13.5	66.5		
Max Q Clear Time (g_c+I1), s		48.8		49.0	16.0	69.0		
Green Ext Time (p_c), s		30.0		0.0	0.0	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	132.1
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	243	0	0	1043	798	78	3	174	0	0	0
Future Volume (veh/h)	34	243	0	0	1043	798	78	3	174	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1624	1712	0	0	1881	1881	1900	1547	1792			
Adj Flow Rate, veh/h	36	256	0	0	1098	497	82	67	-42			
Adj No. of Lanes	1	1	0	0	1	1	0	1	1			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	17	11	0	0	1	1	6	100	6			
Cap, veh/h	55	1298	0	0	1240	1024	96	78	176			
Arrive On Green	0.04	0.76	0.00	0.00	0.66	0.66	0.12	0.12	0.00			
Sat Flow, veh/h	1547	1712	0	0	1881	1553	829	677	1524			
Grp Volume(v), veh/h	36	256	0	0	1098	497	149	0	-42			
Grp Sat Flow(s),veh/h/ln	1547	1712	0	0	1881	1553	1506	0	1524			
Q Serve(g_s), s	1.6	3.0	0.0	0.0	34.1	11.4	6.9	0.0	0.0			
Cycle Q Clear(g_c), s	1.6	3.0	0.0	0.0	34.1	11.4	6.9	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.55		1.00			
Lane Grp Cap(c), veh/h	55	1298	0	0	1240	1024	174	0	176			
V/C Ratio(X)	0.65	0.20	0.00	0.00	0.89	0.49	0.86	0.00	-0.24			
Avail Cap(c_a), veh/h	108	1511	0	0	1410	1164	380	0	384			
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	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	34.0	2.5	0.0	0.0	9.9	6.1	31.0	0.0	0.0			
Incr Delay (d2), s/veh	12.2	0.1	0.0	0.0	6.5	0.4	11.3	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.9	1.4	0.0	0.0	19.6	4.9	3.4	0.0	0.0			
LnGrp Delay(d),s/veh	46.2	2.5	0.0	0.0	16.4	6.4	42.2	0.0	0.0			
LnGrp LOS	D	A			B	A	D					
Approach Vol, veh/h		292			1595			107				
Approach Delay, s/veh		7.9			13.3			58.8				
Approach LOS		A			B			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		12.8		58.6			7.1	51.6
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5
Max Green Setting (Gmax), s		18.0		63.0			5.0	53.5
Max Q Clear Time (g_c+I1), s		8.9		5.0			3.6	36.1
Green Ext Time (p_c), s		0.4		19.4			0.0	11.0

Intersection Summary	
HCM 2010 Ctrl Delay	15.0
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.