PLANNING COMMISSION AGENDA

CHAIRPERSON:
Marvin Hansen

VICE CHAIRPERSON:
Adam Peck

COMMISSIONERS: Mary Beatie, Chris Gomez, Chris Tavarez, Adam Peck, Marvin Hansen

MONDAY, NOVEMBER 8, 2021, 7:00 P.M.

VISALIA COUNCIL CHAMBERS

LOCATED AT 707 W. ACEQUIA AVENUE, VISALIA, CA

Citizens may appear at the Planning Commission meeting in person and will be asked to maintain appropriate, physical distancing from others and wear a mask or face shield pursuant to the Governor's Executive Orders and public health guidance during the COVID-19 situation.

1. CALL TO ORDER –
2. THE PLEDGE OF ALLEGIANCE –
3. CITIZEN'S COMMENTS – This is the time for citizens to comment on subject matters that are not on the agenda but are within the jurisdiction of the Visalia Planning Commission. You may provide comments to the Planning Commission at this time, but the Planning Commission may only legally discuss those items already on tonight's agenda.

   The Commission requests that a five (5) minute time limit be observed for Citizen Comments. You will be notified when your five minutes have expired.

4. CHANGES OR COMMENTS TO THE AGENDA –
5. CONSENT CALENDAR – All items under the consent calendar are to be considered routine and will be enacted by one motion. For any discussion of an item on the consent calendar, it will be removed at the request of the Commission and made a part of the regular agenda.
   a. No Items on Consent Calendar
6. PUBLIC HEARING – Josh Dan, Associate Planner
   a. Conditional Use Permit No. 2021-27: A request by Donahue Schriber Realty Group to amend the approved uses and layout of the Orchard Walk West Specific Plan development area which would include three parcels, each measuring less than five acres, and proposing a retail use, fast-food pad with a drive-thru, and gas station.

b. Tentative Parcel Map No. 2021-07: A request by Donahue Schriber Realty Group to subdivide two parcels into four parcels within the Orchard Walk Specific Plan area.

Project Location: The project is within the C-MU (Commercial Mixed-Use) Zone District and is located at the southwest corner of North Dinuba Boulevard and West Sedona Avenue (Addresses not assigned) (APN: 078-120-050). An Addendum to approved Initial Study / Mitigated Negative Declaration No. 2007-34 has been prepared for this project pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15162.

7. PUBLIC HEARING – Cristobal Carrillo, Associate Planner

   a. Conditional Use Permit No. 2020-30: A request by TMT, LLC to allow a master-planned commercial development on a 38.5-acre parcel in the C-R (Regional Commercial) Zone, for the development of approximately 212,450 square feet of commercial shopping center space in four phases, consisting of a specialty grocery store, seven drive-thru restaurants, a gas station/convenience store with drive-thru facility, a carwash facility, two sit-down restaurants, and 25 retail pads.

   b. Tentative Parcel Map No. 2020-09: A request by TMT, LLC to subdivide 38.5 acres into 22 lots for commercial and right of way use, in the C-R (Regional Commercial) Zone.

   c. Variance No. 2021-03: A request by TMT, LLC to allow a variance to signage standards, allowing 240 sq. ft. of wall signage for a specialty grocery store.

   Project Location: The project is within the C-R (Regional Commercial) Zone District and is located on the southeast corner of West Visalia Parkway and South Mooney Boulevard (Addresses not assigned) (APN: 126-080-025, 056). An Initial Study has been prepared for this project, consistent with the California Environmental Quality Act (CEQA), which disclosed that environmental impacts are determined to be not significant with mitigation, and that Mitigated Negative Declaration No. 2021-42 shall be adopted.

8. CITY PLANNER / PLANNING COMMISSION DISCUSSION –

   a. Next Regular Planning Commission Meeting is Monday, December 13, 2021.

   b. Possibility of Special Planning Commission Meeting in late November / early December.

   c. City Council discussion regarding smoke shops on Monday, November 15, 2021.

The Planning Commission meeting may end no later than 11:00 P.M. Any unfinished business may be continued to a future date and time to be determined by the Commission at this meeting. The Planning Commission routinely visits the project sites listed on the agenda.

For Hearing Impaired – Call (559) 713-4900 (TTY) 48-hours in advance of the scheduled meeting time to request signing services.

Any written materials relating to an item on this agenda submitted to the Planning Commission after distribution of the agenda packet are available for public inspection in the City Office, 315 E. Acequia Ave. Visalia, CA 93291, during normal business hours.

APPEAL PROCEDURE

AN APPEAL MUST BE FILED WITH AN APPROPRIATE APPLICATION AND FEES NO LATER THAN THURSDAY, NOVEMBER 18, 2021, AT 5:00 P.M.

According to the City of Visalia Zoning Ordinance Section 17.02.145 and Subdivision Ordinance Section 16.04.040, an appeal to the City Council may be submitted within ten days following the date of a decision by the Planning Commission. An appeal form with applicable fees shall be filed with the City Clerk at 220 N. Santa Fe, Visalia, CA 93292. The appeal shall specify errors or abuses of discretion by the Planning Commission, or decisions not supported by the evidence in the record. The appeal form can be found on the city's website www.visalia.city or from the City Clerk.

THERE IS NO REGULAR MEETING SCHEDULED FOR MONDAY, NOVEMBER 22, 2021.

THE NEXT REGULAR MEETING WILL BE HELD ON MONDAY, DECEMBER 13, 2021.

REPORT TO CITY OF VISALIA PLANNING COMMISSION

HEARING DATE: November 8, 2021

PROJECT PLANNER: Cristobal Carrillo, Associate Planner
Phone: (559) 713-4443
Email: cristobal.carrillo@visalia.city

SUBJECT: **Conditional Use Permit No. 2020-30:** A request by TMT, LLC to allow a master-planned commercial shopping center development on a 38.5-acre parcel in the C-R (Regional Commercial) Zone, for the development of approximately 215,284 square feet of commercial shopping center space in four phases, consisting of a specialty grocery store, seven drive-thru restaurants, a gas station/convenience store with drive-thru facility, a carwash facility, two sit-down restaurants, and 25 retail pads.

Tentative Parcel Map No. 2020-09: A request by TMT, LLC to subdivide 38.5 acres into 22 parcels for commercial and right-of-way use, in the C-R (Regional Commercial) Zone.

Variance No. 2021-03: A request by TMT, LLC to allow a variance to signage standards, allowing 240 square feet of wall signage for a specialty grocery store in the C-R (Regional Commercial) zoning designation.

Location: The project site is located on the southeast corner of West Visalia Parkway and South Mooney Boulevard (APN: 126-080-025, 056).

STAFF RECOMMENDATION

Staff recommends approval of Conditional Use Permit No. 2020-30 based upon the findings and conditions in Resolution No. 2020-61. Staff's recommendation is based on the conclusion that the request is consistent with the Visalia General Plan and the Visalia Zoning Ordinance.

Staff recommends approval of Tentative Parcel Map No. 2020-09 based upon the findings and conditions in Resolution No. 2020-62. Staff's recommendation is based on the conclusion that the request is consistent with the Visalia General Plan and the Visalia Zoning and Subdivision Ordinances.

Staff recommends that the Planning Commission deny Variance No. 2021-03 based upon the conditions and findings in Resolution No. 2021-54. Staff's recommendation is based on the project's lack of consistency with the policies and intent of the City's General Plan and Zoning Ordinance.

RECOMMENDED MOTION

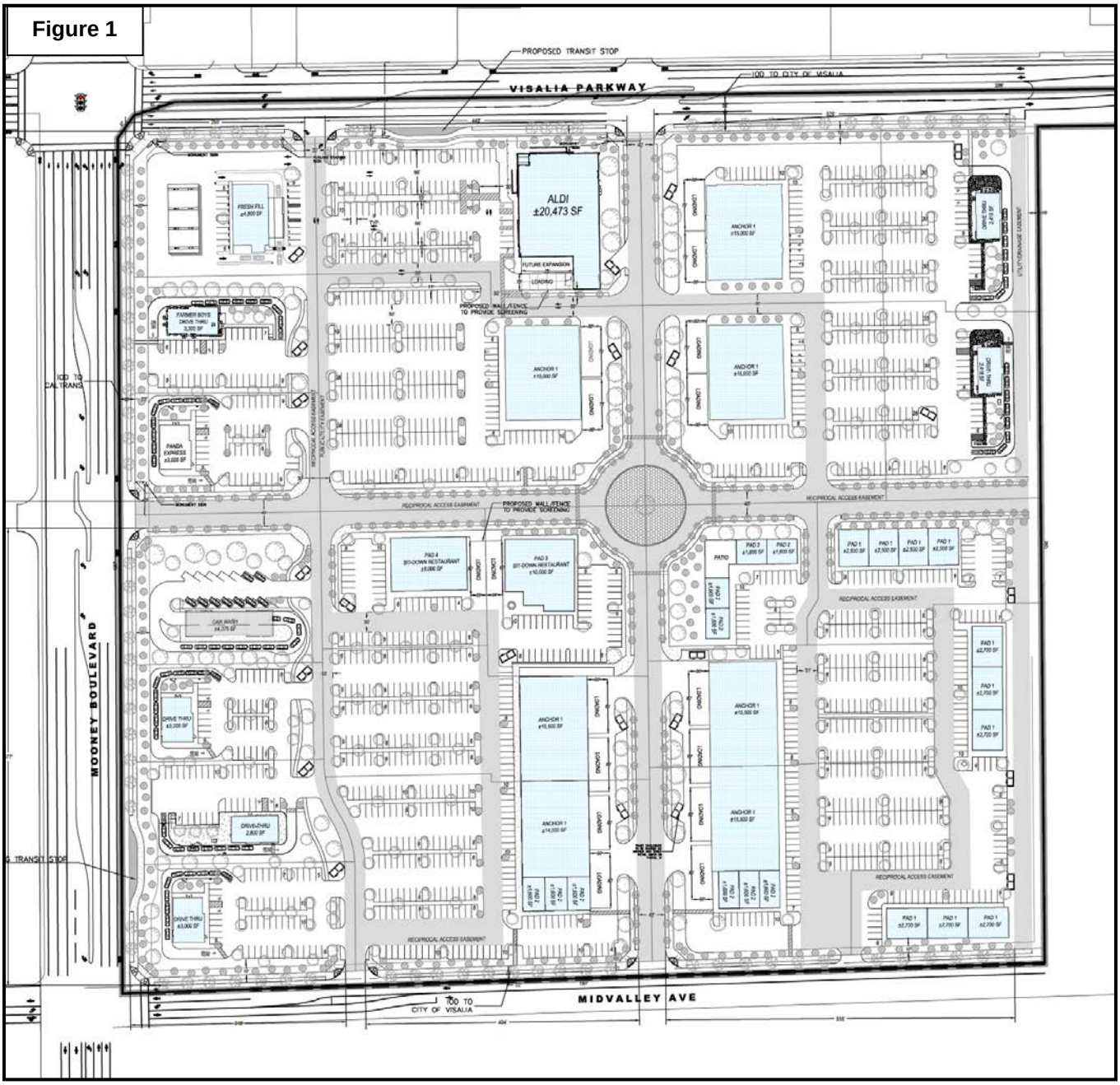
I move to approve Conditional Use Permit No. 2020-30 based on the findings and conditions contained in Resolution No. 2020-61.

I move to approve Tentative Parcel Map No. 2020-09 based on the findings and conditions contained in Resolution No. 2020-62.

I move to deny Variance No. 2021-03, based on the findings and conditions in Resolution No. 2021-54.

PROJECT DESCRIPTION

Figure 1



Conditional Use Permit No. 2020-30

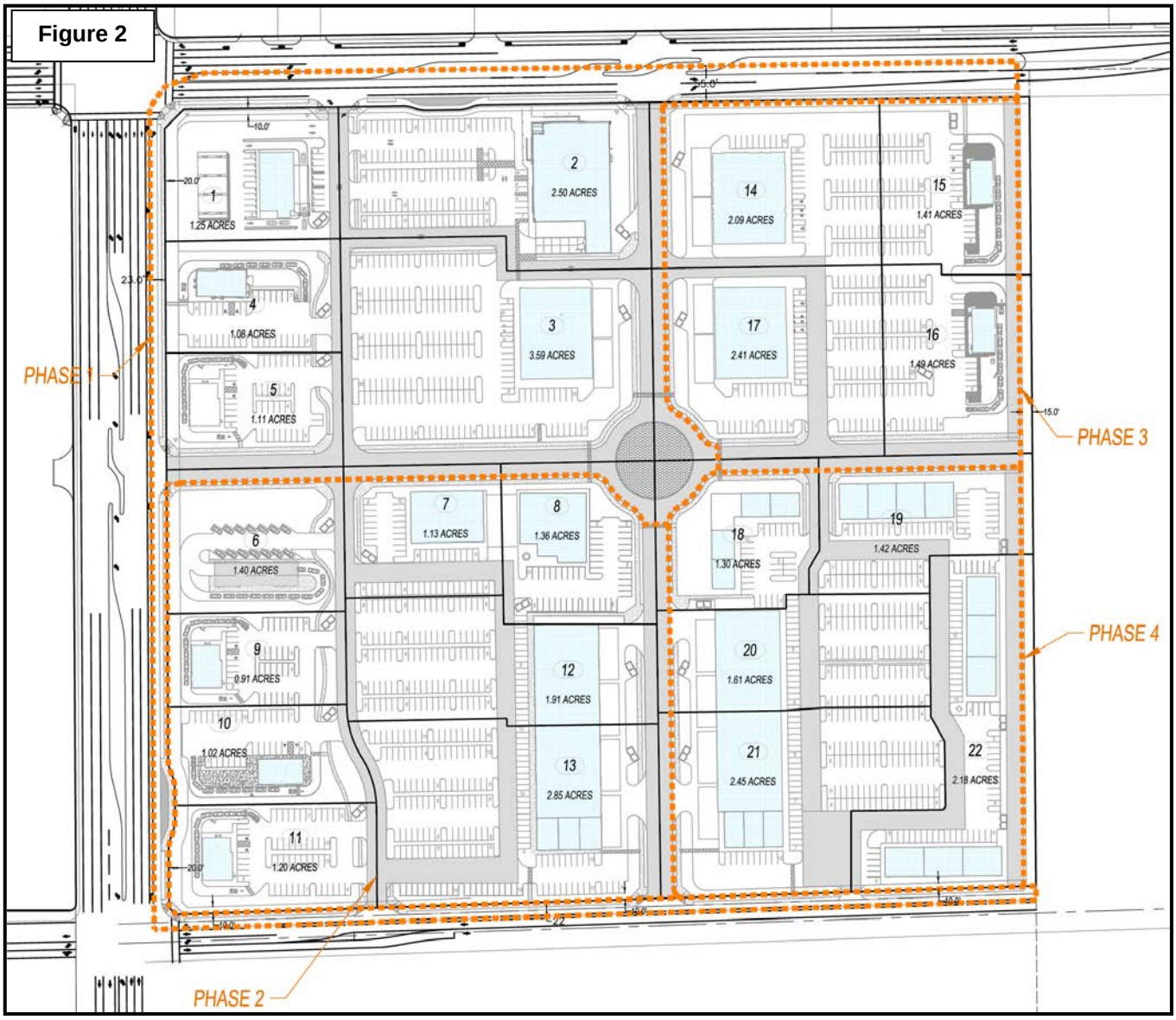
The proposed project depicted in Figure 1 and Exhibit "A", to be called the Oaks Marketplace, consists of a shopping center to be developed in four phases, located on a 38.5-acre parcel. The shopping center is proposed concurrently with a tentative parcel map that will subdivide the entire project site into 22 parcels (see Exhibit "B"), with a shared parking lot and vehicular access drives. Per the Phasing Plan in Exhibit "F", the first phase encompasses the northwest quarter of the project site and will consist of five buildings, each on their own individual parcel, with the following uses:

- Retail Store – A 20,473 sq. ft. Aldi specialty grocery store, with a loading dock and an 1,817 sq. ft. area planned for future expansion of the store;
- Retail Store – A 15,000 sq. ft. retail store with loading dock, with no known tenant;

- C-Store – A 4,800 sq. ft. Fresh Fill convenience store, drive-thru with 1,380 sq. ft. shade structure, and gasoline service station with eight fuel dispensing pumps, and a 4,587 sq. ft. fueling canopy structure;
- Drive-Thru Restaurant – A 3,300 sq. ft. Farmer Boys drive-thru restaurant; and
- Drive-Thru Restaurant – A 3,000 sq. ft. Panda Express drive-thru restaurant.

Per Figure 2 and Exhibit "F" the first phase of development will include three shared access drives – two to the north along West Visalia Parkway and one to the west along South Mooney Boulevard The easternmost Visalia Parkway access and sole Mooney Boulevard access will function as the main entry points for the entire shopping center. Both access drives will be linked by the main shopping center drive aisle, leading to a roundabout located east of the center of the development. All vehicular access points will be constructed by the applicant along with the other right-of-way improvements for Phase 1. Additional Phase 1 improvements include installation of parking lots and onsite landscaping (See Exhibit "F").

With development of Phase 1, the applicant proposes right-of-way improvements to include widening of the unimproved east side of Mooney Boulevard to its ultimate six-lane right-of-way width along the entire commercial shopping center property frontage, as determined by Caltrans, and the widening of the unimproved south side of Visalia Parkway to its ultimate four-lane right-of-way width along the northern property frontage, tapering approximately 500 feet to



the east, as determined by the City of Visalia. Furthermore, the widening of the unimproved north side of Mid Valley Avenue to its ultimate two-lane right-of-way width along the southern project site frontage is required. All improvements for new streets will include installation of raised medians within Mooney Boulevard and Visalia Parkway (there is no raised median in Mid Valley at this time), and installation of curb, gutter, sidewalk, utilities, and landscaping along all project site street frontages. Right-of-way improvements and street cross sections are depicted in Exhibits “A” and “C”. The project site currently contains an asphalt curb along portions of Visalia Parkway and Mooney Blvd. frontages. The asphalt curb improvements to both of these major streets will be removed when development of the shopping center occurs.

Phase 2 of the development will consist of 11 buildings spread out over eight parcels, located within the southwest quadrant of the overall project site. Development will include accompanying parking lots, drive aisles, and landscaping. Phase 2 will be comprised of the following prospective uses (Note that tenants are unknown at this time):

- Two anchor retail stores with accompanying loading docks (one 15,500 sq. ft., the other 14,000 sq. ft.);
- Three 1,600 sq. ft. retail pads;
- Three drive-thru restaurants (two 3,000 sq. ft., one 2,800 sq. ft.);
- Two sit-down restaurants with loading docks (one 8,000 sq. ft., the other 10,000 sq. ft.); and
- One 4,325 sq. ft. carwash facility.

As shown in Exhibit “A”, all drive-thru lanes are designed to accommodate a 9 to 10-vehicle stacking queue. Three of the drive-thru restaurants and the carwash facility will contain drive-thru lanes in full view of the Mooney Boulevard right-of-way. Per the landscaping plan in Exhibit “G”, the western frontage of Phase 2 will contain some landscaping screening to assist in screening drive-thru lanes from view. Phase 2 will also include development of the two access drives for the shopping center, providing additional access from the south along Mid Valley Avenue.

Phase 3 of the development will consist of four buildings spread out over four parcels, with accompanying parking lots, drive aisles, and landscaping, located within the northeast quadrant of the overall project site. Though tenants are unknown at this time, Phase 3 will include the following prospective uses:

- Two 15,000 sq. ft. anchor retail stores with accompanying loading docks; and
- Two 2,418 sq. ft. drive-thru restaurants.

The fourth and final phase will consist of 19 buildings and an outdoor patio spread out over five parcels, with accompanying parking lots, drive aisles, and landscaping, located in the southeast quadrant of the overall project site. A sixth and final driveway will also be incorporated between Parcels 21 and 22 providing a third access point to Mid Valley Avenue. Though no tenants have been identified at this time, the proposed uses are as follows:

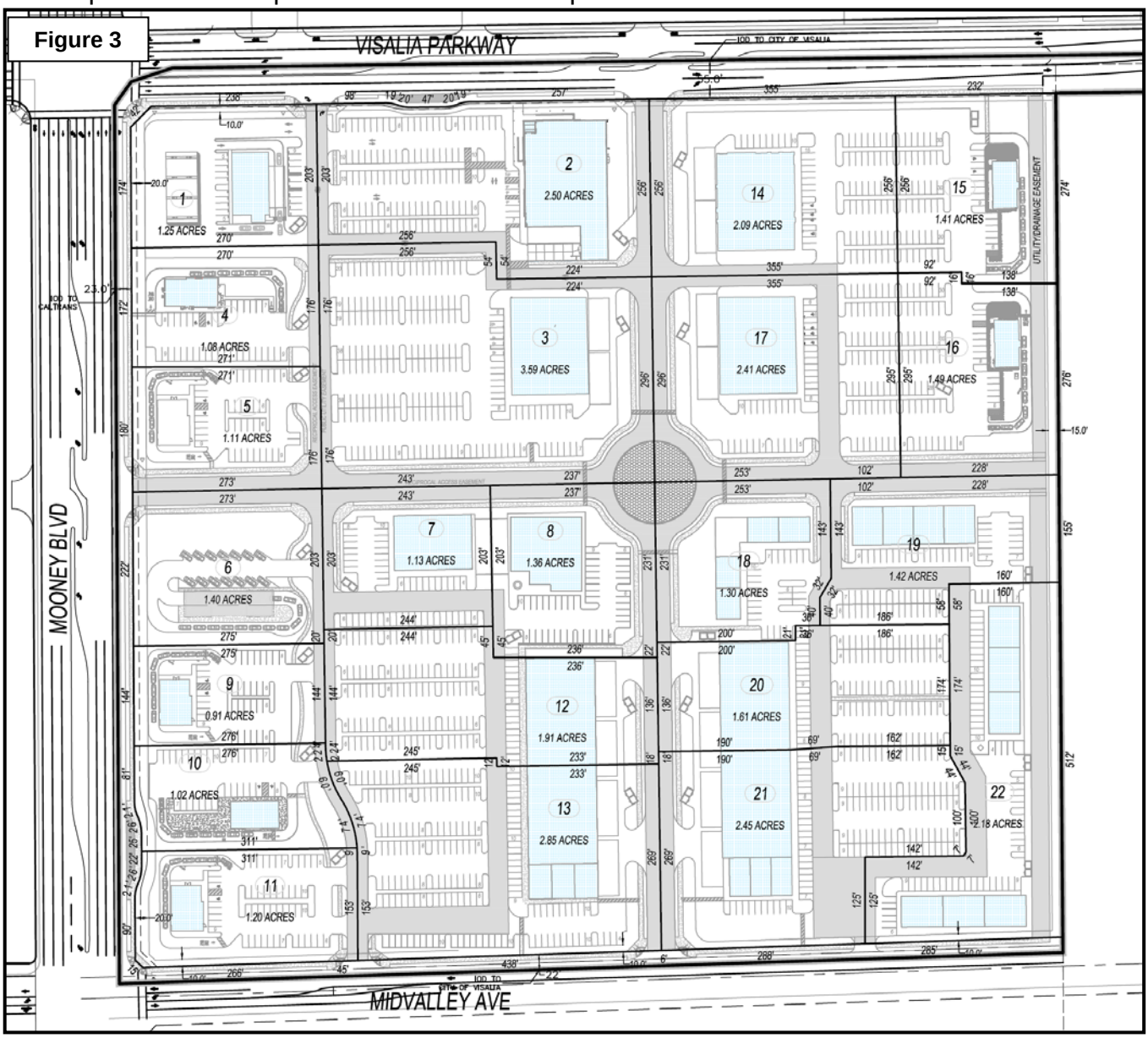
- Two 15,500 sq. ft. anchor retail stores with loading docks;
- Seven 1,600 sq. ft. retail pads;
- Four 2,500 sq. ft. retail pads; and
- Six 2,700 sq. ft. retail pads.

A “Modern Market” architectural theme will be used for all buildings proposed onsite (see Exhibit “D”), except for the Aldi specialty grocery store, which will retain elevations similar to its other franchise locations (see Exhibit “E”). The Operational Statement provided in Exhibit “I” indicates the types of uses and square footages proposed for each phase of development. Further operational information will be provided at the time of Site Plan Review for each individual building proposed. A separate Operational Statement is also included with Exhibit “I” specifically addressing operational criteria for the Aldi. The Operational Statement notes that the Aldi will have approximately 25 employees and will maintain hours of operation from 9:00 AM to 9:00 PM, seven days a week.

Tentative Parcel Map No. 2020-09

The tentative parcel map accompanying the shopping center Conditional Use Permit request proposes to subdivide the entire 38.5-acre site into 22 parcels as shown in Figure 3 and Exhibit “B”. The parcels range in size from 1.02 acres to 3.59 acres, with none exceeding the five-acre minimum lot size requirement of the C-R Zone. Each parcel will contain at least one commercial building, with some parcels containing as many as four commercial units onsite. Nine of the 22 parcels proposed will not have direct access to public street frontage. However, access is provided through the inclusion of shared access interior drive aisles. In addition, shared parking will be provided for all parcels within the development.

Figure 3



As previously stated, all infrastructure improvements required for the project (including road widening, street medians, parkway landscaping, sidewalks, curb, gutter, utilities, etc.) will be installed with the first phase of development. The parcel map and development plan incorporate a 55-foot offer of dedication along Visalia Parkway for the City of Visalia, a 23-foot offer of dedication to Caltrans for the Mooney Boulevard frontage, and a 22-foot offer of dedication along Midvalley Avenue to the City of Visalia.

Variance No. 2021-03

Along with the shopping center and tentative parcel map request, the applicant proposes a variance to wall signage standards for the proposed Aldi specialty grocery store, allowing up to 240 square feet of wall signage. Currently, the established practice for shopping center signage is to permit the placement of up to 200 square feet of wall signage through establishment of a Master Sign Program. The applicant states that additional wall signage area is necessary in order to maintain signage visibility from Mooney Boulevard, as the store will be setback approximately 550 feet from the main thoroughfare. The applicant also requests an increased wall signage allowance in order to place additional wall signage along Aldi's northern building exterior, providing improved views of the store signage from the Visalia Parkway right-of-way. The proposed Aldi signage can be viewed in Exhibit "E" and will consist of two 10-foot by 12-foot wall signs, one on the western building exterior and the other on the northern building exterior.

BACKGROUND INFORMATION

General Plan Land Use Designation:	Regional Commercial
Zoning:	C-R (Regional Commercial)
Surrounding Land Use and Zoning	North: C-R / Commercial shopping centers, vacant commercial land. South: C-R, County Jurisdiction (AE-20) / Active agricultural lands, single family residences. East: County Jurisdiction (AE-20) / Active agricultural lands. West: C-R, C-N (Neighborhood Commercial), R-1-5 (Single Family Residential, 5,000 sq. ft. minimum site are) / Commercial development, Westlake Village Mobile Home Park, vacant commercial land (under development for shopping center on 11 lots).
Environmental Review:	Initial Study No. 2021-42
Special Districts:	N/A
Site Plan:	2019-167, 2020-012, 2020-013, 2020-122

RELATED ACTIONS

Annexation No. 2020-02: A request by TMT, LLC to annex a 38.5-acre portion of a 99.27-acre parcel into the City Limits of Visalia, and to detach from Tulare County Service Area No. 1. Upon annexation, the 38.5-acre site will be zoned C-R (Regional Commercial), which is consistent with the General Plan Land Use Designation of Regional Commercial. The project site is located on the southeast corner of W. Visalia Parkway and S. Mooney Boulevard (APN: 126-080-025, 056). The Visalia Planning Commission reviewed the proposal on January 25, 2021, and recommended approval of the annexation to the Visalia City Council. The City Council reviewed the annexation on February 16, 2021 and approved the annexation initiation

request. The annexation was filed with Tulare County Local Agency Formation Commission (LAFCo) staff and was approved May 5, 2021. The annexation resolution was recorded June 16, 2021, with the Tulare County Recorder. Annexation No. 2020-02 annexed into City Limits the parcel on which the proposed shopping center will be located.

Tentative Parcel Map No. 2020-08: A request by TMT, LLC to subdivide a 99.27-acre parcel into one parcel and a remainder for commercial and right-of-way use, located within the C-R (Regional Commercial) zone. The project site is located on the southeast corner of W. Visalia Parkway and S. Mooney Boulevard (APN: 126-080-025, 056. The Visalia Planning Commission reviewed and approved the proposal on January 25, 2021. Tentative Parcel Map No. 2020-08 created the parcel on which the proposed shopping center will be located.

SIMILAR ACTIONS

Conditional Use Permit No. 2019-31: A request by Lars Anderson & Associates to establish a master planned commercial development consisting of approximately 138,188 sq. ft. of commercial uses, including the establishment of three retail buildings of varying sizes (56,800 sq. ft., 29,800 sq. ft., and 10,000 sq. ft.), a 10,000 sq. ft. credit union building, a 4,088 sq. ft. gas station/convenience store with a 3,060 sq. ft. canopy, a 7,500 sq. ft. sit-down restaurant, two 3,000 sq. ft. drive-thru restaurants, and a 5,000 sq. ft. automotive repair store, on parcels with less than the minimum five acre site area requirement, including a parcel with no public street frontage, affecting 17.43 acres of a 28.7 acre site in the C-R (Regional Commercial) Zone. The project site is located on the southwest corner of S. Mooney Boulevard (State Route 63). (APN: 126-960-001). The Visalia Planning Commission reviewed and approved the proposal on April 13, 2020. This development is called the Commons at Visalia Parkway Shopping Center and is located on the southwest corner of W. Visalia Parkway and S. Mooney Blvd., west of the project site.

Tentative Parcel Map No. 2019-13: A request by Lars Anderson & Associates, Inc. to subdivide a 28.7-acre site into an 11-lot commercial subdivision in the C-R (Regional Commercial) Zone. The project site is located on the southwest corner of S. Mooney Boulevard (State Route 63). (APN: 126-960-001). The Visalia Planning Commission reviewed and approved the proposal on April 13, 2020. This project is associated with the Commons at Visalia Parkway Shopping Center and is located on the southwest corner of W. Visalia Parkway and S. Mooney Blvd., west of the project site.

PROJECT EVALUATION

Staff recommends approval of the Conditional Use Permit (CUP) and Tentative Parcel Map (TPM) based on the project's consistency with the policies of the Land Use Element of the General Plan and Zoning and Subdivision Ordinances for approval of a CUP and TPM. Staff recommends denial of the Variance request based on the project's inconsistency with the policies and intent of the City's General Plan and Zoning Ordinance.

Conditional Use Permit No. 2020-30

Land Use Compatibility

The proposed specialty food store (Aldi), general retail buildings, and sit-down restaurants are uses permitted by right within the C-R Zone. The gas station/convenience store with drive-thru, the carwash facility, and the drive-thru restaurants are also permitted, but only through approval of a Conditional Use Permit (CUP). The establishment of a unified shopping center is considered compatible with the surrounding areas which are either developed with existing master planned shopping centers (Packwood Creek to the north) or have been approved for future development of a shopping center (The Commons at Visalia Parkway to the west).

The project site is bounded by active agricultural lands to the east and rural residential development to the south. Areas to the west, past the vacant site planned for a shopping center are also primarily residential, containing a senior mobile home park. Potential impacts to residential areas will be mitigated through conditions requiring compliance with the Noise Ordinance, drive-thru performance standards, and lighting standards. Strategic placement of potentially impactful uses will also assist in reducing effects on neighboring residential properties. These requirements are discussed further in the "Retail Shops", "Drive-Thru Out-Pad Buildings", "Carwash Facility", "Lighting", and "Noise" sections of this staff report.

Retail Shops

Retail uses within the shopping center consists of 28 buildings; eight "Anchor" retail buildings ranging in size from 14,000 to 15,500 square feet, and 20 "Pad" retail buildings ranging in size from 1,600 to 2,700 square feet (see Exhibit "A"). The "Anchor" buildings are sized to accommodate larger retail establishments, functioning as draws for the entire shopping center. No tenants other than an Aldi specialty grocery store on Parcel 2 have been identified for the "Anchor" buildings at this time. All "Anchor" buildings will contain a loading dock for the delivery of merchandise, primarily located east and west of the north/south drive aisle in the middle of the project site. Each loading dock is sized to accommodate trailer truck deliveries located in areas where they will not obstruct travel lanes or parking areas. The loading dock on Parcel 13 is the closest to existing residential uses to the south. However, it is approximately 200 feet north of the residential use, faces away from the residential use, and will be obstructed by landscaping and Midvalley Avenue. As such, no impacts are expected from the retail buildings or the accompanying delivery and loading/unloading activities. To ensure this, staff recommends inclusion of CUP Condition of Approval No. 13 requiring compliance with community noise standards as listed within Visalia Municipal Code Chapter 8.36 (Noise Ordinance).

Convenience Store/Gas Station/Drive-Thru

A 4,800 square foot Fresh Fill convenience store with fuel island, canopy, and a drive-thru facility will be placed on Parcel 1, at the northwest corner of the project site as shown in Exhibits "A" and "B". The fuel island will contain eight fueling stations (16 positions) under a 4,587 square foot canopy. The stores' location at the intersection of Visalia Parkway and Mooney Boulevard, adjacent to existing Regional Commercial uses, will reduce potential impacts to sensitive receptors.

Staff notes that a drive-thru lane is proposed along the southern and eastern perimeter of the convenience store. The drive-thru lane will feature two points of entry, allowing vehicle access from the west and from the south. No information was provided by the applicant regarding how the dual entrances will function, nor was any analysis provided demonstrating how vehicle queuing will be prevented from affecting drive aisles. It also does not appear that the proposed drive-thru would meet performance standards to provide queuing for 10 vehicles (see "Fast Food Drive-Thrus" section below). However, the facility as depicted is conceptual in nature and is not intended to definitively representative what will ultimately be located onsite. As such staff recommends the addition of CUP Condition of Approval No. 18 requiring additional Site Plan Review and possible submittal of a CUP amendment if necessary for additional analysis of the convenience store proposal once official designs are submitted.

Fast Food Drive-Thrus

Parcels 4, 5, 9, 10, 11, 15, and 16 will each contain a fast-food restaurant with a drive-thru lane. Parcel 1 contains a convenience store that will also include a drive-thru lane. The drive-thru uses are primarily located along the Mooney Boulevard frontage, with two fast food restaurants located at the northeast corner of the project site. The fast-food restaurants are permitted by

right in the C-R Zone. However, drive-thru facilities are only permitted by right if they can be shown to comply with Visalia Municipal Code Section 17.32.162, which contains performance standards for drive-thru lanes. A CUP is otherwise required if the standards cannot be met. In general, the performance standards pertain to the following:

1. Separation from residences;
2. Vehicle queue stacking;
3. Circulation;
4. Noise;
5. Screening;
6. Menu boards and signage.

Specific information for each of the drive-thru lanes and how they meet performance standards was not provided. Per the information included in Exhibit "A", it can be determined that many of the proposed facilities would not meet some of the standards, such as vehicle stacking and screening. However, the drive-thru uses as depicted are conceptual in nature and are not intended to be definitively representative of the drive-thru that will ultimately be located onsite. As such each of the parcels with drive-thrus proposed shall be required to undergo Site Plan Review and possible submittal of a CUP amendment if necessary for additional analysis of the fast-food restaurants with drive-thrus when development is proposed. This is included as CUP Condition of Approval No. 18.

Carwash Facility

A carwash facility is proposed on Parcel 6 of the proposed development. Within the C-R Zone a carwash facility, whether self-service or automated, requires a CUP. Specific information for the carwash facility was also not provided. Per Exhibit "A", the carwash tunnel will be oriented horizontally, facing Mooney Boulevard and proposed commercial development to the east and west. The carwash will be setback approximately 550 feet north of the nearest residential uses, which will also be screened in the future by the three proposed drive-thru restaurants. As such, it is not expected that the carwash will produce noise that will impact sensitive receptors. The facility will also be subject to CUP Condition of Approval No. 13 requiring compliance with community noise standards as listed within Visalia Municipal Code Chapter 8.36 (Noise Ordinance). Queuing for up to 12 vehicles also is provided, reducing the likelihood of impacts to the parking area and drive aisles.

The carwash facility as depicted is also conceptual in nature. As such the carwash parcel shall be required to undergo Site Plan Review and possible submittal of a CUP amendment if necessary for additional analysis when development is proposed. This is included as CUP Condition of Approval No. 18.

Sit-Down Restaurants

Per Exhibit "A", two sit-down restaurants are proposed for the project site on Parcels 7 and 8. Sit-down restaurants are a "Permitted" use in the C-R Zone, unless the restaurant will contain a bar area larger than 25% of the total public area. In such a case a CUP would be required. This can be verified during Site Plan Review and through the building permit plan check process.

Street Improvements and Traffic Impact Analysis

The project site is located at the southeast corner of Mooney Boulevard and Visalia Parkway and is bounded to the south by Mid Valley Avenue. Visalia Parkway is a designated arterial street, which currently contains two travel lanes, and a third lane dedicated for left turns at the

Visalia/Mooney intersection. Mid Valley Avenue is a designated collector street, which currently contains two travel lanes.

Mooney Boulevard is a designated State Highway (State Route 63) and contains six travel lanes north of the Visalia/Mooney intersection, including a median and three additional lanes used separately for right and left turns. South of the intersection, Mooney Boulevard tapers off, reducing in size to four travel lanes and a median, with a 5th lane for left turns onto Visalia Parkway.

A Traffic Impact Analysis (TIA) was conducted by TJKM to study the potential impacts of the proposed shopping center on adjacent and nearby roadways within the vicinity of the project site. The analysis concluded that roadway operating conditions for intersections and roadways in the vicinity of the project area either are or will be significantly impacted with the addition of the proposed project. The analysis recommends that the following improvements be made to address impacts:

- Mitigation primarily requiring the applicant to pay an equitable share of development [transportation] impact fees for the future signalization or installation of traffic signals for eight identified intersections: Cameron Avenue and County Center Drive, Caldwell Avenue and Dans Street, Cameron Avenue and West Street, Visalia Parkway and Dans Street, Visalia Parkway and County Center Drive, Mooney Boulevard and Avenue 272, Cameron Avenue and Dans Street, Visalia Parkway and the Main Site Access for the Target Shopping Center, and Cameron Avenue and Stonebrook Street. This is included as CUP Condition of Approval No. 24, and Mitigation Measures Nos. 1.1, 1.2, 1.3, 1.4, 1.6, 1.7, 1.8, and 1.12. Payments made for the eventual signalization of the listed intersections will assist in keeping LOS levels to appropriate levels.
- Optimization of traffic signal timings for four intersections to address impacts from the development: Mooney Boulevard and Sunnyside Avenue, Mooney Boulevard and Orchard Avenue, Mooney Boulevard and Caldwell Avenue, and Cameron Avenue and County Center Street. This is included as CUP Condition of Approval No. 24, and Mitigation Measures Nos. 1.9 through 1.12.
- Widening of the intersection of Visalia Parkway and Mooney Boulevard to include at minimum:
    - Eastbound: 2 left-turn lanes, 1 through lane, 1 right turn-lane
    - Westbound: 2 left-turn lanes, 1 through lane, and 1 shared through-right lane
    - Northbound: 2 left-turn lanes, 1 through lane, and 1 shared through-right lane
    - Southbound: 1 left-turn lane, 3 through lanes, and 1 right-turn lane.

  This is included as CUP Condition of Approval No. 24, and Mitigation Measure No. 1.5. Please note that per Exhibit “A” the applicant indicates they will build out the northbound and eastbound lanes to their ultimate configurations, as required by Caltrans and the City of Visalia. This shall include Northbound: 2 left-turn lanes, three through lanes, a bike lane, and 1 right-turn lane, and Eastbound: 2 left-turn lanes and 2 through lanes.
- For the intersection of Cameron Avenue and Stonebrook Street, in addition to the payment of fees for the installation of a traffic signal, the TIA calls for lengthening of the northbound storage lane to address impacts expected as part of the 20-year plus Project analysis. This is included with CUP Condition of Approval No. 24, and Mitigation Measure No. 1.7.
- Last, for the intersection of Visalia Parkway and the Costco Driveway, the TIA calls for the installation of a raised median with a refuge lane to permit southbound left turn

movement, to address impacts expected as part of the 20-year plus Project analysis. This is included as CUP Condition of Approval No. 24, and Mitigation Measure No. 1.14.

Note that the timing for when Mitigation Measures Nos. 1.1 through 1.4 and 1.6 through 1.13 should be completed was incorrectly stated in Mitigated Negative Declaration No. 2021-42 (MND). CUP Condition of Approval No. 21 provides clarification on when fair share payments will be conducted for transportation facility improvements. Timing for payment of fees will be tied to issuance of building permits, with the options to defer payment or pay within a certain timeframe eliminated. The timing listed under Condition of Approval No. 21 shall supersede the timings listed in Mitigation Measures Nos. 1.1 through 1.4, and 1.6 through 1.13.

The California Department of Transportation (Caltrans) has reviewed the project and provided correspondence as a Responsible Agency as the project takes vehicular access from Mooney Boulevard, a State Highway designated as State Route 63. Caltrans provided a 3rd review letter providing comments on the final draft of the Traffic Impact Analysis on September 9, 2021. Within the letter Caltrans recommended the addition of a right-turn lane at the access connection with State Route 63 (Intersection #31 in the TIA), deceleration lane length information, revisions to the site plan affecting the median within State Route 63 providing left-turn access into the shopping center, and detailed information identifying which VMT mitigations within Section 11 of the TIA would be implemented. Comments regarding the right-turn lane at the access connection with State Route 63 and revisions to the site plan affecting the median within State Route 63 to prohibit southbound left turns into the development from Mooney Boulevard are included as CUP Condition of Approval No. 16.

Lastly, there is an existing centerline offset at the intersection of Mid Valley Avenue and Mooney Boulevard that must be rectified when development occurs. The project shall be required to design and modify the Mid Valley Avenue/Mooney Boulevard intersection in order to provide safe travel lane alignments for east and westbound traffic on Mid Valley Avenue. This will include intersection and striping layout reviews by the City of Visalia Traffic Safety Department, as well as possible review by Caltrans. Improvements may also have additional impact onsite, requiring the developer to provide additional easements/right-of-way to the City of Visalia. This will be included as Condition of Approval No. 17.

Vehicle Miles Traveled (VMT) Impacts

In response to VMT impacts and mitigation, the City of Visalia, in determining the significance of transportation impacts for land use projects, recognizes the adopted City of Visalia Vehicle Miles Travelled (VMT) Thresholds and Implementation Guidelines (“Guidelines”) recommended threshold as the basis for what constitutes a significant or less than significant transportation impact. The Guidelines recommend a 16% reduction target based on the Greenhouse Gas emission reduction target for 2035 for the Tulare County region set by the SB 375 Regional Plan Climate Target.

Since the project does not meet any screening criteria, it therefore requires a detailed VMT analysis. The shopping center project is projected to generate 11,224 trips on a daily basis by year 2042, based on the difference between the “growth with build” and the “no-build growth” scenarios. In order to mitigate impacts, the TIA proposes a number of measures to reduce VMT to a level considered less than significant, listed as follows:

- Payment of an impact fee with the issuance of a building permit in the shopping center development. Fees paid would be placed into a VMT mitigation bank to be created at a later date by the City of Visalia. The fee shall be calculated at $1,277/ksf, based on project-specific travel demand model for 212,450 square feet of commercial space (Note that the fee will need to be recalculated so that it is based off the revised 215,284 square footage total of the commercial development as shown in Exhibit “A”. This will be

added as Condition of Approval No. 23). If a VMT mitigation fee program is implemented by the City prior to building permits being issued and fees being paid, the project will pay those fees instead. Otherwise, the fees would be calculated as shown in the TIA, based on the market rate price for GHG equivalents and a time period to be negotiated by the City of Visalia and project applicant in light of other mitigating factors. This is included as CUP Condition of Approval No. 24, and Mitigation Measure No. 1.15.

- Payment of fees to the San Joaquin Valley Air Pollution Control District as appropriate VMT mitigation, as the fees also go towards reducing VMT impacts. This is included as CUP Condition of Approval No. 24, and Mitigation Measure No. 1.16.
- Implementation of specific on and off-site design improvements to improve access, circulation, and convenience for use of alternative methods of transportation, listed as follows and included as CUP Condition of Approval No. 24, and Mitigation Measure No. 1.17:
    - Development of new sidewalks on all frontages of the project site and connecting to existing and proposed pedestrian facilities at the intersections of Visalia Parkway & Mooney Boulevard (Intersection #20) and Mid Valley Avenue & Mooney Boulevard (Intersection #22), and including crosswalks at same, to facilitate pedestrian access.
    - Development of bike facilities along Visalia Parkway, Mooney Boulevard, and Mid Valley Avenue.
    - The improvement of transit access through the buildout of new transit stop on Visalia Parkway at the northwest corner of the project site, and improvement of an existing transit stop along Mooney Boulevard at the southwest corner of the project site.
    - Development of onsite facility improvements to encourage alternate modes of transportation, to include:
        - Pedestrian connections between sidewalks and buildings that provide a shorter path of travel than walking to the nearest driveway;
        - Marked pedestrian crosswalks connecting buildings that are separated by parking areas;
        - Adequate lighting for sidewalks and internal walkways, in particularly at major conflict points with vehicles;
        - Benches and trash cans placed throughout the project site;
        - Bike racks near building entrances;
        - Bike lockers or other long-term bike storage facilities for shopping center employees;
        - For the existing bus stop on Mooney Boulevard at the southwest corner of the project site, reconstruct the transit stop to provide a bus shelter, trash can, and adequate lighting.
- Implementation of a travel demand management (TDM) program for employees at the proposed shopping center. The TDM program shall include measures programs to reduce trips to the site, such as subsidized transit passes, facilitating ride sharing, contracting with vanpool providers, providing information on local transportation facilities and services, and providing on-site amenities for bicycle commuters such as showers

and changing areas if the size of the building allows for such amenities. This is included as CUP Condition of Approval No. 24, and Mitigation Measure No. 1.18.

Note again that the timing for when Mitigation Measure No. 1.17 should be completed was incorrectly stated in MND No. 2021-42. CUP Condition of Approval No. 22 states that site and frontage design improvements shall be required to be completed prior to finalization of a Building Permit for each parcel. The timing listed under Condition of Approval No. 22 shall supersede the timing listed in Condition of Approval No. 24, Mitigation Measure No. 1.17.

With these combined mitigation measures, the project would have a less-than-significant impact on regional VMT.

Right of Way Acquisition

Street widening is required by the City of Visalia and Caltrans for Visalia Parkway, Mooney Boulevard, and Mid Valley Avenue. Required improvements will facilitate the expansion of these roads to ultimate configurations planned for in the Visalia General Plan Circulation Element. Improvements are described below:

- Visalia Parkway – 55 ft. dedication and widening of the street along its southern side to accommodate the placement of two additional travel lanes and a street median. The street widening shall occur along the entire property frontage and shall taper off eastward to the intersection of Visalia Parkway and the main Costco shopping center entrance.
- Mooney Boulevard – 23 ft. dedication and widening of the highway to accommodate the placement of three travel lanes, a street median, and bike lane. The widening shall occur along the west property line of the entire project site. This is a requirement of Caltrans, which has jurisdiction over improvements to State highways.
- Mid Valley Avenue – 22 ft. dedication and widening of the street along its northern side to accommodate two travel lanes, a left turn lane, and a right turn lane. The street widening shall occur along the entire property frontage.

The required street improvements have already been included in the project by the applicant and are depicted in Exhibits “A” and “C”. The street improvements and related street dedications are included as CUP Condition of Approval Nos. 14, 16, and 17. In addition, the City shall require the applicant to install all related right-of-way improvements along Visalia Parkway, Mooney Boulevard, and Mid Valley Avenue. This shall include installation of curb, gutter, park strip landscaping, sidewalks, ramps, streetlights, fire hydrants, and other improvements as required along the street frontages. This is included as CUP Condition of Approval No. 15.

Access and Circulation

The shopping center will have a total of six access drives: two along Visalia Parkway, one along Mooney Boulevard, and three along Mid Valley Avenue. The main driveways along Mooney Boulevard and Visalia Parkway shall be built out with the first phase of development, along with drive aisles connecting all driveways to each other. The remaining driveways providing access to Mid Valley will be constructed with the second and fourth phases of the development. The main drive aisles will be 40 feet wide, with tributary drive aisles set at a width of 30 feet.

The driveways and drive aisles proposed with the first phase of development will provide sufficient shared internal access for all parcels. A shared access and maintenance agreement will be required to be in place prior to finalization of the first building permit within the first phase. This is included as CUP Conditions of Approval No. 10 and 11. City staff also required during Site Plan Review that the main access on Mooney Boulevard align with the main access

for the Commons at Visalia Parkway development to the west. The requirement is included as a CUP Condition of Approval No. 12.

Parking

Per VMC Chapter 17.34 the required number of parking stalls for a major shopping center is one stall for every 225 sq. ft. of building area. Total square footage for all buildings proposed is 215,284 sq. ft., requiring 957 parking stalls. Per Exhibit "A", a total of 1,565 stalls are proposed, thereby exceeding the requirement. The applicant has indicated that the site will have shared parking, which will accommodate minor variations in parking demand between the commercial uses. CUP Condition No. 11 requires a Shared Access and Parking Agreement be established for the entire site prior to the finalization of any building permit within the first phase of development. The overall parking layout of the shopping center meets the parking design standards of the Visalia Municipal Code.

Setbacks

The building and landscape setbacks along Visalia Parkway, Mooney Boulevard, and Mid Valley Avenue are in compliance with the requirements of the C-R Zone. Mooney Boulevard landscaping setbacks will be consistent with the Packwood Creek commercial developments to the north, and approved Commons at Visalia Parkway commercial development to the west.

The shopping center will function as a unified development. The Mooney Boulevard frontage, which is considered the front yard area of the shopping center, will have a minimum 20-foot front yard setback requirement. The Visalia Parkway and Mid Valley Avenue frontages will have a minimum 10-foot street side yard setback along this frontage. The proposed buildings along these frontages comply with the required front and side yard setbacks.

Architectural Theme

A "Modern Market" architectural theme and color palette will be used for all buildings proposed onsite, except for the Aldi specialty grocery store, which will retain elevations similar to its other franchise locations (see Exhibit "E"). Per Elevations and design guidelines provided in Exhibit "D" common elements will include a mix of parapet roofing, articulated facades, large banks of windows, lofted spaces, and usage of exterior materials such as cement panels, concrete masonry, raw or anodized metal, and low/flat metal roofing. Exterior paintings will reinforce a natural look consistent with surrounding shopping centers.

It is expected that as franchise tenants propose development onsite, elevations differing from those submitted by the applicant will be submitted. Although it is encouraged that all buildings within a shopping center have a unified architectural theme, it is not a requirement for a master planned development. Consistency with the exterior elevations will be enforced through the Site Plan Review process prior to development.

Noise

The project site is adjacent to residentially zoned property to the south, which contains three residences within Tulare County jurisdiction. Potential noise producing uses located near the sensitive receptors include three drive-thru restaurants, a carwash facility, and loading docks for two "Anchor" retail buildings.

The Visalia General Plan designates the areas to the south for future Commercial Regional use. Upon annexation into the Visalia City Limits it is likely that the areas will be proposed for commercial development. As has been noted previously, the carwash facility and loading docks are oriented so as to face away from sensitive receptors. Both uses will also be screened by either landscaping improvements and/or other commercial buildings. CUP Condition of Approval No. 13 is included requiring all uses onsite to comply with community noise standards.

For the proposed drive thru restaurants, insufficient information was provided to determine whether noise impacts would result from operation of the use. CUP Condition of Approval No. 18 is included requiring additional Site Plan Review and, if necessary, CUP amendment review prior to the establishment of a drive-thru facility onsite. The additional reviews will provide the applicant with an opportunity to present information verifying that noise produced onsite will not impact adjacent residential areas.

Lighting

A conceptual photometric plan is provided in Exhibit "H", detailing building and parking lot lighting to be installed at the shopping center. Per the comments of the City of Visalia Site Plan Review Committee, lighting shall not exceed 0.5 lumens at the property line. The photometric plan provided shows that the limit mostly observed except in areas along the northern and southern property boundary where parking lot lighting is adjacent to right of way areas. CUP Condition of Approval No. 4 is recommended requiring compliance with the 0.5 lumen standard and mandating the limitation of glare onto adjacent properties. CUP Condition No. 4 will also require that compliance with the 0.5 lumen standard be demonstrated via submittal of a revised Photometric Plan during Building Permit review and verified via an onsite night inspection prior to occupancy of the development.

Master Sign Program

A master sign program has been developed for the commercial center and is included in Exhibit "J". It is applicable to all signage proposed onsite, except for the proposed Aldi on Parcel 2. Signage issues for the Aldi are addressed within the "Variance No. 2021-03" section of this report. The sign program submitted contains designs that complement the center's architectural theme and are consistent with surrounding commercial developments. Standards for wall and monument signage proposed by the plan are in keeping with existing standards for signage in the Visalia Municipal Code and would not exceed allotments provided to other shopping centers in the vicinity. The master plan proposes a total of four monument signs, two along Mooney Boulevard, and two along Visalia Parkway. Three of the monument signs will be used for by shopping center tenants, with the fourth sign, located on Parcel 1, to be used by the convenience store/gas station. Monument signage sizes meet existing Visalia Municipal Code standards. As such, the master sign program complies with all findings required by Visalia Municipal Code Sign Ordinance. The Master Sign Program is included as CUP Condition of Approval No. 7.

AB 52 Tribal Consultation/Cultural Resource Assessment

In accordance with the notification procedures prescribed by AB 52 (CEQA-Tribal Cultural Resources) the City of Visalia contacted a number of Native American tribes with potential ties to the project site and possible cultural resources within it. A total of five tribes were contacted, as well three Native American organizations. One contact was received from the Santa Rosa Rancheria Tachi Yokut Tribe, recommending that a cultural resource assessment be conducted for the project site, and that record searches with the Native American Heritage Commission and Southern San Joaquin Valley Information Center be conducted.

A Cultural Resources Study was subsequently commissioned by the applicant, prepared by Taylored Archaeology. The study assessed the project site to determine whether cultural resources were present within the Project area. The investigation included a record search through the Southern San Joaquin Valley Information Center (SSJVIC), the Native American Heritage Commission (NAHC) to review its Sacred Lands File for known resources, and a pedestrian survey of the proposed Project area.

The records search results from SSJVIC indicated that there were two recorded resources. However, further review of SSJVIC records indicated the two recorded resources within the

Project area were actually located outside the Project area to the north. The NAHC's Sacred Lands File results revealed that there were no known identifications of sacred or important tribal cultural sites within the Project area, and no archaeological cultural resources were identified during Taylored Archaeology's pedestrian survey of the Project area.

Due to the Project's close proximity to Packwood Creek, which historically contained a Native American Yokut village within the general region, the Study recommended the following:

- That a Native American monitor and archaeological monitor be present during initial ground disturbance during Project construction activities;
- That in the event of accidental discovery of unidentified archaeological remains during development or ground-moving activities in the Project area, all work within the immediate vicinity (within a 100-foot radius) should be halted until a qualified archaeologist can identify the discovery and assess its significance; and
- That if human remains are uncovered during construction, the Tulare County be notified to investigate the remains and arrange proper treatment and disposition, and appropriate follow up with the NAHC within 24 hours of discovery if necessary.

Staff has incorporated the above recommendations as CUP Condition of Approval No. 24, and Mitigation Measure Nos. 2.1 through 2.3.

Tentative Parcel Map No. 2020-09

Parcel Design

The shopping center CUP is coupled with a TPM proposal to divide the project site into 22 parcels. The TPM depicted in Exhibit "B" shows that all parcels proposed will be smaller than the five-acre minimum lot size requirement of the C-R Zone, with nine lots (Nos. 3, 7, 8, 12, 16, 17, 18, 19, and 20) containing no direct access to a public street. Per Section 17.030.015.A of the VMC, parcels smaller than required by zoning can be created upon approval of an acceptable master plan. Similarly, Chapter 17.26 (Planned Unit Developments) of the VMC allows for the creation of lots without direct public street frontage so long as they are a part of a master planned development.

As the TPM is associated with the master planned CUP development proposal for a shopping center, the proposed parcel configurations can be approved. Currently, there are similar sized parcels, and parcels without street frontage, in adjacent shopping center developments to the west (Commons at Visalia Parkway Shopping Center) and north (Packwood Creek Shopping Center).

Note also that City staff will require that the main driveway access to Mooney Boulevard. located between Parcels 5 and 6 shall align with the main access for the Commons at Visalia Parkway development to the west. This is included as CUP Condition of Approval No. 12. Lots may shift configuration as a result, potentially placing Lots 6, 7, 8, 18, and 19 north of the east/west drive aisle. Shifting of the lots is not expected to significantly affect the overall workings of the development proposal.

Subdivision Map Act Findings

California Government Code Section 66474 lists seven findings for which a legislative body of a city or county shall deny approval of a tentative map if it is able to make any of these findings. These seven "negative" findings have come to light through a recent California Court of Appeal decision (*Spring Valley Association v. City of Victorville*) that has clarified the scope of findings that a city or county must make when approving a tentative map under the California Subdivision Map Act.

Staff has reviewed the seven findings for a cause of denial and finds that none of the findings can be made for the proposed project. The seven findings and staff's analysis are below. Recommended finings in response to this Government Code section are included in the recommended findings for the approval of the TPM.

GC Section 66474 Finding	Analysis
(a) That the proposed map is not consistent with applicable general and specific plans as specified in Section 65451.	The proposed map has been found to be consistent with the City's General Plan. This is included as recommended Finding No. 1 of the Tentative Parcel Map. There are no specific plans applicable to the proposed map.
(b) That the design or improvement of the proposed subdivision is not consistent with applicable general and specific plans.	The proposed design and improvement of the map has been found to be consistent with the City's General Plan. This is included as recommended Finding No. 1 of the Tentative Parcel Map. There are no specific plans applicable to the proposed map.
(c) That the site is not physically suitable for the type of development.	The site is physically suitable for the proposed map and its affiliated development plan, which is designated as Regional Commercial use. This is included as recommended Finding No. 3 of the Tentative Parcel Map.
(d) That the site is not physically suitable for the proposed density of development.	The site is physically suitable for the proposed map and its affiliated development plan, which is designated as Regional Commercial use. This is included as recommended Finding No. 4 of the Tentative Parcel Map.
(e) That the design of the subdivision or the proposed improvements are likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat.	The proposed design and improvement of the map has been not been found likely to cause environmental damage or substantially and avoidable injure fish or wildlife or their habitat. This finding is further supported by the project's Mitigated Negative Declaration determination under the Guidelines for the Implementation of the California Environmental Quality Act (CEQA), included as recommended Finding No. 6 of the Tentative Parcel Map.
(f) That the design of the subdivision or type of improvements is likely to cause serious public health problems.	The proposed design of the map has been found to not cause serious public health problems. This is included as recommended Finding No. 2 of the Tentative Parcel Map.
(g) That the design of the subdivision or the type of improvements will conflict with easements, acquired by the public at large, for access through or use of, property within the proposed subdivision.	The proposed design of the map does not conflict with any existing or proposed easements located on or adjacent to the subject property. This is included as recommended Finding No. 5 of the Tentative Parcel Map.

Variance No. 2021-03

Signage Standards

The project site is located in the C-R Zone. The Visalia Sign Ordinance limits wall signage to no more than two square feet per each lineal foot of occupancy frontage, up to 150 square feet.

When a project site is part of a commercial shopping center, a Master Sign Program is required to be created along with the development through the CUP process. If approved by the Planning Commission, a master sign program can increase signage allotments. For shopping developments adjacent to the project, wall signage allotments of up to 200 square feet have been permitted for "anchor" retail shops, on the basis that additional signage area is necessary in order to maintain visibility from the public right-of-way, and to maintain consistency with competing shopping centers in the area. The applicant has requested a wall signage allotment for the Aldi for similar reasons. The allotment proposed is 240 square feet, over 40 square feet from what has typically been allotted to master planned commercial developments and over 90 square feet from what is permitted for uses in the C-R Zone.

Staff recommends that the Variance request for additional wall signage be denied on the basis that similar proposals have not received the same benefit, and that wall signage allowances provided by master sign program provisions provide sufficient visibility above what is normally permitted within the C-R Zone. It is recommended that the applicant request a wall signage allotment of 200 square feet for the Aldi through the master sign program, consistent with other shopping centers in the vicinity. This is included with CUP Condition of Approval No. 7.

Variance Findings

Variances are intended to prevent unnecessary hardships resulting from strict or literal interpretation of Municipal Code regulations while refraining from granting a special privilege to applicants. The Planning Commission has the power to grant variances to regulations prescribed in the Zoning Ordinance. The applicant has provided proposed variance findings in Exhibit "K" intended to justify the request for additional wall signage area. The Findings and Staff responses are provided below:

1. That strict or literal interpretation and enforcement of the specified regulation would result in practical difficulty or unnecessary hardship inconsistent with the purposes of the sign regulations;

> *Applicant's Finding*: Literal interpretation and enforcement of VMC Section 17.48.100(B) would reduce the sign's legibility. The actual letters in the signage are less than 28 sq. ft. The vast majority of the 240 sq. ft. sign is composed of the background colors of Aldi's federally trademarked logo. Reducing the size of the signage to City Standards would significantly reduce the size of the letters, which would prevent customers from being able to read the sign from a distance typically enjoyed by other property owners in the C-R zone.

Staff Analysis: Staff does not concur with applicant. The proposed Aldi is setback approximately 550 feet from Mooney Boulevard, a distance similar to "Anchor" buildings proposed with the Commons at Visalia Parkway shopping center located west of the project site. For those buildings, the Planning Commission found 200 square feet of wall signage sufficient to provide legible views of signage from Mooney Boulevard. Though staff acknowledges that trademarked signage can often not be changed to fit every unique environment, the applicant could design the proposed signage to better utilize the allotted space, so that text is more visible from the public right of way.

2. That there are exceptional or extraordinary circumstances or conditions applicable to the property which do not apply generally to other properties classified in the same zoning district;

> *Applicant's Finding*: Aldi's location creates an exceptional condition that does not apply generally to other properties located in the C-R zone. Because of the proposed Aldi location, the store has a side wall directly adjacent to a public street (Visalia Parkway), but the front wall/building entrance is located across from a parking area within the commercial development. Therefore, it is rational that the store would have wall signage

on the north-facing wall adjacent to Visalia Parkway in addition to wall signage on the front of the store. Other properties in the same zone would typically only need to provide signage on the front of the building.

Staff Analysis: Staff does not concur with applicant. The proposed Aldi is setback approximately 550 feet from Mooney Boulevard, a distance similar to "Anchor" buildings proposed with the Commons at Visalia Parkway shopping center located west of the project site. As such, the stores' location is not considered exceptional, and is in fact rather common for shopping center developments in the vicinity. The location of the Aldi on a site that provides right-of-way views from two vantage points can be considered an advantageous position. Furthermore, per the master sign program in Exhibit "J", the applicant will be able to place additional signage on monument signs located at the two main drive aisles of the shopping center, one of which is located immediately to the northeast of the Aldi. This will assist in improving visibility of the store. Lastly, an allotment of 200 square feet of signage, which has been previously approved by the Planning Commission for nearby shopping centers with master sign programs, is already beyond what would generally be applied to other sites in the C-R Zone. The request for 240 square feet. of signage, on top of the other signage options available to the applicant, would be considered excessive.

3. That strict or literal interpretation and enforcement of the specified regulation would deprive the applicant of privileges enjoyed by the owners of other properties classified in the same zoning district;

Applicant's Finding: The strict or literal interpretation and enforcement of VMC Section 17.48.100(B) would deprive the applicant of privileges enjoyed by the owners of other properties in the C-R zone. As stated above, Aldi would be deprived of the ability to provide signage that is visible from the public street and/or the front of the store if a variance from VMC Section 17.48.100(B) is not approved. Other properties in the same zone would typically be able to achieve visibility from the public street and from the building entrance by providing signage only on the front of the building.

Staff Analysis: Staff does not concur with applicant. As noted above, the typical allotment for other "Anchor" buildings within nearby shopping centers is 200 square feet. This allotment is available to the applicant through the master signage program and would still provide wall signage above what would typically be provided in the C-R Zone. A wall signage allotment of 240 square feet would itself be considered a granting of special privilege not made available to others. Since the Aldi will also have the option of placing additional signage on proposed shopping center monument signs, it is unlikely that the Aldi would lose out on brand visibility from the denial of the wall signage request.

4. That the granting of the variance will not constitute a grant of special privilege inconsistent with the limitations on other properties classified in the same zoning district;

Applicant's Finding: Granting the variance from Section 17.48.100(B) would not constitute a special privilege inconsistent with the limitations on other properties classified in the same zone. The applicant seeks to provide additional signage only to allow for signage visibility from the public street and from the building entrance, which is a privilege enjoyed by other properties in the C-R zone.

Staff Analysis: Staff does not concur with applicant. the typical allotment for other "Anchor" buildings within nearby shopping centers is 200 square feet. A wall signage allotment of 240 square feet would itself be considered a granting of special privilege as it has not been made available to other developments. Since the Aldi will also have the option of placing additional signage on proposed shopping center monument signs, it is unlikely that the Aldi would lose out on brand visibility from the denial of the wall signage request.

5. That the granting of the variance will not be detrimental to the public health, safety or welfare, or materially injurious to properties or improvements in the vicinity.

> *Applicant's Finding*: Granting the variance from Section 17.48.100(B) would not be detrimental to the public health, safety or welfare, or be materially injurious to the properties or improvements in the vicinity. The proposed variance would increase the signage legibility, which would allow customers to more easily read the sign and navigate the site safely.

Staff Analysis: Staff does not concur with applicant. The granting of a variance for wall signage development standards is not considered detrimental to the public well-being. Placement of all proposed signage will require issuance of a Building Permit and passage of building inspections, further ensuring the public well-being. However, approval of the variance would create an inconsistency with other recently approved commercial developments, proffering a municipally approved advantage to one development over another, thereby creating a material injury.

Environmental Review

An Initial Study was prepared for this project, consistent with the California Environmental Quality Act (CEQA). The Initial Study disclosed that environmental impacts are determined to be not significant with mitigation. At present Staff has received no comment letters from in response to the Mitigated Negative Declaration. Staff recommends that Mitigated Negative Declaration No. 2021-42 be adopted for this project.

RECOMMENDED FINDINGS

Conditional Use Permit No. 2020-30

1. That the proposed project will not be detrimental to the public health, safety, or welfare, or materially injurious to properties or improvements in the vicinity.
2. That the proposed conditional use permit is consistent with the policies and intent of the General Plan and Zoning Ordinance. Specifically, the project is consistent with the required findings of Zoning Ordinance Section 17.38.110:
    a. The proposed location of the conditional use permit is in accordance with the objectives of the Zoning Ordinance and the purposes of the zone in which the site is located.
    b. The proposed location of the conditional use and the conditions under which it would be operated or maintained will not be detrimental to the public health, safety, or welfare, nor materially injurious to properties or improvements in the vicinity.
3. That an Initial Study was prepared for the proposed project, consistent with CEQA, which disclosed that environmental impacts are determined to be not significant with mitigation, and therefore Mitigated Negative Declaration No. 2021-42 can be adopted for this project.

Tentative Parcel Map No. 2020-09

1. That the proposed location and layout of Tentative Parcel Map No. 2020-09, its improvement and design, and the conditions under which it will be maintained is consistent with the policies and intent of the General Plan and Zoning Ordinance and Subdivision Ordinance.
2. That the proposed Tentative Parcel Map No. 2020-09, its improvement and design, and the conditions under which it will be maintained will not be detrimental to the public health, safety, or welfare, nor materially injurious to properties or improvements in the vicinity, nor is it likely to cause serious public health problems. The proposed tentative parcel map would

be compatible with adjacent land uses. The project site is bordered by existing commercial development, single family residences, and land under agricultural production.

3. That the site is physically suitable for the proposed tentative parcel map. Tentative Parcel Map No. 2020-09 is consistent with the intent of the General Plan and Zoning Ordinance and Subdivision Ordinance, and is not detrimental to the public health, safety, or welfare or materially injurious to properties or improvements in the vicinity. The project site is bordered by existing commercial development, single family residences, and land under agricultural production, and the tentative parcel map will separate commercial uses within the planned development.
4. That the site is physically suitable for the proposed tentative parcel map and the project's density, which is consistent with the underlying Commercial Regional General Plan Land Use Designation. The proposed location and layout of Tentative Parcel Map No. 2020-09, its improvement and design, and the conditions under which it will be maintained is consistent with the policies and intent of the General Plan and Zoning Ordinance and Subdivision Ordinance.
5. That the proposed Tentative Parcel Map No. 2020-09, design of the tentative map or the type of improvements will not conflict with easements, acquired by the public at large, for access through or use of, property within the proposed parcel map. The tentative parcel map is designed to comply with the City's Engineering Improvement Standards.
6. That an Initial Study was prepared for the proposed project, consistent with CEQA, which disclosed that environmental impacts are determined to be not significant with mitigation, and therefore Mitigated Negative Declaration No. 2021-42 can be adopted for this project.

Variance No. 2021-03

1. *That strict or literal interpretation and enforcement of the specified regulation would result in practical difficulty or unnecessary hardship inconsistent with the purposes of the sign regulations;*

   The proposed Aldi is setback approximately 550 feet from Mooney Boulevard, a distance similar to "Anchor" buildings proposed with the Commons at Visalia Parkway shopping center located west of the project site. For those buildings, the Planning Commission found 200 square feet of wall signage sufficient to provide legible views of signage from Mooney Boulevard. Though staff acknowledges that trademarked signage can often not be changed to fit every unique environment, the applicant could design the proposed signage to better utilize the allotted space, so that text is more visible from the public right of way.

2. *That there are exceptional or extraordinary circumstances or conditions applicable to the property which do not apply generally to other properties classified in the same zoning district;*

   The proposed Aldi is setback approximately 550 feet from Mooney Boulevard, a distance similar to "Anchor" buildings proposed with the Commons at Visalia Parkway shopping center located west of the project site. As such, the stores' location is not considered exceptional, and is in fact rather common for shopping center developments in the vicinity. The location of the Aldi on a site that provides right-of-way views from two vantage points can be considered an advantageous position. Furthermore, per the master sign program in Exhibit "J", the applicant will be able to place additional signage on monument signs located at the two main drive aisles of the shopping center, one of which is located immediately to the northeast of the Aldi. This will assist in improving visibility of the store. Lastly, an allotment of 200 square feet of signage, which has been previously approved by the Planning Commission for nearby shopping centers with master sign programs, is already

beyond what would generally be applied to other sites in the C-R Zone. The request for 240 square feet. of signage, on top of the other signage options available to the applicant, would be considered excessive.

3. *That strict or literal interpretation and enforcement of the specified regulation would deprive the applicant of privileges enjoyed by the owners of other properties classified in the same zoning district;*

   Staff does not concur with applicant. As noted above, the typical allotment for other "Anchor" buildings within nearby shopping centers is 200 square feet. This allotment is available to the applicant through the master signage program and would still provide wall signage above what would typically be provided in the C-R Zone. A wall signage allotment of 240 square feet would itself be considered a granting of special privilege not made available to others. Since the Aldi will also have the option of placing additional signage on proposed shopping center monument signs, it is unlikely that the Aldi would lose out on brand visibility from the denial of the wall signage request.

4. *That the granting of the variance will not constitute a grant of special privilege inconsistent with the limitations on other properties classified in the same zoning district;*

   Staff does not concur with applicant. the typical allotment for other "Anchor" buildings within nearby shopping centers is 200 square feet. A wall signage allotment of 240 square feet would itself be considered a granting of special privilege as it has not been made available to other developments. Since the Aldi will also have the option of placing additional signage on proposed shopping center monument signs, it is unlikely that the Aldi would lose out on brand visibility from the denial of the wall signage request.

5. *That the granting of the variance will not be detrimental to the public health, safety or welfare, or materially injurious to properties or improvements in the vicinity.*

   Staff does not concur with applicant. The granting of a variance for wall signage development standards is not considered detrimental to the public well-being. Placement of all proposed signage will require issuance of a Building Permit and passage of building inspections, further ensuring the public well-being. However, approval of the variance would create an inconsistency with other recently approved commercial developments, proffering a municipally approved advantage to one development over another, thereby creating a material injury.

6. That an Initial Study was prepared for the proposed project, consistent with CEQA, which disclosed that environmental impacts are determined to be not significant with mitigation, and therefore Mitigated Negative Declaration No. 2021-42 can be adopted for this project.

RECOMMENDED CONDITIONS OF APPROVAL

Conditional Use Permit No. 2020-30

1. That the project be developed in substantial compliance with the comments in Site Plan Review Nos. 2019-167, 2020-012, 2020-013, and 2020-122.

2. That the project will be developed in substantial compliance with the site plan in Exhibit "A" and Phasing Plan in Exhibit "F" unless otherwise specified in this use permit. Any subsequent changes to the development plan layout as depicted in Exhibit "A shall be reviewed and approved by the Site Plan Review Committee and may be subject to an amendment of the Conditional Use Permit.

3. That the architectural theme and design guidelines in Exhibit “D” shall be used for all the buildings on the project site, except for the proposed Aldi building which shall be subject to the elevations in Exhibit “E”.
4. That onsite lighting for the shopping center complex and individual buildings shall not produce glare onto neighboring properties or lighting in excess of 0.5 lumens at property line. A revised photometric plan shall be submitted with the Building Permit submittal, verifying that all onsite lighting proposed will follow the 0.5 lumen standard. Prior to occupancy of the development, staff shall verify via an onsite night inspection that the on-site lighting complies with the 0.5 lumen standard at property line.
5. That onsite and offsite landscaping for the shopping center complex and right-of-way areas be in substantial compliance with the landscaping plan in Exhibit “G”. Landscaping and irrigation plans shall be included with all building permit submittals for the construction of new buildings.
6. That the shopping center complex and individual buildings operate as stated in the Operational Statement identified in Exhibit “I”.
7. That the master sign program in Exhibit “J” shall be utilized for the commercial development and that the commercial center monument signs be limited to the number depicted in the plan (three total, plus a monument sign for the convenience store on Parcel 1). The Aldi shall be permitted an allotment of 200 sq. ft. of wall signage, to be shared amongst all building exteriors.
8. That Tentative Parcel Map No. 2020-09 shall be approved, and that requirements of the parcel map which relate to Conditional Use Permit No. 2020-30 shall be fulfilled.
9. That Conditional Use Permit No. 2020-30 shall be null and void unless Tentative Parcel Map No. 2020-09 is approved.
10. That CC&R’s including vehicular access, shared parking, landscaping and permanent maintenance of all common areas such as the public street parkways and perimeter landscaping, project identification signage and walls, and all similar infrastructure agreements shall be recorded with the final parcel map. The CC&R’s and/or vehicular access agreements shall address property owners’ responsibility for repair and maintenance of the easement, repair and maintenance of shared public or private utilities, and shall be kept free and clear of any structures. All property owners are equally responsible for these requirements. The City Planner and City Engineer shall review for approval these CC&R’s or vehicular access agreements verifying compliance with these requirements prior to the CC&R’s recordation.
11. That a Shared Access and Parking Agreement be established for the entire site prior to finalization of building permits for the first phase of development.
12. That the main access drive along Mooney Boulevard shall align with the main Mooney Boulevard access drive for the Commons at Visalia Parkway commercial development, located west of the project site.
13. That all uses proposed onsite maintain Community Noise Standards as required within Visalia Municipal Code Chapter 8.36 (Noise Ordinance).
14. That the applicant shall provide to the City of Visalia a 55 ft. right-of-way dedication for Visalia Parkway and a 22 ft. right-of-way dedication for Midvalley Avenue. The applicant shall also provide to Caltrans a 23 ft. right-of-way dedication for Mooney Blvd. All dedications shall be for the improvement of the identified streets as required by the City of Visalia.

15. That the applicant shall conduct street and right-of-way improvements to Visalia Parkway, Mooney Blvd., and Mid Valley Avenue, to include widening of the streets along the project site frontages and beyond as required by the City of Visalia, installation of park strip landscaping, curb, gutter, sidewalk, ramps, street lights, traffic signals, fire hydrants, and other improvements as required by the City of Visalia and Caltrans. All of the required right-of-way improvements shall be completed with the first phase of development, prior to the finalization of buildings permits for any of the buildings proposed within the first phase.

16. That the applicant shall comply with all requirements of Caltrans as listed in the September 9, 2021, correspondence for the improvement of Mooney Blvd. adjacent to the project site. This shall include providing a northbound right-turn lane at the main shopping center driveway providing access to Mooney Blvd./State Route 63 and limiting this same access drive to only a right-in, right-out turning movements thereby eliminating southbound left turns into the site from Mooney Boulevard.

17. That the Mid Valley Avenue and Mooney Boulevard intersection shall be designed and modified to remove an existing centerline offset, in compliance with all requirements of the City of Visalia and Caltrans.

18. That a separate Site Plan Review shall be required for the convenience store/gas station, carwash facility, and all drive-thru restaurants proposed onsite, with Conditional Use Permit review also required if deemed necessary by the Site Plan Review Committee. Additional Site Plan Review and/or Conditional Use Permit review shall also be required for any substantial changes to the proposed uses or if any uses are proposed which are not shown within Exhibit "A".

19. That all applicable federal, state, and city laws and codes and ordinances shall be met.

20. That all of the conditions and responsibilities of Conditional Use Permit No. 2020-30 shall run with the land and subsequent owners/operators shall also be subject to all of the conditions herein, unless amended or revoked.

21. **Transportation / Traffic Impact Mitigation Measure (Supersedes the timing listed for Mitigation Measures Nos. 1.1 through 1.4 and 1.6 through 1.13 of Mitigated Negative Declaration No. 2021-42):** For Mitigation Measures Nos. 1.1 through 1.4 and 1.6 through 1.13, fair share contributions into the City of Visalia Traffic Impact Fee Mitigation Program shall be made at the time of Building Permit issuance for each building onsite.

22. **Transportation / Traffic Impact Mitigation Measure (Supersedes the timing listed for Mitigation Measure No. 1.17 of Mitigated Negative Declaration No. 2021-42):** For Mitigation Measure No. 1.17, site and frontage design improvements shall be completed prior to finalization of the Building Permit for each parcel onsite.

23. **Transportation / Traffic Impact Mitigation Measure (Added clarification for Mitigation Measure No. 1.15 of Mitigated Negative Declaration No. 2021-42):** For Mitigation Measure No. 1.15, the impact fee shall be recalculated so that it is based on a project specific travel demand model for a 215,284 square foot commercial shopping center development.

24. That the mitigation measures found within the Mitigation Monitoring Plan for Mitigated Negative Declaration No. 2021-42 are hereby incorporated as conditions of Conditional Use Permit No. 2020-30 as follows:

Mitigation Measure	**Responsible Party**	**Timeline**

Transportation / Traffic Impact Mitigation Measure 1.1: Caldwell Avenue and Dans Street Intersection (Intersection #5 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level, should the City decide to install a traffic signal.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.~~ See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.2: Cameron Ave and West Street Intersection (Intersection #14 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.~~ See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.3: Visalia Parkway and Dans Street Intersection (Intersection #17 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.~~ See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.4: Visalia Parkway and County Center Street Intersection (Intersection #18 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level, should the City decide to install a traffic signal.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.~~ See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.5: Visalia Parkway and Mooney Blvd. Intersection (Intersection #20 on the TIA): The intersection shall be widened to include the minimum: • Eastbound: 2 left-turn lanes, 1 through lane, 1 right turn-lane; • Westbound: 2 left-turn lanes, 1 through lane, and 1 shared through-right lane • Northbound: 2 left-turn lanes, 1 through lane, and 1 shared through-right lane • Southbound: 1 left-turn lane, 3 through lanes, and 1 right-turn lane. Signal timings shall also be optimized, subject to approval and coordination from Caltrans. Note that project plans indicate the applicant will build out the Northbound and Eastbound lanes to their ultimate configurations, as required by Caltrans and the City of Visalia. This shall include Northbound: 2 left-turn lanes, three through lanes, a bike lane, and 1 right-turn lane, and Eastbound: 2 left-turn lanes, 2 through lanes.	Project Applicant	Mitigation shall be enforced and improvements completed prior to final occupancy of any building within the first phase of development.

Transportation / Traffic Impact Mitigation Measure 1.6: Mooney Boulevard and Avenue 272 Intersection (Intersection #23 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level, subject to approval and coordination from Caltrans.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.~~ See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.7: Cameron Avenue and Stonebrook Street Intersection (Intersection #13 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level. Additionally, the storage length of the northbound lane shall be increased.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into within five years after the occupancy of the first building within the first phase of development.~~ See Condition of Approval No. 21. The increase to the storage length of the northbound lane shall occur within twenty years after the occupancy of the first building within the first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.8: Visalia Parkway and Main Site Access – Target Driveway Intersection (Intersection #19 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into within five years after the occupancy of the first building within the first phase of development~~. See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.9: Mooney Boulevard and Sunnyside Avenue Intersection (Intersection #3 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the optimization of traffic signal timings to improve the LOS to an acceptable level, subject to approval and coordination from Caltrans.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into within ten years after the occupancy of the first building within the first phase of development~~. See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.10: Mooney Boulevard and Orchard Avenue Intersection (Intersection #4 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the optimization of traffic signal timings to improve the LOS to an acceptable level, subject to approval and coordination from Caltrans.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into within ten years after the occupancy of the first building within the first phase of development~~. See Condition of Approval No. 21.

Transportation / Traffic Impact Mitigation Measure 1.11: Mooney Boulevard and Caldwell Avenue Intersection (Intersection #7 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the optimization of traffic signal timings to improve the LOS to an acceptable level, subject to approval and coordination from Caltrans.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into within ten years after the occupancy of the first building within the first phase of development~~. See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.12: Cameron Avenue and County Center Street Intersection (Intersection #11 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal and optimization of traffic signal timings to improve the LOS to an acceptable level to improve the LOS to an acceptable level.	Project Applicant	~~For installation of a traffic signal, contribution shall be made or deferral agreement entered into within 10 years after occupancy of the first building within the first phase of development~~. ~~For optimization of traffic signal timings, contribution shall be made or deferral agreement entered into within 20 years after occupancy of the first building within the first phase of development~~. See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.13: Visalia Parkway and Stonebrook Street Intersection (Intersection #21 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level, should the City decide to install a traffic signal.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into within twenty years after the occupancy of the first building within the first phase of development~~. See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.14: Visalia Parkway and Costco Driveway Intersection (Intersection #29 on the TIA): Applicant shall install a raised median with a refuge lane to permit southbound left turn movement.	Project Applicant	Mitigation shall be enforced and improvements completed prior within twenty years after the occupancy of the first building within the first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.15: VMT Mitigation Impact Fees: Payment of an impact fee with the building permit issuance of each parcel to the City, to be placed into a VMT mitigation bank to be created at a later date by the City of Visalia. The fee shall be calculated at $1,277/ksf, based on project-specific travel demand model for 212,450 sq. ft. of commercial space **(See Condition No. 23 for additional clarification)**. If a VMT mitigation fee	Project Applicant	Contribution to be made prior to issuance of a Building Permit for each building proposed within the shopping center development.

program is implemented by the City prior to building permits being issued and fees being paid, the project will pay those fees instead. Otherwise, the fees would be calculated as shown in the Traffic Impact Analysis prepared by TJKM for the proposed project, based on the market rate price for GHG equivalents and a time period to be negotiated by the City and project applicant in light of other mitigating factors.		
Transportation / Traffic Impact Mitigation Measure 1.16: San Joaquin Valley Air Pollution Control District Mitigation Fees: Payment of mitigation fees to the San Joaquin Valley Air Pollution Control District, which are based in part on mitigating VMT generated by the project.	Project Applicant	Contribution to be made prior to issuance of a Building Permit for each building proposed within the shopping center development.
Transportation / Traffic Impact Mitigation Measure 1.17: Site and Frontage Design Improvements: Implementation of site and frontage design improvements to improve access, circulation, and convenience of transit users, pedestrians, and bicycles. Improvements shall consist of the following: • Development of new sidewalks on all frontages of the project site, and connecting to existing and proposed pedestrian facilities at the intersections of Visalia Parkway & Mooney Boulevard (Intersection #20) and Midvalley Avenue & Mooney Boulevard (Intersection #22), and including crosswalks at same, to facilitate pedestrian access. • Development of bike facilities along Visalia Parkway, Mooney Boulevard, and Midvalley Avenue. • The improvement of transit access through the buildout of new transit stop on Visalia Parkway at the northwest corner of the project site, and improvement of an existing transit stop along Mooney Boulevard at the southwest corner of the project site. • Development of onsite facility improvements to encourage alternate modes of transportation, to include: o Pedestrian connections between sidewalks and buildings that provide a shorter path of travel than walking to the nearest driveway; o Marked pedestrian crosswalks connecting buildings that are separated by parking areas; o Adequate lighting for sidewalks and internal walkways, in particularly at major conflict points with vehicles; o Benches and trash cans placed throughout	Project Applicant	~~Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development~~. See Condition of Approval No. 22.

the project site; o Bike racks near building entrances; o Bike lockers or other long-term bike storage facilities for shopping center employees; o For the existing bus stop on Mooney Boulevard at the southwest corner of the project site, reconstruct the transit stop to provide a bus shelter, trash can, and adequate lighting.		
Transportation / Traffic Impact Mitigation Measure 1.18: Travel Demand Management Program: Implementation of a travel demand management (TDM) program for employees at the proposed shopping center, to be submitted for each building proposed. The TDM program shall include measures such as subsidized transit passes, facilitating ride sharing, contracting with vanpool providers, providing information on local transportation facilities and services, and providing on-site amenities for bicycle commuters such as showers and changing areas if the size of the building allows for such amenities.	Applicant for each individual building proposed for development.	Travel Demand Management Programs shall be submitted for each building within the shopping center prior to final occupancy of each structure.
Cultural Resources Mitigation Measure 2.1: A Native American monitor and archaeological monitor shall be present during initial ground disturbance during Project construction activities.	Project Applicant	Mitigation shall be enforced by the project applicant and carried out during the initial ground disturbance stages of construction for each phase of development.
Cultural Resources Mitigation Measure 2.2: In the event of accidental discovery of unidentified archaeological remains during development or ground-moving activities in the Project area, all work shall be halted in the immediate vicinity (within a 100-foot radius) until a qualified archaeologist can identify the discovery and assess its significance.	Project Applicant	Mitigation shall be enforced by the project applicant and carried out during development or ground moving activities for each phase of development.
Cultural Resources Mitigation Measure 2.3: If human remains are uncovered during construction, the Tulare County Coroner shall be notified to investigate the remains and arrange proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American the coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will be afforded an opportunity to make recommendations regarding the treatment and disposition of the remains.	Project Applicant	Mitigation shall be enforced by the project applicant and carried out during construction of the entire project.

Tentative Parcel Map No. 2020-09

1. That the project be developed in substantial compliance with the comments in Site Plan Review Nos. 2019-167, 2020-012, 2020-013, and 2020-122.
2. That the tentative parcel map be prepared in substantial compliance with Exhibit "B".
3. That a common access, maintenance, and landscaping agreement be entered into for all project parcels.
4. That Tentative Parcel Map No. 2020-09 shall be approved, and that requirements of the parcel map which relate to Conditional Use Permit No. 2020-30 shall be fulfilled.
5. That Conditional Use Permit No. 2020-30 shall be null and void unless Tentative Parcel Map No. 2020-09 is approved.
6. That CC&R's including vehicular access, shared parking, landscaping and permanent maintenance of all common areas such as the public street parkways and perimeter landscaping, project identification signage and walls, and all similar infrastructure agreements shall be recorded with the final parcel map. The CC&R's and/or vehicular access agreements shall address property owners' responsibility for repair and maintenance of the easement, repair and maintenance of shared public or private utilities, and shall be kept free and clear of any structures. All property owners are equally responsible for these requirements. The City Planner and City Engineer shall review for approval these CC&R's or vehicular access agreements verifying compliance with these requirements prior to the CC&R's recordation.
7. That each parcel shall have separate utilities.
8. That all applicable federal, state, and city laws and codes and ordinances be met.

APPEAL INFORMATION

According to the City of Visalia Zoning Ordinance Section 17.02.145, and Subdivision Ordinance Section 16.28.080, an appeal to the City Council may be submitted within ten days following the date of a decision by the Planning Commission. An appeal with applicable fees shall be in writing and shall be filed with the City Clerk at 220 N. Santa Fe Street, Visalia CA. The appeal shall specify errors or abuses of discretion by the Planning Commission, or decisions not supported by the evidence in the record. The appeal form can be found on the city's website www.visalia.city or from the City Clerk.

Attachments:

- Related Plans and Policies
- Resolution No. 2020-061 (Conditional Use Permit No. 2020-30)
- Resolution No. 2020-62 (Tentative Parcel Map No. 2020-09)
- Resolution No. 2021-54 (Variance No. 2021-03)
- Exhibit "A" – Site Plan and Miscellaneous Diagrams
- Exhibit “B” – Tentative Parcel Map
- Exhibit “C” – Street Improvements / Cross Sections
- Exhibit “D” – Elevations and Design Guidelines – Shopping Center
- Exhibit “E” – Elevations and Proposed Signage – Aldi
- Exhibit “F” – Phasing Plan
- Exhibit “G” – Landscaping Plan
- Exhibit “H” – Conceptual Photometric Plan
- Exhibit “I” – Operational Statement
- Exhibit “J” – Master Sign Program
- Exhibit “K” – Variance Findings
- Exhibit “L” – Pedestrian Connectivity Plan
- Initial Study / Mitigated Negative Declaration No. 2021-42
- Traffic Impact Analysis Report (Excluding Attachments and Appendices)
- Caltrans September 9, 2021, Correspondence
- Cultural Resource Assessment
- Site Plan Review No. 2019-167 Comments
- Site Plan Review No. 2020-012 Comments
- Site Plan Review No. 2020-013 Comments
- Site Plan Review No. 2020-122 Comments
- General Plan Land Use Map
- Zoning Map
- Aerial Map
- Vicinity Map

RELATED PLANS AND POLICIES

Visalia Municipal Code Title 16, Chapter 16.28

PARCEL MAPS

16.28.010 Purpose.

The council incorporates this chapter in its subdivision ordinance in order to establish the requirements and procedures for processing subdivisions that are authorized to be made through the parcel map procedure by Sections 66426 and 66428 of the Government Code of the state of California. Where a tentative parcel map is required, a vesting tentative parcel map may be filed conferring development rights as indicated in Chapter 16.20.

16.28.020 Advisory agency.

The Planning Commission is designated as the advisory agency referred to in Article 2 of the Subdivision Map Act and is charged with the duty of making investigations and reports on the design and improvement of proposed divisions of land under this chapter. The city planner is designated as the clerk to the advisory agency with authority to receive parcel maps.

16.28.030 Review by Site Plan Review Committee.

A. All tentative parcel maps shall be reviewed by the Site Plan Review Committee prior to the submission of said tentative parcel map to the Planning Commission.

B. The Site Plan Review Committee shall examine and review the following:

1. The completeness and accuracy of the tentative parcel map and the suitability of the land for purposes of subdivision;

2. Conformity of the overall design of the subdivision to the general plan and all pertinent requirements of this chapter and other laws and plans of the city;

3. The provisions for, and suitability of street improvements, underground utilities, fire hydrants, street lights, storm drains, streets, trees and sidewalks. The adequacy of the water supply, solid waste collection, sewage disposal and easements for utilities and drainage;

4. Provisions for public areas, including parks, schools, public utilities facilities, public bus stops and turnouts, etc.

C. If any portion of the subdivision is in conflict with any of the requirements of this chapter, other ordinances, or state law, the Site Plan Review Committee shall, to the best of its ability, advise the subdivider of such conflicts.

D. The Site Plan Review Committee may deem it advisable to recommend additional improvements, easements, or dedications, to be included, in which case the subdivider shall be duly informed of the nature of the recommendations following the Site Plan Review Committee meeting.

E. The Site Plan Review Committee shall make a report of its recommendations to the Planning Commission, and shall furnish a copy of that report to the subdivider, in writing, no less than three days prior to the Planning Commission meeting at which the tentative parcel map is to be considered by the commission.

16.28.040 Tentative parcel maps.

A. The person or agency dividing land under this section shall file a tentative parcel map with the community development director not less than thirty (30) days before the date of the commission meeting at which such map is to be considered. Such filing shall be prior to the start of any grading or construction work within the proposed division of land. The tentative parcel map shall be submitted in the same manner as provided for subdivisions as to area

improvement and design, flood and water drainage control, and as to required public improvements.

B. A person desiring to divide land subject to the provisions of this chapter shall submit the tentative parcel map, therefore in accord with the following requirements:

1. Filing. Twenty-five (25) copies of the tentative parcel map shall be filed with the community development director. The tentative parcel map shall be legibly drawn, on eighteen (18) inch by twenty-six (26) inch tracing paper suitable for reproduction, to a scale and in a manner to best illustrate the proposed division.

2. Fees. At the time of filing of the tentative parcel map, a fee shall be paid to the city in such amount as may be established by the City Council, on a yearly basis, by resolution.

3. Acceptance. The city engineer and community development director shall examine any such tentative parcel map within five working days of presentation and shall not accept such map unless the map is in full compliance with the provisions of this chapter and the Subdivision Map Act of the state of California, as to form, data, information, and other matters required to be shown on or furnished therewith.

4. Distribution. The community development director shall immediately forward copies of the tentative parcel map to each of the following when affected:

a. Southern California Gas Company;

b. Southern California Edison Company;

c. California Water Service;

d. AT&T;

e. Comcast Cable;

f. Visalia Unified School District.

5. Agency Action. With the exception of school districts, the agency receiving a copy of the tentative parcel map shall file a report within fifteen (15) days after the receipt thereof. School districts shall respond within twenty (20) working days of the date on which the notice was mailed to the school district for comment. If a reply is not received prior to the meeting at which consideration of the map is made, it will be assumed that the map conforms to the requirements of the particular agency concerned.

16.28.050 Form and content.

The tentative parcel map shall contain the following information:

A. The name and address of the engineer or surveyor preparing the map and the legal owner of record of the land, and the applicant, if different from the legal owner of record;

B. The boundary lines of the entire parcel, including the area to be divided, with dimensions based on existing survey data or property descriptions;

C. The proposed division lines, approximate dimensions, and approximate acreage or square footage of each proposed parcel;

D. The identification of each parcel with a number designation;

E. All existing surface and underground structures and improvements located on the original parcel, together with their dimensions, the distances between them, the distances to division and property lines, and the number of stories or the height of each structure;

F. The names, widths and locations of all existing and proposed streets abutting or traversing the original parcel, and a statement if the street is private and/or a statement if the street does not actually exist on the ground;

G. The location, purposes, width and recorded owners of all existing and proposed easements or private rights-of-way abutting or traversing any part of the original parcel easement boundaries shall be shown by means of dotted lines;

H. An accurate description of the original parcel;

I. The date of preparation, north arrow and scale of the drawing. Said scale shall be large enough to show all details clearly and enough sheets shall be used to accomplish this end;

J. The existing and proposed uses of the property;
K. The proposed method of sewage disposal;
L. The proposed domestic water supply;
M. The assessor's parcel numbers;
N. The proposed street names;
O. The approximate location and width of watercourses or areas subject to inundation from floods, and the location of structures, irrigation ditches and other permanent fixtures;
P. Any railroads;
Q. The approximate radius of curves;
R. A location map showing the original parcels and the surrounding area;
S. The existing zone district designation of the original parcels;
T. The proposed use of the property;
U. Oak trees having a trunk diameter exceeding four inches, measured at a point five feet above the existing ground level;
V. The proposed method of solid waste collection;
W. The proposed public bus stops and turnouts, if any;
X. A map showing the properties within a three hundred (300) foot radius of the proposed tentative parcel map and a property owners list keyed to the three hundred (300) foot radius map.

16.28.060 Hearing and notice.

A. The city Planning Commission shall hold a public hearing on an application for a tentative parcel map or vesting tentative parcel map.
B. Notice of a public hearing shall be given not less than ten days or more than thirty (30) days prior to the date of the hearing by mailing a notice of the time and place of the hearing to property owners within three hundred (300) feet of the boundaries of the area proposed for subdivision.

16.28.070 Consideration of tentative parcel maps.

The commission shall review the tentative parcel map and approve, conditionally approve, or disapprove the map within thirty (30) days after the receipt of such map, or at such later date as may be required to concurrently process the appurtenant environmental documents required by state law and local regulations adopted in implementation thereof.

16.28.080 Appeals.

If the applicant is dissatisfied with the decision of the Planning Commission, he may, within ten days after the decision of the Planning Commission, appeal in writing to the council for a hearing thereon. Such hearing need not be concluded on the day thus set but may be continued.

16.28.090 Time limit on tentative parcel map.

Failure to file a final parcel map with the county recorder within twenty-four (24) months after the date of approval or conditional approval of the tentative parcel map shall automatically revoke said approval, and a final parcel map shall not be recorded until a new tentative parcel map has been filed and approved in accordance with the provisions of this chapter. However, upon application by the owner or his authorized agent, an extension of not more than an additional thirty-six (36) months may be granted by the Planning Commission. If the Planning Commission denies an application for an extension of time, the owner or his authorized agent may appeal the action to the City Council in the manner set forth in Section 16.28.080.

16.28.100 Improvements.

Pursuant to the provisions of the Subdivision Map Act, the subdivider shall install, construct and/or provide all on or off-site improvements as recommended by the city engineer and as required by the commission. Such improvements shall be limited to the dedication of rights-of-way, easements and the construction of reasonable off-site and on-site improvements for the parcels being created. The nature, extent and design of such improvements and the guaranteeing of completion thereof shall be in full conformance with the provisions in Chapter 16.36.

16.28.110 Right-of-way dedications.

A. Pursuant to the Subdivision Map Act, the subdivider shall provide such dedication of right-of-way and/or easements as may be required by the Planning Commission.
B. The Planning Commission may, at its discretion, require that offers of dedication or dedication of streets include a waiver of direct access rights to any such streets from any property shown on the final map as abutting thereon, in accord with the provisions of the Subdivision Map Act.

16.28.120 Final parcel maps.

Within the time limit designated in Section 16.28.090 and upon the accomplishment of all dedications by certification on the map and required construction of all public improvements, or the execution of an agreement and provision of surety providing therefore, and the payment of all applicable fees and charges, the applicant may file a final parcel map with the city engineer and community development director, who shall approve the final parcel map if it substantially conforms to the approved tentative parcel map and all applicable provisions of the Subdivision Map Act and this chapter. The appropriate certificates, as provided by the applicant in accordance with the provisions of the Subdivision Map Act, shall be signed by the city engineer and community development director upon the parcel map, and the final parcel map shall be transmitted by the city clerk to the clerk of the county board of supervisors for ultimate transmittal to the county recorder.

16.28.125 Filing.

The subdivider may file the original and three (3) copies of the final parcel map and required accompanying data with the city engineer. When a final parcel map is submitted to the city engineer in accordance with this code, it shall be accompanied by the following documents:
A. Plans, profiles and specifications of the proposed public and private improvements, designed in accord with the requirements of the city engineer;
B. A filing fee to cover the expense of checking in an amount to be established by the City Council from time to time by resolution;
C. A preliminary subdivision guarantee issued by a title insurance company, in the name of the owner of the land, issued to or for the benefit and protection of the city, showing all parties whose consent is necessary and their interest therein, except where the land included in such subdivision is registered under the Land Registration Act. If the land is so registered, a copy of the certificate of title shall be furnished, certified.
D. Calculation and traverse sheets, used in computing the distances, angles and courses shown on the final map and ties to existing and proposed monuments, and showing closures, within the allowable limits of error specified in the ordinance, for exterior boundaries of the subdivision and for each irregular block or lot of the subdivision.
E. Two (2) copies of the proposed deed restrictions, if any.

16.28.130 Survey requirements.

If the division of land creates four or less parcels, the final parcel map may be compiled from recorded or filed data when survey information exists on recorded or filed maps to sufficiently locate and retrace the exterior boundary lines of the final parcel map and when the location of at least one of these boundary lines can be established from an existing monumented line. In all other cases, the final parcel map shall be based on a field survey of the land conducted in accordance with the Land Surveyor's Act of the state of California. All new lot corners shall be monumented and based on a field survey.

16.28.140 Information on final parcel map.

A. Each parcel shall be consecutively numbered. Each parcel shall have its area shown to the nearest one-hundredth (0.01) of an acre or nearest square foot. The exterior boundary of the land included within the parcel or parcels being created shall be indicated by a distinctive border. Such border shall not interfere with the legibility of figures or other data. The map shall show the definite location of such parcel or parcels, and particularly the relationship to existing surveys.

B. Each final parcel map shall contain the following information:

1. The tentative parcel map number and date of preparation;
2. The tract name, date, north arrow and scale;
3. A general description of the land included;
4. Names and addresses of the owners of the property being divided;
5. The location, names without abbreviations, and right-of-way widths of all:

a. Proposed streets;
b. Proposed public areas and easements; and
c. Adjoining streets;

6. All dimensions shall be in feet and decimals of a foot to the nearest one-hundredth of a foot (0.01’); all necessary angles and bearings shall be provided to the nearest second of a degree (00º-00’-01”);
7. The dimensions of all lots, including lot area in square feet, and a lot number for each lot;
8. The centerline data for streets including bearings and distances;
9. The radius, arc length, and central angle of curves;
10. Suitable primary survey control points;
11. The location and description of permanent monuments;
12. The boundaries of any public and/or private easement, whether an easement of record or a prescriptive easement, shall be shown; the party holding interest in the easement shall be shown on the map;
13. Location and widths of all easements to be dedicated, if required;
14. The location and widths of watercourses and areas subject to inundation and location of selected flood lines within the parcels being created; properties located in a Special Flood Hazard Area shall comply with all requirements of Chapter 15.60;
15. Ties to any city or county boundary lines involved;
16. Required Certifications;

a. All required dedications of rights-of-way or easements shall be certified on the final parcel map in accordance with Section 66447 of the Subdivision Map Act;
b. All parties having any record title interest in the real property subdivided shall sign a certificate on the final parcel map in accordance with Subsection 66445(e) of the Subdivision Map Act;
c. A certificate of the registered civil engineer or licensed land surveyor who prepared the survey and the final parcel map, in compliance with Section 66449 of the Subdivision Map Act;

d. A certificate for execution by the City Engineer/ City Surveyor that complies with Section 66450 of the Subdivision Map Act;
e. A certificate for execution by the city planner on behalf of the parcel map committee certifying that the final parcel map conforms to the approved tentative parcel map; and
f. All other certificates as required;
17. Any other requirements of the Subdivision Map Act.
B. The final parcel map shall contain survey information that only affects record title interest. However, additional survey and map information such as, but not limited to, building setback lines, flood hazard zones, seismic lines and setback, geologic mapping and archaeological sites, if appropriate, shall be shown on an additional map sheet that shall indicate its relationship to the final parcel map, and shall contain a statement that the additional information is for informational purposes, describes conditions as of the date of filing, and is not intended to affect record title interest. The additional map sheet may also contain a notation that the additional information is derived from public records or reports, and does not imply the correctness or sufficiency of those records or reports by the preparer of the additional map sheet. The acceptance of the additional map sheet by the city, similarly does not imply the correctness or sufficiency of those records or reports. The additional map sheet shall be recorded simultaneously with the final parcel map.

16.28.150 Waiver of final parcel map.

The Planning Commission or City Council may, at its discretion, waive the final parcel map when a finding is made that the proposed division of land complies with the requirements established by this chapter as to area, improvement and design, floodwater drainage control, appropriate improved public roads, sanitary disposal facilities, water supply availability, environmental protection, and other requirements of this chapter.

16.28.160 Amending of parcel maps.

After a parcel map is filed in the office of the county recorder such a recorded parcel map may be modified by a certificate of correction or an amending map if the local agency finds that there are changes in circumstances that make any or all of the conditions of such a map no longer appropriate or necessary and that the modifications do not impose any additional burden on the present fee owner of the property, and if the modifications do not alter any right, title or interest in the real property reflected on the recorded parcel map and the local agency finds that the map, as modified, conforms to the provisions of Section 66474 of the Subdivision Map Act. Any such modifications shall be set for public hearing as provided for in Section 16.28.060 of this chapter. The legislative body shall confine the hearing to consideration of an action on the proposed modification.

Visalia Municipal Code Title 17, Chapter 17.18
COMMERCIAL ZONES

17.18.010 Purpose and intent.

A. The several types of commercial zones included in this chapter are designed to achieve the following:

1. Provide appropriate areas for various types of retail stores, offices, service establishments and wholesale businesses to be concentrated for the convenience of the public; and to be located and grouped on sites that are in logical proximity to the respective geographical areas and respective categories of patrons that they serve in a manner consistent with the general plan;

2. Maintain and improve Visalia's retail base to serve the needs of local residents and encourage shoppers from outside the community;

3. Accommodate a variety of commercial activities to encourage new and existing business that will employ residents of the city and those of adjacent communities;

4. Maintain Visalia's role as the regional retailing center for Tulare and Kings Counties and ensure the continued viability of the existing commercial areas;

5. Maintain commercial land uses that are responsive to the needs of shoppers, maximizing accessibility and minimizing trip length;

6. Ensure compatibility with adjacent land uses.

B. The purposes of the individual commercial zones are as follows:

1. Neighborhood Commercial Zone (C-N). The purpose and intent of the neighborhood commercial zone district is to provide for small-scale commercial development that primarily serves surrounding residential areas, wherein small office uses as well as horizontal or vertical residential mixed use are also supported, and provide standards to ensure that neighborhood commercial uses are economically viable and also integrated into neighborhoods in terms of design, with negative impacts minimized, with multimodal access, and context-sensitive design. Neighborhood Commercial development shall be subject to design review and public input. There should be 10 to 15 dwelling units per gross acre where residential uses are included. Shopping centers shall be of a total size of 5 to 12 acres and located no closer than one mile from other General Plan designated Neighborhood Commercial locations, or from existing grocery stores, anchored by a grocery store or similar business no larger than 40,000 square feet in size, and include smaller in-line stores of less than 10,000 square feet. Alterations and additions in existing nonconforming centers may be permitted, subject to design review and conditions of approval to minimize neighborhood impacts.

2. Regional Commercial Zone (C-R). The purpose and intent of the regional commercial zone district is to provide areas for retail establishments that are designed to serve a regional service trade area. The uses permitted in this district are to be of a large-scale regional retail nature with supporting goods and services. Uses that are designed to provide service to residential areas and convenience, neighborhood and community level retail are not permitted, while office uses are to be limited.

3. Service Commercial Zone (C-S). The purpose and intent of the planned service commercial zone district is to provide areas that accommodate wholesale, heavy commercial uses, such as lumberyards and construction material retail uses, etc., and services such as automotive, plumbing, and sheet metal fabrication. It is intended that uses in this district be those that can be compatible with heavy truck traffic and noise. Uses that would restrict the operation of generally permitted heavy commercial businesses are not provided in this district. (Ord. 2017-01 (part), 2017: prior code § 7310)

17.18.015 Applicability.

The requirements in this chapter shall apply to all property within the C-N, C-R, and C-S zone districts. (Ord. 2017-01 (part), 2017)

17.18.020 Permitted uses.

Permitted uses in the C-N, C-R, and C-S zones shall be determined by Table 17.25.030 in Section 17.25.030. (Ord. 2017-01 (part), 2017; Ord. 2016-06, 2016; Ord. 2015-04 § 2, 2015; Ord. 2015-01 § 2, 2015; Ord. 2014-07 § 3 (part), 2014; Ord. 2012-10, 2012; Ord. 2012-08, 2012; Ord. 2012-02, 2012; Ord. 2011-07 § 2, 2011; Ord. 2010-16, 2010; Ord. 2009-02, 2009; Ord. 2006-17, 2006; Res. 2004-75 (part), 2004; Ord. 2004-08 § 3, 2004; Res. 2004-14 (part),

2004; Res. 2003-95 (part), 2003; Res. 2002-83, 2002; Res. 2002-26, 2002; Res. 2001-40, 2001; Res. 2001-29, 2001; Ord. 2000-01 § 6, 2000; Ord. 9903 § 3, 1999; Ord. 9717 § 2 (part), 1997; amended by council August 13, 1997; amended by council June 3, 1996 and May 20, 1996: prior code § 7328)

17.18.030 Conditional and temporary uses.

Conditional and temporary uses in the C-N, C-R, and C-S zones shall be determined by Table 17.25.030 in Section 17.25.030. (Ord. 2017-01 (part), 2017: Ord. 2016-06, 2016; Ord. 2015-04 § 2, 2015; Ord. 2015-01 § 2, 2015; Ord. 2014-07 § 3 (part), 2014; Ord. 2012-10, 2012; Ord. 2012-08, 2012; Ord. 2012-02, 2012; Ord. 2011-07 § 2, 2011; Ord. 2010-16, 2010; Ord. 2009-02, 2009; Ord. 2006-17, 2006; Res. 2004-75 (part), 2004; Ord. 2004-08 § 3, 2004; Res. 2004-14 (part), 2004; Res. 2003-95 (part), 2003; Res. 2002-83, 2002; Res. 2002-26, 2002; Res. 2001-40, 2001; Res. 2001-29, 2001; Ord. 2000-01 § 6, 2000; Ord. 9903 § 3, 1999; Ord. 9717 § 2 (part), 1997; amended by council August 13, 1997; amended by council June 3, 1996 and May 20, 1996: prior code § 7328)

17.18.040 Required conditions.

A. A site plan review permit must be obtained for all development in all C-N, C-S, and C-R zones, subject to the requirements and procedures in Chapter 17.28.

B. All businesses, services and processes shall be conducted entirely within a completely enclosed structure, except for off-street parking and loading areas, gasoline service stations, outdoor dining areas, nurseries, garden shops, Christmas tree sales lots, bus depots and transit stations, electric distribution substation, and recycling facilities;

C. All products produced on the site of any of the permitted uses shall be sold primarily at retail on the site where produced;

D. All new construction in existing C-N zones not a part of a previously approved planned development shall conform with development standards determined by the site plan review committee. (Ord. 2017-01 (part), 2017: prior code § 7319)

17.18.050 Off-street parking and loading facilities.

Off-street parking and off-street loading facilities shall be provided as prescribed in Chapter 17.34. (Ord. 2017-01 (part), 2017: prior code § 7325)

17.18.070 Development standards in the C-R zone.

The following development standards shall apply to property located in the C-R zone:

A. Minimum site area: five (5) acres.

B. Maximum building height: fifty (50) feet.

C. Minimum required yards (building setbacks):

1. Front: twenty (20) feet;

2. Rear: zero (0) feet;

3. Rear yards abutting an R-1 or R-M zone district: fifteen (15) feet;

4. Side: zero (0) feet;

5. Side yards abutting an R-1 or R-M zone district: fifteen (15) feet;

6. Street side yard on corner lot: ten (10) feet.

D. Minimum required landscaped yard (setback) areas:

1. Front: twenty (20) feet;
2. Rear: five (5) feet;
3. Rear yards abutting an R-1 or R-M zone district: five (5) feet;
4. Side: five (5) feet (except where a building is located on side property line);
5. Side yards abutting an R-1 or R-M zone district: five (5) feet;
6. Street side on corner lot: ten (10) feet. (Ord. 2017-01 (part), 2017)

Visalia Municipal Code Title 17, Excerpt from Chapter 17.32

SPECIAL PROVISIONS

17.32.162 Drive-thru lanes performance standards.

A. Purpose and Intent. It is the purpose of this section to specify performance standards applicable to uses that seek to incorporate a drive-thru lane in association with a specified use.

This section does not apply to carwashes and lube and oil changing stations.

B. Performance standards:

1. Separation from residences. The drive-thru lane shall be no less than two hundred fifty (250) feet from the nearest residence or residentially zoned property.

2. Stacking. The drive-thru lane shall contain no less than ten (10) vehicle stacking, measured from pickup window to the designated entrance to the drive-thru lane. There shall be no less than three vehicle spaces distance from the order menu/speaker (or like device) to the designated entrance to the order window.

3. Circulation. No portion of the drive-thru lane shall obstruct any drive aisles or required onsite parking. The drive-thru shall not take ingress or egress from a local residential road.

4. Noise. No component or aspect of the drive-thru lane or its operation shall generate noise levels in excess of 60 dB between the hours of 7:00 p.m. and 6:00 a.m. daily.

5. Screening. The entire drive-thru lane shall be screened from adjacent street and residential view to a height of three feet. Screening devices shall be a combination of berming, hedge and landscape materials, and solid walls as approved by the City Planner.

6. Menu boards and signage. Shall be oriented or screened to avoid direct visibility from adjacent public streets.

Visalia Municipal Code Title 17, Chapter 17.38

CONDITIONAL USE PERMITS

17.38.010 Purposes and powers

In certain zones conditional uses are permitted subject to the granting of a conditional use permit. Because of their unusual characteristics, conditional uses require special consideration so that they may be located properly with respect to the objectives of the zoning ordinance and with respect to their effects on surrounding properties. In order to achieve these purposes and thus give the zone use regulations the flexibility necessary to achieve the objectives of this title, the planning commission is empowered to grant or deny applications for conditional use permits and to impose reasonable conditions upon the granting of such permits. (Prior code § 7525)

17.38.020 Application procedures

A. Application for a conditional use permit shall be made to the planning commission on a form prescribed by the commission which shall include the following data:

1. Name and address of the applicant;
2. Statement that the applicant is the owner of the property or is the authorized agent of the owner;
3. Address and legal description of the property;
4. The application shall be accompanied by such sketches or drawings as may be necessary by the planning division to clearly show the applicant's proposal;
5. The purposes of the conditional use permit and the general description of the use proposed;
6. Additional information as required by the historic preservation advisory committee.

B. The application shall be accompanied by a fee set by resolution of the city council sufficient to cover the cost of handling the application. (Prior code § 7526)

17.38.030 Lapse of conditional use permit

A conditional use permit shall lapse and shall become void twenty-four (24) months after the date on which it became effective, unless the conditions of the permit allowed a shorter or greater time limit, or unless prior to the expiration of twenty-four (24) months a building permit is issued by the city and construction is commenced and diligently pursued toward completion on the site which was the subject of the permit. A permit may be renewed for an additional period of one year; provided, that prior to the expiration of twenty-four (24) months from the date the permit originally became effective, an application for renewal is filed with the planning commission. The commission may grant or deny an application for renewal of a conditional use permit. In the case of a planned residential development, the recording of a final map and improvements thereto shall be deemed the same as a building permit in relation to this section. (Ord. 2001-13 § 4 (part), 2001: prior code § 7527)

17.38.040 Revocation

Upon violation of any applicable provision of this title, or, if granted subject to a condition or conditions, upon failure to comply with the condition or conditions, a conditional use permit shall be suspended automatically. The planning commission shall hold a public hearing within sixty (60) days, in accordance with the procedure prescribed in Section 17.38.080, and if not satisfied that the regulation, general provision or condition is being complied with, may revoke the permit or take such action as may be necessary to insure compliance with the regulation, general provision or condition. Appeals of the decision of the planning commission may be made to the city council as provided in Section 17.38.120. (Prior code § 7528)

17.38.050 New application

Following the denial of a conditional use permit application or the revocation of a conditional use permit, no application for a conditional use permit for the same or substantially the same conditional use on the same or substantially the same site shall be filed within one year from the date of denial or revocation of the permit unless such denial was a denial without prejudice by the planning commission or city council. (Prior code § 7530)

17.38.060 Conditional use permit to run with the land

A conditional use permit granted pursuant to the provisions of this chapter shall run with the land and shall continue to be valid upon a change of ownership of the site or structure which was the subject of the permit application subject to the provisions of Section 17.38.065. (Prior code § 7531)

17.38.065 Abandonment of conditional use permit

If the use for which a conditional use permit was approved is discontinued for a period of one hundred eighty (180) days, the use shall be considered abandoned and any future use of the site as a conditional use will require the approval of a new conditional use permit.

17.38.070 Temporary uses or structures

A. Conditional use permits for temporary uses or structures may be processed as administrative matters by the city planner and/or planning division staff. However, the city planner may, at his/her discretion, refer such application to the planning commission for consideration.

B. The city planner and/or planning division staff is authorized to review applications and to issue such temporary permits, subject to the following conditions:

1. Conditional use permits granted pursuant to this section shall be for a fixed period not to exceed thirty (30) days for each temporary use not occupying a structure, including promotional enterprises, or six months for all other uses or structures.
2. Ingress and egress shall be limited to that designated by the planning division. Appropriate directional signing, barricades, fences or landscaping shall be provided where required. A security officer may be required for promotional events.
3. Off-street parking facilities shall be provided on the site of each temporary use as prescribed in Section 17.34.020.
4. Upon termination of the temporary permit, or abandonment of the site, the applicant shall remove all materials and equipment and restore the premises to their original condition.
5. Opening and closing times for promotional enterprises shall coincide with the hours of operation of the sponsoring commercial establishment. Reasonable time limits for other uses may be set by the city planner and planning division staff.
6. Applicants for a temporary conditional use permit shall have all applicable licenses and permits prior to issuance of a conditional use permit.
7. Signing for temporary uses shall be subject to the approval of the city planner.
8. Notwithstanding underlying zoning, temporary conditional use permits may be granted for fruit and vegetable stands on properties primarily within undeveloped agricultural areas. In reviewing applications for such stands, issues of traffic safety and land use compatibility shall be evaluated and mitigation measures and conditions may be imposed to ensure that the stands are built and are operated consistent with appropriate construction standards, vehicular access and off-street parking. All fruits and vegetables sold at such stands shall be grown by the owner/operator or purchased by said party directly from a grower/farmer.

C. The applicant may appeal an administrative decision to the planning commission. (Ord. 9605 § 30 (part), 1996: prior code § 7532)

17.38.080 Public hearing--Notice

A. The planning commission shall hold at least one public hearing on each application for a conditional use permit.

B. Notice of the public hearing shall be given not less than ten days nor more than thirty (30) days prior to the date of the hearing by mailing a notice of the time and place of the hearing to property owners within three hundred (300) feet of the boundaries of the area occupied or to be occupied by the use which is the subject of the hearing, and by publication in a newspaper of general circulation within the city. (Prior code § 7533)

17.38.090 Investigation and report

The planning staff shall make an investigation of the application and shall prepare a report thereon which shall be submitted to the planning commission. (Prior code § 7534)

17.38.100 Public hearing--Procedure

At the public hearing the planning commission shall review the application and the statement and drawing submitted therewith and shall receive pertinent evidence concerning the proposed use and the proposed conditions under which it would be operated or maintained, particularly with respect to the findings prescribed in Section 17.38.110. The planning commission may continue a public hearing from time to time as it deems necessary. (Prior code § 7535)

17.38.110 Action by planning commission

A. The planning commission may grant an application for a conditional use permit as requested or in modified form, if, on the basis of the application and the evidence submitted, the commission makes the following findings:

1. That the proposed location of the conditional use is in accordance with the objectives of the zoning ordinance and the purposes of the zone in which the site is located;

2. That the proposed location of the conditional use and the conditions under which it would be operated or maintained will not be detrimental to the public health, safety or welfare, or materially injurious to properties or improvements in the vicinity.

B. A conditional use permit may be revocable, may be granted for a limited time period, or may be granted subject to such conditions as the commission may prescribe. The commission may grant conditional approval for a permit subject to the effective date of a change of zone or other ordinance amendment.

C. The commission may deny an application for a conditional use permit. (Prior code § 7536)

17.38.120 Appeal to city council

The decision of the City planning commission on a conditional use permit shall be subject to the appeal provisions of Section 17.02.145. (Prior code § 7537) (Ord. 2006-18 § 6, 2007)

17.38.130 Effective date of conditional use permit

A conditional use permit shall become effective immediately when granted or affirmed by the council, or upon the sixth working day following the granting of the conditional use permit by the planning commission if no appeal has been filed. (Prior code § 7539)

Visalia Municipal Code Title 17, Chapter 17.42

VARIANCES

17.42.010 Variance purposes.

The city planning commission may grant variances in order to prevent unnecessary hardships that would result from a strict or literal interpretation and enforcement of certain regulations prescribed by this title. A practical difficulty or unnecessary hardship may result from the size, shape or dimensions of a site or the location of existing structures thereon, from geographic, topographic or other physical conditions on the site or in the immediate vicinity, or from population densities, street locations or traffic conditions in the immediate vicinity. The power to grant variances does not extend to use regulations, because the flexibility necessary to avoid results inconsistent with the objectives of the zoning ordinance is provided by the conditional use provisions of this title. (Ord. 2017-01 (part), 2017: prior code § 7555)

17.42.020 [Reserved].

17.42.030 Variance powers of city planning commission.

The city planning commission may grant variances to the regulations prescribed by this title with respect to fences and walls, site area, width, frontage coverage, front yard, rear yard, side yards, height of structures, distance between structures, off-street parking facilities, accessory dwelling unit standards pursuant to Sections 17.12.140 through 17.12.200, and downtown building design criteria pursuant to Sections 17.58.082 through 17.58.088; in accordance with the procedures prescribed in this chapter. (Ord. 2017-01 (part), 2017: prior code § 7557)

17.42.040 [Reserved].

17.42.50 Application procedures.

A. Application for a variance or exception shall be made to the city planning commission on a form prescribed by the commission and shall include the following data:

   1. Name and address of the applicant;
   2. Statement that the applicant is the owner of the property, is the authorized agent of the owners, or is or will be the plaintiff in an action in eminent domain to acquire the property involved;
   3. Address and legal description of the property;
   4. Statement of the precise nature of the variance or exception requested and the hardship or practical difficulty that would result from the strict interpretation and enforcement of this title;
   5. The application shall be accompanied by such sketches or drawings that may be necessary to clearly show applicant's proposal;
   6. Additional information as required by the historic preservation advisory board;
   7. When reviewing requests for an exception associated with a request for density bonus as provided in Chapter 17.32, Article 2, the applicant shall submit copies of the comprehensive development plan, sketches and plans indicating the nature of the request and written justification that the requested modifications result in identifiable cost reductions required for project to reach target affordability.

B. The application shall be accompanied by a fee set by resolution of the city council sufficient to cover the cost of handling the application.

C. No variance shall be required for structures or devices that are necessary to facilitate reasonable access to a building or accommodation for persons with physical or non-physical disabilities. (Ord. 2017-13 (part), 2017: Ord. 2017-01 (part), 2017: prior code § 7559)

17.42.60 Hearing and notice.

A. The city planning commission shall hold a public hearing on an application for a variance.

B. Notice of a public hearing shall be given not less than ten days or more than thirty (30) days prior to the date of the hearing by mailing a notice of the time and place of the hearing to property owners within three hundred (300) feet of the boundaries of the area occupied or to be occupied by the use that is the subject of the hearing. (Ord. 2017-01 (part), 2017: prior code § 7560)

17.42.070 Investigation and report.

The city planning staff shall make an investigation of the application and shall prepare a report thereon that shall be submitted to the city planning commission. (Ord. 2017-01 (part), 2017: prior code § 7561)

17.42.080 Public hearing procedure.

At a public hearing the city planning commission shall review the application and the statements and drawings submitted therewith and shall receive pertinent evidence concerning the variance, particularly with respect to the findings prescribed in Section 17.42.090. (Ord. 2017-01 (part), 2017: prior code § 7562)

17.42.90 Variance action of the city planning commission.

A. The city planning commission may grant a variance to a regulation prescribed by this title with respect to fences and walls, site area, width, frontage, coverage, front yard, rear yard, side yards, height of structures, distances between structures or landscaped areas or in modified form if, on the basis of the application, the report of the city planning staff or the evidence submitted, the commission makes the following findings:

1. That strict or literal interpretation and enforcement of the specified regulation would result in practical difficulty or unnecessary hardship inconsistent with the objectives of the zoning ordinance;

2. That there are exceptional or extraordinary circumstances or conditions applicable to the property involved or to the intended use of the property which do not apply generally to other properties classified in the same zone;

3. That strict or literal interpretation and enforcement of the specified regulation would deprive the applicant of privileges enjoyed by the owners of other properties classified in the same zone;

4. That the granting of the variance will not constitute a grant of special privilege inconsistent with the limitations on other properties classified in the same zone;

5. That the granting of the variance will not be detrimental to the public health, safety or welfare, or materially injurious to properties or improvements in the vicinity.

B. The city planning commission may grant a variance to a regulation prescribed by this title with respect to off-street parking facilities, if, on the basis of the application, the report of the city planner or the evidence submitted the commission makes the findings prescribed in subsection (A)(1) of this section and that the granting of the variance will not result in the parking of vehicles on public streets in such a manner as to interfere with the free flow of traffic on the streets.

C. A variance may be revocable, may be granted for a limited time period, or may be granted subject to such conditions as the commission may prescribe.

D. The city planning commission may deny a variance application. (Ord. 2017-01 (part), 2017: prior code § 7563)

17.42.100 [Reserved].

17.42.110 Appeal to city council.

The decision of the city planning commission on a variance or exception application shall be subject to the appeal provisions of Section 17.02.145. (Ord. 2017-01 (part), 2017: Ord. 2006-18 § 7, 2007: Ord. 2001-13 § 4 (part), 2001: prior code § 7565)

17.42.120 Lapse of variance.

A variance shall lapse and become void one year following the date on which the variance became effective, unless prior to the expiration of one year, a building permit is issued by the building official and construction is commenced and diligently pursued toward completion on the site that was the subject of the variance application, or a certificate of occupancy is issued by the building official for the site or structure that was the subject of the variance application. A variance may be renewed for an additional period of one year; provided, that prior to the expiration of one year from the date when the variance became effective, an application for renewal of the variance is made to the commission. The commission may grant or deny an application for renewal of a variance. (Ord. 2017-01 (part), 2017: Ord. 2006-18 § 7, 2007: prior code § 7567)

17.42.130 Revocation.

A variance granted subject to a condition or conditions shall be revoked by the city planning commission if the condition or conditions are not complied with. (Ord. 2017-01 (part), 2017: Ord. 2006-18 § 7, 2007: prior code § 7568)

17.42.140 New application.

Following the denial of a variance application or the revocation of a variance, no application for the same or substantially the same variance on the same or substantially the same site shall be filed within one year of the date of denial of the variance application or revocation of the variance. (Ord. 2017-01 (part), 2017: Ord. 2006-18 § 7, 2007: prior code § 7569)

RESOLUTION NO. 2020-61

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF VISALIA APPROVING CONDITIONAL USE PERMIT NO. 2020-30, A REQUEST BY TMT, LLC TO ALLOW A MASTER-PLANNED COMMERCIAL DEVELOPMENT ON A 38.5-ACRE PARCEL IN THE C-R (REGIONAL COMMERCIAL) ZONE, FOR THE DEVELOPMENT OF APPROXIMATELY 212,450 SQUARE FEET OF COMMERCIAL SHOPPING CENTER SPACE IN FOUR PHASES, CONSISTING OF A SPECIALTY GROCERY STORE, SEVEN DRIVE-THRU RESTAURANTS, A GAS STATION/CONVENIENCE STORE WITH DRIVE-THRU FACILITY, A CARWASH FACILITY, TWO SIT-DOWN RESTAURANTS, AND 25 RETAIL PADS. THE PROJECT SITE IS LOCATED ON THE SOUTHEAST CORNER OF WEST VISALIA PARKWAY AND SOUTH MOONEY BOULEVARD (APN: 126-080-025, 056)

WHEREAS, Conditional Use Permit No. 2020-30, is a request by TMT, LLC to allow a master-planned commercial development on a 38.5-acre parcel in the C-R (Regional Commercial) Zone, for the development of approximately 212,450 square feet of commercial shopping center space in four phases, consisting of a specialty grocery store, seven drive-thru restaurants, a gas station/convenience store with drive-thru facility, a carwash facility, two sit-down restaurants, and 25 retail pads. The project site is located on the southeast corner of W. Visalia Parkway and S. Mooney Boulevard (APN: 126-080-025, 056); and

WHEREAS, the Planning Commission of the City of Visalia, after duly published notice did hold a public hearing before said Commission on November 8, 2021; and

WHEREAS, the Planning Commission of the City of Visalia finds the Conditional Use Permit to be in accordance with Chapter 17.38 of the Zoning Ordinance of the City of Visalia based on the evidence contained in the staff report and testimony presented at the public hearing; and

WHEREAS, an Initial Study was prepared which disclosed that no significant environmental impacts would result from this project with the incorporation of mitigation measures.

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission finds that Mitigated Negative Declaration No. 2021-42 prepared for the proposed project was prepared consistent with the California Environmental Quality Act and City of Visalia Environmental Guidelines, and hereby adopts the Mitigated Negative Declaration.

NOW, THEREFORE, BE IT FURTHER RESOLVED that the Planning Commission of the City of Visalia makes the following specific findings based on the evidence presented:

1. That the proposed project will not be detrimental to the public health, safety, or welfare, or materially injurious to properties or improvements in the vicinity.
2. That the proposed conditional use permit is consistent with the policies and intent of the General Plan and Zoning Ordinance. Specifically, the project is consistent with the required findings of Zoning Ordinance Section 17.38.110:

a. The proposed location of the conditional use permit is in accordance with the objectives of the Zoning Ordinance and the purposes of the zone in which the site is located.

b. The proposed location of the conditional use and the conditions under which it would be operated or maintained will not be detrimental to the public health, safety, or welfare, nor materially injurious to properties or improvements in the vicinity.

3. That an Initial Study was prepared for the proposed project, consistent with CEQA, which disclosed that environmental impacts are determined to be not significant with mitigation, and therefore Mitigated Negative Declaration No. 2021-42 can be adopted for this project.

BE IT FURTHER RESOLVED that the Planning Commission hereby approves the Conditional Use Permit on the real property here described in accordance with the terms of this resolution under the provisions of Section 17.38.110 of the Ordinance Code of the City of Visalia, subject to the following conditions:

1. That the project be developed in substantial compliance with the comments in Site Plan Review Nos. 2019-167, 2020-012, 2020-013, and 2020-122.
2. That the project will be developed in substantial compliance with the site plan in Exhibit “A” and Phasing Plan in Exhibit “F” unless otherwise specified in this use permit. Any subsequent changes to the development plan layout as depicted in Exhibit “A shall be reviewed and approved by the Site Plan Review Committee and may be subject to an amendment of the Conditional Use Permit.
3. That the architectural theme and design guidelines in Exhibit “D” shall be used for all the buildings on the project site, except for the proposed Aldi building which shall be subject to the elevations in Exhibit “E”.
4. That onsite lighting for the shopping center complex and individual buildings shall not produce glare onto neighboring properties or lighting in excess of 0.5 lumens at property line. A revised photometric plan shall be submitted with the Building Permit submittal, verifying that all onsite lighting proposed will follow the 0.5 lumen standard. Prior to occupancy of the development, staff shall verify via an onsite night inspection that the on-site lighting complies with the 0.5 lumen standard at property line.
5. That onsite and offsite landscaping for the shopping center complex and right-of-way areas be in substantial compliance with the landscaping plan in Exhibit “G”. Landscaping and irrigation plans shall be included with all building permit submittals for the construction of new buildings.
6. That the shopping center complex and individual buildings operate as stated in the Operational Statement identified in Exhibit “I”.
7. That the master sign program in Exhibit “J” shall be utilized for the commercial development and that the commercial center monument signs be limited to the number depicted in the plan (three total, plus a monument sign for the convenience store on Parcel 1). The Aldi shall be permitted an allotment of 200 sq. ft. of wall signage, to be shared amongst all building exteriors.
8. That Tentative Parcel Map No. 2020-09 shall be approved, and that requirements of the parcel map which relate to Conditional Use Permit No. 2020-30 shall be fulfilled.

9. That Conditional Use Permit No. 2020-30 shall be null and void unless Tentative Parcel Map No. 2020-09 is approved.

10. That CC&R's including vehicular access, shared parking, landscaping and permanent maintenance of all common areas such as the public street parkways and perimeter landscaping, project identification signage and walls, and all similar infrastructure agreements shall be recorded with the final parcel map. The CC&R's and/or vehicular access agreements shall address property owners' responsibility for repair and maintenance of the easement, repair and maintenance of shared public or private utilities, and shall be kept free and clear of any structures. All property owners are equally responsible for these requirements. The City Planner and City Engineer shall review for approval these CC&R's or vehicular access agreements verifying compliance with these requirements prior to the CC&R's recordation.

11. That a Shared Access and Parking Agreement be established for the entire site prior to finalization of building permits for the first phase of development.

12. That the main access drive along Mooney Boulevard shall align with the main Mooney Boulevard access drive for the Commons at Visalia Parkway commercial development, located west of the project site.

13. That all uses proposed onsite maintain Community Noise Standards as required within Visalia Municipal Code Chapter 8.36 (Noise Ordinance).

14. That the applicant shall provide to the City of Visalia a 55 ft. right-of-way dedication for Visalia Parkway and a 22 ft. right-of-way dedication for Midvalley Avenue. The applicant shall also provide to Caltrans a 23 ft. right-of-way dedication for Mooney Blvd. All dedications shall be for the improvement of the identified streets as required by the City of Visalia.

15. That the applicant shall conduct street and right-of-way improvements to Visalia Parkway, Mooney Blvd., and Mid Valley Avenue, to include widening of the streets along the project site frontages and beyond as required by the City of Visalia, installation of park strip landscaping, curb, gutter, sidewalk, ramps, street lights, traffic signals, fire hydrants, and other improvements as required by the City of Visalia and Caltrans. All of the required right-of-way improvements shall be completed with the first phase of development, prior to the finalization of buildings permits for any of the buildings proposed within the first phase.

16. That the applicant shall comply with all requirements of Caltrans as listed in the September 9, 2021, correspondence for the improvement of Mooney Blvd. adjacent to the project site. This shall include providing a northbound right-turn lane at the main shopping center driveway providing access to Mooney Blvd./State Route 63 and limiting this same access drive to only a right-in, right-out turning movements thereby eliminating southbound left turns into the site from Mooney Boulevard.

17. That the Mid Valley Avenue and Mooney Boulevard intersection shall be designed and modified to remove an existing centerline offset, in compliance with all requirements of the City of Visalia and Caltrans.

18. That a separate Site Plan Review shall be required for the convenience store/gas station, carwash facility, and all drive-thru restaurants proposed onsite, with Conditional Use Permit review also required if deemed necessary by the Site Plan Review Committee. Additional Site Plan Review and/or Conditional Use Permit review shall also be required for any substantial changes to the proposed uses or if any uses are proposed which are not shown within Exhibit "A".

19. That all applicable federal, state, and city laws and codes and ordinances shall be met.

20. That all of the conditions and responsibilities of Conditional Use Permit No. 2020-30 shall run with the land and subsequent owners/operators shall also be subject to all of the conditions herein, unless amended or revoked.

21. **Transportation / Traffic Impact Mitigation Measure (Supersedes the timing listed for Mitigation Measures Nos. 1.1 through 1.4 and 1.6 through 1.13 of Mitigated Negative Declaration No. 2021-42):** For Mitigation Measures Nos. 1.1 through 1.4 and 1.6 through 1.13, fair share contributions into the City of Visalia Traffic Impact Fee Mitigation Program shall be made at the time of Building Permit issuance for each building onsite.

22. **Transportation / Traffic Impact Mitigation Measure (Supersedes the timing listed for Mitigation Measure No. 1.17 of Mitigated Negative Declaration No. 2021-42):** For Mitigation Measure No. 1.17, site and frontage design improvements shall be completed prior to finalization of the Building Permit for each parcel onsite.

23. **Transportation / Traffic Impact Mitigation Measure (Added clarification for Mitigation Measure No. 1.15 of Mitigated Negative Declaration No. 2021-42):** For Mitigation Measure No. 1.15, the impact fee shall be recalculated so that it is based on a project specific travel demand model for a 215,284 square foot commercial shopping center development.

24. That the mitigation measures found within the Mitigation Monitoring Plan for Mitigated Negative Declaration No. 2021-42 are hereby incorporated as conditions of Conditional Use Permit No. 2020-30 as follows:

Mitigation Measure	**Responsible Party**	**Timeline**
Transportation / Traffic Impact Mitigation Measure 1.1: Caldwell Avenue and Dans Street Intersection (Intersection #5 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level, should the City decide to install a traffic signal.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.~~ See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.2: Cameron Ave and West Street Intersection (Intersection #14 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.~~ See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.3: Visalia Parkway and Dans Street Intersection (Intersection #17 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.~~ See Condition of Approval No. 21.

Transportation / Traffic Impact Mitigation Measure 1.4: Visalia Parkway and County Center Street Intersection (Intersection #18 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level, should the City decide to install a traffic signal.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.~~ See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.5: Visalia Parkway and Mooney Blvd. Intersection (Intersection #20 on the TIA): The intersection shall be widened to include the minimum: • Eastbound: 2 left-turn lanes, 1 through lane, 1 right turn-lane; • Westbound: 2 left-turn lanes, 1 through lane, and 1 shared through-right lane • Northbound: 2 left-turn lanes, 1 through lane, and 1 shared through-right lane • Southbound: 1 left-turn lane, 3 through lanes, and 1 right-turn lane. Signal timings shall also be optimized, subject to approval and coordination from Caltrans. Note that project plans indicate the applicant will build out the Northbound and Eastbound lanes to their ultimate configurations, as required by Caltrans and the City of Visalia. This shall include Northbound: 2 left-turn lanes, three through lanes, a bike lane, and 1 right-turn lane, and Eastbound: 2 left-turn lanes, 2 through lanes.	Project Applicant	Mitigation shall be enforced and improvements completed prior to final occupancy of any building within the first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.6: Mooney Boulevard and Avenue 272 Intersection (Intersection #23 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level, subject to approval and coordination from Caltrans.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.~~ See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.7: Cameron Avenue and Stonebrook Street Intersection (Intersection #13 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level. Additionally, the storage length of the northbound lane shall be increased.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into within five years after the occupancy of the first building within the first phase of development.~~ See Condition of Approval No. 21. The increase to the storage length of the northbound lane shall occur within twenty years after the occupancy of the first building within the first

		phase of development.
Transportation / Traffic Impact Mitigation Measure 1.8: Visalia Parkway and Main Site Access – Target Driveway Intersection (Intersection #19 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into within five years after the occupancy of the first building within the first phase of development~~. See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.9: Mooney Boulevard and Sunnyside Avenue Intersection (Intersection #3 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the optimization of traffic signal timings to improve the LOS to an acceptable level, subject to approval and coordination from Caltrans.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into within ten years after the occupancy of the first building within the first phase of development~~. See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.10: Mooney Boulevard and Orchard Avenue Intersection (Intersection #4 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the optimization of traffic signal timings to improve the LOS to an acceptable level, subject to approval and coordination from Caltrans.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into within ten years after the occupancy of the first building within the first phase of development~~. See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.11: Mooney Boulevard and Caldwell Avenue Intersection (Intersection #7 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the optimization of traffic signal timings to improve the LOS to an acceptable level, subject to approval and coordination from Caltrans.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into within ten years after the occupancy of the first building within the first phase of development~~. See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.12: Cameron Avenue and County Center Street Intersection (Intersection #11 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal and optimization of traffic signal timings to improve the LOS to an acceptable level to improve the LOS to an acceptable level.	Project Applicant	~~For installation of a traffic signal, contribution shall be made or deferral agreement entered into within 10 years after occupancy of the first building within the first phase of development~~. ~~For optimization of traffic signal timings, contribution~~

		~~shall be made or deferral agreement entered into within 20 years after occupancy of the first building within the first phase of development~~. See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.13: Visalia Parkway and Stonebrook Street Intersection (Intersection #21 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level, should the City decide to install a traffic signal.	Project Applicant	~~Contribution to be made prior or deferral agreement entered into within twenty years after the occupancy of the first building within the first phase of development~~. See Condition of Approval No. 21.
Transportation / Traffic Impact Mitigation Measure 1.14: Visalia Parkway and Costco Driveway Intersection (Intersection #29 on the TIA): Applicant shall install a raised median with a refuge lane to permit southbound left turn movement.	Project Applicant	Mitigation shall be enforced and improvements completed prior within twenty years after the occupancy of the first building within the first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.15: VMT Mitigation Impact Fees: Payment of an impact fee with the building permit issuance of each parcel to the City, to be placed into a VMT mitigation bank to be created at a later date by the City of Visalia. The fee shall be calculated at $1,277/ksf, based on project-specific travel demand model for 212,450 sq. ft. of commercial space **(See Condition No. 23 for additional clarification)**. If a VMT mitigation fee program is implemented by the City prior to building permits being issued and fees being paid, the project will pay those fees instead. Otherwise, the fees would be calculated as shown in the Traffic Impact Analysis prepared by TJKM for the proposed project, based on the market rate price for GHG equivalents and a time period to be negotiated by the City and project applicant in light of other mitigating factors.	Project Applicant	Contribution to be made prior to issuance of a Building Permit for each building proposed within the shopping center development.
Transportation / Traffic Impact Mitigation Measure 1.16: San Joaquin Valley Air Pollution Control District Mitigation Fees: Payment of mitigation fees to the San Joaquin Valley Air Pollution Control District, which are based in part on mitigating VMT generated by the project.	Project Applicant	Contribution to be made prior to issuance of a Building Permit for each building proposed within the shopping center development.
Transportation / Traffic Impact Mitigation Measure 1.17: Site and Frontage Design Improvements: Implementation of site and frontage design improvements to improve access, circulation, and convenience of transit users, pedestrians, and bicycles. Improvements shall consist of the following:	Project Applicant	~~Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development~~. See Condition of Approval No. 22.

• Development of new sidewalks on all frontages of the project site, and connecting to existing and proposed pedestrian facilities at the intersections of Visalia Parkway & Mooney Boulevard (Intersection #20) and Midvalley Avenue & Mooney Boulevard (Intersection #22), and including crosswalks at same, to facilitate pedestrian access. • Development of bike facilities along Visalia Parkway, Mooney Boulevard, and Midvalley Avenue. • The improvement of transit access through the buildout of new transit stop on Visalia Parkway at the northwest corner of the project site, and improvement of an existing transit stop along Mooney Boulevard at the southwest corner of the project site. • Development of onsite facility improvements to encourage alternate modes of transportation, to include: o Pedestrian connections between sidewalks and buildings that provide a shorter path of travel than walking to the nearest driveway; o Marked pedestrian crosswalks connecting buildings that are separated by parking areas; o Adequate lighting for sidewalks and internal walkways, in particularly at major conflict points with vehicles; o Benches and trash cans placed throughout the project site; o Bike racks near building entrances; o Bike lockers or other long-term bike storage facilities for shopping center employees; o For the existing bus stop on Mooney Boulevard at the southwest corner of the project site, reconstruct the transit stop to provide a bus shelter, trash can, and adequate lighting.		
Transportation / Traffic Impact Mitigation Measure 1.18: Travel Demand Management Program: Implementation of a travel demand management (TDM) program for employees at the proposed shopping center, to be submitted for each building proposed. The TDM program shall include measures such as subsidized transit passes, facilitating ride sharing, contracting with vanpool providers, providing information on local transportation facilities and services, and providing on-site amenities for bicycle commuters such as showers and changing areas if the size of the building allows for such amenities.	Applicant for each individual building proposed for development.	Travel Demand Management Programs shall be submitted for each building within the shopping center prior to final occupancy of each structure.
Cultural Resources Mitigation Measure 2.1: A Native American monitor and archaeological monitor shall be present during initial ground disturbance during Project construction activities.	Project Applicant	Mitigation shall be enforced by the project applicant and carried out during the initial ground disturbance stages of construction for each phase of development.

Cultural Resources Mitigation Measure 2.2: In the event of accidental discovery of unidentified archaeological remains during development or ground-moving activities in the Project area, all work shall be halted in the immediate vicinity (within a 100-foot radius) until a qualified archaeologist can identify the discovery and assess its significance.	Project Applicant	Mitigation shall be enforced by the project applicant and carried out during development or ground moving activities for each phase of development.
Cultural Resources Mitigation Measure 2.3: If human remains are uncovered during construction, the Tulare County Coroner shall be notified to investigate the remains and arrange proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American the coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will be afforded an opportunity to make recommendations regarding the treatment and disposition of the remains.	Project Applicant	Mitigation shall be enforced by the project applicant and carried out during construction of the entire project.

RESOLUTION NO. 2020-62

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF VISALIA APPROVING TENTATIVE PARCEL MAP NO. 2020-09, A REQUEST BY TMT, LLC TO SUBDIVIDE 38.5 ACRES INTO 22 LOTS FOR COMMERCIAL AND RIGHT OF WAY USE, IN THE C-R (REGIONAL COMMERCIAL) ZONE. THE PROJECT SITE IS LOCATED ON THE SOUTHEAST CORNER OF W. VISALIA PARKWAY AND S. MOONEY BOULEVARD (APN: 126-080-025, 056).

WHEREAS, Tentative Parcel Map No. 2020-09, is a request by TMT, LLC to subdivide 38.5 acres into 22 lots for commercial and right of way use, in the C-R (Regional Commercial) Zone. The project site is located on the southeast corner of W. Visalia Parkway and S. Mooney Boulevard (APN: 126-080-025, 056); and

WHEREAS, the Planning Commission of the City of Visalia, after duly published notice did hold a public hearing before said Commission on November 8, 2021; and

WHEREAS, the Planning Commission of the City of Visalia finds the tentative parcel map in accordance with Section 16.28.070 of the Ordinance Code of the City of Visalia based on the evidence contained in the staff report and testimony presented at the public hearing; and,

WHEREAS, an Initial Study was prepared which disclosed that no significant environmental impacts would result from this project with the incorporation of mitigation measures.

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission finds that Mitigated Negative Declaration No. 2021-42 prepared for the proposed project was prepared consistent with the California Environmental Quality Act and City of Visalia Environmental Guidelines, and hereby adopts the Mitigated Negative Declaration.

NOW, THEREFORE, BE IT FURTHER RESOLVED that the Planning Commission of the City of Visalia makes the following specific findings based on the evidence presented:

1. That the proposed location and layout of Tentative Parcel Map No. 2020-09, its improvement and design, and the conditions under which it will be maintained is consistent with the policies and intent of the General Plan and Zoning Ordinance and Subdivision Ordinance.

2. That the proposed Tentative Parcel Map No. 2020-09, its improvement and design, and the conditions under which it will be maintained will not be detrimental to the public health, safety, or welfare, nor materially injurious to properties or improvements in the vicinity, nor is it likely to cause serious public health problems. The proposed tentative parcel map would be compatible with adjacent land uses. The project site is bordered by existing commercial development, single family residences, and land under agricultural production.

3. That the site is physically suitable for the proposed tentative parcel map. Tentative Parcel Map No. 2020-09 is consistent with the intent of the General Plan and Zoning Ordinance and Subdivision Ordinance, and is not detrimental to the public health, safety, or welfare or materially injurious to properties or improvements in

the vicinity. The project site is bordered by existing commercial development, single family residences, and land under agricultural production, and the tentative parcel map will separate commercial uses within the planned development.

4. That the site is physically suitable for the proposed tentative parcel map and the project's density, which is consistent with the underlying Commercial Regional General Plan Land Use Designation. The proposed location and layout of Tentative Parcel Map No. 2020-09, its improvement and design, and the conditions under which it will be maintained is consistent with the policies and intent of the General Plan and Zoning Ordinance and Subdivision Ordinance.

5. That the proposed Tentative Parcel Map No. 2020-09, design of the tentative map or the type of improvements will not conflict with easements, acquired by the public at large, for access through or use of, property within the proposed parcel map. The tentative parcel map is designed to comply with the City's Engineering Improvement Standards.

6. That an Initial Study was prepared for the proposed project, consistent with CEQA, which disclosed that environmental impacts are determined to be not significant with mitigation, and therefore Mitigated Negative Declaration No. 2021-42 can be adopted for this project..

BE IT FURTHER RESOLVED that the Planning Commission hereby approves the Conditional Use Permit on the real property here described in accordance with the terms of this resolution under the provisions of Section 17.38.110 of the Ordinance Code of the City of Visalia, subject to the following conditions:

1. That the project be developed in substantial compliance with the comments in Site Plan Review Nos. 2019-167, 2020-012, 2020-013, and 2020-122.
2. That the tentative parcel map be prepared in substantial compliance with Exhibit "B".
3. That a common access, maintenance, and landscaping agreement be entered into for all project parcels.
4. That Tentative Parcel Map No. 2020-09 shall be approved, and that requirements of the parcel map which relate to Conditional Use Permit No. 2020-30 shall be fulfilled.
5. That Conditional Use Permit No. 2020-30 shall be null and void unless Tentative Parcel Map No. 2020-09 is approved.
6. That CC&R's including vehicular access, shared parking, landscaping and permanent maintenance of all common areas such as the public street parkways and perimeter landscaping, project identification signage and walls, and all similar infrastructure agreements shall be recorded with the final parcel map. The CC&R's and/or vehicular access agreements shall address property owners' responsibility for repair and maintenance of the easement, repair and maintenance of shared public or private utilities, and shall be kept free and clear of any structures. All property owners are equally responsible for these requirements. The City Planner and City Engineer shall review for approval these CC&R's or vehicular access agreements verifying compliance with these requirements prior to the CC&R's recordation.

7. That each parcel shall have separate utilities.
8. That all applicable federal, state, and city laws and codes and ordinances be met.

RESOLUTION NO. 2021-54

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF VISALIA DENYING VARIANCE NO. 2021-03, A REQUEST BY TMT, LLC TO ALLOW A VARIANCE TO SIGNAGE STANDARDS, ALLOWING 240 SQ. FT. OF WALL SIGNAGE FOR A SPECIALTY GROCERY STORE IN THE C-R (REGIONAL COMMERCIAL) ZONING DESIGNATION. THE PROJECT SITE IS LOCATED ON THE SOUTHEAST CORNER OF W. VISALIA PARKWAY AND S. MOONEY BOULEVARD (APN: 126-080-025, 056).

WHEREAS, Variance No. 2021-03, is a request by TMT, LLC to allow a variance to signage standards, allowing 240 sq. ft. of wall signage for a specialty grocery store in the C-R (Regional Commercial) zoning designation. The project site is located on the southeast corner of W. Visalia Parkway and S. Mooney Boulevard (APN: 126-080-025, 056); and

WHEREAS, the Planning Commission of the City of Visalia, after duly published notice did hold a public hearing before said Commission on November 8, 2021; and

WHEREAS, the Planning Commission of the City of Visalia does not find Variance No. 2021-03 to be in accordance with Chapter 17.42 of the Zoning Ordinance of the City of Visalia based on the evidence contained in the staff report and testimony presented at the public hearing; and

WHEREAS, an Initial Study was prepared which disclosed that no significant environmental impacts would result from this project with the incorporation of mitigation measures; and

WHEREAS, if Variance No. 2021-03 is denied, no action needs to be taken on an environmental document subject to Section 15270 of the California Environmental Quality Act.

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission of the City of Visalia makes the following specific findings based on the evidence presented:

1. *That strict or literal interpretation and enforcement of the specified regulation would result in practical difficulty or unnecessary hardship inconsistent with the purposes of the sign regulations;*

   The proposed Aldi is setback approximately 550 feet from Mooney Boulevard, a distance similar to “Anchor” buildings proposed with the Commons at Visalia Parkway shopping center located west of the project site. For those buildings, the Planning Commission found 200 square feet of wall signage sufficient to provide legible views of signage from Mooney Boulevard. Though staff acknowledges that trademarked signage can often not be changed to fit every unique environment, the applicant could design the proposed signage to better utilize the allotted space, so that text is more visible from the public right of way.

2. *That there are exceptional or extraordinary circumstances or conditions applicable to the property which do not apply generally to other properties classified in the same zoning district;*

The proposed Aldi is setback approximately 550 feet from Mooney Boulevard, a distance similar to “Anchor” buildings proposed with the Commons at Visalia Parkway shopping center located west of the project site. As such, the stores’ location is not considered exceptional, and is in fact rather common for shopping center developments in the vicinity. The location of the Aldi on a site that provides right-of-way views from two vantage points can be considered an advantageous position. Furthermore, per the master sign program in Exhibit “J”, the applicant will be able to place additional signage on monument signs located at the two main drive aisles of the shopping center, one of which is located immediately to the northeast of the Aldi. This will assist in improving visibility of the store. Lastly, an allotment of 200 square feet of signage, which has been previously approved by the Planning Commission for nearby shopping centers with master sign programs, is already beyond what would generally be applied to other sites in the C-R Zone. The request for 240 square feet. of signage, on top of the other signage options available to the applicant, would be considered excessive.

3. *That strict or literal interpretation and enforcement of the specified regulation would deprive the applicant of privileges enjoyed by the owners of other properties classified in the same zoning district;*

   Staff does not concur with applicant. As noted above, the typical allotment for other “Anchor” buildings within nearby shopping centers is 200 square feet. This allotment is available to the applicant through the master signage program and would still provide wall signage above what would typically be provided in the C-R Zone. A wall signage allotment of 240 square feet would itself be considered a granting of special privilege not made available to others. Since the Aldi will also have the option of placing additional signage on proposed shopping center monument signs, it is unlikely that the Aldi would lose out on brand visibility from the denial of the wall signage request.

4. *That the granting of the variance will not constitute a grant of special privilege inconsistent with the limitations on other properties classified in the same zoning district;*

   Staff does not concur with applicant. the typical allotment for other “Anchor” buildings within nearby shopping centers is 200 square feet. A wall signage allotment of 240 square feet would itself be considered a granting of special privilege as it has not been made available to other developments. Since the Aldi will also have the option of placing additional signage on proposed shopping center monument signs, it is unlikely that the Aldi would lose out on brand visibility from the denial of the wall signage request.

5. *That the granting of the variance will not be detrimental to the public health, safety or welfare, or materially injurious to properties or improvements in the vicinity.*

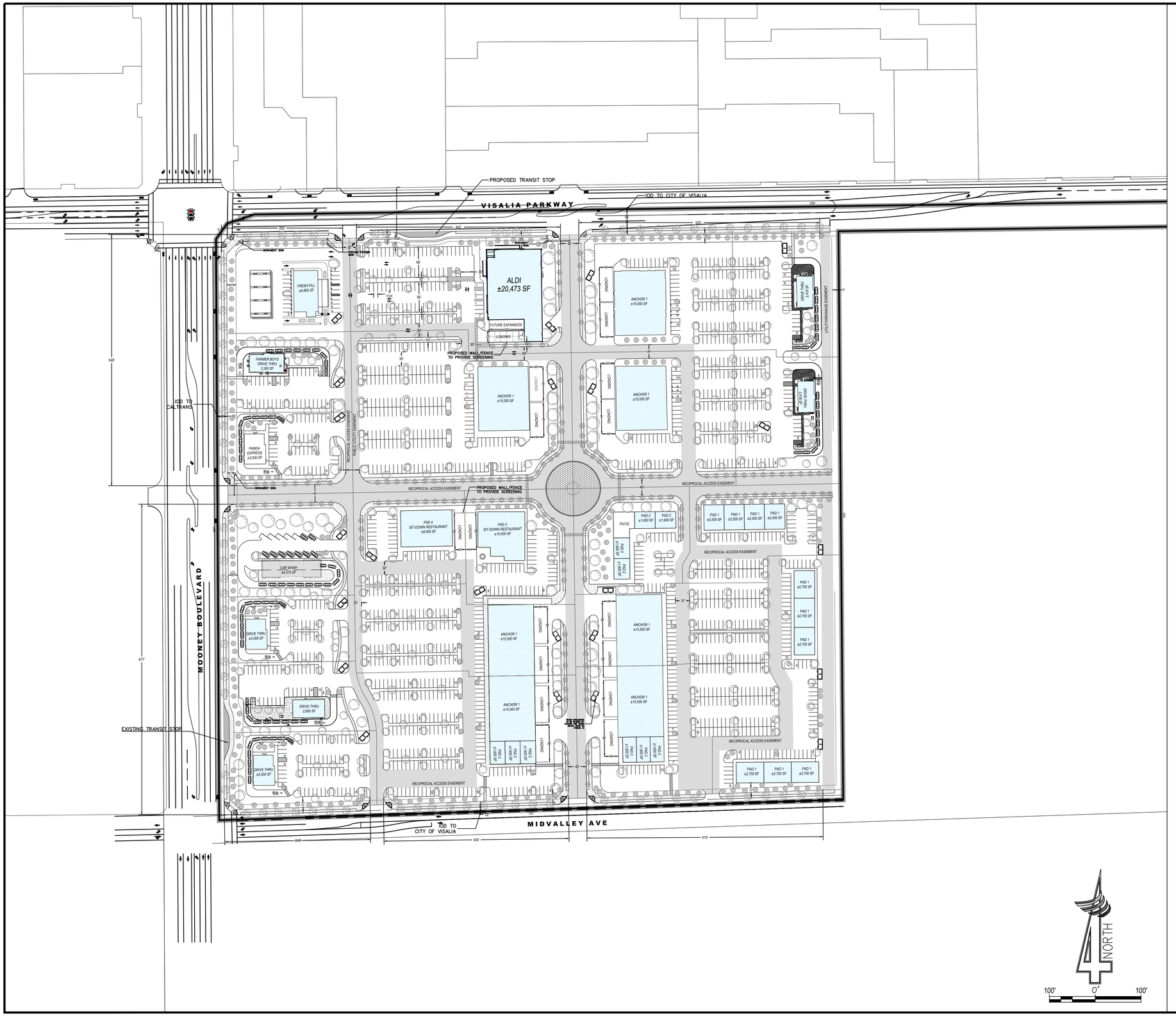
   Staff does not concur with applicant. The granting of a variance for wall signage development standards is not considered detrimental to the public well-being. Placement of all proposed signage will require issuance of a Building Permit and passage of building inspections, further ensuring the public well-being. However, approval of the variance would create an inconsistency with other recently approved commercial developments, proffering a municipally approved advantage to one development over another, thereby creating a material injury.

BE IT FURTHER RESOLVED that the Planning Commission hereby denies Variance No. 2021-03 on the real property here described in accordance with the terms of this resolution under the provisions of Section 17.42.090 of the Ordinance Code of the City of Visalia.

JULY 15, 2021

OAKS MARKETPLACE
MASTER CONDITIONAL USE PERMIT
SITE PLAN

A PORTION OF LOT 2 OF SHANNON RANCH CENTRAL SUBDIVISION, RECORDED IN VOL. 40 OF MAPS, AT PAGE 99, TCR, LOCATED IN THE SE 1/4 OF SECTION 13, TOWNSHIP 18 SOUTH, 24 EAST, MDB&M, IN THE CITY OF VISALIA, COUNTY OF TULARE, STATE OF CALIFORNIA



SITE DATA:

APN:	126-080-025, 056
ZONING (EXISTING):	C-R REGIONAL COMMERCIAL
ZONING (PROPOSED):	C-R REGIONAL COMMERCIAL
GENERAL PLAN (EXISTING):	REGIONAL COMMERCIAL
GENERAL PLAN (PROPOSED):	REGIONAL COMMERCIAL

UTILITIES

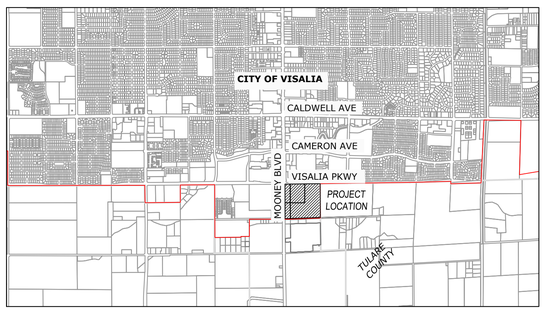
SEWER SERVICE:	CITY OF VISALIA
WATER SERVICE:	CITY OF VISALIA
STORM SERVICE:	CITY OF VISALIA
GAS SERVICE:	SOUTHERN CALIFORNIA GAS COMPANY
ELEC. SERVICE:	SOUTHERN CALIFORNIA EDISON
REFUSE SERVICE:	CITY OF VISALIA
TELEPHONE:	SBC
FLOOD ZONE:	X

SETBACKS

FRONT (MOONEY BLVD):	20'
SIDE (VISALIA PKWY & MIDVALLEY AVE):	10'
REAR (EASTERN PROPERTY BOUNDARY):	15'

BUILDING AND PARKING

BUILDING TYPE	BUILDING SF	PARKING PROPOSED
GROCERY STORE	20,473 SF	111 SPACES
DRIVE-THRU RESTAURANT	19,354 SF	313 SPACES
SIT-DOWN RESTAURANT	18,000 SF	93 SPACES
CONVENIENCE STORE	4,800 SF	19 SPACES
CAR WASH	4,375 SF	14 SPACES
ANCHOR	105,500 SF	856 SPACES
PAD	42,200 SF	159 SPACES
TOTAL	214,702 SF	1,565 SPACES



VICINITY MAP

PREPARED BY:

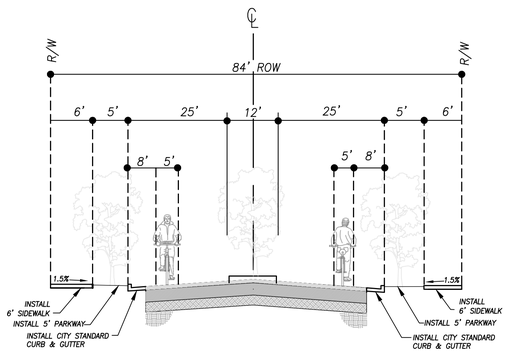
4CREEKS

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TEL: 559.802.3052
FAX: 559.802.3215

OAKS MARKETPLACE
MASTER CONDITIONAL USE PERMIT DETAILS

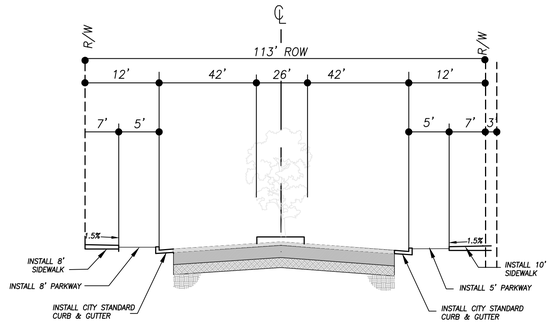
A PORTION OF LOT 2 OF SHANNON RANCH CENTRAL SUBDIVISION, RECORDED IN VOL. 40 OF MAPS, AT PAGE 99, TCR, LOCATED IN THE SE 1/4 OF SECTION 13, TOWNSHIP 18 SOUTH, 24 EAST, MDB&M, IN THE CITY OF VISALIA, COUNTY OF TULARE, STATE OF CALIFORNIA

STREET STANDARD CROSS SECTION



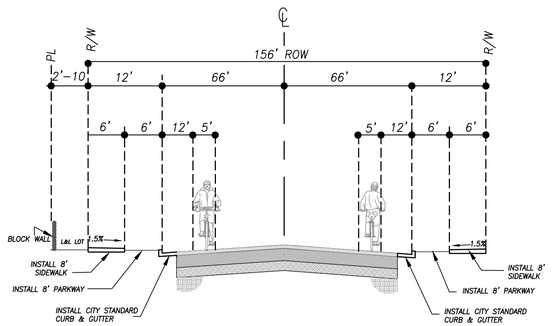
(LOOKING EAST)

MIDVALLEY AVE
CITY STANDARD P-3: 2 LANE COLLECTOR NTS



(LOOKING EAST)

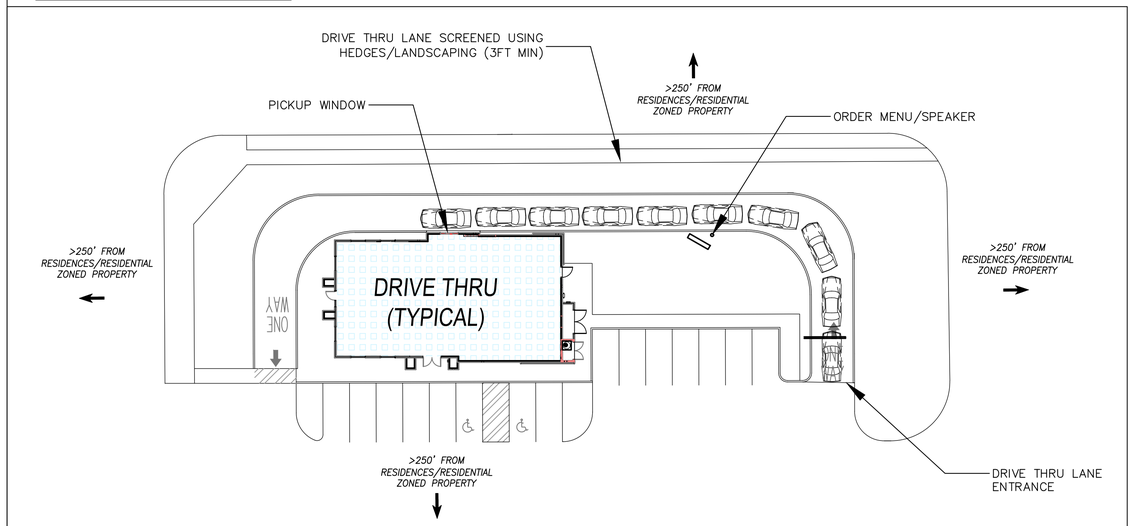
VISALIA PARKWAY
CITY STANDARD P-5: 4 LANE ARTERIAL NTS



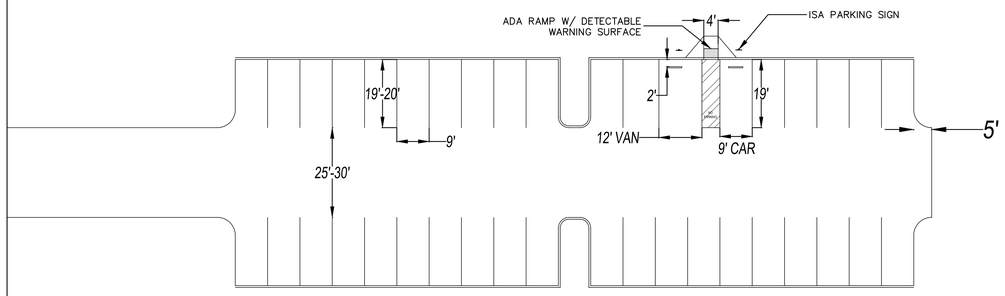
(LOOKING NORTH

MOONEY BLVD
CALTRANS HIGHWAY: 6 LANE NTS

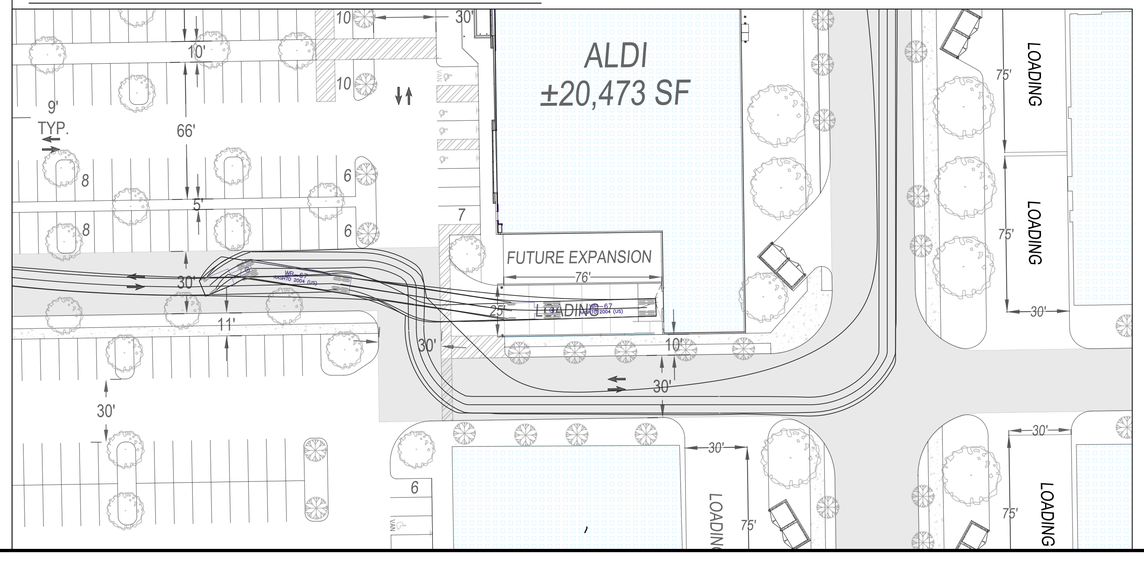
DRIVE THRU DETAIL

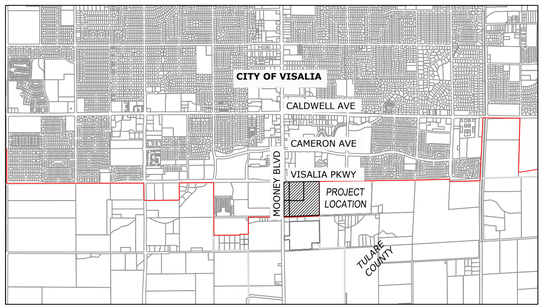


PARKING DETAIL



ALDI LOADING DOCK AUTOTURN DETAIL





VICINITY MAP

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JULY 15, 2021

OAKS MARKETPLACE
TENTATIVE PARCEL MAP

A PORTION OF LOT 2 OF SHANNON RANCH CENTRAL SUBDIVISION, RECORDED IN VOL. 40 OF MAPS, AT PAGE 99, TCR, LOCATED IN THE SE 1/4 OF SECTION 13, TOWNSHIP 18 SOUTH, 24 EAST, MDB&M, IN THE CITY OF VISALIA, COUNTY OF TULARE, STATE OF CALIFORNIA

SITE DATA:

APN:	126-080-025, 056
ZONING (EXISTING):	C-R REGIONAL COMMERCIAL
ZONING (PROPOSED):	C-R REGIONAL COMMERCIAL
GENERAL PLAN (EXISTING):	REGIONAL COMMERCIAL
GENERAL PLAN (PROPOSED):	REGIONAL COMMERCIAL

UTILITIES

SEWER SERVICE:	CITY OF VISALIA
WATER SERVICE:	CITY OF VISALIA
STORM SERVICE:	CITY OF VISALIA
GAS SERVICE:	SOUTHERN CALIFORNIA GAS COMPANY
ELEC. SERVICE:	SOUTHERN CALIFORNIA EDISON
REFUSE SERVICE:	CITY OF VISALIA
TELEPHONE:	SBC
FLOOD ZONE:	X

SETBACKS

FRONT (MOONEY BLVD):	20'
SIDE (VISALIA PKWY & MIDVALLEY AVE):	10'
REAR (EASTERN PROPERTY BOUNDARY):	15'

PHASING

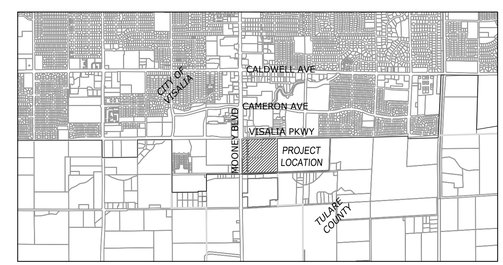
PHASE 1: PARCELS 1-5
PHASE 2: PARCELS 6-13
PHASE 3: PARCELS 14-17
PHASE 4: PARCELS 18-22

STREET RIGHT-OF-WAY

VISALIA PARKWAY: 55' IOD TO THE CITY OF VISALIA ON SOUTH SIDE OF STREET TO CREATE 55' OF TOTAL ROW FROM CENTERLINE.

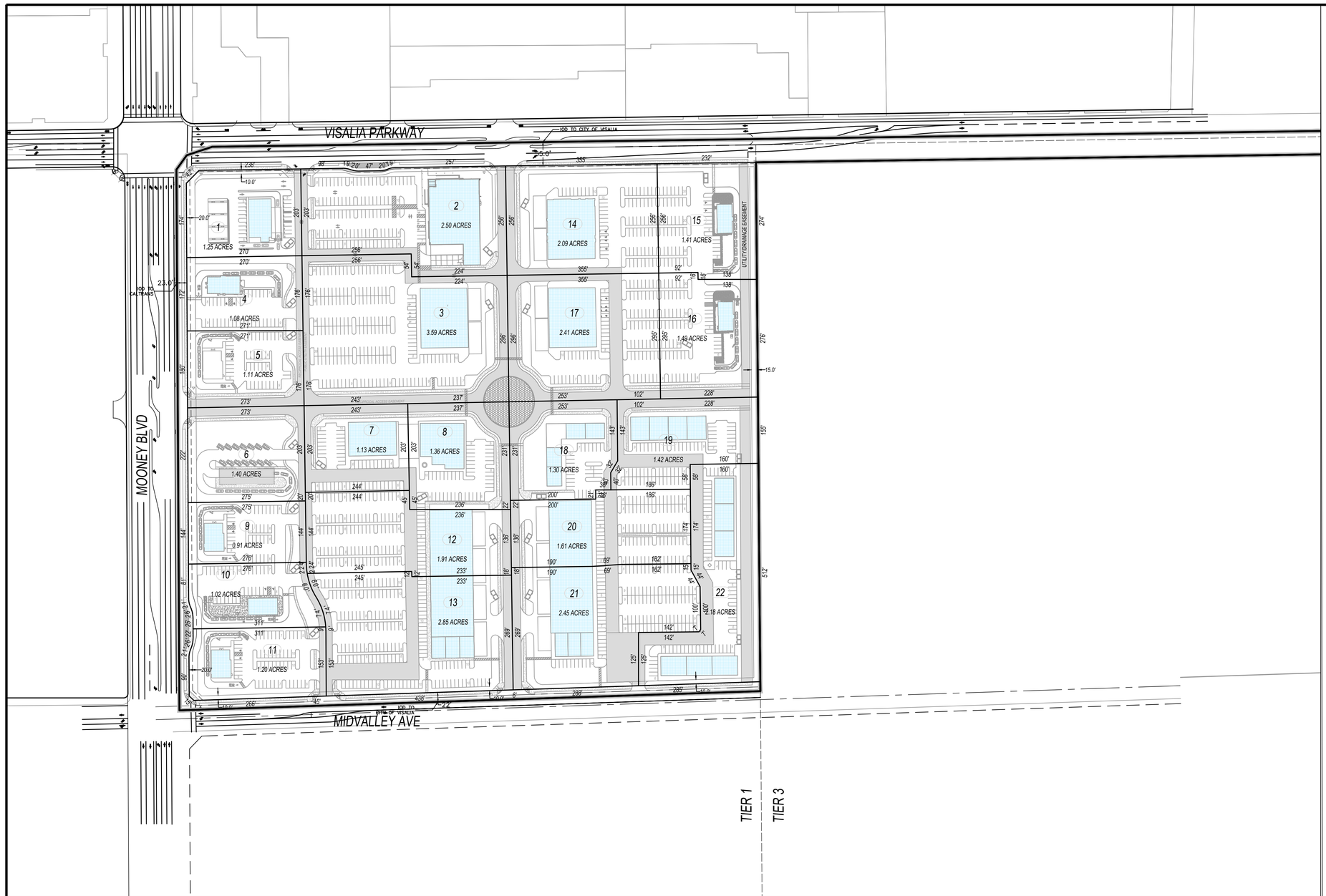
MOONEY BLVD:23' IOD TO CALTRANS ON EAST SIDE OF STREET TO CREATE 78' TOTAL ROW FROM CENTERLINE.

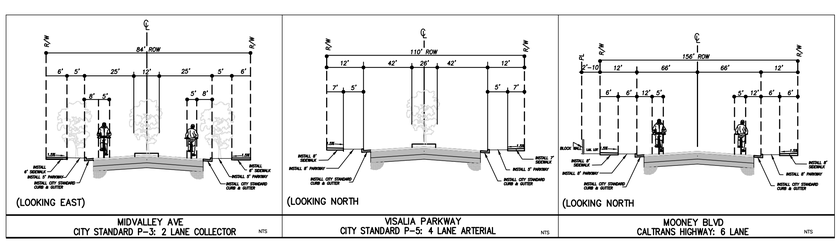
MIDVALLEY AVE: 22' IOD TO THE CITY OF VISALIA ON NORTH SIDE OF STREET TO CREATE 42' TOTAL ROW FROM CENTERLINE



VICINITY MAP

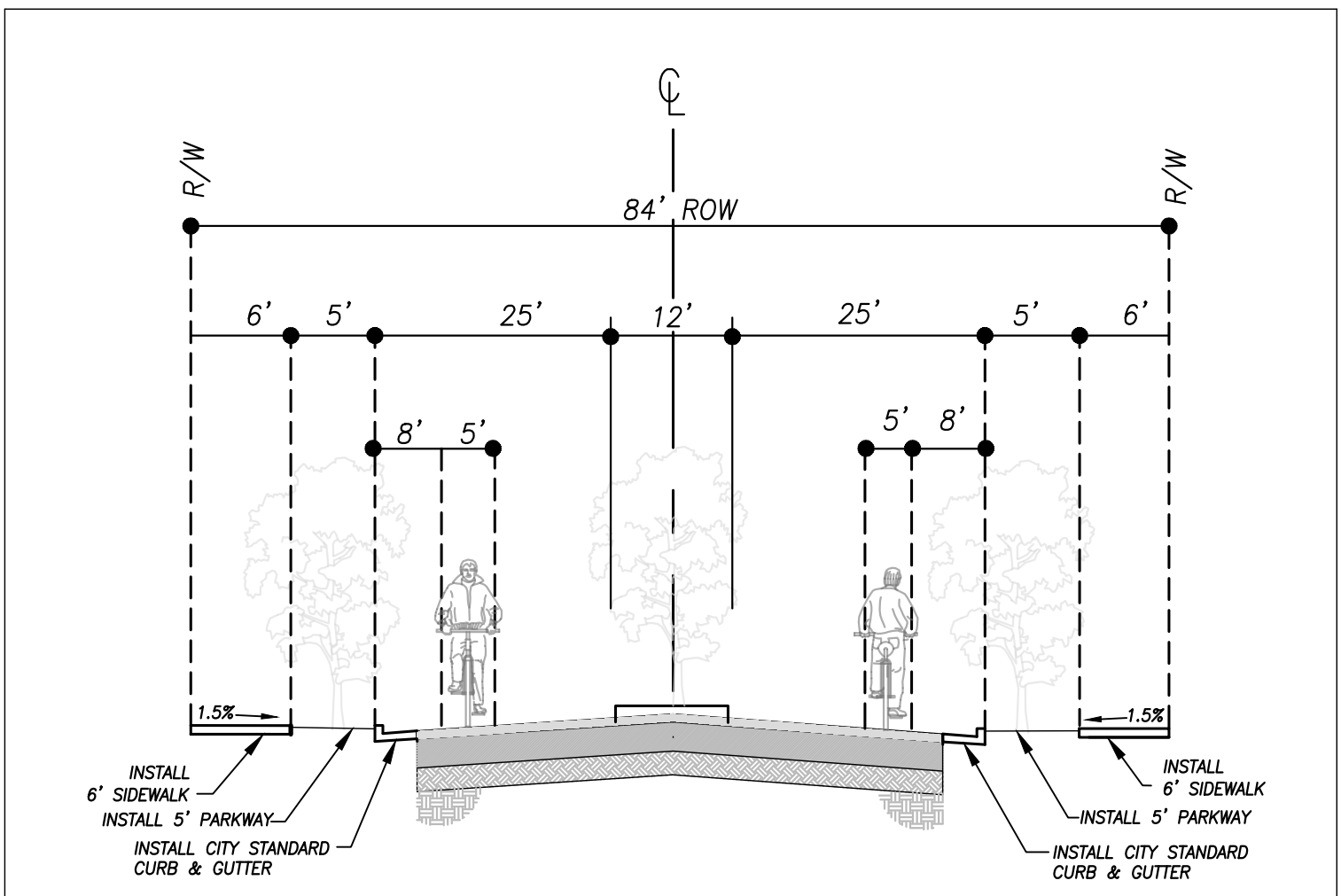
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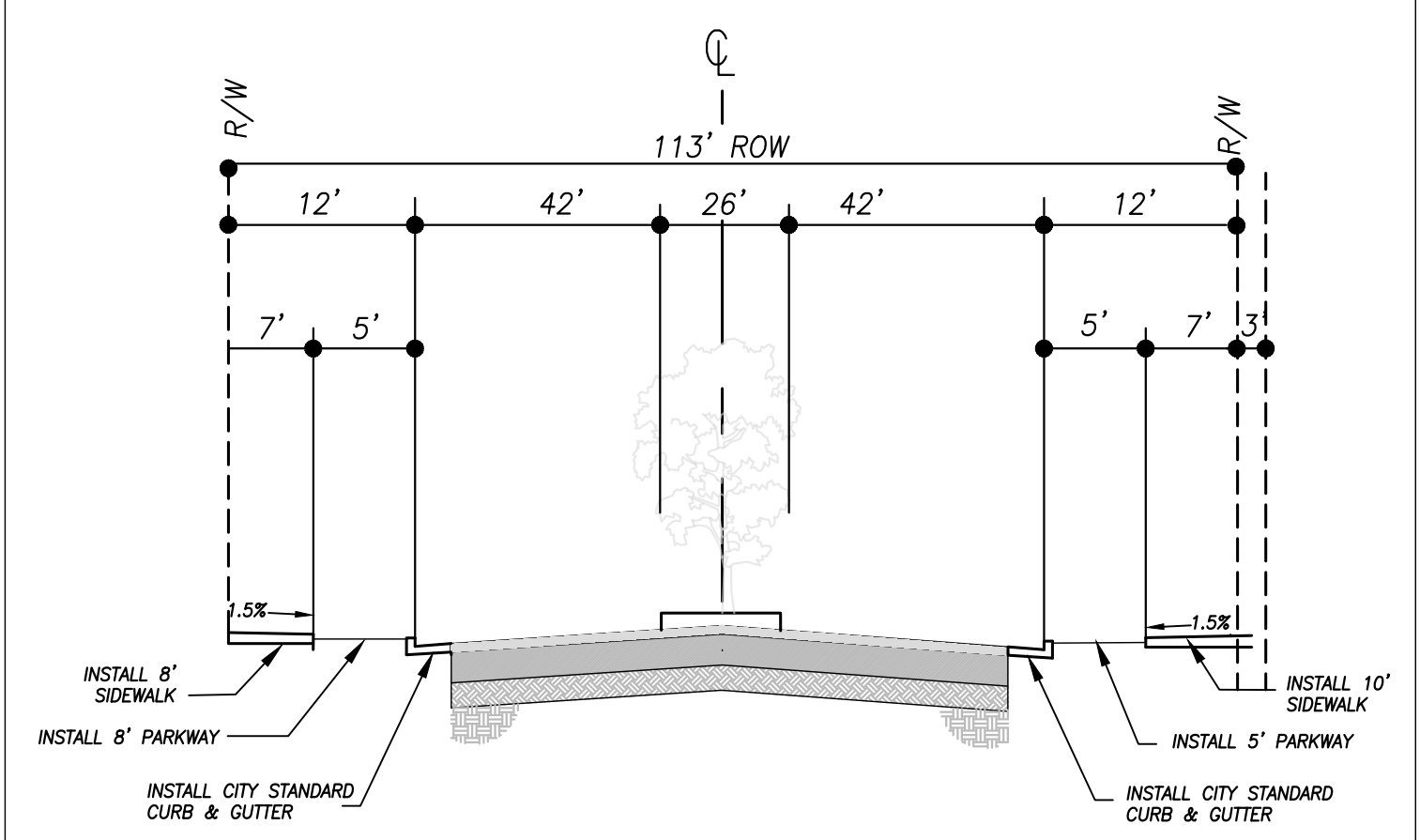
STREET STANDARD CROSS SECTION



(LOOKING EAST)

MIDVALLEY AVE
CITY STANDARD P–3: 2 LANE COLLECTOR

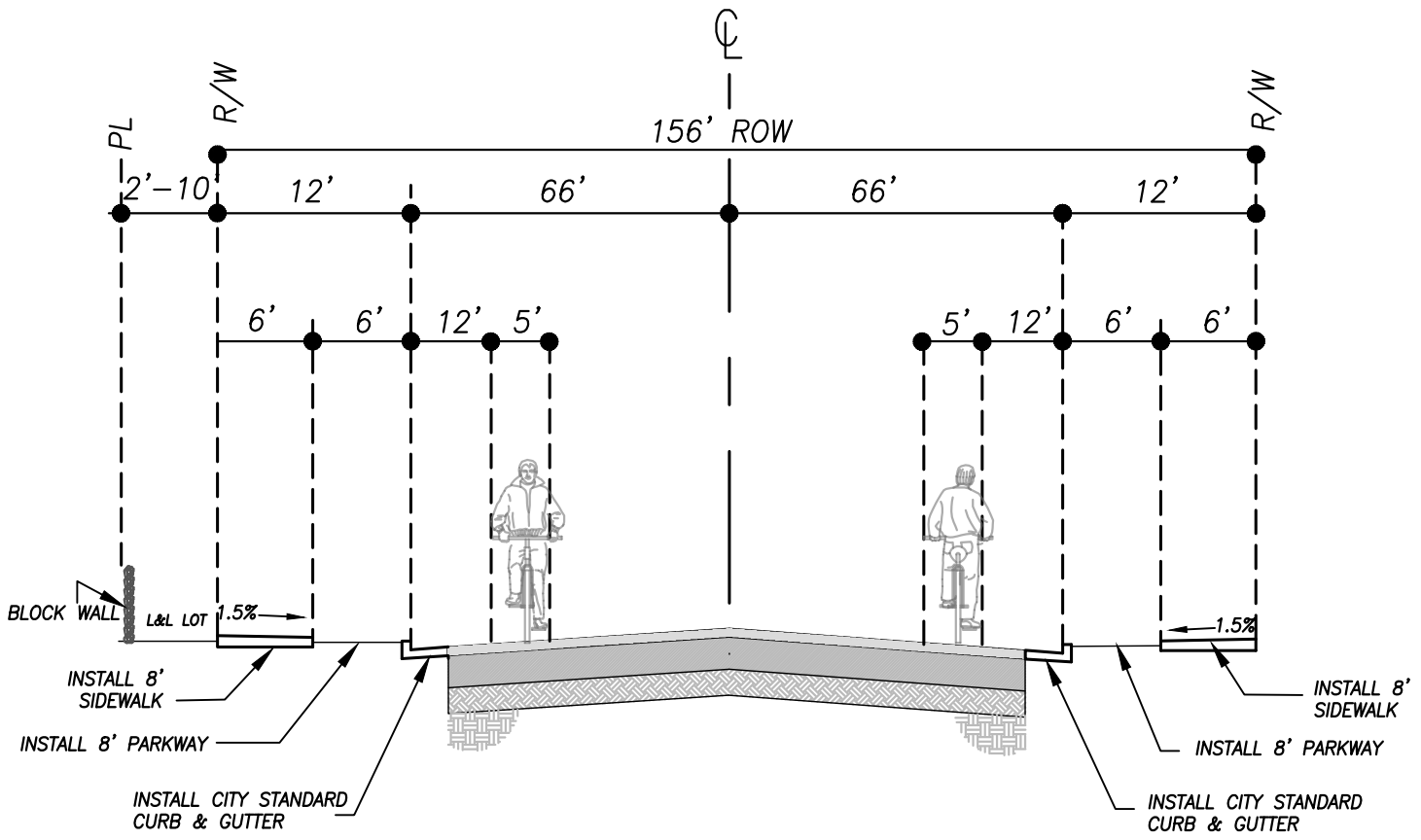
NTS



(LOOKING EAST)

VISALIA PARKWAY
CITY STANDARD P–5: 4 LANE ARTERIAL

NTS



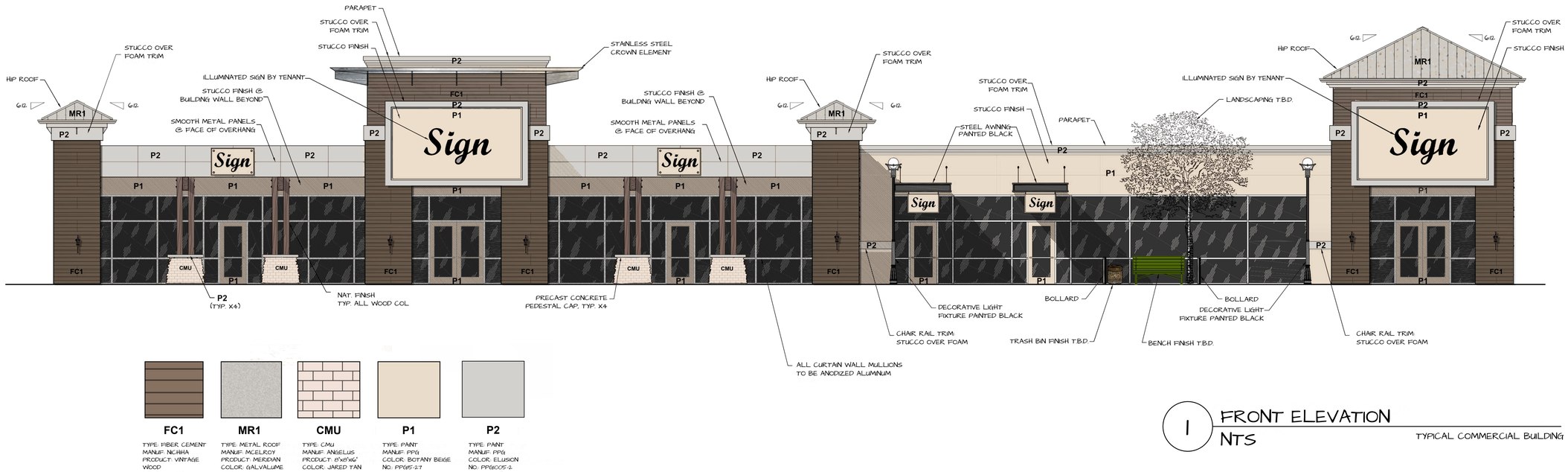
(LOOKING NORTH

MOONEY BLVD
CALTRANS HIGHWAY: 6 LANE

NTS

VISALIA PARKWAY
MASTER PLAN GUIDELINES
MODERN MARKET THEME
1-21-2021

FIGURE A



FC1
TYPE: FIBER CEMENT
MANUF: NICHIHA
PRODUCT: VINTAGE WOOD
COLOR: BARK

MR1
TYPE: METAL ROOF
MANUF: MCELROY
PRODUCT: MERIDAN
COLOR: GALVALUME
GAUAGE: 24

CMU
TYPE: CMU
MANUF: ANGELUS
PRODUCT: 8"x8"x16"
COLOR: JARED TAN

P1
TYPE: PAINT
MANUF: PPG
COLOR: BOTANY BEIGE
NO: PPG15-27

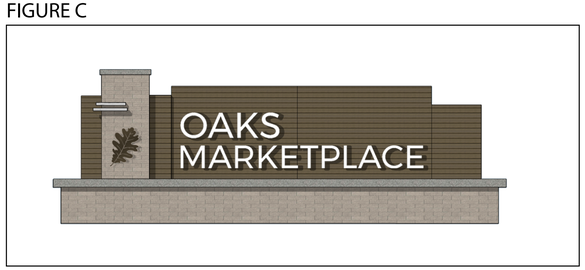
P2
TYPE: PAINT
MANUF: PPG
COLOR: ELUSION
NO: PPG1005-2.

1 FRONT ELEVATION
NTS
TYPICAL COMMERCIAL BUILDING

FIGURE B



FIGURE C



MASTER PLAN GUIDELINES: MODERN MARKET THEME

*EXTERIOR MATERIALS MAY CHANGE BUT SHOULD MATCH THE THEME OF THE MASTER SCHEMATIC DESIGN GUIDELINES.
SIMILAR COLOR SCHEMES CONSISTENT WITH OVERALL THEME ARE ALLOWED.

FIGURE A: ARCHITECTURAL THEME AND EXT. BUILDING MATERIALS

- THEME: MODERN MARKET WITH MIX OF PARAPET ROOFING, ARTICULATED FACADES AND LOFTED SPACES.
- EXTERIOR MATERIALS: MIX OF FIBER CEMENT PANELS, CONCRETE MASONRY UNITS, RAW OR ANODIZED METAL, AND LOW/FLAT METAL ROOFING.
- EXTERIOR PAINT TO REINFORCE A NATURAL LOOK CONSISTENT WITH SURROUNDING NEIGHBORHOOD, WITH ALLOWANCES FOR BRIGHTER ACCENT COLORS.

FIGURE B: BUILDING FEATURES

- BUILDINGS TO UTILIZE DIRECT LIGHTING TO LIMIT LIGHT POLLUTION. UP-LIGHTING, DOWN-LIGHTING, OR A MIX OF BOTH IS ENCOURAGED.
- BUILDING DESIGN TO UTILIZE LARGE BANKS OF WINDOWS FOR NATURAL LIGHTING.
- LOUVERED OR SHEET METAL AWNINGS TO PROVIDE WINDOW SHADING AS NEEDED. CLOTH OR VINYL MATERIALS ARE DISCOURAGED.

FIGURE C: SIGN PROGRAM

- GATEWAY SIGN: SIGNATURE SIGNAGE TO ESTABLISH SENSE OF PLACE. SIGN TO USE COLORS AND MATERIALS THAT MATCH BUILDING STYLES.
- MONUMENT SIGNAGE: THE SIGN STRUCTURE IS DESIGNED TO MATCH THE PRIMARY STRUCTURE ON THE SITE IN ARCHITECTURAL STYLE AND GENERAL APPEARANCE.
  *INDIVIDUAL TENANTS ARE RESPONSIBLE FOR SUBMITTING SIGN PERMITS AND MUST MEET CITY OF VISALIA SIGN STANDARDS.

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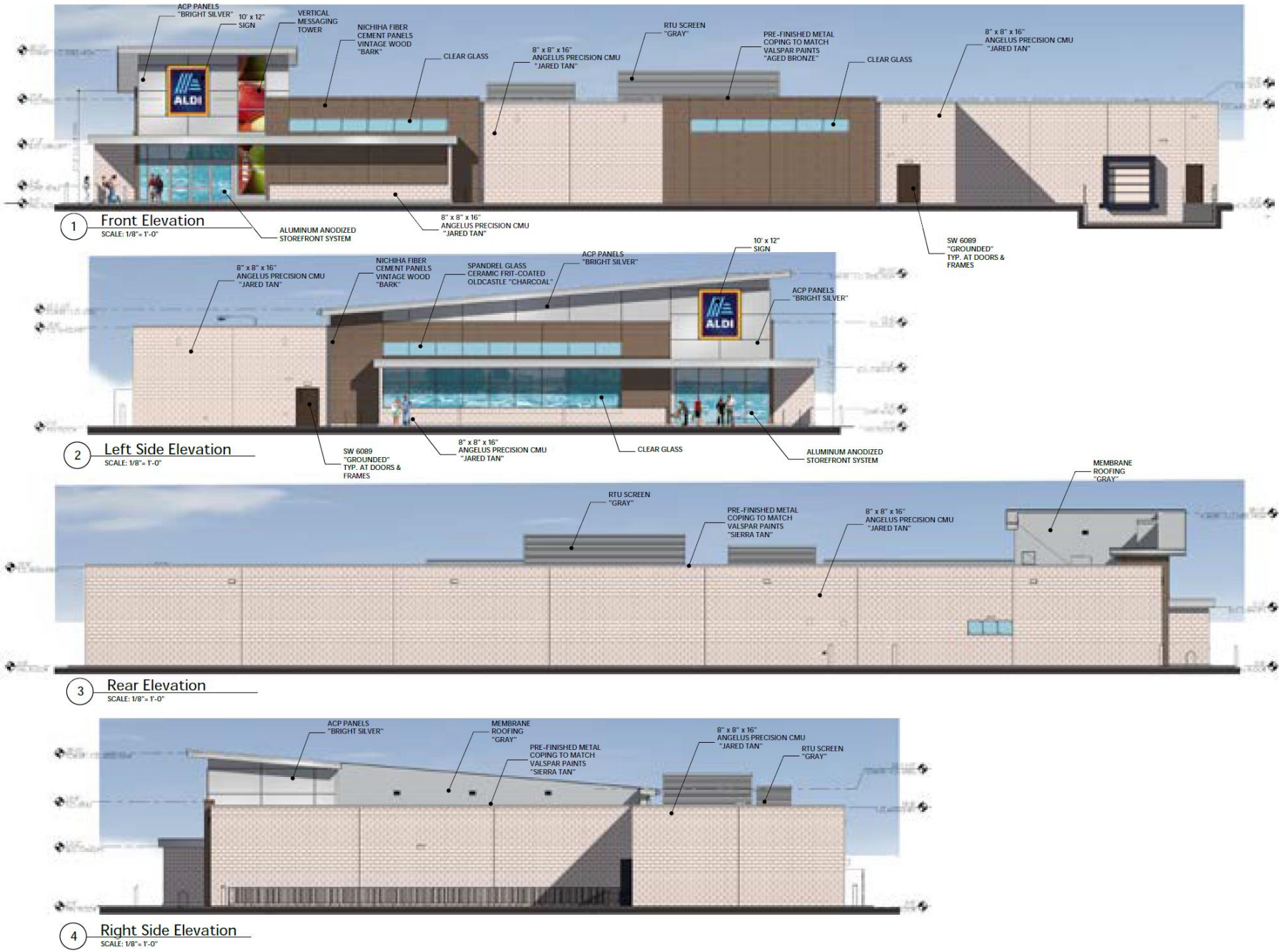


Figure 3: Aldi conceptual elevation and building sign

JULY 15, 2021

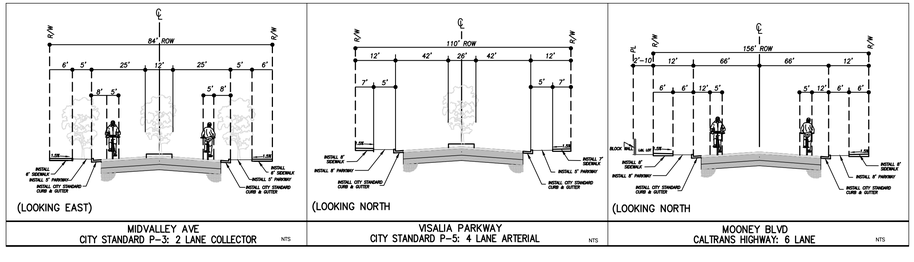
OAKS MARKETPLACE
PHASING PLAN

A PORTION OF LOT 2 OF SHANNON RANCH CENTRAL SUBDIVISION, RECORDED IN VOL. 40 OF MAPS, AT PAGE 99, TCR, LOCATED IN THE SE 1/4 OF SECTION 13, TOWNSHIP 18 SOUTH, 24 EAST, MDB&M, IN THE CITY OF VISALIA, COUNTY OF TULARE, STATE OF CALIFORNIA



PHASING PLAN

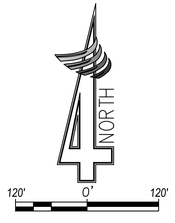
PHASE 1: PARCELS 1-5 & OFFSITE IMPROVEMENTS ON MOONEY BLVD, VISALIA PARKWAY, AND MIDVALLEY AVE
PHASE 2: PARCELS 6-13
PHASE 3: PARCELS 14-17
PHASE 4: PARCELS 18-22

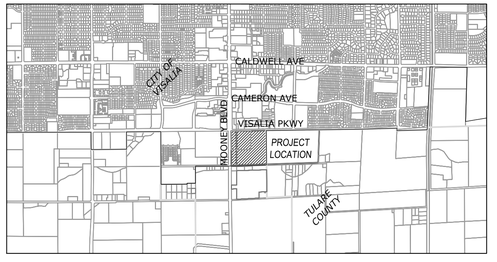


MIDVALLEY AVE
CITY STANDARD P-3: 2 LANE COLLECTOR NTS

VISALIA PARKWAY
CITY STANDARD P-5: 4 LANE ARTERIAL NTS

MOONEY BLVD
CALTRANS HIGHWAY: 6 LANE NTS





VICINITY MAP

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Concept Plant Legend

STREET TREES	Minimum Size
Acer buergerianum `Streetwise` TM / Streetwise Trident Maple	15 gal
Ginkgo biloba `Autumn Gold` TM / Autumn Gold Maidenhair Tree	15 gal
Platanus x acerifolia `Columbia` / London Plane Tree	15 gal
Pyrus kawakamii / Evergreen Pear	15 gal

SHADE TREES	
Koelreuteria bipinnata / Chinese Flame Tree Multi-Trunk	15 gal
Pistacia chinensis `Keith Davey` / Keith Davey Chinese Pistache	15 gal
Ulmus carpinifolia x parvifolia `Frontier` / Frontier Elm	15 gal
Zelkova serrata `Green Vase` / Green Vase Sawleaf Zelkova	15 gal

SMALL ACCENT TREES	
Cercidium x `Desert Museum` / Thornless Palo Verde	15 gal
Cercis canadensis `Oklahoma` / Oklahoma Redbud	15 gal
Lagerstroemia indica x fauriei `Muskogee` / Muskogee Crape Myrtle	15 gal
Lagerstroemia indica x fauriei `Natchez` / Natchez Crape Myrtle	15 gal

LARGE ACCENT TREES	
Arbutus x `Marina` / Marina Strawberry Tree Standard	15 gal
Gleditsia triacanthos inermis `Skycole` TM / Skyline Thornless Honey Locust	15 gal
Laurus x `Saratoga` / Saratoga Hybrid Laurel	15 gal
Quercus englemannii / Engelmann Oak	15 gal
Quercus lobata / Valley Oak	15 gal
Quercus suber / Cork Oak	15 gal

SHRUB AND GROUNDCOVER
Achillea spp. / Yarrow
Agave spp. / Agave
Aloe ssp. / Aloe
Arctostaphylos spp. / Manzanita
Artemisia x `Powis Castle` / Powis Castle Artemisia
Baccharis pilularis `Pigeon Point` / Pigeon Point Coyote Brush
Calamagrostis x acutiflora `Karl Foerster` / Karl Foerster Feather Reed Grass
Callistemon viminalis `Little John` / Little John Weeping Bottlebrush
Carex spp. / Sedge
Carpenteria californica `Elizabeth` / Bush Anemone
Ceanothus spp. / Wild Lilac
Chondropetalum tectorum / Cape Rush
Cistus x pulverulentus `Sunset` / Sunset Rockrose
Cotoneaster dammeri `Coral Beauty` / Coral Beauty Cotoneaster
Dasylirion spp. / Desert Spoon
Eriogonum spp. / Buckwheat
Festuca spp. / Fescue
Hesperaloe parviflora / Red Yucca
Kniphofia spp. / Red Hot Poker
Lavandula spp. / Lavender
Leucophyllum spp. / Texas Ranger
Leymus condensatus `Canyon Prince` / Canyon Prince Blue Rye
Ligustrum japonicum `Texanum` / Waxleaf Privet
Mahonia repens / Creeping Mahonia
Muhlenbergia spp. / Muhly Grass
Olea europaea `Little Ollie` TM / Little Ollie Olive
Penstemon spp. / Penstemon
Rhamnus alaternus / Italian Buckthorn
Rhamnus californica / California Coffeeberry
Rhus integrifolia / Lemonade Berry
Salvia spp. / Sage
Teucrium spp. / Germander
Xylosma congestum 'Compacta' / Compact Shiny Xylosma
Zauschneria californica varieties / California Fuchsia

0 80 160 240 feet
1" = 80'

NORTH

OAKS MARKETPLACE
VISALIA, CA

WOOD ARCHITECTURE
Project: 20093_WA
Date: 7.13.2021
Scale: 1" = 80'
www.iwoodarchitecture.com



OAKS MARKETPLACE

VISALIA, CA

WOOD ARCHITECTURE

Project: 20093_WA
Date: 7.13.2021
Scale: 1" = 40'

www.iwoodarchitecture.com



0 40 80 120 feet

1" = 40'

NORTH

OAKS MARKETPLACE

VISALIA, CA

WOOD ARCHITECTURE

Project: 20093_WA
Date: 7.13.2021
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Acer buergerianum



Ginkgo biloba 'Autumn Gold'



Platanus x acerifolia 'Columbia'



Pyrus kawakamii



Koelreuteria bipinnata



Pistacia chinensis 'Keith Davey'



Ulmus carpinifolia x parvifolia 'Frontier'



Zelkova serrata 'Green Vase'



Cercidium x 'Desert Museum'



Cercis canadensis 'Oklahoma'



Lagerstroemia indica 'Muskogee'



Lagerstroemia indica 'Natchez'



Arbutus x 'Marina'



Gleditsia triacanthos inermis



Laurus nobilis 'Saratoga'



Quercus englemannii



Quercus lobata



Quercus suber



Arctostaphylos 'Pacific Mist'



Baccharis pilularis 'Pigeon Point'



Callistemon viminalis 'Little John'



Cistus x pulverulentus 'Sunset'



Festuca mairei



Hesperaloe parviflora



Kniphofia



Leucophyllum frutescens



Olea europaea 'Little Ollie'



Penstemon eatonii 'Firecracker'



Salvia leucantha 'Midnight'



Zauschneria californica 'Sierra Salmon'

Concept Plant Legend



STREET TREES — Minimum Size

Acer buergerianum `Streetwise` TM / Streetwise Trident Maple	15 gal
Ginkgo biloba `Autumn Gold` TM / Autumn Gold Maidenhair Tree	15 gal
Platanus x acerifolia `Columbia` / London Plane Tree	15 gal
Pyrus kawakamii / Evergreen Pear	15 gal



SHADE TREES

Koelreuteria bipinnata / Chinese Flame Tree Multi-Trunk	15 gal
Pistacia chinensis `Keith Davey` / Keith Davey Chinese Pistache	15 gal
Ulmus carpinifolia x parvifolia `Frontier` / Frontier Elm	15 gal
Zelkova serrata `Green Vase` / Green Vase Sawleaf Zelkova	15 gal



SMALL ACCENT TREES

Cercidium x `Desert Museum` / Thornless Palo Verde	15 gal
Cercis canadensis `Oklahoma` / Oklahoma Redbud	15 gal
Lagerstroemia indica x fauriei `Muskogee` / Muskogee Crape Myrtle	15 gal
Lagerstroemia indica x fauriei `Natchez` / Natchez Crape Myrtle	15 gal



LARGE ACCENT TREES

Arbutus x `Marina` / Marina Strawberry Tree Standard	15 gal
Gleditsia triacanthos inermis `Skycole` TM / Skyline Thornless Honey Locust	15 gal
Laurus x `Saratoga` / Saratoga Hybrid Laurel	15 gal
Quercus englemannii / Engelmann Oak	15 gal
Quercus lobata / Valley Oak	15 gal
Quercus suber / Cork Oak	15 gal



SHRUB AND GROUNDCOVER

Achillea spp. / Yarrow
Agave spp. / Agave
Aloe spp. / Aloe
Arctostaphylos spp. / Manzanita
Artemisia x `Powis Castle` / Powis Castle Artemisia
Baccharis pilularis `Pigeon Point` / Pigeon Point Coyote Brush
Calamagrostis x acutiflora `Karl Foerster` / Karl Foerster Feather Reed Grass
Callistemon viminalis `Little John` / Little John Weeping Bottlebrush
Carex spp. / Sedge
Carpenteria californica `Elizabeth` / Bush Anemone
Ceanothus spp. / Wild Lilac
Chondropetalum tectorum / Cape Rush
Cistus x pulverulentus `Sunset` / Sunset Rockrose
Cotoneaster dammeri `Coral Beauty` / Coral Beauty Cotoneaster
Dasylirion spp. / Desert Spoon
Eriogonum spp. / Buckwheat
Festuca spp. / Fescue
Hesperaloe parviflora / Red Yucca
Kniphofia spp. / Red Hot Poker
Lavandula spp. / Lavender
Leucophyllum spp. / Texas Ranger
Leymus condensatus `Canyon Prince` / Canyon Prince Blue Rye
Ligustrum japonicum 'Texanum' / Waxleaf Privet
Mahonia repens / Creeping Mahonia
Muhlenbergia spp. / Muhly Grass
Olea europaea `Little Ollie` TM / Little Ollie Olive
Penstemon spp. / Penstemon
Rhamnus alaternus / Italian Buckthorn
Rhamnus californica / California Coffeeberry
Rhus integrifolia / Lemonade Berry
Salvia spp. / Sage
Teucrium spp. / Germander
Xylosma congestum 'Compacta' / Compact Shiny Xylosma
Zauschneria californica varieties / California Fuchsia

PLANTED PARKING LOT CALCULATIONS

PARKING AREA: 828,939 square ft.
10% PLANTED AREA: 82,893 sq. ft.

PLANTED PARKING LOT AREA: 232,436 square ft.

PLANTED PARKING LOT AREA %: 28%

NORTH

OAKS MARKETPLACE

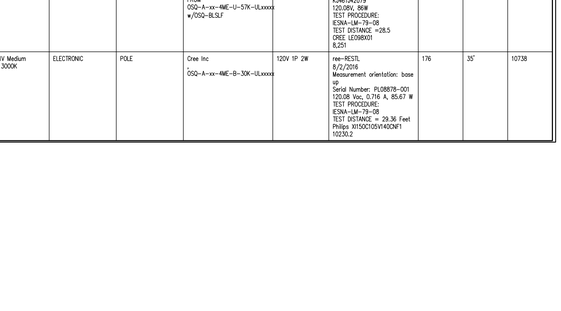
VISALIA, CA

WOOD ARCHITECTURE
Project: 20093_WA
Date: 7.13.2021
Scale: 1" = 40'
www.iwoodarchitecture.com

VISALIA PARKWAY & MOONEY BLVD PHOTOMETRIC PLAN

LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	DESCRIPTION	BALLAST	MOUNTING	MODEL	VOLTS	NOTE 3	QUANTITY	DEFAULT ELEVATION	LUMENS / LAMP
OSQ BLSMF		(1) 86W CONFIGURED FROM MDA	Cree OSQ Series Area Luminaire, Type IV Medium w/ Backlight Shield, B Input Power Designator, 3000K CONFIGURED FROM Cree OSQ Series Area Luminaire, Type IV Medium w/ Backlight Shield, U Input Power Designator, 5700K	ELECTRONIC	POLE	Cree Inc OSQ-A-xx-4ME-B-30K-ULxxxxx w/OSQ-A-BLSMF CONFIGURED FROM OSQ-A-xx-4ME-U-57K-ULxxxxx w/OSQ-A-BLSJF	120V 1P 2W	ree Inc. – Durham Technology Center 3/29/2016 base up KJ461JA2079 120.08V, 86W TEST PROCEDURE: IESNA-LM-79-08 TEST DISTANCE =28.5 CREE LE09BX01 8.251	10	35'	10738
OSQ Standard		(1) 86W Eight Cree MDA LEDs	Cree OSQ Series Area Luminaire, Type IV Medium Distribution, B Input Power Designator, 3000K	ELECTRONIC	POLE	Cree Inc OSQ-A-xx-4ME-B-30K-ULxxxxx	120V 1P 2W	ree-RESTL 8/2/2016 Measurement orientation: base up Serial Number: PL08878-001 120.08 Voc, 0.716 A, 85.67 W TEST PROCEDURE: IESNA-LM-79-08 TEST DISTANCE = 29.36 Feet Philips X15DC12DV4ADNT-10230.2	176	35'	10738

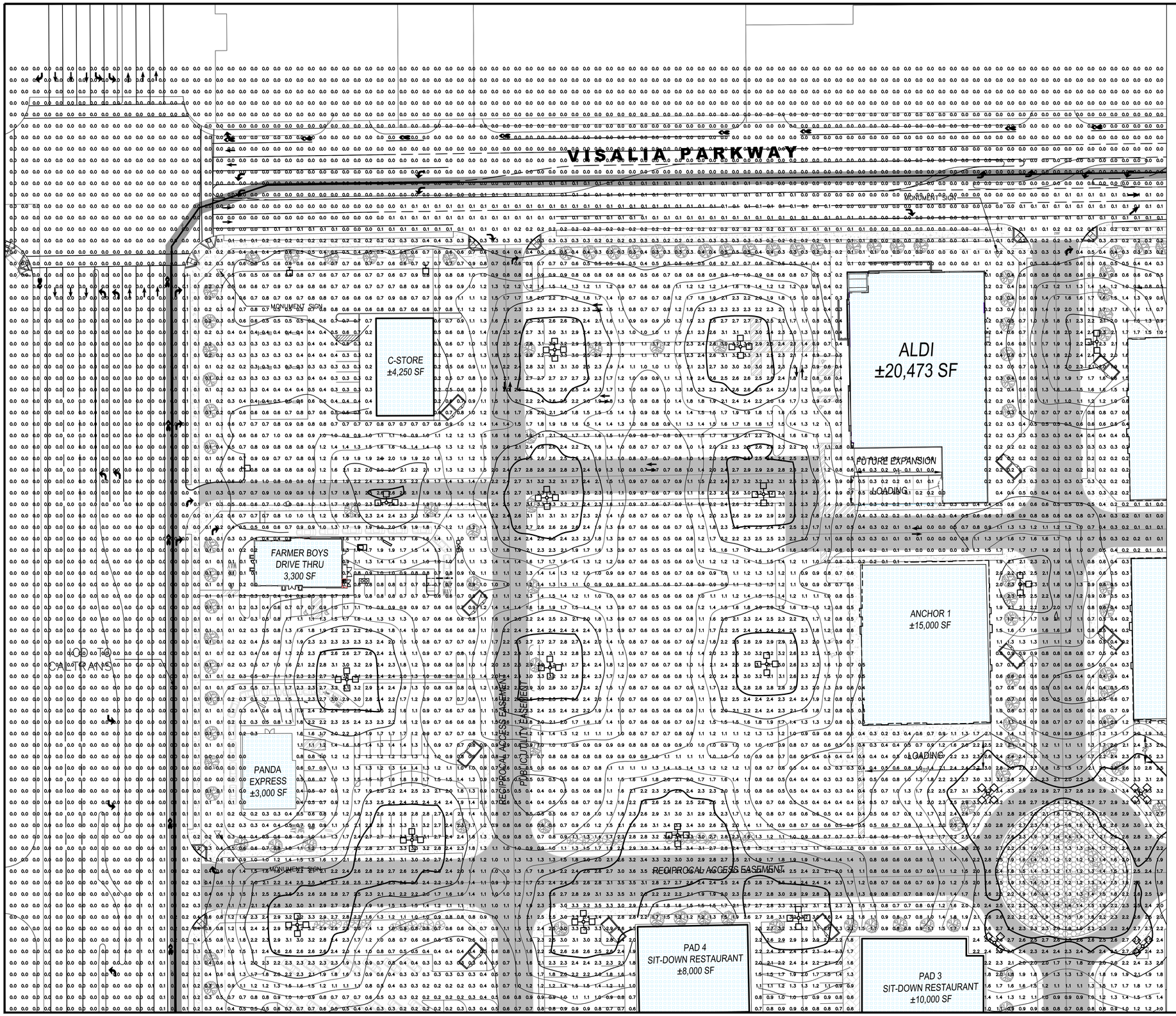


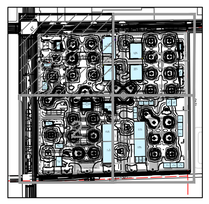
VICINITY MAP

PREPARED BY:
4CREEKS
324 S. SANTA FE ST., STE. A
P.O. BOX 7593
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TEL: 559.802.3052
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JANUARY 26, 2021

VISALIA PARKWAY & MOONEY BLVD PHOTOMETRIC PLAN





SHEET OVERVIEW

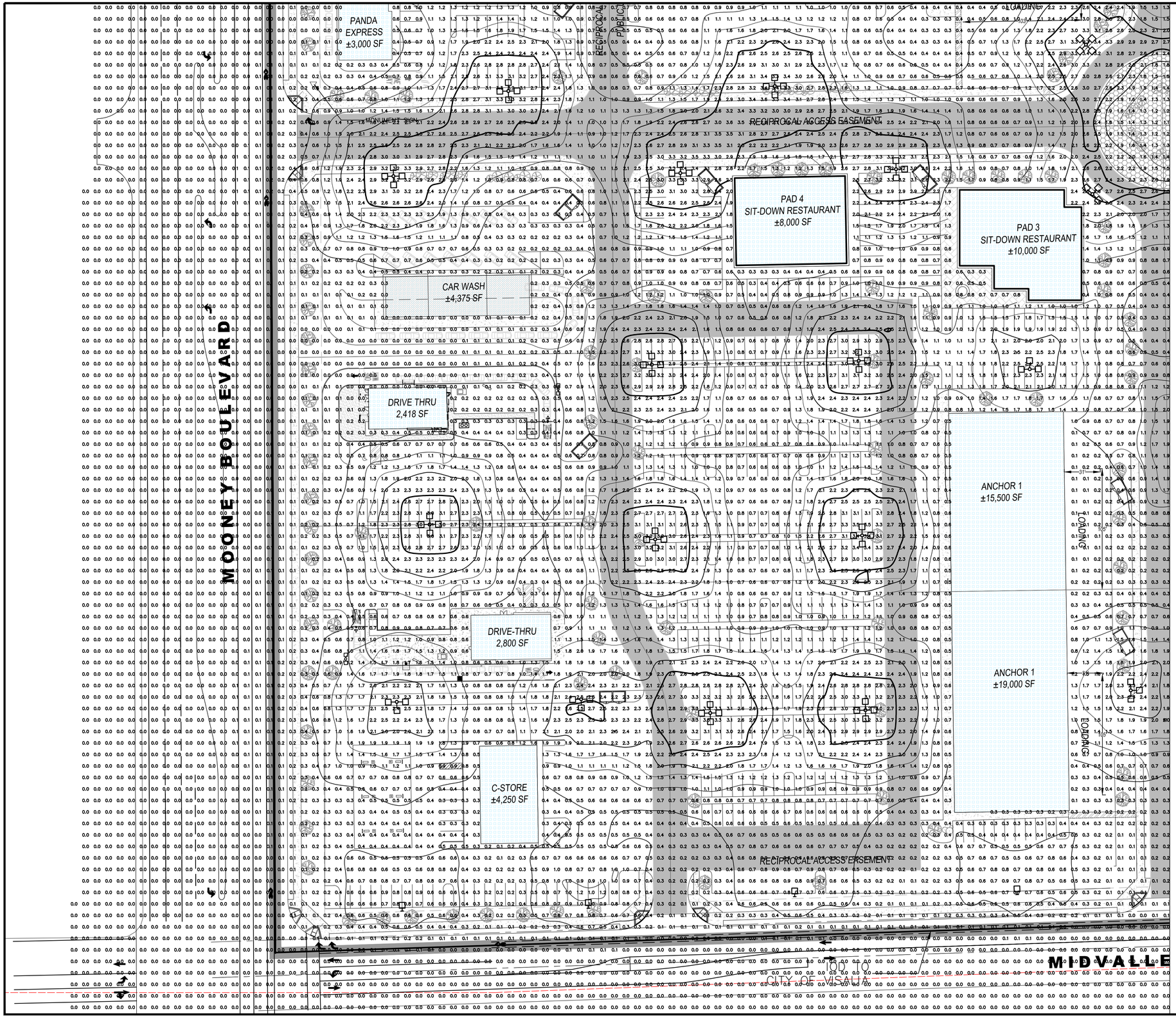
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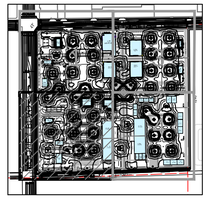
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JANUARY 26, 2021

VISALIA PARKWAY & MOONEY BLVD PHOTOMETRIC PLAN





SHEET OVERVIEW

NORTH

0' 40'

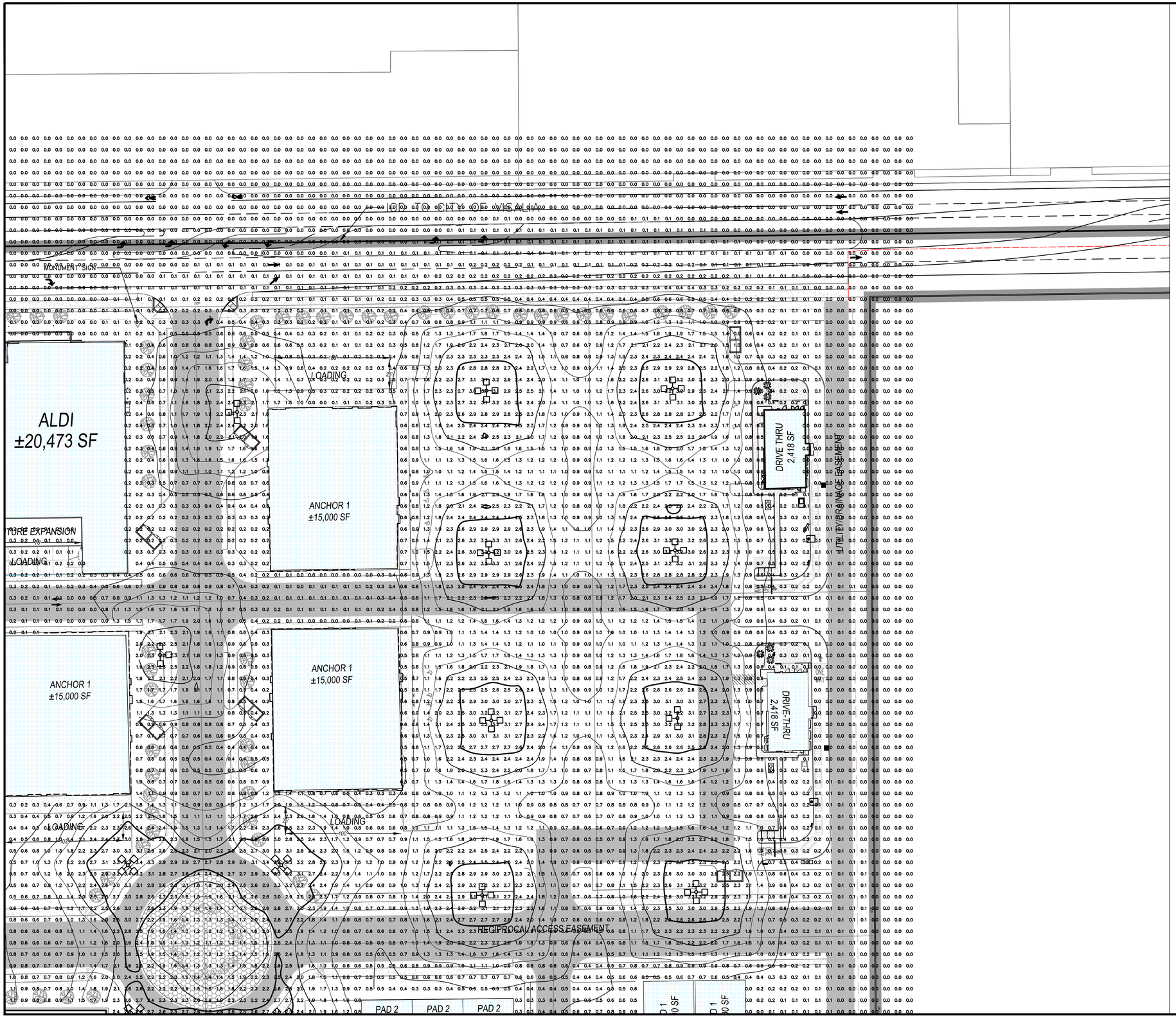
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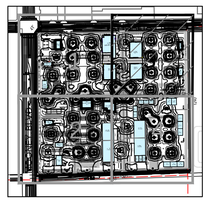
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SHEET OVERVIEW

NORTH

0' 40'

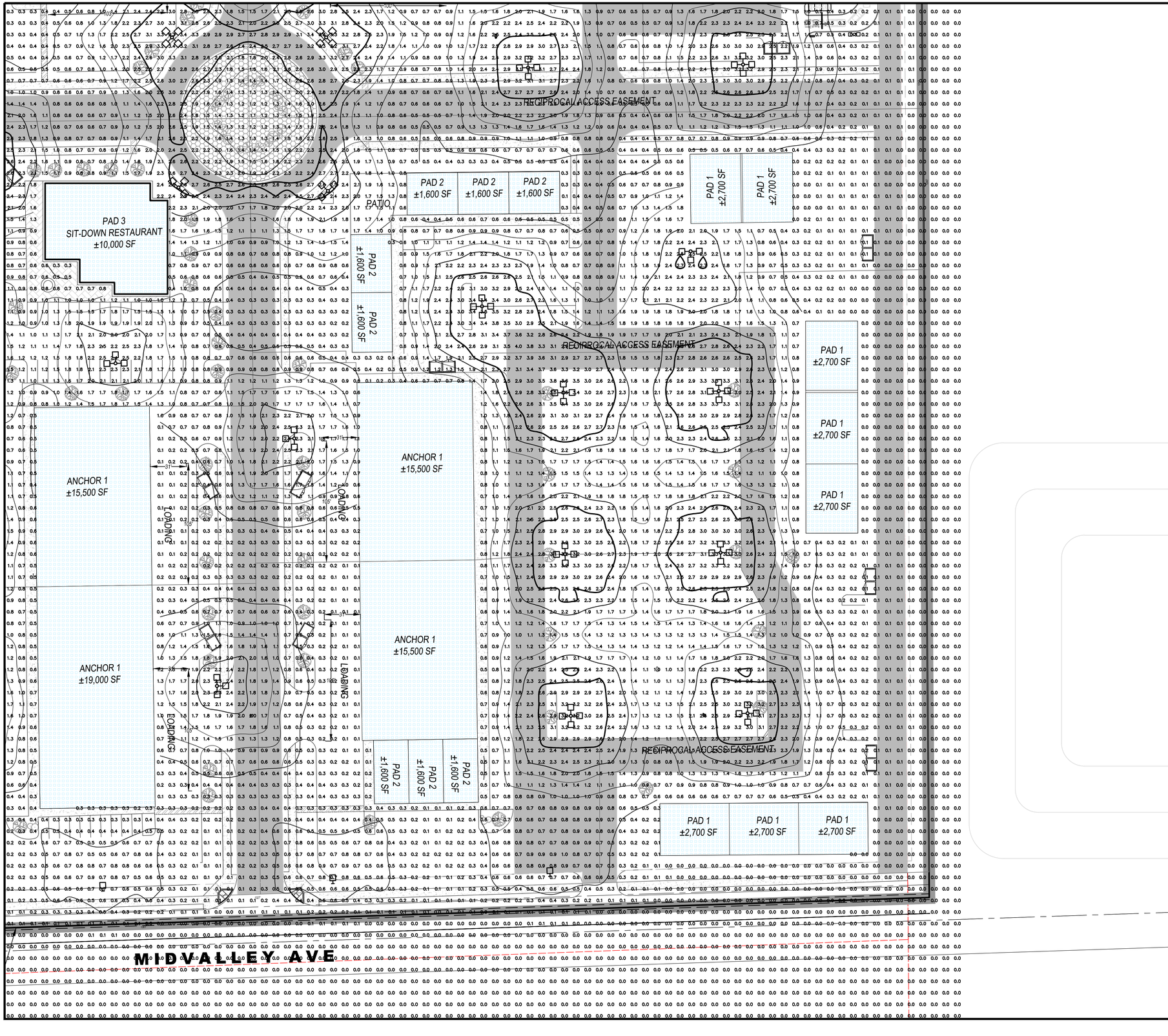
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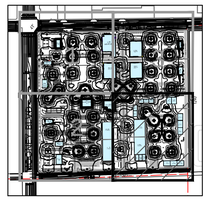
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JANUARY 26, 2021

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SHEET OVERVIEW

NORTH

0' 40'

PREPARED BY:

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OPERATIONAL STATEMENT: OAKS MARKETPLACE

APN's: 126-080-025, 126-080-056

Oaks Marketplace will be located in central California on the southern edge of the City of Visalia. The project will provide for a mix of regional commercial uses near the southern entry to the City that will include grocery store, drive-thru restaurant, sit-down restaurant, convenience store, car wash, and other regional commercial uses.

Oaks Marketplace is situated in south Visalia at the southeast corner of Mooney Blvd and Visalia Parkway within the City of Visalia C-R Regional Commercial zone. The City of Visalia's General Plan and Zoning Ordinance intend Regional Commercial land use areas be used to accommodate retail establishments that serve the residents and businesses of the region at large. The Zoning Ordinance provides development standards for projects in the C-R zone, including a maximum building height of 50 feet, minimum site area of 5 acres, and building setbacks ranging from 0-20 feet depending on adjacent land uses. The Project includes a Master Conditional Use Permit to allow for a reduction in minimum parcel size from the City standard. It is proposed that the Master CUP apply to all parcels involved in the Project.

To create a unique architecturally themed project, there will be a Master Signage Program and Design Guidelines created for the entire site. The Design Guidelines and Master Signage Program propose a "Modern Market" theme for the 37.69-acre site. The Modern Market theme is characterized by a neutral color scheme composed of natural-looking materials coupled with a modern architectural style. The intention of the Design Guidelines and Master Signage Program is to provide an attractive and cohesive aesthetic throughout the development.

The project is proposed to be constructed in the following phases:

- **Phase 1:** Parcels 1-5. Uses include Aldi (supermarket), a gas station/convenience store, two drive-thru restaurants, and +/- 15,000 SF anchor commercial.
- **Phase 2:** Parcels 6-13. Uses include car wash, three sit-down restaurants, two drive-thru restaurants, +/- 30,000 SF anchor commercial, and three +/-1,600 SF commercial pads.
- **Phase 3:** Parcels 14-17. Uses include two drive-thru restaurants and +/- 30,000 SF anchor commercial.
- **Phase 4:** Parcels 18-22. Uses include +/- 30,000 SF anchor commercial, seven +/-1,600 SF commercial pads, three +/-2,500 SF commercial pads, and six +/-2,700 SF commercial pads.

ALDI, Inc.

Operational Statement

Visalia, CA

Business: The intent of this project is to build and provide an ALDI Market. At ALDI, Simply Smarter Shopping is the guiding principle that underscores everything we do. Our operations, store layouts and customer service are built around maximizing efficiencies to offer high-quality groceries while keeping our prices as low as possible. Our Simply Smarter Shopping model has resonated with customers for over 40 years, and demand for ALDI is growing nationwide. In the last several years, we have expanded into a number of new markets including Florida, Texas and New York City. The first ALDI opened in the Midwest in 1976 and we have been growing at a steady pace in the US for over 40 years. Today, we have over 1,700 stores in 32 states.

At ALDI, customers can find more than 1,600 of the most commonly purchased grocery items in the most popular sizes – including fresh meats, fruits, vegetables and bakery items. Essentially, the heart of your weekly shopping list. ALDI customers throughout the country have found that switching from national brands to ALDI exclusive private label brands can save them up to 50 percent on their grocery bills. And we deliver that savings without sacrificing top quality. Our ALDI exclusive brands must meet or exceed the national name brands on taste, quality and, of course, price. That truly is the ALDI difference.

This store will have approximately 25 employees with 6-9 working per shift.

Operation hours are planned to be 9:00 am – 9:00 pm, 7 days a week. Hours are subject to change.

Physical Characteristics of the Property: The ALDI will be a part of the overall new development of this currently vacant site. The site does not have any distinctive characteristics. ALDI's building is of a contemporary style with an angled roof, transom glazing, vertical graphics, and block and plank siding. The loading area is to the side of the store and not directly visible from Visalia Parkway.

Unique Site Conditions: Since the site is currently un-developed and does not contain unique conditions.

Project Phasing: Once ALDI's permits are ready and the construction timing is coordinated with the center's development team, work on the store will be begin as quickly as possible. It is anticipated that the store will be completed in 22 wks once the pad is delivered to ALDI.

Alcohol Beverage Control applications: ALDI plans to sell beer and wine and will require a Type 20 license.

Loading: The new store building will include a loading dock bay on the south side of the structure. Deliveries are received only from ALDI's Moreno Valley distribution center primarily during normal business hours. However, due to the grocery store operation and needs of the customers, some deliveries may occur before and after normal business hours.

Cart Containment: ALDI utilizes a "cart rental system" – contrary to traditional shopping cart corrals located in the shopping center parking lot and collected back into the store by store associates, ALDI stores have one cart corral located adjacent to the store entrance. Carts are interlocked

with each other using a coin lock located on the handle of each cart, which is chained to the coin lock of the cart in front of it. For a customer to release a cart, a quarter must be deposited in the coin lock that will release the cart from the chain. To get the quarter back, the cart must be brought back to the designated cart corral and connected to the chain which will release the quarter. This coin system creates an incentive for customers to return their carts to the designated cart corral and receive their deposit back. This cart rental system is implemented in every ALDI store in operation today, which includes stores across the United States today as well as its European operations.





Above: Cart corral with coin lock system, at store entrance.



4CREEKS

OAKS MARKETPLACE
Master Sign Program

Prepared for: Graham & Associates

Submitted to:

VISALIA
Founded 1852

June 22, 2021

OAKS MARKETPLACE
Master Sign Program

Submitted to:

DEVELOPER
Company: Graham & Associates
Address: 1005 N. Demaree St. Visalia CA 93291
Phone: (559) 754.3020

PLANNING AND ENGINEERING
Contact: David Duda, Project Manager
Company: 4 Creeks Inc.
Address: 324 S Sante Fe Street, Visalia, CA 93292
Phone: (559) 802.3052

PREPARED BY:

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PURPOSE AND INTENT

This criteria has been established for the purpose of maintaining continuity of quality and aesthetics throughout the retail center for the mutual benefit of all tenants, and to comply with all other sign requirements of the City of Visalia. This sign program has been prepared to create a unique identity to the project site. All signage requirements within this document shall be subject to the City's sign ordinance. If ambiguity arises, the City Planner shall make final determination on the requirements.

The intent of the sign criteria is to offer the tenant some flexibility while keeping a quality identity for the retail center.

Conformance will be strictly enforced, and any installed non-conforming signs or unapproved signs shall be removed at tenant's expense.

SUBMITTAL REQUIREMENTS

A sign permit shall be required for each type of sign that is proposed for the site or buildings. It is unlawful for any person to erect, relocate, or alter electronically or structurally, any sign in the city without first obtaining a valid sign permit or building permit, if required (Visalia Municipal Code Section 17.48.050).

Application for sign permits shall be made upon the City of Visalia forms and filed at the building department. Specific sign/building permit fees shall be submitted at the time of the application package.

Prior to sign fabrication and installation, plans for all proposed signage shall be submitted to the Owner who will review plans for conformance with the sign program criteria. All plans submitted for approval must conform to requirements of the criteria contained in this Comprehensive Sign Program. The owner shall have the discretionary authority to deny approval for any submittal which does not comply with the purpose or intent of this sign program.

For signage approval, such submissions shall include three (3) sets of the following:

- Elevations showing all proposed signs indicating sign type, design, locations, size and layout of sign; drawn to scale indicating dimensions, attachment devices and construction details, colors, materials and lighting details.
- Section detail of letters and /or sign element showing the dimensioned projection of the face of letters, method and intensity of illumination.
- Color board with actual sample colors (8-1/2" x 11" format).

Requests to establish signs that vary from the provisions of this sign program or any requests to change the provisions of this program shall be submitted to the Owner for approval prior to submission to the City of Visalia. Following approval of proposed signage by the Owner, applications for all permits for fabrication and installation by Sign Contractor shall be submitted to the City of Visalia. Fabrication and installation of all signs shall be performed in accordance with the standards and specifications outlined in this sign program and in the final approved plans and working drawings. It is the responsibility of the Tenant's sign company to verify all conduit and transformer locations and service access prior to fabrication. Tenant shall be responsible for all costs for Building Tenant Signage and Site Signage Panels as follows:

- Design consultant fees
- Application and permitting fees
- Sign fabrication, related materials and installation fees (including all plan check and inspection costs).
- Signage removal, including repair of any damage to the building. It is the Tenant's responsibility to properly patch and resurface all holes and paint surface to match the existing color.

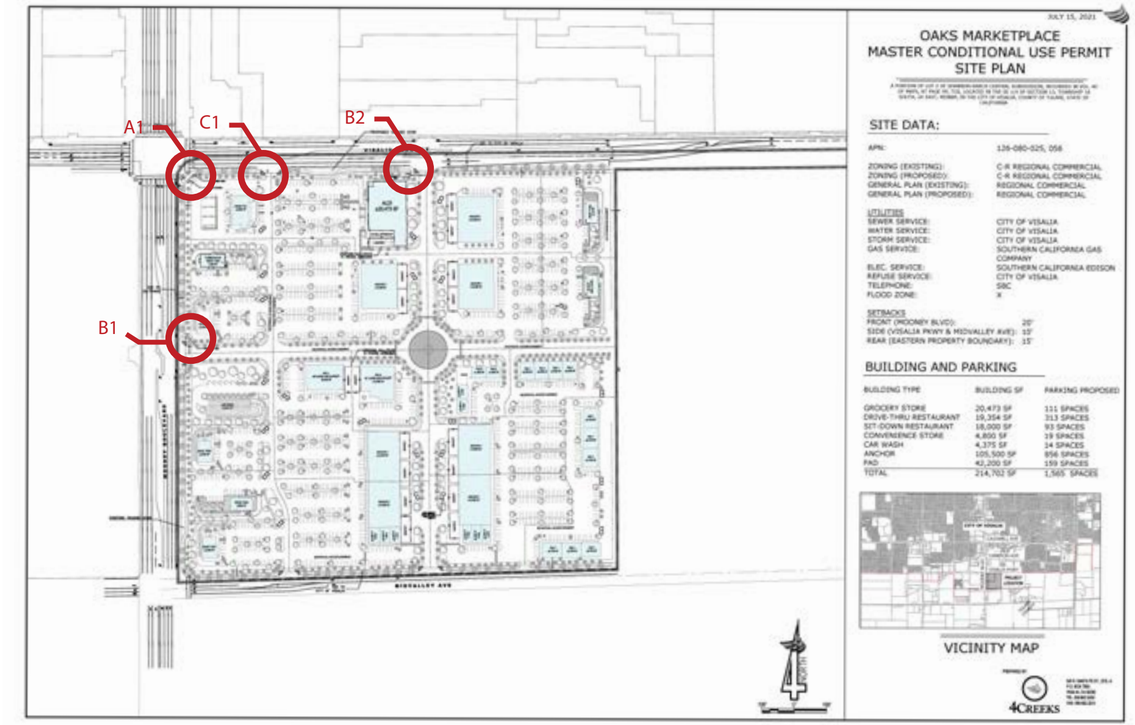


Figure 1: Site plan and sign locations

SIGN RESTRICTIONS

A. Prohibited Signs

1. Signs constituting a Traffic Hazard: No person shall install or maintain, or cause to be installed or maintained, any sign which simulates or imitates in size, color, lettering or design any traffic sign or signal, or which makes use of the words “STOP”, LOOK”, DANGER” or any words, phrases, symbols, or characters in such a manner as to interfere with, mislead or confuse traffic.

2. Signs in Proximity to Utility Lines: Signs which have less horizontal or vertical clearance from authorized communication or energized electrical power lines that are prescribed by the laws of the State of California are prohibited.

3. Signs painted directly on a wall will not be permitted.

4. Wall signs may not project above the top of a parapet, the roof line at the wall, or roofline. Signs on mansard roofs and equipment screens are prohibited.

5. There shall be no signs that are rotating, revolving, flashing, moving or audible, except barber poles.

6. Signs must be architecturally compatible with the entire center.

7. No sign shall project above or below the sign-able area.

8. Vehicle Signs: Signs on or affixed to trucks, automobiles, trailers, or other vehicles which advertise, identify, or provide direction to a use or activity not related to its lawful activity are prohibited.

9. An exception may be granted by the Landlord and Director of Planning by obtaining a temporary sign permit when the display is an integral part of the design character of the activity to which it relates.

10. All materials used in signage construction and installation must be new. No used materials will be allowed.

11. Banners, Pennants & Balloons Used for Advertising Purposes: Temporary flags, banners, or pennants, or a combination of same constituting an architectural feature which is an integral part of the design character of a project may be permitted subject to Municipal Code requirements, Landlord’s and City approval.

12. Billboard Signs are not permitted.

13. The use of a permanent sale sign is prohibited. The temporary use of these signs are limited to a thirty-day period and is restricted to signs affixed to the interior of windows which do not occupy more that 20% of the window area. Each business is permitted a total of not more than ninety days of temporary window sale signs per calendar year.

B. Illegal Signs

Any Sign that is deemed not to be in conformance with the approved Sign Plan or erected without government approval or permits is considered an illegal sign. The Owner may, as its sole discretion and at Tenant’s expense, correct, replace or remove any illegal sign.

C. Abandonment of Signs

An abandoned sign is that which use is discontinued because the premises upon which it is located becomes vacated and unoccupied for a period of more than 90 days. The Owner may, at its sole discretion and at Tenant’s expense, replace or remove any abandoned sign.

D. Inspection

Landlord reserves the right to hire an independent electrical engineer at the Tenant’s sole expense to inspect the installation of all Tenant’s signs and to require the Tenant to have any discrepancies and/or code violations corrected at the Tenant’s expense.

E. Maintenance

It is the Tenant’s responsibility to maintain their signs in proper working and clean conditions at all times. Otherwise, landlord reserves the right to hire his own contractor, make the necessary corrections, and bill tenant should it be deemed necessary.

SITE AND BUILDING SIGN DESIGN GUIDELINES

A. Design Objective: The Project will incorporate a modern market architectural theme, with a mix of parapet roofing, articulated facades and lofted spaces. Building exteriors will be a mix of fiber cement panels, concrete masonry units, raw or anodized metal, and low/flat metal roofing. Similiar color schemes may be used as long as they are consistent with the overall modern market theme. Exterior paint will be consistent with surrounding neighborhoods, with allowances for brighter accent colors.

The primary design objective of the sign program is to generate high quality, creative site signage and building tenant signage consistent with the overarching modern market architectural theme. A diversity of sign types and styles is encouraged to promote aesthetically interesting commercial centers. Signage must consist of either wood, metal, glass, tile or other materials that provide a high quality sign. Channel letters shall also be displayed to provide depth to allow for a 3-dimensional appearance. This sign program encourages design styles that incorporate multidimensional forms and combinations of colors and lighting techniques.

1. Signs shall be designed in a manner that is compatible with and complementary to the overall commercial center and surrounding facades.

2. Signage that incorporates logos, business identity, and/or images denoting the type of business shall be encouraged. Logo design and colors are to be approved by the Owner.

3. Wall signs shall be affixed without visible means of attachment, unless attachments make an intentional statement.

4. Monument signs may be located within landscaped zones between property lines and building setback lines, allowing for adequate sightlines for approaching vehicular traffic at street intersections and points of ingress and egress.

5. Monument signs are not permitted in the Traffic Safety Sight area, which is the portion of both public and private property located at any corner and bounded by the curb line or future curb line of the intersecting streets and a line joining points on the curb line or future curb line 45 feet from the point of intersection of the extended curb lines or future curb line.

B. Standards by Sign Type

1. *Commercial Center Identification Sign (A1):* The Project will include one gateway sign at the corner of Visalia Parkway and Mooney Blvd. The commercial identification sign shall match the modern market theme.

   - Maximum height: Four feet
   - Lettering shall be a maximum of two feet in height
   - Center identification signs will be illuminated externally. The illumination shall be designed to ensure that the light source is not directly visible from the public right of way.

2. *Monument Sign (B1,B2):* The Project will include two double-faced signs located at the primary points of ingress/egress on Visalia Parkway and Mooney Blvd. The monument signs will showcase major tenants located in the project site as well as commercial center identification.

   - Maximum number: one per street frontage or one per occupant/tenant
   - Maximum height: Eight feet.
   - The sign area must not exceed 35 square feet per face, not to exceed 70 square feet in total. The total aggregate surface of the sign faces and sign structure shall not exceed 140 square feet.
   - Tenant signs will be internally illuminated and commercial center lettering will be lit using reverse channel illumination.

3. *Fueling Station Monument Sign (C1):* The fueling station will erect a monument sign at the entry/exit on Visalia Parkway and Midvalley Avenue to display fuel prices as well as commercial center identification.

   - Maximum height: Eight feet except that monument signs may be placed on a four-foot high or less landscape mound.
   - The sign area must not exceed 35 square feet per face, not to exceed 70 square feet in total.
   - Commercial center identification will be lit using reverse channel illumination and tenant signage will use internal illumination.



Figure 2: Modern market architectural theme

COMMERCIAL CENTER IDENTIFICATION SIGN (A1)

- Concrete masonry units with fiber cement panels
- Colors to blend with building architecture and modern market theme
- Located at the corner of Visalia Parkway and Mooney Blvd.
- Total sign structure area: 48 SF
- Total sign face area: 20 SF
- Setback: Minimum ten feet from public right-of-way



Commercial center identification sign to be finalized. Sign face details are shown for example only.

MONUMENT SIGNAGE (B1,B2)

- Concrete masonry units with fiber cement panels
- Colors to blend with building architecture and modern market theme
- Located at the primary points of ingress/egress on Visalia Parkway and Mooney Blvd
- Total sign structure area: 56 SF
- Total sign face area of tenants: 32 SF per side
- Setback: Minimum ten feet from public right-of-way



Aldi is currently the only known tenant. Sign face details are shown for example only.

FUELING STATION SIGNAGE (C1)

- Concrete masonry units with fiber cement panels
- Colors to blend with building architecture and modern market theme
- Located at the entrance of fueling station on Visalia Parkway and Midvalley Avenue
- Total sign structure area: 31 SF
- Total sign face area of tenant: 16.5 SF per side
- Setback: Minimum ten feet from public right-of-way



Gas station tenant unknown. Sign face details are shown for example only.

4. *Building Signs:* Wall signage (Shall be consistent with maximums allowed in Section 17.48.100.B):

   - Permitted Sign Area: Two square feet of sign area is permitted for each foot of linear occupancy frontage to a maximum area of one hundred fifty square feet. A building sign may not exceed the height of the roof line or parapet wall upon which it is mounted. Building signs may not exceed eighty percent of the surface upon which it is mounted.
   - Tenants may choose which exterior side of the building will be used for the purpose of calculating the permitted sign area.
   - Additional signs of a maximum twenty-five percent of the sign area shall be allowed for each remaining exterior wall provided that the sign area for any given wall does not exceed two square feet per linear foot of the wall length.
   - Building signs shall be mounted flush against or be oriented parallel to the wall of the structure on which it is located. No part of the sign shall extend more than six inches from the surface of the structure.
   - The sign shall not extend higher than the peak of the roof.

Sign plans for the proposed Aldi have been included in this sign program and are the only known tenants at this time. All other building tenants are unknown and will be required to submit sign permits to show consistency with the sign program.





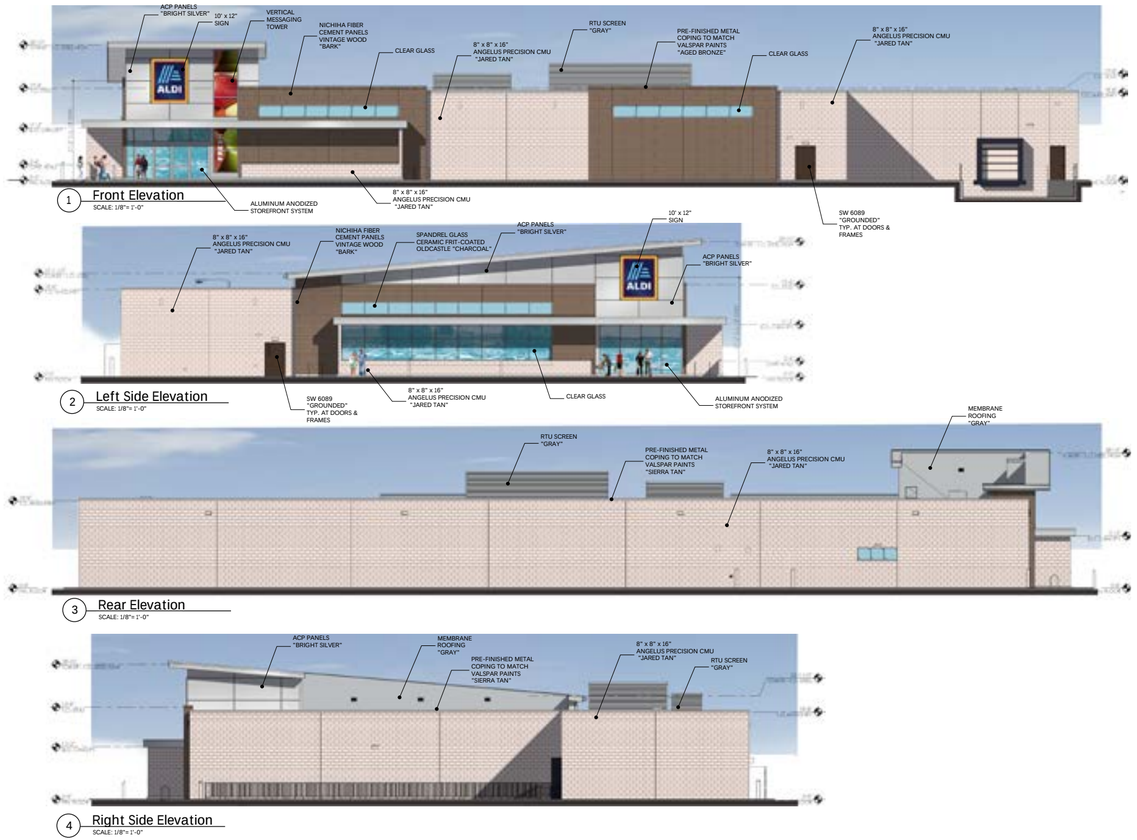


Figure 3: Aldi conceptual elevation and building sign

5. *Pedestrian Oriented Hanging/Projecting Signs*: Each Tenant in the retail center shall incorporate a double-faced hanging pedestrian oriented sign near the store front, visible to pedestrians from the sidewalk along the storefront.

   - Permitted Sign Area: Six square feet of sign area is permitted
   - Sign Height: A minimum height of eight feet from bottom of sign to sidewalk. A maximum height of twelve feet from top of sign to sidewalk.
   - Sign may be attached to projecting brackets from the wall or attached from the building's overhanging roof over the pedestrian sidewalk.

6. *Wayfinding Signs*: Site directional signs: may be erected when necessary to facilitate circulation within the site, facilitate egress and ingress or facilitate a public need, such as identification of rest rooms, public telephones, walkways and similar features and facilities.

   Vehicular Directional Signs: may be erected to facilitate orientation of retail locations in Site area, as well as serving as location identifiers. These signs will be single- pole mounted to minimize impact on traffic safety sight lines while still providing adequate information for vehicular traffic.

   - Permitted Sign height: Maximum sign height shall be thirteen feet from ground to top of sign. The minimum height from bottom of sign area to the ground shall be eight feet.
   - Permitted Sign area: Fifteen square feet is permitted sign area.

   Pedestrian Directional Signs: may be erected to facilitate in pedestrian orientation of project site. These signs should be posted along pedestrian routes to facilitate orientation of retail locations.

   - Permitted Sign height: Maximum sign height shall be five feet.
   - Permitted Sign area: Six square feet is permitted sign area.

Tenants shall be responsible for completing sign permit application and hiring sign installation professional of their choice.



Figure 4: Example pedestrian oriented hanging sign



Example Sign Materials:
Sign Post: 3" Smooth or Fluted
Sign frames: Classic Trims (CT-6A)
Base: 3" Mini-Americana, Streetscape, or Hanover
Finial: 3" Globe (FN-0203)

Figure 5: Wayfinding signs

SIGNAGE LIGHTING

Site Signage and Building Tenant Signage shall be illuminated using a variety of lighting techniques in order to enhance the overall quality of appearance of the Site.

1. **Lighting Type:**

   - *Reverse channel neon with silhouette illumination*: Each sign letter is internally illuminated with a clear backing to allow for a "halo" effect. Sign face may be solid or translucent.
   - *Open channel neon*: Sign is internally illuminated with a clear or open face to allow for neon piping to be visible
   - *Internal illumination*: Sign is internally illuminated with a translucent face
   - *Gooseneck lamps:* Lighting is separate from sign and is sole source of illumination for sign. Lighting should be hooded to minimize excessive light pollution

2. **Prohibited Lighting:**

   - Animated lights
   - Exposed conduits and raceways
   - Electrified neon attached to glass tubing surrounds or crossbars
   - Front lighting fixtures that compete with the storefront design



Reverse channel



Internal illumination



Open channel neon


Gooseneck lamp

Findings to Support Variance from VMC Section 17.48.100(B)

1. Literal interpretation and enforcement of VMC Section 17.48.100(B) would reduce the sign's legibility. The actual letters in the signage are less than 28 sq. ft. The vast majority of the 240 sq. ft. sign is composed of the background colors of Aldi's federally trademarked logo. Reducing the size of the signage to City Standards would significantly reduce the size of the letters, which would prevent customers from being able to read the sign from a distance typically enjoyed by other property owners in the C-R zone.

2. Aldi's location creates an exceptional condition that does not apply generally to other properties located in the C-R zone. Because of the proposed Aldi location, the store has a side wall directly adjacent to a public Street (Visalia Parkway), but the front wall/building entrance is located across from a parking area within the commercial development. Therefore, it is rational that the store would have wall signage on the north-facing wall adjacent to Visalia Parkway in addition to wall signage on the front of the store. Other properties in the same zone would typically only need to provide signage on the front of the building.

3. The strict or literal interpretation and enforcement of VMC Section 17.48.100(B) would deprive the applicant of privileges enjoyed by the owners of other properties in the C-R zone. As stated above, Aldi would be deprived of the ability to provide signage that is visible from the public street and/or the front of the store if a variance from VMC Section 17.48.100(B) is not approved. Other properties in the same zone would typically be able to achieve visibility from the public street and from the building entrance by providing signage only on the front of the building.

4. Granting the variance from Section 17.48.100(B) would not constitute a special privilege inconsistent with the limitations on other properties classified in the same zone. The applicant seeks to provide additional signage only to allow for signage visibility from the public street and from the building entrance, which is a privilege enjoyed by other properties in the C-R zone.

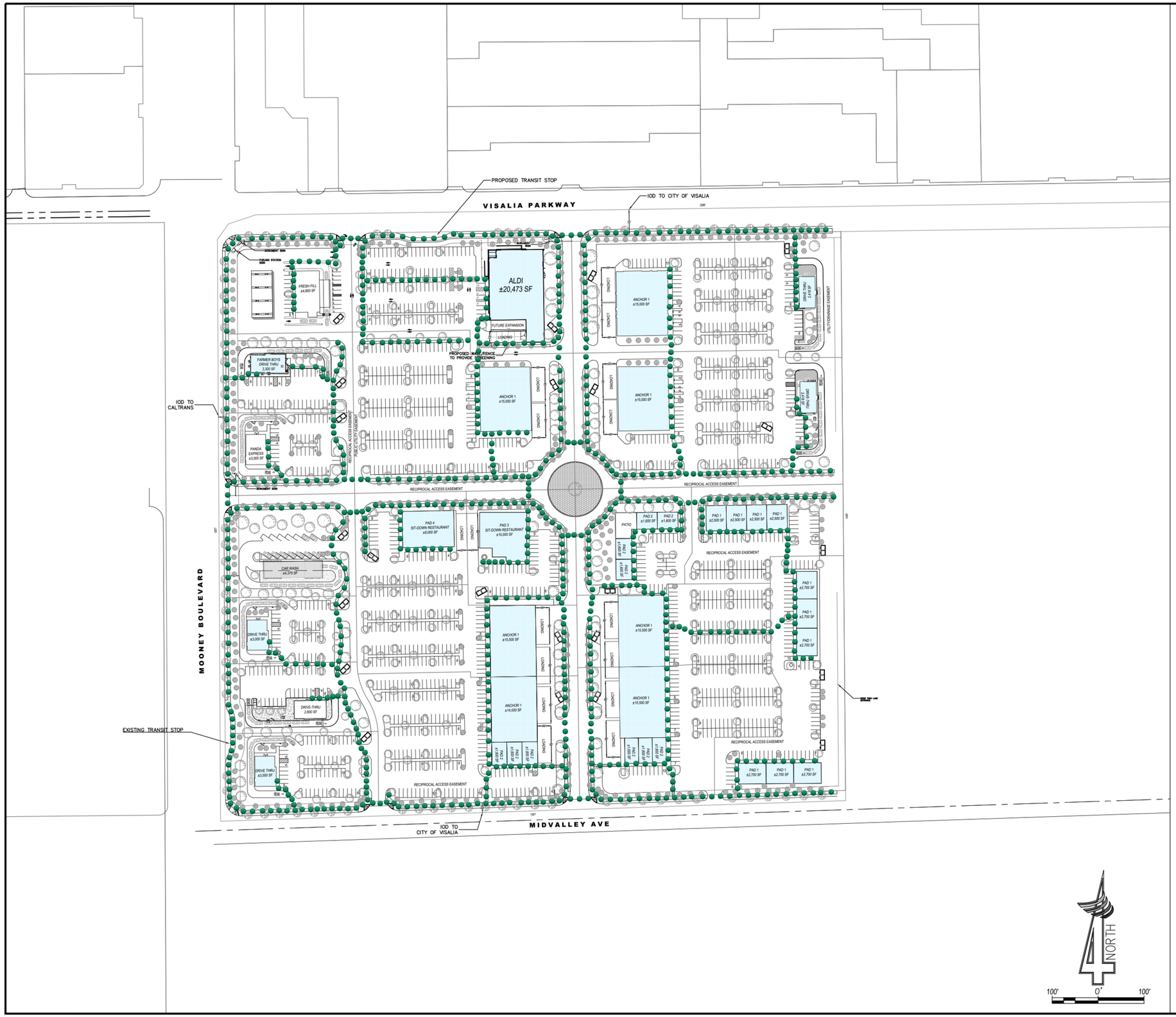
5. Granting the variance from Section 17.48.100(B) would not be detrimental to the public health, safety or welfare, or be materially injurious to the properties or improvements in the vicinity. The proposed variance would increase the signage legibility, which would allow customers to more easily read the sign and navigate the site safely.

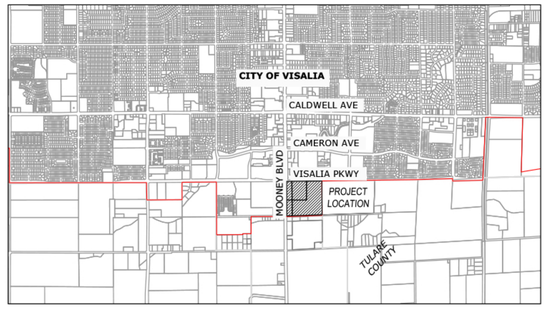
JULY 15, 2021

OAKS MARKETPLACE
MASTER CONDITIONAL USE PERMIT
PEDESTRIAN CONNECTIVITY PLAN

LEGEND:

● ● ● PEDESTRIAN TRAVEL ROUTE





VICINITY MAP

PREPARED BY:

4CREEKS

324 S. SANTA FE ST., STE. A
P.O. BOX 7593
VISALIA, CA 93292
TEL: 559.802.3052
FAX: 559.802.3215

CITY OF VISALIA
315 E. ACEQUIA AVENUE
VISALIA, CA 93291

NOTICE OF A PROPOSED INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

Project Title:

The Oaks Marketplace Shopping Center – Conditional Use Permit No. 2020-30, Tentative Parcel Map No. 2020-09, Variance No. 2021-03

Project Description:

Conditional Use Permit No. 2020-30: A request by TMT, LLC to allow a master-planned commercial development on a 38.5-acre parcel in the C-R (Regional Commercial) Zone, for the development of approximately 212,450 square feet of commercial shopping center space in four phases, consisting of a specialty grocery store, seven drive-thru restaurants, a gas station/convenience store with drive-thru facility, a carwash facility, two sit-down restaurants, and 25 retail pads.

Tentative Parcel Map No. 2020-09: A request by TMT, LLC to subdivide 38.5 acres into 22 lots for commercial and right of way use, in the C-R (Regional Commercial) Zone.

Variance No. 2021-03: A request by TMT, LLC to allow a variance to signage standards, allowing 240 sq. ft. of wall signage for a specialty grocery store in the C-R (Regional Commercial) zoning designation.

This project will include on and off-site improvements pertaining to the development of the commercial center, including but not limited to installation of access drives, parking lots, landscaping, utilities, curbs, gutters, sidewalks, signal lights, and acquisition of and development within public rights-of-way. Right-of-way development will include dedications to the City of Visalia and Caltrans for street widening and placement of raised medians within the existing minor arterial Visalia Parkway (City of Visalia) and Mooney Boulevard / State Route 63 (Caltrans).

Project Location: The project site is located on the southeast corner of W. Visalia Parkway and S. Mooney Boulevard (APN: 126-080-025, 056).

Contact Person: Cristobal Carrillo, Associate Planner. Phone: (559) 713-4443. Email: cristobal.carrillo@visalia.city

Time and Place of Public Hearing: A public hearing will be held before the Planning Commission on November 8, 2021 at 7:00 p.m. in the City Hall Council Chambers located at 707 W. Acequia Avenue, Visalia, California.

Pursuant to City Ordinance No. 2388, the Environmental Coordinator of the City of Visalia has reviewed the proposed project described herein and has found that the project, with mitigation measures, will not result in any significant effect upon the environment because of the reasons listed below:

Reasons for Mitigated Negative Declaration: Initial Study No. 2021-42 has identified environmental impact(s) that may occur because of the project; however, with the implementation of mitigation measures identified, impact(s) will be reduced to a level that is less than significant. Copies of the initial study and other documents relating to the subject project may be examined by interested parties at the Planning Division in City Hall East, at 315 East Acequia Avenue, Visalia, CA.

Comments on this proposed Mitigated Negative Declaration will be accepted from October 8, 2021 to November 8, 2021.

Date: 10/7/2021

Signed: Brandon Smith

Brandon Smith, AICP
Environmental Coordinator
City of Visalia

MITIGATED NEGATIVE DECLARATION

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Project Facts: Refer to Initial Study for project facts, plans and policies, and discussion of environmental effects.

Attachments:

Initial Study	(X)
Environmental Checklist	(X)
Location Map	(X)
Mitigation Measures	(X)
Traffic Impact Analysis	(X)
Cultural Resources Assessment	(X)
Site Plan	(X)
Tentative Parcel Map	(X)

DECLARATION OF NO SIGNIFICANT EFFECT:

This project will not have a significant effect on the environment for the following reasons:

(a) The project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

(b) The project does not have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.

(c) The project does not have environmental effects which are individually limited but cumulatively considerable. Cumulatively considerable means that the incremental effects of an individual project are

considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

(d) The environmental effects of the project will not cause substantial adverse effects on human beings, either directly or indirectly.

This Mitigated Negative Declaration has been prepared by the City of Visalia Planning Division in accordance with the California Environmental Quality Act of 1970, as amended. A copy may be obtained from the City of Visalia Planning Division Staff during normal business hours.

APPROVED
Brandon Smith, AICP
Environmental Coordinator

By: _____

Date Approved: 10/7/2021

Review Period: 30 days

INITIAL STUDY

I. GENERAL

A. Project Name and Description:

Conditional Use Permit No. 2020-30: A request by TMT, LLC to allow a master-planned commercial development on a 38.5-acre parcel in the C-R (Regional Commercial) Zone, for the development of approximately 212,450 square feet of commercial shopping center space in four phases, consisting of a specialty grocery store, seven drive-thru restaurants, a gas station/convenience store with drive-thru facility, a carwash facility, two sit-down restaurants, and 25 retail pads.

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The project site is located on the southeast corner of W. Visalia Parkway and S. Mooney Boulevard (APN: 126-080-025, 056), within the City of Visalia city limits, situated in Tulare County.

B. Identification of the Environmental Setting:

The 38.5-acre project site is currently employed for the agricultural production of wheat and corn. No structures exist on the project site. The project site is part of a larger 99.27-acre parcel (APN: 126-080-025, 056) which was previously proposed via Tentative Parcel Map No. 2020-08 to be divided into a 43.27-acre “Parcel 1” with an approximately 56-acre Remainder. Annexation No. 2020-02 was processed concurrently with Tentative Parcel Map No. 2020-08, to annex 38.5 acres of Parcel 1 into the Visalia City limits. While the annexation has been completed, the tentative parcel map remains to be recorded. As such, the project site is still a part of the 99.27-acre property.

The remaining 60.77 acres of the overall site that are not a part of the project are also employed for the agricultural production of wheat and corn. No structures exist on this portion of the property, except for an irrigation well on the southeast corner of the overall 99.27-acre parcel. Development is only proposed on the 38.5-acre project site. As such, this study only analyzes the effects of the project contained within the 38.5-acre project site. The site is not under Williamson Act contract and is not within an Agricultural Preserve.

The 38.5-acre project site includes the northern 55 feet of the overall 99.27-acre site, to be used for right of way expansion of Visalia Parkway.

The project site is bounded by active agricultural lands to the east and rural residential development to the south. Areas to the north and west contain active commercial and residential development or vacant lands planned for future development. The project site abuts three roadways; the four lane State Highway 63/South Mooney Blvd to the west, the two-lane West Visalia Parkway to the north, and the two-lane West Midvalley Avenue/Avenue 274 to the south.

The commercial development improvements will include widening of the unimproved east side of Mooney Boulevard to its ultimate six-lane right-of-way width along the property frontage as determined by Caltrans, the widening of the unimproved south side of Visalia Parkway to its ultimate four-lane right-of-way width from the project site, as determined by the City of Visalia, and the widening of the unimproved north side of Midvalley Street to its ultimate two-lane right-of-way width along the property frontage. All improvements for new streets will consist of through travel lanes, curb, gutter, sidewalk, and landscaping along the project frontage. Additional improvements include installation of parking lots and onsite landscaping.

The surrounding uses, Zoning, and General Plan are as follows:

	General Plan (2014)	Zoning (2017)	Existing uses
North:	Regional Commercial	C-R (Regional Commercial)	Commercial shopping centers, vacant commercial land.
South:	Regional Commercial, Residential Low Density	C-R, County Jurisdiction (AE-20)	Active agricultural lands, single family residences.
East:	Residential Low Density	County Jurisdiction (AE-20)	Active agricultural lands.
West:	Regional Commercial, Neighborhood Commercial, Residential Low Density	C-R, C-N (Neighborhood Commercial), R-1-5 (Single Family Residential, 5,000 sq. ft. minimum site are)	Commercial development, Westlake Village Mobile Home Park, vacant commercial land (under development for shopping center on 11 lots).

Fire and police protection services, street maintenance of public streets, refuse collection, and wastewater treatment will be provided by the City of Visalia upon the development of the area.

C. Plans and Policies:

The General Plan Land Use Diagram designates the project site as Regional Commercial. The Zoning Map designates the project site as C-R (Regional Commercial), with the remainder of the site which is outside City Limits designated as AE-20 (County jurisdiction zoning). The proposed shopping center project is consistent with the Land Use Element of the General Plan and zoning designation.

II. ENVIRONMENTAL IMPACTS

No significant adverse environmental impacts have been identified for this project. The City of Visalia General Plan and Zoning Ordinance contains policies and regulations that are designed to mitigate impacts to a level of non-significance.

III. MITIGATION MEASURES

The following mitigation measures, which are listed below, will reduce potential environmental impacts related to transportation/traffic and cultural resources to a less than significant level as shown below:

Transportation / Traffic – A Traffic Impact Analysis prepared by TJKM for the proposed project (ref.: Traffic Impact Analysis Report: TMT Shopping Center Development, Southeast Corner of Visalia Parkway & Mooney Boulevard, September 30, 2021) has concluded that roadway operating conditions for intersections and roadways in the vicinity of the project area either are or will be significantly impacted with the addition of the proposed project. To ensure that intersections and roadways will operate at acceptable LOS “D” and VMT reduced to a level of less than significance or better through the year 2042, the Analysis Report recommends mitigation to be incorporated into the project.

Therefore, to ensure that there will not be significant impacts to transportation/traffic in association with the project, the project shall be developed with the mitigation measures as described in the “Table ES-1: Summary of Mitigation Measures” section (page 12 through 14) of the above-referenced Traffic Impact Analysis. The mitigations are included as an attachment to the Mitigated Negative Declaration.

Cultural Resources – A Cultural Resources Study prepared by Taylored Archaeology (ref.: Cultural Resources Assessment for the Oaks Marketplace Master Conditional Use Permit Project, City of Visalia, Tulare County, California, January 2021) assessed the project site to determine whether cultural resources are present within the Project area. The investigation included a records search through the Southern San

Joaquin Valley Information Center (SSJVIC) to identify previously recorded cultural resources and prior studies in the project vicinity, a request to the Native American Heritage Commission (NAHC) to review its Sacred Lands File for known resources, and a pedestrian survey of the proposed Project area.

The records search results from SSJVIC indicated that there were two recorded resources. However, further review of SSJVIC records indicated the two recorded resources within the Project area were actually located outside the Project area to the north. The NAHC's Sacred Lands File results revealed that there were no known identifications of sacred or important tribal cultural sites within the Project area, and no archaeological cultural resources were identified during Taylored Archaeology's pedestrian survey of the Project area.

Due to the Project's close proximity to Packwood Creek, which historically contained a Native American Yokut village within the general region, the Study recommends a Native American monitor and archaeological monitor be present during initial ground disturbance during Project construction activities. In the event of accidental discovery of unidentified archaeological remains during development or ground-moving activities in the Project area, all work within the immediate vicinity (within a 100-foot radius) should be halted until a qualified archaeologist can identify the discovery and assess its significance. Lastly, if human remains are uncovered during construction, the Tulare County Coroner is to be notified to investigate the remains and arrange proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 and PRC 5097.98 requires that the Coroner notify the NAHC within 24 hours of discovery.

Staff has incorporated the above recommendations as required mitigation measures. Therefore, to ensure that transportation/traffic and cultural resource requirements are met for the proposed projects, the project shall be developed and shall operate in substantial compliance with the Mitigation Measures 1.1 through 1.18 and 2.1 through 2.3. These mitigation measures are included in Section IV below as part of this Initial Study.

The City of Visalia Zoning Ordinance also contains guidelines, criteria, and requirements for the mitigation of potential impacts related to light/glare, visibility screening, noise, and traffic/parking to eliminate and/or reduce potential impacts to a level of non-significance.

IV. MITIGATION MONITORING PROGRAM

Mitigation Measure	Responsible Party	Timeline
Transportation / Traffic Impact Mitigation Measure 1.1: Caldwell Avenue and Dans Street Intersection (Intersection #5 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level, should the City decide to install a traffic signal.	Project Applicant	Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.2: Cameron Ave and West Street Intersection (Intersection #14 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level.	Project Applicant	Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.

Transportation / Traffic Impact Mitigation Measure 1.3: Visalia Parkway and Dans Street Intersection (Intersection #17 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level.	Project Applicant	Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.4: Visalia Parkway and County Center Street Intersection (Intersection #18 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level, should the City decide to install a traffic signal.	Project Applicant	Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.5: Visalia Parkway and Mooney Blvd. Intersection (Intersection #20 on the TIA): The intersection shall be widened to include the minimum: • Eastbound: 2 left-turn lanes, 1 through lane, 1 right turn-lane; • Westbound: 2 left-turn lanes, 1 through lane, and 1 shared through-right lane • Northbound: 2 left-turn lanes, 1 through lane, and 1 shared through-right lane • Southbound: 1 left-turn lane, 3 through lanes, and 1 right-turn lane. Signal timings shall also be optimized, subject to approval and coordination from Caltrans. Note that project plans indicate the applicant will build out the Northbound and Eastbound lanes to their ultimate configurations, as required by Caltrans and the City of Visalia. This includes Northbound: 2 left-turn lanes, three through lanes, a bike lane, and 1 right-turn lane, and Eastbound: 2 left-turn lanes, 2 through lanes.	Project Applicant	Mitigation shall be enforced and improvements completed prior to final occupancy of any building within the first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.6: Mooney Boulevard and Avenue 272 Intersection (Intersection #23 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level, subject to approval and coordination from Caltrans.	Project Applicant	Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.7: Cameron Avenue and Stonebrook Street Intersection (Intersection #13 on the TIA): Fair share payment into the City of Visalia Traffic Impact	Project Applicant	Contribution to be made prior or deferral agreement entered into within five years after the occupancy of the first building within the first phase of

Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level. Additionally, the storage length of the northbound lane shall be increased.		development. The increase to the storage length of the northbound lane shall occur within twenty years after the occupancy of the first building within the first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.8: Visalia Parkway and Main Site Access – Target Driveway Intersection (Intersection #19 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level.	Project Applicant	Contribution to be made prior or deferral agreement entered into within five years after the occupancy of the first building within the first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.9: Mooney Boulevard and Sunnyside Avenue Intersection (Intersection #3 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the optimization of traffic signal timings to improve the LOS to an acceptable level, subject to approval and coordination from Caltrans.	Project Applicant	Contribution to be made prior or deferral agreement entered into within ten years after the occupancy of the first building within the first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.10: Mooney Boulevard and Orchard Avenue Intersection (Intersection #4 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the optimization of traffic signal timings to improve the LOS to an acceptable level, subject to approval and coordination from Caltrans.	Project Applicant	Contribution to be made prior or deferral agreement entered into within ten years after the occupancy of the first building within the first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.11: Mooney Boulevard and Caldwell Avenue Intersection (Intersection #7 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the optimization of traffic signal timings to improve the LOS to an acceptable level, subject to approval and coordination from Caltrans.	Project Applicant	Contribution to be made prior or deferral agreement entered into within ten years after the occupancy of the first building within the first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.12: Cameron Avenue and County Center Street Intersection (Intersection #11 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal and optimization of traffic signal timings to improve the LOS to an acceptable level to improve the LOS to an acceptable level.	Project Applicant	For installation of a traffic signal, contribution shall be made or deferral agreement entered into within 10 years after occupancy of the first building within the first phase of development. For optimization of traffic signal timings, contribution shall be made or deferral agreement entered into within 20 years after occupancy of the first building within the first phase of

		development.
Transportation / Traffic Impact Mitigation Measure 1.13: Visalia Parkway and Stonebrook Street Intersection (Intersection #21 on the TIA): Fair share payment into the City of Visalia Traffic Impact Fee Mitigation Program for the installation of a traffic signal to improve the LOS to an acceptable level, should the City decide to install a traffic signal.	Project Applicant	Contribution to be made prior or deferral agreement entered into within twenty years after the occupancy of the first building within the first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.14: Visalia Parkway and Costco Driveway Intersection (Intersection #29 on the TIA): Applicant shall install a raised median with a refuge lane to permit southbound left turn movement.	Project Applicant	Mitigation shall be enforced and improvements completed prior within twenty years after the occupancy of the first building within the first phase of development.
Transportation / Traffic Impact Mitigation Measure 1.15: VMT Mitigation Impact Fees: Payment of an impact fee with the building permit issuance of each parcel to the City, to be placed into a VMT mitigation bank to be created at a later date by the City of Visalia. The fee shall be calculated at $1,277/ksf, based on project-specific travel demand model for 212,450 sq. ft. of commercial space. If a VMT mitigation fee program is implemented by the City prior to building permits being issued and fees being paid, the project will pay those fees instead. Otherwise, the fees would be calculated as shown in the Traffic Impact Analysis prepared by TJKM for the proposed project, based on the market rate price for GHG equivalents and a time period to be negotiated by the City and project applicant in light of other mitigating factors.	Project Applicant	Contribution to be made prior to issuance of a Building Permit for each building proposed within the shopping center development.
Transportation / Traffic Impact Mitigation Measure 1.16: San Joaquin Valley Air Pollution Control District Mitigation Fees: Payment of mitigation fees to the San Joaquin Valley Air Pollution Control District, which are based in part on mitigating VMT generated by the project.	Project Applicant	Contribution to be made prior to issuance of a Building Permit for each building proposed within the shopping center development.
Transportation / Traffic Impact Mitigation Measure 1.17: Site and Frontage Design Improvements: Implementation of site and frontage design improvements to improve access, circulation, and convenience of transit users, pedestrians, and bicycles. Improvements shall consist of the following:	Project Applicant	Contribution to be made prior or deferral agreement entered into prior to finalization of first phase of development.

• Development of new sidewalks on all frontages of the project site, and connecting to existing and proposed pedestrian facilities at the intersections of Visalia Parkway & Mooney Boulevard (Intersection #20) and Midvalley Avenue & Mooney Boulevard (Intersection #22), and including crosswalks at same, to facilitate pedestrian access. • Development of bike facilities along Visalia Parkway, Mooney Boulevard, and Midvalley Avenue. • The improvement of transit access through the buildout of new transit stop on Visalia Parkway at the northwest corner of the project site, and improvement of an existing transit stop along Mooney Boulevard at the southwest corner of the project site. • Development of onsite facility improvements to encourage alternate modes of transportation, to include: o Pedestrian connections between sidewalks and buildings that provide a shorter path of travel than walking to the nearest driveway; o Marked pedestrian crosswalks connecting buildings that are separated by parking areas; o Adequate lighting for sidewalks and internal walkways, in particularly at major conflict points with vehicles; o Benches and trash cans placed throughout the project site; o Bike racks near building entrances; o Bike lockers or other long-term bike storage facilities for shopping center employees; o For the existing bus stop on Mooney Boulevard at the southwest corner of the project site, reconstruct the transit stop to provide a bus shelter, trash can, and adequate lighting.		
Transportation / Traffic Impact Mitigation Measure 1.18: Travel Demand Management Program: Implementation of a travel demand management (TDM) program for employees at the proposed shopping center, to be submitted for each building proposed. The TDM program shall include measures such as subsidized transit passes, facilitating ride sharing, contracting with vanpool providers, providing information on local transportation facilities and services, and providing on-site amenities for bicycle commuters such as showers and changing areas if the size of the building allows for such amenities.	Applicant for each individual building proposed for development.	Travel Demand Management Programs shall be submitted for each building within the shopping center prior to final occupancy of each structure.

Cultural Resources Mitigation Measure 2.1: A Native American monitor and archaeological monitor shall be present during initial ground disturbance during Project construction activities.	Project Applicant	Mitigation shall be enforced by the project applicant and carried out during the initial ground disturbance stages of construction for each phase of development.
Cultural Resources Mitigation Measure 2.2: In the event of accidental discovery of unidentified archaeological remains during development or ground-moving activities in the Project area, all work shall be halted in the immediate vicinity (within a 100-foot radius) until a qualified archaeologist can identify the discovery and assess its significance.	Project Applicant	Mitigation shall be enforced by the project applicant and carried out during development or ground moving activities for each phase of development.
Cultural Resources Mitigation Measure 2.3: If human remains are uncovered during construction, the Tulare County Coroner shall be notified to investigate the remains and arrange proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American the coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will be afforded an opportunity to make recommendations regarding the treatment and disposition of the remains.	Project Applicant	Mitigation shall be enforced by the project applicant and carried out during construction of the entire project.

V. PROJECT COMPATIBILITY WITH EXISTING ZONES AND PLANS

The project is compatible with the General Plan and Zoning Ordinance as the project relates to surrounding properties.

VI. SUPPORTING DOCUMENTATION

The following documents are hereby incorporated into this Initial Study by reference:

- Visalia General Plan Update. Dyett & Bhatia, October 2014.
- Visalia City Council Resolution No. 2014-38 (Certifying the Visalia General Plan Update) passed and adopted October 14, 2014.
- Visalia General Plan Update Final Environmental Impact Report (SCH No. 2010041078). Dyett & Bhatia, June 2014.
- Visalia General Plan Update Draft Environmental Impact Report (SCH No. 2010041078). Dyett & Bhatia, March 2014.
- Visalia City Council Resolution No. 2014-37 (Certifying the EIR for the Visalia General Plan Update) passed and adopted October 14, 2014.
- Visalia Municipal Code, including Title 17 (Zoning Ordinance).
- California Environmental Quality Act Guidelines.
- City of Visalia, California, Climate Action Plan, Draft Final. Strategic Energy Innovations, December 2013.
- Visalia City Council Resolution No. 2014-36 (Certifying the Visalia Climate Action Plan) passed and adopted October 14, 2014.
- City of Visalia Storm Water Master Plan. Boyle Engineering Corporation, September 1994.
- City of Visalia Sewer System Master Plan. City of Visalia, 1994.
- City of Visalia Zoning Ordinance Update. City of Visalia, March 2017.
- Traffic Impact Analysis Report: TMT Shopping Center Development, Southeast Corner of Visalia

Parkway & Mooney Boulevard, September 30, 2021). TJKM

- Cultural Resources Assessment for the Oaks Marketplace Master Conditional Use Permit Project, City of Visalia, Tulare County, California, January 2021. Taylored Archaeology

VII. NAME OF PERSON WHO PREPARED INITIAL STUDY

Cristobal Carrillo,
Associate Planner

Brandon Smith, ~~AICP~~,
Environmental Coordinator

INITIAL STUDY
ENVIRONMENTAL CHECKLIST

Name of Proposal	Conditional Use Permit No. 2020-30, Tentative Parcel Map No. 2020-09, Variance No. 2021-03

NAME OF PROPONENT**:**	TMT, LLC	NAME OF AGENT**:**	4Creeks Inc., attn.: Matt Ainley, Molly McDonnel, and David Duda
Address of Proponent:	Attn: Bernard TeVelde 2911 Hanford Armona Road Hanford, CA 93230 Attn: Lance Mouw 20799 Road 132 Tulare, CA 93274 Attn: Jay TeVelde Jr. 6656 Avenue 328 Visalia, CA 93291	Address of Agent:	4Creeks, Inc. 324 S. Santa Fe Street, Ste. A Visalia, CA 93292
Telephone Number:	Bernard TeVelde – 559-250-3780 Lance Mouw – 559-686-0245 Jay TeVelde Jr. – 559-730-5850	Telephone Number:	559-802-3052
Date of Review	October 6, 2021	Lead Agency:	City of Visalia

The following checklist is used to determine if the proposed project could potentially have a significant effect on the environment. Explanations and information regarding each question follow the checklist.

1 = No Impact 2 = Less Than Significant Impact
3 = Less Than Significant Impact with Mitigation Incorporated 4 = Potentially Significant Impact

I. AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:

2 a) Have a substantial adverse effect on a scenic vista?

1 b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

2 c) Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

2 d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

II. AGRICULTURAL RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

1 a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to non-agricultural use?

2 b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

1 c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

1 d) Result in the loss of forest land or conversion of forest land to non-forest use?

2 e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use?

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

2 a) Conflict with or obstruct implementation of the applicable air quality plan?

2 b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or state ambient air quality standard?

2 c) Expose sensitive receptors to substantial pollutant concentrations?

1 d) Result in other emissions, such as those leading to odors adversely affecting a substantial number of people?

IV. BIOLOGICAL RESOURCES

Would the project:

2 a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or

regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

1 b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

1 c) Have a substantial adverse effect on federally protected wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

1 d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

1 e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

1 f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

V. CULTURAL RESOURCES

Would the project:

2 a) Cause a substantial adverse change in the significance of a historical resource pursuant to Public Resources Code Section 15064.5?

3 b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Public Resources Code Section 15064.5?

3 c) Disturb any human remains, including those interred outside of formal cemeteries?

VI. ENERGY

Would the project:

2 a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

2 b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

VII. GEOLOGY AND SOILS

Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

1 i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

1 ii) Strong seismic ground shaking?

1 iii) Seismic-related ground failure, including liquefaction?

1 iv) Landslides?

1 b) Result in substantial soil erosion or loss of topsoil?

1 c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

1 d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

1 e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

1 f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

VIII. GREENHOUSE GAS EMISSIONS

Would the project:

2 a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

2 b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

1 a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

1 b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

1 c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

1 d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

1 e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

1 f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

1 g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

X. HYDROLOGY AND WATER QUALITY

Would the project:

1 a) Violate any water quality standards of waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

1 b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

1 c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

1 i) result in substantial erosion or siltation on- or off-site;

1 ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; or

1 iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

1 d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

1 e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

XI. LAND USE AND PLANNING

Would the project:

1 a) Physically divide an established community?

1 b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

XII. MINERAL RESOURCES

Would the project:

1 a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

1 b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

XIII. NOISE

Would the project result in:

2 a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

2 b) Generation of excessive groundborne vibration or groundborne noise levels?

1 c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

XIV. POPULATION AND HOUSING

Would the project:

1 a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

1 b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

XV. PUBLIC SERVICES

Would the project:

1 a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

1 i) Fire protection?

1 ii) Police protection?

1 iii) Schools?

1 iv) Parks?

1 v) Other public facilities?

XVI. RECREATION

Would the project:

1 a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

1 b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

XVII. TRANSPORTATION / TRAFFIC

Would the project:

1 a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

3 b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

1 c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

1 d) Result in inadequate emergency access?

XVIII. TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

2 a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

2 b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

XIX. UTILITIES AND SERVICE SYSTEMS

Would the project:

2 a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

2 b) Have sufficient water supplies available to service the project and reasonable foreseeable future development during normal, dry, and multiple dry years?

1 c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

1 d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

1 e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

XX. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

1 a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

1 b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

1 c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

1 d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:

2 a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

2 b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

2 c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; *Sundstrom v. County of Mendocino,*(1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors,* (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

Revised 2019

Authority: Public Resources Code sections 21083 and 21083.09

Reference: Public Resources Code sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3/ 21084.2 and 21084.3

DISCUSSION OF ENVIRONMENTAL EVALUATION

I. AESTHETICS

a. This project will not adversely affect the view of any scenic vistas. The Sierra Nevada mountain range may be considered a scenic vista, but views of the range will not be adversely impacted or significantly altered by the project.

Commercial centers that include gas stations, convenience stores, retail shops, car wash facilities, drive-thru and sit-down restaurants are considered compatible uses in commercial areas where potential impacts can be addressed through the Conditional Use Permit process. The project site is located along Mooney Boulevard and Visalia Parkway, which are designated arterial roadways. The City's General Plan Land Use Map designates the site as Commercial Regional. Staff believes that the proposed commercial center is consistent in nature and character with existing and future uses surrounding the project site, subject to the inclusion of mitigation measures and the conditions of project approval for this project.

The Visalia General Plan contains multiple polices that together work to reduce the potential for impacts to the development of land as designated by the General Plan. With implementation of these policies and the existing City standards, impacts to land use development consistent with the General Plan will be less than significant.

b. There are no scenic resources on the site and no state scenic highway designations within the project vicinity.

c. The proposed project includes commercial development that will be aesthetically consistent with surrounding development and with General Plan policies. Notwithstanding, the City has development standards related to landscaping and other amenities that will ensure that the visual character of the area is enhanced and not degraded upon development. Given the above, the project will not substantially degrade the existing visual character of the site and surrounding areas.

d. The project will create new sources of light that are typical of commercial development. The City has development standards that require that light be directed and/or shielded so it does not fall upon adjacent properties.

A conceptual photometric plan for the shopping center has been provided, demonstrating the lighting fixtures installed throughout and directed toward the interior of the site. The on-site lighting for the shopping center use is directed and focused so as to avoid direct illumination spilling beyond the site boundaries into the adjacent residential uses, as required under Section 17.30.015.H of the Zoning Ordinance. The conceptual photometric plans demonstrate that lighting for the proposed uses along the respective property lines primarily do not exceed 0.5 lumens. A condition will be included with the Conditional Use Permit requiring compliance with the 0.5 lumen standard at property line, in particular to the south where scattered residential uses are located.

II. AGRICULTURAL RESOURCES

a. The project is not located on property that is identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

b. The project is not located on property that is party to a Williamson Act contract. The project site is currently under agricultural production for wheat and corn but is zoned for C-R (Regional Commercial) use. As such the use is inconsistent with the applicable land use designation. The project site is bordered by urban development to the north and west, with areas designated for commercial and residential development to the south and east. There are no known Williamson Act contracts on any areas within the subject property.

The Visalia General Plan Update Environmental Impact Report (EIR) has already considered the environmental impacts of the conversion of properties within the Planning Area, which includes the subject property, into non-agriculture uses. Overall, the General Plan results in the conversion of over 14,000 acres of Important Farmland to urban uses, which is considered significant and unavoidable. Aside from preventing development altogether, the conversion of Important Farmland to urban uses cannot be directly mitigated. However, the General Plan contains multiple polices that together work to limit conversion only to the extent needed to accommodate long-term growth. The General Plan policies identified under Impact 3.5-1 of the EIR serve as the mitigation, which assists in reducing the severity of the impact to the extent possible while still achieving the General Plan's goals of accommodating a certain amount of growth to occur within the Planning Area. These policies include the implementation of a three-tier growth boundary system that assists in protecting open space around the City fringe and maintaining compact development within the City limits.

Because there is still a significant impact to loss of agricultural resources after conversion of properties within the General Plan Planning Area to non-agricultural uses, a Statement of Overriding Considerations was previously adopted with the Visalia General Plan Update EIR.

The proposed project is consistent with Land Use Policies LU-P-19 of the General Plan. Policy LU-P-19 states; "Ensure that growth occurs in a compact and concentric fashion by implementing the General Plan's phased growth strategy."

c. There is no forest land or timberland currently located on the site, nor does the site conflict with a zoning for forest land, timberland, or timberland zoned Timberland Production.

d. There is no forest or timberland currently located on the site.

e. Development of a commercial shopping center will result in the conversion of active farmland to a non-agricultural use. However, the subject property is currently designated for an urban rather than agricultural land use. Properties

that are vacant may develop in a way that is consistent with their zoning and land use designation at any time. The adopted Visalia General Plan's implementation of a three-tier growth boundary system assists in protecting open space around the City fringe to ensure that premature conversion of farmland to non-agricultural uses does not occur.

The development proposed is consistent with the surrounding area and will comply with General Plan Land Use Policy LU-P-19, which states; "Ensure that growth occurs in a compact and concentric fashion by implementing the General Plan's phased growth strategy." Note that the project site does not contain prime farmland.

III. AIR QUALITY

a. The project site is located in an area that is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The project itself does not disrupt implementation of the San Joaquin Regional Air Quality Management Plan, and will therefore be a less than significant impact.

b. Tulare County is designated non-attainment for certain federal ozone and state ozone levels. The project will result in a net increase of criteria pollutants. This site was evaluated in the Visalia General Plan Update EIR for conversion into urban development. Development under the General Plan will result in increases of construction and operation-related criteria pollutant impacts, which are considered significant and unavoidable. General Plan policies identified under Impacts 3.3-1, 3.3-2, and 3.3-3 serve as the mitigation that assists in reducing the severity of the impact to the extent possible while still achieving the General Plan's goals of accommodating a certain amount of growth to occur within the Planning Area.

The project is required to adhere to requirements administered by the SJVAPCD to reduce emissions to a level of compliance consistent with the District's grading regulations. Compliance with the SJVAPCD's rules and regulations will reduce potential impacts associated with air quality standard violations to a less than significant level.

In addition, development of the project will be subject to the SJVAPCD Indirect Source Review (Rule 9510) procedures that became effective on March 1, 2006. The Applicant will be required to obtain permits demonstrating compliance with Rule 9510, or payment of mitigation fees to the SJVAPCD.

c. The project site is primarily bounded by existing commercial development to the north, vacant commercial land to the west, and agricultural land to the east. Scattered residences on land designated by the Visalia General Plan for Regional Commercial use are located south of the project. Residences located near the proposed project may be exposed to pollutant concentrations due to construction activities. The use of construction equipment will be temporary and is subject to SJVAPCD rules and regulations. The impact is considered as less than significant.

d. The proposed project will not involve the generation of objectionable odors that would affect a substantial number of people.

IV. BIOLOGICAL RESOURCES

a. The site has no known species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. The project would therefore not have a substantial adverse effect on a sensitive, candidate, or special species.

In addition, staff conducted an on-site visit to the site on October 6, 2021 to observe biological conditions and did not observe any evidence or symptoms that would suggest the presence of a sensitive, candidate, or special species.

Citywide biological resources were evaluated in the Visalia General Plan Update Environmental Impact Report (EIR). The EIR concluded that certain special-status species or their habitats may be directly or indirectly affected by future development within the General Plan Planning Area. This may be through the removal of or disturbance to habitat. Such effects would be considered significant. However, the General Plan contains multiple polices, identified under Impact 3.8-1 of the EIR, that together work to reduce the potential for impacts on special-status species likely to occur in the Planning Area. With implementation of these policies, impacts on special-status species will be less than significant.

b. The project is not located within an identified sensitive riparian habitat or other natural community.

Citywide biological resources were evaluated in the Visalia General Plan Update Environmental Impact Report (EIR). The EIR concluded that certain sensitive natural communities may be directly or indirectly affected by future development within the General Plan Planning Area, particularly valley oak woodlands and valley oak riparian woodlands. Such effects would be considered significant. However, the General Plan contains multiple polices, identified under Impact 3.8-2 of the EIR, that together work to reduce the potential for impacts on woodlands located within in the Planning Area. With implementation of these policies, impacts on woodlands will be less than significant.

c. The project is not located within or adjacent to federally protected wetlands as defined by Section 404 of the Clean Water Act.

Citywide biological resources were evaluated in the Visalia General Plan Update Environmental Impact Report (EIR). The EIR concluded that certain protected wetlands and other waters may be directly or indirectly affected by future development within the General Plan Planning Area. Such effects would be considered significant. However, the General Plan contains multiple polices, identified under Impact 3.8-3 of the EIR, that together work to reduce the potential for impacts on wetlands and other waters located within in the Planning Area. With implementation of these policies, impacts on wetlands will be less than significant.

d. Citywide biological resources were evaluated in the Visalia General Plan Update Environmental Impact Report (EIR). The EIR concluded that the movement of wildlife species may be directly or indirectly affected by future development within the General Plan Planning. Such effects would be considered significant. However, the

General Plan contains multiple polices, identified under Impact 3.8-4 of the EIR, that together work to reduce the potential for impacts on wildlife movement corridors located within in the Planning Area. With implementation of these policies, impacts on wildlife movement corridors will be less than significant.

e. The project will not conflict with any local policies or ordinances protecting biological resources. The City has a municipal ordinance in place to protect valley oak trees; however, no oak trees exist on the project site.

f. There are no local or regional habitat conservation plans for the area.

V. CULTURAL RESOURCES

a. A Cultural Resource Assessment was prepared by Taylored Archaeology for the proposed commercial shopping center/tentative parcel map (Study Cultural Resources Assessment for the Oaks Marketplace Master Conditional Use Permit Project, City of Visalia, Tulare County, California. January 2021). The study was conducted to determine if cultural resources are present that could be affected by the proposed Project. Accordingly, background research, a records search from the SSJVIC of the CHRIS, a search of the NAHC Sacred Lands File, and an intensive pedestrian survey of the Project area were conducted.

The SSJVIC records search identified one historic era cultural resource within the Project area. However, further review of SSJVIC records indicated the historic era resource misidentified as within the Project area is actually located outside the Project area to the north. Eight prior cultural resource studies and two previously recorded resources were found to be located within a 0.5-mile radius of the Project area. Both recorded resources were historical in age, but are not located on the project site. No cultural or tribal resources were identified in the Project area as a result of the NAHC Sacred Lands File search, archival research, or pedestrian survey.

b. A Cultural Resource Assessment was prepared by Taylored Archaeology for the proposed commercial shopping center/tentative parcel map (Study Cultural Resources Assessment for the Oaks Marketplace Master Conditional Use Permit Project, City of Visalia, Tulare County, California. January 2021). The study was conducted to determine if cultural resources are present that could be affected by the proposed Project. Accordingly, background research, a records search from the SSJVIC of the CHRIS, a search of the NAHC Sacred Lands File, and an intensive pedestrian survey of the Project area were conducted.

Per the study, due to the Project's close proximity of 0.25 miles to Packwood Creek, which historically contained a Native American Yokut village on its banks within the general region, Taylored Archaeology recommends a Native American monitor and archaeological monitor be present during initial ground disturbance during Project construction activities. In the event of accidental discovery of unidentified archaeological remains during development or ground-moving activities in the Project area, all work should be halted in the immediate vicinity (within a 100-foot radius) until a qualified archaeologist can identify the discovery and assess its significance. These recommendations are included as Mitigation Measures No. 2.1 and 2.2.

c. A Cultural Resource Assessment was prepared by Taylored Archaeology for the proposed commercial shopping center/tentative parcel map (Study Cultural Resources Assessment for the Oaks Marketplace Master Conditional Use Permit Project, City of Visalia, Tulare County, California. January 2021). The study was conducted to determine if cultural resources are present that could be affected by the proposed Project. Accordingly, background research, a records search from the SSJVIC of the CHRIS, a search of the NAHC Sacred Lands File, and an intensive pedestrian survey of the Project area were conducted.

The study recommends that if human remains are uncovered during construction, the Tulare County Coroner be notified to investigate the remains and arrange proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 and PRC 5097.98 requires that the Coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will be afforded an opportunity to make recommendations regarding the treatment and disposition of the remains. This has been included as Mitigation Measure No. 2.3.

VI. ENERGY

a. Development of the site will require the use of energy supply and infrastructure. However, the use of energy will be typical of that associated with commercial development associated with the underlying zoning. Furthermore, the use is not considered the type of use or intensity that would result in wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. The project will be required to comply with California Building Code Title 24 standards for energy efficiency.

Polices identified under Impacts 3.4-1 and 3.4-2 of the EIR will reduce any potential impacts to a less than significant level. With implementation of these policies and the existing City standards, impacts to energy will be less than significant.

b. The project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, based on the discussion in Section VI.a above.

VII. GEOLOGY AND SOILS

a. The State Geologist has not issued an Alquist-Priolo Earthquake Fault Map for Tulare County. The project area is not located on or near any known earthquake fault lines. Therefore, the project will not expose people or structures to potential substantial adverse impacts involving earthquakes.

b. Development of the site will require movement of topsoil. Existing City Engineering Division standards require that a grading and drainage plan be submitted for review to the City to ensure that off- and on-site improvements will be designed to meet City standards.

c. The project area is relatively flat and the underlying soil is not known to be unstable. Soils in the Visalia area have

few limitations with regard to development. Due to low clay content and limited topographic relief, soils in the Visalia area have low expansion characteristics.

d. Due to low clay content, soils in the Visalia area have an expansion index of 0-20, which is defined as very low potential expansion.

e. The project does not involve the use of septic tanks or alternative wastewater disposal systems since sanitary sewer lines for the disposal of wastewater are available for connection at this location.

f. There are no known unique paleontological resources or geologic features located within the project area. In the event that potentially significant cultural resources are discovered during ground disturbing activities associated with future development, construction, or completion, work shall halt in that area until a qualified Native American Tribal observer, archeologist, or paleontologist can assess the significance of the find, and, if necessary, develop appropriate treatment measures in consultation with Tulare County Museum, Coroner, and other appropriate agencies and interested parties. This is further addressed through Mitigation Measures 2.1, 2.2, and 2.3.

VIII. GREENHOUSE GAS EMISSIONS

a. The project is expected to generate Greenhouse Gas (GHG) emissions in the short-term as a result of construction and long-term as a result of day-to-day operation of future commercial development.

The City has prepared and adopted a Climate Action Plan (CAP) which includes a baseline GHG emissions inventories, reduction measures, and reduction targets consistent with local and State goals. The CAP was prepared concurrently with the proposed General Plan and its impacts are also evaluated in the Visalia General Plan Update EIR.

The Visalia General Plan and the CAP both include policies that aim to reduce the level of GHG emissions emitted in association with buildout conditions under the General Plan. Although emissions will be generated as a result of the project, implementation of the General Plan and CAP policies will result in fewer emissions than would be associated with a continuation of baseline conditions. Thus, the future impact to GHG emissions will be less than significant.

b. The State of California has enacted the Global Warming Solutions Act of 2006 (AB 32), which included provisions for reducing the GHG emission levels to 1990 "baseline" levels by 2020 and to a level 80% below 1990 baseline levels by 2050. In addition, the State has enacted SB 32 which included provisions for reducing the GHG emission levels to a level 40% below 1990 baseline levels by 2030.

The proposed project will not impede the State's ability to meet the GHG emission reduction targets under SB 32. Current and probable future state and local GHG reduction measures will continue to reduce the projects contribution to climate change. As a result, the project will not contribute significantly, either individually or cumulatively, to GHG emissions.

IX. HAZARDS AND HAZARDOUS MATERIALS

a. No hazardous materials are anticipated with the project.

b. Construction activities associated with development of the project may include maintenance of on-site construction equipment that could lead to minor fuel and oil spills. The use and handling of any hazardous materials during future construction activities would occur in accordance with applicable federal, state, regional, and local laws. Therefore, impacts are considered to be less than significant.

c. There is one school located .6 miles west of the project site (Cottonwood Elementary School). However, there is no reasonably foreseeable condition or incident involving the project that could affect existing or proposed school sites or areas within one-quarter mile of school sites.

d. The project area does not include any sites listed as hazardous materials sites pursuant to Government Code Section 65692.5.

e. Tulare County's adopted Comprehensive Airport Land Use Plan shows the project area is located outside of all Airport Safety Hazard Zones. There are no restrictions for the proposed project related to Airport Zone requirements. The project area is not located within 2 miles of a public airport.

f. The project will not interfere with the implementation of any adopted emergency response plan or evacuation plan.

g. There are no wild lands within or near the project area.

X. HYDROLOGY AND WATER QUALITY

a. Development projects associated with buildout under the Visalia General Plan are subject to regulations that serve to ensure that such projects do not violate water quality standards of waste discharge requirements. These regulations include the Federal Clean Water Act (CWA), the National Pollutant Discharge Elimination System (NPDES) permit program. State regulations include the State Water Resources Control Board (SWRCB) and more specifically the Central Valley Regional Water Quality Control Board (RWQCB), of which the project site area falls within the jurisdiction of.

Adherence to these regulations results in projects incorporating measures that reduce pollutants. The project will be required to adhere to municipal wastewater requirements set by the Central Valley RWQCB and any permits issued by the agency.

The Visalia General Plan contains multiple polices, identified under Impact 3.6-2 and 3.9-3 of the EIR, that together work to reduce the potential for impacts to water quality. With implementation of these policies and the existing City standards, impacts to water quality from future development will be less than significant.

b. The project will not substantially deplete groundwater supplies in the project vicinity. The project will be served by a water main for domestic, irrigation, and fire protection use. The project area overlies the southern portion of the San Joaquin unit of the Central Valley groundwater aquifer. The project will result in an increase of impervious surfaces on the project site, which might affect the amount of precipitation that is recharged to the aquifer. However, as the City of Visalia is already largely developed and covered by impervious surfaces, the increase of impervious surfaces through this project will be small by

comparison. The project therefore might affect the amount of precipitation that is recharged to the aquifer. The City of Visalia's water conversation measures and explorations for surface water use over groundwater extraction will assist in offsetting the loss in groundwater recharge.

c.

i. Development of this site will require movement of topsoil. Existing City Engineering Division standards require that a grading and drainage plan be submitted for review to the City to ensure that off- and on-site improvements will be designed to meet City standards.

ii. Development of the site will create additional impervious surfaces. However, existing and planned improvements to storm water drainage facilities as required through the Visalia General Plan policies will reduce any potential impacts to a less than significant level.

Polices identified under Impact 3.6-2 of the EIR will reduce any potential impacts to a less than significant level. With implementation of these policies and the existing City standards, future impacts to groundwater supplies will be less than significant.

iii. Development of the site will create additional impervious surfaces. However, existing and planned improvements to storm water drainage facilities as required through the Visalia General Plan policies will reduce any potential impacts to a less than significant level.

Polices identified under Impact 3.6-2 of the EIR will reduce any potential impacts to a less than significant level. With implementation of these policies and the existing City standards, future impacts to groundwater supplies will be less than significant.

Furthermore, the project will be required to meet the City's improvement standards for directing storm water runoff to the existing City storm water drainage system consistent with the City's adopted City Storm Drain Master Plan.

d. The project area is located within Zone X02, which indicates an area that is not within a flood hazard area. The project area is located sufficiently inland and distant from bodies of water, and outside potentially hazardous areas for seiches and tsunamis. The site is also relatively flat, which will contribute to the lack of impacts by mudflow occurrence. Therefore, there will be no impact related to these hazards.

e. Development of the site has the potential to affect drainage patterns in the short term due to erosion and sedimentation during construction activities and in the long term through the expansion of impervious surfaces. Impaired storm water runoff may then be intercepted and directed to a storm drain or water body, unless allowed to stand in a detention area. The City's existing standards may require the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the SWRCB's General Construction Permit process, which would address erosion control measures.

The Visalia General Plan contains multiple polices, identified under Impact 3.6-1 of the EIR, that together work to reduce the potential for erosion. With implementation of these policies and the existing City standards, future impacts to erosion will be less than significant.

XI. LAND USE AND PLANNING

a. The project will not physically divide an established community, as the site is vacant and would not result in development that would split existing urban areas. The General Plan Land Use Diagram, adopted October 14, 2014, designates the 38.5-acre project area as Regional Commercial. The Zoning Map, adopted on April 6, 2017, designates the site as C-R (Regional Commercial), which is consistent with the General Plan Land Use Designation of Regional Commercial as identified in Table 9-1 "Consistency Between the Plan and Zoning" of the General Plan. Commercial centers that include gas stations/convenience stores, retail shops, car wash facilities and drive-thru and sit-down restaurants are considered compatible uses in commercial areas where potential impacts can be addressed through the conditional use permit process. The project site is surrounded by urban development to the north and west, and is bordered by State Highway 63/Mooney Blvd. to the west, minor arterial street Visalia Parkway to the north, and local street Midvalley Avenue/Avenue 274 to the south.

The Visalia General Plan contains multiple polices, identified under Impact 3.1-2 of the EIR, that together work to reduce the potential for impacts to the development of land as designated by the General Plan. With implementation of these policies and the existing City standards, impacts to land use development consistent with the General Plan will be less than significant

b. The project site is within the Urban Development Tier 1 Boundary. Development of commercial lands in Tier 1 may occur at any time. The proposed project is consistent with Land Use Policies LU-P-19 of the General Plan. Policy LU-P-19 states; "Ensure that growth occurs in a compact and concentric fashion by implementing the General Plan's phased growth strategy."

The project as a whole does not conflict with any land use plan, policy or regulation of the City of Visalia. The site's General Plan Land Use Designation of Regional Commercial and the Zoning Designation of C-R (Regional Commercial) are consistent with each other based on the underlying allowed land uses and density ranges as identified in Table 9-1 "Consistency between the Plan and Zoning" of the General Plan. The City of Visalia's Zoning Ordinance allows for commercial development as a permitted use, though the subdivision of land requires a Tentative Parcel Map and the specific uses identified in the commercial development together with parcels less than five acres in size with no street access require a Conditional Use Permit.

The proposed project will be consistent with the Land Use Element of the General Plan, including Policies LU-P-62, LU-P-65 and LU-P-69 for Regional Commercial Development, and consistent with the standards for commercial development pursuant to the Visalia Municipal Code Title 17 (Zoning Ordinance) Chapters 17.18 and 17.30

XII. MINERAL RESOURCES

a. No mineral areas of regional or statewide importance exist within the Visalia area.

b. There are no mineral resource recovery sites delineated in the Visalia area.

XIII. NOISE

a. The project will result in noise generation typical of urban development, but not in excess of standards established in the City of Visalia's General Plan or Noise Ordinance. The Visalia Noise Element and City Ordinance contain criterion for acceptable noise levels inside and outside residential living spaces. This standard is 65 dB DNL for outdoor activity areas associated with residences and 45 dB DNL for indoor areas.

b. Ground-borne vibration or ground-borne noise levels may occur as a result of future construction activities associated with development of a commercial shopping center. Any construction activities will be temporary and will not expose persons to such vibration or noise levels for an extended period of time; thus, the impacts will be less than significant. There are no existing uses near the project area that create ground-borne vibration or ground-borne noise levels.

c. The project area is located in excess of two miles from a public airport. The project will not expose people residing or working in the project area to excessive noise levels resulting from aircraft operations.

XIV. POPULATION AND HOUSING

a. The project will not directly induce substantial unplanned population growth that is in excess of that planned in the General Plan.

b. Development of the site will not displace any housing or people on the site. The project area is currently vacant.

XV. PUBLIC SERVICES

a.

i. Current fire protection facilities are located at the Visalia Station 52, located approximately one mile north of the property, and can adequately serve the site without a need for alteration. Impact fees will be paid to mitigate the project's proportionate impact on these facilities.

ii. Current police protection facilities can adequately serve the site without a need for alteration. Impact fees will be paid to mitigate the project's proportionate impact on these facilities.

iii. The project will not generate new students for which existing schools in the area may accommodate. Development will be required to pay commercial impact fees. These fees are considered to be conclusive mitigation for impacts.

iv. Current park facilities can adequately serve the site without a need for alteration. Impact fees will be paid to mitigate a future project's proportionate impact on these facilities.

v. Other public facilities can adequately serve the site without a need for alteration.

XVI. RECREATION

a. The proposed project does not include recreational facilities or require the construction or expansion of recreational facilities within the area that might have an adverse physical effect on the environment. Nor will the project increase the use of existing neighborhood and regional parks as no residential uses are proposed

b. The proposed project does not include recreational facilities or require the construction or expansion of recreational facilities within the area that might have an adverse physical effect on the environment.

XVII. TRANSPORTATION AND TRAFFIC

a. Development and operation of the project is not anticipated to conflict with applicable plans, ordinances, or policies establishing measures of effectiveness of the City's circulation system. The project will result in an increase in traffic levels on arterial and collector roadways, although the City of Visalia's Circulation Element has been prepared to address this increase in traffic

b. Development of the site will result in increased traffic in the immediate area; but will not cause a substantial increase in traffic Citywide. This site was evaluated in the Visalia General Plan Update Environmental Impact Report (EIR) for Regional Commercial urban use.

A Traffic Impact Analysis Report was conducted for the project (ref.: Traffic Impact Analysis Report: TMT Shopping Center Development, Southeast Corner of Visalia Parkway & Mooney Boulevard, September 30, 2021) which studied key roadways and intersections in the vicinity of the project site. The analysis considered existing roadway conditions and 5-year, 10-year, and 20-year cumulative conditions, with and without the project. The analysis identified recommended roadway and intersection improvements to the vicinity of the project to ensure that the project will operate at acceptable LOS "D" conditions or better through the 20-year period.

Among the recommended mitigation measures in the Analysis were measures that address existing roadway conditions where operating conditions are below acceptable standards.

Mitigation primarily consists of primarily requiring the applicant to pay an equitable share of development [transportation] impact fees for the future signalization or installation of traffic signals for the eight intersections identified: (Cameron Avenue and County Center Drive, Caldwell Avenue and Dans Street, Cameron Avenue and West Street, Visalia Parkway and Dans Street, Visalia Parkway and County Center Drive, Mooney Boulevard and Avenue 272, Cameron Avenue and Dans Street, Visalia Parkway and the Main Site Access for the Target Shopping Center, and Cameron Avenue and Stonebrook Street). This is included as Mitigation Measures Nos. 1.1, 1.2, 1.3, 1.4, 1.6, 1.7, 1.8, and 1.12. Payments made for the eventual signalization of the listed intersections will assist in keeping LOS levels to appropriate levels. The City of Visalia will continue to monitor and evaluate the intersections identified and carry out improvements for controlled movements when such measures are critically necessary.

The analysis also recommends optimization of traffic signal timings for four intersections to address impacts

from the development (Mooney Boulevard and Sunnyside Avenue, Mooney Boulevard and Orchard Avenue, Mooney Boulevard and Caldwell Avenue, and Cameron Avenue and County Center Street). This is included as Mitigation Measures Nos. 1.9, 1.10, 1.11 and 1.12.

The TIA recommends a number of improvements be made by the applicant. The TIA recommends that the intersection of Visalia Parkway and Mooney Boulevard be widened to include at minimum:

Eastbound: 2 left-turn lanes, 1 through lane, 1 right turn-lane

Westbound: 2 left-turn lanes, 1 through lane, and 1 shared through-right lane

Northbound: 2 left-turn lanes, 1 through lane, and 1 shared through-right lane

Southbound: 1 left-turn lane, 3 through lanes, and 1 right-turn lane.

This is included as Mitigation Measure No. 1.5. Note that project plans indicate the applicant will build out the Northbound and Eastbound lanes to their ultimate configurations, as required by Caltrans and the City of Visalia. This includes Northbound: 2 left-turn lanes, three through lanes, a bike lane, and 1 right-turn lane, and Eastbound: 2 left-turn lanes, 2 through lanes.

For the intersection of Cameron Avenue and Stonebrook Street, in addition to the payment of fees for the installation of a traffic signal, the TIA calls for lengthening of the northbound storage lane to address impacts expected as part of the 20-year plus Project analysis. This is included with Mitigation Measure No. 1.7.

Last, for the intersection of Visalia Parkway and the Costco Driveway, the TIA calls for the installation of a raised median with a refuge lane to permit southbound left turn movement, to address impacts expected as part of the 20-year plus Project analysis. This is included as Mitigation Measure No. 1.14.

The California Department of Transportation (Caltrans) has reviewed the project, and provided correspondence as a Responsible Agency, because the project takes vehicular access from Mooney Boulevard, a State Highway designated as State Route 63. Caltrans provided a 3rd review letter providing comments on the final draft of the Traffic Impact Analysis on September 9, 2021. Within the letter Caltrans recommended the addition of a right-turn lane at the access connection with State Route 63 (Intersection #31 in the TIA), deceleration lane length information, revisions to the site plan affecting the median within State Route 63 providing left-turn access into the shopping center, and detailed information identifying which VMT mitigations within the section 11 of the TIA would be implemented. A revised TIA was submitted to Caltrans, resulting in submittal by Caltrans of the September 9, 2021 letter on October 6, 2021 reiterating its requests. Comments regarding the right-turn lane at the access connection with State Route 63 and revisions to the site plan affecting the median within State Route 63 will be made conditions of approval of the Conditional Use Permit. Deceleration length information requests will be addressed at the time of Caltrans Encroachment Permit review.

In response to VMT impacts and mitigation, the City of Visalia, in determining the significance of transportation impacts for land use projects, recognizes the adopted City of Visalia Vehicle Miles Travelled (VMT) Thresholds and Implementation Guidelines (“Guidelines”) recommended threshold as the basis for what constitutes a significant or less than significant transportation impact. The Guidelines recommend a 16% reduction target based on the Greenhouse Gas emission reduction target for 2035 for the Tulare County region set by the SB 375 Regional Plan Climate Target.

Since the project does not meet any screening criteria, it therefore requires a detailed VMT analysis. The shopping center project is projected to generate 11,224 trips on a daily basis by year 2042, based on the difference between the “growth with build” and the “no-build growth” scenarios.

In order to mitigate impacts, the TIA proposes a number of measures to reduce VMT to a level considered less than significant. First the TIA recommends payment of an impact fee with the issuance of a building permit in the shopping center development. Fees paid would be placed into a VMT mitigation bank to be created at a later date by the City of Visalia. The fee shall be calculated at $1,277/ksf, based on project-specific travel demand model for 212,450 sq. ft. of commercial space. If a VMT mitigation fee program is implemented by the City prior to building permits being issued and fees being paid, the project will pay those fees instead. Otherwise, the fees would be calculated as shown in the Traffic Impact Analysis prepared by TJKM for the proposed project,, based on the market rate price for GHG equivalents and a time period to be negotiated by the City and project applicant in light of other mitigating factors. This is included as Mitigation Measure No. 1.15.

The TIA proposes considering payment of fees to the San Joaquin Valley Air Pollution Control District as appropriate VMT mitigation, as the fees also go towards reducing VMT impacts. This is included as Mitigation Measure No. 1.16

The TIA proposes specific on and off-site design improvements to improve access, circulation, and convenience for use of alternative methods of transportation. The specific measures are as follows:

Development of new sidewalks on all frontages of the project site, and connecting to existing and proposed pedestrian facilities at the intersections of Visalia Parkway & Mooney Boulevard (Intersection #20) and Midvalley Avenue & Mooney Boulevard (Intersection #22), and including crosswalks at same, to facilitate pedestrian access.

Development of bike facilities along Visalia Parkway, Mooney Boulevard, and Midvalley Avenue.

The improvement of transit access through the buildout of new transit stop on Visalia Parkway at the northwest corner of the project site, and improvement of an existing transit stop along Mooney Boulevard at the southwest corner of the project site.

Development of onsite facility improvements to encourage alternate modes of transportation, to include:

Pedestrian connections between sidewalks and buildings that provide a shorter path of travel than walking to the nearest driveway;

Marked pedestrian crosswalks connecting buildings that are separated by parking areas;

Adequate lighting for sidewalks and internal walkways, in particularly at major conflict points with vehicles;

Benches and trash cans placed throughout the project site;

Bike racks near building entrances;

Bike lockers or other long-term bike storage facilities for shopping center employees;

For the existing bus stop on Mooney Boulevard at the southwest corner of the project site, reconstruct the transit stop to provide a bus shelter, trash can, and adequate lighting.

This is included as Mitigation Measure No. 1.17.

Lastly, the TIA recommends implementation of a travel demand management (TDM) program for employees at the proposed shopping center. The TDM program shall include measures such as subsidized transit passes, facilitating ride sharing, contracting with vanpool providers, providing information on local transportation facilities and services, and providing on-site amenities for bicycle commuters such as showers and changing areas if the size of the building allows for such amenities. All measures aimed at improving transit use and alternative modes of transportation to reduce VMT. This is included as Mitigation Measure No. 1.18.

With these combined mitigation measures, the project would have a less-than-significant impact on regional VMT.

c. There are no planned geometric designs associated with the project that are considered hazardous.

d. The project will not result in inadequate emergency access.

XVIII. TRIBAL CULTURAL RESOURCES

The proposed project would not cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe.

a. The site is not listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).

A Cultural Resource Assessment was prepared by Taylored Archaeology for the proposed commercial shopping center/tentative parcel map (Study Cultural Resources Assessment for the Oaks Marketplace Master Conditional Use Permit Project, City of Visalia, Tulare County, California. January 2021). The study was conducted to determine if cultural resources are present that could be affected by the proposed Project. Accordingly, background research, a records search from the SSJVIC of the CHRIS, a search of the NAHC Sacred Lands File, and an intensive pedestrian survey of the Project area were conducted.

The SSJVIC records search identified one historic era cultural resource within the Project area. However, further review of SSJVIC records indicated the historic era resource misidentified as within the Project area is actually located outside the Project area to the north. Eight prior cultural resource studies and two previously recorded resources were found to be located within a 0.5-mile radius of the Project area. Both recorded resources were historical in age, but are not located on the project site. No cultural or tribal resources were identified in the Project area as a result of the NAHC Sacred Lands File search, archival research, or pedestrian survey.

b. The site has been determined to not be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Further, the EIR (SCH 2010041078) for the 2014 General Plan update included a thorough review of sacred lands files through the California Native American Heritage Commission. The sacred lands file did not contain any known cultural resources information for the Visalia Planning Area.

A Cultural Resource Assessment was prepared by Taylored Archaeology for the proposed commercial shopping center/tentative parcel map (Study Cultural Resources Assessment for the Oaks Marketplace Master Conditional Use Permit Project, City of Visalia, Tulare County, California. January 2021). The study was conducted to determine if cultural resources are present that could be affected by the proposed Project. Accordingly, background research, a records search from the SSJVIC of the CHRIS, a search of the NAHC Sacred Lands File, and an intensive pedestrian survey of the Project area were conducted.

The SSJVIC records search identified one historic era cultural resource within the Project area. However, further review of SSJVIC records indicated the historic era resource misidentified as within the Project area is actually located outside the Project area to the north. Eight prior cultural resource studies and two previously recorded resources were found to be located within a 0.5-mile radius of the Project area. Both recorded resources were historical in age, but are not located on the project site. No cultural or tribal resources were identified in the Project area as a result of the NAHC Sacred Lands File search, archival research, or pedestrian survey.

Per the study, due to the Project's close proximity of 0.25 miles to Packwood Creek, which historically contained a Native American Yokut village on its banks within the general region, Taylored Archaeology recommends a Native American monitor and archaeological monitor be present during initial ground disturbance during Project construction activities. In the event of accidental discovery

of unidentified archaeological remains during development or ground-moving activities in the Project area, all work should be halted in the immediate vicinity (within a 100-foot radius) until a qualified archaeologist can identify the discovery and assess its significance. These recommendations are included as Mitigation Measures No. 2.1 and 2.2.

The study also recommends that if human remains are uncovered during construction, the Tulare County Coroner be notified to investigate the remains and arrange proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 and PRC 5097.98 requires that the Coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will be afforded an opportunity to make recommendations regarding the treatment and disposition of the remains. This has been included as Mitigation Measure No. 2.3.

XIX. UTILITIES AND SERVICE SYSTEMS

a. Development will connect to existing City sanitary sewer lines, consistent with the City Sewer Master Plan. The Visalia wastewater treatment plant has a current rated capacity of 22 million gallons per day, but currently treats an average daily maximum month flow of 12.5 million gallons per day. The plant has more than sufficient capacity to accommodate impacts associated with the proposed project. The proposed project will therefore not cause significant environmental impacts.

The project site will be accommodated by an extension of the City's sanitary sewer lines. As part of the project, existing sanitary sewer mains will be extended off-site along Mooney Boulevard, Visalia Parkway, and Midvalley Avenue. Usage of these lines is consistent with the City Sewer System Master Plan. These improvements will not cause significant environmental impacts.

b. California Water Service Company has determined that there are sufficient water supplies to support the site, and that service can be extended to the site. A Will Serve Letter was provided for the project on December 3, 2020.

c. The City has determined that there is adequate capacity existing to serve the site's projected wastewater treatment demands at the City wastewater treatment plant.

d. Current solid waste disposal facilities can adequately serve the site without a need for alteration.

e. The project will be able to meet the applicable regulations for solid waste. Removal of debris from future construction will be subject to the City's waste disposal requirements.

XX. WILDFIRE

a. The project is located on a site that is adjacent on multiple sides by existing development. The site is further served by multiple points of access. In the event of an emergency response, coordination would be made with the City's Engineering, Police, and Fire Divisions to ensure that adequate access to and from the site is maintained.

b. The project area is relatively flat and the underlying soil is not known to be unstable. Therefore, the site is not in a location that is likely to exacerbate wildfire risks.

c. The project is located on a site that is adjacent on multiple sides by existing development. The project will be required to conduct the installation and maintenance of associated infrastructure; however, the infrastructure would be typical of commercial development and would be developed to the standards of the underlying responsible agencies.

d. The project area is relatively flat and the underlying soil is not known to be unstable. Therefore, the site is not in a location that would expose persons or structures to significant risks of flooding or landslides.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

a. The project will not affect the habitat of a fish or wildlife species or a plant or animal community. This site was evaluated in the Program EIR (SCH No. 2010041078) for the City of Visalia's General Plan Update for conversion to urban use. The City adopted mitigation measures for conversion to urban development. Where effects were still determined to be significant a statement of overriding considerations was made.

b. This site was evaluated in the Program EIR (SCH No. 2010041078) for the City of Visalia General Plan Update for the area's conversion to urban use. The City adopted mitigation measures for conversion to urban development. Where effects were still determined to be significant a statement of overriding considerations was made.

c. This site was evaluated in the Program EIR (SCH No. 2010041078) for the City of Visalia General Plan Update for conversion to urban use. The City adopted mitigation measures for conversion to urban development. Where effects were still determined to be significant a statement of overriding considerations was made.

DETERMINATION OF REQUIRED ENVIRONMENTAL DOCUMENT

On the basis of this initial evaluation:

___ I find that the proposed project **COULD NOT** have a significant effect on the environment. **A NEGATIVE DECLARATION WILL BE PREPARED.**

__X__ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on the attached sheet have been added to the project. **A MITIGATED NEGATIVE DECLARATION WILL BE PREPARED.**

___ I find the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

___ I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

___ I find that as a result of the proposed project no new effects could occur, or new mitigation measures would be required that have not been addressed within the scope of the Program Environmental Impact Report (SCH No. 2010041078). The Environmental Impact Report prepared for the City of Visalia General Plan was certified by Resolution No. 2014-37 adopted on October 14, 2014. **THE PROGRAM ENVIRONMENTAL IMPACT REPORT WILL BE UTILIZED.**

Brandon Smith, AICP,
Environmental Coordinator

10/7/2021
Date

Traffic Impact Analysis Report

TMT Shopping Center Development

Southeast Corner of Visalia Parkway & Mooney Boulevard

Visalia, California

September 30, 2021

TJKM

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EXECUTIVE SUMMARY

This report summarizes the results of the Traffic Impact Analysis (TIA) conducted for the proposed shopping center located at the southeast corner of Mooney Boulevard and Visalia Parkway in the City of Visalia, California. The study area is located near the southern City limits of Visalia along the Mooney Boulevard corridor.

The project proposes to develop approximately 215,000 square feet into a shopping center that will consist of fast food restaurants with or without drive-throughs, supermarkets, other retail, and a gas station with convenience market. The project will also construct various driveways with median breaks along Mooney Boulevard, Visalia Parkway, Midvalley Avenue, and the newly constructed Hall Street, which will be located east of the project site and provide an additional connection between Visalia Parkway and Midvalley Avenue. Construction would proceed in two phases, with the portion of the project site fronting Mooney Boulevard constructed first.

The purpose of the Traffic Impact Analysis is to evaluate the impacts on the transportation infrastructure due to the addition of the traffic from the proposed project. The report also includes evaluations and recommendations concerning project site access and on-site circulation for vehicles, bicycles, and pedestrians, and queuing analysis at the study intersections.

To evaluate the impacts on the transportation infrastructure due to the addition of traffic from the proposed project, 36 study intersection were evaluated during the weekday morning (a.m.) peak hour and evening (p.m.) peak hour under four study scenarios. The study intersections were evaluated under *No Project* and *Plus Project* scenarios for Existing, Five-Year Cumulative, 10-Year-Cumulative, and 20-Year Cumulative conditions. The Five-Year Cumulative plus Project scenario considers the impact of Phase I of construction, with all other Plus Project scenarios considering both Phase I and Phase II. For the purpose of this analysis, potential traffic operational effects from the proposed project are identified based on established operational thresholds for the City of Visalia and guidance published by the California Office of Planning and Research (OPR).

Project Trip Generation

For the purpose of this analysis, the project was divided into two construction phases:

- Phase I: development of the western quadrants of the project site, fronting Mooney Boulevard, consisting of the following uses:
    - 71,700 sq. ft. general retail
    - 15,100 sq. ft. fast food
    - 21,000 sq. ft. grocery store
    - 4,250 sq. ft. gas station with convenience market
- Phase II: development of the remainder of the project site, consisting of the following uses:
    - 95,400 sq. ft. general retail
    - 5,000 sq. ft. fast food

The project evaluated in this study represents a modification of an earlier version of the project originally submitted to the City. The project modifications essentially are responses to city comments on the original plan. TJKM concurred with the City comments and evaluated the modified project.

For Phase I, the proposed project is expected to generate approximately 10,850 trips, including 640 a.m. peak hour trips (343 in, 297 out) and 902 p.m. peak hour trips (452 inbound, 450 outbound). At full buildout, the project is expected to generate 14,343 daily trips, including 767 a.m. peak hour (410 inbound, 357 outbound) and 1,216 p.m. peak hour (606 inbound, 610 outbound).

Level of Service (LOS) Standards

The City standard of acceptable level of service for signalized and unsignalized intersections in the City of Visalia is LOS D.

Existing Conditions

Under this scenario, all of the study intersections operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour except for the following three intersections:

- Caldwell Avenue & Dans Street (intersection #5) is operating at LOS E in both the a.m. and p.m. peak hour
- Cameron Avenue & West Street (intersection #14) is operating at LOS F in the p.m. peak hour
- Avenue 272 & Mooney Boulevard (intersection #23) is operating at LOS F in the a.m. and p.m. peak hour

Existing plus Project Conditions

Under this scenario, all but six of the study intersections would continue to operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour. The following three intersections already operate at unacceptable level of service without the addition of project traffic.

- Caldwell Avenue & Dans Street (intersection #5) would continue to operate at LOS E during both peak hours, with a *significant increase* in average delay of 8.0 seconds in the a.m. and p.m. peak hours.
- Cameron Avenue & West Street (intersection #14) would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 45.6 seconds.
- Avenue 272 & Mooney Boulevard (intersection #23) would continue to operate at LOS F in the a.m. and p.m. peak hour, with *significant increases* in average delay of 49.0 seconds in the a.m. peak hour and 1,295.1 seconds in the p.m. peak hour.

The following three intersections would degrade from acceptable to unacceptable level of service with the addition of project traffic:

- Visalia Parkway & Dans Street (intersection #17) would degrade from LOS D to LOS F in the a.m. peak hour, a *significant degradation*.
- Visalia Parkway & County Center Drive (intersection #18) would degrade from LOS D to LOS F in the p.m. peak hour, a *significant degradation*.

- Visalia Parkway & Mooney Boulevard (intersection #20) would degrade from LOS D to LOS E in the p.m. peak hour, a *significant degradation*.

At the six intersections listed above, added project traffic would either degrade the level of service from an acceptable to unacceptable, or increase average delay by more than 5.0 seconds, constituting significant inconsistencies with the City of Visalia General Plan. Five of these intersections are currently stop-controlled, and the identified inconsistencies can be mitigated with signalization. At Visalia Parkway & Mooney Boulevard, mitigation would involve widening the eastbound, westbound, and northbound approaches. Based on the City of Visalia impact criteria, with mitigation the project is expected to be **consistent** with general plan requirements at all study intersections. Mitigation measures are described in detail in **Appendix M**.

Five-Year Cumulative Conditions

Under this scenario, all of the study intersections operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour, except for the following six intersections:

- Caldwell Avenue & Dans Street (intersection #5) would operate at LOS E in the a.m. peak hour and LOS F in the p.m. peak hour
- Cameron Avenue & West Street (intersection #14) would operate at LOS F in the p.m. peak hour
- Visalia Parkway & County Center Drive (intersection #18) would operate at LOS F in the p.m. peak hour.
- Visalia Parkway & Target Access. (intersection #19) would operate at LOS F in the a.m. and p.m. peak hours.
- Visalia Parkway & Mooney Boulevard (intersection #20) would operate at LOS F in the p.m. peak hour.
- Avenue 272 & Mooney Boulevard (intersection #23) is operating at LOS F in the a.m. and p.m. peak hours.

Five-Year Cumulative Plus Project Conditions

Under this scenario, all but eight of the study intersections would continue to operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour. The following six intersections already operate at unacceptable level of service in one or both peak hours, without the addition of project traffic.

- Caldwell Avenue & Dans Street (intersection #5) would degrade from LOS E to LOS F in the a.m. peak hour, with a *significant increase* in average delay of 8.0 seconds, and it would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 9.8 seconds in the p.m. peak hours.
- Cameron Avenue & West Street (intersection #14) would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 87.6 seconds.
- Visalia Parkway & County Center Drive (intersection #18) would degrade from LOS D to LOS E in the a.m. peak hour, a *significant degradation*, and it would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 148.1 seconds

- Visalia Parkway & Target Access. (intersection #19) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 82.0 seconds in the a.m. peak hour and 1,302.3 seconds in the p.m. peak hour.
- Visalia Parkway & Mooney Boulevard (intersection #20) would continue to operate at LOS F in the p.m. peak hour, with a *less-than-significant increase* in average delay of 2.8 seconds.
- Avenue 272 & Mooney Boulevard (intersection #23) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 149.8 seconds in the a.m. peak hour and 4,322.7 seconds in the p.m. peak hour.

The following two intersections would degrade from acceptable to unacceptable level of service with the addition of project traffic:

- Cameron Avenue & Stonebrook Street (intersection #13) would degrade from LOS D to LOS E in the a.m. and p.m. peak hours, a *significant degradation*.
- Visalia Parkway & Dans Street (intersection #17) would degrade from LOS D to LOS F the a.m. and p.m. peak hours, a *significant degradation*.

At seven of the eight intersections listed above, added project traffic would either degrade the level of service from an acceptable to unacceptable, or increase average delay by more than 5.0 seconds, constituting significant inconsistencies with the City of Visalia General Plan. The seven intersections with significant inconsistencies are currently stop-controlled, and the identified inconsistencies can be mitigated with signalization. Based on the City of Visalia impact criteria, with mitigation the project is expected to be **consistent** with general plan requirements at all study intersections. Mitigation measures are described in detail in **Appendix M**.

10-Year Cumulative Conditions

Under this scenario, all of the study intersections operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour, except for the following nine intersections:

- Sunnyside Avenue & Mooney Avenue (intersection #3) would operate at LOS E in the p.m. peak hour.
- Orchard Avenue & Mooney Avenue (intersection #4) would operate at LOS E in the p.m. peak hour.
- Caldwell Avenue & Dans Street (intersection #5) would operate at LOS F in the a.m. and p.m. peak hours.
- Caldwell Avenue & Mooney Boulevard (intersection #7) would operate at LOS F in the p.m. peak hour.
- Cameron Avenue & Mooney Boulevard (intersection #12) would operate at LOS E in the p.m. peak hour.
- Cameron Avenue & West Street (intersection #14) would operate at LOS F in the p.m. peak hour
- Visalia Parkway & County Center Drive (intersection #18) would operate at LOS E in the p.m. peak hour.
- Visalia Parkway & Target Access. (intersection #19) would operate at LOS F in the a.m. and p.m. peak hours.

- Avenue 272 & Mooney Boulevard (intersection #23) is operating at LOS F in the a.m. and p.m. peak hours.

10-Year Cumulative Plus Project Conditions

Under this scenario, all but 11 of the study intersections would continue to operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour. The following nine intersections already operate at unacceptable level of service in one or both peak hours, without the addition of project traffic.

- Sunnyside Avenue & Mooney Avenue (intersection #3) would degrade from LOS E to LOS F in the p.m. peak hour with a *significant increase* in average delay of 18.4 seconds.
- Orchard Avenue & Mooney Avenue (intersection #4) would continue to operate at LOS E in the p.m. peak hour, with a *significant increase* in average delay of 14.8 seconds.
- Caldwell Avenue & Dans Street (intersection #5) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 48.5 in the a.m. peak hour and 44.2 seconds in the p.m. peak hour.
- Caldwell Avenue & Mooney Boulevard (intersection #7) would continue to operate at LOS E in the p.m. peak hour, with a *decrease* in average delay of 0.4 seconds.
- Cameron Avenue & Mooney Boulevard (intersection #12) would continue to operate at LOS E in the p.m. peak hour, with a *decrease* in average delay of 3.6 seconds.
- Cameron Avenue & West Street (intersection #14) would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 58.8 seconds.
- Visalia Parkway & County Center Drive (intersection #18) would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 73.7 seconds
- Visalia Parkway & Target Access. (intersection #19) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 82.8 seconds in the a.m. peak hour and 1,659.2 seconds in the p.m. peak hour.
- Avenue 272 & Mooney Boulevard (intersection #23) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 111.2 seconds in the a.m. peak hour and 2,513.9 seconds in the p.m. peak hour.

The following two intersections would degrade from acceptable to unacceptable level of service with the addition of project traffic:

- Cameron Avenue & Stonebrook Street (intersection #13) would degrade from LOS D to LOS E in the a.m. peak hour and from LOS D to LOS F in the p.m. peak hour, both *significant degradations*.
- Visalia Parkway & Mooney Boulevard (intersection #20) would degrade from LOS D to LOS F in the p.m. peak hour, a *significant degradation*.

At nine of the 11 intersections listed above, added project traffic would either degrade the level of service from an acceptable to unacceptable level, or increase average delay by more than 5.0 seconds, constituting significant inconsistencies with the City of Visalia General Plan. Six of the intersections with significant inconsistencies are currently stop-controlled, and the identified inconsistencies can be mitigated with signalization. At the intersections of Sunnyside Avenue & Mooney Avenue (intersection #3) and Orchard Avenue & Mooney Avenue (intersection #4), optimizing the signal timing would provide adequate mitigation. At Visalia Parkway & Mooney Boulevard the same widening plan identified as a

mitigation measure for Existing plus Project Conditions would provide adequate mitigation for this scenario. Based on the City of Visalia impact criteria, with mitigation the project is expected to be **consistent** with general plan requirements at all study intersections. Mitigation measures are described in detail in **Appendix M**.

20-Year Cumulative Conditions

Under this scenario, all of the study intersections operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour, except for the following eight intersections:

- Orchard Avenue & Mooney Avenue (intersection #4) would operate at LOS E in the p.m. peak hour.
- Caldwell Avenue & Dans Street (intersection #5) would operate at LOS F in the a.m. and p.m. peak hours.
- Caldwell Avenue & Mooney Boulevard (intersection #7) would operate at LOS E in the p.m. peak hour.
- Cameron Avenue & Stonebrook Street (intersection #13) would operate at LOS F in the a.m. and p.m. peak hours.
- Cameron Avenue & West Street (intersection #14) would operate at LOS F in the p.m. peak hour
- Visalia Parkway & County Center Drive (intersection #18) would operate at LOS E in the p.m. peak hour.
- Visalia Parkway & Target Access. (intersection #19) would operate at LOS E in the a.m. peak hour and LOS F in the p.m. peak hour.
- Avenue 272 & Mooney Boulevard (intersection #23) is operating at LOS F in the a.m. and p.m. peak hours.

20-Year Cumulative Plus Project Conditions

Under this scenario, all but 12 of the study intersections would continue to operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour. The following eight intersections already operate at unacceptable level of service in one or both peak hours, without the addition of project traffic.

- Orchard Avenue & Mooney Avenue (intersection #4) would degrade from LOS E to LOS F in the p.m. peak hour, with a *significant increase* in average delay of 12.0 seconds.
- Caldwell Avenue & Dans Street (intersection #5) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 156.0 in the a.m. peak hour and 546.7 seconds in the p.m. peak hour.
- Caldwell Avenue & Mooney Boulevard (intersection #7) would continue to operate at LOS E in the p.m. peak hour, with a *decrease* in average delay of 0.6 seconds.
- Cameron Avenue & Stonebrook Street (intersection #13) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 117.1 in the a.m. peak hour and 702.5 seconds in the p.m. peak hour.
- Cameron Avenue & West Street (intersection #14) would degrade from LOS D to LOS F in the a.m. peak hour, and it would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 81.8 seconds.

- Visalia Parkway & County Center Drive (intersection #18) would degrade from LOS D to LOS E in the a.m. peak hour, and it would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 73.7 seconds
- Visalia Parkway & Target Access. (intersection #19) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 33.7 seconds in the a.m. peak hour and 578.7 seconds in the p.m. peak hour.
- Avenue 272 & Mooney Boulevard (intersection #23) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 111.2 seconds in the a.m. peak hour and an undefined number of seconds in the p.m. peak hour.

The following four intersections would degrade from acceptable to unacceptable level of service with the addition of project traffic:

- Sunnyside Avenue & Mooney Avenue (intersection #3) would degrade from LOS D to LOS E in the p.m. peak hour, a *significant degradation*.
- Visalia Parkway & Mooney Boulevard (intersection #20) would degrade from LOS D to LOS F in the p.m. peak hour, a *significant degradation*.
- Visalia Pkwy. & Stonebrook St. (intersection #21) would degrade from LOS D to LOS F, a *significant degradation*.
- Visalia Parkway & Costco Driveway (intersection #29) would degrade from LOS D to LOS E, a *significant degradation*.

At 11 of the 12 intersections listed above, added project traffic would either degrade the level of service from an acceptable to unacceptable level, or increase average delay by more than 5.0 seconds, constituting significant inconsistencies with the City of Visalia General Plan. Seven of the intersections with significant inconsistencies are currently stop-controlled, and at six of them the identified inconsistencies can be mitigated with signalization. At the intersections of Sunnyside Avenue & Mooney Avenue (intersection #3) and Orchard Avenue & Mooney Avenue (intersection #4), optimizing the signal timing would provide adequate mitigation. At Visalia Parkway & Mooney Boulevard (intersection #20), the same widening plan identified as a mitigation measure for Existing plus Project Conditions would provide adequate mitigation for this scenario. At the Costco Driveway on Visalia Parkway (intersection #29), it should be noted that the excessive delay in the p.m. peak hour occurs on the very low-volume southbound left turn movement, with right turning vehicles experiencing only 12.1 seconds of average delay (LOS B) at that time. This delay can be mitigated by providing a refuge lane in the median to permit two-stage left turns for exiting vehicles. Based on the City of Visalia impact criteria, with mitigation the project is expected to be **consistent** with general plan requirements at all study intersections. Mitigation measures are described in detail in **Appendix M**.

Queueing Analysis

The proposed project increases the queues at the turning pockets at some of the study intersections, resulting in deficient storage. The following intersections would experience new queue overflows under one or more Plus Project scenarios:

- Caldwell Avenue & Mooney Boulevard (intersection #7): 10-Year Cumulative plus Project, 20-Year Cumulative plus Project
- Cameron Avenue & County Center Drive (intersection #11): 20-Year Cumulative plus Project
- Cameron Avenue & Stonebrook Street (intersection #13): 20-Year Cumulative plus Project
- Visalia Parkway & County Center Drive (intersection #18): 5-Year Cumulative plus Project
- Visalia Parkway & Mooney Boulevard (intersection #20): Existing plus Project, 5-Year Cumulative plus Project, 10-Year Cumulative plus Project

All identified queue overflows can be mitigated with signalization, signal retiming, and/or increasing storage length at the overflowing turn lanes. With mitigation, the project is expected to have a **less-than-significant impact** on intersection queuing operations. Mitigation measures are described in detail in **Appendix M**.

VMT Impacts

The proposed project was evaluated based on guidance from the Governor's Office of Planning and Research (OPR) and implementation guidelines and thresholds adopted by the City of Visalia in March 2021.

The proposed project would include one anchor store of 20,473 sq. ft. and multiple others up to 15,500 sq. ft., with the total development providing approximately 215,000 sq. ft. of primarily retail and restaurant space. The project does not meet any screening criteria in the City's VMT guidelines.

TJKM used the TCAG travel demand model to determine total VMT within Tulare County in 2020 and 2042 without the project (no build), and 2042 with full build-out of the project. For the purposes of the travel demand model analysis, a project size of 212,450 sq. ft. was analyzed. In 2042, the project is expected to result in an additional 11,224 net VMT, compared to 2042 no-build conditions. Due to the expected project phasing, with full build-out assumed to be at least five years in the future, the project-related net change in total VMT was evaluated for 2042 conditions. In 2042, the project is expected to result in an additional 11,224 net VMT, compared to 2042 no-build conditions. From 2020 no-build and 2042 build-out conditions, the project would contribute less than one percent to the total cumulative growth. Based on the significance threshold recommended by OPR and specified in the City of Visalia VMT guidelines, the project would have a *potentially significant impact* on regional VMT.

In order to mitigate the VMT impact associated with the project, TJKM considers a fair share contribution to a regional VMT reduction program to be the most appropriate mitigation measure for this project. As no regional VMT-specific mitigation programs exist, TJKM recommends that a multi-pronged approach be used to fully mitigate project-related VMT impacts, focusing on:

- Pay an impact fee with the building permit issuance of each parcel to the City, to be placed into a VMT mitigation bank to be created at a later date. If a VMT mitigation fee program is implemented by the City prior to building permits being issued and fees being paid, the project would pay those fees instead. Otherwise, the fees would be calculated as below, based on the market rate price for GHG equivalents and a time period to be negotiated by the City and project applicant in light of other mitigating factors.

- Take into account the mitigation fees paid to the San Joaquin Valley Air Pollution Control District, which are based in part on VMT generated by the project.
- Implement all feasible project-level mitigation measures that take advantage of the project's location along a high quality transit corridor to encourage use of transit and other non-automobile modes by both employees and customers. A variety of such improvements is detailed below. The project should incorporate as many of these improvements as possible.

The recommended one-time impact fee is based on the daily VMT impact, average GHG generation per mile, market rate of GHG equivalents, and a period of 10 years. For the proposed project, this results in a recommended fee of $1,277/ksf. The time period of 10 years used in this calculation is identical to that used by the San Joaquin Valley Air Pollution Control District to assess impact fees for particulate emissions (PM10) generated by projects.

TJKM recommends that the applicant work with City of Visalia Staff to finalize the preferred non-automobile physical improvements and specific TDM elements that would be most appropriate for the proposed project and its location on a high quality transit corridor. . Although a specific target reduction is not required to mitigate the VMT impacts covered by the recommended fee discussed above, implementing any level of TDM program would further lower the amount of VMT generated by employees.

With these combined mitigation measures, the project would have **a less-than-significant impact** on regional VMT.

Site Access

The project would be accessed by a total of eight driveways. The proposed shopping center would include two main drive aisles connecting to the four streets that will border the project site. The main driveway on Visalia Parkway would be aligned with the existing driveway for the Packwood Creek shopping center on the north side of the street (intersection #27), and the main driveway on Mooney Boulevard would be aligned with the future Visalia Commons driveway (intersection #31). In addition to these primary access points, the project would include one secondary driveway on Visalia Parkway east of Mooney Boulevard (intersection #26) and two secondary driveways on Midvalley Avenue (intersections #32 and #34). As shown on the site plan, the four driveways on Visalia Parkway and Mooney Boulevard would prohibit outbound left turns, and inbound left turns would only be permitted at the two primary driveways (intersections #27 and #31). The remaining four driveways, located on Midvalley Avenue and Hall Street, would all permit full access. A prior version of the project, as analyzed in this report, also included a secondary driveway on Mooney Boulevard south of Visalia Parkway (intersection #30). That driveway has since been eliminated.

As shown on the project site plan, all proposed driveways would satisfy City of Visalia design requirements. The trees and buildings shown on the site plan are all located far enough away from driveway openings to not obstruct site lines. The proposed driveway locations, design, and sight distance are all **adequate**.

Deceleration Lanes

Since the speed limit along Mooney Boulevard is 45 mph, a deceleration lane would be warranted under City of Visalia requirements. Based on the site plan received, the project will be constructing a deceleration lane along Mooney Boulevard. However, the site plan does not indicate deceleration lanes along Visalia Parkway. Since the speed limit along Visalia Parkway is 40 mph, the project should construct deceleration lanes for the site access. According to *A Policy on Geometric Design of Highways and Streets, 7th Edition*, the desirable lane change and deceleration distance based on a 40 mph roadway is 265 feet.

On-Site Circulation

The project site plan includes two primary drive aisles, 40 feet wide, connected by a central roundabout. These drive aisles also connect to individual parking areas in the four quadrants of the project site. The positioning of buildings and vertical landscaping such as trees provide clear sight lines at all internal intersections. Visibility would also be adequate at drive through entrances and exits, dumpster locations, and pedestrian crosswalks.

Drive aisles in the parking areas are typically 30 feet wide, with two-way travel and perpendicular parking on both sides. Parking areas include adequate space to turn around in dead-end aisles and can accommodate trucks and emergency vehicles throughout. Trash enclosures are conveniently located for truck access. The site plan shows sidewalks provided on all project frontages and on both sides of the primary drive aisles, with marked crosswalks and pedestrian walkways on some, but not all, parcels. Although there are continuous, accessible pedestrian paths from all accessible parking spaces to the nearest buildings, there is inconsistent pedestrian connectivity to the project frontages, primary drive aisles, and between nearby buildings. No bike racks or long-term bike storage are shown on the site plan. In addition, the existing bus stop located on Mooney Boulevard north of Midvalley Avenue is not shown. Although the internal circulation on the project site would be **adequate**, TJKM recommends that it be revised to include consistent internal pedestrian connectivity, as well as the locations of bike racks and bus stops.

Pedestrian Impacts

Pedestrian access to the project site will be facilitated by new sidewalks on all frontages of the project site. The new sidewalks would connect to existing and proposed pedestrian facilities at the intersections of Visalia Parkway & Mooney Boulevard (intersection #20) and Mooney Boulevard & Midvalley Avenue (intersection #22). The proposed project does not conflict with existing and planned pedestrian facilities; therefore, the impact to pedestrian facilities is ***less than significant***.

Bicycle Impacts

The proposed site plan shows bike lanes on both sides of Visalia Parkway or Mooney Boulevard. The project is does not conflict with existing and planned bicycle facilities; therefore, the impact to bicycle facilities is ***less than significant***.

Transit Impacts

The project site is within a quarter mile of two Visalia Transit bus stops, located on the northeast corners of Visalia Parkway & Mooney Boulevard (intersection #20) and Mooney Boulevard & Midvalley Avenue

(intersection #22). which can connect users to local and regional locations. Impacts to transit service are expected to be ***less than significant***

On-Site Facility Improvement Opportunities for Alternate Modes

Shifting transportation modes away from automobiles and toward alternate modes is expected to reduce the project-related VMT increase . TJKM has identified improvements on the project site and frontages that would make the project more accessible and functional for alternate modes:

- Wherever feasible, provide pedestrian connections between sidewalks and buildings that provide a shorter path of travel than walking to the nearest driveway.
- Provide marked pedestrian crosswalks connecting buildings that are separated by parking areas.
- Provide adequate lighting for sidewalks and internal walkways, particularly at major conflict points with vehicles.
- Provide benches and trash cans throughout the project site.
- Provide bike racks near building entrances.
- Provide bike lockers or other long-term bike storage facilities for shopping center employees.
- At the existing bus stop on Mooney Boulevard north of Midvalley Avenue, reconstruct the stop to provide a bus shelter, trash can, and adequate lighting.

Phasing of Frontage Improvements

In conjunction with phased site development, the project would also construct improvements along the project frontages. These consist the following, to be included as part of Phase 1:

- Visalia Parkway: full and ultimate improvements from the median break to the west. A transition taper will extend to the existing roadway to the east.
- Mooney Boulevard: full and ultimate improvements.
- Midvalley Avenue: half-street improvements from Mooney Boulevard to the main north-south driveway, with no taper to the east.

TJKM considers this proposed phasing to be adequate

Funding of Mitigation Measures

Table ES-1 describes the mitigation measures that are needed in each project phase and scenario described in this report. Most of the mitigation measures consist of installing new traffic signals. Nearly all of the needed new signals become warranted as a result of traffic generated by various development projects around the City. The City of Visalia has adopted a traffic impact fee mitigation program to construct various highway and intersection improvements whose need has been triggered by traffic from new growth. Most of the planned improvements are street widening projects. In addition, the fee program includes new traffic signals at 50 unspecified locations. The need for traffic signals arise over time and it is not possible to predict in a 20-year program exactly where signals will be needed. This project shares in justifying new signals at several locations, just as contemplated in the fee program. Accordingly, it is appropriate to consider that payment of traffic fees for this project serves as a fair share contribution to the costs for installation of needed new signals.

Another impacts identified in this study are widening and signal modifications at the intersection of Mooney Boulevard and Visalia Parkway at the northwest corner of this project. The City of Visalia and the project sponsor are planning an improvement for that intersection. That project will effectively mitigate at this intersection.

As discussed above, VMT impacts would be mitigated through an impact fee to be assessed at the time building permits are issued, based on the square footage of the building permit being issued.

Table ES-1: Summary of Mitigation Measures

Scenario	***Category***	***Description[1]***
Existing plus Project	Level of Service[2]	Intersection signalization:[3] • #5: Caldwell Avenue/Dans Street • #14: Cameron Ave/West Street • #17: Visalia Parkway/Dans Street • #18: Visalia Parkway/County Center Drive[4] • #23: Mooney Boulevard/Avenue 272[5] Intersection widening: • #20: Visalia Parkway/Mooney Boulevard[5]
	Intersection Queuing	Intersection widening: • #20: Visalia Parkway/Mooney Boulevard[4]
Five-Year Cumulative plus Phase 1	Level of Service[2]	Intersection signalization: [3] • #5: Caldwell Avenue/Dans Street • #13: Cameron Avenue/Stonebrook Street • #14: Cameron Ave/West Street • #17: Visalia Parkway/Dans Street • #18: Visalia Parkway/County Center Drive • #19: Visalia Parkway/Main Site Access-Target Driveway • #23: Mooney Boulevard/Avenue 272[5] Intersection widening: • #20: Visalia Parkway/Mooney Boulevard[5]
	Intersection Queuing	Intersection signalization: [3] • #18: Visalia Parkway/County Center Drive Intersection widening: • #20: Visalia Parkway/Mooney Boulevard[5]
10-Year Cumulative plus Project	Level of Service[2]	Intersection signalization: [6] • #3: Mooney Boulevard/Sunnyside Avenue[5] • #4: Mooney Boulevard/Orchard Avenue[5] • #5: Caldwell Avenue/Dans Street • #13: Cameron Avenue/Stonebrook Street • #14: Cameron Ave/West Street • #18: Visalia Parkway/County Center Drive • #19: Visalia Parkway/Main Site Access-Target Driveway • #23: Mooney Boulevard/Avenue 272[5] Intersection widening: • #20: Visalia Parkway/Mooney Boulevard[5]
	Intersection Queuing	Intersection retiming: • #7: Mooney Boulevard/Caldwell Avenue[5]

Scenario	*Category*	*Description*[1]
		Intersection widening: • #20: Visalia Parkway/Mooney Boulevard[5]
20-Year Cumulative plus Project	Level of Service[2]	Intersection signalization: [6] • #3: Mooney Boulevard/Sunnyside Avenue[5] • #4: Mooney Boulevard/Orchard Avenue[5] • #5: Caldwell Avenue/Dans Street • #13: Cameron Avenue/Stonebrook Street (also lengthen turn lane) • #14: Cameron Ave/West Street • #18: Visalia Parkway/County Center Drive • #19: Visalia Parkway/Main Site Access-Target Driveway • #21: Visalia Parkway/Stonebrook Street • #23: Mooney Boulevard/Avenue 272[5] Intersection widening: • #20: Visalia Parkway/Mooney Boulevard Median modification: • #29: Visalia Parkway/Costco Driveway
	Intersection Queuing	Intersection retiming: • #7: Mooney Boulevard/Caldwell Avenue[5] • #11: Cameron Avenue/County Center Drive Lengthen turn lane: • #13: Cameron Avenue/Stonebrook Street (also signalize) Intersection widening: • #20: Visalia Parkway/Mooney Boulevard[5]
General	VMT	• Pay an impact fee to the City, to be placed into a VMT mitigation bank to be created at a later date. If a VMT mitigation fee program is implemented by the City prior to building permits being issued and fees being paid, the project would pay those fees instead. • Site and frontage improvements to improve access, circulation, and convenience of transit users, pedestrians, and bicycles. The project should incorporate as many of these improvements as possible. • Implement a travel demand management (TDM) program for employees at the proposed shopping center. Specific programs may be evaluated at the time of site plan review for each phase of development.

Note:

[1] Detailed mitigation measures are included in Appendix M.

[2] Level of service deficiencies constitute general plan inconsistencies and are not considered environmental impacts under CEQA.

[3] Unless otherwise noted, peak hour signal warrant met during one or both peak hours under this analysis scenario, or 8-hour warrant met under Existing Conditions. A full signal warrant study should be conducted prior to installation of a traffic signal. If warrants are met, signal is eligible for funding via the Traffic Impact Fee (TIF) Program.

[4] Intersection does not meet peak hour signal warrant under this analysis scenario, and does not meet 8-hour warrant under Existing Conditions.

[5] Intersection modifications require Caltrans approval and coordination

[6] A full signal warrant study should be conducted prior to installation of a traffic signal. If warrants are met, signal is eligible for funding via the Traffic Impact Fee (TIF) Program.

1.0 INTRODUCTION

This report summarizes the results of the Traffic Impact Analysis (TIA) for the proposed shopping center located at the southeast corner of Mooney Boulevard and Visalia Parkway in the City of Visalia, California.

1.1 Project Description

The project proposes to develop approximately 215,000 square feet into a shopping center that will consist of fast food restaurants with or without drive-throughs, supermarkets, other retail, and a gas station with convenience market. The project will also construct various driveways with median breaks along Mooney Boulevard, Visalia Parkway, Midvalley Avenue, and the newly constructed Hall Street, which will be located east of the project site and provide an additional connection between Visalia Parkway and Midvalley Avenue.

The new development will be located across from the recently approved Visalia Commons shopping center, located on the southwest corner of Mooney Boulevard and Visalia Parkway.

The following section discusses the TIA Purpose, study intersections, and analysis scenarios.

1.2 Project Purpose

The purpose of the Traffic Impact Analysis is to evaluate the impacts on the transportation infrastructure due to the addition of the traffic from the proposed project. The report also includes evaluations and recommendations concerning project site access and on-site circulation for vehicles, bicycles, and pedestrians, queuing analysis at the study intersections, and parking supply.

1.3 Study Area

The study area is located near the southern City limits of Visalia along the Mooney Boulevard corridor. The impacts of the proposed project were evaluated for the intersections discussed below.

1.3.1 Study Intersections

TJKM evaluated traffic conditions at 36 study intersections during the a.m. and p.m. peak hours for a typical weekday. The study intersections were selected in consultation with the City of Visalia staff. The peak periods were between 7-9 a.m. and 2-6 p.m. The study intersections and associated traffic controls are as follows:

1. Whitendale Ave. & Mooney Blvd. (Signal)*
2. Whitendale Ave. & Giddings St. (Signal)
3. Sunnyside Ave. & Mooney Ave. (Signal)*
4. Orchard Ave. & Mooney Ave.(Signal)*
5. Caldwell Ave. & Dans St. (Two-Way Stop)
6. Caldwell Ave. & Shady St. (Signal)
7. Caldwell Ave. & Mooney Blvd. (Signal)*
8. Caldwell Ave. & Fairway St. (Signal)
9. Caldwell Ave. & Stonebrook St. (Signal)
10. Caldwell Ave. & West St. (Signal)

11. Cameron Ave. & County Center Dr. (One-Way Stop)
12. Cameron Ave. & Mooney Blvd. (Signal)*
13. Cameron Ave. & Stonebrook St. (One-Way Stop)
14. Cameron Ave. & West St. (Two-Way Stop)
15. Cameron Ave. & Court St. (All-Way Stop)
16. Visalia Pkwy. & Demaree St. (Signal)
17. Visalia Pkwy. & Dans St. (Two-Way Stop)
18. Visalia Pkwy. & County Center Dr. (One-Way Stop)
19. Visalia Pkwy. & Target Access. (One-Way Stop)
20. Visalia Pkwy. & Mooney Blvd. (Signal)*
21. Visalia Pkwy. & Stonebrook St. (Uncontrolled)
22. Midvalley Ave. & Mooney Blvd. (Signal)*
23. Ave. 272 & Mooney Blvd. (Two-Way Stop)*
24. Ave. 271 & Rd. 122 (Uncontrolled)
25. Ave. 268 & Mooney Blvd (Signal)*
26. Visalia Pkwy. & North Access Dwy 1 (One-Way Stop)
27. Visalia Pkwy & Tuesday Morning Dwy. (One-Way Stop)
28. Visalia Pkwy. & Hall St. (One-Way Stop)
29. Visalia Pkwy. & Costco Dwy. (One-Way Stop)
30. Mooney Blvd. & Visalia Commons Dwy. 1 (One-Way Stop, when project is constructed)
31. Mooney Blvd. & Visalia Commons Dwy. 2 (One-Way Stop, when project is constructed)
32. Midvalley Ave. & South Access Dwy. 1 (One-Way Stop)
33. Midvalley Ave. & South Access Dwy. 2 (One-Way Stop)
34. Midvalley Ave. & South Access Dwy. 3 (One-Way Stop)
35. Midvalley Ave. & Hall St. (One-Way Stop)
36. Hall St. & East Access Dwy. 1 (One-Way Stop)

Note: *Intersection is owned and operated by Caltrans.

Figure 1 illustrates the study intersections and the vicinity map of the proposed project. **Figure 2** shows the proposed project site plan.

1.4 Analysis Scenarios

For the purpose of this analysis, the project was divided into two construction phases:

- Phase I: development of the western quadrants of the project site, fronting Mooney Boulevard, consisting of the following uses:
    - 71,700 sq. ft. general retail
    - 15,100 sq. ft. fast food
    - 21,000 sq. ft. grocery store
    - 4,250 sq. ft. gas station with convenience market
- Phase II: development of the remainder of the project site, consisting of the following uses:
    - 95,400 sq. ft. general retail
    - 5,000 sq. ft. fast food

This study addresses the following eight traffic scenarios:

- Existing Conditions;

- Existing plus Project Phase I & Phase II Conditions;
- Five-Year Cumulative No-Project Conditions;
- Five-Year Cumulative plus Project Phase I Conditions;
- 10-Year Cumulative No-Project Conditions;
- 10-Year Cumulative plus Project Phase I & II Conditions;
- 20-Year Cumulative No-Project Conditions;
- 20-Year Cumulative plus Project Phase I & II Conditions.

Although the proposed project was analyzed with two driveways on Mooney Boulevard (intersections #30 and #31), the site plan has since been revised to close the driveway closer to Visalia Parkway (intersection #30). As delay at stop-controlled intersections is strongly influenced by the volume of cross traffic, the main driveway (intersection #31) was reanalyzed under the future scenario with the greatest traffic volumes. All project trips assigned to intersection #30 were reassigned to intersection #31, and level of service was recalculated for 20-Year Cumulative plus Project Phase I and II Conditions.

Figure 1a: Vicinity Map

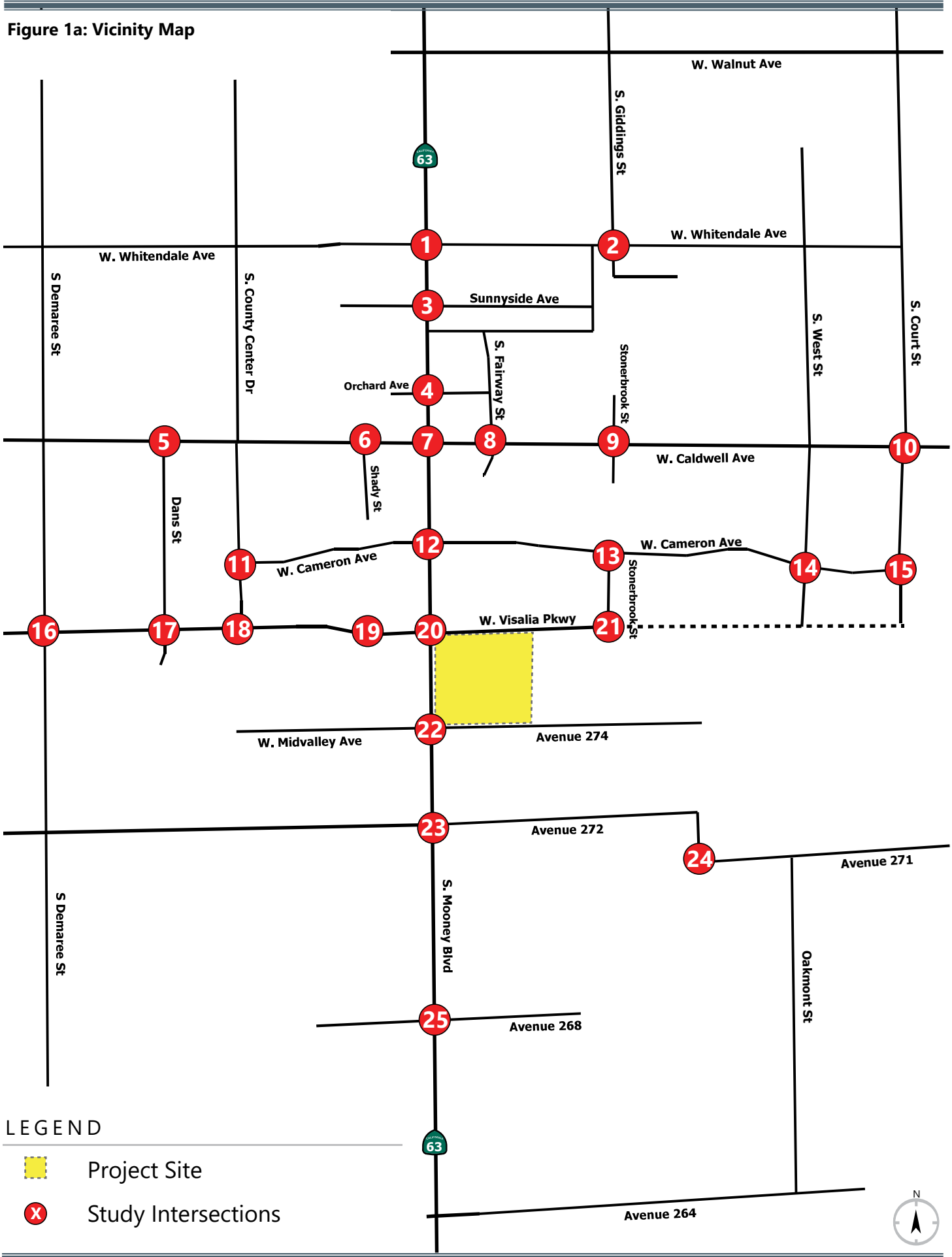
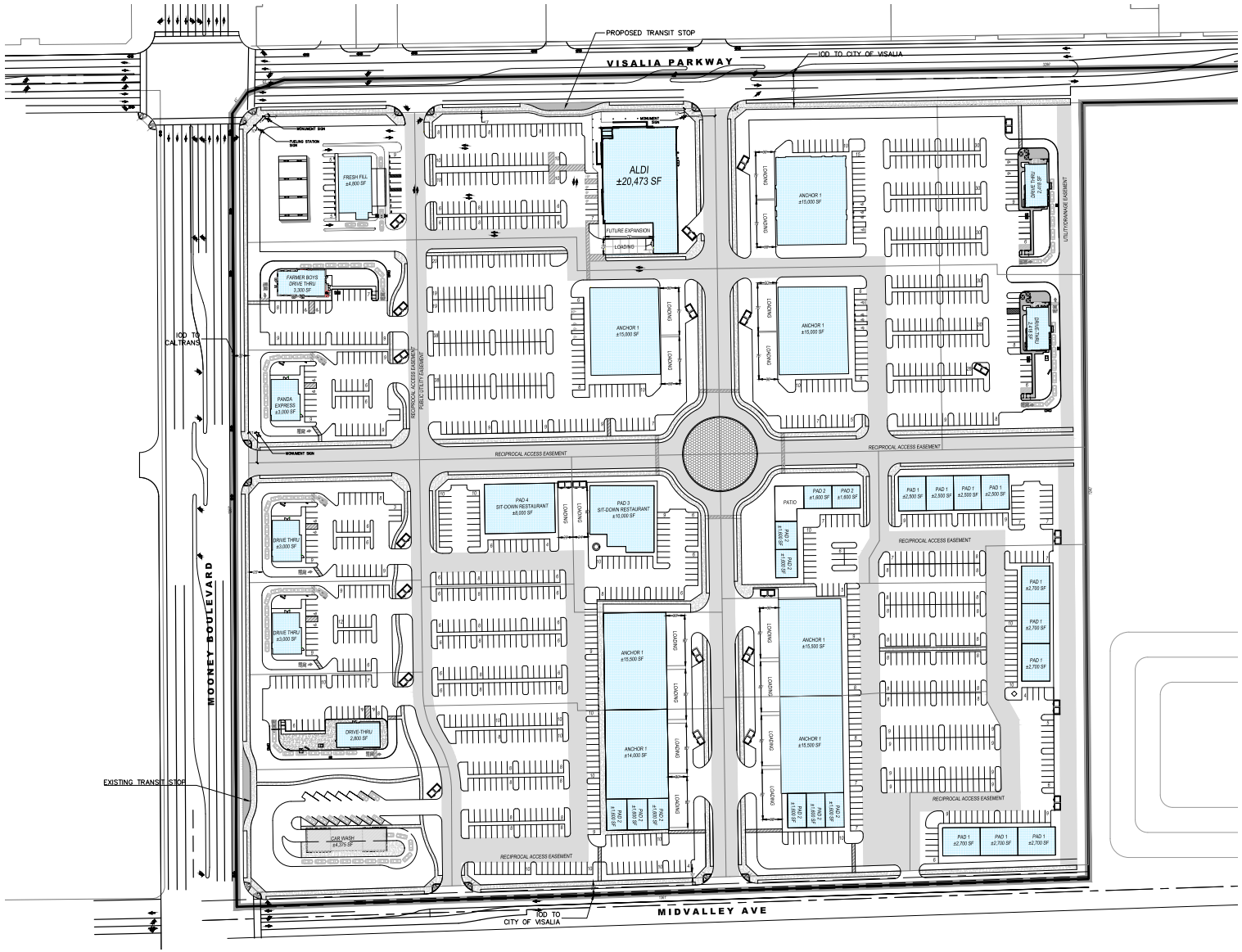


Figure 1b: Vicinity Map (Project Driveways)



Figure 2: Site Plan



2.0 STUDY METHODOLOGY

Traffic impacts related to the proposed project were evaluated for both compliance with applicable regulatory documents and environmental significance as defined in the California Environmental Quality Act (CEQA). In accordance with the *Technical Advisory* published by the Governor's Office of Planning and Research (OPR), a qualitative and quantitative VMT analysis forms the basis of the CEQA analysis for the proposed project. As of July 1,2020, intersection level of service (LOS) can no longer be used to determine significant impacts for the purpose CEQA.

2.1 Vehicle Miles Traveled

This study includes a qualitative and quantitative analysis of VMT generated by the proposed uses. The qualitative analysis discusses the general characteristics of daily VMT generated by each applicable land use and how VMT characteristics of the project site would be changed with the proposed project. Because SB 743 is intended to encourage the development of communities that reduce vehicular GHG with land use patterns that site residences near the employment and commercial sites residents visit frequently, and because the VMTs of freight/delivery trips are not relevant to this purpose, those trips were not included in this VMT analysis.

For retail projects, the OPR *Technical Advisory* recommends that lead agencies analyze the change in total VMT within the study area, because retail projects typically re-route travel from other retail destinations. A project may increase or decrease total VMT, depending on previously existing retail travel patterns. When available, a travel demand model such as the Tulare County Association of Governments (TCAG) model is preferable for evaluating changes in VMT due to land use developments. As of March 2021, the City of Visalia has adopted *VMT Thresholds and Implementation Guidelines*, which are generally consistent with OPR guidance. For the purposes of this study, the screening guidelines and significance thresholds are contained in the City's guidelines are utilized and compared to OPR recommendations. If a project does not meet any screening criteria, the City guidelines specify use of the TCAG model to identify the appropriate project VMT metric. For retail projects, this is total VMT within Tulare County.

City of Visalia Screening Criteria

The adopted guidelines include the following screening criteria for identifying projects that can be presumed to have a less-than-significant impact:

- The project is within 0.5 mile of a Transit Priority Area or a High-Quality Transit Area unless the project is inconsistent with the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), has a floor area ratio (FAR) less than 0.75, provides an excessive amount of parking, or reduces the number of affordable residential units. The VMT guidelines provide a figure depicting the area within this 0.5 mile buffer, included in **Appendix A**.
- Locally serving retail projects up to 50,000 sq. ft.
- Low trip generator (fewer than 1,000 average daily trips if consistent with General Plan, 500 if inconsistent with General Plan)
- 100 percent affordable housing units
- Institutional/government and public service uses

- Projects located in low VMT zones (residential, office, and mixed use)

Significance Standards

The state of California provides lead agencies latitude in adopting standards of significance for evaluating VMT impacts associated with land use projects. As the City of Visalia adopted VMT standards recently, this study considers both the recommendations provided in the OPR Technical Advisory and the adopted thresholds contained in the City of Visalia guidelines. For retail projects not considered local-serving, the OPR recommendations and City of Visalia guidelines both provide the following threshold:

- A net increase in total VMT may indicate a significant transportation impact.

It should be noted that although the City of Visalia guidelines apply the above threshold to retail *projects* larger than 50,000 sq. ft., however, the OPR recommendations identify retail projects including *stores* larger than 50,000 sq. ft. as typically non-local/regional. In general, larger stores are more likely to attract customers more distant in the region. By considering the total project size rather than store size when identifying the travel characteristics of potential customers, this disparity results in far fewer retail projects being screened out of detailed VMT analysis. By contrast, the City's screening criteria substantially increase the threshold for considering a project a low trip generator, compared to the OPR recommendation of 110 average daily trips. This increase is based on the incremental impact of increased trips on greenhouse gas (GHG) emissions and its relationship to GHG significance factors and consistency with the regional transportation plan/sustainable community strategy (RTP/SCS). In general, the City's VMT guidelines establish that the primary purpose in limiting VMT is in limiting GHG emissions.

Mitigation Requirements

The City's guidelines discuss VMT mitigation strategies in general, and they quote section 15370 of the 2020 State CEQA Guidelines:

> *"Mitigation" includes:*
>
> *a. Avoiding the impact altogether by not taking a certain action or parts of an action.*
>
> *b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation.*
>
> *c. Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.*
>
> *d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.*
>
> *e. Compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements.*

The guidelines also note the following:

> *Furthermore, it may be that identified VMT impacts cannot be mitigated at the project-specific level. Most VMT impacts are in the context of the region of analysis. The incremental change in VMT associated with a project in the particular setting in which it may be located would suggest a greater VMT deficit than individual strategies can offset. Only a regional solution (e.g., completion of a transit system, purchase of more transit buses, or gap closure of an entire bicycle master plan system) may offer the incremental change necessary to reduce the VMT impact to a level of insignificance. Also, VMT, as a proxy for GHG emissions, may not require locational specificity. A project does not necessarily need to diminish the VMT at the project site to gain benefit in VMT and*

GHG reduction in the State. Offsets in an area where the benefit would be greater will have a more effective reduction in VMT and GHG and contribute to the State's ultimate climate goals. This is the basis for the cap-and-trade strategies.

2.2 Level of Service Analysis Methodology

Level of Service (LOS) is a qualitative measure that describes operational conditions as they relate to the traffic stream and perceptions by motorists and passengers. The LOS generally describes these conditions in terms of such factors as speed and travel time, delays, freedom to maneuver, traffic interruptions, comfort, convenience and safety. The operational LOS are given letter designations from A to F, with A representing the free-flow operating conditions and F representing the severely congested flow with high delays. Typically, LOS C is considered as an ideal condition as it represents stable flow and efficient use of the transportation facility. Intersections generally are the capacity-controlling locations with respect to traffic operations on arterial and collector streets. The following sections provide detailed study methodology based on the type of intersections.

Signalized Intersections

The study intersections under traffic signal control were analyzed using the 2010 HCM Operations Methodology for signalized intersections described in Chapter 18 (HCM 2010). This methodology determines LOS based on average control delay per vehicle for the overall intersection during peak hour intersection operating conditions. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. **Table 1** summarizes the relationship between the control delay and LOS for signalized intersections. The LOS assessment under all scenarios is based on current traffic controls and optimized signal timing unless otherwise noted. The LOS methodology for Signalized intersections is described in detail in **Appendix A**.

Table 1: Level of Service Definitions for Signalized Intersections

Level of Service	Description
A	Very low control delay, up to 10 seconds per vehicle. Progression is extremely favorable, and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	Control delay greater than 10 and up to 20 seconds per vehicle. There is good progression or short cycle lengths or both. More vehicles stop causing higher levels of delay.
C	Control delay greater than 20 and up to 35 seconds per vehicle. Higher delays are caused by fair progression or longer cycle lengths or both. Individual cycle failures may begin to appear. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflow occurs. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.
D	Control delay greater than 35 and up to 55 seconds per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volumes. Many vehicles stop, the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

E	Control delay greater than 55 and up to 80 seconds per vehicle. The limit of acceptable delay. High delays usually indicate poor progression, long cycle lengths, and high volumes. Individual cycle failures are frequent.
F	Control delay in excess of 80 seconds per vehicle. Unacceptable to most drivers. Oversaturation, arrival flow rates exceed the capacity of the intersection. Many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to higher delay.

Source: Highway Capacity Manual 2010

Stop-Controlled Intersections

The study intersections under two-way stop control were analyzed using the 2010 HCM Operations Methodology for all-way stop controlled intersections described in Chapter 19 (HCM 2010). LOS ratings for stop-sign controlled intersections are based on the average control delay expressed in seconds per vehicle. At one- or two-way stop controlled intersections, the control delay is calculated for each movement, 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. **Table 2** summarizes the relationship between delay and LOS for stop-controlled intersections. The delay ranges for unsignalized intersections are lower than for signalized intersections, as drivers expect less delay at stop-controlled intersections.

Each of the study intersections was analyzed using Synchro Version 10 software and HCM 2010 methodology. The LOS assessment under all scenarios is based on current traffic controls unless otherwise noted. The LOS methodology for stop-controlled intersections is described in detail in **Appendix A**.

Table 2: Level of Service Definitions for Stop Controlled Intersections

Level of Service	Description
A	Very low control delay less than 10 seconds per vehicle for each movement subject to delay.
B	Low control delay greater than 10 and up to 15 seconds per vehicle for each movement subject to delay.
C	Acceptable control delay greater than 15 and up to 25 seconds per vehicle for each movement subject to delay.
D	Tolerable control delay greater than 25 and up to 35 seconds per vehicle for each movement subject to delay.
E	Limit of tolerable control delay greater than 35 and up to 50 seconds per vehicle for each movement subject to delay.
F	Unacceptable control delay in excess of 50 seconds per vehicle for each movement subject to delay.

Source: Highway Capacity Manual 2010

2.2 Level of Service Standards

Although level of service is no longer used for identifying impacts under CEQA, level of service analysis is still used for determining consistency with adopted agency plans and standards. Where standards refer to

significant environmental impacts, this analysis instead identifies these as significant inconsistencies with adopted plans.

Signalized and Stop Controlled Intersections

The City of Visalia General Plan states the minimum acceptable LOS standard on City Roadways is LOS D. Intersections that are expected to operate below LOS D are considered as impacted and should be considered for mitigation.

In accordance with the City of Visalia plans and policies, and agency and professional standards, a project impact would be considered significant if:

- The project traffic added to existing conditions would result in the level of service deteriorating below the City standard. The City's current level of service standard is LOS D.
- For intersections that already operate at unacceptable levels of service (E or F), the City considers project impacts to be significant if the project trips result in an increase in delay by 5.0 seconds or more.

Caltrans Intersections

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on all State highway facilities. However, Caltrans has not established specific criteria for defining significant impacts for signalized or unsignalized intersections. Caltrans guidelines state that if an existing State highway facility is operating at less than the appropriate target LOS, the existing LOS should be maintained. For this study, the LOS standard for Caltrans intersections shall be LOS D, and the same significant impact criteria will be used as City of Visalia intersections.

2.3 Signal Warrant Analysis

Traffic signal warrants are a series of standards that provide guidelines for determining if a traffic signal is appropriate. Signal warrant analyses are typically conducted at intersections of uncontrolled major streets and stop sign-controlled minor streets. If one or more signal warrants are met, signalization of the intersection may be appropriate. However, a signal should not be installed if none of the warrants are met, since the installation of signals would increase delays on the previously uncontrolled major street, and may increase the occurrence of particular types of accidents.

As stated in the 2014 edition of the Manual on Uniform Traffic Control Devices (MUTCD), *"An engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether installation of a traffic control signal is justified at a particular location. The investigation of the need for a traffic control signal shall include an analysis of the applicable factors contained in the following traffic signal warrants and other factors related to existing operation and safety at the study location."*

This Existing Condition analysis did not evaluate all nine warrants provided in the MUTCD for traffic signals, but instead focused on the eight-hour and peak hour warrants. The MUTCD states that, *"This (peak hour) signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time."* The peak hour warrant is merely being used in this impact analysis study as an

"indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. The City of Visalia utilizes the eight-hour warrant as the primary indicator of the need for signalization, whereas the peak hour warrant is applicable to impact studies that focus on projected peak hour conditions only. Intersections that exceed the peak hour warrant are considered (for the purposes of this impact analysis) to be likely to meet one or more of the other signal warrants (such as the four-hour or eight-hour warrants). This peak hour analysis is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

Even if the Peak Hour Volume Warrant is met, a more detailed signal warrant study is recommended before a signal is installed. The more detailed study should consider volumes during the daily peak hours of roadway traffic, pedestrian traffic, and accident histories.

3.0 EXISTING CONDITIONS

This section describes existing conditions in the immediate project site vicinity, including roadway facilities, bicycle and pedestrian facilities, and available transit service. In addition, existing traffic volumes and operations are presented for the study intersections, including the results of LOS calculations.

3.1 Existing Setting and Roadway System

Access to the proposed project is provided via Mooney Boulevard, Visalia Parkway, Whitendale Avenue, Caldwell Avenue, Cameron Avenue, and Midvalley Avenue/Avenue 274.

Mooney Boulevard is a six-lane, north-south divided arterial from Visalia Parkway to Whitendale Avenue. Mooney Boulevard is State Route 63, under the jurisdiction of Caltrans. From Visalia Parkway to the City Limits and unincorporated Tulare County, the roadway transitions into a divided four-lane roadway. Mooney Boulevard is predominantly surrounded by commercial and retail land uses. The speed limit north of Visalia Parkway is 40 mile per hour (mph) and south of Visalia Parkway, the speed limit increases to 55 mph.

Visalia Parkway is currently a two-lane east-west undivided roadway from Stonebrook Street to Demaree Street. The City's General Plan has indicated that with future buildouts of the surrounding area, Visalia Parkway will become an arterial in the next 11-25 years. The north side of the roadway has been developed, while the south side of the roadway primarily consists of open space. The speed limit along Visalia Parkway is 40 mph.

Whitendale Avenue is a two to four-lane, east-west divided collector street from Mooney Boulevard to Giddings Street. The majority of land uses around Whitendale Avenue consists of single-family homes, except near Mooney Boulevard, where land uses consists of commercial and retail. The posted speed limit on Whitendale Avenue is 40 mph.

Caldwell Avenue is a four to six-lane, east-west divided arterial from Dans Street to Court Street in the study area. Land uses around Caldwell Avenue consists of single-family homes, commercial and retail. Speed limits within the project vicinity varies between 40 to 50 mph.

Cameron Avenue is primarily a two-lane, east-west collector street from County Center Drive to Vintage Street. From Vintage Street to Court Street, Cameron Avenue is identified as an arterial. Land uses surrounding Cameron Avenue consist of single-family homes, open space, commercial, and retail uses. The speed limit varies from 40 to 45 mph.

Midvalley Avenue/Avenue 274 is a two-lane, east-west collector street on the southern border of the proposed project site. West of Mooney Boulevard, there are two neighborhoods of pre-fabricated homes and open space. East of Mooney Boulevard, land uses are primarily open space.

3.2 Existing Pedestrian Facilities

Walkability is defined as the ability to travel easily and safely between various origins and destinations without having to rely on automobiles or other motorized travel. The ideal "walkable" community includes wide sidewalks, a mix of land uses such as residential, employment, and shopping opportunities, a limited number of conflict points with vehicle traffic, easy access to transit facilities and services and a network of pedestrian facilities.

Pedestrian facilities are comprised of crosswalks, sidewalks, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access the destinations such as institutions, businesses, public transportation, and recreation facilities.

Near the proposed project site, the approximate width of the sidewalk is 10 feet. This sidewalk width applies to the northern side of Visalia Parkway and along Mooney Boulevard. The proposed project will install 10-foot wide sidewalks along the project frontage and ADA-compliant curb ramps. The Visalia Commons project across from the proposed project site will also develop sidewalks and ADA-compliant curb ramps. Most of the study intersections have striped crosswalks. Signalized intersections are equipped with pedestrian signal heads.

The existing pedestrian facilities in the study area are shown in **Figure 3**. Existing peak-hour pedestrian counts are provided in **Appendix B**.

3.3 Existing Bicycle Facilities

The 2017 City of Visalia Active Transportation Plan (ATP) outlines policies and objectives to improve the current active transportation system that includes walking and biking. The various bicycle facilities throughout the city are described below. Existing bicycle facilities are illustrated in **Figure 4.**

- **Class I Bikeways (Bike Paths or Shared-Use Path)**: Class I Bikeways provides a completely separated right of way for bicycles and pedestrians with minimal crossflow by motorized vehicles. According to the ATP, bike paths should be used to serve corridors not served by streets and highways or where wide right-of-way exists, permitting such facilities to be constructed away from the influence of parallel streets. Most bike paths in Visalia are eight to twelve feet wide and are located along stream corridors and irrigation canals. Bike paths provide a recreational opportunity or can serve as commute routes. In the project area, Class I facilities include the Packwood Creek Bike Path, Stonebrook Park, and Mooney Grove Park.
- **Class II Bike Lanes**: Class II bike lanes are striped bike lanes immediately adjacent to a traffic lane. Bike lanes provide a separate pavement area from vehicular traffic and improve conditions for bicycles on roadways. Bike lanes in the City are generally four to six feet wide. In the project vicinity, Class II Bike Lanes are provided on Whitendale Avenue, County Center Drive, Court Street, and Cameron Avenue.
- **Class III Bike Routes**: Class III Bike Routes provide shared use of the roadway, designated by signs or permanent markings and shared with other vehicular traffic. Class III bike routes are provided all along Caldwell Avenue

- **Class IV Separated Bikeways or Cycle Tracks**: Cycle tracks are separated bikeways for the exclusive use of bicycles. Cycle tracks are usually located along the roadway, but require separation from the vehicular travel lane in the form of grade separation, planters, flexible posts, or on-street parking. There are no Class IV bikeways in the City of Visalia.

3.5 Existing Transit Facilities

Visalia Transit provides transit service throughout the City. There are several bus routes that travel through the study area. **Table 3** summarizes the existing Visalia Transit service and **Figure 5** illustrates the existing transit facilities in the study area.

Table 3: Existing Visalia Transit Service

			Weekdays		***Weekends***	
Route	***From***	***To***	***Operating Hours***	***Headway (minutes)***	***Operating Hours***	***Headway (minutes)***
1	Downtown	TCAT Transfer	6:00 a.m. – 9:48 p.m.	15	8:00 a.m. – 6:58 p.m.	20
2	Downtown	Visalia Medical Clinic	6:00 a.m. – 9:46 p.m.	30	8:00 a.m. – 6:46 p.m.	30
12A	Mooney/ Orchard	Farmersville Roy's Park	6:00 a.m. – 9:13 p.m.	60	7:57 a.m. – 6:13 p.m.	60
12B	Farmersville Roy's Park	Mooney/ Orchard	6:15 a.m. – 9:37 p.m.	60	8:15 a.m. – 6:37 p.m.	60
16A	Mooney/ Orchard	North Target	6:00 a.m. – 9:20 p.m.	30	12:00 p.m. – 9:20 p.m.	30
16B	North Target	Mooney/ Orchard	6:20 a.m. – 9:51 p.m.	30	12:20 p.m. – 9:51 p.m.	30

Source: Visalia Transit Website

Figure 3: Existing Pedestrian Facilities

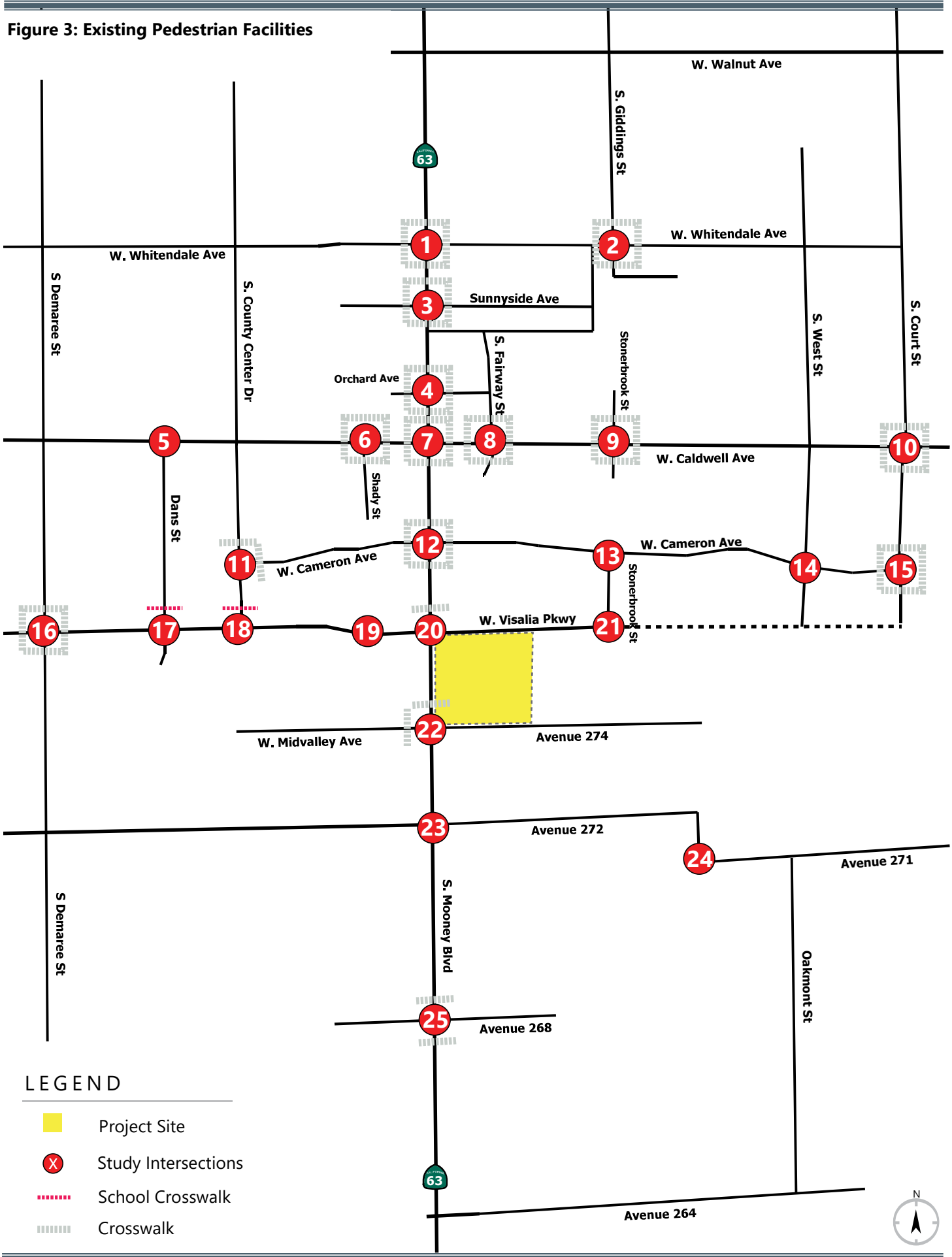


Figure 4: Existing Bicycle Facilities

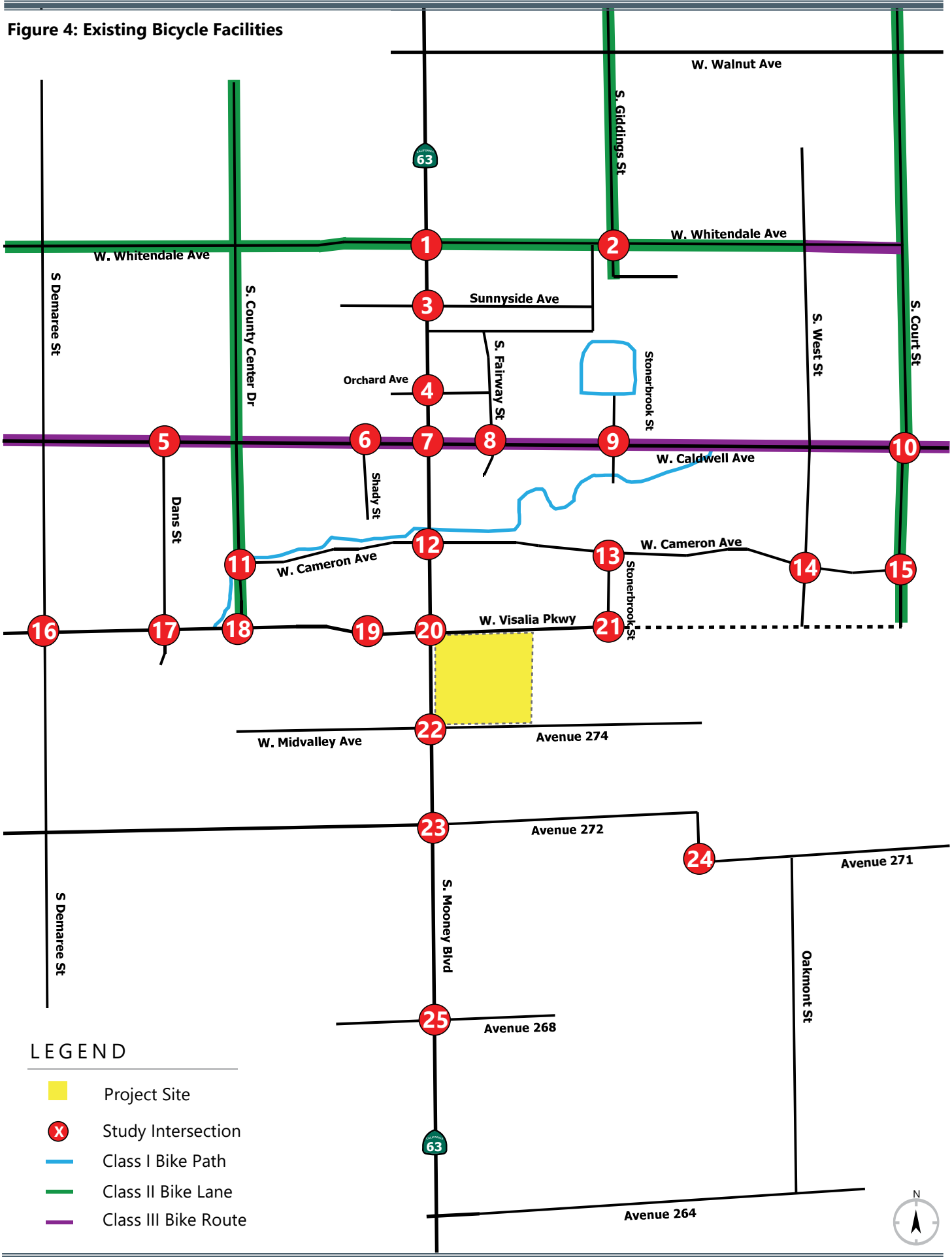
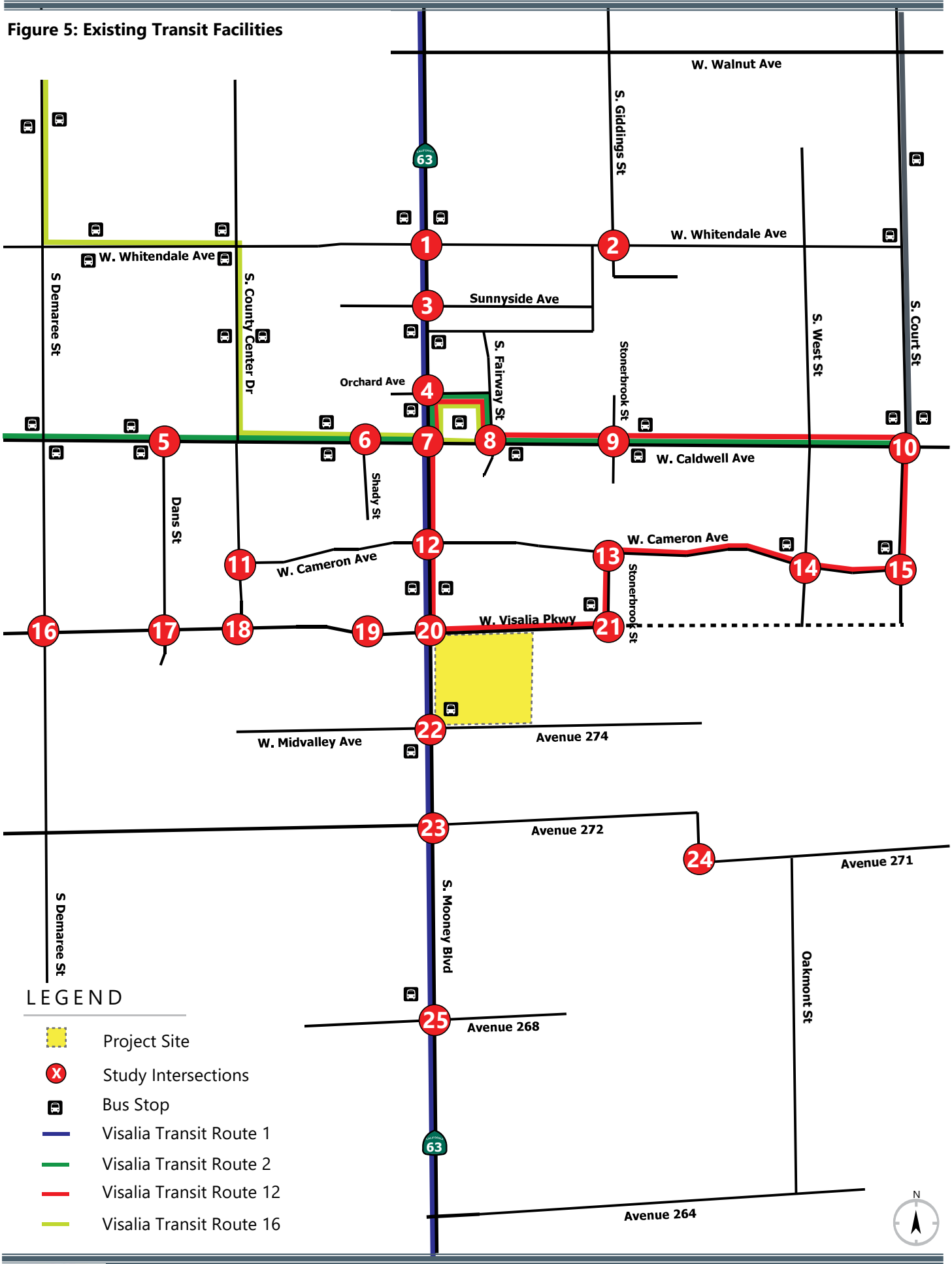


Figure 5: Existing Transit Facilities



3.6 Existing Peak Hour Traffic Volumes And Lane Configurations

The existing operations of the study intersections were evaluated for the highest one-hour volumes during weekday morning and evening peak periods. Due to COVID-19 conditions, the ability to collect accurate new traffic counts is limited. Where available, turning movement counts conducted in May 2019 were used. At the nine locations where recent counts were unavailable, and at one proxy intersection that had been previously counted, new counts were conducted. Turning movement volumes at the new intersections were then adjusted based on the change in traffic between 2019 and 2020 at the proxy intersection of Visalia Parkway & Mooney Boulevard (intersection #20). New turning movement counts for vehicles, bicycles, and pedestrians were conducted during the weekday a.m. peak period (7:00-9:00 a.m.) and p.m. peak period (2:00-6:00 p.m.) at these study intersections in August 2020. **Appendix B** includes all data sheets for the collected vehicle, bicycle, and pedestrian counts. **Figures 6** illustrates the existing lane geometry, and traffic controls at the study intersections. **Figure 7** illustrates the existing a.m. and p.m. peak hour pedestrian and bicycle volumes at the study intersections. **Figure 8** illustrates the existing a.m. and p.m. peak hour vehicle turning movement volumes at the study intersections.

3.7 Collision History

Collision history on a roadway can be evaluated to identify and quantify unsafe conditions, and to determine appropriate measures to improve safety. On roadways with a large number of broadside and head-on collisions, for example, a raised median may be appropriate. Collision rates are a significant factor in determining the appropriate speed limits. The relative safety of a roadway can be quantified by comparing the rate of accidents on a segment or at an intersection to statewide accident rates on similar roads, published annually by Caltrans. Intersection accident rates are calculated based on the number of accidents and average daily traffic volume, and expressed in collisions per million vehicles entering the intersection.

TJKM evaluated the collision history within the project vicinity, using data obtained from the Statewide Integrated Traffic Records System (SWITRS) database for a period of three years from January 2017 to December 2019. All collisions that were located within 250 feet of a study intersection were evaluated. At that proximity, a collision can be considered to be within the influence of the nearest intersection. Collisions were tabulated based on the nearest study intersection and whether they involved other vehicles, bicycles, or pedestrians. Peak hour traffic volumes, as described above, were used to estimate average daily traffic volumes through each intersection and calculate collision rates. Collision rates at study intersections were then compared to statewide average rates for comparable intersection types.

As shown in **Table 4**, there were 33 total reported collisions near the study intersections in the three years evaluated. Of these, one involved a pedestrian, and two involved bicycles. The intersection of Mooney Boulevard & Avenue 272 (Intersection #23) was the only location where the collision rate was higher than the statewide average. At most of the study intersections, the calculated collision rates were substantially lower than statewide averages.

Table 4: Three-Year Collision History, January 2017 – December 2019

#	Study Intersections	Vehicle Involved With[1]				ADT[2]	Intersection Collision Rate	Statewide Average
		Veh.	Ped.	Bike	Total			
1	Whitendale Ave. & Mooney Blvd.	4	0	0	4	19,345	0.19	0.24
2	Whitendale Ave. & Giddings St.	1	0	0	1	7,885	0.12	0.43
3	Sunnyside Ave. & Mooney Ave.	3	1	0	4	21,840	0.17	0.24
4	Orchard Ave. & Mooney Ave.	0	0	0	0	19,690	0.00	0.24
5	Caldwell Ave. & Dans St.	0	0	0	0	16,580	0.00	0.14
6	Caldwell Ave. & Shady St.	1	0	0	1	13,125	0.07	0.24
7	Caldwell Ave. & Mooney Blvd.	5	0	0	5	31,075	0.15	0.24
8	Caldwell Ave. & Fairway St.	0	0	0	0	15,850	0.00	0.24
9	Caldwell Ave. & Stonebrook St.	1	0	0	1	13,580	0.07	0.43
10	Caldwell Ave. & West St.	2	0	0	2	16,455	0.11	0.43
11	Cameron Ave. & County Center Dr.	0	0	0	0	7,705	0.00	0.14
12	Cameron Ave. & Mooney Blvd.	1	0	2	3	24,095	0.11	0.24
13	Cameron Ave. & Stonebrook St.	0	0	0	0	12,910	0.00	0.08
14	Cameron Ave. & West St.	0	0	0	0	10,840	0.00	0.23
15	Cameron Ave. & Court St.	0	0	0	0	9,200	0.00	0.27
16	Visalia Pkwy. & Demaree S.t	2	0	0	2	19,545	0.09	0.58
17	Visalia Pkwy. & Dans St.	1	0	0	1	9,480	0.10	0.23
18	Visalia Pkwy. & County Center Dr.	0	0	0	0	9,530	0.00	0.14
19	Visalia Pkwy. & Target Access.	0	0	0	0	7,850	0.00	0.08
20	Visalia Pkwy. & Mooney Blvd.	2	0	0	2	22,180	0.08	0.24
21	Visalia Pkwy. & Stonebrook St.	0	0	0	0	4,255	0.00	0.05
22	Midvalley Ave. & Mooney Blvd.	1	0	0	1	17,825	0.05	0.58
23	Ave. 272 & Mooney Blvd.	5	0	0	5	19,870	**0.23**	0.22
24	Ave. 271 & Rd. 122	0	0	0	0	775	0.00	0.11
25	Ave. 268 & Mooney Blvd	1	0	0	1	19,830	0.05	0.58
26	Visalia Pkwy. &	0	0	0	0	7,255	0.00	n/a

#	Study Intersections	Vehicle Involved With[1]				ADT[2]	Intersection Collision Rate	Statewide Average
		Veh.	Ped.	Bike	Total			
	North Access Dwy 1.							
27	Visalia Pkwy & Tuesday Morning Dwy.	0	0	0	0	7,060	0.00	0.08
28	Visalia Pkwy. & Hall St.	0	0	0	0	6,485	0.00	n/a
29	Visalia Pkwy. & Costco Dwy.	0	0	0	0	6,425	0.00	0.08
30	Mooney Blvd. & Visalia Commons Dwy. 1	0	0	0	0	17,610	0.00	n/a
31	Mooney Blvd. & Visalia Commons Dwy. 2	0	0	0	0	17,610	0.00	n/a
32	Midvalley Ave. & South Access Dwy. 1	0	0	0	0	325	0.00	n/a
33	Midvalley Ave. & South Access Dwy. 2	0	0	0	0	325	0.00	n/a
34	Midvalley Ave. & South Access Dwy. 3	0	0	0	0	325	0.00	n/a
35	Midvalley Ave. & Hall St.	0	0	0	0	325	0.00	n/a
36	Hall St. & East Access Dwy. 1	0	0	0	0	0	-	n/a
	Total	**30**	**1**	**2**	**33**			

Notes:
1. Source: SWITRS collision data
2 Average Daily Traffic

Figure 6a: Lane Geometry and Traffic Controls (Existing Conditions)

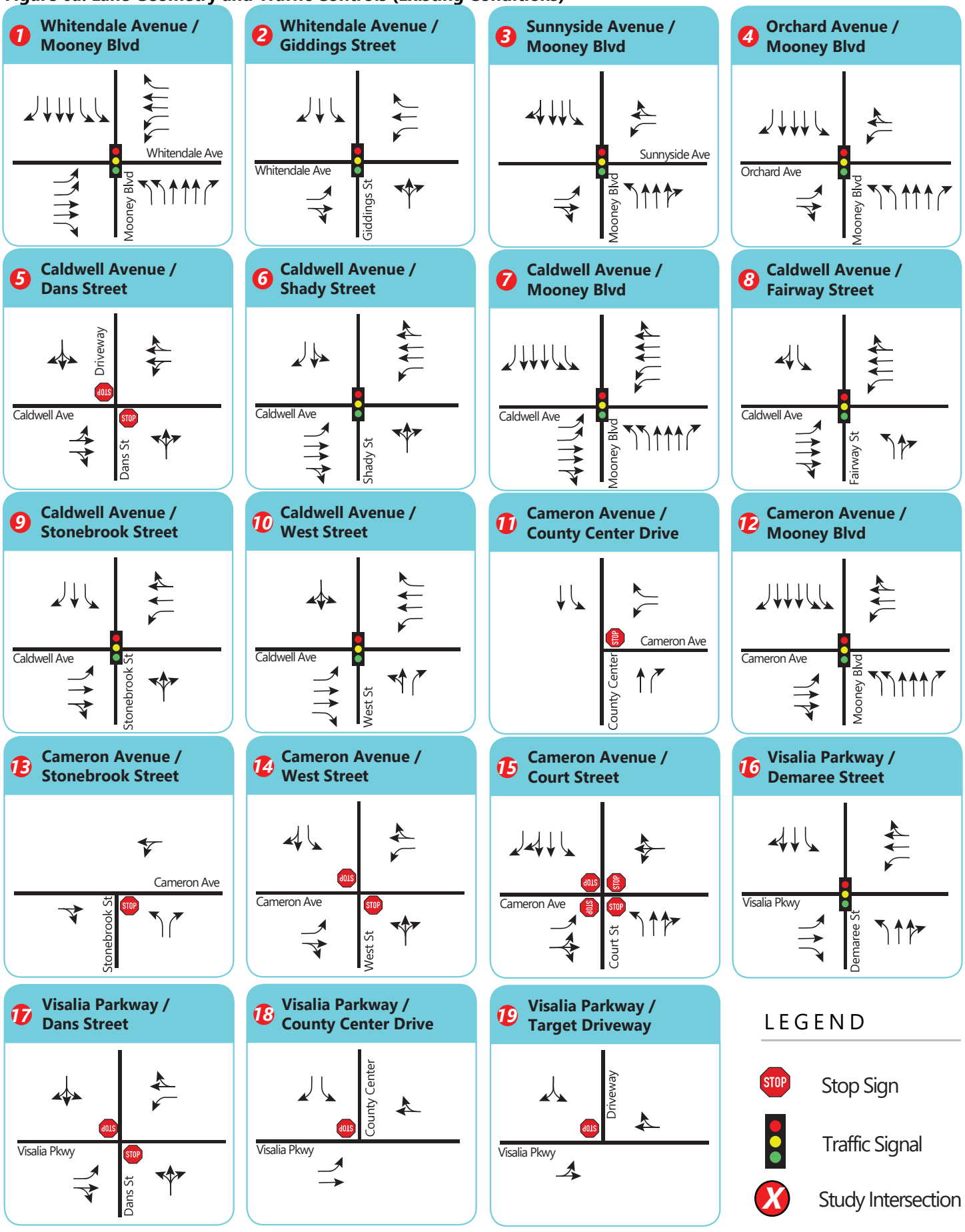
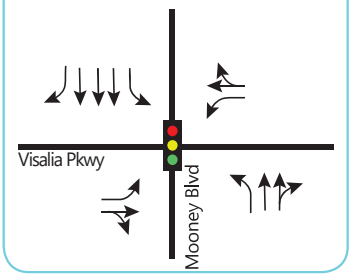
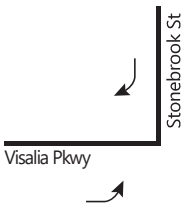


Figure 6b: Lane Geometry and Traffic Controls (Existing Conditions)

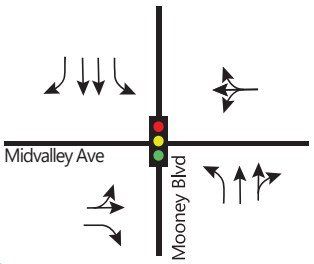
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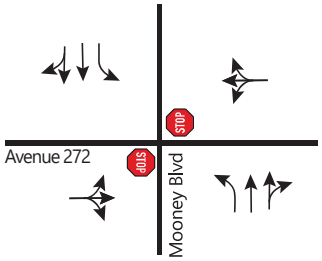
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22 Midvalley Avenue / Mooney Blvd



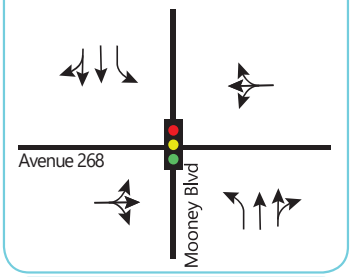
23 Avenue 272 / Mooney Blvd



24 Avenue 271 / Road 122



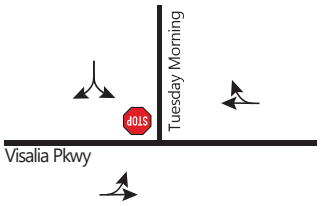
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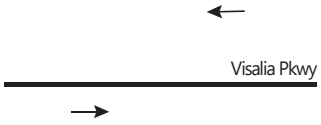
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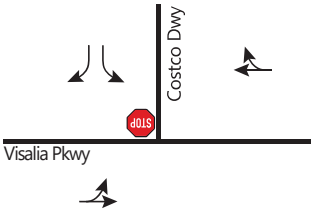
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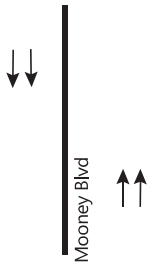
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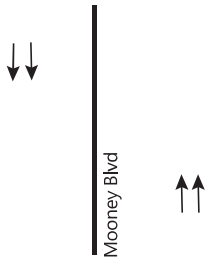
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30 Mooney Blvd / Visalia Commons Dwy 1



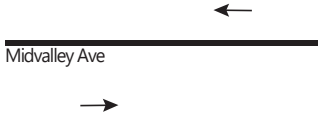
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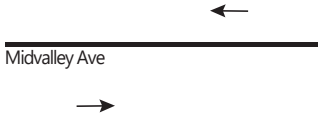
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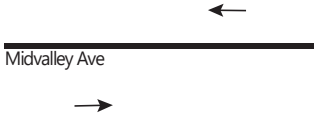
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34 Midvalley Avenue / South Access Driveway 3



35 Midvalley Avenue / Hall Street



36 Hall Street / East Access Driveway 1

Will be constructed with Project

LEGEND

STOP Stop Sign

Traffic Signal

X Study Intersection

Figure 7a: Existing Conditions Peak Hour Traffic Volumes

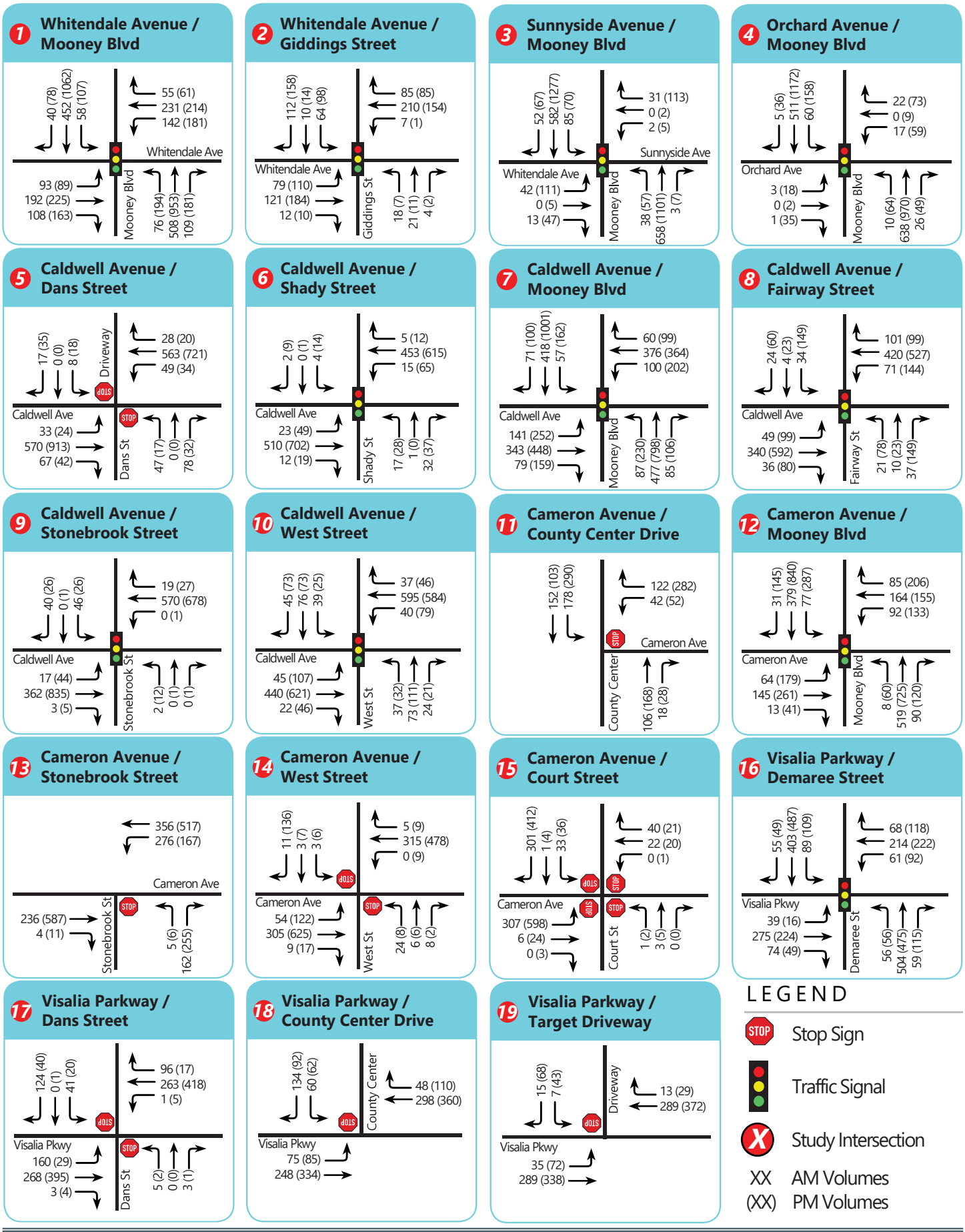
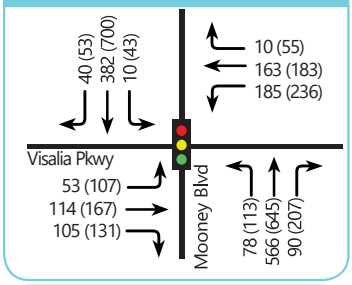
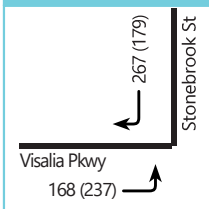


Figure 7b: Existing Conditions Peak Hour Traffic Volumes

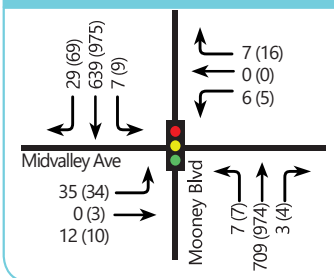
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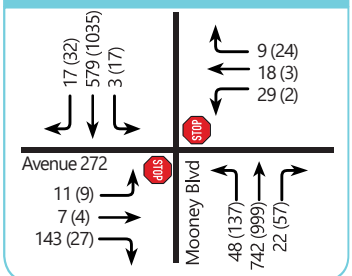
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22 Midvalley Avenue / Mooney Blvd



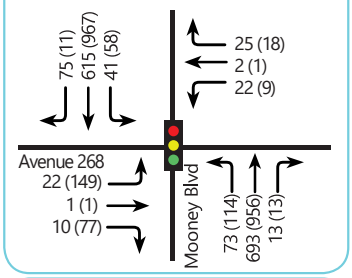
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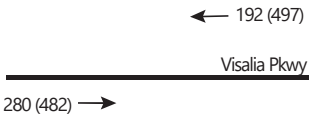
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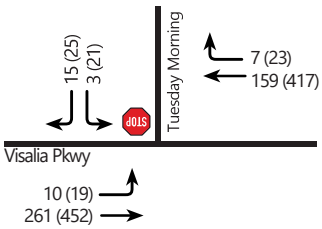
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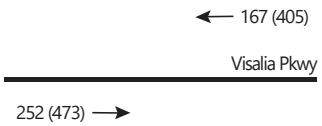
26 Visalia Parkway / North Access Driveway 1



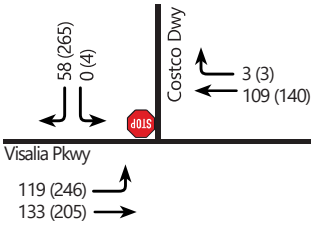
27 Visalia Parkway / Tuesday Morning Dwy



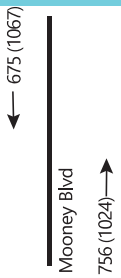
28 Visalia Parkway / Hall Street



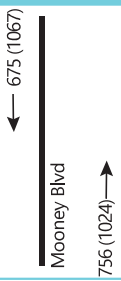
29 Visalia Parkway / Costco Driveway



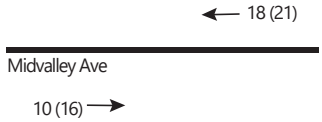
30 Mooney Blvd / Visalia Commons Dwy 1



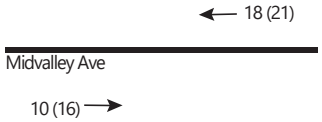
31 Mooney Blvd / Visalia Commons Dwy 2



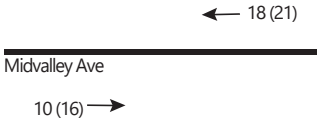
32 Midvalley Avenue / South Access Driveway 1



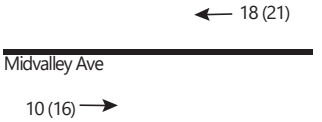
33 Midvalley Avenue / South Access Driveway 2



34 Midvalley Avenue / South Access Driveway 3



35 Midvalley Avenue / Hall Street



36 Hall Street / East Access Driveway 1

Will be constructed with Project

LEGEND

- STOP — Stop Sign
- Traffic Signal
- X — Study Intersection

3.8 Intersection Level of Service Analysis – Existing Conditions

Existing intersection lane configurations and turning movement volumes are used to calculate the level of service for the study intersections during each peak hour. Existing signal timings at the signalized study intersections were used. The results of the level of service analysis using the Synchro software program for Existing Conditions are summarized in **Table 5**. LOS worksheets are provided in **Appendix C**.

Under this scenario, all of the study intersections operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour except for the following three intersections:

- Caldwell Avenue & Dans Street (intersection #5) is operating at LOS E in both the a.m. and p.m. peak hour
- Cameron Avenue & West Street (intersection #14) is operating at LOS F in the p.m. peak hour
- Avenue 272 & Mooney Boulevard (intersection #23) is operating at LOS F in the a.m. and p.m. peak hour

Table 5: Intersection Level of Service Analysis – Existing Conditions

#	Study Intersections	Control	Peak Hour[1]	Existing Conditions	
				Delay[2]	LOS[3]
1	Whitendale Ave. & Mooney Blvd.	Signal	A.M.	39.4	D
			P.M.	32.9	C
2	Whitendale Ave. & Giddings St.	Signal	A.M.	11.9	B
			P.M.	11.6	B
3	Sunnyside Ave. & Mooney Ave.	Signal	A.M.	15.4	B
			P.M.	17.0	B
4	Orchard Ave. & Mooney Ave.	Signal	A.M.	20.3	C
			P.M.	19.7	B
5	Caldwell Ave. & Dans St.	Two-Way Stop	A.M.	**36.7**	**E**
			P.M.	**35.5**	**E**
6	Caldwell Ave. & Shady St.	Signal	A.M.	10.1	B
			P.M.	12.3	B
7	Caldwell Ave. & Mooney Blvd.	Signal	A.M.	33.9	C
			P.M.	35.7	D
8	Caldwell Ave. & Fairway St.	Signal	A.M.	12.6	B
			P.M.	19.2	B
9	Caldwell Ave. & Stonebrook St.	Signal	A.M.	8.3	A
			P.M.	9.2	A
10	Caldwell Ave. & West St.	Signal	A.M.	12.1	B
			P.M.	13.7	B
11	Cameron Ave. & County Center Dr.	One-Way Stop	A.M.	15.1	C
			P.M.	19.0	C
12	Cameron Ave. & Mooney Blvd.	Signal	A.M.	38.1	D
			P.M.	36.8	D
13	Cameron Ave. & Stonebrook St.	One-Way Stop	A.M.	25.8	D
			P.M.	21.9	C
14	Cameron Ave. & West St.	Two-Way Stop	A.M.	20.4	C
			P.M.	**53.1**	**F**
15	Cameron Ave. & Court St.	All-Way Stop	A.M.	10.8	B
			P.M.	17.1	C

#	Study Intersections	Control	Peak Hour[1]	Existing Conditions	
				Delay[2]	LOS[3]
16	Visalia Pkwy. & Demaree S.t	Signal	A.M.	24.4	C
			P.M.	21.7	C
17	Visalia Pkwy. & Dans St.	Two-Way Stop	A.M.	30.7	D
			P.M.	19.7	C
18	Visalia Pkwy. & County Center Dr.	One-Way Stop	A.M.	21.9	C
			P.M.	26.8	D
19	Visalia Pkwy. & Target Access.	One-Way Stop	A.M.	11.7	B
			P.M.	17.4	C
20	Visalia Pkwy. & Mooney Blvd.	Signal	A.M.	29.7	C
			P.M.	50.5	D
21	Visalia Pkwy. & Stonebrook St.	Uncontrolled	A.M.	-	-
			P.M.	-	-
22	Midvalley Ave. & Mooney Blvd.	Signal	A.M.	11.5	B
			P.M.	12.1	B
23	Ave. 272 & Mooney Blvd.	Two-Way Stop	A.M.	**73.5**	**F**
			P.M.	**127.4**	**F**
24	Ave. 271 & Rd. 122	Uncontrolled	A.M.	-	-
			P.M.	-	-
25	Ave. 268 & Mooney Blvd	Signal	A.M.	14.3	B
			P.M.	24.4	C
26	Visalia Pkwy. & North Access Dwy 1.	One-Way Stop	A.M.	-	-
			P.M.	-	-
27	Visalia Pkwy & Tuesday Morning Dwy.	One-Way Stop	A.M.	10.3	B
			P.M.	15.3	C
28	Visalia Pkwy. & Hall St.	One-Way Stop	A.M.	-	-
			P.M.	-	-
29	Visalia Pkwy. & Costco Dwy.	One-Way Stop	A.M.	9.4	A
			P.M.	20.1	C
30	Mooney Blvd. & Visalia Commons Dwy. 1	Two-Way Stop	A.M.	-	-
			P.M.	-	-
31	Mooney Blvd. & Visalia Commons Dwy. 2	Two-Way Stop	A.M.	-	-
			P.M.	-	-
32	Midvalley Ave. & South Access Dwy. 1	One-Way Stop	A.M.	-	-
			P.M.	-	-
33	Midvalley Ave. & South Access Dwy. 2	One-Way Stop	A.M.	-	-
			P.M.	-	-
34	Midvalley Ave. & South Access Dwy. 3	One-Way Stop	A.M.	-	-
			P.M.	-	-
35	Midvalley Ave. & Hall St.	One-Way Stop	A.M.	-	-
			P.M.	-	-
36	Hall St. & East Access Dwy. 1	One-Way Stop	A.M.	-	-
			P.M.	-	-

Notes:
1. AM – morning peak hour, PM – evening peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.
3. LOS – Level of Service. **Bold** indicates unacceptable LOS and Delay.

3.8 Signal Warrant Analysis Results – Existing Conditions

The results of the peak hour and eight-hour warrants under existing conditions are summarized in **Table 6**. The results show that Caldwell Avenue/Dans Street, Cameron Avenue/West Street, and Mooney Boulevard/Avenue 272 meet the MUTCD peak hour signal warrant in one peak hour. Cameron Avenue/Stonebrook Street, Cameron Avenue/West Street, and Mooney Boulevard/Avenue 272 all meet the eight-hour signal warrant, which is used by the City of Visalia as the primary indicator of whether signals may be appropriate. Signal warrant worksheets for existing conditions are provided in **Appendix C.**

As noted in section 2.3, signalization of an intersection may be appropriate if it meets one or more of the nine signal warrants detailed in the MUTCD. Peak hour and eight-hour signal warrants are used here to indicate whether signalization may be appropriate. Even if the Peak Hour Volume Warrant is met, a more detailed signal warrant study is recommended before a signal is installed. The more detailed study should consider volumes during the daily peak hours of roadway traffic, pedestrian traffic, and accident histories.

Table 6: Peak Hour Signal Warrant Results – Existing Conditions

#	Intersection	Control	Existing Meets AM Peak Hour?	Existing Meets PM Peak Hour?	Existing Meets 8 Hour Warrant?
5	Caldwell Avenue/Dans Street	Two-Way Stop	**Yes**	No	No
11	Cameron Avenue/County Center Drive	One-Way Stop	No	No	No
13	Cameron Avenue/Stonebrook Street	One-Way Stop	No	No	**Yes**[1]
14	Cameron Avenue/West Street	Two-Way Stop	No	**Yes**	**Yes**[1]
17	Visalia Parkway/Dans Street	Two-Way Stop	No	No	No
18	Visalia Parkway/County Center Drive	One-Way Stop	No	No	No
23	Mooney Boulevard/Avenue 272	Two-Way Stop	**Yes**	No	**Yes**[1]
27	Visalia Parkway/Tuesday Morning Driveway	One-Way Stop	No	No	8 Hour Data not available
29	Visalia Parkway/Costco Driveway	One-Way Stop	No	No	8 Hour Data not available

Note

[1] Majority of traffic is right turns. If right turns are excluded, then warrants may not be satisfied

3.9 Queueing Analysis – Existing Conditions

TJKM conducted a vehicle queueing and storage analysis for exclusive left and right turn pockets at the study intersections. The 95th percentile queues were analyzed using Synchro software. Detailed calculations are included in **Appendix C**. **Table 7** summarizes the 95th percentile queue lengths at study intersections under Existing Conditions. . It should be noted that at five study intersections, one or more queue lengths exceed capacity, creating a deficient condition.

Table 7: 95th Percentile Queues at Study Intersections – Existing Conditions

#	Study Intersections	Lane Group	Storage Length	Existing	
				AM	PM
1	Whitendale Ave. & Mooney Blvd.	EBL	155	79	73
		EBR	260	21	60
		WBL	250	112	129
		WBR	235	0	0
		NBL	290	65	145
		NBR	130	39	92
		SBL	445	56	84
		SBR	190	0	12
2	Whitendale Ave. & Giddings St.	EBL	105	74	77
		WBL	105	15	4
		WBR	35	35	29
		SBL	150	49	65
		SBR	50	29	38
3	Sunnyside Ave. & Mooney Ave.	EBL	170	66	**173**
		WBL	100	10	17
		NBL	400	62	77
		SBL	270	110	116
4	Orchard Ave. & Mooney Ave.	WBL	105	42	**108**
		NBL	125	14	m43
		NBR	100	0	m9
		SBL	250	101	**#294**
		SBR	100	0	m6
5	Caldwell Ave. & Dans St.[1]	NBLTR	-	78	30
		SBLTR	-	10	28
6	Caldwell Ave. & Shady St.	EBL	240	29	72
		WBL	250	22	88
		SBR	-	0	0
7	Caldwell Ave. & Mooney Blvd.	EBL	345	100	#178
		WBL	340	75	145
		NBL	265	68	m107
		NBR	165	20	m21
		SBL	270	50	90

#	Study Intersections	Lane Group	Storage Length	Existing	
				AM	PM
		SBR	270	5	1
8	Caldwell Ave. & Fairway St.	EBL	200	69	125
		WBL	285	90	#176
		NBL	120	20	59
		SBL	55	28	**104**
9	Caldwell Ave. & Stonebrook St	EBL	235	24	50
		WBL	300	0	5
		SBL	-	42	34
		SBR	200	0	1
10	Caldwell Ave. & West St.	EBL	300	55	105
		EBR	110	0	11
		WBL	290	50	84
		WBR	100	7	11
		NBR	50	0	0
11	Cameron Ave. & County Center Dr.[1]	WBR	100	15	40
		NBR	160	-	-
		SBL	145	13	23
12	Cameron Ave. & Mooney Blvd.	EBL	155	106	**#342**
		WBL	300	137	#230
		NBL	210	12	m46
		NBR	150	16	m83
		SBL	185	58	**199**
		SBR	150	0	1
13	Cameron Ave. & Stonebrook St.[1]	NBL	145	3	3
14	Cameron Ave. & West St.[1]	EBL	100	5	10
		WBL	90	0	0
		SBL	110	0	5
15	Cameron Ave. & Court St.[1]	EBL	260	13	48
		NBL	225	0	0
		SBL	195	3	3
		SBR	200	8	15
16	Visalia Pkwy. & Demaree S.t	EBL	145	66	33
		EBR	245	8	0
		WBL	180	92	110
		NBL	300	86	77
		SBL	305	123	126
17	Visalia Pkwy. & Dans St.[1]	EBL	190	18	3
		WBL	75	0	0
18	Visalia Pkwy. & County Center Dr.[1]	EBL	200	8	8
		SBL	190	25	30

#	Study Intersections	Lane Group	Storage Length	Existing	
				AM	PM
19	Visalia Pkwy. & Target Access.[1]	SBLR	-	3	30
20	Visalia Pkwy. & Mooney Blvd.	EBL	180	85	170
		WBL	175	**#295**	**330**
		NBL	205	113	178
		SBL	290	28	m0
		SBR	210	0	m5
21	Visalia Pkwy. & Stonebrook St.[2]	-	-	-	-
22	Midvalley Ave. & Mooney Blvd.	EBR	25	0	0
		NBL	475	13	16
		SBL	465	13	19
		SBR	140	0	10
23	Ave. 272 & Mooney Blvd.[1]	NBL	470	5	23
		SBL	485	0	3
24	Ave. 271 & Rd. 122[2]	-	-	-	-
25	Ave. 268 & Mooney Blvd	NBL	470	73	109
		SBL	475	48	66
26	Visalia Pkwy. & North Access Dwy 1.[1]	-	-	-	-
27	Visalia Pkwy & Tuesday Morning Dwy[1]	EBL	150	-	-
		WBL	150	-	-
		NBR	-	-	-
		SBR	-	3	10
28	Visalia Pkwy. & Hall St.[1]	NBR	-	-	-
29	Visalia Pkwy. & Costco Dwy.[1]	SBL	-	0	3
		SBR	-	8	35
30	Mooney Blvd. & Visalia Commons Dwy. 1[1]	WBR	-	-	-
31	Mooney Blvd. & Visalia Commons Dwy. 2[1]	WBR	-	-	-
		NBL	-	-	-
		SBL	-	-	-
32	Midvalley Ave. & South Access Dwy. 1[1]	SBLR	-	-	-
33	Midvalley Ave. & South Access Dwy. 2[1]	SBLR	-	-	-
34	Midvalley Ave. & South Access Dwy. 3[1]	SBLR	-	-	-
35	Midvalley Ave. & Hall St.[1]	SBLR	-	-	-
36	Hall St. & East Access Dwy. 1[1]	EBLR	-	-	-

Notes:

1. Stop-controlled intersection
2. Uncontrolled intersection
Storage length and 95th percentile queue is expressed in feet per lane
AM – morning peak hour, PM – evening peak hour
Bold indicates queue lengths exceeding capacity.
95th percentile volume exceeds capacity, queue may be longer
m Volume for 95th percentile queue is metered by upstream signal

4.0 EXISTING PLUS PROJECT CONDITIONS

This section describes the operational impacts of the proposed project on the existing transportation system in the immediate project site vicinity. Existing plus Project Conditions consist of existing traffic volumes and roadway facilities, plus new traffic generated by the proposed project. This scenario considers full build-out of the project, although the project is expected to be completed in two phases as discussed below.

The amount of traffic added to the roadway system by the proposed development is estimated using a three-step process.

- Trip Generation – Estimates the amount of traffic added to the roadway network,
- Trip Distribution – Estimates the direction of travel to and from the project site,
- Trip Assignment – The new trips are assigned to specific street segments and intersection turning movements.

4.1 Project Trip Generation

TJKM developed estimated project trip generation for both Phase I and full buildout of the proposed project based on published trip generation rates from the *Institute of Transportation Engineers' (ITE) publication Trip Generation (10th Edition).*

The project proposes to develop approximately 42.5 acres of land and convert it into a shopping center that will contain an Aldi's Supermarket, gas station, drive-through restaurants and other retail land uses. TJKM used published trip rates for the ITE land uses Supermarket (ITE Code 850), Gasoline/Service Station (ITE Code 944), Fast Food Restaurant with Drive-Through Window (ITE Code 934), and Shopping Center (ITE Code 820). Although the proposed gas station use could be analyzed as Super convenience market/gas station (ITE code 960), with a market larger than 3,000 sq. ft. and more than 10 fueling positions, Gasoline/service station (ITE Code 944) features higher trip rates per 1,000 sq. ft. of market space and therefore produces a more conservative estimate of project trips. Approximate total sizes of the land uses are summarized below.

- Aldi's Supermarket – 21,000 square feet
- Gas Station – 4,250 square feet
- Drive-Through Restaurants – 20,100 square feet
- Retail/Commercial – 167,100 square feet

The project will have eight driveways where vehicles can exit or enter the development. Two driveways will be located along Visalia Parkway, one along Mooney Boulevard, three along Midvalley Avenue, and one along the future Hall Street. A prior version of the project, as analyzed in this report, also included a secondary driveway on Mooney Boulevard south of Visalia Parkway (intersection #30). That driveway has since been eliminated.

Table 8 shows the expected trips generated by Phase I of the project, and **Table 9** shows the total expected trips generated by both Phase I and Phase II (full buildout) of the project. Trip generation estimates take into account trips between separate uses within the development, known as internal

capture, as well as estimated pass-by trip reductions applied to all external trips for each use. For Phase I, the proposed project is expected to generate approximately 10,850 trips, including 640 a.m. peak hour trips (343 in, 297 out) and 902 p.m. peak hour trips (452 inbound, 450 outbound). At full buildout, the project is expected to generate 14,343 daily trips, including 767 a.m. peak hour (410 inbound, 357 outbound) and 1,216 p.m. peak hour (606 inbound, 610 outbound).

Table 8: Project Trip Generation, Phase I

Land Use (ITE Code)[1]	*Size*[2]	*Daily*		*A.M. Peak*					*P.M. Peak*				
		Rate	*Trips*	*Rate*	*In:Out*	*In*	*Out*	*Total*	*Rate*	*In:Out*	*In*	*Out*	*Total*
Proposed Use													
Shopping Center (820)	71.70 ksf	66.87	4,795	2.62	62:38	117	71	188	5.93	48:52	204	221	425
Internal Capture (4%)		*-4%*	-192	*-4%*		*-5*	*-3*	*-8*	*-4%*		*-8*	*-9*	*-17*
Subtotal			4,603			112	68	180			196	212	408
Pass-by trip reduction (34%)		*-34%*	*-1,565*	*-34%*		*-38*	*-23*	*-61*	*-34%*		*-67*	*-72*	*-139*
Subtotal (A)			*3,038*			*74*	*45*	*119*			*129*	*140*	*269*
Fast Food Restaurant with Drive-Through Window (934)	15.10 ksf	470.95	7,111	40.19	51:49	310	297	607	32.67	52:48	256	237	493
Internal Capture (4%)		*-4%*	-284	*-4%*		*-12*	*-12*	*-24*	*-4%*		*-10*	*-10*	*-20*
Subtotal			6,827			298	285	583			246	227	473
Pass-by trip reduction (50%)		*-50%*	*-3,413*	*-50%*		*-149*	*-143*	*-292*	*-50%*		*-123*	*-114*	*-237*
Subtotal (B)			*3,413*			*149*	*142*	*291*			*123*	*113*	*236*
Supermarket (850)	21.00 ksf	128.63	2,701	3.82	60:40	48	32	80	11.57	51:49	124	119	243
Internal Capture (4%)		*-4%*	-108	*-4%*		*-2*	*-1*	*-3*	*-4%*		*-5*	*-5*	*-10*
Subtotal			2,593			46	31	77			119	114	233
Pass-by trip reduction (25%)		*-25%*	*-648*	*-25%*		*-12*	*-7*	*-19*	*-25%*		*-30*	*-28*	*-58*
Subtotal (C)			*1,945*			*34*	*24*	*58*			*89*	*86*	*175*
Gasoline/Service Station (944)	4.25 ksf	1,202.83	5,112	84.55	50:50	180	179	359	109.27	50:50	232	232	464
Internal Capture (4%)		*-4%*	-204	*-4%*		*-7*	*-7*	*-14*	*-4%*		*-9*	*-10*	*-19*
Subtotal			4,908			173	172	345			223	222	445
Pass-by trip reduction (50%)		*-50%*	*-2,454*	*-50%*		*-87*	*-86*	*-173*	*-50%*		*-112*	*-111*	*-223*
Subtotal (D)			*2,454*			*86*	*86*	*172*			*111*	*111*	*222*
Total Trips			**10,850**			**343**	**297**	**640**			**452**	**450**	**902**

Notes:

[1] Source: Institute of Transportation Engineers *Trip Generation, 10th Edition*.

[2] Ksf = 1,000 square feet

Table 9: Project Trip Generation, Phase I and Phase II

Land Use (ITE Code)[1]	*Size*[2]	*Daily*		*A.M. Peak*					*P.M. Peak*				
		Rate	*Trips*	*Rate*	*In:Out*	*In*	*Out*	*Total*	*Rate*	*In:Out*	*In*	*Out*	*Total*
Proposed Use													
Shopping Center (820)	167.10 ksf	51.01	8,524	1.41	62:38	146	89	235	4.76	48:52	382	413	795
Internal Capture (4%)		*-4%*	-341	*-4%*		*-6*	*-3*	*-9*	*-4%*		*-15*	*-17*	*-32*
Subtotal			8,183			140	86	226			367	396	763
Pass-by trip reduction (34%)		*-34%*	*-2,782*	*-34%*		*-48*	*-29*	*-77*	*-34%*		*-125*	*-134*	*-259*
Subtotal (A)			*5,401*			*92*	*57*	*149*			*242*	*262*	*504*
Fast Food Restaurant with Drive-Through Window (934)	20.10 ksf	470.95	9,466	40.19	51:49	412	396	808	32.67	52:48	342	315	657
Internal Capture (4%)		*-4%*	-379	*-4%*		*-16*	*-16*	*-32*	*-4%*		*-14*	*-12*	*-26*
Subtotal			9,087			396	380	776			328	303	631
Pass-by trip reduction (50%)		*-50%*	*-4,544*	*-50%*		*-198*	*-190*	*-388*	*-50%*		*-164*	*-152*	*-316*
Subtotal (B)			*4,544*			*198*	*190*	*388*			*164*	*151*	*315*
Supermarket (850)	21.00 ksf	128.63	2,701	3.82	60:40	48	32	80	11.57	51:49	124	119	243
Internal Capture (4%)		*-4%*	-108	*-4%*		*-2*	*-1*	*-3*	*-4%*		*-5*	*-5*	*-10*
Subtotal			2,593			46	31	77			119	114	233
Pass-by trip reduction (25%)		*-25%*	*-648*	*-25%*		*-12*	*-7*	*-19*	*-25%*		*-30*	*-28*	*-58*
Subtotal (C)			*1,945*			*34*	*24*	*58*			*89*	*86*	*175*
Gasoline/Service Station (944)	4.25 ksf	1,202.83	5,112	84.55	50:50	180	179	359	109.27	50:50	232	232	464
Internal Capture (4%)		*-4%*	-204	*-4%*		*-7*	*-7*	*-14*	*-4%*		*-9*	*-10*	*-19*
Subtotal			4,908			173	172	345			223	222	445
Pass-by trip reduction (50%)		*-50%*	*-2,454*	*-50%*		*-87*	*-86*	*-173*	*-50%*		*-112*	*-111*	*-223*
Subtotal (D)			*2,454*			*86*	*86*	*172*			*111*	*111*	*222*
Total Trips			**14,343**			**410**	**357**	**767**			**606**	**610**	**1,216**

Notes:

[1] Source: Institute of Transportation Engineers *Trip Generation, 10th Edition*.

[2] Ksf = 1,000 square feet

4.2 Project Trip Distribution and Assignment

Trip distribution is a process that determines in what proportion vehicles would be expected to travel between the project site and various destinations outside the project study area and also determines the various routes that vehicles would take from the project site to each destination using the calculated trip distribution. Trip distribution assumptions for the proposed project were developed based on existing travel patterns, knowledge of the study area, and consultation with City staff. Both Phase I and Phase II of the project use the same trip distribution assumptions, described below:

- 20 percent will travel to/from the south via Mooney Boulevard
- 5 percent will travel to/from the west via Avenue 272
- 2 percent will travel to/from the east via Road 122 and Avenue 271
- 5 percent will travel to/from the west via Visalia Parkway
- 5 percent will travel to/from the north via Demaree Road
- 5 percent will travel to/from the north via Dans Street
- 7 percent will travel to/from the north via County Center Drive
- 2 percent will travel to/from the east via Cameron Avenue
- 6 percent will travel to/from the east via Caldwell Avenue
- 7 percent will travel to/from the north via Court Street
- 10 percent will travel to/from the west via Caldwell Avenue
- 5 percent will travel to/from the west via Whitendale Avenue
- 2 percent will travel to/from the east via Sunnyside Avenue
- 10 percent will travel to/from the north via Mooney Boulevard
- 2 percent will travel to/from the north via Giddings Street
- 2 percent will travel to/from the south via Giddings Street
- 5 percent will travel to/from the east via Whitendale Avenue

Figure 8 illustrates the trip distribution percentages developed for the proposed project. **Figure 9** illustrates the trip assignment project volumes developed for Phase I, and **Figure 10** illustrates the trip assignment project volumes developed for full buildout of the proposed project. The assigned project trips for Phase I and Phase II (**Figure 10**) were then added to traffic volumes under Existing Conditions to generate Existing plus Project Conditions traffic volumes.

Figure 8: Project Trip Distribution

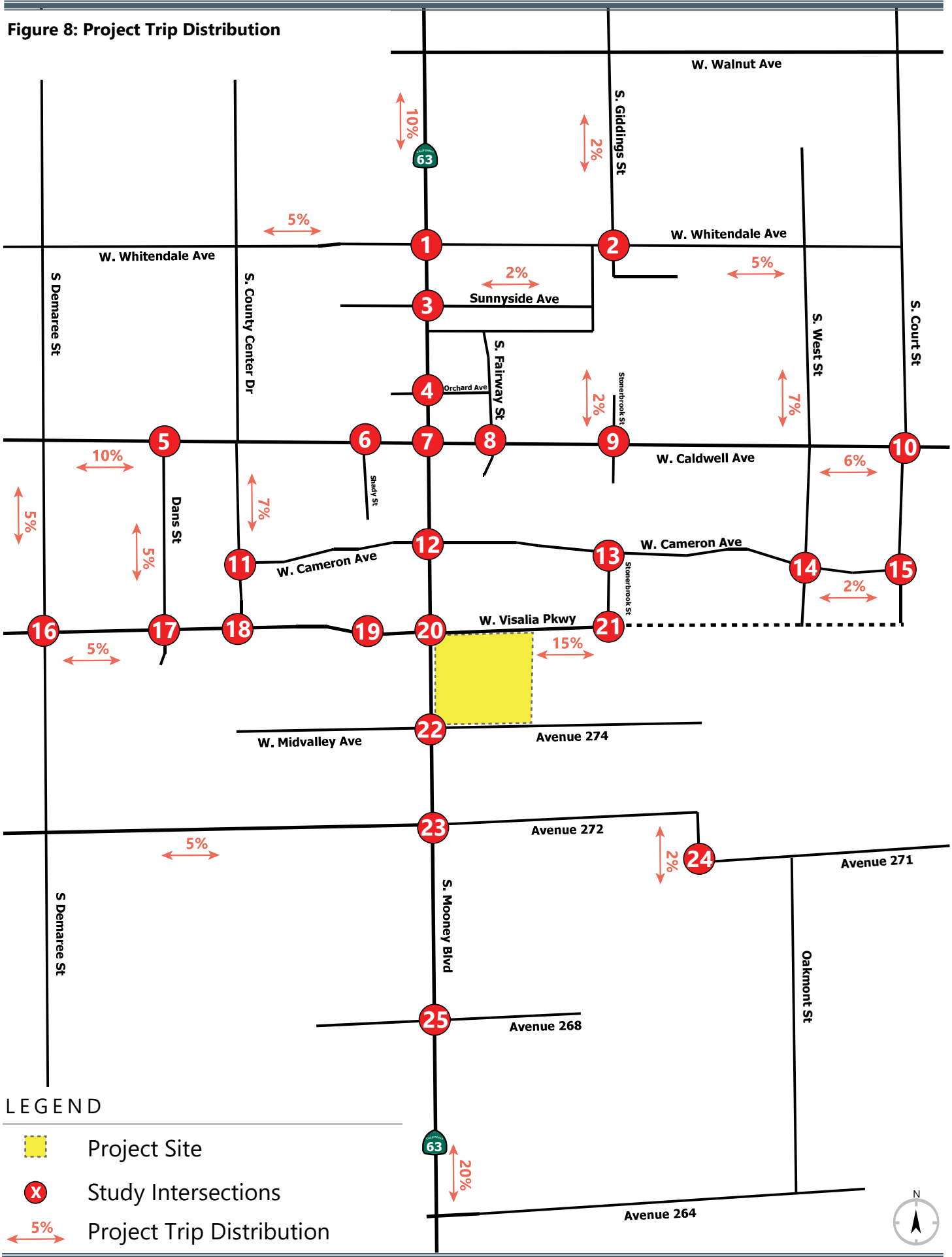


Figure 9a: Project Trip Assignment, Project Phase 1

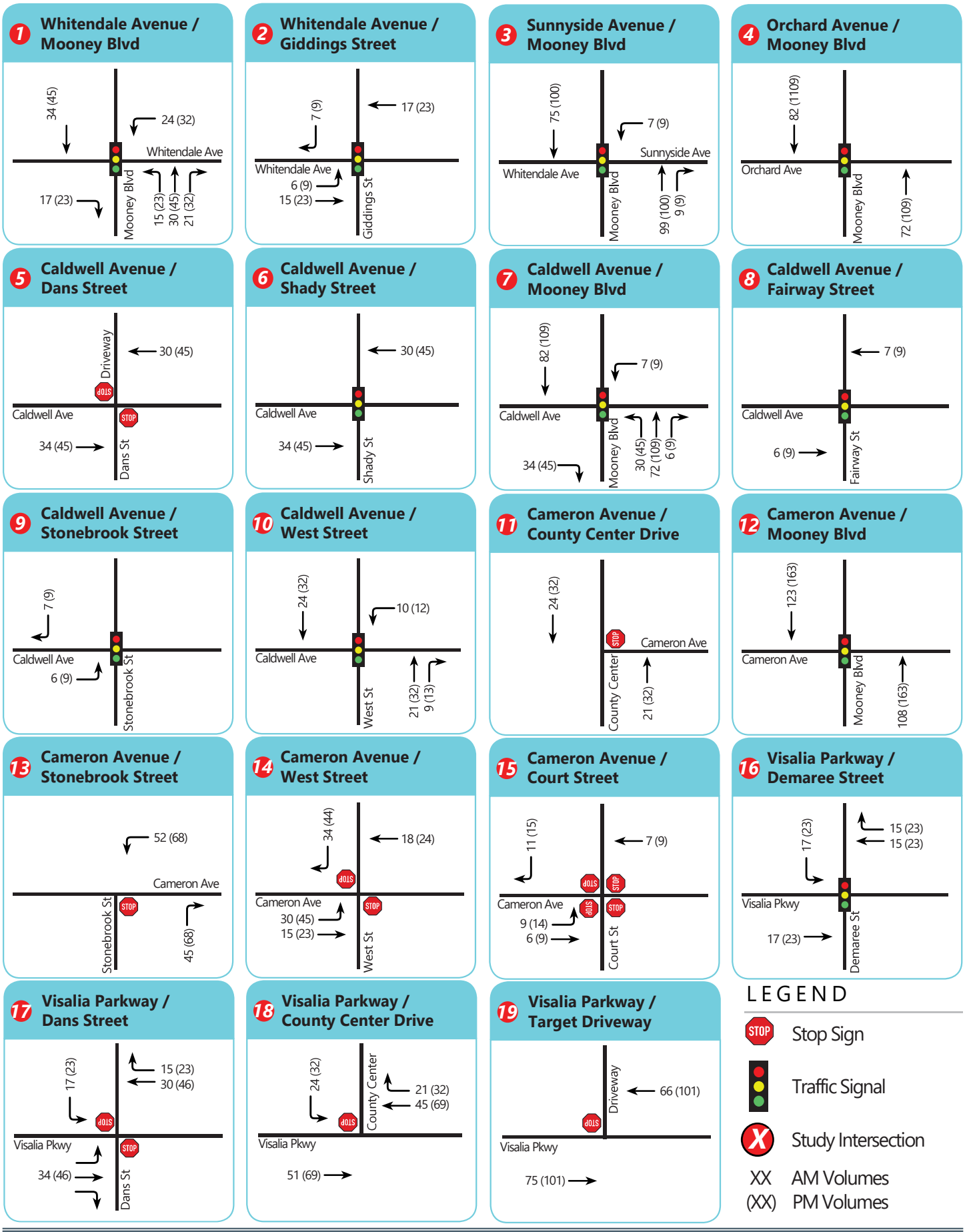


Figure 9b: Project Trip Assignment, Project Phase 1

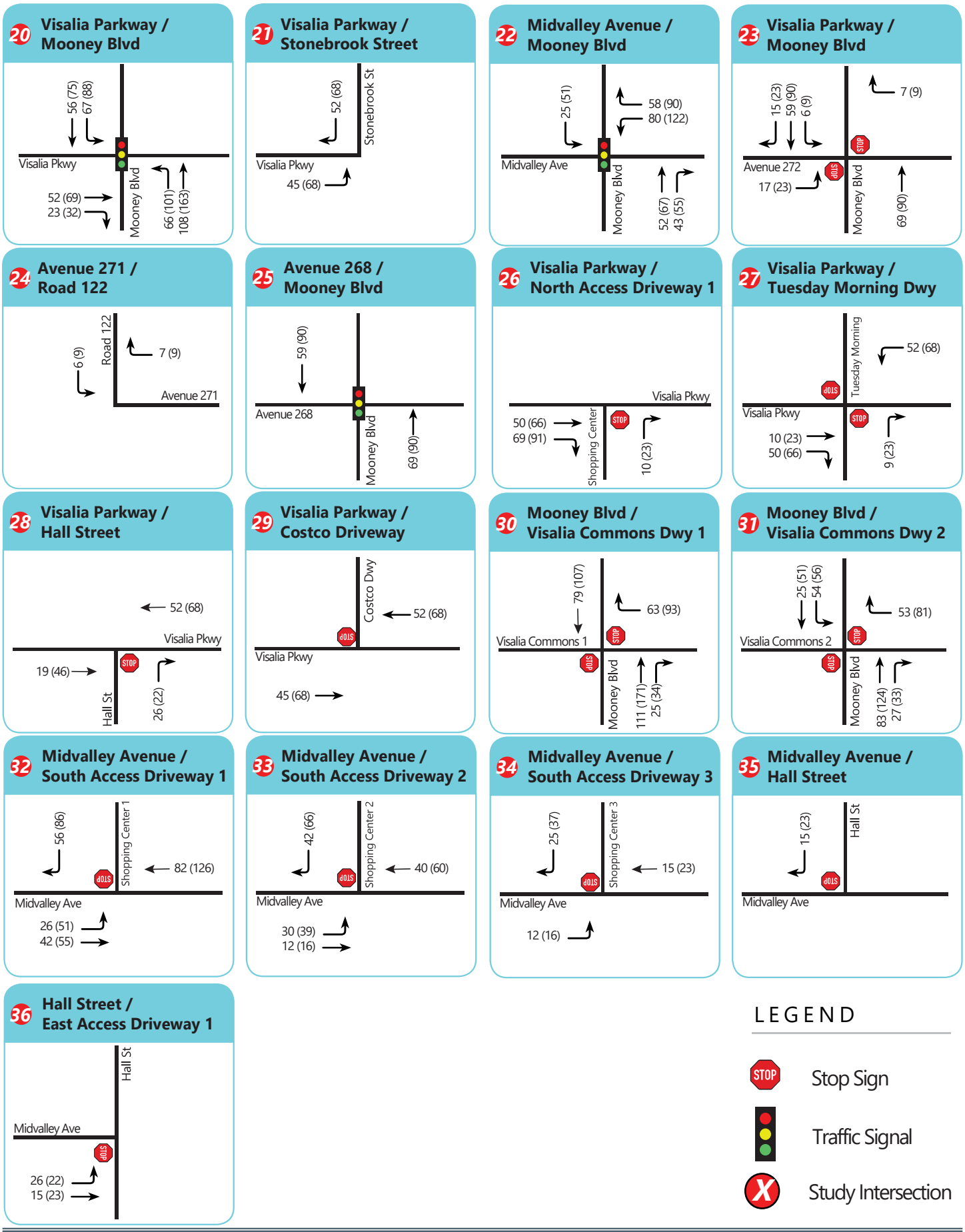


Figure 10a: Project Trip Assignment, Project Phase 1 and 2

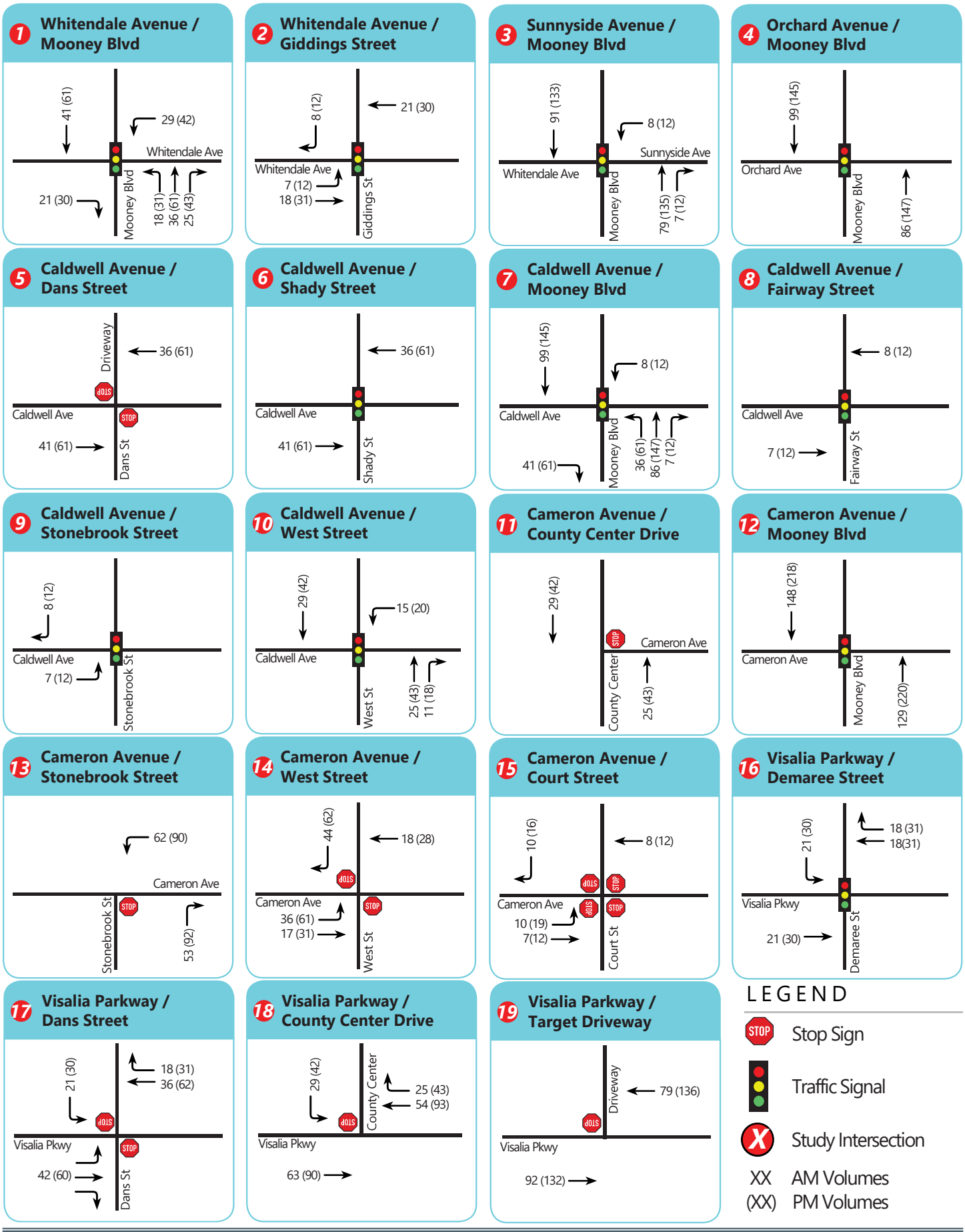
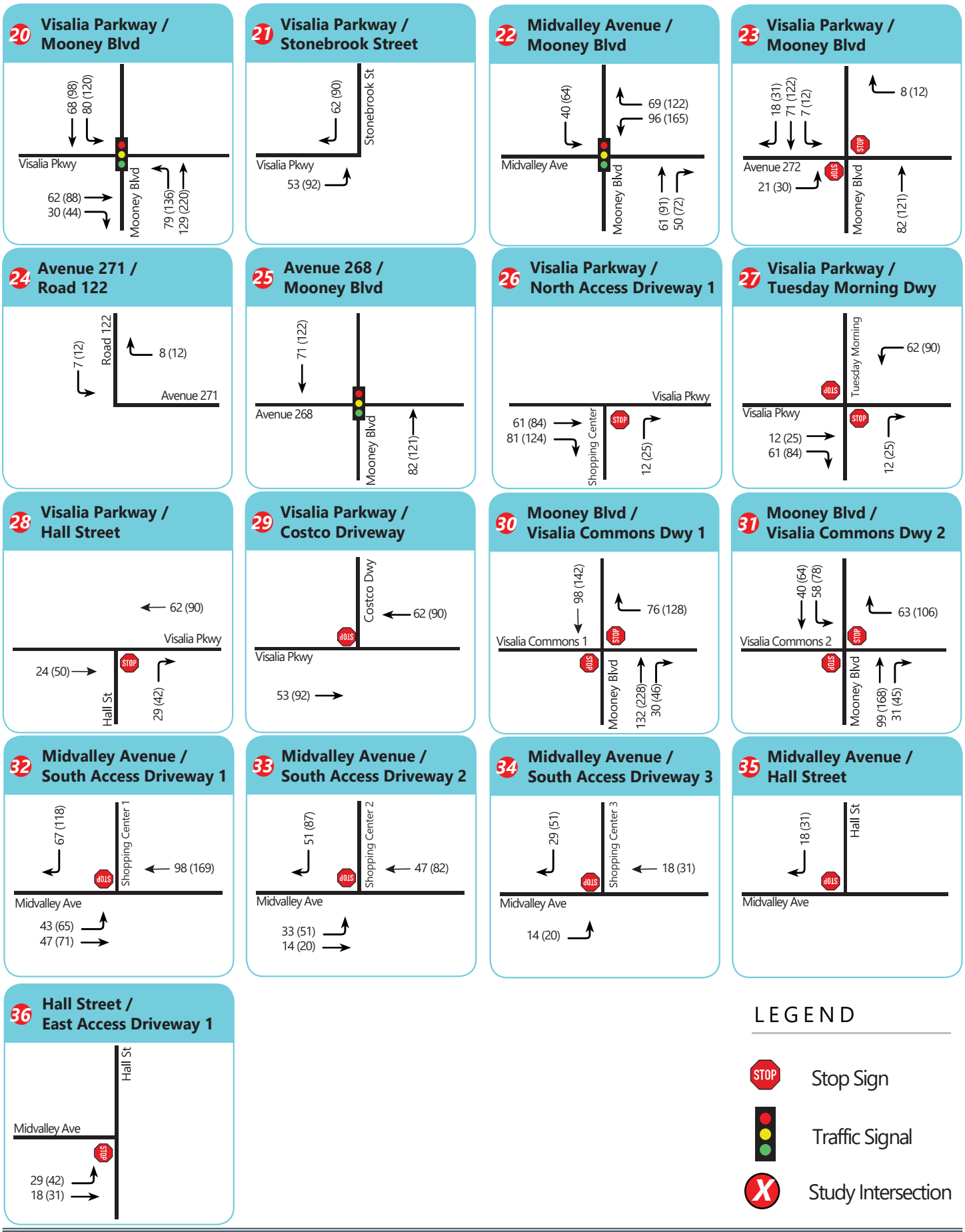


Figure 10b: Project Trip Assignment, Project Phase 1 and 2



4.3 Intersection Level of Service Analysis – Existing plus Project Conditions

The intersection level of service analysis results for Existing Plus Project Conditions are summarized in **Table 10**. The results for Existing Conditions are included for comparison purposes. Detailed calculation sheets for Existing Plus Project Conditions are contained in **Appendix D**. **Figure 11** displays projected peak hour turning movement volumes at all of the study intersections for Existing plus Project Conditions.

Under this scenario, all but six of the study intersections would continue to operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour. The following three intersections already operate at unacceptable level of service without the addition of project traffic.

- Caldwell Avenue & Dans Street (intersection #5) would continue to operate at LOS E during both peak hours, with a *significant increase* in average delay of 8.0 seconds in the a.m. and p.m. peak hours.
- Cameron Avenue & West Street (intersection #14) would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 45.6 seconds.
- Avenue 272 & Mooney Boulevard (intersection #23) would continue to operate at LOS F in the a.m. and p.m. peak hour, with *significant increases* in average delay of 49.0 seconds in the a.m. peak hour and over 1,200 seconds in the p.m. peak hour.

The following three intersections would degrade from acceptable to unacceptable level of service with the addition of project traffic:

- Visalia Parkway & Dans Street (intersection #17) would degrade from LOS D to LOS F in the a.m. peak hour, a *significant degradation*.
- Visalia Parkway & County Center Drive (intersection #18) would degrade from LOS D to LOS F in the p.m. peak hour, a *significant degradation*.
- Visalia Parkway & Mooney Boulevard (intersection #20) would degrade from LOS D to LOS E in the p.m. peak hour, a *significant degradation*.

At the six intersections listed above, added project traffic would either degrade the level of service from acceptable to unacceptable, or increase average delay by more than 5.0 seconds, constituting significant inconsistencies with the City of Visalia General Plan. Five of these intersections are currently stop-controlled, and the identified inconsistencies can be mitigated with signalization, as shown in **Table 10**. At Visalia Parkway & Mooney Boulevard, mitigation would involve widening the eastbound, westbound, and northbound approaches. **Appendix M** includes full descriptions of all mitigation measures and LOS worksheets for mitigated conditions. Based on the City of Visalia impact criteria, with mitigation the project is expected to be **consistent** with general plan requirements at all study intersections.

Table 10: Intersection Level of Service Analysis – Existing plus Project Conditions

#	Study Intersections	Control	Peak Hour[1]	Existing Conditions		Existing Plus Project Conditions		Change in Delay
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
1	Whitendale Ave. & Mooney Blvd.	Signal	A.M.	39.4	D	39.8	D	0.4
			P.M.	32.9	C	33.5	C	0.6
2	Whitendale Ave. & Giddings St.	Signal	A.M.	11.9	B	12.2	B	0.3
			P.M.	11.6	B	11.9	B	0.3
3	Sunnyside Ave. & Mooney Ave.	Signal	A.M.	15.4	B	15.7	B	0.3
			P.M.	17.0	B	16.6	B	-0.4
4	Orchard Ave. & Mooney Ave.	Signal	A.M.	20.3	C	20.7	C	0.4
			P.M.	19.7	B	19.5	B	-0.2
5	Caldwell Ave. & Dans St.	Two-Way Stop	A.M.	**36.7**	**E**	**44.7**	**E**	**8.0**
			P.M.	**35.5**	**E**	**43.5**	**E**	**8.0**
	Mitigation: Signalize	*Signal*	*A.M.*			*14.2*	*B*	
			P.M.			*8.0*	*A*	
6	Caldwell Ave. & Shady St.	Signal	A.M.	10.1	B	10.0	A	-0.1
			P.M.	12.3	B	12.2	B	-0.1
7	Caldwell Ave. & Mooney Blvd.	Signal	A.M.	33.9	C	32.4	C	-1.5
			P.M.	35.7	D	35.3	D	-0.4
8	Caldwell Ave. & Fairway St.	Signal	A.M.	12.6	B	12.6	B	0.0
			P.M.	19.2	B	19.3	B	0.1
9	Caldwell Ave. & Stonebrook St.	Signal	A.M.	8.3	A	8.7	A	0.4
			P.M.	9.2	A	9.9	A	0.7
10	Caldwell Ave. & West St.	Signal	A.M.	12.1	B	12.7	B	0.6
			P.M.	13.7	B	15.1	B	1.4
11	Cameron Ave. & County Center Dr.	One-Way Stop	A.M.	15.1	C	15.8	C	0.7
			P.M.	19.0	C	20.4	C	1.4
12	Cameron Ave. & Mooney Blvd.	Signal	A.M.	38.1	D	35.6	D	-2.5
			P.M.	36.8	D	33.9	C	-2.9
13	Cameron Ave. & Stonebrook St.	One-Way Stop	A.M.	25.8	D	32.7	D	6.9
			P.M.	21.9	C	29.1	D	7.2
14	Cameron Ave. & West St.	Two-Way Stop	A.M.	20.4	C	27.8	D	7.4
			P.M.	**53.1**	**F**	**98.7**	**F**	**45.6**
	Mitigation: Signalize	*Signal*	*A.M.*			*8.5*	*A*	
			P.M.			*14.7*	*B*	
15	Cameron Ave. & Court St.	All-Way Stop	A.M.	10.8	B	11.1	B	0.3
			P.M.	17.1	C	18.5	C	1.4
16	Visalia Pkwy. & Demaree S.t	Signal	A.M.	24.4	C	26.0	C	1.6
			P.M.	21.7	C	23.1	C	1.4
17	Visalia Pkwy. & Dans St.	Two-Way Stop	A.M.	30.7	D	**69.7**	**F**	**39.0**
			P.M.	19.7	C	30.9	D	11.2
	Mitigation: Signalize	*Signal*	*A.M.*			*15.6*	*B*	
			P.M.			*8.9*	*A*	
18	Visalia Pkwy. & County Center Dr.	One-Way Stop	A.M.	21.9	C	34.2	D	12.3
			P.M.	26.8	D	**65.5**	**F**	**38.7**
	Mitigation: Signalize	*Signal*	*A.M.*			*10.8*	*B*	
			P.M.			*11.0*	*B*	
19	Visalia Pkwy. & Target Access.	One-Way Stop	A.M.	11.7	B	13.1	B	1.4
			P.M.	17.4	C	25.6	D	8.2
20	Visalia Pkwy. & Mooney Blvd.	Signal	A.M.	29.7	C	46.9	D	17.2
			P.M.	50.5	D	**78.6**	**E**	**28.1**
	Mitigation: Widening	*Signal*	*A.M.*			*31.8*	*C*	
			P.M.			*50.0*	*D*	

#	Study Intersections	Control	Peak Hour[1]	Existing Conditions		Existing Plus Project Conditions		Change in Delay
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
21	Visalia Pkwy. & Stonebrook St.	Uncontrolled	A.M.	-	-	-	-	-
			P.M.	-	-	-	-	-
22	Midvalley Ave. & Mooney Blvd.	Signal	A.M.	11.5	B	16.8	B	5.3
			P.M.	12.1	B	25.9	C	13.8
23	Ave. 272 & Mooney Blvd.	Two-Way Stop	A.M.	**73.5**	**F**	**122.5**	**F**	**49.0**
			P.M.	**127.4**	**F**	**1,422.5**	**F**	**1,295.1**
	Mitigation: Signalize	*Signal*	*A.M.*			*10.3*	*B*	
			P.M.			*9.9*	*A*	
24	Ave. 271 & Rd. 122	Uncontrolled	A.M.	-	-	-	-	-
			P.M.	-	-	-	-	-
25	Ave. 268 & Mooney Blvd	Signal	A.M.	14.3	B	14.7	B	0.4
			P.M.	24.4	C	28.5	C	4.1
26	Visalia Pkwy. & North Access Dwy 1.	One-Way Stop	A.M.	-	-	12.2	B	-
			P.M.	-	-	13.2	B	-
27	Visalia Pkwy & Tuesday Morning Dwy.	One-Way Stop	A.M.	10.3	B	10.9	B	0.6
			P.M.	15.3	C	12.0	B	-3.3
28	Visalia Pkwy. & Hall St.	One-Way Stop	A.M.	-	-	10.1	B	-
			P.M.	-	-	12.6	B	-
29	Visalia Pkwy. & Costco Dwy.	One-Way Stop	A.M.	9.4	A	10.0	B	0.6
			P.M.	20.1	C	25.8	D	5.7
30	Mooney Blvd. & Visalia Commons Dwy. 1	Two-Way Stop	A.M.	-	-	13.3	B	-
			P.M.	-	-	20.0	C	-
31	Mooney Blvd. & Visalia Commons Dwy. 2	Two-Way Stop	A.M.	-	-	12.8	B	-
			P.M.	-	-	17.7	C	-
32	Midvalley Ave. & South Access Dwy. 1	One-Way Stop	A.M.	-	-	9.2	A	-
			P.M.	-	-	10.1	B	-
33	Midvalley Ave. & South Access Dwy. 2	One-Way Stop	A.M.	-	-	8.8	A	-
			P.M.	-	-	9.3	A	-
34	Midvalley Ave. & South Access Dwy. 3	One-Way Stop	A.M.	-	-	8.6	A	-
			P.M.	-	-	8.8	A	-
35	Midvalley Ave. & Hall St.	One-Way Stop	A.M.	-	-	8.5	A	-
			P.M.	-	-	8.5	A	-
36	Hall St. & East Access Dwy. 1	One-Way Stop	A.M.	-	-	8.6	A	-
			P.M.	-	-	8.7	A	-

Notes:
1. AM – morning peak hour, PM – evening peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.
3. LOS – Level of Service. **Bold** indicates unacceptable Level of Service. **Red** indicates a significant impact.

Figure 11a: Existing Plus Project Conditions Peak Hour Traffic Volumes

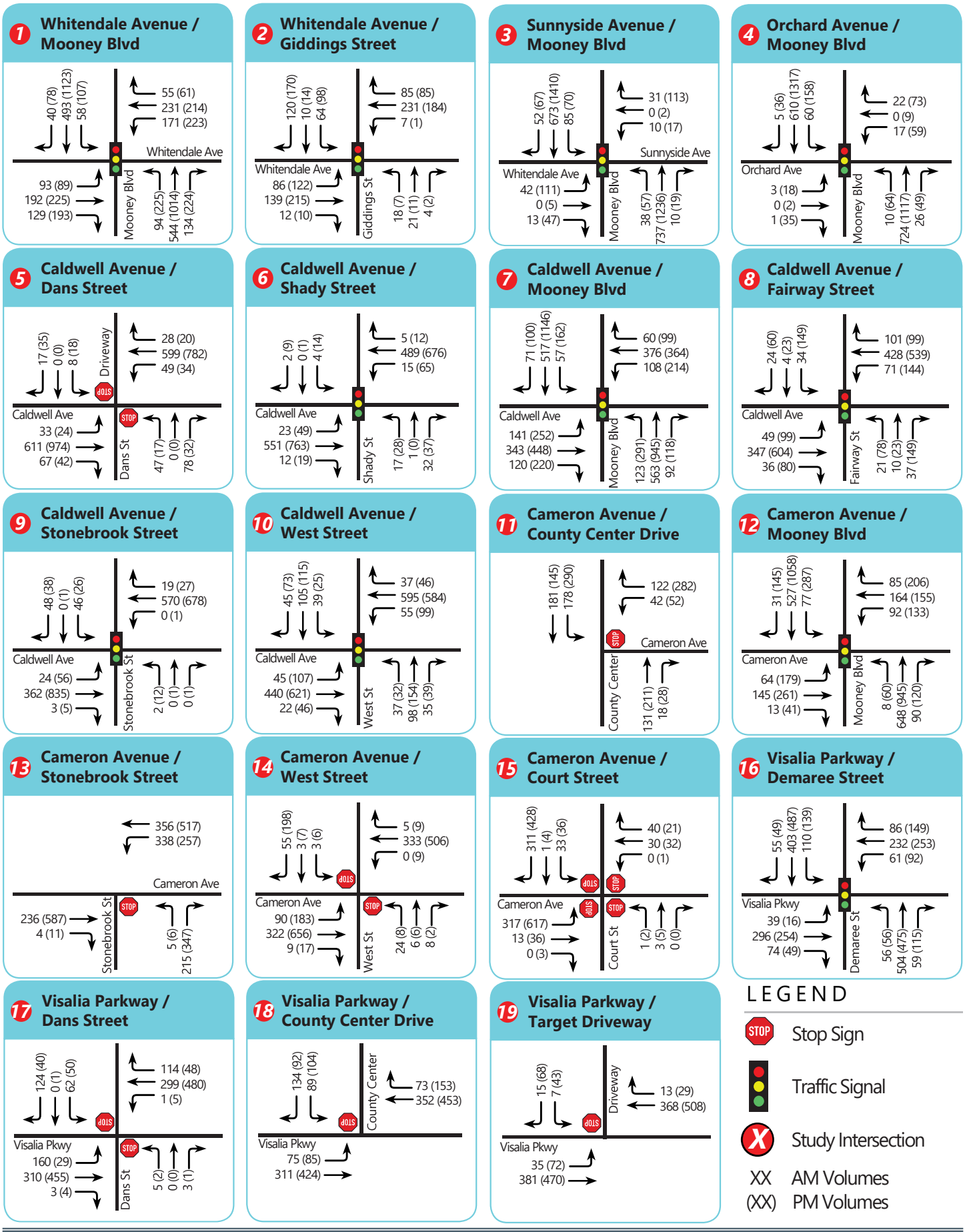
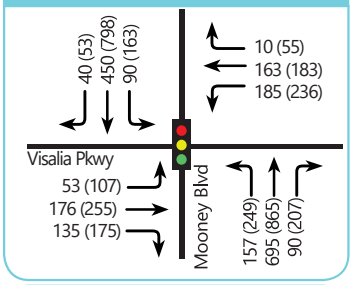
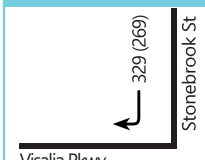


Figure 11b: Existing Plus Project Peak Hour Traffic Volumes

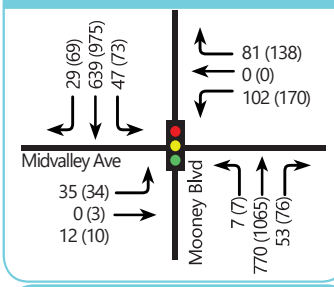
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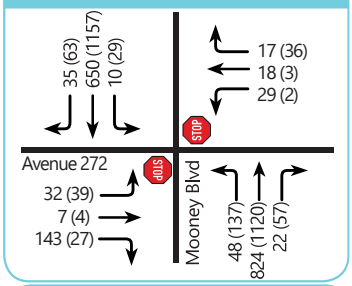
21 Visalia Parkway / Stonebrook Street



22 Midvalley Avenue / Mooney Blvd



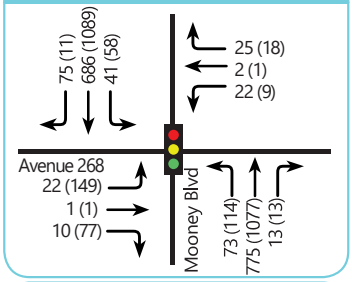
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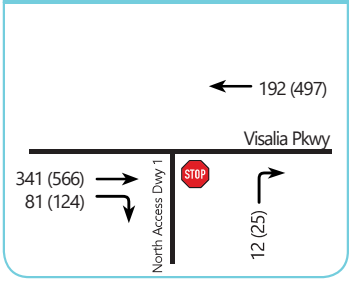
24 Avenue 271 / Road 122



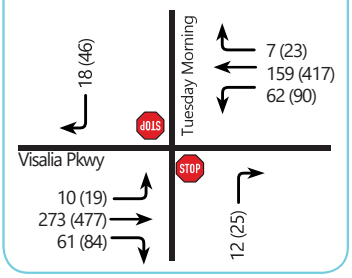
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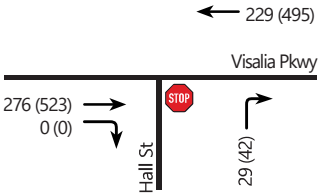
26 Visalia Parkway / North Access Driveway 1



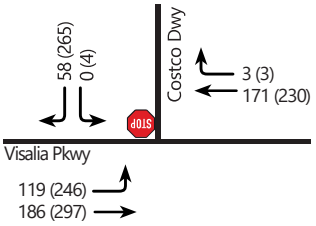
27 Visalia Parkway / Tuesday Morning Dwy



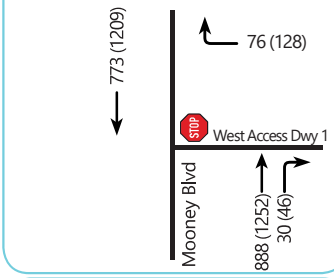
28 Visalia Parkway / Hall Street



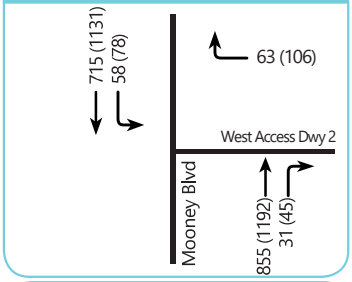
29 Visalia Parkway / Costco Driveway



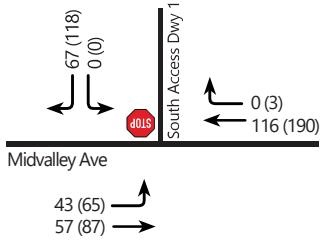
30 Mooney Blvd / Visalia Commons Dwy 1



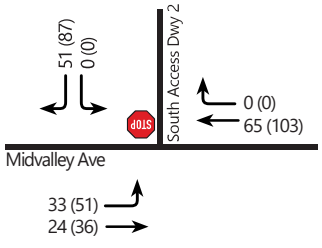
31 Mooney Blvd / Visalia Commons Dwy 2



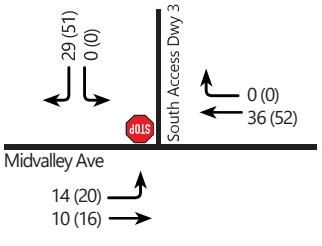
32 Midvalley Avenue / South Access Driveway 1



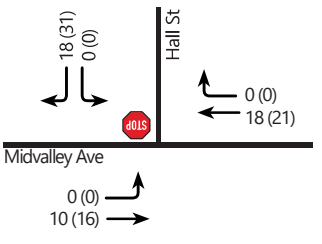
33 Midvalley Avenue / South Access Driveway 2



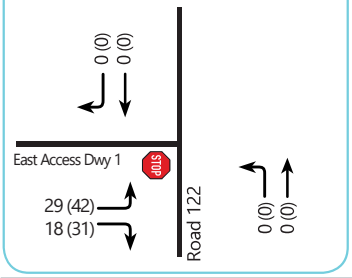
34 Midvalley Avenue / South Access Driveway 3



35 Midvalley Avenue / Hall Street



36 Hall Street / East Access Driveway 1



LEGEND

- Stop Sign
- Traffic Signal
- Study Intersection

4.4 Signal Warrant Analysis Results – Existing plus Project Conditions

The results of the peak hour warrant under existing plus project conditions are summarized in **Table 11**. The results show that Caldwell Avenue & Dans Street, Cameron Avenue & West Street, Mooney Boulevard & Avenue 272, and Visalia Parkway & Costco Driveway meet the MUTCD peak hour signal warrant in one peak hour. **Table 11** also notes which intersections would require signalization in order to mitigate level of service impacts identified in section 4.3. The results of the eight-hour warrant under Existing Conditions for comparison purposes. Peak Hour warrants for existing conditions are provided in **Appendix D.**

As noted in section 2.3, signalization of an intersection may be appropriate if it meets one or more of the nine signal warrants detailed in the MUTCD. Peak hour and eight-hour signal warrants are used here to indicate whether signalization may be appropriate. Even if the Peak Hour Volume Warrant is met, a more detailed signal warrant study is recommended before a signal is installed. The more detailed study should consider volumes during the daily peak hours of roadway traffic, pedestrian traffic, and accident histories.

Table 11: Peak Hour Signal Warrant Results – Existing plus Project Conditions

#	Intersection	Control	Existing Meets 8 Hour Warrant?	Existing plus Project		Mitigation Measures include Signalization?
				Meets AM Peak Hour?	Meets PM Peak Hour?	
5	Caldwell Avenue & Dans Street	Two-Way Stop	No	**Yes**	No	**Yes**
11	Cameron Avenue & County Center Drive	One-Way Stop	No	No	No	NA
13	Cameron Avenue & Stonebrook Street	One-Way Stop	**Yes**[1]	No	**Yes**	NA
14	Cameron Avenue & West Street	Two-Way Stop	**Yes**[1]	No	**Yes**	**Yes**
17	Visalia Parkway & Dans Street	Two-Way Stop	No	**Yes**	**Yes**	**Yes**
18	Visalia Parkway & County Center Drive	One-Way Stop	No	No	No	**Yes**
23	Mooney Boulevard & Avenue 272	Two-Way Stop	**Yes**[1]	**Yes**	No	**Yes**
27	Visalia Parkway/Tuesday Morning Driveway	One-Way Stop	8 Hour Data not available	No	No	NA
29	Visalia Parkway/Costco Driveway	One-Way Stop	8 Hour Data not available	No	**Yes**[2]	NA

Note

[1] Majority of traffic is right turns. If right turns are excluded, then warrants may not be satisfied

[2] Majority of side street traffic is right turns.

4.5 Queuing Analysis – Existing Plus Project Conditions

TJKM conducted a vehicle queueing and storage analysis for exclusive left and right turn pockets at the study intersections where project traffic is added under Existing Plus Project Conditions. The 95th percentile queues were analyzed using Synchro 10.0 software. Detailed calculations are included in the LOS appendices corresponding to each analysis scenario. **Table 12** summarizes the 95th percentile queue

lengths at selected study intersections under Existing and Existing Plus Project scenarios. It should be noted that at five study intersections, one or more queue lengths exceed capacity, creating a deficient condition. With the addition of project traffic, new queue overflows would be created at one intersection, Visalia Parkway & Mooney Boulevard (intersection #20). This can be mitigated using the same widening described previously in section 4.3. At all other study intersections, no new overflows would be created, and all existing queue overflows would be increased by less than one car length. With mitigation, the project is expected to have a **less-than-significant impact** on intersection queuing operations. Queuing calculation sheets for Existing Plus Project Conditions are included in **Appendix D**. Calculation sheets for mitigated conditions are included in **Appendix M**.

Table 12: 95th Percentile Queues at Study Intersections – Existing plus project Conditions

#	Study Intersections	Lane Group	Storage Length	Existing		Existing Plus Project		Change	
				AM	PM	AM	PM	AM	PM
1	Whitendale Ave. & Mooney Blvd.	EBL	155	79	73	79	73	0	0
		EBR	260	21	60	43	64	22	4
		WBL	250	112	129	130	156	18	27
		WBR	235	0	0	0	0	0	0
		NBL	290	65	145	78	165	13	20
		NBR	130	39	92	42	101	3	9
		SBL	445	56	84	56	84	0	0
		SBR	190	0	12	0	12	0	0
2	Whitendale Ave. & Giddings St.	EBL	105	74	77	81	89	7	12
		WBL	105	15	4	15	4	0	0
		WBR	35	35	29	35	33	0	4
		SBL	150	49	65	51	69	2	4
		SBR	50	29	38	31	40	2	2
3	Sunnyside Ave. & Mooney Ave.	EBL	170	66	**173**	66	**173**	0	0
		WBL	100	10	17	27	40	17	23
		NBL	400	62	77	62	80	0	3
		SBL	270	110	116	110	m115	0	-1
4	Orchard Ave. & Mooney Ave.	WBL	105	42	**108**	42	**108**	0	0
		NBL	125	14	m43	14	m40	0	-3
		NBR	100	0	m9	0	m7	0	-2
		SBL	250	101	**#294**	101	**#296**	0	2
		SBR	100	0	m6	0	m2	0	-4
5	Caldwell Ave. & Dans St.[1]	NBLTR	-	78	30	93	38	15	8
		SBLTR	-	10	28	10	33	0	5
6	Caldwell Ave. & Shady St.	EBL	240	29	72	29	74	0	2
		WBL	250	22	88	22	90	0	2
		SBR	-	0	0	0	0	0	0
7	Caldwell Ave. & Mooney Blvd.	EBL	345	100	#178	100	#178	0	0
		WBL	340	75	145	80	153	5	8
		NBL	265	68	m107	90	147	22	40

#	Study Intersections	Lane Group	Storage Length	Existing		Existing Plus Project		Change	
				AM	PM	AM	PM	AM	PM
		NBR	165	20	m21	26	m50	6	29
		SBL	270	50	90	50	95	0	5
		SBR	270	5	1	5	0	0	-1
8	Caldwell Ave. & Fairway St.	EBL	200	69	125	69	125	0	0
		WBL	285	90	#176	90	#176	0	0
		NBL	120	20	59	20	59	0	0
		SBL	55	28	**104**	28	**104**	0	0
9	Caldwell Ave. & Stonebrook St	EBL	235	24	50	29	59	5	9
		WBL	300	0	5	0	5	0	0
		SBL	-	42	34	42	34	0	0
		SBR	200	0	1	0	10	0	9
10	Caldwell Ave. & West St.	EBL	300	55	105	53	105	-2	0
		EBR	110	0	11	0	11	0	0
		WBL	290	50	84	61	100	11	16
		WBR	100	7	11	6	11	-1	0
		NBR	50	0	0	0	2	0	2
11	Cameron Ave. & County Center Dr.[1]	WBR	100	15	40	15	43	0	3
		NBR	160	-	-	-	-	-	-
		SBL	145	13	23	13	23	0	0
12	Cameron Ave. & Mooney Blvd.	EBL	155	106	**#342**	106	**m#337**	0	-5
		WBL	300	137	#230	137	#230	0	0
		NBL	210	12	m46	12	m32	0	-14
		NBR	150	16	m83	16	m49	0	-34
		SBL	185	58	**199**	58	**198**	0	-1
		SBR	150	0	1	0	15	0	14
13	Cameron Ave. & Stonebrook St.[1]	NBL	145	3	3	3	3	0	0
14	Cameron Ave. & West St.[1]	EBL	100	5	10	8	18	3	8
		WBL	90	0	0	0	0	0	0
		SBL	110	0	5	3	8	3	3
15	Cameron Ave. & Court St.[1]	EBL	260	13	48	13	55	0	7
		NBL	225	0	0	0	0	0	0
		SBL	195	3	3	3	3	0	0
		SBR	200	8	15	8	18	0	3
16	Visalia Pkwy. & Demaree S.t	EBL	145	66	33	66	33	0	0
		EBR	245	8	0	8	0	0	0
		WBL	180	92	110	92	110	0	0
		NBL	300	86	77	86	77	0	0
		SBL	305	123	126	148	156	25	30
17	Visalia Pkwy. & Dans St.[1]	EBL	190	18	3	18	3	0	0
		WBL	75	0	0	0	0	0	0

#	Study Intersections	Lane Group	Storage Length	Existing		Existing Plus Project		Change	
				AM	PM	AM	PM	AM	PM
18	Visalia Pkwy. & County Center Dr.[1]	EBL	200	8	8	8	8	0	0
		SBL	190	25	30	60	105	35	75
19	Visalia Pkwy. & Target Access.[1]	SBLR	-	3	30	5	48	2	18
20	Visalia Pkwy. & Mooney Blvd.	EBL	180	85	170	85	170	0	0
		WBL	175	**#295**	**330**	**#296**	**330**	1	0
		NBL	205	113	178	**#239**	**#470**	**126**	**292**
		SBL	290	28	m0	127	**m#373**	99	**373**
		SBR	210	0	m5	0	m4	0	-1
	Mitigation: widening	*EBL*	*180*			*39*	*#87*		
		WBL	*175*			*101*	*142*		
		NBL	*205*			*#113*	*137*		
		SBL	*290*			*#165*	*#293*		
		SBR	*210*			*0*	*0*		
21	Visalia Pkwy. & Stonebrook St.[2]	-	-	-	-	-	-	-	-
22	Midvalley Ave. & Mooney Blvd.	EBR	25	0	0	0	0	0	0
		NBL	475	13	16	15	18	2	2
		SBL	465	13	19	50	81	37	62
		SBR	140	0	10	0	9	0	-1
23	Ave. 272 & Mooney Blvd.[1]	NBL	470	5	23	5	28	0	5
		SBL	485	0	3	0	5	0	2
24	Ave. 271 & Rd. 122[2]	-	-	-	-	-	-	-	-
25	Ave. 268 & Mooney Blvd	NBL	470	73	109	73	109	0	0
		SBL	475	48	66	48	66	0	0
26	Visalia Pkwy. & North Access Dwy 1.[1]	-	-	-	-	3	5	-	-
27	Visalia Pkwy & Tuesday Morning Dwy[1]	EBL	150	-	-	0	3	-	-
		WBL	150	-	-	5	8	-	-
		NBR	-	-	-	3	5	-	-
		SBR	-	3	10	3	3	0	-7
28	Visalia Pkwy. & Hall St.[1]	NBR	-	-	-	3	8	-	-
29	Visalia Pkwy. & Costco Dwy.[1]	SBL	-	0	3	0	3	0	0
		SBR	-	8	35	8	40	0	5
30	Mooney Blvd. & Visalia Commons Dwy. 1[1]	WBR	-	-	-	15	43	-	-
31	Mooney Blvd. & Visalia Commons Dwy. 2[1]	WBR	-	-	-	10	30	-	-
		NBL	-	-	-	-	-	-	-
		SBL	-	-	-	8	15	-	-
32	Midvalley Ave. & South Access Dwy. 1[1]	SBLR	-	-	-	8	13	-	-
33	Midvalley Ave. &	SBLR	-	-	-	5	8	-	-

#	Study Intersections	Lane Group	Storage Length	Existing		Existing Plus Project		Change	
				AM	PM	AM	PM	AM	PM
	South Access Dwy. 2[1]								
34	Midvalley Ave. & South Access Dwy. 3[1]	SBLR	-	-	-	3	5	-	-
35	Midvalley Ave. & Hall St.[1]	SBLR	-	-	-	3	3	-	-
36	Hall St. & East Access Dwy. 1[1]	EBLR	-	-	-	5	5	-	-

Notes:
1. Stop-controlled intersection
2. Uncontrolled intersection
Storage length and 95th percentile queue is expressed in feet per lane
AM – morning peak hour, PM – evening peak hour
Bold indicates queue lengths exceeding capacity. **Red** indicates significant impact.
95th percentile volume exceeds capacity, queue may be longer
m Volume for 95th percentile queue is metered by upstream signal

5.0 FIVE-YEAR CUMULATIVE CONDITIONS

This chapter presents the results of the level of service calculations under Five-Year Cumulative Conditions without the project. Level of service analysis at the study intersections were conducted for five-Year Cumulative Conditions to establish a base to evaluate the impacts due to the addition of traffic from the proposed project. Where available, intersection volumes for this scenario are based on Five-Year Cumulative plus Project Conditions found in the Traffic Impact Study for the Commons at Visalia Parkway Shopping Center (Peters Engineering Group, January 2020). At study intersections not included in that study, Existing Conditions volumes were projected forward five years using growth factors derived from the Tulare County Association of Governments (TCAG) travel demand model. The following pending projects were included in the Visalia Parkway Shopping Center study:

- SPR 2018-191 La-Z-Boy furniture store: 15,600 sq. ft.
- CUP 2018-27 Oil and lube with three bays: 2,050 sq. ft.
- SPR 2018-138 furniture store: 33,000 sq. ft.
- SPR 2017-057 Convenience store and gas station : 3,191 sq. ft. with 12 fueling positions
- SPR 2017-057 Retail Buildings: Four 6,500 sq. ft. buildings
- SPR 2019-126 Residential: 228 multifamily units
- SPR 2019-125 Residential: 3 single family units
- SPR 2019-079 Restaurant: 7,522 sq. ft.
- CUP 2019-30 Dental: 3,552 sq. ft.
- CUP 2018-30 Medical office building: 56,000 sq. ft.
- CUP 2019-32 Luv-2-Play: 21,966 sq. ft.
- CUP 2019-11 Coffee Shop: 560 sq. ft.
- Los Pinos Subdivision: 21 single family units
- Southern Highlands Subdivision: 71 single-family and 40 multifamily units.

Figure 12 shows turning movement volumes at all the study intersections for Five-Year Cumulative Conditions. Lane geometries and traffic controls were maintained, similar to existing, aside from changes listed below:

- Visalia Parkway is extended east of Stonebrook Street
- Assumed the Visalia Parkway Shopping Center across the street is built-out

5.1 Intersections Level of Service Analysis – Five-Year Cumulative Conditions

The intersection LOS analysis results for Five-Year Cumulative Conditions without the proposed project are summarized in **Table 13**. Detailed calculation sheets for Five-Year Cumulative Conditions are contained in **Appendix F**.

Under this scenario, all of the study intersections operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour, except for the following six intersections:

- Caldwell Avenue & Dans Street (intersection #5) would operate at LOS E in the a.m. peak hour and LOS F in the p.m. peak hour

- Cameron Avenue & West Street (intersection #14) would operate at LOS F in the p.m. peak hour
- Visalia Parkway & County Center Drive (intersection #18) would operate at LOS F in the p.m. peak hour.
- Visalia Parkway & Target Access. (intersection #19) would operate at LOS F in the a.m. and p.m. peak hours.
- Visalia Parkway & Mooney Boulevard (intersection #20) would operate at LOS F in the p.m. peak hour.
- Avenue 272 & Mooney Boulevard (intersection #23) is operating at LOS F in the a.m. and p.m. peak hours.

Table 13: Intersection Level of Service Analysis – Five-Year Cumulative Conditions

#	Study Intersections	Control	Peak Hour[1]	Five-Year Cumulative Conditions	
				Delay[2]	LOS[3]
1	Whitendale Ave. & Mooney Blvd.	Signal	A.M. P.M.	39.2 32.9	D C
2	Whitendale Ave. & Giddings St.	Signal	A.M. P.M.	11.2 11.6	B B
3	Sunnyside Ave. & Mooney Ave.	Signal	A.M. P.M.	16.7 35.8	B D
4	Orchard Ave. & Mooney Ave.	Signal	A.M. P.M.	20.3 19.8	C B
5	Caldwell Ave. & Dans St.	Two-Way Stop	A.M. P.M.	**44.6** **51.8**	**E** **F**
6	Caldwell Ave. & Shady St.	Signal	A.M. P.M.	9.9 12.2	A B
7	Caldwell Ave. & Mooney Blvd.	Signal	A.M. P.M.	32.0 36.8	C D
8	Caldwell Ave. & Fairway St.	Signal	A.M. P.M.	12.7 19.7	B B
9	Caldwell Ave. & Stonebrook St.	Signal	A.M. P.M.	9.7 9.8	A A
10	Caldwell Ave. & West St.	Signal	A.M. P.M.	12.3 14.4	B B
11	Cameron Ave. & County Center Dr.	One-Way Stop	A.M. P.M.	15.5 22.8	C C
12	Cameron Ave. & Mooney Blvd.	Signal	A.M. P.M.	36.7 36.7	D D
13	Cameron Ave. & Stonebrook St.	One-Way Stop	A.M. P.M.	30.4 28.6	D D
14	Cameron Ave. & West St.	Two-Way Stop	A.M. P.M.	22.8 **100.3**	C **F**
15	Cameron Ave. & Court St.	All-Way Stop	A.M. P.M.	11.3 23.8	B C
16	Visalia Pkwy. & Demaree S.t	Signal	A.M. P.M.	25.0 25.1	C C
17	Visalia Pkwy. & Dans St.	Two-Way Stop	A.M. P.M.	27.6 25.1	D D
18	Visalia Pkwy. & County Center Dr.	One-Way Stop	A.M. P.M.	28.5 **73.4**	D **F**

#	Study Intersections	Control	Peak Hour[1]	Five-Year Cumulative Conditions	
				Delay[2]	LOS[3]
19	Visalia Pkwy. & Target Access.	One-Way Stop	A.M.	**82.6**	**F**
			P.M.	**>1,700**	**F**
20	Visalia Pkwy. & Mooney Blvd.	Signal	A.M.	35.3	D
			P.M.	**110.9**	**F**
21	Visalia Pkwy. & Stonebrook St.	Uncontrolled	A.M.	10.0	B
			P.M.	9.2	A
22	Midvalley Ave. & Mooney Blvd.	Signal	A.M.	12.1	B
			P.M.	14.7	B
23	Ave. 272 & Mooney Blvd.	Two-Way Stop	A.M.	**253.4**	**F**
			P.M.	**>900**	**F**
24	Ave. 271 & Rd. 122	Uncontrolled	A.M.	-	-
			P.M.	-	-
25	Ave. 268 & Mooney Blvd	Signal	A.M.	15.3	B
			P.M.	34.8	C
26	Visalia Pkwy. & North Access Dwy 1.	One-Way Stop	A.M.	-	-
			P.M.	-	-
27	Visalia Pkwy & Tuesday Morning Dwy.	One-Way Stop	A.M.	12.1	B
			P.M.	17.6	C
28	Visalia Pkwy. & Hall St.	One-Way Stop	A.M.	-	-
			P.M.	-	-
29	Visalia Pkwy. & Costco Dwy.	One-Way Stop	A.M.	10.8	B
			P.M.	24.2	C
30	Mooney Blvd. & Visalia Commons Dwy. 1	Two-Way Stop	A.M.	12.1	B
			P.M.	17.1	C
31	Mooney Blvd. & Visalia Commons Dwy. 2	Two-Way Stop	A.M.	12.2	B
			P.M.	21.5	C
32	Midvalley Ave. & South Access Dwy. 1	One-Way Stop	A.M.	-	-
			P.M.	-	-
33	Midvalley Ave. & South Access Dwy. 2	One-Way Stop	A.M.	-	-
			P.M.	-	-
34	Midvalley Ave. & South Access Dwy. 3	One-Way Stop	A.M.	-	-
			P.M.	-	-
35	Midvalley Ave. & Hall St.	One-Way Stop	A.M.	-	-
			P.M.	-	-
36	Hall St. & East Access Dwy. 1	One-Way Stop	A.M.	-	-
			P.M.	-	-

Notes:
1. AM – morning peak hour, PM – evening peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.
3. LOS – Level of Service. **Bold** indicates unacceptable LOS and Delay.

5.2 Signal Warrant Analysis Results – Five-Year Cumulative Conditions

The results of the peak hour warrant under five-year cumulative conditions are summarized in **Table 14**. The results show that Caldwell Avenue & Dans Street, Cameron Avenue & Stonebrook Street, Cameron Avenue & West Street, Visalia Parkway & Dans Street, Mooney Boulevard & Avenue 272, and Visalia

Parkway & Costco Driveway meet the MUTCD peak hour signal warrant in one peak hour. Peak Hour warrants for existing conditions are provided in **Appendix G.**

It should be noted that eight-hour traffic volume volumes cannot be adequately projected based on projections of peak hour volumes, as traffic during off-peak hours may change differently over time. As such, the eight-hour signal warrant was not evaluated for Five Year Cumulative Conditions.

Table 14: Peak Hour Signal Warrant Results – Five-Year Cumulative Conditions

#	Intersection	Control	Five-Year Cumulative	
			Meets AM Peak Hour?	Meets PM Peak Hour?
5	Caldwell Avenue & Dans Street	Two-Way Stop	**Yes**	No
11	Cameron Avenue & County Center Drive	One-Way Stop	No	No
13	Cameron Avenue & Stonebrook Street	One-Way Stop	No	**Yes**
14	Cameron Avenue & West Street	Two-Way Stop	No	**Yes**
17	Visalia Parkway & Dans Street	Two-Way Stop	**Yes**	No
18	Visalia Parkway & County Center Drive	One-Way Stop	No	No
23	Mooney Boulevard & Avenue 272	Two-Way Stop	**Yes**	No
27	Visalia Parkway/Tuesday Morning Driveway	One-Way Stop	No	No
29	Visalia Parkway/Costco Driveway	One-Way Stop	No	**Yes**[1]

Note

[1] Majority of traffic is right turns. If right turns are excluded, then warrants may not be satisfied

5.3 Queuing Analysis – Five-Year Cumulative Conditions

TJKM conducted a vehicle queueing and storage analysis for exclusive left and right turn pockets at the study intersections. The 95th percentile queues were analyzed using Synchro software. Detailed calculations are included in **Appendix F**. **Table 15** summarizes the 95th percentile queue lengths at study intersections under Five-Year Cumulative Conditions. It should be noted that at five study intersections, one or more queue lengths exceed capacity, creating a deficient conditions.

Table 15: 95th Percentile Queues – Five Year Cumulative Conditions

#	Study Intersections	Lane Group	Storage Length	Five-Year Cumulative	
				AM	PM
1	Whitendale Ave. & Mooney Blvd.	EBL	155	81	73
		EBR	260	38	62
		WBL	250	129	143

#	Study Intersections	Lane Group	Storage Length	Five-Year Cumulative	
				AM	PM
		WBR	235	0	0
		NBL	290	73	159
		NBR	130	42	100
		SBL	445	55	84
		SBR	190	0	16
2	Whitendale Ave. & Giddings St.	EBL	105	62	79
		WBL	105	13	4
		WBR	35	30	30
		SBL	150	49	67
		SBR	50	34	38
3	Sunnyside Ave. & Mooney Ave.	EBL	170	89	**267**
		WBL	100	15	27
		NBL	400	129	120
		SBL	270	112	m123
4	Orchard Ave. & Mooney Ave.	WBL	105	48	**115**
		NBL	125	17	42
		NBR	100	0	m7
		SBL	250	103	**m#299**
		SBR	100	0	0
5	Caldwell Ave. & Dans St.[1]	NBLTR	-	90	43
		SBLTR	-	10	38
6	Caldwell Ave. & Shady St.	EBL	240	28	78
		WBL	250	22	97
		SBR	-	0	0
7	Caldwell Ave. & Mooney Blvd.	EBL	345	108	#204
		WBL	340	97	#187
		NBL	265	89	150
		NBR	165	44	m85
		SBL	270	54	110
		SBR	270	11	0
8	Caldwell Ave. & Fairway St.	EBL	200	74	131
		WBL	285	92	#176
		NBL	120	21	59
		SBL	55	30	**104**
9	Caldwell Ave. & Stonebrook St	EBL	235	27	53
		WBL	300	13	10
		SBL	-	42	32
		SBR	200	0	5
10	Caldwell Ave. & West St.	EBL	300	57	113
		EBR	110	0	13
		WBL	290	53	90

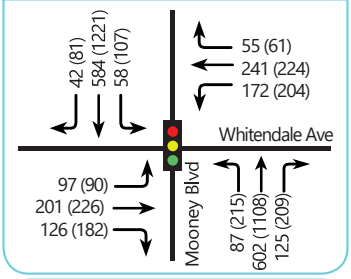
#	Study Intersections	Lane Group	Storage Length	Five-Year Cumulative	
				AM	PM
		WBR	100	7	14
		NBR	50	0	0
11	Cameron Ave. & County Center Dr.[1]	WBR	100	15	48
		NBR	160	-	-
		SBL	145	13	25
12	Cameron Ave. & Mooney Blvd.	EBL	155	110	**#348**
		WBL	300	166	**#324**
		NBL	210	23	m42
		NBR	150	33	m72
		SBL	185	67	**221**
		SBR	150	0	m23
13	Cameron Ave. & Stonebrook St.[1]	NBL	145	18	5
14	Cameron Ave. & West St.[1]	EBL	100	5	13
		WBL	90	0	0
		SBL	110	0	10
15	Cameron Ave. & Court St.[1]	EBL	260	15	88
		NBL	225	0	0
		SBL	195	3	3
		SBR	200	10	23
16	Visalia Pkwy. & Demaree S.t	EBL	145	72	37
		EBR	245	13	0
		WBL	180	101	99
		NBL	300	99	88
		SBL	305	158	169
17	Visalia Pkwy. & Dans St.[1]	EBL	190	15	3
		WBL	75	0	0
18	Visalia Pkwy. & County Center Dr.[1]	EBL	200	8	10
		SBL	190	45	118
19	Visalia Pkwy. & Target Access.[1]	EBL	100	5	8
		WBL	100	10	15
		NBLTR	-	285	910
		SBLTR	-	10	618
20	Visalia Pkwy. & Mooney Blvd.	EBL	180	**#510**	**#950**
		WBL	175	**398**	**#388**
		NBL	205	146	**227**
		SBL	290	31	m71
		SBR	210	16	m13
21	Visalia Pkwy. & Stonebrook St.[2]	EBL	150	10	18
22	Midvalley Ave. & Mooney Blvd.	EBR	25	0	0
		NBL	475	13	16

#	Study Intersections	Lane Group	Storage Length	Five-Year Cumulative	
				AM	PM
		SBL	465	13	19
		SBR	140	0	16
23	Ave. 272 & Mooney Blvd.[1]	NBL	470	5	33
		SBL	485	0	3
24	Ave. 271 & Rd. 122[2]	-	-	-	-
25	Ave. 268 & Mooney Blvd	NBL	470	74	109
		SBL	475	49	66
26	Visalia Pkwy. & North Access Dwy 1.[1]	-	-	-	-
27	Visalia Pkwy & Tuesday Morning Dwy[1]	EBL	150	-	-
		WBL	150	-	-
		NBR	-	-	-
		SBR	-	3	13
28	Visalia Pkwy. & Hall St.[1]	NBR	-	-	-
29	Visalia Pkwy. & Costco Dwy.[1]	SBL	-	-	3
		SBR	-	8	40
30	Mooney Blvd. & Visalia Commons Dwy. 1[1]	EBR	-	10	25
		WBR	-	-	-
31	Mooney Blvd. & Visalia Commons Dwy. 2[1]	EBR	-	15	35
		WBR	-	-	-
		NBL	150	25	78
		SBL	150	-	-
32	Midvalley Ave. & South Access Dwy. 1[1]	SBLR	-	-	-
33	Midvalley Ave. & South Access Dwy. 2[1]	SBLR	-	-	-
34	Midvalley Ave. & South Access Dwy. 3[1]	SBLR	-	-	-
35	Midvalley Ave. & Hall St.[1]	SBLR	-	-	-
36	Hall St. & East Access Dwy. 1[1]	EBLR	-	-	-

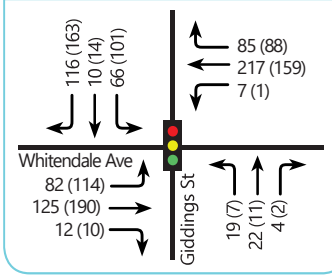
Notes:
1. Stop-controlled intersection
2. Uncontrolled intersection
Storage length and 95th percentile queue is expressed in feet per lane
AM – morning peak hour, PM – evening peak hour
Bold indicates queue lengths exceeding capacity.
95th percentile volume exceeds capacity, queue may be longer
m Volume for 95th percentile queue is metered by upstream signal

Figure 12a: Five-Year Cumulative Conditions Peak Hour Volumes

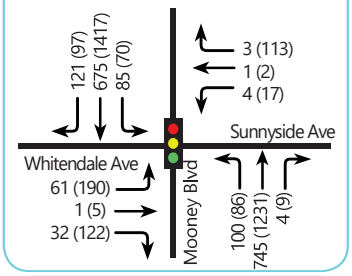
1 Whitendale Avenue / Mooney Blvd



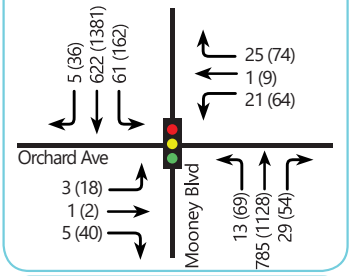
2 Whitendale Avenue / Giddings Street



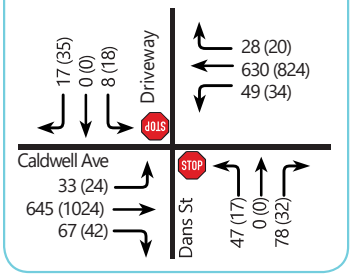
3 Sunnyside Avenue / Mooney Blvd



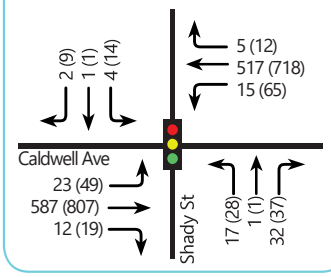
4 Orchard Avenue / Mooney Blvd



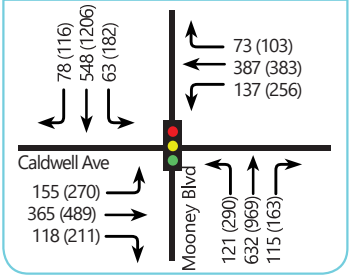
5 Caldwell Avenue / Dans Street



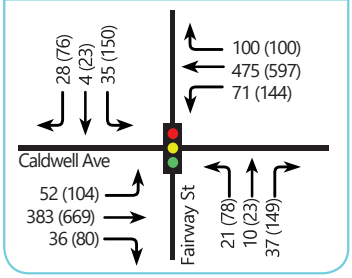
6 Caldwell Avenue / Shady Street



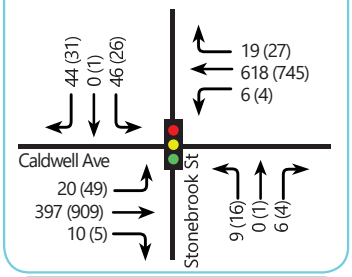
7 Caldwell Avenue / Mooney Blvd



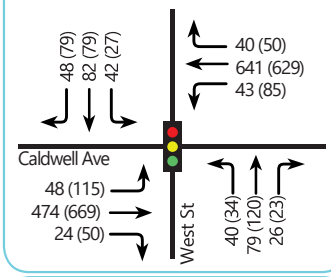
8 Caldwell Avenue / Fairway Street



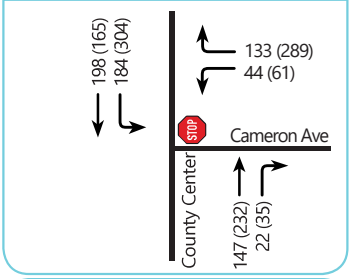
9 Caldwell Avenue / Stonebrook Street



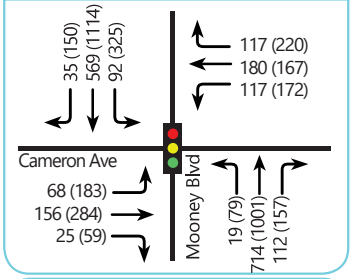
10 Caldwell Avenue / West Street



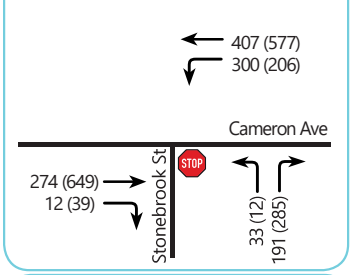
11 Cameron Avenue / County Center Drive



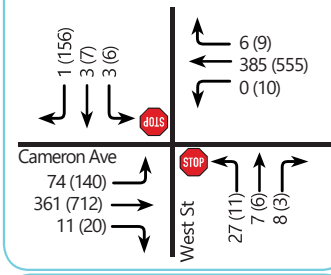
12 Cameron Avenue / Mooney Blvd



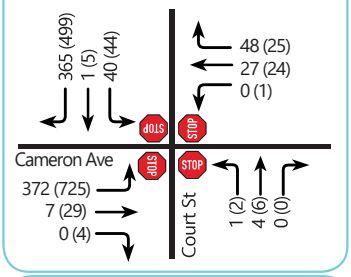
13 Cameron Avenue / Stonebrook Street



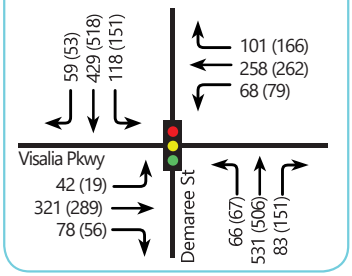
14 Cameron Avenue / West Street



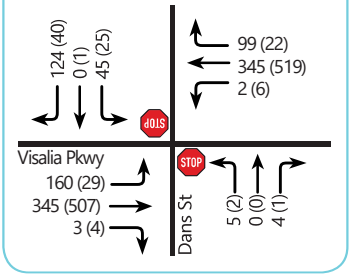
15 Cameron Avenue / Court Street



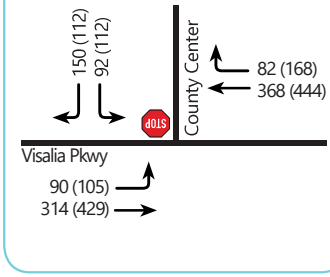
16 Visalia Parkway / Demaree Street



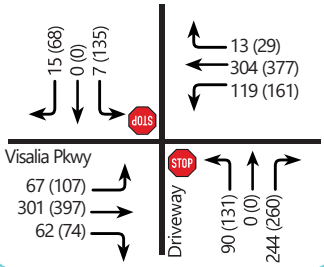
17 Visalia Parkway / Dans Street



18 Visalia Parkway / County Center Drive



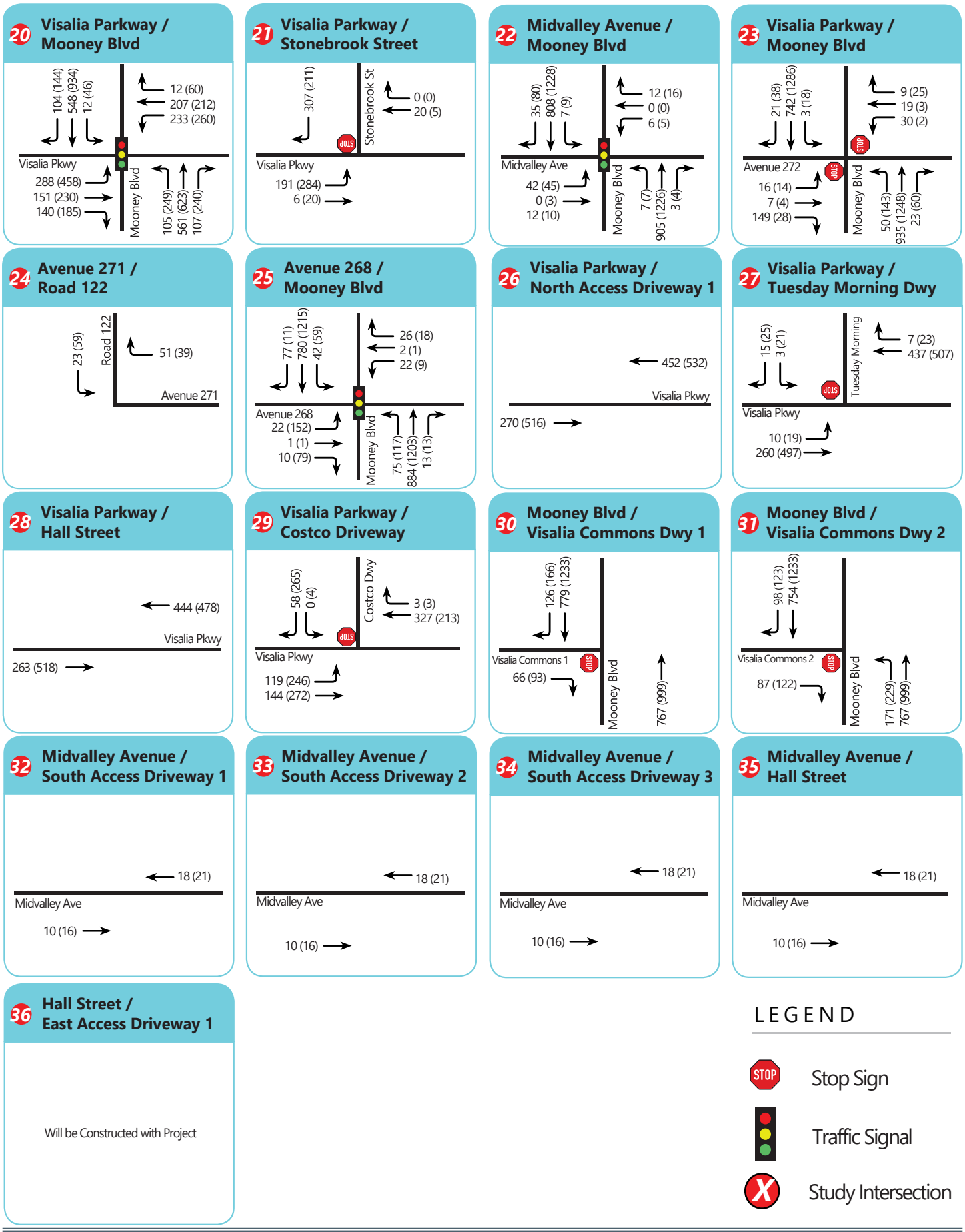
19 Visalia Parkway / Target Driveway



LEGEND

- STOP — Stop Sign
- Traffic Signal
- X — Study Intersection
- XX — AM Volumes
- (XX) — PM Volumes

Figure 12b: Five-Year Cumulative Conditions Peak Hour Volumes



6.0 FIVE-YEAR CUMULATIVE PLUS PHASE 1 PROJECT CONDITIONS

This scenario is identical to Five-Year Cumulative Conditions, with the addition of projected traffic from Phase I of the proposed development. Trip distribution assumptions are identical to those assumed under Existing Plus Project Conditions. Trip assignment for Phase I of the proposed project is shown in **Figure 9**. **Figure 13** shows projected turning movement volumes at all study intersections for Five-Year Cumulative Plus Project Conditions.

6.1 Intersection Level of Service Analysis – Five-Year Cumulative Plus Phase 1 Project Conditions

The intersection LOS analysis results for Five-Year Cumulative Plus Project Conditions are summarized in **Table 16**. The results for Five-Year Cumulative Conditions are included for comparison purposes. Detailed calculation sheets for Five-Year Cumulative Plus Project Conditions are contained in **Appendix H**.

Under this scenario, all but eight of the study intersections would continue to operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour. The following six intersections already operate at unacceptable level of service in one or both peak hours, without the addition of project traffic.

- Caldwell Avenue & Dans Street (intersection #5) would degrade from LOS E to LOS F in the a.m. peak hour, with a *significant increase* in average delay of 8.0 seconds, and it would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 9.8 seconds in the p.m. peak hours.
- Cameron Avenue & West Street (intersection #14) would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 87.6 seconds.
- Visalia Parkway & County Center Drive (intersection #18) would degrade from LOS D to LOS E in the a.m. peak hour, a *significant degradation*, and it would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 148.1 seconds
- Visalia Parkway & Target Access. (intersection #19) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 82.0 seconds in the a.m. peak hour and 1,302.3 seconds in the p.m. peak hour.
- Visalia Parkway & Mooney Boulevard (intersection #20) would continue to operate at LOS F in the p.m. peak hour, with a *less-than-significant increase* in average delay of 2.8 seconds.
- Avenue 272 & Mooney Boulevard (intersection #23) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 149.8 seconds in the a.m. peak hour and 4,322.7 seconds in the p.m. peak hour.

The following two intersections would degrade from acceptable to unacceptable level of service with the addition of project traffic:

- Cameron Avenue & Stonebrook Street (intersection #13) would degrade from LOS D to LOS E in the a.m. and p.m. peak hours, a *significant degradation*.
- Visalia Parkway & Dans Street (intersection #17) would degrade from LOS D to LOS F the a.m. and p.m. peak hours, a *significant degradation*.

At seven of the eight intersections listed above, added project traffic would either degrade the level of service from an acceptable to unacceptable, or increase average delay by more than 5.0 seconds, constituting significant inconsistencies with the City of Visalia General Plan. The seven intersections with significant inconsistencies are currently stop-controlled, and the identified inconsistencies can be mitigated with signalization, as shown in **Table 16**. Although there is no significant inconsistency at Visalia Parkway & Mooney Boulevard under this scenario, the same widening plan identified as a mitigation measure for Existing plus Project Conditions was also evaluated for this scenario. **Appendix M** includes full descriptions of all mitigation measures and LOS worksheets for mitigated conditions. Based on the City of Visalia impact criteria, with mitigation the project is expected to be **consistent** with general plan requirements at all study intersections.

Table 16: Intersection Level of Service Analysis – Five-Year Cumulative plus Phase 1 Project Conditions

#	Study Intersections	Control	Peak Hour[1]	Five-Year Cumulative Conditions		Five-Year Cumulative Plus Project Conditions		Change in Delay
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
1	Whitendale Ave. & Mooney Blvd.	Signal	A.M.	39.2	D	39.7	D	0.5
			P.M.	32.9	C	33.5	C	0.6
2	Whitendale Ave. & Giddings St.	Signal	A.M.	11.2	B	11.4	B	0.2
			P.M.	11.6	B	11.9	B	0.3
3	Sunnyside Ave. & Mooney Ave.	Signal	A.M.	16.7	B	17.2	B	0.5
			P.M.	35.8	D	34.7	C	-1.1
4	Orchard Ave. & Mooney Ave.	Signal	A.M.	20.3	C	20.7	C	0.4
			P.M.	19.8	B	20.2	C	0.4
5	Caldwell Ave. & Dans St.	Two-Way Stop	A.M.	**44.6**	**E**	**52.6**	**F**	**8.0**
			P.M.	**51.8**	**F**	**61.6**	**F**	**9.8**
	Mitigation: Signalize	*Signal*	*A.M.*			*9.2*	*A*	
			P.M.			*8.1*	*A*	
6	Caldwell Ave. & Shady St.	Signal	A.M.	9.9	A	9.8	A	-0.1
			P.M.	12.2	B	12.2	B	0.0
7	Caldwell Ave. & Mooney Blvd.	Signal	A.M.	32.0	C	31.0	C	-1.0
			P.M.	36.8	D	38.0	D	1.2
8	Caldwell Ave. & Fairway St.	Signal	A.M.	12.7	B	12.7	B	0.0
			P.M.	19.7	B	19.7	B	0.0
9	Caldwell Ave. & Stonebrook St.	Signal	A.M.	9.7	A	10.0	B	0.3
			P.M.	9.8	A	10.3	B	0.5
10	Caldwell Ave. & West St.	Signal	A.M.	12.3	B	13.1	B	0.8
			P.M.	14.4	B	15.5	B	1.1
11	Cameron Ave. & County Center Dr.	One-Way Stop	A.M.	15.5	C	15.9	C	0.4
			P.M.	22.8	C	24.2	C	1.4
12	Cameron Ave. & Mooney Blvd.	Signal	A.M.	36.7	D	35.4	D	-1.3
			P.M.	36.7	D	35.2	D	-1.5
13	Cameron Ave. & Stonebrook St.	One-Way Stop	A.M.	30.4	D	**38.1**	**E**	**7.7**
			P.M.	28.6	D	**40.1**	**E**	**11.5**
	Mitigation: Signalize	*Signal*	*A.M.*			*15.7*	*B*	
			P.M.			*36.7*	*D*	
14	Cameron Ave. & West St.	Two-Way Stop	A.M.	22.8	C	29.2	D	6.4
			P.M.	**100.3**	**F**	**187.9**	**F**	**87.6**
	Mitigation: Signalize	*Signal*	*A.M.*			*8.1*	*A*	

#	Study Intersections	Control	Peak Hour[1]	Five-Year Cumulative Conditions		Five-Year Cumulative Plus Project Conditions		Change in Delay
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
			P.M.			*16.1*	*B*	
15	Cameron Ave. & Court St.	All-Way Stop	A.M.	11.3	B	11.6	B	0.3
			P.M.	23.8	C	26.0	D	2.2
16	Visalia Pkwy. & Demaree S.t	Signal	A.M.	25.0	C	26.2	C	1.2
			P.M.	25.1	C	26.6	C	1.5
17	Visalia Pkwy. & Dans St.	Two-Way Stop	A.M.	27.6	D	**48.1**	**E**	**20.5**
			P.M.	25.1	D	**41.4**	**E**	**16.3**
	Mitigation: Signalize	*Signal*	*A.M.*			*14.3*	*B*	
			P.M.			*9.1*	*A*	
18	Visalia Pkwy. & County Center Dr.	One-Way Stop	A.M.	28.5	D	**44.2**	**E**	**15.7**
			P.M.	**73.4**	**F**	**221.5**	**F**	**148.1**
	Mitigation: Signalize	*Signal*	*A.M.*			*11.3*	*B*	
			P.M.			*13.5*	*B*	
19	Visalia Pkwy. & Target Access.	One-Way Stop	A.M.	**82.6**	**F**	**164.6**	**F**	**82.0**
			P.M.	**1,700.9**	**F**	**3003.2**	**F**	**1,302.3**
	Mitigation: Signalize	*Signal*	*A.M.*			*12.6*	*B*	
			P.M.			*15.6*	*B*	
20	Visalia Pkwy. & Mooney Blvd.	Signal	A.M.	35.3	D	42.5	D	7.2
			P.M.	**110.9**	**F**	**113.7**	**F**	**2.8**
	Existing plus Project Mitigation: Widening	*Signal*				*37.3*	*D*	
						57.3	***E***	
21	Visalia Pkwy. & Stonebrook St.	Uncontrolled	A.M.	10.0	B	10.4	B	0.4
			P.M.	9.2	A	9.6	A	0.4
22	Midvalley Ave. & Mooney Blvd.	Signal	A.M.	12.1	B	15.9	B	3.8
			P.M.	14.7	B	29.6	C	14.9
23	Ave. 272 & Mooney Blvd.	Two-Way Stop	A.M.	**253.4**	**F**	**403.2**	**F**	**149.8**
			P.M.	**923.7**	**F**	**5246.4**	**F**	**4,322.7**
	Mitigation: Signalize	*Signal*	*A.M.*			*10.8*	*B*	
			P.M.			*10.3*	*B*	
24	Ave. 271 & Rd. 122	Uncontrolled	A.M.	-	-	-	-	-
			P.M.	-	-	-	-	-
25	Ave. 268 & Mooney Blvd	Signal	A.M.	15.3	B	15.8	B	0.5
			P.M.	34.8	C	44.9	D	10.1
26	Visalia Pkwy. & North Access Dwy 1.	One-Way Stop	A.M.	-	-	10.5	B	-
			P.M.	-	-	13.1	B	-
27	Visalia Pkwy & Tuesday Morning Dwy.	One-Way Stop	A.M.	12.1	B	11.3	B	-0.8
			P.M.	17.6	C	12.3	B	-5.3
28	Visalia Pkwy. & Hall St.	One-Way Stop	A.M.	-	-	10.1	B	-
			P.M.	-	-	12.7	B	-
29	Visalia Pkwy. & Costco Dwy.	One-Way Stop	A.M.	10.8	B	11.3	B	0.5
			P.M.	24.2	C	29.7	D	5.5
30	Mooney Blvd. & Visalia Commons Dwy. 1	Two-Way Stop	A.M.	12.1	B	12.9	B	0.8
			P.M.	17.1	C	18.6	C	1.5
31	Mooney Blvd. & Visalia Commons Dwy. 2	Two-Way Stop	A.M.	12.2	B	12.6	B	0.4
			P.M.	21.5	C	23.2	C	1.7
32	Midvalley Ave. & South Access Dwy. 1	One-Way Stop	A.M.	-	-	9.1	A	-
			P.M.	-	-	9.5	A	-
33	Midvalley Ave. & South Access Dwy. 2	One-Way Stop	A.M.	-	-	8.8	A	-
			P.M.	-	-	9.0	A	-
34	Midvalley Ave. &		A.M.	-	-	8.6	A	-

#	Study Intersections	Control	Peak Hour[1]	Five-Year Cumulative Conditions		Five-Year Cumulative Plus Project Conditions		Change in Delay
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
	South Access Dwy. 3	One-Way Stop	P.M.	-	-	8.7	A	-
35	Midvalley Ave. & Hall St.	One-Way Stop	A.M.	-	-	8.5	A	-
			P.M.	-	-	8.5	A	-
36	Hall St. & East Access Dwy. 1	One-Way Stop	A.M.	-	-	8.6	A	-
			P.M.	-	-	8.6	A	-

Notes:
1. AM – morning peak hour, PM – evening peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.
3. LOS – Level of Service. **Bold** indicates unacceptable Level of Service. **Red** indicates a significant impact.

6.2 Signal Warrant Analysis Results – Five-Year Cumulative plus Phase 1 Project Conditions

The results of the peak hour warrant under existing conditions are summarized in **Table 17**. The results show that Caldwell Avenue & Dans Street, Cameron Avenue & Stonebrook Street, Cameron Avenue & West Street, Visalia Parkway & Dans Street, Mooney Boulevard & Avenue 272, and Visalia Parkway & Costco Driveway meet the MUTCD peak hour signal warrant in one peak hour. **Table 17** also notes which intersections would require signalization in order to mitigate level of service impacts identified in section 6.1. Peak Hour warrants for existing conditions are provided in **Appendix F.**

Table 17: Peak Hour Signal Warrant Results – Five-Year Cumulative plus Phase 1 Project Conditions

#	Intersection	Control	Five-Year Cumulative plus Project Meets AM Peak Hour?	Meets PM Peak Hour?	Mitigation Measures include Signalization?
5	Caldwell Avenue & Dans Street	Two-Way Stop	**Yes**	**Yes**	**Yes**
11	Cameron Avenue & County Center Drive	One-Way Stop	No	NA	NA
13	Cameron Avenue & Stonebrook Street	One-Way Stop	No	NA	**Yes**
14	Cameron Avenue & West Street	Two-Way Stop	No	**Yes**	**Yes**
17	Visalia Parkway & Dans Street	Two-Way Stop	**Yes**	**Yes**	**Yes**
18	Visalia Parkway & County Center Drive	One-Way Stop	No	**Yes**	**Yes**
23	Mooney Boulevard & Avenue 272	Two-Way Stop	**Yes**	**Yes**	**Yes**
27	Visalia Parkway/Tuesday Morning Driveway	One-Way Stop	No	No	NA

#	Intersection	Control	Five-Year Cumulative plus Project Meets AM Peak Hour?	Meets PM Peak Hour?	Mitigation Measures include Signalization?
29	Visalia Parkway/Costco Driveway	One-Way Stop	No	**Yes**[1]	NA

Note

[1] Majority of traffic is right turns. If right turns are excluded, then warrants may not be satisfied

6.3 Queuing Analysis – Five-Year Cumulative plus Phase 1 Project Conditions

TJKM conducted a vehicle queueing and storage analysis for exclusive left and right turn pockets at the study intersections where project traffic is added under Five-Year Plus Project Conditions. The 95th percentile queues were analyzed using Synchro 10.0 software. Detailed calculations are included in the LOS appendices corresponding to each analysis scenario. **Table 18** summarizes the 95th percentile queue lengths at selected study intersections under Five-Year Cumulative and Five-Year Cumulative Plus Project scenarios. It should be noted that queue lengths at some locations exceed capacity, creating a deficient conditions. With the addition of project traffic, two intersections on Visalia Parkway (intersections #18 and #20) would experience new queue overflows and/or increase existing overflows by more than one car length, thus creating significant impacts. With the mitigation measures described in section 6.1, both impacts would be eliminated. With mitigation, the project is expected to have a **less-than-significant impact** on intersection queuing operations. Queuing calculation sheets for Five-Year Plus Project Conditions are included in **Appendix H**. Calculation sheets for mitigated conditions are included in **Appendix M**.

Table 18: 95th Percentile Queues – Five Year Cumulative plus Phase 1 Project Conditions

#	Study Intersections	Lane Group	Storage Length	Five-Year Cumulative		Five-Year Cumulative Plus Project		Change	
				AM	PM	AM	PM	AM	PM
1	Whitendale Ave. & Mooney Blvd.	EBL	155	81	73	81	73	0	0
		EBR	260	38	62	54	65	16	3
		WBL	250	129	143	145	164	16	21
		WBR	235	0	0	0	0	0	0
		NBL	290	73	159	82	173	9	14
		NBR	130	42	100	46	103	4	3
		SBL	445	55	84	55	84	0	0
		SBR	190	0	16	0	16	0	0
2	Whitendale Ave. & Giddings St.	EBL	105	62	79	67	89	5	10
		WBL	105	13	4	14	4	1	0
		WBR	35	30	30	30	34	0	4
		SBL	150	49	67	51	70	2	3
		SBR	50	34	38	36	40	2	2
3	Sunnyside Ave. & Mooney Ave.	EBL	170	89	**267**	89	**267**	0	0
		WBL	100	15	27	29	41	14	14
		NBL	400	129	120	129	120	0	0

#	Study Intersections	Lane Group	Storage Length	Five-Year Cumulative		Five-Year Cumulative Plus Project		Change	
				AM	PM	AM	PM	AM	PM
		SBL	270	112	m123	112	m118	0	-5
4	Orchard Ave. & Mooney Ave.	WBL	105	48	**115**	48	**115**	0	0
		NBL	125	17	42	17	44	0	2
		NBR	100	0	m7	0	9	0	2
		SBL	250	103	**m#299**	103	**m#272**	0	-27
		SBR	100	0	0	0	m1	0	1
5	Caldwell Ave. & Dans St.[1]	NBLTR	-	90	43	103	50	13	7
		SBLTR	-	10	38	10	45	0	7
6	Caldwell Ave. & Shady St.	EBL	240	28	78	29	78	1	0
		WBL	250	22	97	22	97	0	0
		SBR	-	0	0	0	0	0	0
7	Caldwell Ave. & Mooney Blvd.	EBL	345	108	#204	108	#204	0	0
		WBL	340	97	#187	102	#198	5	11
		NBL	265	89	150	107	191	18	41
		NBR	165	44	m85	46	m105	2	20
		SBL	270	54	110	54	111	0	1
		SBR	270	11	0	11	0	0	0
8	Caldwell Ave. & Fairway St.	EBL	200	74	131	74	131	0	0
		WBL	285	92	#176	92	#176	0	0
		NBL	120	21	59	21	59	0	0
		SBL	55	30	**104**	30	**104**	0	0
9	Caldwell Ave. & Stonebrook St	EBL	235	27	53	31	61	4	8
		WBL	300	13	10	13	10	0	0
		SBL	-	42	32	43	33	1	1
		SBR	200	0	5	0	11	0	6
10	Caldwell Ave. & West St.	EBL	300	57	113	57	113	0	0
		EBR	110	0	13	0	13	0	0
		WBL	290	53	90	61	100	8	10
		WBR	100	7	14	7	14	0	0
		NBR	50	0	0	0	0	0	0
11	Cameron Ave. & County Center Dr.[1]	WBR	100	15	48	15	50	0	2
		NBR	160	-	-	-	-	-	-
		SBL	145	13	25	13	28	0	3
12	Cameron Ave. & Mooney Blvd.	EBL	155	110	**#348**	110	**m#348**	0	0
		WBL	300	166	**#324**	166	**#324**	0	0
		NBL	210	23	m42	23	m35	0	-7
		NBR	150	33	m72	33	m44	0	-28
		SBL	185	67	**221**	67	**221**	0	0
		SBR	150	0	m23	0	m20	0	-3
13	Cameron Ave. & Stonebrook St.[1]	NBL	145	18	5	23	8	5	3

#	Study Intersections	Lane Group	Storage Length	Five-Year Cumulative		Five-Year Cumulative Plus Project		Change	
				AM	PM	AM	PM	AM	PM
14	Cameron Ave. & West St.[1]	EBL	100	5	13	8	18	3	5
		WBL	90	0	0	0	0	0	0
		SBL	110	0	10	3	10	3	0
15	Cameron Ave. & Court St.[1]	EBL	260	15	88	15	100	0	12
		NBL	225	0	0	0	0	0	0
		SBL	195	3	3	3	3	0	0
		SBR	200	10	23	10	25	0	2
16	Visalia Pkwy. & Demaree S.t	EBL	145	72	37	72	37	0	0
		EBR	245	13	0	13	0	0	0
		WBL	180	101	99	101	99	0	0
		NBL	300	99	88	99	88	0	0
		SBL	305	158	169	#186	#213	28	44
17	Visalia Pkwy. & Dans St.[1]	EBL	190	15	3	15	3	0	0
		WBL	75	0	0	0	0	0	0
18	Visalia Pkwy. & County Center Dr.[1]	EBL	200	8	10	8	13	0	3
		SBL	190	45	118	85	**243**	40	**125**
	Mitigation: signalize	*EBL*	*200*			*#83*	*#128*		
		SBL	*190*			*72*	*114*		
19	Visalia Pkwy. & Target Access.[1]	EBL	100	5	8	5	10	0	2
		WBL	100	10	15	10	18	0	3
		NBLTR	-	285	910	415	1050	130	140
		SBLTR	-	10	618	13	670	3	52
20	Visalia Pkwy. & Mooney Blvd.	EBL	180	**#510**	**#950**	**#510**	**#950**	0	0
		WBL	175	**398**	**#388**	**#398**	**#388**	0	0
		NBL	205	146	**227**	**#272**	**#472**	**126**	**245**
		SBL	290	31	m71	115	m#286	84	215
		SBR	210	16	m13	16	m11	0	-2
	Mitigation: widening	*EBL*	*180*			***#227***	*#364*		
		WBL	*175*			*120*	***187***		
		NBL	*205*			*#127*	*181*		
		SBL	*290*			*#143*	*#281*		
		SBR	*210*			*0*	*49*		
21	Visalia Pkwy. & Stonebrook St.[2]	EBL	150	10	18	15	23	5	5
22	Midvalley Ave. & Mooney Blvd.	EBR	25	0	0	0	0	0	0
		NBL	475	13	16	14	17	1	1
		SBL	465	13	19	36	71	23	52
		SBR	140	0	16	0	15	0	-1
23	Ave. 272 & Mooney Blvd.[1]	NBL	470	5	33	5	38	0	5
		SBL	485	0	3	0	5	0	2
24	Ave. 271 &	-	-	-	-	-	-	-	-

#	Study Intersections	Lane Group	Storage Length	Five-Year Cumulative		Five-Year Cumulative Plus Project		Change	
				AM	PM	AM	PM	AM	PM
	Rd. 122[2]								
25	Ave. 268 & Mooney Blvd	NBL	470	74	109	74	109	0	0
		SBL	475	49	66	49	66	0	0
26	Visalia Pkwy. & North Access Dwy 1.[1]	-	-	-	-	3	5	-	-
27	Visalia Pkwy & Tuesday Morning Dwy[1]	EBL	150	-	-	0	3	-	-
		WBL	150	-	-	3	5	-	-
		NBR	-	-	-	0	5	-	-
		SBR	-	3	13	3	8	0	-5
28	Visalia Pkwy. & Hall St.[1]	NBR	-	-	-	3	5	-	-
29	Visalia Pkwy. & Costco Dwy.[1]	SBL	-	-	3	-	3	-	0
		SBR	-	8	40	8	45	0	5
30	Mooney Blvd. & Visalia Commons Dwy. 1[1]	EBR	-	10	25	13	28	3	3
31	Mooney Blvd. & Visalia Commons Dwy. 2[1]	EBR	-	15	35	15	38	0	3
		WBR	-	-	-	10	20	-	-
		NBL	150	25	78	25	85	0	7
		SBL	150	-	-	8	10	-	-
32	Midvalley Ave. & South Access Dwy. 1[1]	SBLR	-	-	-	5	10	-	-
33	Midvalley Ave. & South Access Dwy. 2[1]	SBLR	-	-	-	3	5	-	-
34	Midvalley Ave. & South Access Dwy. 3[1]	SBLR	-	-	-	3	3	-	-
35	Midvalley Ave. & Hall St.[1]	SBLR	-	-	-	0	3	-	-
36	Hall St. & East Access Dwy. 1[1]	EBLR	-	-	-	3	3	-	-

Notes:
1. Stop-controlled intersection
2. Uncontrolled intersection
Storage length and 95th percentile queue is expressed in feet per lane
AM – morning peak hour, PM – evening peak hour
Bold indicates queue lengths exceeding capacity. **Red** indicates significant impact.
95th percentile volume exceeds capacity, queue may be longer
m Volume for 95th percentile queue is metered by upstream signal

Figure 13a: Five-Year Cumulative Plus Phase 1 Project Conditions Peak Hour Volumes

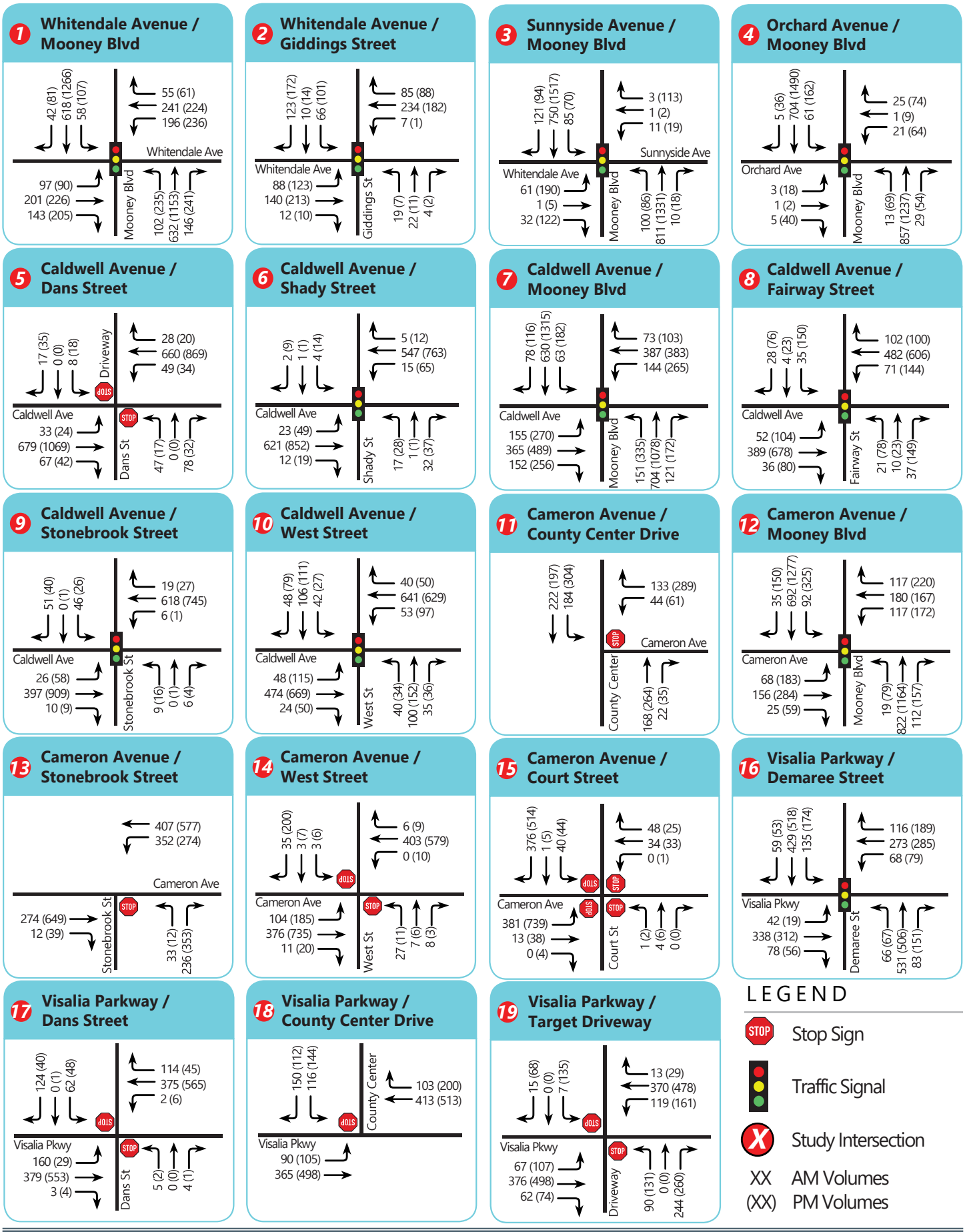
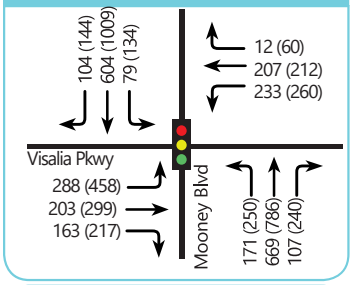
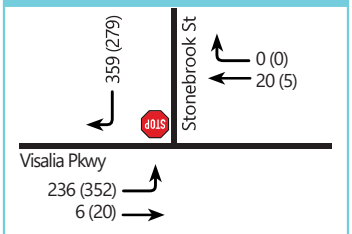


Figure 13b: Five-Year Cumulative Plus Phase 1 Project Conditions Peak Hour Volumes

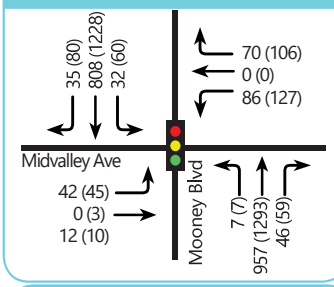
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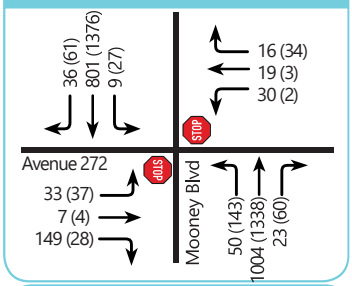
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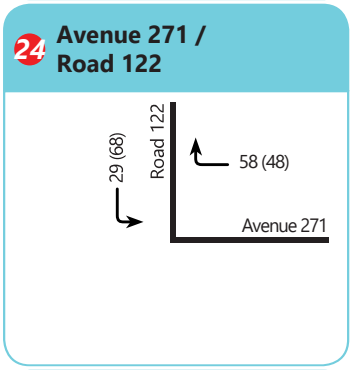
22 Midvalley Avenue / Mooney Blvd



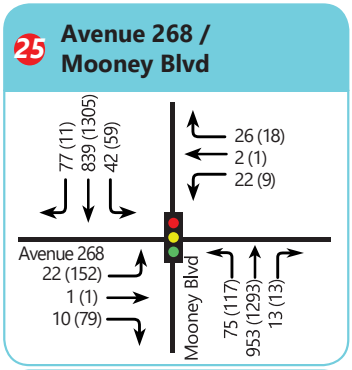
23 Visalia Parkway / Mooney Blvd



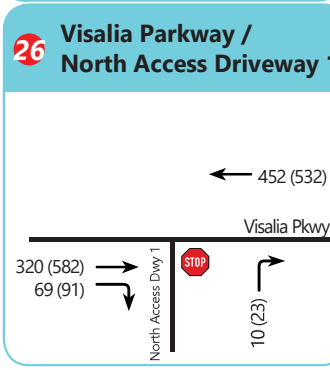
24 Avenue 271 / Road 122



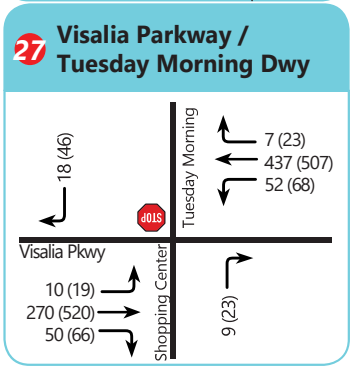
25 Avenue 268 / Mooney Blvd



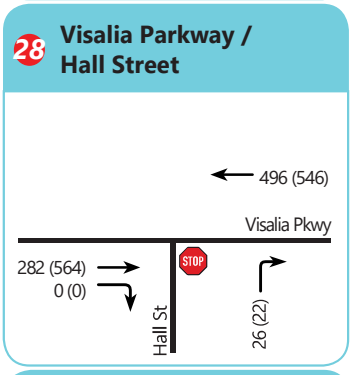
26 Visalia Parkway / North Access Driveway 1



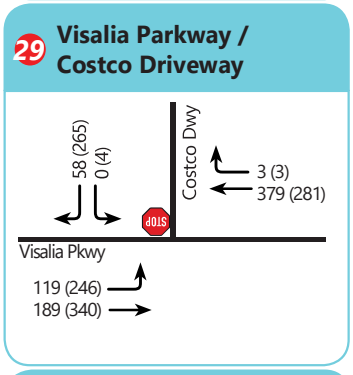
27 Visalia Parkway / Tuesday Morning Dwy



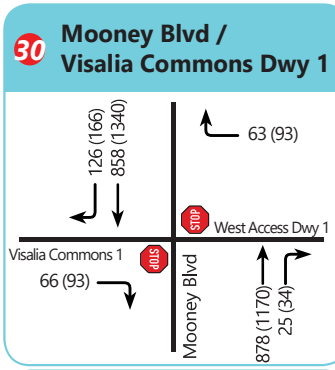
28 Visalia Parkway / Hall Street



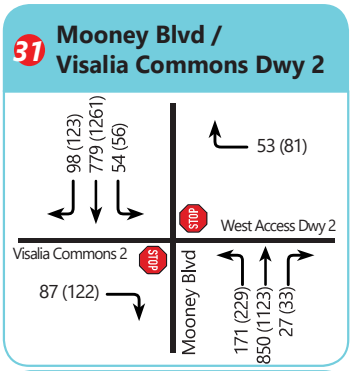
29 Visalia Parkway / Costco Driveway



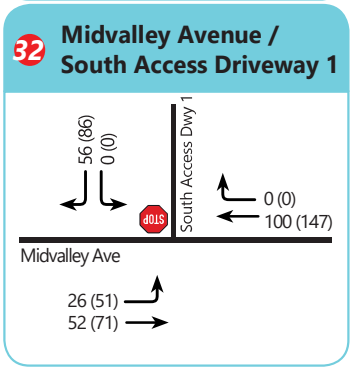
30 Mooney Blvd / Visalia Commons Dwy 1



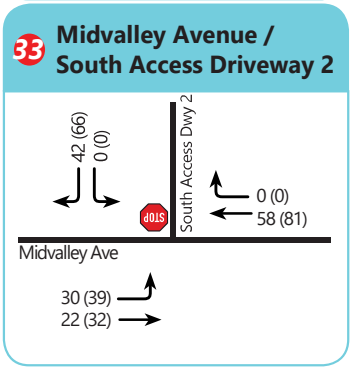
31 Mooney Blvd / Visalia Commons Dwy 2



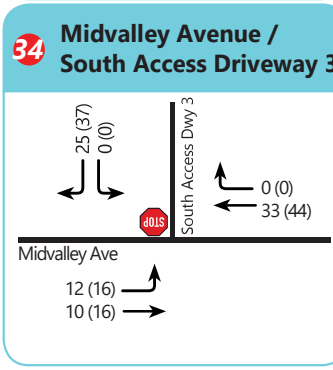
32 Midvalley Avenue / South Access Driveway 1



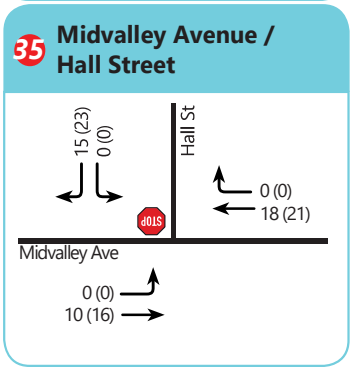
33 Midvalley Avenue / South Access Driveway 2



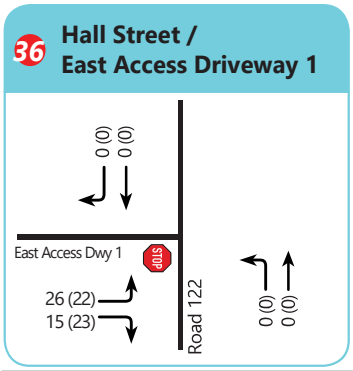
34 Midvalley Avenue / South Access Driveway 3



35 Midvalley Avenue / Hall Street



36 Hall Street / East Access Driveway 1



LEGEND



7.0 10-YEAR CUMULATIVE CONDITIONS

This chapter presents the results of the level of service calculations under 10-Year Cumulative Conditions without the project. Level of service analysis at the study intersections were conducted for 10-Year Cumulative Conditions to establish a base to evaluate the impacts due to the addition of traffic from the proposed project. Existing Conditions volumes at the study intersections were projected forward 10 years using growth factors derived from the Tulare County Association of Governments (TCAG) travel demand model.

Figure 14 shows turning movement volumes at all the study intersections for 10-Year Cumulative Conditions. Lane geometries and traffic controls were maintained, similar to existing, aside from changes listed below:

- Visalia Parkway is extended east of Stonebrook Street (same as five-year cumulative)
- Assumed the Visalia Parkway Shopping Center across the street is built-out (same as five-year cumulative)
- Intersection #11, Cameron Avenue & County Center Drive: signalize
- Intersection #15, Cameron Avenue & Court Street: signalize

7.1 Intersections Level of Service Analysis – 10-Year Cumulative Conditions

The intersection LOS analysis results for 10-Year Cumulative Conditions without the proposed project are summarized in **Table 19**. Detailed calculation sheets for 10-Year Cumulative Conditions are contained in **Appendix I**.

Under this scenario, all of the study intersections operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour, except for the following nine intersections:

- Sunnyside Avenue & Mooney Avenue (intersection #3) would operate at LOS E in the p.m. peak hour.
- Orchard Avenue & Mooney Avenue (intersection #4) would operate at LOS E in the p.m. peak hour.
- Caldwell Avenue & Dans Street (intersection #5) would operate at LOS F in the a.m. and p.m. peak hours.
- Caldwell Avenue & Mooney Boulevard (intersection #7) would operate at LOS F in the p.m. peak hour.
- Cameron Avenue & Mooney Boulevard (intersection #12) would operate at LOS E in the p.m. peak hour.
- Cameron Avenue & West Street (intersection #14) would operate at LOS F in the p.m. peak hour
- Visalia Parkway & County Center Drive (intersection #18) would operate at LOS E in the p.m. peak hour.
- Visalia Parkway & Target Access. (intersection #19) would operate at LOS F in the a.m. and p.m. peak hours.
- Avenue 272 & Mooney Boulevard (intersection #23) is operating at LOS F in the a.m. and p.m. peak hours.

Table 19: Intersection Level of Service Analysis – 10-Year Cumulative Conditions

#	Study Intersections	Control	Peak Hour[1]	10-Year Cumulative Conditions	
				Delay[2]	LOS[3]
1	Whitendale Ave. & Mooney Blvd.	Signal	A.M.	36.7	D
			P.M.	40.4	D
2	Whitendale Ave. & Giddings St.	Signal	A.M.	11.3	B
			P.M.	11.7	B
3	Sunnyside Ave. & Mooney Ave.	Signal	A.M.	15.9	B
			P.M.	**64.8**	**E**
4	Orchard Ave. & Mooney Ave.	Signal	A.M.	23.9	C
			P.M.	**60.7**	**E**
5	Caldwell Ave. & Dans St.	Two-Way Stop	A.M.	**142.8**	**F**
			P.M.	**98.8**	**F**
6	Caldwell Ave. & Shady St.	Signal	A.M.	10.4	B
			P.M.	13.2	B
7	Caldwell Ave. & Mooney Blvd.	Signal	A.M.	39.7	D
			P.M.	**57.1**	**E**
8	Caldwell Ave. & Fairway St.	Signal	A.M.	13.8	B
			P.M.	24.1	C
9	Caldwell Ave. & Stonebrook St.	Signal	A.M.	9.4	A
			P.M.	11.5	B
10	Caldwell Ave. & West St.	Signal	A.M.	13.0	B
			P.M.	15.2	B
11	Cameron Ave. & County Center Dr.	Signal	A.M.	6.0	A
			P.M.	10.4	B
12	Cameron Ave. & Mooney Blvd.	Signal	A.M.	35.6	D
			P.M.	**71.7**	**E**
13	Cameron Ave. & Stonebrook St.	One-Way Stop	A.M.	28.2	D
			P.M.	30.7	D
14	Cameron Ave. & West St.	Two-Way Stop	A.M.	18.7	C
			P.M.	**59.6**	**F**
15	Cameron Ave. & Court St.	Signal	A.M.	7.4	A
			P.M.	10.1	B
16	Visalia Pkwy. & Demaree S.t	Signal	A.M.	23.6	C
			P.M.	22.9	C
17	Visalia Pkwy. & Dans St.	Two-Way Stop	A.M.	23.3	C
			P.M.	19.2	C
18	Visalia Pkwy. & County Center Dr.	One-Way Stop	A.M.	22.5	C
			P.M.	**35.6**	**E**
19	Visalia Pkwy. & Target Access.	One-Way Stop	A.M.	**64.0**	**F**
			P.M.	**>1,200**	**F**
20	Visalia Pkwy. & Mooney Blvd.	Signal	A.M.	26.2	C
			P.M.	43.9	D
21	Visalia Pkwy. & Stonebrook St.	Uncontrolled	A.M.	10.4	B
			P.M.	9.4	A
22	Midvalley Ave. & Mooney Blvd.	Signal	A.M.	11.4	B
			P.M.	12.5	B
23	Ave. 272 & Mooney Blvd.	Two-Way Stop	A.M.	**138.9**	**F**
			P.M.	**308.3**	**F**
24	Ave. 271 & Rd. 122	Uncontrolled	A.M.	-	-
			P.M.	-	-
25	Ave. 268 & Mooney Blvd	Signal	A.M.	14.7	B
			P.M.	25.1	C

#	Study Intersections	Control	Peak Hour[1]	10-Year Cumulative Conditions	
				Delay[2]	LOS[3]
26	Visalia Pkwy. & North Access Dwy 1.	One-Way Stop	A.M.	-	-
			P.M.	-	-
27	Visalia Pkwy & Tuesday Morning Dwy.	One-Way Stop	A.M.	11.3	B
			P.M.	16.3	C
28	Visalia Pkwy. & Hall St.	One-Way Stop	A.M.	-	-
			P.M.	-	-
29	Visalia Pkwy. & Costco Dwy.	One-Way Stop	A.M.	11.1	B
			P.M.	23.0	C
30	Mooney Blvd. & Visalia Commons Dwy. 1	Two-Way Stop	A.M.	11.0	B
			P.M.	14.3	B
31	Mooney Blvd. & Visalia Commons Dwy. 2	Two-Way Stop	A.M.	11.1	B
			P.M.	15.5	C
32	Midvalley Ave. & South Access Dwy. 1	One-Way Stop	A.M.	-	-
			P.M.	-	-
33	Midvalley Ave. & South Access Dwy. 2	One-Way Stop	A.M.	-	-
			P.M.	-	-
34	Midvalley Ave. & South Access Dwy. 3	One-Way Stop	A.M.	-	-
			P.M.	-	-
35	Midvalley Ave. & Hall St.	One-Way Stop	A.M.	-	-
			P.M.	-	-
36	Hall St. & East Access Dwy. 1	One-Way Stop	A.M.	-	-
			P.M.	-	-

Notes:
1. AM – morning peak hour, PM – evening peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.
3. LOS – Level of Service. **Bold** indicates unacceptable LOS and Delay.

7.2 Queuing Analysis – 10-Year Cumulative Conditions

TJKM conducted a vehicle queueing and storage analysis for exclusive left and right turn pockets at the study intersections. The 95th percentile queues were analyzed using Synchro software. Detailed calculations are included in **Appendix I**. **Table 20** summarizes the 95th percentile queue lengths at study intersections under 10-Year Cumulative Conditions. It should be noted that at five study intersections, one or more queue lengths exceed capacity, creating a deficient conditions.

Table 20: 95th Percentile Queues – 10-Year Cumulative Conditions

#	Study Intersections	Lane Group	Storage Length	10-Year Cumulative	
				AM	PM
1	Whitendale Ave. & Mooney Blvd.	EBL	155	71	66
		EBR	260	6	42
		WBL	250	101	#120
		WBR	235	0	0
		NBL	290	62	#185
		NBR	130	39	88

#	Study Intersections	Lane Group	Storage Length	10-Year Cumulative	
				AM	PM
		SBL	445	51	#89
		SBR	190	0	6
2	Whitendale Ave. & Giddings St.	EBL	105	63	82
		WBL	105	13	4
		WBR	35	28	15
		SBL	150	49	67
		SBR	50	34	38
3	Sunnyside Ave. & Mooney Ave.	EBL	170	66	130
		WBL	100	9	13
		NBL	400	61	#99
		SBL	270	#116	92
4	Orchard Ave. & Mooney Ave.	WBL	105	43	**#112**
		NBL	125	14	47
		NBR	100	0	0
		SBL	250	105	**#314**
		SBR	100	0	0
5	Caldwell Ave. & Dans St.[1]	NBLTR	-	215	83
		SBLTR	-	20	70
6	Caldwell Ave. & Shady St.	EBL	240	31	74
		WBL	250	23	92
		SBR	-	0	0
7	Caldwell Ave. & Mooney Blvd.	EBL	345	103	#204
		WBL	340	77	143
		NBL	265	#74	#238
		NBR	165	23	41
		SBL	270	53	#169
		SBR	270	7	32
8	Caldwell Ave. & Fairway St.	EBL	200	72	#169
		WBL	285	#120	#250
		NBL	120	18	46
		SBL	55	24	**81**
9	Caldwell Ave. & Stonebrook St	EBL	235	29	56
		WBL	300	-	5
		SBL	-	52	35
		SBR	200	0	4
10	Caldwell Ave. & West St.	EBL	300	58	109
		EBR	110	1	15
		WBL	290	52	88
		WBR	100	10	16
		NBR	50	0	0
11	Cameron Ave. &	WBR	100	25	50

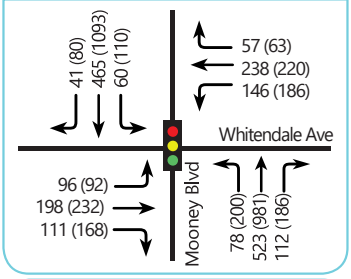
#	Study Intersections	Lane Group	Storage Length	10-Year Cumulative	
				AM	PM
	County Center Dr.[1]	NBR	160	6	8
		SBL	145	53	129
12	Cameron Ave. & Mooney Blvd.	EBL	155	94	**#339**
		WBL	300	123	#260
		NBL	210	11	m30
		NBR	150	9	m42
		SBL	185	57	**#243**
		SBR	150	0	18
13	Cameron Ave. & Stonebrook St.[1]	NBL	145	3	3
14	Cameron Ave. & West St.[1]	EBL	100	5	10
		WBL	90	0	0
		SBL	110	0	5
15	Cameron Ave. & Court St.[1]	EBL	260	75	**#297**
		NBL	225	2	6
		SBL	195	24	37
		SBR	200	0	52
16	Visalia Pkwy. & Demaree S.t	EBL	145	71	35
		EBR	245	16	0
		WBL	180	97	#142
		NBL	300	90	84
		SBL	305	127	#158
17	Visalia Pkwy. & Dans St.[1]	EBL	190	13	3
		WBL	75	0	0
18	Visalia Pkwy. & County Center Dr.[1]	EBL	200	8	10
		SBL	190	28	45
19	Visalia Pkwy. & Target Access.[1]	EBL	100	3	5
		WBL	100	10	15
		NBLTR	-	255	830
		SBLTR	-	8	580
20	Visalia Pkwy. & Mooney Blvd.	EBL	180	#97	**#209**
		WBL	175	**200**	**#302**
		NBL	205	#151	#180
		SBL	290	26	m73
		SBR	210	0	m13
21	Visalia Pkwy. & Stonebrook St.[2]	EBL	150	13	20
22	Midvalley Ave. & Mooney Blvd.	EBR	25	0	0
		NBL	475	14	17
		SBL	465	14	21
		SBR	140	0	8
23	Ave. 272 &	NBL	470	5	28

#	Study Intersections	Lane Group	Storage Length	10-Year Cumulative	
				AM	PM
	Mooney Blvd.[1]	SBL	485	0	3
24	Ave. 271 & Rd. 122[2]	-	-	-	-
25	Ave. 268 & Mooney Blvd	NBL	470	75	#149
		SBL	475	49	65
26	Visalia Pkwy. & North Access Dwy 1.[1]	-	-	-	-
27	Visalia Pkwy & Tuesday Morning Dwy[1]	EBL	150	0	3
		WBL	150	-	-
		NBR	-	-	-
		SBR	-	3	10
28	Visalia Pkwy. & Hall St.[1]	NBR	-	-	-
29	Visalia Pkwy. & Costco Dwy.[1]	SBL	-	-	3
		SBR	-	8	43
30	Mooney Blvd. & Visalia Commons Dwy. 1[1]	EBR	-	10	20
		WBR	-	-	-
31	Mooney Blvd. & Visalia Commons Dwy. 2[1]	EBR	-	13	28
		WBR	-	-	-
		NBL	150	20	53
		SBL	150	-	-
32	Midvalley Ave. & South Access Dwy. 1[1]	SBLR	-	-	-
33	Midvalley Ave. & South Access Dwy. 2[1]	SBLR	-	-	-
34	Midvalley Ave. & South Access Dwy. 3[1]	SBLR	-	-	-
35	Midvalley Ave. & Hall St.[1]	SBLR	-	-	-
36	Hall St. & East Access Dwy. 1[1]	EBLR	-	-	-

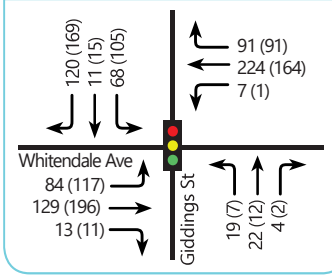
Notes:
1. Stop-controlled intersection
2. Uncontrolled intersection
Storage length and 95th percentile queue is expressed in feet per lane
AM – morning peak hour, PM – evening peak hour
Bold indicates queue lengths exceeding capacity.
95th percentile volume exceeds capacity, queue may be longer
m Volume for 95th percentile queue is metered by upstream signal

Figure 14a: 10 Year Cumulative Conditions Peak Hour Volumes

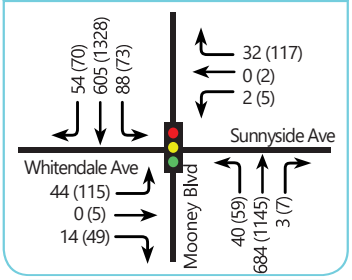
1 Whitendale Avenue / Mooney Blvd



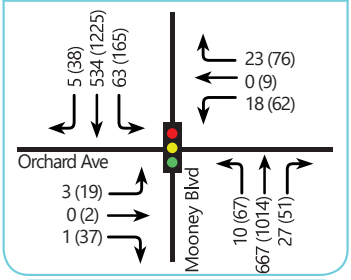
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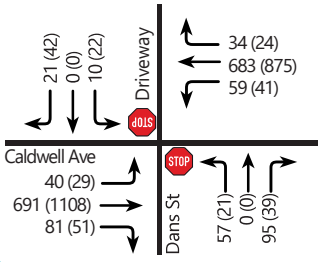
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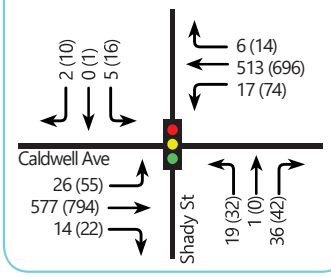
4 Orchard Avenue / Mooney Blvd



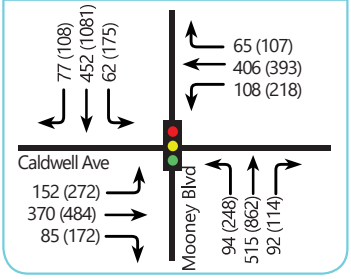
5 Caldwell Avenue / Dans Street



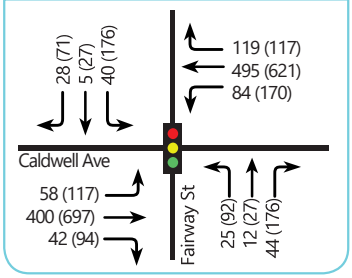
6 Caldwell Avenue / Shady Street



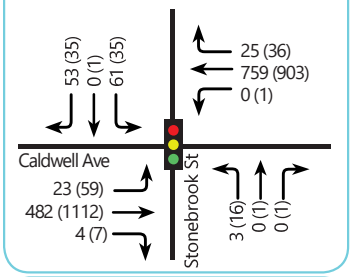
7 Caldwell Avenue / Mooney Blvd



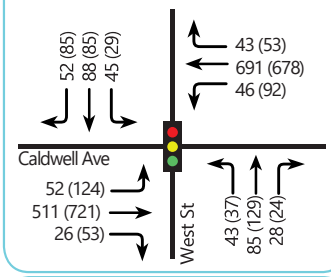
8 Caldwell Avenue / Fairway Street



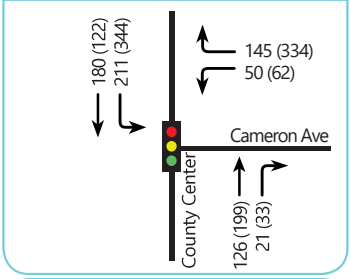
9 Caldwell Avenue / Stonebrook Street



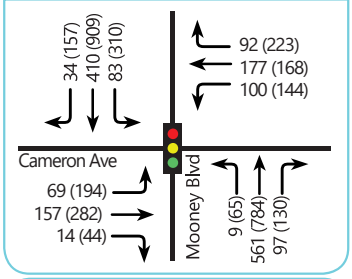
10 Caldwell Avenue / West Street



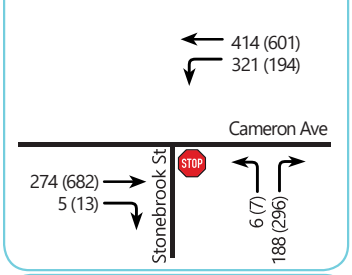
11 Cameron Avenue / County Center Drive



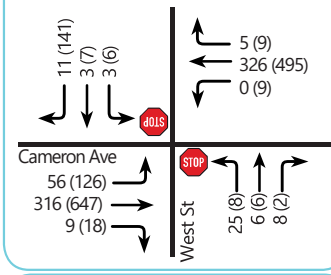
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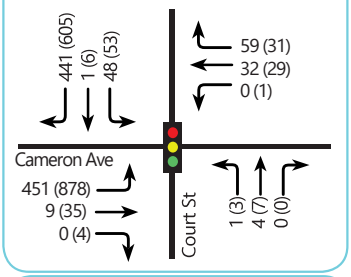
13 Cameron Avenue / Stonebrook Street



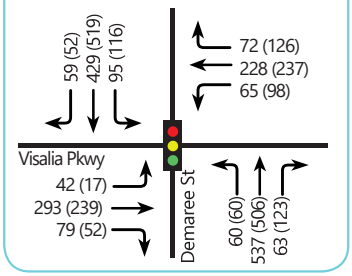
14 Cameron Avenue / West Street



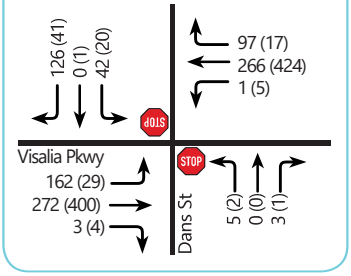
15 Cameron Avenue / Court Street



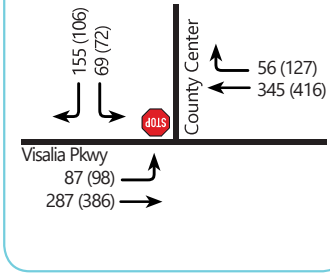
16 Visalia Parkway / Demaree Street



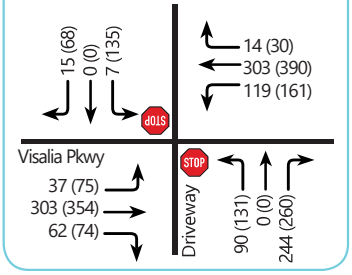
17 Visalia Parkway / Dans Street



18 Visalia Parkway / County Center Drive



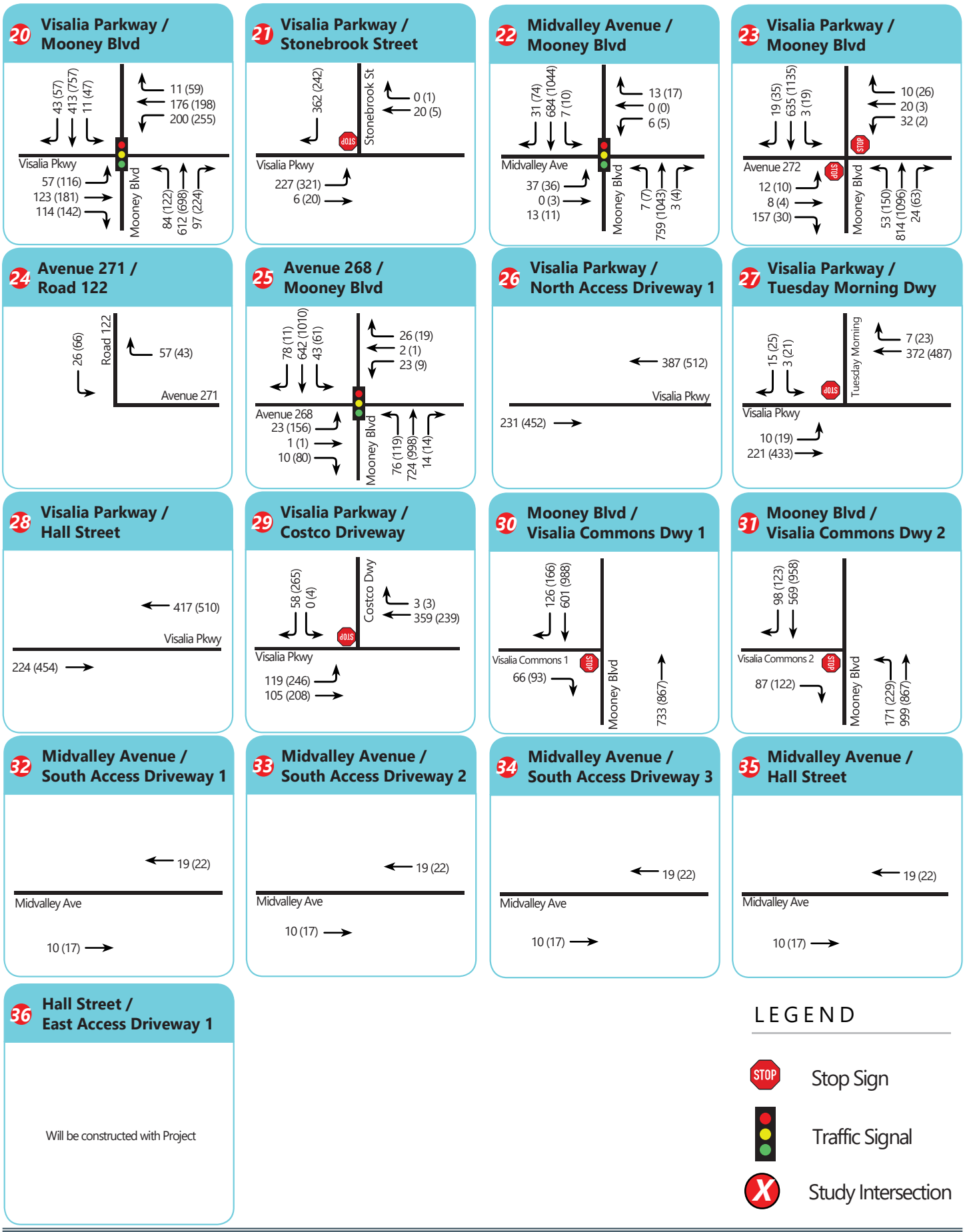
19 Visalia Parkway / Target Driveway



LEGEND

- STOP — Stop Sign
- Traffic Signal
- X — Study Intersection
- XX — AM Volumes
- (XX) — PM Volumes

Figure 14b: 10-Year Cumulative Conditions Peak Hour Volumes



8.0 10-YEAR CUMULATIVE PLUS PROJECT CONDITIONS

This scenario is identical to Five-Year Cumulative Conditions, with the addition of projected traffic from both Phase I and Phase II of the proposed development. Trip distribution assumptions are identical to those assumed under Existing Plus Project Conditions. Trip assignment for Phase I and Phase II of the proposed project are shown in **Figure 10**. **Figure 15** shows projected turning movement volumes at all study intersections for 10-Year Cumulative Plus Project Conditions.

8.1 Intersection Level of Service Analysis – 10-Year Cumulative Plus Project Conditions

The intersection LOS analysis results for 10-Year Cumulative Plus Project Conditions are summarized in **Table 21**. Detailed calculation sheets for 10-Year Cumulative Plus Project Conditions are contained in **Appendix J**.

Under this scenario, all but 11 of the study intersections would continue to operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour. The following nine intersections already operate at unacceptable level of service in one or both peak hours, without the addition of project traffic.

- Sunnyside Avenue & Mooney Avenue (intersection #3) would degrade from LOS E to LOS F in the p.m. peak hour with a *significant increase* in average delay of 18.4 seconds.
- Orchard Avenue & Mooney Avenue (intersection #4) would continue to operate at LOS E in the p.m. peak hour, with a *significant increase* in average delay of 14.8 seconds.
- Caldwell Avenue & Dans Street (intersection #5) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 48.5 in the a.m. peak hour and 44.2 seconds in the p.m. peak hour.
- Caldwell Avenue & Mooney Boulevard (intersection #7) would continue to operate at LOS E in the p.m. peak hour, with a *decrease* in average delay of 0.4 seconds.
- Cameron Avenue & Mooney Boulevard (intersection #12) would continue to operate at LOS E in the p.m. peak hour, with a *decrease* in average delay of 3.6 seconds.
- Cameron Avenue & West Street (intersection #14) would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 58.8 seconds.
- Visalia Parkway & County Center Drive (intersection #18) would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 73.7 seconds
- Visalia Parkway & Target Access. (intersection #19) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 82.8 seconds in the a.m. peak hour and 1,659.2 seconds in the p.m. peak hour.
- Avenue 272 & Mooney Boulevard (intersection #23) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 111.2 seconds in the a.m. peak hour and 2,513.9 seconds in the p.m. peak hour.

The following two intersections would degrade from acceptable to unacceptable level of service with the addition of project traffic:

- Cameron Avenue & Stonebrook Street (intersection #13) would degrade from LOS D to LOS E in the a.m. peak hour and from LOS D to LOS F in the p.m. peak hour, both *significant degradations*.

- Visalia Parkway & Mooney Boulevard (intersection #20) would degrade from LOS D to LOS F in the p.m. peak hour, a *significant degradation*.

At nine of the 11 intersections listed above, added project traffic would either degrade the level of service from an acceptable to unacceptable level, or increase average delay by more than 5.0 seconds, constituting significant inconsistencies with the City of Visalia General Plan. Six of the intersections with significant inconsistencies are currently stop-controlled, and the identified inconsistencies can be mitigated with signalization, as shown in **Table 21** At the intersections of Sunnyside Avenue & Mooney Avenue (intersection #3) and Orchard Avenue & Mooney Avenue (intersection #4), optimizing the signal timing would provide adequate mitigation. At Visalia Parkway & Mooney Boulevard the same widening plan identified as a mitigation measure for Existing plus Project Conditions would provide adequate mitigation for this scenario. **Appendix M** includes full descriptions of all mitigation measures and LOS worksheets for mitigated conditions. Based on the City of Visalia impact criteria, with mitigation the project is expected to be **consistent** with general plan requirements at all study intersections.

Table 21: Intersection Level of Service Analysis – 10-Year Cumulative plus Project Conditions

#	Study Intersections	Control	Peak Hour[1]	10-Year Cumulative Conditions		10-Year Cumulative Plus Project Conditions		Change in Delay
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
1	Whitendale Ave. & Mooney Blvd.	Signal	A.M.	36.7	D	40.1	D	3.4
			P.M.	40.4	D	47.1	D	6.7
2	Whitendale Ave. & Giddings St.	Signal	A.M.	11.3	B	11.5	B	0.2
			P.M.	11.7	B	12.1	B	0.4
3	Sunnyside Ave. & Mooney Ave.	Signal	A.M.	15.9	B	16.3	B	0.4
			P.M.	**64.8**	**E**	**83.2**	**F**	**18.4**
	Mitigation: optimize signal timing	*Signal*	*A.M.*			*16.3*	*B*	
			P.M.			*49.2*	*D*	
4	Orchard Ave. & Mooney Ave.	Signal	A.M.	23.9	C	24.4	C	0.5
			P.M.	**60.7**	**E**	**75.5**	**E**	**14.8**
	Mitigation: optimize signal timing	*Signal*	*A.M.*			*22.7*	*C*	
			P.M.			*33.6*	*C*	
5	Caldwell Ave. & Dans St.	Two-Way Stop	A.M.	**142.8**	**F**	**191.3**	**F**	**48.5**
			P.M.	**98.8**	**F**	**143.0**	**F**	**44.2**
	Mitigation: signalize	*Signal*	*A.M.*			*10.4*	*B*	
			P.M.			*9.0*	*A*	
6	Caldwell Ave. & Shady St.	Signal	A.M.	10.4	B	10.4	B	0.0
			P.M.	13.2	B	13.2	B	0.0
7	Caldwell Ave. & Mooney Blvd.	Signal	A.M.	39.7	D	39.1	D	-0.6
			P.M.	**57.1**	**E**	**56.7**	**E**	-0.4
8	Caldwell Ave. & Fairway St.	Signal	A.M.	13.8	B	13.8	B	0.0
			P.M.	24.1	C	24.2	C	0.1
9	Caldwell Ave. & Stonebrook St.	Signal	A.M.	9.4	A	9.8	A	0.4
			P.M.	11.5	B	12.0	B	0.5
10	Caldwell Ave. & West St.	Signal	A.M.	13.0	B	14.0	B	1.0
			P.M.	15.2	B	16.8	B	1.6
11	Cameron Ave. & County Center Dr.	Signal	A.M.	6.0	A	6.0	A	0.0
			P.M.	10.4	B	10.8	B	0.4
12	Cameron Ave. & Mooney Blvd.	Signal	A.M.	35.6	D	34.2	C	-1.4
			P.M.	**71.7**	**E**	**68.1**	**E**	-3.6

#	Study Intersections	Control	Peak Hour[1]	10-Year Cumulative Conditions		10-Year Cumulative Plus Project Conditions		Change in Delay
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
13	Cameron Ave. & Stonebrook St.	One-Way Stop	A.M.	28.2	D	**35.4**	**E**	**7.2**
			P.M.	30.7	D	**56.9**	**F**	**26.2**
	Mitigation: signalize	*Signal*	*A.M.*			*15.5*	*B*	
			P.M.			*44.8*	*D*	
14	Cameron Ave. & West St.	Two-Way Stop	A.M.	18.7	C	23.6	C	4.9
			P.M.	**59.6**	**F**	**118.4**	**F**	**58.8**
	Mitigation: signalize	*Signal*	*A.M.*			*8.1*	*A*	
			P.M.			*15.5*	*B*	
15	Cameron Ave. & Court St.	Signal	A.M.	7.4	A	7.6	A	0.2
			P.M.	10.1	B	10.5	B	0.4
16	Visalia Pkwy. & Demaree S.t	Signal	A.M.	23.6	C	24.8	C	1.2
			P.M.	22.9	C	24.7	C	1.8
17	Visalia Pkwy. & Dans St.	Two-Way Stop	A.M.	23.3	C	31.6	D	8.3
			P.M.	19.2	C	28.5	D	9.3
18	Visalia Pkwy. & County Center Dr.	One-Way Stop	A.M.	22.5	C	33.7	D	11.2
			P.M.	**35.6**	**E**	**109.3**	**F**	**73.7**
	Mitigation: signalize	*Signal*	*A.M.*			*10.9*	*B*	
			P.M.			*12.0*	*B*	
19	Visalia Pkwy. & Target Access.	One-Way Stop	A.M.	**64.0**	**F**	**146.8**	**F**	**82.8**
			P.M.	**1,236.9**	**F**	**2,896.1**	**F**	**1,659.2**
	Mitigation: signalize	*Signal*	*A.M.*			*12.3*	*B*	
			P.M.			*15.1*	*B*	
20	Visalia Pkwy. & Mooney Blvd.	Signal	A.M.	26.2	C	46.3	D	20.1
			P.M.	43.9	D	**80.1**	**F**	**36.2**
	Mitigation: Widening	*Signal*	*A.M.*			*31.2*	*C*	
			P.M.			*50.4*	*D*	
21	Visalia Pkwy. & Stonebrook St.	Uncontrolled	A.M.	10.4	B	11.0	B	0.6
			P.M.	9.4	A	10.0	B	0.6
22	Midvalley Ave. & Mooney Blvd.	Signal	A.M.	11.4	B	16.1	B	4.7
			P.M.	12.5	B	28.2	C	15.7
23	Ave. 272 & Mooney Blvd.	Two-Way Stop	A.M.	**138.9**	**F**	**250.1**	**F**	**111.2**
			P.M.	**308.3**	**F**	**2,822.2**	**F**	**2,513.9**
	Mitigation: Signalize	*Signal*	*A.M.*			*10.8*	*B*	
			P.M.			*10.4*	*B*	
24	Ave. 271 & Rd. 122	Uncontrolled	A.M.	-	-	-	-	-
			P.M.	-	-	-	-	-
25	Ave. 268 & Mooney Blvd	Signal	A.M.	14.7	B	15.0	B	0.3
			P.M.	25.1	C	28.8	C	3.7
26	Visalia Pkwy. & North Access Dwy 1.	One-Way Stop	A.M.	-	-	10.4	B	-
			P.M.	-	-	12.8	B	-
27	Visalia Pkwy & Tuesday Morning Dwy.	One-Way Stop	A.M.	11.3	B	10.8	B	-0.5
			P.M.	16.3	C	12.1	B	-4.2
28	Visalia Pkwy. & Hall St.	One-Way Stop	A.M.	-	-	9.9	A	-
			P.M.	-	-	12.3	B	-
29	Visalia Pkwy. & Costco Dwy.	One-Way Stop	A.M.	11.1	B	11.7	B	0.6
			P.M.	23.0	C	30.1	D	7.1
30	Mooney Blvd. & Visalia Commons Dwy. 1	Two-Way Stop	A.M.	11.0	B	13.1	B	2.1
			P.M.	14.3	B	17.3	C	3.0
31	Mooney Blvd. & Visalia Commons Dwy. 2	Two-Way Stop	A.M.	11.1	B	12.2	B	1.1
			P.M.	15.5	C	16.7	C	1.2

#	Study Intersections	Control	Peak Hour[1]	10-Year Cumulative Conditions		10-Year Cumulative Plus Project Conditions		Change in Delay
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
32	Midvalley Ave. & South Access Dwy. 1	One-Way Stop	A.M.	-	-	9.2	A	-
			P.M.	-	-	10.1	B	-
33	Midvalley Ave. & South Access Dwy. 2	One-Way Stop	A.M.	-	-	8.9	A	-
			P.M.	-	-	9.3	A	-
34	Midvalley Ave. & South Access Dwy. 3	One-Way Stop	A.M.	-	-	8.6	A	-
			P.M.	-	-	8.8	A	-
35	Midvalley Ave. & Hall St.	One-Way Stop	A.M.	-	-	8.5	A	-
			P.M.	-	-	8.5	A	-
36	Hall St. & East Access Dwy. 1	One-Way Stop	A.M.	-	-	8.6	A	-
			P.M.	-	-	8.7	A	-

Notes:
1. AM – morning peak hour, PM – evening peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.
3. LOS – Level of Service. **Bold** indicates unacceptable Level of Service. **Red** indicates a significant impact.

8.2 Queuing Analysis – 10-Year Cumulative plus Project Conditions

TJKM conducted a vehicle queueing and storage analysis for exclusive left and right turn pockets at the study intersections where project traffic is added under Five-Year Plus Project Conditions. The 95th percentile queues were analyzed using Synchro 10.0 software. Detailed calculations are included in the LOS appendices corresponding to each analysis scenario. **Table 22** summarizes the 95th percentile queue lengths at selected study intersections under Five-Year Cumulative and Five-Year Cumulative Plus Project scenarios. It should be noted that queue lengths at six locations exceed capacity, creating a deficient conditions. With the addition of project traffic, both Caldwell Avenue & Mooney Boulevard (intersection #7) and Visalia Parkway & Mooney Boulevard (intersection #20) would experience new queue overflows and/or increase existing overflows by more than one car length, thus creating significant impacts. With optimized signal timing at intersection #7 and widening at intersection #20 as described in section 8.1, both impacts would be eliminated. With mitigation, the project is expected to have a **less-than-significant impact** on intersection queuing operations. Queuing calculation sheets for 10-Year Plus Project Conditions are included in **Appendix J**. Calculation sheets for mitigated conditions are included in **Appendix M**.

Table 22: 95th Percentile Queues – 10 Year Cumulative plus Project Conditions

#	Study Intersections	Lane Group	Storage Length	10-Year Cumulative		10-Year Cumulative Plus Project		Change	
				AM	PM	AM	PM	AM	PM
1	Whitendale Ave. & Mooney Blvd.	EBL	155	71	66	71	66	0	0
		EBR	260	6	42	21	64	15	22
		WBL	250	101	#120	118	#165	17	45
		WBR	235	0	0	0	0	0	0
		NBL	290	62	#185	#80	#217	18	32

#	Study Intersections	Lane Group	Storage Length	10-Year Cumulative		10-Year Cumulative Plus Project		Change	
				AM	PM	AM	PM	AM	PM
		NBR	130	39	88	47	111	8	23
		SBL	445	51	#89	51	#89	0	0
		SBR	190	0	6	0	6	0	0
2	Whitendale Ave. & Giddings St.	EBL	105	63	82	68	93	5	11
		WBL	105	13	4	13	4	0	0
		WBR	35	28	15	28	15	0	0
		SBL	150	49	67	50	69	1	2
		SBR	50	34	38	35	40	1	2
3	Sunnyside Ave. & Mooney Ave.	EBL	170	66	130	66	130	0	0
		WBL	100	9	13	25	29	16	16
		NBL	400	61	#99	61	#99	0	0
		SBL	270	#116	92	#116	92	0	0
4	Orchard Ave. & Mooney Ave.	WBL	105	43	**#112**	43	**#112**	0	0
		NBL	125	14	47	14	47	0	0
		NBR	100	0	0	0	0	0	0
		SBL	250	105	**#314**	105	**#314**	0	0
		SBR	100	0	0	0	0	0	0
5	Caldwell Ave. & Dans St.[1]	NBLTR	-	215	83	245	100	30	17
		SBLTR	-	20	70	23	88	3	18
6	Caldwell Ave. & Shady St.	EBL	240	31	74	32	74	1	0
		WBL	250	23	92	24	92	1	0
		SBR	-	0	0	0	0	0	0
7	Caldwell Ave. & Mooney Blvd.	EBL	345	103	#204	103	#204	0	0
		WBL	340	77	143	82	#159	5	16
		NBL	265	#74	#238	#118	**#303**	44	65
		NBR	165	23	41	28	50	5	9
		SBL	270	53	#169	53	#169	0	0
		SBR	270	7	32	7	32	0	0
	Mitigation: optimize signal timing	*EBL*	*345*			*103*	*181*		
		WBL	*340*			*82*	*156*		
		NBL	*265*			*#102*	*#253*		
		NBR	*165*			*28*	*61*		
		SBL	*270*			*53*	*125*		
		SBR	*270*			*7*	*41*		
8	Caldwell Ave. & Fairway St.	EBL	200	72	#169	72	#169	0	0
		WBL	285	#120	#250	#120	#250	0	0
		NBL	120	18	46	18	46	0	0
		SBL	55	24	**81**	24	**81**	0	0
9	Caldwell Ave. & Stonebrook St	EBL	235	29	56	36	64	7	8
		WBL	300	-	5	-	5	-	0
		SBL	-	52	35	52	35	0	0

#	Study Intersections	Lane Group	Storage Length	10-Year Cumulative		10-Year Cumulative Plus Project		Change	
				AM	PM	AM	PM	AM	PM
		SBR	200	0	4	0	12	0	8
10	Caldwell Ave. & West St.	EBL	300	58	109	59	#119	1	10
		EBR	110	1	15	1	16	0	1
		WBL	290	52	88	66	#128	14	40
		WBR	100	10	16	10	16	0	0
		NBR	50	0	0	3	5	3	5
11	Cameron Ave. & County Center Dr.[1]	WBR	100	25	50	26	50	1	0
		NBR	160	6	8	6	8	0	0
		SBL	145	53	129	53	134	0	5
12	Cameron Ave. & Mooney Blvd.	EBL	155	94	**#339**	94	**#339**	0	0
		WBL	300	123	#260	123	#260	0	0
		NBL	210	11	m30	11	m20	0	-10
		NBR	150	9	m42	9	m20	0	-22
		SBL	185	57	**#243**	57	**#243**	0	0
		SBR	150	0	18	0	18	0	0
13	Cameron Ave. & Stonebrook St.[1]	NBL	145	3	3	5	5	2	2
14	Cameron Ave. & West St.[1]	EBL	100	5	10	8	18	3	8
		WBL	90	0	0	0	0	0	0
		SBL	110	0	5	0	8	0	3
15	Cameron Ave. & Court St.[1]	EBL	260	75	**#297**	80	**#321**	5	24
		NBL	225	2	6	2	6	0	0
		SBL	195	24	37	24	37	0	0
		SBR	200	0	52	0	53	0	1
16	Visalia Pkwy. & Demaree S.t	EBL	145	71	35	71	36	0	1
		EBR	245	16	0	16	0	0	0
		WBL	180	97	#142	97	#146	0	4
		NBL	300	90	84	90	86	0	2
		SBL	305	127	#158	#168	#224	41	66
17	Visalia Pkwy. & Dans St.[1]	EBL	190	13	3	15	3	2	0
		WBL	75	0	0	0	0	0	0
18	Visalia Pkwy. & County Center Dr.[1]	EBL	200	8	10	8	10	0	0
		SBL	190	28	45	58	147	30	102
19	Visalia Pkwy. & Target Access.[1]	EBL	100	3	5	3	8	0	3
		WBL	100	10	15	10	18	0	3
		NBLTR	-	255	830	393	1035	138	205
		SBLTR	-	8	580	13	668	5	88
20	Visalia Pkwy. & Mooney Blvd.	EBL	180	#97	**#209**	#97	**#209**	0	0
		WBL	175	**200**	**#302**	**200**	**#313**	0	11
		NBL	205	#151	#180	**#298**	**#440**	**147**	**260**
		SBL	290	26	m73	#165	**m#324**	139	**251**

#	Study Intersections	Lane Group	Storage Length	10-Year Cumulative		10-Year Cumulative Plus Project		Change	
				AM	PM	AM	PM	AM	PM
		SBR	210	0	m13	0	m10	0	-3
	With mitigation: widening	*EBL*	*180*			*41*	*#105*		
		WBL	*175*			*106*	*#175*		
		NBL	*205*			*#119*	*163*		
		SBL	*290*			*#165*	*#298*		
		SBR	*210*			*0*	*0*		
21	Visalia Pkwy. & Stonebrook St.[2]	EBL	150	13	20	18	28	5	8
22	Midvalley Ave. & Mooney Blvd.	EBR	25	0	0	0	0	0	0
		NBL	475	14	17	15	17	1	0
		SBL	465	14	21	49	#101	35	80
		SBR	140	0	8	0	8	0	0
23	Ave. 272 & Mooney Blvd.[1]	NBL	470	5	28	5	35	0	7
		SBL	485	0	3	0	5	0	2
24	Ave. 271 & Rd. 122[2]	-	-	-	-	-	-	-	-
25	Ave. 268 & Mooney Blvd	NBL	470	75	#149	75	#149	0	0
		SBL	475	49	65	49	65	0	0
26	Visalia Pkwy. & North Access Dwy 1.[1]	-	-	-	-	3	5	-	-
27	Visalia Pkwy & Tuesday Morning Dwy[1]	EBL	150	0	3	0	3	0	0
		WBL	150	-	-	5	8	-	-
		NBR	-	-	-	3	5	-	-
		SBR	-	3	10	3	8	0	-2
28	Visalia Pkwy. & Hall St.[1]	NBR	-	-	-	3	8	-	-
29	Visalia Pkwy. & Costco Dwy.[1]	SBL	-	-	3	0	3	-	0
		SBR	-	8	43	8	50	0	7
30	Mooney Blvd. & Visalia Commons Dwy. 1[1]	EBR	-	10	20	10	23	0	3
		WBR	-	-	-	15	35	-	-
31	Mooney Blvd. & Visalia Commons Dwy. 2[1]	EBR	-	13	28	13	28	0	0
		WBR	-	-	-	10	25	-	-
		NBL	150	20	53	20	58	0	5
		SBL	150	-	-	8	13	-	-
32	Midvalley Ave. & South Access Dwy. 1[1]	SBLR	-	-	-	8	13	-	-
33	Midvalley Ave. & South Access Dwy. 2[1]	SBLR	-	-	-	5	8	-	-
34	Midvalley Ave. & South Access Dwy. 3[1]	SBLR	-	-	-	3	5	-	-
35	Midvalley Ave. & Hall St.[1]	SBLR	-	-	-	3	3	-	-
36	Hall St. & East Access Dwy. 1[1]	EBLR	-	-	-	5	5	-	-

Notes:
1. Stop-controlled intersection
2. Uncontrolled intersection
Storage length and 95th percentile queue is expressed in feet per lane
AM – morning peak hour, PM – evening peak hour
Bold indicates queue lengths exceeding capacity. **Red** indicates significant impact.
95th percentile volume exceeds capacity, queue may be longer
m Volume for 95th percentile queue is metered by upstream signal

Figure 15a: 10 Year Cumulative Plus Project Peak Hour Volumes

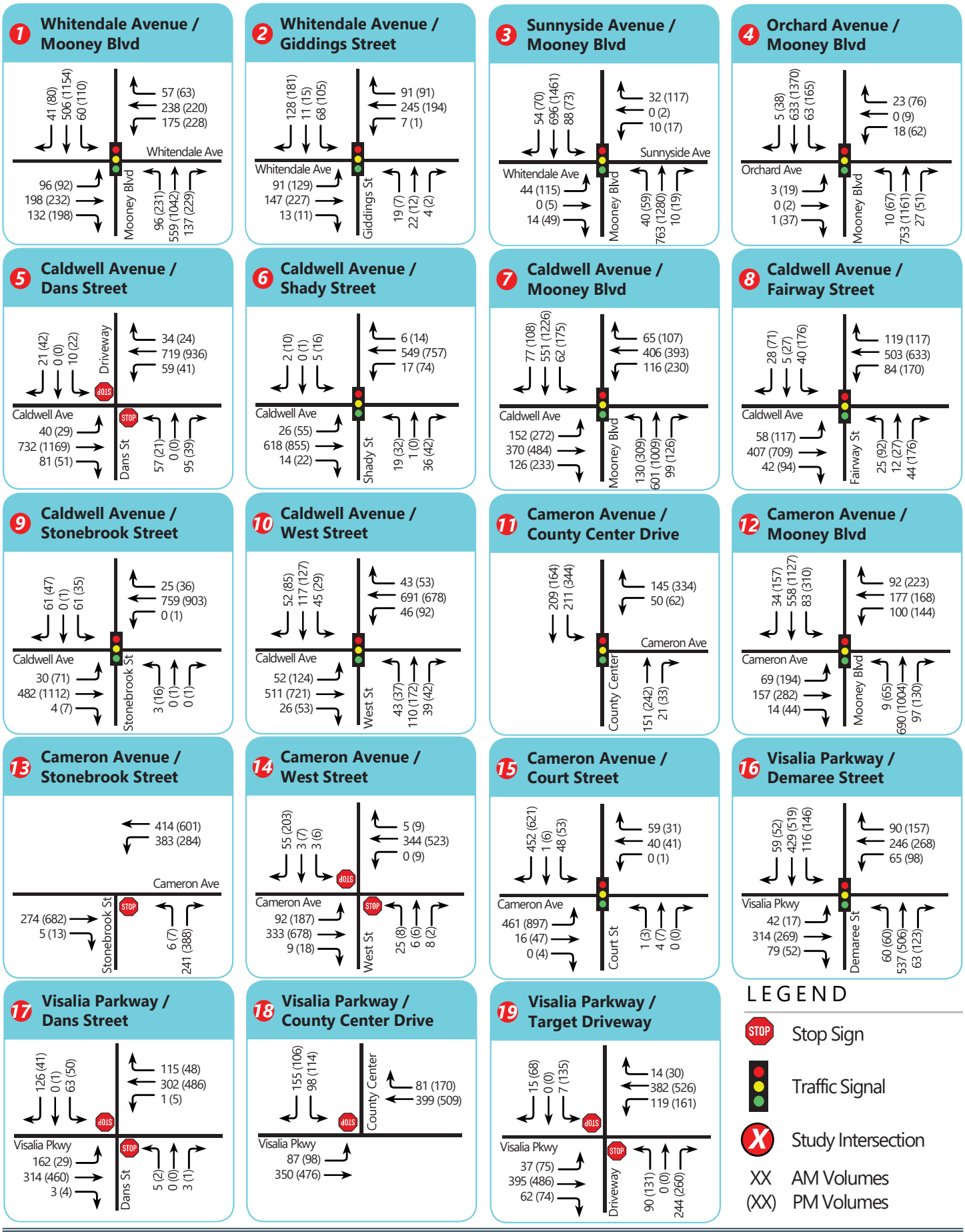
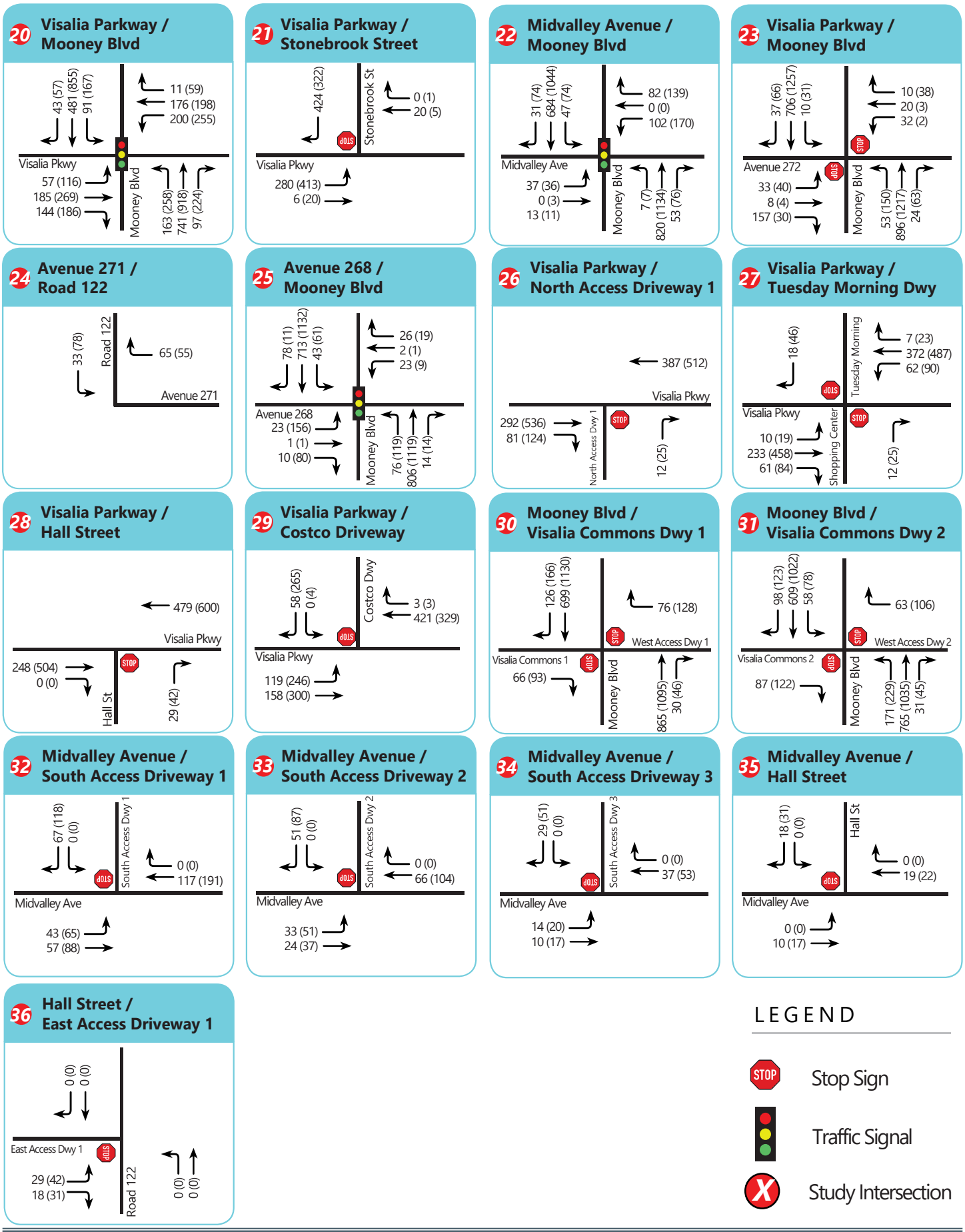


Figure 15b: 10-Year Cumulative Plus Project Peak Hour Volumes



9.0 20-YEAR CUMULATIVE CONDITIONS

This chapter presents the results of the level of service calculations under 20-Year Cumulative Conditions without the project. Level of service analysis at the study intersections were conducted for 20-Year Cumulative Conditions to establish a base to evaluate the impacts due to the addition of traffic from the proposed project. Existing Conditions volumes at the study intersections were projected forward 20 years using growth factors derived from the Tulare County Association of Governments (TCAG) travel demand model.

Figure 16 shows turning movement volumes at all the study intersections for 10-Year Cumulative Conditions. Lane geometries and traffic controls were maintained, similar to existing, aside from changes listed below:

- Visalia Parkway is extended east of Stonebrook Street (same as five-year cumulative)
- Assumed the Visalia Parkway Shopping Center across the street is built-out (same as five-year cumulative)
- Intersection #11, Cameron Avenue & County Center Drive: signalize (same as 10-year cumulative)
- Intersection #15, Cameron Avenue & Court Street: signalize (same as 10-year cumulative)
- Visalia Parkway is widened to a four-lane roadway
- Stonebrook Street is extended from Cameron Avenue to Caldwell Avenue

9.1 Intersections Level of Service Analysis – 20-Year Cumulative Conditions

The intersection LOS analysis results for 20-Year Cumulative Conditions without the proposed project are summarized in **Table 23**. Detailed calculation sheets for 20-Year Cumulative Conditions are contained in **Appendix K**.

Under this scenario, all of the study intersections operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour, except for the following seven intersections:

- Orchard Avenue & Mooney Avenue (intersection #4) would operate at LOS E in the p.m. peak hour.
- Caldwell Avenue & Dans Street (intersection #5) would operate at LOS F in the a.m. and p.m. peak hours.
- Caldwell Avenue & Mooney Boulevard (intersection #7) would operate at LOS E in the p.m. peak hour.
- Cameron Avenue & Stonebrook Street (intersection #13) would operate at LOS F in the a.m. and p.m. peak hours.
- Cameron Avenue & West Street (intersection #14) would operate at LOS F in the p.m. peak hour
- Visalia Parkway & County Center Drive (intersection #18) would operate at LOS E in the p.m. peak hour.
- Visalia Parkway & Target Access. (intersection #19) would operate at LOS E in the a.m. peak hour and LOS F in the p.m. peak hour.
- Avenue 272 & Mooney Boulevard (intersection #23) is operating at LOS F in the a.m. and p.m. peak hours.

It should be noted that at the intersections of Sunnyside Avenue & Mooney Avenue (intersection #3) and Cameron Avenue & Mooney Boulevard (intersection #12), level of service would improve in the p.m. peak hour compared to 10-Year Cumulative Conditions. This is related to signal coordination on Mooney Boulevard, which affects when vehicles arrive during each cycle. At the individual turning movements with the highest average delay at both intersections under 10-Year Cumulative Conditions, a larger proportion of vehicles would arrive during the green phase under 20-Year Cumulative Conditions, and average delay at these movements would be reduced. Due to reduced delay for these movements, and modest increases for other movements, overall intersection delay would be reduced.

Table 23: Intersection Level of Service Analysis – 20-Year Cumulative Conditions

#	Study Intersections	Control	Peak Hour[1]	20-Year Cumulative Conditions	
				Delay[2]	LOS[3]
1	Whitendale Ave. & Mooney Blvd.	Signal	A.M.	37.1	D
			P.M.	41.3	D
2	Whitendale Ave. & Giddings St.	Signal	A.M.	11.6	B
			P.M.	12.0	B
3	Sunnyside Ave. & Mooney Ave.	Signal	A.M.	16.1	B
			P.M.	46.6	D
4	Orchard Ave. & Mooney Ave.	Signal	A.M.	22.6	C
			P.M.	**68.6**	**E**
5	Caldwell Ave. & Dans St.	Two-Way Stop	A.M.	**593.8**	**F**
			P.M.	**682.3**	**F**
6	Caldwell Ave. & Shady St.	Signal	A.M.	10.7	B
			P.M.	13.8	B
7	Caldwell Ave. & Mooney Blvd.	Signal	A.M.	39.9	D
			P.M.	**61.9**	**E**
8	Caldwell Ave. & Fairway St.	Signal	A.M.	14.8	B
			P.M.	33.8	C
9	Caldwell Ave. & Stonebrook St.	Signal	A.M.	18.4	B
			P.M.	26.1	C
10	Caldwell Ave. & West St.	Signal	A.M.	14.7	B
			P.M.	17.5	B
11	Cameron Ave. & County Center Dr.	Signal	A.M.	6.5	A
			P.M.	17.8	B
12	Cameron Ave. & Mooney Blvd.	Signal	A.M.	36.0	D
			P.M.	51.1	D
13	Cameron Ave. & Stonebrook St.	One-Way Stop	A.M.	**162.1**	**F**
			P.M.	**859.1**	**F**
14	Cameron Ave. & West St.	Two-Way Stop	A.M.	33.1	D
			P.M.	**70.4**	**F**
15	Cameron Ave. & Court St.	Signal	A.M.	7.0	A
			P.M.	7.8	A
16	Visalia Pkwy. & Demaree S.t	Signal	A.M.	24.9	C
			P.M.	24.1	C
17	Visalia Pkwy. & Dans St.	Two-Way Stop	A.M.	21.8	C
			P.M.	15.5	C
18	Visalia Pkwy. & County Center Dr.	One-Way Stop	A.M.	25.4	D
			P.M.	**43.6**	**E**
19	Visalia Pkwy. &		A.M.	**38.8**	**E**

#	Study Intersections	Control	Peak Hour[1]	20-Year Cumulative Conditions	
				Delay[2]	LOS[3]
	Target Access.	One-Way Stop	P.M.	**584.1**	**F**
20	Visalia Pkwy. & Mooney Blvd.	Signal	A.M. P.M.	28.5 48.7	C D
21	Visalia Pkwy. & Stonebrook St.	Uncontrolled	A.M. P.M.	13.2 26.7	B D
22	Midvalley Ave. & Mooney Blvd.	Signal	A.M. P.M.	11.7 13.2	B B
23	Ave. 272 & Mooney Blvd.	Two-Way Stop	A.M. P.M.	**279.1** **907.5**	**F** **F**
24	Ave. 271 & Rd. 122	Uncontrolled	A.M. P.M.	- -	- -
25	Ave. 268 & Mooney Blvd	Signal	A.M. P.M.	14.9 25.6	B C
26	Visalia Pkwy. & North Access Dwy 1.	One-Way Stop	A.M. P.M.	- -	- -
27	Visalia Pkwy & Tuesday Morning Dwy.	One-Way Stop	A.M. P.M.	12.6 15.8	B C
28	Visalia Pkwy. & Hall St.	One-Way Stop	A.M. P.M.	- -	- -
29	Visalia Pkwy. & Costco Dwy.	One-Way Stop	A.M. P.M.	9.5 29.5	A D
30	Mooney Blvd. & Visalia Commons Dwy. 1	Two-Way Stop	A.M. P.M.	11.4 15.2	B C
31	Mooney Blvd. & Visalia Commons Dwy. 2	Two-Way Stop	A.M. P.M.	11.4 17.2	B C
32	Midvalley Ave. & South Access Dwy. 1	One-Way Stop	A.M. P.M.	- -	- -
33	Midvalley Ave. & South Access Dwy. 2	One-Way Stop	A.M. P.M.	- -	- -
34	Midvalley Ave. & South Access Dwy. 3	One-Way Stop	A.M. P.M.	- -	- -
35	Midvalley Ave. & Hall St.	One-Way Stop	A.M. P.M.	- -	- -
36	Hall St. & East Access Dwy. 1	One-Way Stop	A.M. P.M.	- -	- -

Notes:
1. AM – morning peak hour, PM – evening peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.
3. LOS – Level of Service. **Bold** indicates unacceptable LOS and Delay.

9.2 Queuing Analysis – 20-Year Cumulative Conditions

TJKM conducted a vehicle queueing and storage analysis for exclusive left and right turn pockets at the study intersections. The 95th percentile queues were analyzed using Synchro software. Detailed calculations are included in **Appendix K**. **Table 24** summarizes the 95th percentile queue lengths at study intersections under Five-Year Cumulative Conditions. It should be noted that at six study intersections, one or more queue lengths exceed capacity, creating a deficient conditions.

Table 24: 95th Percentile Queues – 20 Year Cumulative Conditions

#	Study Intersections	Lane Group	Storage Length	20-Year Cumulative	
				AM	PM
1	Whitendale Ave. & Mooney Blvd.	EBL	155	73	68
		EBR	260	8	45
		WBL	250	103	#128
		WBR	235	0	0
		NBL	290	64	#189
		NBR	130	42	93
		SBL	445	52	#93
		SBR	190	0	9
2	Whitendale Ave. & Giddings St.	EBL	105	68	90
		WBL	105	14	4
		WBR	35	31	18
		SBL	150	53	72
		SBR	50	35	39
3	Sunnyside Ave. & Mooney Ave.	EBL	170	67	145
		WBL	100	9	14
		NBL	400	62	#117
		SBL	270	#124	103
4	Orchard Ave. & Mooney Ave.	WBL	105	38	**#114**
		NBL	125	13	48
		NBR	100	0	0
		SBL	250	#117	**#328**
		SBR	100	0	0
5	Caldwell Ave. & Dans St.[1]	NBLTR	-	433	203
		SBLTR	-	45	203
6	Caldwell Ave. & Shady St.	EBL	240	36	#92
		WBL	250	27	#124
		SBR	-	0	0
7	Caldwell Ave. & Mooney Blvd.	EBL	345	110	#227
		WBL	340	82	#165
		NBL	265	#84	#259
		NBR	165	28	49
		SBL	270	57	#185
		SBR	270	12	39
8	Caldwell Ave. & Fairway St.	EBL	200	#92	#200
		WBL	285	#146	**#295**
		NBL	120	20	52
		SBL	55	28	**94**
9	Caldwell Ave. & Stonebrook St	EBL	235	30	70
		WBL	300	#235	#216
		SBL	-	55	53

#	Study Intersections	Lane Group	Storage Length	20-Year Cumulative	
				AM	PM
		SBR	200	15	7
10	Caldwell Ave. & West St.	EBL	300	65	#150
		EBR	110	3	20
		WBL	290	61	#110
		WBR	100	13	21
		NBR	50	0	0
11	Cameron Ave. & County Center Dr.[1]	WBR	100	28	57
		NBR	160	6	10
		SBL	145	67	**#205**
12	Cameron Ave. & Mooney Blvd.	EBL	155	100	**#330**
		WBL	300	131	#255
		NBL	210	11	53
		NBR	150	13	21
		SBL	185	61	**#241**
		SBR	150	0	38
13	Cameron Ave. & Stonebrook St.[1]	NBL	145	70	138
		SBL	150	100	**237**
14	Cameron Ave. & West St.[1]	EBL	100	5	13
		WBL	90	0	0
		SBL	110	3	5
15	Cameron Ave. & Court St.[1]	EBL	260	55	128
		NBL	225	3	7
		SBL	195	29	51
		SBR	200	0	49
16	Visalia Pkwy. & Demaree S.t	EBL	145	72	37
		EBR	245	20	0
		WBL	180	100	#164
		NBL	300	94	89
		SBL	305	135	#180
17	Visalia Pkwy. & Dans St.[1]	EBL	190	15	3
		WBL	75	0	0
18	Visalia Pkwy. & County Center Dr.[1]	EBL	200	8	13
		SBL	190	35	63
19	Visalia Pkwy. & Target Access.[1]	EBL	100	3	8
		WBL	100	10	15
		NBLTR	-	185	690
		SBLTR	-	5	468
20	Visalia Pkwy. & Mooney Blvd.	EBL	180	#107	**#236**
		WBL	175	**211**	**280**
		NBL	205	#165	#199
		SBL	290	28	#92

#	Study Intersections	Lane Group	Storage Length	20-Year Cumulative	
				AM	PM
		SBR	210	0	0
21	Visalia Pkwy. & Stonebrook St.[2]	EBL	150	8	13
22	Midvalley Ave. & Mooney Blvd.	EBR	25	0	0
		NBL	475	14	18
		SBL	465	14	21
		SBR	140	0	11
23	Ave. 272 & Mooney Blvd.[1]	NBL	470	5	38
		SBL	485	0	3
24	Ave. 271 & Rd. 122[2]	-	-	-	-
25	Ave. 268 & Mooney Blvd	NBL	470	79	#153
		SBL	475	50	70
26	Visalia Pkwy. & North Access Dwy 1.[1]	-	-	-	-
27	Visalia Pkwy & Tuesday Morning Dwy[1]	EBL	150	0	3
		WBL	150	-	-
		NBR	-	-	-
		SBR	-	3	10
28	Visalia Pkwy. & Hall St.[1]	NBR	-	-	-
29	Visalia Pkwy. & Costco Dwy.[1]	SBL	-	-	3
		SBR	-	5	38
30	Mooney Blvd. & Visalia Commons Dwy. 1[1]	EBR	-	10	20
		WBR	-	-	-
31	Mooney Blvd. & Visalia Commons Dwy. 2[1]	EBR	-	13	30
		WBR	-	-	-
		NBL	150	23	60
		SBL	150	-	-
32	Midvalley Ave. & South Access Dwy. 1[1]	SBLR	-	-	-
33	Midvalley Ave. & South Access Dwy. 2[1]	SBLR	-	-	-
34	Midvalley Ave. & South Access Dwy. 3[1]	SBLR	-	-	-
35	Midvalley Ave. & Hall St.[1]	SBLR	-	-	-
36	Hall St. & East Access Dwy. 1[1]	EBLR	-	-	-

Notes:
1. Stop-controlled intersection
2. Uncontrolled intersection
Storage length and 95th percentile queue is expressed in feet per lane
AM – morning peak hour, PM – evening peak hour
Bold indicates queue lengths exceeding capacity.
95th percentile volume exceeds capacity, queue may be longer
m Volume for 95th percentile queue is metered by upstream signal

Figure 16a: 20-Year Cumulative Conditions Peak Hour Volumes

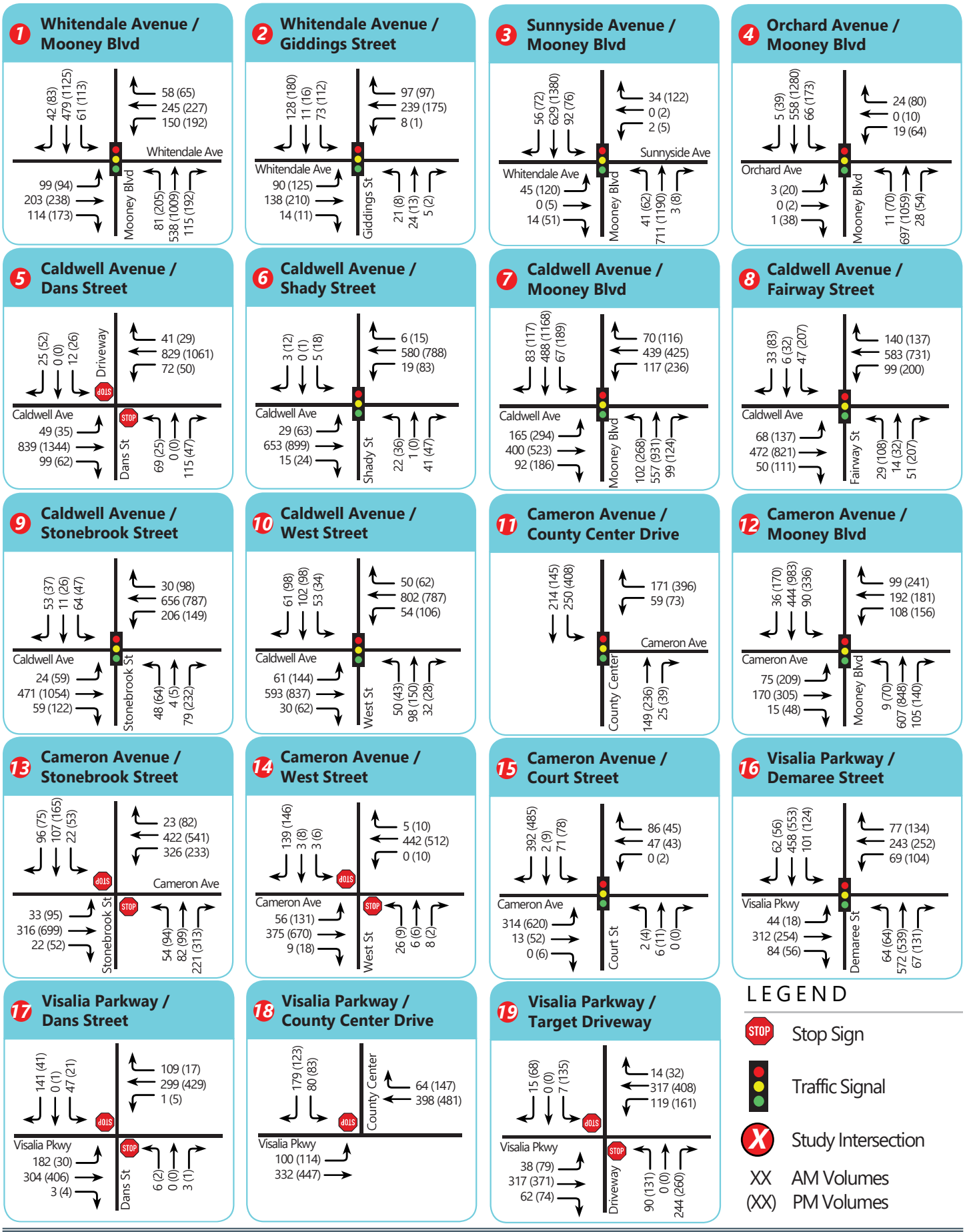
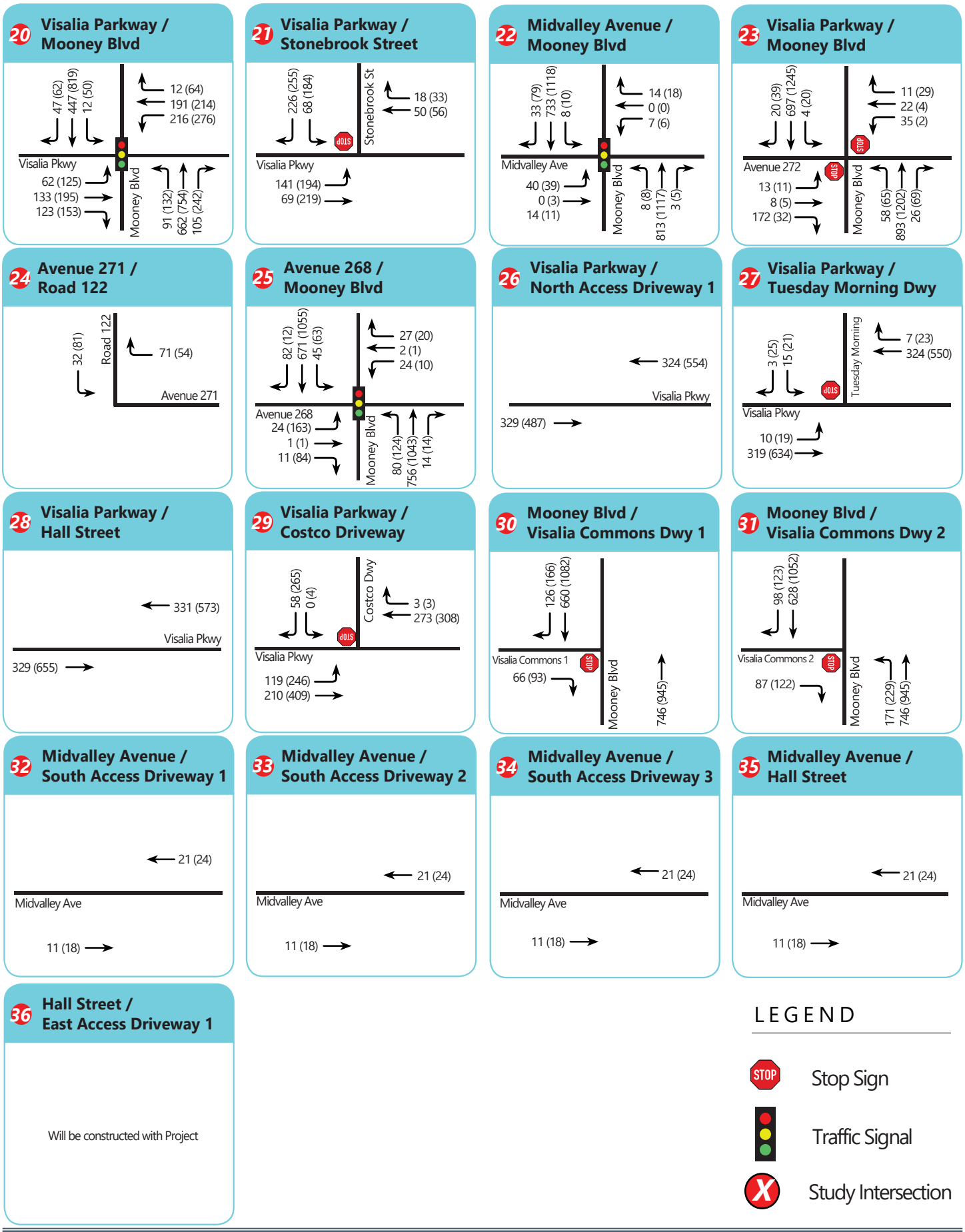


Figure 16b: 20-Year Cumulative Conditions Peak Hour Volumes



10.0 20-YEAR CUMULATIVE PLUS PROJECT CONDITIONS

This scenario is identical to 20-Year Cumulative Conditions, with the addition of projected traffic from both Phase I and Phase II of the proposed development. Trip distribution assumptions are identical to those assumed under Existing Plus Project Conditions. Trip assignment for Phase I and Phase II of the proposed project are shown in **Figure 10**. **Figure 17** shows projected turning movement volumes at all study intersections for 20-Year Cumulative Plus Project Conditions.

Although the proposed project was analyzed with two driveways on Mooney Boulevard (intersections #30 and #31), the site plan has since been revised to close the driveway closer to Visalia Parkway (intersection #30). All project trips assigned to intersection #30 were reassigned to intersection #31, and level of service was recalculated for 20-Year Cumulative plus Project Phase I and II Conditions.

10.1 Intersection Level of Service Analysis – 20-Year Cumulative Plus Project Conditions

The intersection LOS analysis results for 20-Year Cumulative Plus Project Conditions are summarized in **Table 25**. Detailed calculation sheets for 20-Year Cumulative Plus Project Conditions are contained in **Appendix L**.

Under this scenario, all but 12 of the study intersections would continue to operate at acceptable service levels (LOS D or better) during the a.m. and p.m. peak hour. The following eight intersections already operate at unacceptable level of service in one or both peak hours, without the addition of project traffic:

- Orchard Avenue & Mooney Avenue (intersection #4) would degrade from LOS E to LOS F in the p.m. peak hour, with a *significant increase* in average delay of 12.0 seconds.
- Caldwell Avenue & Dans Street (intersection #5) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 156.0 in the a.m. peak hour and 546.7 seconds in the p.m. peak hour.
- Caldwell Avenue & Mooney Boulevard (intersection #7) would continue to operate at LOS E in the p.m. peak hour, with a *decrease* in average delay of 0.6 seconds.
- Cameron Avenue & Stonebrook Street (intersection #13) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 117.1 in the a.m. peak hour and 702.5 seconds in the p.m. peak hour.
- Cameron Avenue & West Street (intersection #14) would degrade from LOS D to LOS F in the a.m. peak hour, and it would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 81.8 seconds.
- Visalia Parkway & County Center Drive (intersection #18) would degrade from LOS D to LOS E in the a.m. peak hour, and it would continue to operate at LOS F in the p.m. peak hour, with a *significant increase* in average delay of 73.7 seconds
- Visalia Parkway & Target Access. (intersection #19) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 33.7 seconds in the a.m. peak hour and 578.7 seconds in the p.m. peak hour.

- Avenue 272 & Mooney Boulevard (intersection #23) would continue to operate at LOS F in the a.m. and p.m. peak hours, with *significant increases* in average delay of 111.2 seconds in the a.m. peak hour and an undefined number of seconds in the p.m. peak hour.

The following four intersections would degrade from acceptable to unacceptable level of service with the addition of project traffic:

- Sunnyside Avenue & Mooney Avenue (intersection #3) would degrade from LOS D to LOS E in the p.m. peak hour, a *significant degradation*.
- Visalia Parkway & Mooney Boulevard (intersection #20) would degrade from LOS D to LOS F in the p.m. peak hour, a *significant degradation*.
- Visalia Pkwy. & Stonebrook St. (intersection #21) would degrade from LOS D to LOS F, a *significant degradation*.
- Visalia Parkway & Costco Driveway (intersection #29) would degrade from LOS D to LOS E in the p.m. peak hour, a *significant degradation*.

At 11 of the 12 intersections listed above, added project traffic would either degrade the level of service from an acceptable to unacceptable level, or increase average delay by more than 5.0 seconds, constituting significant inconsistencies with the City of Visalia General Plan. Seven of the intersections with significant inconsistencies are currently stop-controlled, and at six of them the identified inconsistencies can be mitigated with signalization, as shown in **Table 25**. At the intersections of Sunnyside Avenue & Mooney Avenue (intersection #3) and Orchard Avenue & Mooney Avenue (intersection #4), optimizing the signal timing would provide adequate mitigation. At Visalia Parkway & Mooney Boulevard (intersection #20), the same widening and restriping plan identified as a mitigation measure for Existing plus Project Conditions would provide adequate mitigation for this scenario. At the Costco Driveway on Visalia Parkway (intersection #29), it should be noted that the excessive delay in the p.m. peak hour occurs on the very low-volume southbound left turn movement, with right turning vehicles experiencing only 12.1 seconds of average delay (LOS B) at that time. This delay can be mitigated by providing a refuge lane in the median to permit two-stage left turns for exiting vehicles. **Appendix M** includes full descriptions of all mitigation measures and LOS worksheets for mitigated conditions. Based on the City of Visalia impact criteria, with mitigation the project is expected to be **consistent** with general plan requirements at all study intersections.

Table 25: Intersection Level of Service Analysis – 20-Year Cumulative plus Project Conditions

#	Study Intersections	Control	Peak Hour[1]	20-Year Cumulative Conditions		20-Year Cumulative Plus Project Conditions		Change in Delay
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
1	Whitendale Ave. & Mooney Blvd.	Signal	A.M.	37.1	D	40.7	D	3.6
			P.M.	41.3	D	48.3	D	7.0
2	Whitendale Ave. & Giddings St.	Signal	A.M.	11.6	B	11.8	B	0.2
			P.M.	12.0	B	12.3	B	0.3
3	Sunnyside Ave. & Mooney Ave.	Signal	A.M.	16.1	B	16.5	B	0.4
			P.M.	46.6	D	**58.6**	**E**	**12.0**
	Mitigation: optimize signal timing	*Signal*	*A.M.*			*16.5*	*B*	
			P.M.			*51.1*	*D*	

#	Study Intersections	Control	Peak Hour[1]	20-Year Cumulative Conditions		20-Year Cumulative Plus Project Conditions		Change in Delay
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
4	Orchard Ave. & Mooney Ave.	Signal	A.M.	22.6	C	23.1	C	0.5
			P.M.	**68.6**	**E**	**86.1**	**F**	**17.5**
	Mitigation: optimize signal timing	*Signal*	*A.M.*			23.1	C	
			P.M.			34.5	C	
5	Caldwell Ave. & Dans St.	Two-Way Stop	A.M.	**593.8**	**F**	**749.8**	**F**	**156.0**
			P.M.	**682.3**	**F**	**1229.0**	**F**	**546.7**
	Mitigation: signalize	*Signal*	*A.M.*			*11.9*	*B*	
			P.M.			*9.6*	*A*	
6	Caldwell Ave. & Shady St.	Signal	A.M.	10.7	B	10.7	B	0.0
			P.M.	13.8	B	13.8	B	0.0
7	Caldwell Ave. & Mooney Blvd.	Signal	A.M.	39.9	D	39.4	D	-0.5
			P.M.	**61.9**	**E**	**61.3**	**E**	-0.6
	Mitigation: optimize signal timing	*Signal*	*A.M.*			*39.9*	*D*	
			P.M.			*49.2*	*D*	
8	Caldwell Ave. & Fairway St.	Signal	A.M.	14.8	B	14.8	B	0.0
			P.M.	33.8	C	33.9	C	0.1
9	Caldwell Ave. & Stonebrook St.	Signal	A.M.	18.4	B	18.6	B	0.2
			P.M.	26.1	C	26.3	C	0.2
10	Caldwell Ave. & West St.	Signal	A.M.	14.7	B	15.8	B	1.1
			P.M.	17.5	B	19.8	B	2.3
11	Cameron Ave. & County Center Dr.	Signal	A.M.	6.5	A	6.5	A	0.0
			P.M.	17.8	B	19.7	B	1.9
12	Cameron Ave. & Mooney Blvd.	Signal	A.M.	36.0	D	34.6	C	-1.4
			P.M.	51.1	D	51.8	D	0.7
13	Cameron Ave. & Stonebrook St.	One-Way Stop	A.M.	**162.1**	**F**	**279.2**	**F**	**117.1**
			P.M.	**859.1**	**F**	**1,561.6**	**F**	**702.5**
	Mitigation: signalize	*Signal*	*A.M.*			23.9	C	
			P.M.			48.1	D	
14	Cameron Ave. & West St.	Two-Way Stop	A.M.	33.1	D	**50.6**	**F**	**17.5**
			P.M.	**70.4**	**F**	**152.2**	**F**	**81.8**
	Mitigation: signalize	*Signal*	*A.M.*			*11.0*	*B*	
			P.M.			*16.6*	*B*	
15	Cameron Ave. & Court St.	Signal	A.M.	7.0	A	7.1	A	0.1
			P.M.	7.8	A	8.0	A	0.2
16	Visalia Pkwy. & Demaree St.	Signal	A.M.	24.9	C	26.1	C	1.2
			P.M.	24.1	C	26.6	C	2.5
17	Visalia Pkwy. & Dans St.	Two-Way Stop	A.M.	21.8	C	33.4	D	11.6
			P.M.	15.5	C	20.9	C	5.4
18	Visalia Pkwy. & County Center Dr.	One-Way Stop	A.M.	25.4	D	**38.4**	**E**	**13.0**
			P.M.	**43.6**	**E**	**143.0**	**F**	**99.4**
	Mitigation: signalize	*Signal*	*A.M.*			*9.8*	*A*	
			P.M.			*9.6*	*A*	
19	Visalia Pkwy. & Target Access.	One-Way Stop	A.M.	**38.8**	**E**	**72.5**	**F**	**33.7**
			P.M.	**584.1**	**F**	**1,162.8**	**F**	**578.7**
	Mitigation: signalize	*Signal*	*A.M.*			*12.3*	*B*	
			P.M.			*15.3*	*B*	
20	Visalia Pkwy. & Mooney Blvd.	Signal	A.M.	28.5	C	**55.4**	**E**	**26.9**
			P.M.	48.7	D	**86.6**	**F**	**37.9**
	Mitigation: Widening	*Signal*	*A.M.*			*31.8*	*C*	
			P.M.			*54.3*	*D*	
21	Visalia Pkwy. &	Uncontrolled	A.M.	13.2	B	15.5	C	-

#	Study Intersections	Control	Peak Hour[1]	20-Year Cumulative Conditions		20-Year Cumulative Plus Project Conditions		Change in Delay
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
	Stonebrook St.		P.M.	26.7	D	**60.6**	**F**	-
	Mitigation: Signalize	*Signal*	*A.M.*			*12.3*	*B*	
			P.M.			*14.4*	*B*	
22	Midvalley Ave. & Mooney Blvd.	Signal	A.M.	11.7	B	16.7	B	5.0
			P.M.	13.2	B	33.4	C	20.2
23	Ave. 272 & Mooney Blvd.	Two-Way Stop	A.M.	**279.1**	**F**	**497.7**	**F**	**218.6**
			P.M.	**907.5**	**F**	**Err**	**Err**	Err
	Mitigation: Signalize	*Signal*	*A.M.*			*11.4*	*B*	
			P.M.			*11.2*	*B*	
24	Ave. 271 & Rd. 122	Uncontrolled	A.M.	-	-	-	-	-
			P.M.	-	-	-	-	-
25	Ave. 268 & Mooney Blvd	Signal	A.M.	14.9	B	15.3	B	0.4
			P.M.	25.6	C	29.1	C	3.5
26	Visalia Pkwy. & North Access Dwy 1.	One-Way Stop	A.M.	-	-	9.9	A	-
			P.M.	-	-	10.9	B	-
27	Visalia Pkwy & Tuesday Morning Dwy.	One-Way Stop	A.M.	12.6	B	9.6	A	-3.0
			P.M.	15.8	C	11.2	B	-4.6
28	Visalia Pkwy. & Hall St.	One-Way Stop	A.M.	-	-	9.6	A	-
			P.M.	-	-	11.3	B	-
29	Visalia Pkwy. & Costco Dwy.	One-Way Stop	A.M.	9.5	A	9.7	A	0.2
			P.M.	29.5	D	**38.1**	**E**	**8.6**
	Mitigation: Median refuge	*One-Way Stop*	*A.M.*			*9.7*	*A*	
			P.M.			*20.4*	*C*	
30	Mooney Blvd. & Visalia Commons Dwy. 1	Two-Way Stop	A.M.	11.4	B	13.2	B	1.8
			P.M.	15.2	C	18.5	C	3.3
31	Mooney Blvd. & Visalia Commons Dwy. 2	Two-Way Stop	A.M.	11.4	B	12.7	B	1.3
			P.M.	17.2	C	18.8	C	1.6
	Access change: Close driveway at Int. 30	*Two-Way Stop*	*A.M.*			*14.4*	*B*	*3.0*
			P.M.			*25.4*	*D*	*8.2*
32	Midvalley Ave. & South Access Dwy. 1	One-Way Stop	A.M.	-	-	9.2	A	-
			P.M.	-	-	10.1	B	-
33	Midvalley Ave. & South Access Dwy. 2	One-Way Stop	A.M.	-	-	8.9	A	-
			P.M.	-	-	9.3	A	-
34	Midvalley Ave. & South Access Dwy. 3	One-Way Stop	A.M.	-	-	8.6	A	-
			P.M.	-	-	8.8	A	-
35	Midvalley Ave. & Hall St.	One-Way Stop	A.M.	-	-	8.5	A	-
			P.M.	-	-	8.5	A	-
36	Hall St. & East Access Dwy. 1	One-Way Stop	A.M.	-	-	8.6	A	-
			P.M.	-	-	8.7	A	-

Notes:
1. AM – morning peak hour, PM – evening peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.
3. LOS – Level of Service. **Bold** indicates unacceptable Level of Service. **Red** indicates a significant impact.

10.2 Queuing Analysis – 20-Year Cumulative plus Project Conditions

TJKM conducted a vehicle queueing and storage analysis for exclusive left and right turn pockets at the study intersections where project traffic is added under 20-Year Plus Project Conditions. The 95th

percentile queues were analyzed using Synchro 10.0 software. Detailed calculations are included in the LOS appendices corresponding to each analysis scenario. **Table 26** summarizes the 95th percentile queue lengths at selected study intersections under 20-Year Cumulative and 20-Year Cumulative Plus Project scenarios. It should be noted that queue lengths at seven locations exceed capacity, creating a deficient conditions. With the addition of project traffic, the intersections of Caldwell Avenue & Mooney Boulevard (intersection #7), Cameron Avenue & County Center Drive (intersection #11), and Cameron Avenue & Stonebrook Street (intersection #13) would experience new queue overflows and/or increase existing overflows by more than one car length, thus creating significant impacts. With optimized signal timing at intersections #7 and #11, and both signalization and increased storage length at intersection #13, all impacts would be eliminated. Although not require for queue mitigation under this project, Visalia Parkway & Mooney Boulevard (intersection #20) was also evaluated with the widening used for mitigation in section 10.1. With mitigation, the project is expected to have a **less-than-significant impact** on intersection queuing operations. Queuing calculation sheets for 20-Year Plus Project Conditions are included in **Appendix L**. Calculation sheets for mitigated conditions are included in **Appendix M**.

Table 26: 95th Percentile Queues – 20 Year Cumulative plus Project Conditions

#	Study Intersections	Lane Group	Storage Length	20-Year Cumulative		20-Year Cumulative Plus Project		Change	
				AM	PM	AM	PM	AM	PM
1	Whitendale Ave. & Mooney Blvd.	EBL	155	73	68	73	68	0	0
		EBR	260	8	45	24	68	16	23
		WBL	250	103	#128	120	#172	17	44
		WBR	235	0	0	0	0	0	0
		NBL	290	64	#189	#84	#222	20	33
		NBR	130	42	93	48	116	6	23
		SBL	445	52	#93	52	#93	0	0
		SBR	190	0	9	0	9	0	0
2	Whitendale Ave. & Giddings St.	EBL	105	68	90	74	102	6	12
		WBL	105	14	4	14	4	0	0
		WBR	35	31	18	31	17	0	-1
		SBL	150	53	72	54	76	1	4
		SBR	50	35	39	37	42	2	3
3	Sunnyside Ave. & Mooney Ave.	EBL	170	67	145	67	87	0	-58
		WBL	100	9	14	25	32	16	18
		NBL	400	62	#117	62	#117	0	0
		SBL	270	#124	103	#124	103	0	0
4	Orchard Ave. & Mooney Ave.	WBL	105	38	**#114**	38	**#114**	0	0
		NBL	125	13	48	13	48	0	0
		NBR	100	0	0	0	0	0	0
		SBL	250	#117	**#328**	#117	**#328**	0	0
		SBR	100	0	0	0	0	0	0
5	Caldwell Ave. &	NBLTR	-	433	203	465	233	32	30

#	Study Intersections	Lane Group	Storage Length	20-Year Cumulative		20-Year Cumulative Plus Project		Change	
				AM	PM	AM	PM	AM	PM
	Dans St.[1]	SBLTR	-	45	203	50	230	5	27
6	Caldwell Ave. & Shady St.	EBL	240	36	#92	37	#92	1	0
		WBL	250	27	#124	28	#124	1	0
		SBR	-	0	0	0	0	0	0
7	Caldwell Ave. & Mooney Blvd.	EBL	345	110	#227	110	#227	0	0
		WBL	340	82	#165	87	#179	5	14
		NBL	265	#84	#259	#127	**#324**	43	**65**
		NBR	165	28	49	35	58	7	9
		SBL	270	57	#185	57	#185	0	0
		SBR	270	12	39	12	39	0	0
	Mitigation: optimize signal timing	*EBL*	*345*			*111*	*#204*		
		WBL	*340*			*88*	*167*		
		NBL	*265*			*#114*	*#275*		
		NBR	*165*			*35*	*69*		
		SBL	*270*			*56*	*136*		
		SBR	*270*			*12*	*49*		
8	Caldwell Ave. & Fairway St.	EBL	200	#92	#200	#92	#200	0	0
		WBL	285	#146	**#295**	#146	**#295**	0	0
		NBL	120	20	52	20	52	0	0
		SBL	55	28	**94**	28	**94**	0	0
9	Caldwell Ave. & Stonebrook St	EBL	235	30	70	37	#89	7	19
		WBL	300	#235	#216	#235	#216	0	0
		SBL	-	55	53	55	53	0	0
		SBR	200	15	7	19	16	4	9
10	Caldwell Ave. & West St.	EBL	300	65	#150	68	#159	3	9
		EBR	110	3	20	3	21	0	1
		WBL	290	61	#110	76	#148	15	38
		WBR	100	13	21	14	22	1	1
		NBR	50	0	0	5	7	5	7
11	Cameron Ave. & County Center Dr.[1]	WBR	100	28	57	28	57	0	0
		NBR	160	6	10	9	10	3	0
		SBL	145	67	**#205**	68	**#254**	1	**49**
	Mitigation: optimize signal timing	*WBR*	*100*			*28*	*71*		
		NBR	*160*			*6*	*9*		
		SBL	*145*			*68*	***195***		
12	Cameron Ave. & Mooney Blvd.	EBL	155	100	**#330**	100	**#330**	0	0
		WBL	300	131	#255	131	#255	0	0
		NBL	210	11	53	11	53	0	0
		NBR	150	13	21	13	21	0	0
		SBL	185	61	**#241**	61	**#241**	0	0
		SBR	150	0	38	0	38	0	0

#	Study Intersections	Lane Group	Storage Length	20-Year Cumulative		20-Year Cumulative Plus Project		Change	
				AM	PM	AM	PM	AM	PM
13	Cameron Ave. & Stonebrook St.[1]	NBL	145	70	138	90	**163**	20	25
		SBL	150	100	**237**	125	**268**	25	**31**
	Mitigation: signalize, increase NBL storage	*NBL*	*200*			*#70*	*#163*		
		SBL	*150*			*33*	*#86*		
14	Cameron Ave. & West St.[1]	EBL	100	5	13	8	18	3	5
		WBL	90	0	0	0	0	0	0
		SBL	110	3	5	3	10	0	5
15	Cameron Ave. & Court St.[1]	EBL	260	55	128	58	140	3	12
		NBL	225	3	7	3	7	0	0
		SBL	195	29	51	30	53	1	2
		SBR	200	0	49	0	51	0	2
16	Visalia Pkwy. & Demaree S.t	EBL	145	72	37	72	38	0	1
		EBR	245	20	0	20	0	0	0
		WBL	180	100	#164	100	#170	0	6
		NBL	300	94	89	94	91	0	2
		SBL	305	135	#180	#181	#244	46	64
17	Visalia Pkwy. & Dans St.[1]	EBL	190	15	3	18	3	3	0
		WBL	75	0	0	0	0	0	0
18	Visalia Pkwy. & County Center Dr.[1]	EBL	200	8	13	10	13	2	0
		SBL	190	35	63	70	180	35	117
19	Visalia Pkwy. & Target Access.[1]	EBL	100	3	8	3	8	0	0
		WBL	100	10	15	10	18	0	3
		NBLTR	-	185	690	273	890	88	200
		SBLTR	-	5	468	8	570	3	102
20	Visalia Pkwy. & Mooney Blvd.	EBL	180	#107	**#236**	#107	**#236**	0	0
		WBL	175	**211**	**280**	**211**	**280**	0	0
		NBL	205	#165	#199	**#312**	**#455**	147	256
		SBL	290	28	#92	#168	**#340**	140	248
		SBR	210	0	0	0	0	0	0
	With LOS mitigation: widening/restriping	*EBL*	*180*			47	#124		
		WBL	*175*			123	184		
		NBL	*205*			102	180		
		SBL	*290*			#171	#318		
		SBR	*210*			0	0		
21	Visalia Pkwy. & Stonebrook St.[2]	EBL	150	8	13	13	20	5	7
22	Midvalley Ave. & Mooney Blvd.	EBR	25	0	0	0	0	0	0
		NBL	475	14	18	16	18	2	0
		SBL	465	14	21	50	#101	36	80
		SBR	140	0	11	0	11	0	0
23	Ave. 272 &	NBL	470	5	38	8	48	3	10

#	Study Intersections	Lane Group	Storage Length	20-Year Cumulative		20-Year Cumulative Plus Project		Change	
				AM	PM	AM	PM	AM	PM
	Mooney Blvd.[1]	SBL	485	0	3	3	5	3	2
24	Ave. 271 & Rd. 122[2]	-	-	-	-	-	-	-	-
25	Ave. 268 & Mooney Blvd	NBL	470	79	#153	79	#153	0	0
		SBL	475	50	70	50	70	0	0
26	Visalia Pkwy. & North Access Dwy 1.[1]	-	-	-	-	3	3	-	-
27	Visalia Pkwy & Tuesday Morning Dwy[1]	EBL	150	0	3	0	3	0	0
		WBL	150	-	-	5	10	-	-
		NBR	-	-	-	3	3	-	-
		SBR	-	3	10	3	5	0	-5
28	Visalia Pkwy. & Hall St.[1]	NBR	-	-	-	3	5	-	-
29	Visalia Pkwy. & Costco Dwy.[1]	SBL	-	-	3	-	3	-	0
		SBR	-	5	38	5	43	0	5
30	Mooney Blvd. & Visalia Commons Dwy. 1[1]	EBR	-	10	20	10	25	0	5
		WBR	-	-	-	15	38	-	-
31	Mooney Blvd. & Visalia Commons Dwy. 2[1]	EBR	-	13	30	13	33	0	3
		WBR	-	-	-	10	28	-	-
		NBL	150	23	60	23	68	0	8
		SBL	150	-	-	8	13	-	-
32	Midvalley Ave. & South Access Dwy. 1[1]	SBLR	-	-	-	8	13	-	-
33	Midvalley Ave. & South Access Dwy. 2[1]	SBLR	-	-	-	5	8	-	-
34	Midvalley Ave. & South Access Dwy. 3[1]	SBLR	-	-	-	3	5	-	-
35	Midvalley Ave. & Hall St.[1]	SBLR	-	-	-	3	3	-	-
36	Hall St. & East Access Dwy. 1[1]	EBLR	-	-	-	5	5	-	-

Notes:
1. Stop-controlled intersection
2. Uncontrolled intersection
Storage length and 95th percentile queue is expressed in feet per lane
AM – morning peak hour, PM – evening peak hour
Bold indicates queue lengths exceeding capacity. **Red** indicates significant impact.
95th percentile volume exceeds capacity, queue may be longer
m Volume for 95th percentile queue is metered by upstream signal

Figure 17a: 20-Year Cumulative Plus Project Peak Hour Volumes

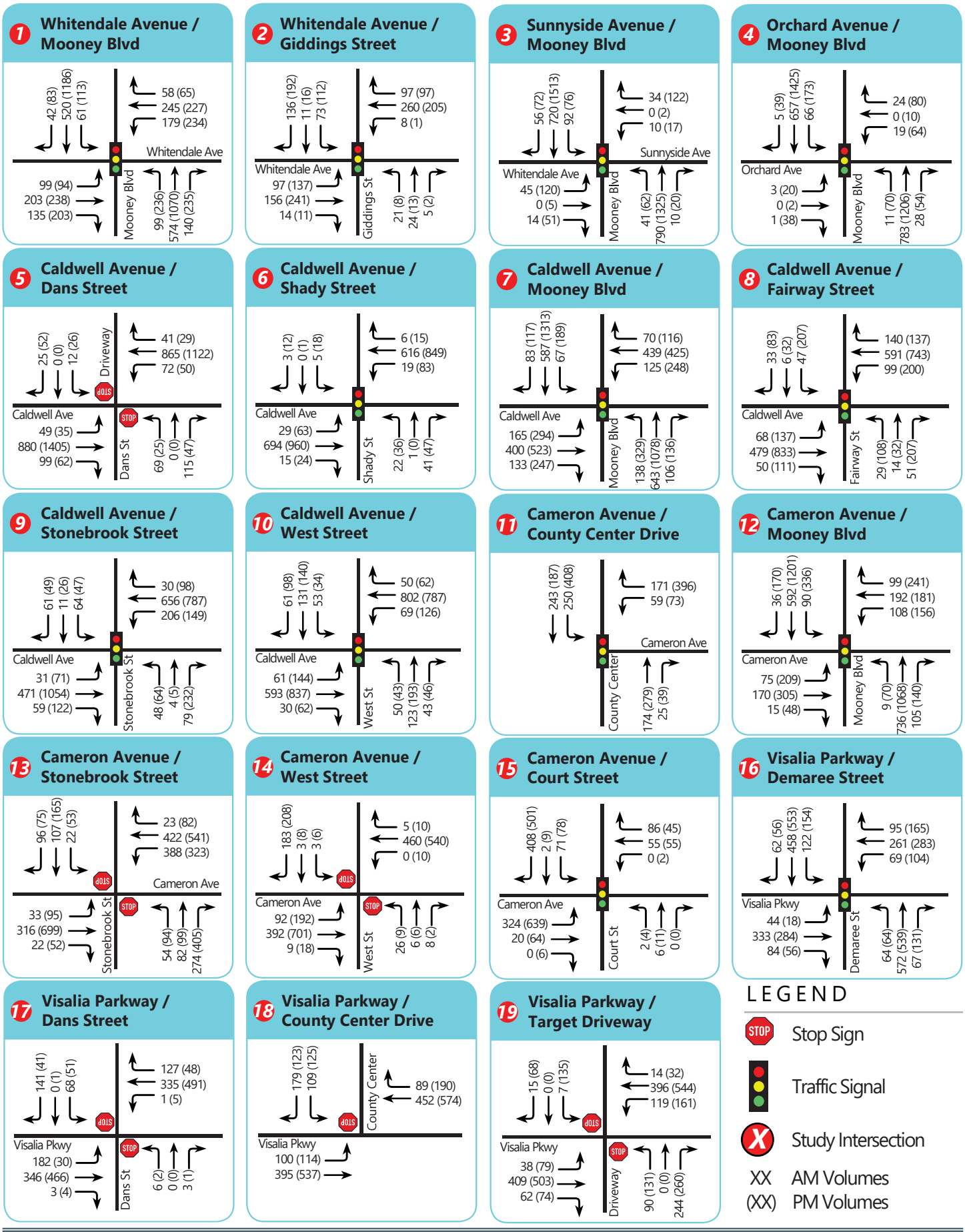
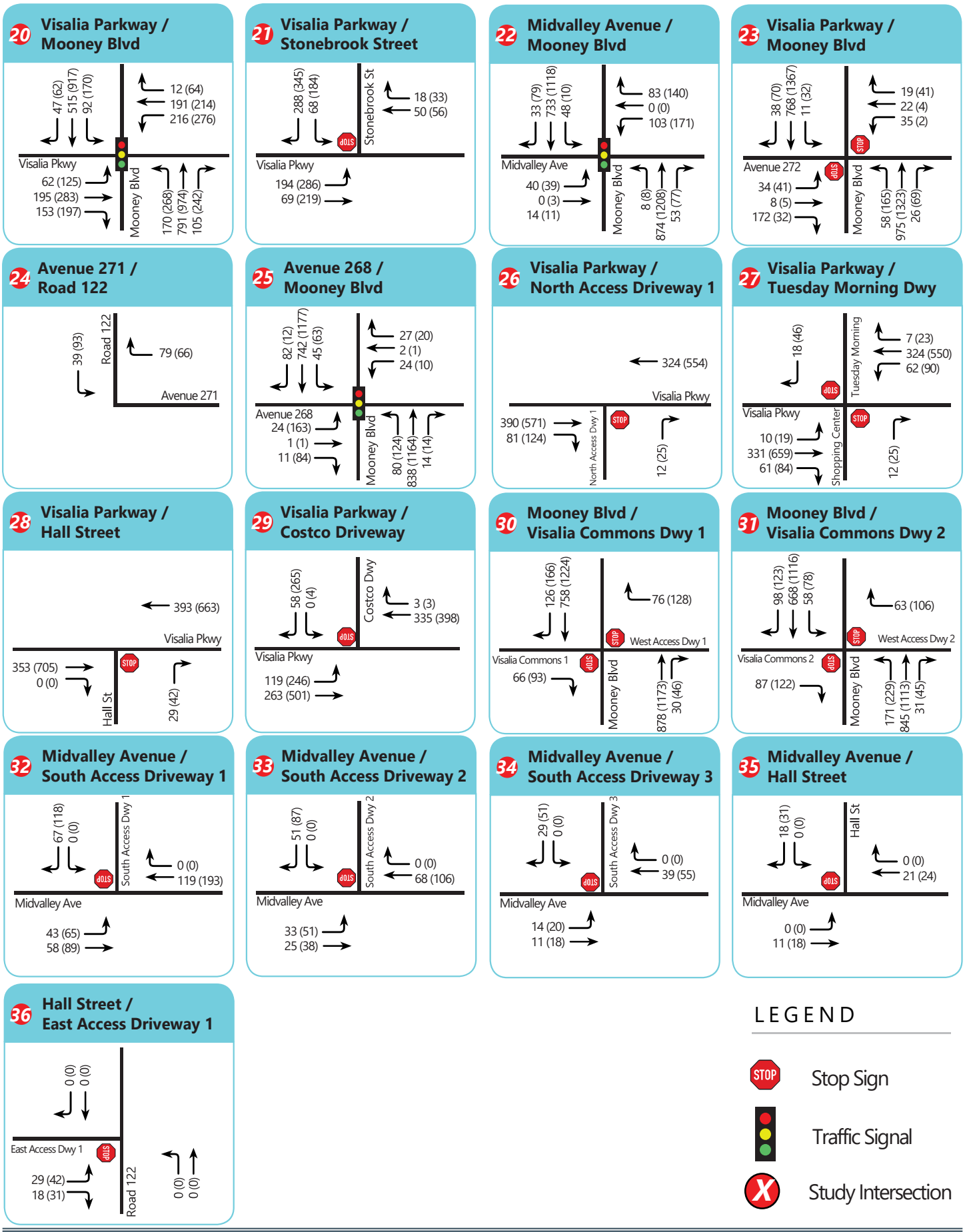


Figure 17b: 20-Year Cumulative Plus Project Peak Hour Volumes



11.0 ADDITIONAL ANALYSES

The following sections provide additional analyses of other transportation issues associated with the project site, including:

- Vehicle Miles Traveled
- Site access
- Onsite circulation
- Pedestrian, Bicycle, and Transit Impacts
- Phasing of frontage improvements
- Funding of mitigation measures

Unlike the LOS impact methodology, which is adopted by the City, the analyses in these sections are based on professional judgment in accordance with the standards and methods employed by traffic engineers. Vehicle miles traveled (VMT) is evaluated as a CEQA impact, however, there is no methodology or standard currently adopted by the City. Although operational issues are not considered CEQA impacts, they do describe traffic conditions that are relevant to the project environment.

11.1 Vehicle Miles Traveled (VMT)

Project Screening

Compliance with Senate Bill (SB) 743 included replacement of LOS with VMT for purposes of assessing traffic impacts under CEQA described in new Section 15064.3 of the CEQA Guidelines that applied statewide beginning on July 1, 2020. Lead agencies have discretion to choose the most appropriate methodology to evaluate a project's vehicles miles traveled, including whether to express the change in absolute terms, per capita, per household or any other measure. Most jurisdictions, including the City of Visalia, do not yet have an adopted VMT threshold. As of March 2021, the City of Visalia has adopted *VMT Thresholds and Implementation Guidelines*, which are generally consistent with OPR guidance. For the purposes of this study, the screening guidelines and significance thresholds that are contained in the City's VMT guidelines are utilized and compared to OPR recommendations.

VMT refers to the amount and distance of automobile travel "attributable to a project". As described separately in the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, December 2018), VMT re-routed from other origins or destinations as the result of a project would not be attributable to a project except to the extent that the re-routing results in a net increase in VMT. For example, OPR guidelines note that retail projects typically re-route travel from other retail destinations, and therefore a retail project may lead to increases or decreases in VMT, depending on previously existing travel patterns. Similarly, a large share of retail trips are "pass-by trips" that would not be considered attributable to a retail project.

It should be noted that although the OPR Technical Advisory states that lead agencies may generally presume that local-serving retail development creates a less-than-significant impact, it does not provide a clear distinction between local- and regional-serving developments. It also states that retail developments with stores larger than 50,000 square feet might be considered regional-serving. However, the City's VMT guidelines consider the total size of a retail project, with 50,000 sq. ft. to be the upper limit for a

development to be considered local serving. The proposed project would include one smaller anchor store of 20,473 sq. ft. and multiple others up to 15,500 sq. ft., with the total development providing approximately 215,000 sq. ft. of primarily retail and restaurant space. Due to the total project size, the project does not meet the City's screening criterion for size.

The City's guidelines also screen out certain projects located within 0.5 miles of a High Transit Priority Area or a High-Quality Transit Area. Among the required conditions is a minimum floor area ratio (FAR) greater than 0.75. Although the entire project site is located within the 0.5 mile buffer around the Visalia Transit Route 1, the proposed FAR is below 0.75. It should be noted, however, that the project site's land use and zoning designation, Regional Commercial, permits a maximum FAR of 0.6, below the threshold to take advantage of this screening criterion. The project does not meet this or any other screening criteria and therefore requires a detailed VMT analysis.

Identification of Project VMT and Assessment of Impact

Consistent with OPR recommendations, the City's guidelines specify that the TCAG travel demand model be used for analyzing large retail projects. The guidelines specify that the appropriate VMT metric is the change in total VMT within Tulare County with and without the proposed project. TJKM used the TCAG travel demand model to determine total VMT within Tulare County in 2020 and 2042 without the project (no build), and 2042 with full build-out of the project. For the purposes of the travel demand model analysis, a project size of 212,450 sq. ft. was analyzed. Due to the expected project phasing, with full build-out assumed to be at least five years in the future, the project-related net change in total VMT was evaluated for 2042 conditions. As shown in **Table 26**, total daily VMT within the County is expected to increase by approximately 1,999,314 miles between 2020 and 2042 under no-build conditions, an increase of approximately 13 percent. In 2042, the project is expected to result in an additional 11,224 net VMT, compared to 2042 no-build conditions. From 2020 no-build and 2042 build-out conditions, the project would contribute less than one percent to the total cumulative growth. However, based on the significance threshold recommended by OPR and specified in the City of Visalia VMT guidelines, the project would have a *potentially significant impact* on regional VMT.

Table 26: Cumulative VMT Growth, Tulare County

#	Scenario	VMT
A	2020 Base Year No Build	15,164,825
B	2042 Forecast Year No Build	17,164,139
C	2042 Forecast Year Build	17,175,362
D	No-Build Growth (B-A)	1,999,314
E	Growth with Build (C-A)	2,010,538
F	**Project Net VMT**(C-B)	**11,224**
G	Project Cumulative Contribution (F ÷ E)	0.6%

Source: TCAG Model application

Relation of VMT to Indirect Source Review

As the project is located within the San Joaquin Valley air basin, the San Joaquin Valley Air Pollution Control District's requires a review of both direct and indirect sources of air pollution and payment of fees

to mitigate any impacts identified. A key part of the Rule 9510 indirect source review (ISR) involves estimating VMT generated during the operational phase of the project in order to identify the amount of nitrous oxides (NOx) and particulates (PM10) generated. Although the District does not directly address CO2 production, NOx is both a ground-level pollutant and a powerful GHG. The amount of NOx and PM10 generated by indirect sources can then be reduced through a variety of mitigation measures, and fees are assessed for the remainder. The District uses these fees for programs aimed at reducing air pollution, primarily grants for replacing vehicles and heaters, such as wood stoves, with low- or zero-emission alternatives. A large proportion of the grants reported in recent years reduce both NOx and other GHG. For projects where a large proportion of emissions are due to mobile sources, such as vehicles, the mitigation fees seek to offset impacts from mobile sources by reducing emissions from both mobile and fixed sources.

The ISR conducted for the proposed project involved using the California Emissions Estimator Model (CalEEMod) to estimate emissions, including those due to VMT. The CalEEMod analysis incorporated the following location- and neighborhood/site-based mitigation measures affecting VMT:

- Increase density
- Improve walkability design
- Improve destination accessibility
- Increase transit accessibility
- Improve pedestrian network
- Provide traffic calming measures

Based on mitigation measures due to the project location and features related to the surrounding built environment (e.g., roadway medians, intersection density, well connected sidewalk network), the CalEEMod analysis identified a VMT reduction of approximately 14 percent, compared to a similar project without these mitigations. In order to fully mitigate emissions-related impacts that could not be reduced through on-site measures, the District assesses over $500,000 in impact fees. Based on the types of grants funded by such fees, this also partially mitigates the ongoing GHG-related impacts of project VMT.

Mitigation Measures

In order to mitigate the VMT impact associated with the project, TJKM considers a fair share contribution to a regional VMT reduction program to be the most appropriate mitigation measure for this project. However, no such program exists at this time within the project region. In addition, as the VMT metric used for large retail projects is the total change in regional VMT, the project-associated VMT impact would need to be eliminated entirely (no net change), rather than reduced as would be required when different metrics are used (e.g., 16 percent below regional average VMT per capita). As shown in section 2.1, the City of Visalia's VMT guidelines state that "it may be that identified VMT impacts cannot be mitigated at the project-specific level…Also, VMT, as a proxy for GHG emissions, may not require locational specificity. A project does not necessarily need to diminish the VMT at the project site to gain benefit in VMT and GHG reduction in the State. Offsets in an area where the benefit would be greater will have a more effective reduction in VMT and GHG and contribute to the State's ultimate climate goals." As no regional VMT-specific mitigation programs exist, TJKM recommends that a multi-pronged approach be used to fully mitigate project-related VMT impacts, focusing on:

- Pay an impact fee with the building permit issuance of each parcel to the City, to be placed into a VMT mitigation bank to be created at a later date. If a VMT mitigation fee program is implemented by the City prior to building permits being issued and fees being paid, the project would pay those fees instead. Otherwise, the fees would be calculated as below, based on the market rate price for GHG equivalents and a time period to be negotiated by the City and project applicant in light of other mitigating factors.
- Take into account the mitigation fees paid to the San Joaquin Valley Air Pollution Control District, as discussed above, which are based in part on VMT generated by the project.
- Implement all feasible project-level mitigation measures, as described below.

Calculating One-Time VMT Impact Fee

Typically, and in accordance with the California Mitigation Fee Act, any impact fee program would be based on a nexus study, which would derive the relationship between new development and necessary infrastructure improvements. However, for mitigating VMT this would require a nexus study far beyond the scope of a single project. Such a study would consider regional development projections and a range of VMT-reducing programs and projects. It is TJKM's understanding that such a program is planned, but as noted above it is not yet in place.

As stated in the City's VMT guidelines and OPR advisory, VMT is used as a proxy metric for measuring the long-term climate impact of greenhouse gas emissions, due to the large proportion of emissions generated by transportation. As such, a monetary value of project-generated VMT can be derived based on average vehicle fuel economy and the market rate price for GHG equivalents in the California Air Resources Board (CARB) Cap-And-Trade Program auction. In principle, the fees collected could be used to directly purchase GHG allowances through the CARB program, although the intention is that the fees would be used for VMT-reducing projects. As VMT generation would be an ongoing impact, the assessed monetary value of the VMT impact would depend on the amount of time used as a basis for calculating fees. TJKM recommends that the fee be based on a period of 10 years, to account for ongoing improvements to fuel economy and VMT-reducing infrastructure. Final determination of this time period is to be negotiated by the City and the project applicant. It should be noted that other agencies, such as the San Joaquin Valley Air Pollution Control District, also assess the cost of certain related impacts (e.g., PM10) based on total generation for a period of 10 years.

As noted above, the project would generate an additional 11,224 vehicle miles traveled per weekday within the bounds of Tulare County during the model horizon year of 2042. The project-specific model run evaluated a proposed project size of 212,450 sq. ft. TJKM utilized the US EPA's greenhouse gas equivalencies calculator to convert vehicle miles traveled to metric tons of CO_2 equivalents (MT CO_2e). The equivalency is in turn based on weighted average fuel economy of light vehicles as reported by the FHWA as of 2018 and typical CO_2e generated by burning gasoline. The project would thus generate the following amount of MT CO_2e per weekday:

$$11{,}224 \frac{\cancel{miles}}{weekday} \times 3.98x10^{-4} \frac{MT\ CO_2e}{\cancel{mile}} = 4.467\ \frac{MT\ CO_2e}{weekday}$$

The most recent Cap-And-Trade auction held by CARB and Québec's ministère de l'Environnement et de la Lutte contre les changements climatiques (MELCC) was conducted in August 2021 and provided 71,261,536 total allowances offered for sale. Each allowance consists of 1 MT CO_2e. The resulting auction price was $23.30 (US) per allowance. The project would thus generate the following monetary value in GHG equivalents per weekday, based on current fuel economy and market conditions:

$$4.467 \frac{\cancel{MT\ CO_2e}}{weekday} \times \frac{\$23.30}{\cancel{MT\ CO_2e}} = \frac{\$104.08}{weekday}$$

According to the OPR technical advisory, using VMT as a CEQA metric is intended to address passenger vehicle travel on weekdays only. In addition, the Tulare County travel demand model only covers weekdays, and the project's impact is only assessed for weekdays. There are an average of 260.7 weekdays per year. Based on a recommended time frame of 10 years, the total monetary value of the project's impact on weekday VMT is the following:

$$\frac{\$104.08}{\cancel{weekday}} \times 260.7 \frac{\cancel{weekdays}}{\cancel{year}} \times 10\ \cancel{years} = \$271{,}336.56$$

As noted above, the project-specific travel demand model evaluated a project size of 212,450 sq. ft. The recommended VMT impact fee is the following:

$$\$271{,}336.56 \div 212.450\ ksf = \$1277/ksf$$

The recommended fee of $1,277/ksf is based on TJKM's recommendation that VMT impacts be assessed for 10 years of GHG production. As noted above, other annual GHG generated by the project, including that from VMT, are already considered and mitigated under the San Joaquin Valley Air Pollution Control District's evaluation of NOX emissions. Such mitigation should be considered when negotiating the number of years used to assess the project's VMT impact fee.

Project-Level Mitigation Strategies

For project-level mitigation, TJKM recommends implementation of multiple measures that take advantage of the project's location along a high quality transit corridor to encourage use of transit and other non-automobile modes by both employees and customers. Preferred mitigation measures fall into two categories:

- Site and frontage design improvements to improve access, circulation, and convenience of transit users, pedestrians, and bicycles. A variety of such improvements is detailed below in section 11.5. The project should incorporate as many of these improvements as possible.
- Consider implementing a travel demand management (TDM) program for employees at the proposed shopping center. A TDM program for shopping center employees may include measures such as subsidized transit passes, facilitating ride sharing, contracting with a vanpool provider, providing information on local transportation facilities and services, or providing on-site amenities for bicycle commuters such as showers and changing areas.

TJKM recommends that the applicant work with City of Visalia Staff to finalize the preferred non-automobile physical improvements and specific TDM elements that would be most appropriate for the proposed project and its location on a high quality transit corridor. As the project would be constructed in

multiple phases, TDM programs may be most appropriately evaluated at the time of site plan review for specific uses within the shopping center, such that they can be tailored to the expected operational characteristics at each business. Although a specific target reduction is not required to mitigate the VMT impacts covered by the recommended fee discussed above, implementing any level of TDM program would further lower the amount of VMT generated by employees.

With these combined mitigation measures, the project would have **a less-than-significant impact** on regional VMT.

11.2 Site Access

The project vicinity and driveway locations are shown in **Figure 1**, and the project site plan dated August 6, 2020, is shown in **Figure 2**. The proposed shopping center would include two main drive aisles connecting to the four streets that will border the project site. The main driveway on Visalia Parkway would be aligned with the existing driveway for the Packwood Creek shopping center on the north side of the street (intersection #27). The main driveway on Mooney Boulevard would have a partial median opening precluding left turn exits from the shopping center to southbound Mooney. In addition to these primary access points, the project would include one secondary driveway on Visalia Parkway east of Mooney Boulevard (intersection #26) and two secondary driveways on Midvalley Avenue (intersections #32 and #34). As shown on the site plan, the four driveways on Visalia Parkway and Mooney Boulevard would prohibit outbound left turns, and inbound left turns would only be permitted at the two primary driveways (intersections #27 and #31). The remaining four driveways, located on Midvalley and Hall Street, would all permit full access. A prior version of the project, as analyzed in this report, also included a secondary driveway on Mooney Boulevard south of Visalia Parkway (intersection #30). That driveway has since been eliminated.

It should be noted that the site plan includes the future lane geometry on Visalia Parkway and Mooney Boulevard, after planned widening and installation of raised medians. Based on the adjacent roadways and overall project design, driveway locations and access restrictions are appropriate. As shown on the project site plan, all proposed driveways would satisfy City of Visalia design requirements. The trees and buildings shown on the site plan are all located far enough away from driveway openings to not obstruct sight lines. The proposed driveway locations, design, and sight distance are all **adequate**.

11.3 Deceleration Lane Analysis

Deceleration lanes are short auxiliary lanes designed to allow vehicles to safely turn at an intersection or driveway without impeding the flow of through traffic. The City of Visalia requires a deceleration lane at a project driveway if any of the following criteria are met:

a) At least 5,000 vehicles per day are using or are expected in the near future (five years after the development is built-out) to be using the adjacent street.
b) The posted speed limit is 35 mph or the 85th percentile speed limit is greater than 35 mph
c) At least 1,000 vehicles per day are using or are expected to use the driveways(s) for the development or adjacent developments(s) (existing or future).
d) At least 40 vehicles are expected to make right turns into the driveway(s) for a one-hour period for the development or adjacent developments (existing or future).

Since the speed limit along Mooney Boulevard is 45 mph, criteria b) is met. Based on the site plan received, the project will be constructing a deceleration lane along Mooney Boulevard. However, the site plan does not indicate deceleration lanes along Visalia Parkway. Since the speed limit along Visalia Parkway is 40 mph, the project should construct deceleration lanes for the site access. According to *A Policy on Geometric Design of Highways and Streets, 7th Edition*, the desirable lane change and deceleration distance based on a 40 mph roadway is 265 feet.

11.4 On-Site Circulation

As shown in **Figure 2**, the project site plan includes two primary drive aisles, 40 feet wide, connected by a central roundabout. These drive aisles also connect to individual parking areas in the four quadrants of the project site. The positioning of buildings and vertical landscaping such as trees provide clear sight lines at all internal intersections. Visibility would also be adequate at drive through entrances and exits, enclosed trash locations, and pedestrian crosswalks.

Drive aisles in the parking areas are typically 30 feet wide, with two-way travel and perpendicular parking on both sides. Parking areas include adequate space to turn around in dead-end aisles and can accommodate trucks and emergency vehicles throughout. Trash enclosures are conveniently located for truck access.

The site plan shows sidewalks provided on all project frontages and on both sides of the primary drive aisles, with marked crosswalks and pedestrian walkways on some, but not all, parcels. Although there are continuous, accessible pedestrian paths from all accessible parking spaces to the nearest buildings, there is inconsistent pedestrian connectivity to the project frontages, primary drive aisles, and between nearby buildings. No bike racks or long-term bike storage are shown on the site plan. In addition, the existing bus stop located on Mooney Boulevard north of Midvalley Avenue is not shown. Although the internal circulation on the project site would be **adequate**, TJKM recommends that it be revised to include consistent internal pedestrian connectivity, as well as the locations of bike racks and bus stops.

11.5 Pedestrian, Bicycle, and Transit Impacts

Pedestrian Access

Pedestrian access to the project site will be facilitated by new sidewalks on all frontages of the project site. The new sidewalks would connect to existing and proposed pedestrian facilities at the intersections of Visalia Parkway & Mooney Boulevard (intersection #20) and Midvalley Avenue & Mooney Boulevard (intersection #22). Both intersections include crosswalks with pedestrian signal heads on one or more legs, which would be expanded to all legs with construction of the proposed project and the planned Visalia Commons shopping center on the west side of Mooney Boulevard. The proposed development project does not conflict with existing and planned pedestrian facilities; therefore, the impact to pedestrian facilities is ***less than significant***.

Bicycle Access

As shown in **Figure 4**, there are no existing bicycle facilities on ether Visalia Parkway or Mooney Boulevard in the project vicinity. The proposed site plan shows bike lanes on both sides of each street. The City of Visalia's Active Transportation Plan (2017) proposes bicycle facilities on Visalia Parkway, and the Caltrans

plans for Mooney Boulevard (SR-63) include bike lanes on both sides. The project does not conflict with existing and planned bicycle facilities; therefore, the impact to bicycle facilities is ***less than significant***

Transit Access

The project site is within a quarter mile of two Visalia Transit bus stops, located on the northeast corners of Visalia Parkway & Mooney Boulevard (intersection #20) and Midvalley Avenue& Mooney Boulevard (intersection #22). The bus stops provide local access, and passengers can access regional transit lines with a single transfer at either the Visalia Transfer Center or the Tulare County Government Plaza. The existing pedestrian facilities in the project vicinity provide adequate connectivity for pedestrians to the nearest transit stops. Impacts to transit service are expected to be ***less than significant.***

On-Site Facility Improvement Opportunities

As noted in section 11.1, it is expected that the project would generate a small net increase in VMT within Tulare County. Shifting transportation modes away from automobiles and toward alternate modes is expected to reduce this increase. TJKM has identified improvements on the project site and frontages that would make the project more accessible and functional for alternate modes. In order to contribute to adequate mitigation, the project should incorporate as many of the following on-site improvements as possible:

- Wherever feasible, provide pedestrian connections between sidewalks and buildings that provide a shorter path of travel than walking to the nearest driveway.
- Provide marked pedestrian crosswalks connecting buildings that are separated by parking areas.
- Provide adequate lighting for sidewalks and internal walkways, particularly at major conflict points with vehicles.
- Provide benches and trash cans throughout the project site.
- Provide bike racks near building entrances.
- Provide bike lockers or other long-term bike storage facilities for shopping center employees.
- At the existing bus stop on Mooney Boulevard north of Midvalley Avenue, reconstruct the stop to provide a bus shelter, trash can, and adequate lighting.

11.6 Phasing of Frontage Improvements

In conjunction with phased site development, the project would also construct improvements along the project frontages. These consist the following, to be included as part of Phase 1:

- Visalia Parkway: full and ultimate improvements from the median break to the west. A transition taper will extend to the existing roadway to the east.
- Mooney Boulevard: full and ultimate improvements.
- Midvalley Avenue: half-street improvements from Mooney Boulevard to the main north-south driveway, with no taper to the east.

TJKM considers this proposed phasing to be adequate.

11.7 Funding of Mitigation Measures

Table ES-1 describes the mitigation measures that are needed in each project phase and scenario described in this report. Most of the mitigation measures consist of installing new traffic signals. Nearly

all of the needed new signals become warranted as a result of traffic generated by various development projects around the City. The City of Visalia has adopted a traffic impact fee mitigation program to construct various highway and intersection improvements whose need has been triggered by traffic from new growth. Most of the planned improvements are street widening projects. In addition, the fee program includes new traffic signals at 50 unspecified locations. The need for traffic signals arise over time and it is not possible to predict in a 20-year program exactly where signals will be needed. This project shares in justifying new signals at several locations, just as contemplated in the fee program. Accordingly, it is appropriate to consider that payment of traffic fees for this project serves as a fair share contribution to the costs for installation of needed new signals.

Another impacts identified in this study are widening and signal modifications at the intersection of Mooney Boulevard and Visalia Parkway at the northwest corner of this project. The City of Visalia and the project sponsor are planning an improvement for that intersection. That project will effectively mitigate at this intersection.

As discussed in section 11.1, VMT impacts would be mitigated through an impact fee to be assessed at the time building permits are issued for each parcel, based on the square footage for each phase of development.

Appendix A – VMT and Level of Service Methodology

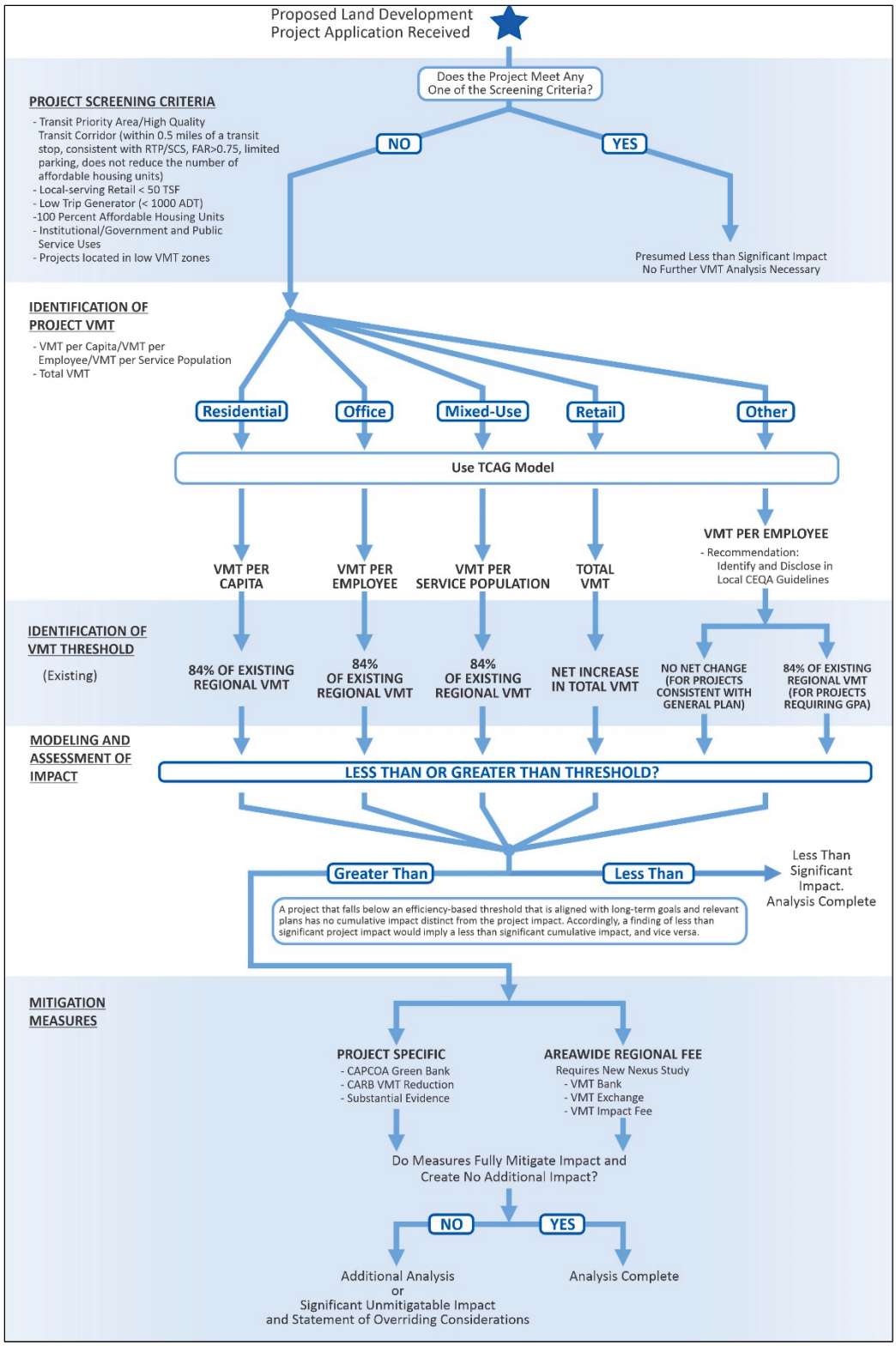
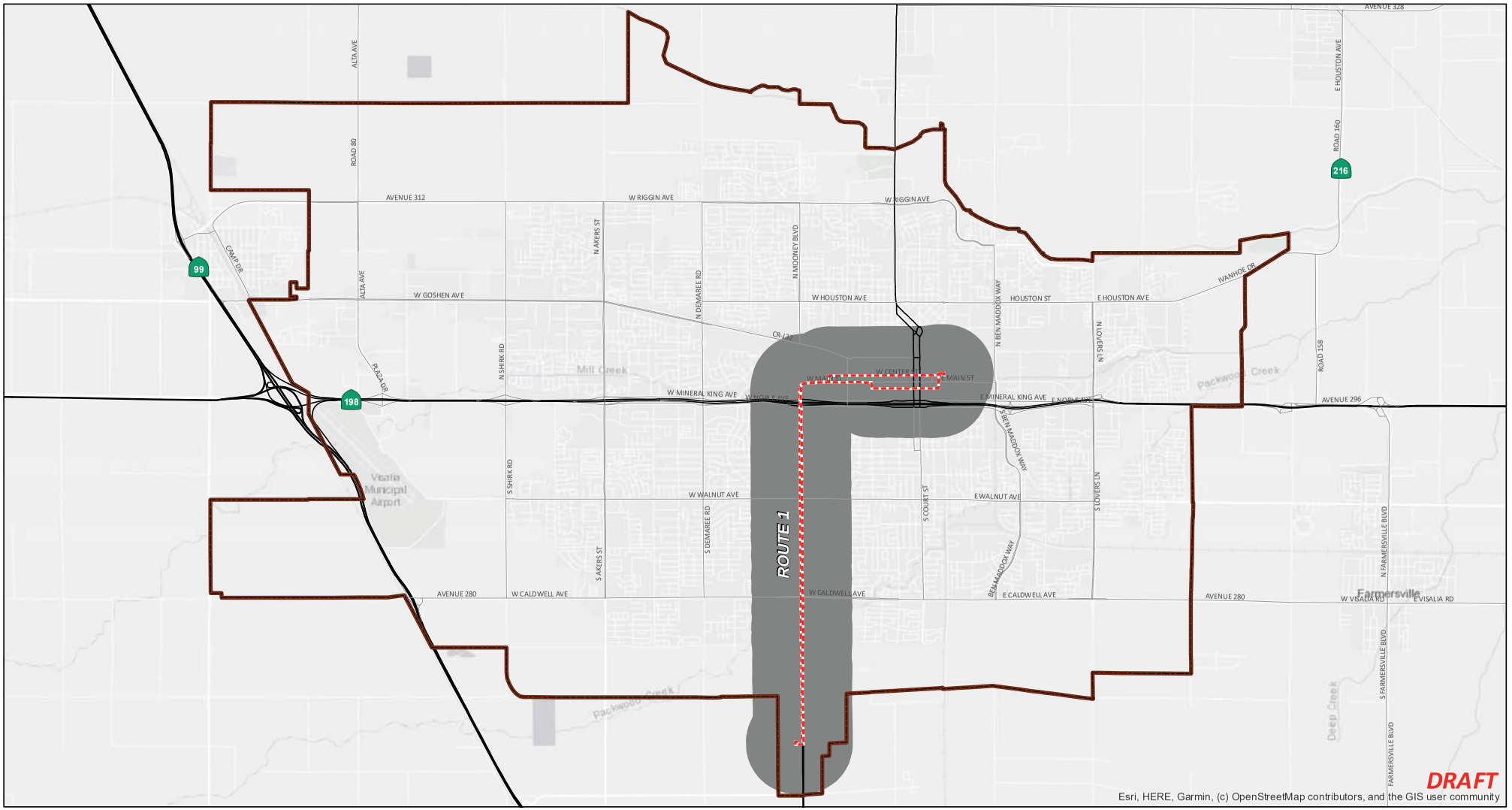


Figure 10: VMT Analysis Process for Development Projects



LSA

LEGEND

- City of Visalia Sphere of Influence
- Visalia Transit Route 1
- Half Mile Buffer

0 2500 5000
FEET

SOURCE: TCAG Model; City of Visalia;Tulare County (11/20)

R:\VSL2001 Visalia VMT\GIS\Fig_4_HQ Transit.mxd (1/19/2021)

FIGURE 4

City of Visalia VMT Thresholds and Implementation Guidelines

High Quality Transit Area within City of Visalia

APPENDIX A

LEVEL OF SERVICE

The description and procedures for calculating capacity and level of service are found in Transportation Research Board, *Highway Capacity Manual 2000*. *Highway Capacity Manual 2000* represents the latest research on capacity and quality of service for transportation facilities.

Quality of service requires quantitative measures to characterize operational conditions within a traffic stream. Level of service is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

Six levels of service are defined for each type of facility that has analysis procedures available. Letters designate each level, from A to F, with level-of-service A representing the best operating conditions and level-of-service F the worst. Each level of service represents a range of operating conditions and the driver's perception of these conditions. Safety is not included in the measures that establish service levels.

A general description of service levels for various types of facilities is shown in Table A-I.

Table A-I

Level of Service Description

Facility Type	**Uninterrupted Flow**	**Interrupted Flow**
	Freeways Multi-lane Highways Two-lane Highways Urban Streets	Signalized Intersections Unsignalized Intersections Two-way Stop Control All-way Stop Control
LOS		
A	Free-flow	Very low delay.
B	Stable flow. Presence of other users noticeable.	Low delay.
C	Stable flow. Comfort and convenience starts to decline.	Acceptable delay.
D	High density stable flow.	Tolerable delay.
E	Unstable flow.	Limit of acceptable delay.
F	Forced or breakdown flow.	Unacceptable delay

Source: *Highway Capacity Manual 2000*

Urban Streets

The term "urban streets" refers to urban arterials and collectors, including those in downtown areas.

Arterial streets are roads that primarily serve longer through trips. However, providing access to abutting commercial and residential land uses is also an important function of arterials.

Collector streets provide both land access and traffic circulation within residential, commercial and industrial areas. Their access function is more important than that of arterials, and unlike arterials their operation is not always dominated by traffic signals.

Downtown streets are signalized facilities that often resemble arterials. They not only move through traffic but also provide access to local businesses for passenger cars, transit buses, and trucks. Pedestrian conflicts and lane obstructions created by stopping or standing buses, trucks and parking vehicles that cause turbulence in the traffic flow are typical of downtown streets.

The speed of vehicles on urban streets is influenced by three main factors, street environment, interaction among vehicles and traffic control. As a result, these factors also affect quality of service.

The street environment includes the geometric characteristics of the facility, the character of roadside activity and adjacent land uses. Thus, the environment reflects the number and width of lanes, type of median, driveway density, spacing between signalized intersections, existence of parking, level of pedestrian activity and speed limit.

The interaction among vehicles is determined by traffic density, the proportion of trucks and buses, and turning movements. This interaction affects the operation of vehicles at intersections and, to a lesser extent, between signals.

Traffic control (including signals and signs) forces a portion of all vehicles to slow or stop. The delays and speed changes caused by traffic control devices reduce vehicle speeds, however, such controls are needed to establish right-of-way.

The average travel speed for through vehicles along an urban street is the determinant of the operating level of service. The travel speed along a segment, section or entire length of an urban street is dependent on the running speed between signalized intersections and the amount of control delay incurred at signalized intersections.

Level-of-service A describes primarily free-flow operations. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.

Level-of-service B describes reasonably unimpeded operations. The ability to maneuver within the traffic stream is only slightly restricted, and control delays at signalized intersections are not significant.

Level-of-service C describes stable operations, however, ability to maneuver and change lanes in midblock location may be more restricted than at level-of-service B. Longer queues, adverse signal coordination, or both may contribute to lower travel speeds.

Level-of-service D borders on a range in which in which small increases in flow may cause substantial increases in delay and decreases in travel speed. Level-of-service D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors.

Level-of-service E is characterized by significant delays and lower travel speeds. Such operations are caused by a combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.

Level-of-service F is characterized by urban street flow at extremely low speeds. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.

The methodology to determine level of service stratifies urban streets into four classifications. The classifications are complex, and are related to functional and design categories. Table A-II describes the functional and design categories, while Table A-III relates these to the urban street classification.

Once classified, the urban street is divided into segments for analysis. An urban street segment is a one-way section of street encompassing a series of blocks or links terminating at a signalized intersection. Adjacent segments of urban streets may be combined to form larger street sections, provided that the segments have similar demand flows and characteristics.

Levels of service are related to the average travel speed of vehicles along the urban street segment or section.

Travel times for existing conditions are obtained by field measurements. The maximum-car technique is used. The vehicle is driven at the posted speed limit unless impeded by actual traffic conditions. In the maximum-car technique, a safe level of vehicular operation is maintained by observing proper following distances and by changing speeds at reasonable rates of acceleration and deceleration. The maximum-car technique provides the best base for measuring traffic performance.

An observer records the travel time and locations and duration of delay. The beginning and ending points are the centers of intersections. Delays include times waiting in queues at signalized intersections. The travel speed is determined by dividing the length of the segment by the travel time. Once the travel speed on the arterial is determined, the level of service is found by comparing the speed to the criteria in Table A-IV. Level-of-service criteria vary for the different classifications of urban street, reflecting differences in driver expectations.

Table A-II

Functional and Design Categories for Urban Streets

Criterion	Functional Category	
	Principal Arterial	**Minor Arterial**
Mobility function	Very important	Important
Access function	Very minor	Substantial
Points connected	Freeways, important activity centers, major traffic generators	Principal arterials
Predominant trips served	Relatively long trips between major points and through trips entering, leaving, and passing through city	Trips of moderate length within relatively small geographical areas

Criterion	Design Category			
	High-Speed	**Suburban**	**Intermediate**	**Urban**
Driveway access density	Very low density	Low density	Moderate density	High density
Arterial type	Multilane divided; undivided or two-lane with shoulders	Multilane divided: undivided or two-lane with shoulders	Multilane divided or undivided; one way, two lane	Undivided one way; two way, two or more lanes
Parking	No	No	Some	Usually
Separate left-turn lanes	Yes	Yes	Usually	Some
Signals per mile	0.5 to 2	1 to 5	4 to 10	6 to 12
Speed limits	45 to 55 mph	40 to 45 mph	30 to 40 mph	25 to 35 mph
Pedestrian activity	Very little	Little	Some	Usually
Roadside development	Low density	Low to medium density	Medium to moderate density	High density

Source: *Highway Capacity Manual 2000*

Table A-III

Urban Street Class based on Function and Design Categories

Design Category	Functional Category	
	Principal Arterial	**Minor Arterial**
High-Speed	I	Not applicable
Suburban	II	II
Intermediate	II	III or IV
Urban	III or IV	IV

Source: *Highway Capacity Manual 2000*

Table A-IV

Urban Street Levels of Service by Class

Urban Street Class	I	II	III	IV
Range of Free Flow Speeds (mph)	45 to 55	35 to 45	30 to 35	25 to 35
Typical Free Flow Speed (mph)	50	40	33	30
Level of Service	**Average Travel Speed (mph)**			
A	>42	>35	>30	>25
B	>34	>28	>24	>19
C	>27	>22	>18	>13
D	>21	>17	>14	>9
E	>16	>13	>10	>7
F	≤16	≤13	≤10	≤7

Source: *Highway Capacity Manual 2000*

Interrupted Flow

One of the more important elements limiting, and often interrupting the flow of traffic on a highway is the intersection. Flow on an interrupted facility is usually dominated by points of fixed operation such as traffic signals, stop and yield signs. These all operate quite differently and have differing impacts on overall flow.

Signalized Intersections

The capacity of a highway is related primarily to the geometric characteristics of the facility, as well as to the composition of the traffic stream on the facility. Geometrics are a fixed, or non-varying, characteristic of a facility.

At the signalized intersection, an additional element is introduced into the concept of capacity: time allocation. A traffic signal essentially allocates time among conflicting traffic movements seeking use of the same physical space. The way in which time is allocated has a significant impact on the operation of the intersection and on the capacity of the intersection and its approaches.

Level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, *i. e.,* in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Specifically, level of service criteria for traffic signals are stated in terms of average control delay per vehicle, typically for a 15-minute analysis period. Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the ratio of green time to cycle length and the volume to capacity ratio for the lane group.

For each intersection analyzed the average control delay per vehicle per approach is determined for the peak hour. A weighted average of control delay per vehicle is then determined for the intersection. A level of service designation is given to the control delay to better describe the level of operation. A

description of levels of service for signalized intersections can be found in Table A-V.

Table A-V

Description of Level of Service for Signalized Intersections

Level of Service	Description
A	Very low control delay, up to 10 seconds per vehicle. Progression is extremely favorable, and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	Control delay greater than 10 and up to 20 seconds per vehicle. There is good progression or short cycle lengths or both. More vehicles stop causing higher levels of delay.
C	Control delay greater than 20 and up to 35 seconds per vehicle. Higher delays are caused by fair progression or longer cycle lengths or both. Individual cycle failures may begin to appear. Cycle failure occurs when a given green phase doe not serve queued vehicles, and overflow occurs. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.
D	Control delay greater than 35 and up to 55 seconds per vehicle. The influence of congestions becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volumes. Many vehicles stop, the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Control delay greater than 55 and up to 80 seconds per vehicle. The limit of acceptable delay. High delays usually indicate poor progression, long cycle lengths, and high volumes. Individual cycle failures are frequent.
F	Control delay in excess of 80 seconds per vehicle. Unacceptable to most drivers. Oversaturation, arrival flow rates exceed the capacity of the intersection. Many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to higher delay.

Source: *Highway Capacity Manual 2000*

The use of control delay, which may also be referred to as signal delay, was introduced in the 1997 update to the *Highway Capacity Manual*, and represents a departure from previous updates. In the third edition, published in 1985 and the 1994 update to the third edition, delay only included stopped delay. Thus, the level of service criteria listed in Table A-V differs from earlier criteria.

Unsignalized Intersections

The current procedures on unsignalized intersections were first introduced in the 1997 update to the *Highway Capacity Manual* and represent a revision of the methodology published in the 1994 update to the 1985 *Highway Capacity Manual*. The revised procedures use control delay as a measure of effectiveness to determine level of service. Delay is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, *i. e.,* in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Control delay is the increased time of travel for a vehicle approaching and passing through an unsignalized intersection, compared with a free-flow vehicle if it were not required to slow or stop at the intersection.

Two-Way Stop Controlled Intersections

Two-way stop controlled intersections in which stop signs are used to assign the right-of-way, are the most prevalent type of intersection in the United States. At two-way stop-controlled intersections the stop-controlled approaches are referred as the minor street approaches and can be either public streets or private driveways. The approaches that are not controlled by stop signs are referred to as the major street approaches.

The capacity of movements subject to delay are determined using the "critical gap" method of capacity analysis. Expected average control delay based on movement volume and movement capacity is calculated. A level of service designation is given to the expected control delay for each minor movement. Level of service is not defined for the intersection as a whole. Control delay is the increased time of travel for a vehicle approaching and passing through a stop-controlled intersection, compared with a free-flow vehicle if it were not required to slow or stop at the intersection. A description of levels of service for two-way stop-controlled intersections is found in Table A-VI.

Table A-VI

Description of Level of Service for Two-Way Stop Controlled Intersections

Level of Service	Description
A	Very low control delay less than 10 seconds per vehicle for each movement subject to delay.
B	Low control delay greater than 10 and up to 15 seconds per vehicle for each movement subject to delay.
C	Acceptable control delay greater than 15 and up to 25 seconds per vehicle for each movement subject to delay.
D	Tolerable control delay greater than 25 and up to 35 seconds per vehicle for each movement subject to delay.
E	Limit of tolerable control delay greater than 35 and up to 50 seconds per vehicle for each movement subject to delay.
F	Unacceptable control delay in excess of 50 seconds per vehicle for each movement subject to delay.

Source: *Highway Capacity Manual 2000*

Appendix B – Existing Traffic Counts

Turning Movement Report
(Vehicles)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 2 Whitendale / Mooney
LATITUDE 36.305744
COUNTY Tulare
LONGITUDE -119.313806
COLLECTION DATE Tuesday, May 14, 2019
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound					Interval
Time	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Total
7:00 AM - 7:15 AM	11	67	18	8	2	2	53	3	0	2	7	19	14	5	2	26	30	12	4	0	262
7:15 AM - 7:30 AM	15	91	6	0	4	6	64	4	1	3	6	29	8	5	0	26	28	16	6	1	299
7:30 AM - 7:45 AM	5	98	19	8	5	9	81	11	3	5	11	45	15	7	1	40	76	25	9	2	435
7:45 AM - 8:00 AM	13	138	24	13	3	9	127	8	2	4	27	55	26	6	1	42	89	22	5	0	580
8:00 AM - 8:15 AM	17	122	32	6	2	14	103	6	0	2	24	67	25	10	0	39	60	12	4	0	521
8:15 AM - 8:30 AM	22	119	33	9	2	18	120	14	2	5	20	38	30	9	2	35	38	12	3	0	499
8:30 AM - 8:45 AM	24	129	20	9	6	17	102	12	7	5	22	32	27	8	1	26	44	9	4	1	464
8:45 AM - 9:00 AM	26	146	23	10	5	22	119	10	4	7	16	41	23	6	0	34	44	13	1	2	517
11:00 AM - 11:15 AM	36	203	21	3	7	37	248	17	0	8	29	32	34	22	1	40	28	13	5	0	738
11:15 AM - 11:30 AM	37	204	30	9	5	23	240	17	3	5	20	33	47	20	1	32	31	18	9	0	732
11:30 AM - 11:45 AM	52	231	29	0	9	34	267	9	1	2	18	29	37	16	0	43	42	12	6	0	803
11:45 AM - 12:00 PM	51	211	30	7	3	30	226	28	3	3	21	31	46	25	1	45	47	12	7	1	778
12:00 PM - 12:15 PM	44	257	36	7	5	44	275	15	3	2	24	40	56	23	3	52	38	21	6	2	902
12:15 PM - 12:30 PM	37	247	41	7	1	31	331	18	2	2	21	34	42	15	1	37	40	12	8	1	891
12:30 PM - 12:45 PM	54	227	28	4	3	23	252	17	3	2	35	42	46	15	2	55	50	9	6	0	838
12:45 PM - 1:00 PM	42	279	33	8	5	30	295	18	2	7	20	28	34	18	2	47	39	18	7	1	883
2:00 PM - 2:15 PM	31	196	23	2	5	35	289	18	1	4	23	44	24	12	1	39	39	14	8	0	775
2:15 PM - 2:30 PM	42	190	35	3	2	24	238	12	1	5	25	51	38	24	0	49	69	18	3	1	791
2:30 PM - 2:45 PM	36	222	35	2	3	20	230	13	1	4	21	39	26	19	0	40	45	13	6	2	740
2:45 PM - 3:00 PM	44	204	32	3	5	19	259	22	3	2	20	41	32	26	0	39	51	16	7	2	779
3:00 PM - 3:15 PM	41	210	40	1	3	28	241	19	7	1	25	57	28	15	0	55	69	15	5	1	828
3:15 PM - 3:30 PM	49	231	38	5	0	26	231	21	3	2	18	56	45	24	2	40	60	11	2	0	826
3:30 PM - 3:45 PM	49	195	47	4	2	19	258	17	2	3	32	61	39	17	0	58	77	12	5	2	864
3:45 PM - 4:00 PM	34	250	36	4	2	56	320	23	0	4	30	45	44	28	0	54	57	20	10	0	969
4:00 PM - 4:15 PM	46	204	40	1	2	35	237	21	3	1	13	74	42	23	0	43	53	15	8	0	823
4:15 PM - 4:30 PM	39	228	23	0	5	31	280	18	0	1	20	58	30	17	2	40	48	13	4	0	828
4:30 PM - 4:45 PM	52	214	36	0	1	25	252	18	2	3	20	65	29	18	0	46	52	11	6	0	820
4:45 PM - 5:00 PM	49	217	37	2	3	35	272	22	0	2	27	48	45	14	0	40	54	11	1	0	857
5:00 PM - 5:15 PM	54	269	60	1	3	16	282	17	0	1	21	38	37	25	0	48	50	14	6	0	906
5:15 PM - 5:30 PM	46	215	43	1	3	27	247	19	4	1	21	75	36	17	3	57	61	18	4	1	865
5:30 PM - 5:45 PM	45	252	41	0	1	29	261	20	3	3	20	64	45	34	0	36	49	18	4	0	880
5:45 PM - 6:00 PM	36	217	52	9	2	24	224	17	4	0	16	53	34	12	0	44	58	12	3	0	787

7-9 AM Peak Hour: 7:45 AM - 8:45 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 4:45 PM - 5:45 PM

4-6 PM Peak Hour: 4:45 PM - 5:45 PM

Turning Movement Report
(Bicycles & Pedestrians)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:

Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

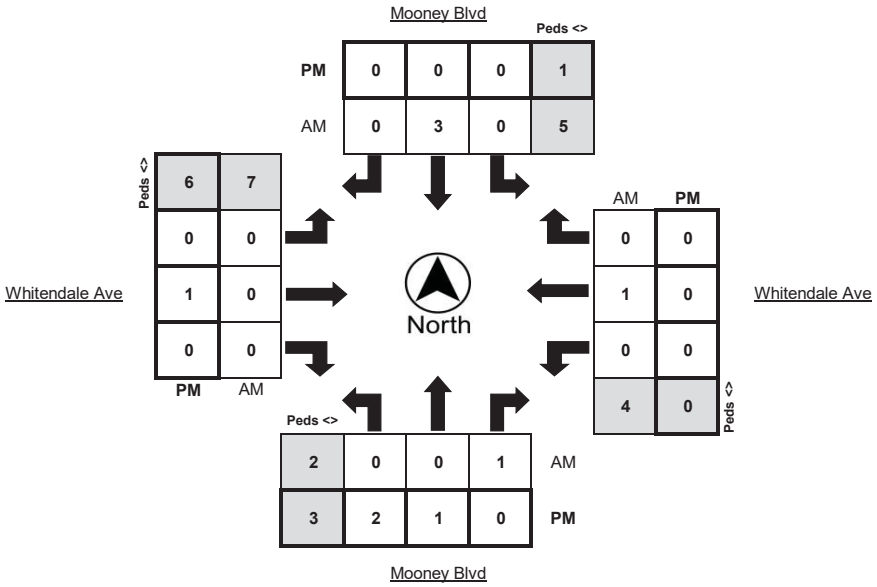
LOCATION 2 Whitendale / Mooney **LATITUDE** 36.305744

COUNTY Tulare **LONGITUDE** -119.313806

COLLECTION DATE Tuesday, May 14, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
7:15 AM - 7:30 AM	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	2	1
7:30 AM - 7:45 AM	0	1	0	4	0	0	0	0	0	0	0	1	0	0	0	2	7	1
7:45 AM - 8:00 AM	0	0	1	1	0	0	0	1	0	0	0	1	0	0	0	1	4	1
HOUR TOTAL	0	2	1	7	0	0	0	1	0	1	0	3	0	0	0	3	14	4
8:00 AM - 8:15 AM	0	1	0	2	0	0	0	1	0	0	0	0	0	0	0	0	3	1
8:15 AM - 8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	0
8:30 AM - 8:45 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	3	0
8:45 AM - 9:00 AM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	4	0
HOUR TOTAL	0	1	0	6	0	0	0	2	0	0	0	1	0	0	0	3	12	1
11:00 AM - 11:15 AM	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	2	2	4
11:15 AM - 11:30 AM	0	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	4	1
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	2	7	0
11:45 AM - 12:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	5	0
HOUR TOTAL	0	0	1	5	0	3	0	2	0	0	0	4	0	1	0	7	18	5
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	3	6	0
12:15 PM - 12:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	2
12:30 PM - 12:45 PM	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	1	2	3
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	1	2
HOUR TOTAL	0	1	2	1	0	0	0	1	0	2	0	2	0	2	0	6	10	7
2:00 PM - 2:15 PM	0	2	0	1	0	0	0	2	0	0	0	1	0	0	0	6	10	2
2:15 PM - 2:30 PM	0	0	0	5	0	2	0	0	0	0	0	3	0	1	0	1	9	3
2:30 PM - 2:45 PM	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	3
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0
HOUR TOTAL	1	3	0	6	0	2	0	2	0	0	0	5	0	2	0	10	23	8
3:00 PM - 3:15 PM	0	2	0	5	0	0	1	1	0	2	0	1	0	1	0	5	12	6
3:15 PM - 3:30 PM	0	0	0	3	0	0	0	0	0	0	0	3	0	0	0	3	9	0
3:30 PM - 3:45 PM	0	0	0	0	0	2	0	2	0	0	0	2	0	0	0	1	5	2
3:45 PM - 4:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	2	1
HOUR TOTAL	0	2	0	8	0	3	1	4	0	2	0	6	0	1	0	10	28	9
4:00 PM - 4:15 PM	1	0	0	1	0	0	0	0	0	1	0	1	0	1	0	2	4	3
4:15 PM - 4:30 PM	0	1	0	2	0	0	0	0	0	1	0	3	0	0	0	3	8	2
4:30 PM - 4:45 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	4	6	0
4:45 PM - 5:00 PM	2	0	0	1	0	0	0	3	0	0	0	0	0	0	0	3	7	2
HOUR TOTAL	3	1	0	6	0	0	0	3	0	2	0	4	0	1	0	12	25	7
5:00 PM - 5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	2	1
5:45 PM - 6:00 PM	0	0	0	1	0	0	0	1	0	1	0	2	0	0	0	2	6	1
HOUR TOTAL	0	1	0	1	0	0	0	1	0	2	0	2	0	0	0	5	9	3

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
11:00 AM - 12:00 PM	0	0	1	5	0	3	0	2	0	0	0	4	0	1	0	7	18	5
12:00 PM - 1:00 PM	2	1	0	1	0	0	0	3	0	1	0	0	0	0	0	6	10	4



Turning Movement Report
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Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 3 Mooney / Sunnyside
LATITUDE 36.303461
COUNTY Tulare
LONGITUDE -119.313746
COLLECTION DATE Tuesday, May 14, 2019
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound					Interval
Time	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Total
7:00 AM - 7:15 AM	7	86	0	0	3	3	85	6	0	2	7	1	2	0	0	0	0	6	4	0	203
7:15 AM - 7:30 AM	7	112	0	0	2	7	76	10	0	3	6	0	3	3	2	0	0	4	2	1	225
7:30 AM - 7:45 AM	7	120	1	0	6	13	116	14	0	6	8	0	3	3	1	0	0	9	3	0	291
7:45 AM - 8:00 AM	11	161	1	0	3	32	134	15	0	4	7	0	3	0	2	0	2	7	7	0	373
8:00 AM - 8:15 AM	12	174	0	0	3	24	146	15	0	3	9	0	4	3	0	2	0	5	4	0	391
8:15 AM - 8:30 AM	9	142	0	0	2	22	150	15	0	4	11	0	1	1	0	0	0	8	5	0	358
8:30 AM - 8:45 AM	5	168	3	0	6	20	136	12	0	2	5	0	3	3	0	0	0	8	4	1	360
8:45 AM - 9:00 AM	12	174	0	0	4	19	150	10	0	7	17	0	5	3	0	0	0	10	5	1	397
11:00 AM - 11:15 AM	11	223	0	0	5	11	279	22	0	7	30	0	11	7	1	2	1	12	9	1	602
11:15 AM - 11:30 AM	18	246	0	0	5	20	328	34	0	8	23	0	15	7	0	0	0	10	5	0	694
11:30 AM - 11:45 AM	12	257	1	0	6	23	306	20	0	2	39	1	10	5	1	3	1	12	5	0	685
11:45 AM - 12:00 PM	19	249	5	0	3	16	326	22	0	5	24	0	14	7	0	1	2	20	11	0	698
12:00 PM - 12:15 PM	28	314	1	0	4	15	350	21	0	4	30	3	19	5	0	1	0	12	7	1	794
12:15 PM - 12:30 PM	22	291	2	0	2	15	377	26	0	3	31	0	13	8	0	3	0	13	9	1	793
12:30 PM - 12:45 PM	24	273	1	0	2	21	347	30	0	4	20	2	12	8	0	4	1	24	16	1	759
12:45 PM - 1:00 PM	19	319	2	0	6	32	309	22	0	5	34	1	13	6	0	0	3	21	8	0	775
2:00 PM - 2:15 PM	24	222	2	0	6	17	317	23	0	4	26	2	7	5	0	1	0	10	7	0	651
2:15 PM - 2:30 PM	18	237	0	0	2	15	285	27	0	6	34	2	12	5	0	2	0	16	12	1	648
2:30 PM - 2:45 PM	18	223	2	0	2	17	286	17	0	4	31	2	10	7	0	5	1	21	12	1	633
2:45 PM - 3:00 PM	14	217	2	0	3	19	285	19	0	4	24	0	12	8	0	3	0	18	3	1	613
3:00 PM - 3:15 PM	9	267	0	0	1	17	283	18	0	1	29	0	16	4	0	0	1	12	6	1	652
3:15 PM - 3:30 PM	13	256	0	0	0	14	282	25	0	2	21	2	6	3	0	1	1	11	3	0	632
3:30 PM - 3:45 PM	12	239	1	0	3	21	323	21	0	4	31	1	8	3	0	5	4	17	8	0	683
3:45 PM - 4:00 PM	20	270	2	0	1	21	347	25	0	4	13	1	9	2	0	1	1	22	14	0	732
4:00 PM - 4:15 PM	15	246	2	0	2	17	294	15	0	1	23	2	14	7	0	1	0	30	18	0	659
4:15 PM - 4:30 PM	13	241	0	0	5	13	303	16	0	2	14	2	4	2	0	3	2	22	10	0	633
4:30 PM - 4:45 PM	13	256	0	0	2	16	290	20	0	4	30	2	9	7	0	0	0	19	8	0	655
4:45 PM - 5:00 PM	5	253	2	0	3	24	302	23	0	2	30	0	17	7	0	1	0	27	7	1	684
5:00 PM - 5:15 PM	17	264	1	0	3	13	351	19	0	2	38	0	8	5	0	2	1	54	19	0	768
5:15 PM - 5:30 PM	20	297	2	0	3	19	298	11	0	1	25	3	8	8	0	2	1	15	6	0	701
5:30 PM - 5:45 PM	15	287	2	0	2	14	326	14	0	2	18	2	14	13	0	0	0	17	10	0	709
5:45 PM - 6:00 PM	18	256	1	0	2	17	277	13	0	1	22	1	11	6	0	3	1	20	5	0	640

7-9 AM Peak Hour: 8:00 AM - 9:00 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 4:45 PM - 5:45 PM

4-6 PM Peak Hour: 4:45 PM - 5:45 PM

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Prepared For:

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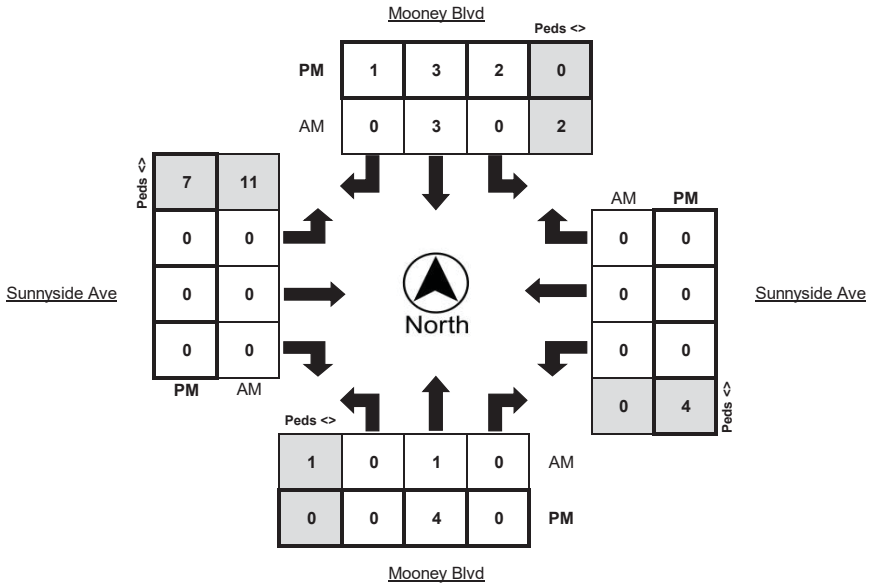
LOCATION 3 Mooney / Sunnyside **LATITUDE** 36.303461

COUNTY Tulare **LONGITUDE** -119.313746

COLLECTION DATE Tuesday, May 14, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	2	0	0	0	0	0	1	0	0	0	2	0	0	0	1	4	2
7:15 AM - 7:30 AM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2	1
7:30 AM - 7:45 AM	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	2
7:45 AM - 8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	3	0
HOUR TOTAL	**0**	**4**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**5**	**11**	**5**
8:00 AM - 8:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0
8:45 AM - 9:00 AM	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	2	5	0
HOUR TOTAL	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**2**	**9**	**2**
11:00 AM - 11:15 AM	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0	2	3	3
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	4	0
11:30 AM - 11:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	3	1
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0
HOUR TOTAL	**0**	**1**	**0**	**2**	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**14**	**4**
12:00 PM - 12:15 PM	0	0	0	1	0	0	0	0	0	0	0	2	0	0	1	1	4	1
12:15 PM - 12:30 PM	0	2	0	0	0	0	1	1	0	0	0	1	0	0	0	3	5	3
12:30 PM - 12:45 PM	0	0	0	0	1	2	0	2	0	0	0	1	0	0	0	2	5	3
12:45 PM - 1:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	0
HOUR TOTAL	**0**	**2**	**0**	**2**	**1**	**2**	**1**	**3**	**0**	**0**	**0**	**4**	**0**	**0**	**1**	**7**	**16**	**7**
2:00 PM - 2:15 PM	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	2	3	3
2:15 PM - 2:30 PM	0	0	0	0	0	4	0	0	0	0	0	4	0	0	0	3	7	4
2:30 PM - 2:45 PM	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3
2:45 PM - 3:00 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2	1
HOUR TOTAL	**0**	**5**	**0**	**0**	**0**	**5**	**0**	**0**	**1**	**0**	**0**	**7**	**0**	**0**	**0**	**6**	**13**	**11**
3:00 PM - 3:15 PM	0	1	0	1	0	1	0	0	0	1	0	1	0	0	0	0	2	3
3:15 PM - 3:30 PM	0	2	0	0	0	0	0	0	0	0	0	3	0	0	0	2	5	2
3:30 PM - 3:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
3:45 PM - 4:00 PM	0	1	0	0	0	2	0	0	0	0	0	0	1	0	0	1	1	4
HOUR TOTAL	**0**	**5**	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**1**	**0**	**4**	**1**	**0**	**0**	**3**	**8**	**11**
4:00 PM - 4:15 PM	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	2
4:15 PM - 4:30 PM	0	2	0	2	0	1	0	0	0	0	0	1	0	0	0	0	3	3
4:30 PM - 4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM - 5:00 PM	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	2	2	5
HOUR TOTAL	**0**	**7**	**0**	**2**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**6**	**11**
5:00 PM - 5:15 PM	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2	2
5:15 PM - 5:30 PM	0	0	0	0	2	0	0	0	0	0	0	3	0	0	0	3	6	2
5:30 PM - 5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1
5:45 PM - 6:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	2	1
HOUR TOTAL	**0**	**1**	**0**	**0**	**2**	**1**	**2**	**1**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**6**	**11**	**6**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
11:00 AM - 12:00 PM	0	1	0	**2**	0	3	0	**1**	0	0	0	**0**	0	0	0	**11**	**14**	**4**
12:00 PM - 1:00 PM	0	4	0	**0**	2	3	1	**0**	0	0	0	**4**	0	0	0	**7**	**11**	**10**



Turning Movement Report
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Prepared For:
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952 Pollasky Avenue
Clovis, CA 93612

LOCATION 4 Mooney / Orchard
LATITUDE 36.300276
COUNTY Tulare
LONGITUDE -119.313668
COLLECTION DATE Tuesday, May 14, 2019
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound					Interval
Time	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Total
7:00 AM - 7:15 AM	0	84	3	0	2	5	81	0	0	1	0	0	0	0	0	2	0	1	0	2	176
7:15 AM - 7:30 AM	0	113	9	0	1	1	79	0	0	4	0	0	0	0	0	2	0	0	0	2	204
7:30 AM - 7:45 AM	0	116	10	0	8	9	100	0	0	6	0	1	0	0	0	1	0	4	2	1	241
7:45 AM - 8:00 AM	2	175	18	0	3	15	115	1	0	4	0	0	0	0	0	3	0	3	0	1	332
8:00 AM - 8:15 AM	3	160	10	0	3	14	119	1	0	3	1	0	1	1	0	5	0	7	0	1	321
8:15 AM - 8:30 AM	2	146	5	0	2	18	149	1	0	4	1	0	0	0	0	5	0	7	1	2	334
8:30 AM - 8:45 AM	2	154	7	0	8	13	113	1	0	0	1	0	0	0	0	3	0	3	0	2	297
8:45 AM - 9:00 AM	3	178	4	0	4	15	130	2	0	8	0	0	0	0	0	4	0	5	0	1	341
11:00 AM - 11:15 AM	11	187	10	0	7	34	238	6	0	6	2	4	4	0	0	10	0	11	4	2	517
11:15 AM - 11:30 AM	5	237	6	0	5	38	274	12	0	6	6	1	5	0	0	5	1	17	10	1	607
11:30 AM - 11:45 AM	13	235	11	0	6	25	263	11	0	2	4	0	7	0	0	14	2	13	3	2	598
11:45 AM - 12:00 PM	3	230	7	0	4	41	280	8	0	5	9	2	6	0	0	12	0	14	10	0	612
12:00 PM - 12:15 PM	12	277	15	1	3	38	324	6	0	5	12	3	6	2	0	12	1	16	8	2	722
12:15 PM - 12:30 PM	9	262	11	1	2	52	342	5	0	5	1	0	4	1	0	18	2	20	11	2	726
12:30 PM - 12:45 PM	6	234	8	0	3	45	292	8	0	4	3	2	3	1	0	11	4	18	7	1	634
12:45 PM - 1:00 PM	8	271	3	0	4	54	276	5	0	5	6	3	10	0	0	8	3	19	6	1	666
2:00 PM - 2:15 PM	5	198	4	1	6	24	297	4	0	3	4	1	9	6	0	11	1	21	12	3	579
2:15 PM - 2:30 PM	6	223	8	0	1	23	283	6	0	5	5	2	3	3	0	5	2	15	12	2	581
2:30 PM - 2:45 PM	8	210	10	1	5	28	275	10	0	4	3	2	7	4	0	11	2	10	5	1	576
2:45 PM - 3:00 PM	8	247	6	1	3	29	278	4	0	4	2	2	7	5	0	8	1	14	8	1	606
3:00 PM - 3:15 PM	6	226	10	5	2	33	265	4	0	1	7	2	6	4	0	8	3	11	9	1	581
3:15 PM - 3:30 PM	7	231	5	1	0	22	256	3	0	2	3	2	4	1	0	6	0	16	13	1	555
3:30 PM - 3:45 PM	5	233	10	2	6	33	311	5	0	3	3	3	6	2	0	10	2	28	16	1	649
3:45 PM - 4:00 PM	18	260	7	1	1	53	335	9	0	3	1	0	5	5	0	8	0	14	11	1	710
4:00 PM - 4:15 PM	11	233	11	1	3	37	313	6	0	3	3	2	7	3	0	4	1	20	11	2	648
4:15 PM - 4:30 PM	10	212	7	0	3	49	287	3	0	2	7	0	5	5	0	10	0	12	9	1	602
4:30 PM - 4:45 PM	9	234	19	8	4	34	264	5	0	4	1	0	4	3	0	7	3	16	12	1	596
4:45 PM - 5:00 PM	15	221	16	4	3	40	282	8	0	3	3	2	13	11	0	11	1	21	14	1	633
5:00 PM - 5:15 PM	16	245	12	3	3	46	317	11	0	2	5	0	8	5	0	20	4	22	10	1	706
5:15 PM - 5:30 PM	20	260	8	1	3	27	271	9	0	1	5	0	9	7	0	19	2	17	11	1	647
5:30 PM - 5:45 PM	13	244	13	3	4	45	302	8	0	2	5	0	5	4	0	9	2	13	8	1	659
5:45 PM - 6:00 PM	12	254	10	3	2	28	262	4	0	1	6	3	7	4	0	5	4	13	10	1	608

7-9 AM Peak Hour: 8:00 AM - 9:00 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 4:45 PM - 5:45 PM

4-6 PM Peak Hour: 4:45 PM - 5:45 PM

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952 Pollasky Avenue
Clovis, CA 93612

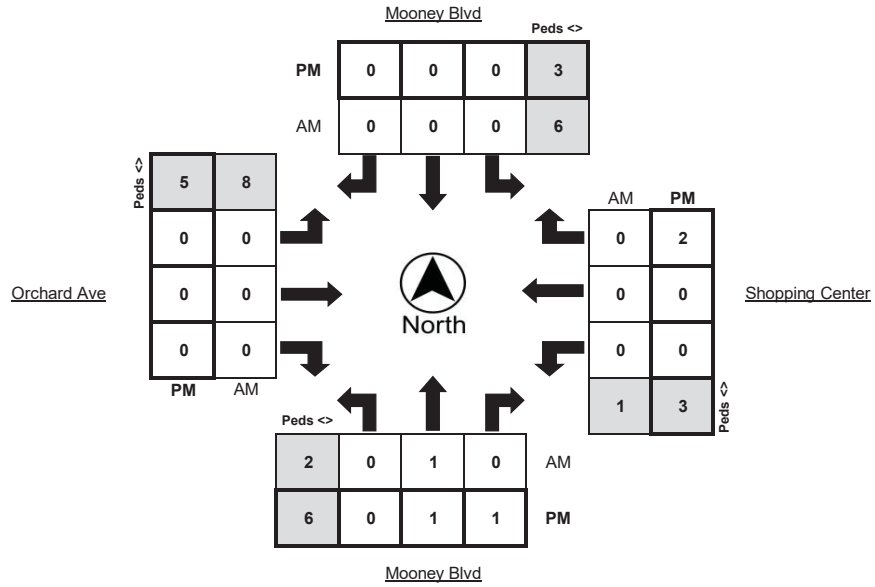
LOCATION 4 Mooney / Orchard **LATITUDE** 36.300276

COUNTY Tulare **LONGITUDE** -119.313668

COLLECTION DATE Tuesday, May 14, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	1
7:15 AM - 7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1
7:30 AM - 7:45 AM	0	1	0	1	0	0	0	2	0	0	0	2	0	0	0	0	5	1
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3	5	0
HOUR TOTAL	**0**	**3**	**0**	**2**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**6**	**14**	**3**
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	2	0	1	0	2	0	0	0	0	4	1
HOUR TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**1**	**7**	**1**
11:00 AM - 11:15 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	3	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	3	0
11:30 AM - 11:45 AM	0	1	0	3	0	0	0	1	0	0	0	0	0	0	0	1	5	1
11:45 AM - 12:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	4	6	0
HOUR TOTAL	**0**	**1**	**0**	**6**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**8**	**17**	**1**
12:00 PM - 12:15 PM	0	2	0	2	0	0	0	0	0	0	0	4	0	0	0	1	7	2
12:15 PM - 12:30 PM	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	1
12:30 PM - 12:45 PM	0	0	0	2	0	0	0	1	0	0	0	3	0	0	0	1	7	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0
HOUR TOTAL	**0**	**3**	**0**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**2**	**18**	**3**
2:00 PM - 2:15 PM	0	1	0	5	0	0	0	1	0	0	0	2	0	0	0	1	9	1
2:15 PM - 2:30 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	3	2
2:30 PM - 2:45 PM	0	1	0	0	0	0	0	5	0	0	0	1	0	0	1	1	7	2
2:45 PM - 3:00 PM	0	0	0	1	0	0	0	3	0	0	0	1	0	0	0	4	9	0
HOUR TOTAL	**0**	**2**	**0**	**6**	**2**	**0**	**0**	**11**	**0**	**0**	**0**	**4**	**0**	**0**	**1**	**7**	**28**	**5**
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	3	0
3:30 PM - 3:45 PM	0	1	0	0	0	1	0	3	0	0	0	0	0	0	0	0	3	2
3:45 PM - 4:00 PM	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	1	3
HOUR TOTAL	**0**	**2**	**0**	**1**	**0**	**3**	**0**	**5**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**9**	**5**
4:00 PM - 4:15 PM	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	2
4:15 PM - 4:30 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3
4:30 PM - 4:45 PM	0	0	0	0	0	1	0	2	0	0	0	1	0	0	0	1	4	1
4:45 PM - 5:00 PM	0	1	0	0	0	0	0	2	0	0	0	1	0	0	2	1	4	3
HOUR TOTAL	**0**	**3**	**1**	**0**	**0**	**2**	**0**	**5**	**0**	**0**	**0**	**2**	**0**	**0**	**3**	**3**	**10**	**9**
5:00 PM - 5:15 PM	0	0	1	2	0	0	0	1	0	0	0	0	0	0	0	1	4	1
5:15 PM - 5:30 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	3	5	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	4	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
HOUR TOTAL	**0**	**0**	**1**	**3**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**5**	**14**	**1**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
11:00 AM - 12:00 PM	0	1	0	**6**	0	0	0	**2**	0	0	0	**1**	0	0	0	**8**	**17**	**1**
12:00 PM - 1:00 PM	0	1	1	**3**	0	0	0	**6**	0	0	0	**3**	0	0	2	**5**	**17**	**4**



Turning Movement Report
(Vehicles)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 6 Caldwell / Dans
LATITUDE 0
COUNTY Tulare
LONGITUDE 0
COLLECTION DATE Tuesday, May 7, 2019
WEATHER 0.0000

	Northbound				Southbound				Eastbound				Westbound				Interval
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Total
7:00 AM - 7:15 AM	6	0	9	0	1	0	7	0	2	63	4	3	2	82	2	4	178
7:15 AM - 7:30 AM	5	0	2	1	0	0	0	0	0	74	4	5	12	109	3	2	209
7:30 AM - 7:45 AM	7	0	15	1	1	0	1	0	2	85	9	1	9	117	5	0	251
7:45 AM - 8:00 AM	14	0	27	1	2	0	8	0	7	139	21	3	10	176	7	4	411
8:00 AM - 8:15 AM	18	0	20	0	2	0	2	0	4	151	23	1	17	162	4	4	403
8:15 AM - 8:30 AM	13	0	21	0	4	0	4	0	14	160	17	4	15	116	8	3	372
8:30 AM - 8:45 AM	2	0	10	0	0	0	3	0	8	120	6	3	7	109	9	2	274
8:45 AM - 9:00 AM	2	0	8	0	2	0	3	0	10	127	9	6	10	106	8	4	285
11:00 AM - 11:15 AM	1	0	7	0	3	0	6	0	4	144	2	1	7	132	3	3	309
11:15 AM - 11:30 AM	1	0	6	0	3	0	6	0	1	176	13	3	3	140	4	3	353
11:30 AM - 11:45 AM	2	0	5	0	3	0	10	0	5	191	4	3	6	169	7	2	402
11:45 AM - 12:00 PM	2	0	9	0	7	0	6	0	4	208	8	5	1	146	1	2	392
12:00 PM - 12:15 PM	1	1	17	0	1	0	2	0	1	175	5	2	4	144	2	2	353
12:15 PM - 12:30 PM	4	0	7	0	4	0	5	0	1	210	9	3	7	171	4	1	422
12:30 PM - 12:45 PM	3	0	5	0	0	0	6	0	3	167	5	1	4	178	3	1	374
12:45 PM - 1:00 PM	2	0	8	2	1	0	4	0	7	170	11	1	5	169	4	7	381
2:00 PM - 2:15 PM	5	0	10	0	6	0	16	0	6	154	4	3	8	141	6	0	356
2:15 PM - 2:30 PM	10	0	15	1	3	1	12	0	5	182	8	4	5	175	8	5	424
2:30 PM - 2:45 PM	5	0	8	1	9	1	7	0	4	177	5	5	9	184	4	3	413
2:45 PM - 3:00 PM	3	0	5	0	6	0	7	1	6	162	10	0	1	183	4	5	387
3:00 PM - 3:15 PM	10	0	18	2	2	1	11	0	11	181	11	3	6	185	5	3	441
3:15 PM - 3:30 PM	6	0	11	0	4	0	8	0	5	214	8	3	8	184	9	2	457
3:30 PM - 3:45 PM	7	0	6	0	5	0	8	0	4	220	10	3	7	174	3	2	444
3:45 PM - 4:00 PM	2	0	5	0	3	0	7	0	8	239	11	2	10	195	3	2	483
4:00 PM - 4:15 PM	2	0	10	0	6	0	12	0	7	240	13	1	9	168	5	5	472
4:15 PM - 4:30 PM	1	0	5	0	4	0	5	0	2	199	8	3	3	179	5	4	411
4:30 PM - 4:45 PM	1	0	14	0	3	0	3	0	1	205	8	1	7	181	7	1	430
4:45 PM - 5:00 PM	5	0	11	0	1	0	7	0	3	209	10	3	8	174	3	4	431
5:00 PM - 5:15 PM	2	0	8	1	4	1	7	0	2	232	13	1	9	225	0	1	503
5:15 PM - 5:30 PM	4	0	19	0	2	0	1	0	1	219	14	1	7	180	3	1	450
5:30 PM - 5:45 PM	3	0	13	0	4	0	7	0	3	206	7	1	5	180	0	0	428
5:45 PM - 6:00 PM	5	0	5	0	5	0	2	0	2	195	5	1	3	201	0	3	423

7-9 AM Peak Hour: 7:45 AM - 8:45 AM

11-1 Mid-Day Peak Hour: 11:30 AM - 12:30 PM

2-6 PM Peak Hour: 3:15 PM - 4:15 PM

4-6 PM Peak Hour: 4:30 PM - 5:30 PM

Turning Movement Report
(Bicycles & Pedestrians)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

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Prepared For:

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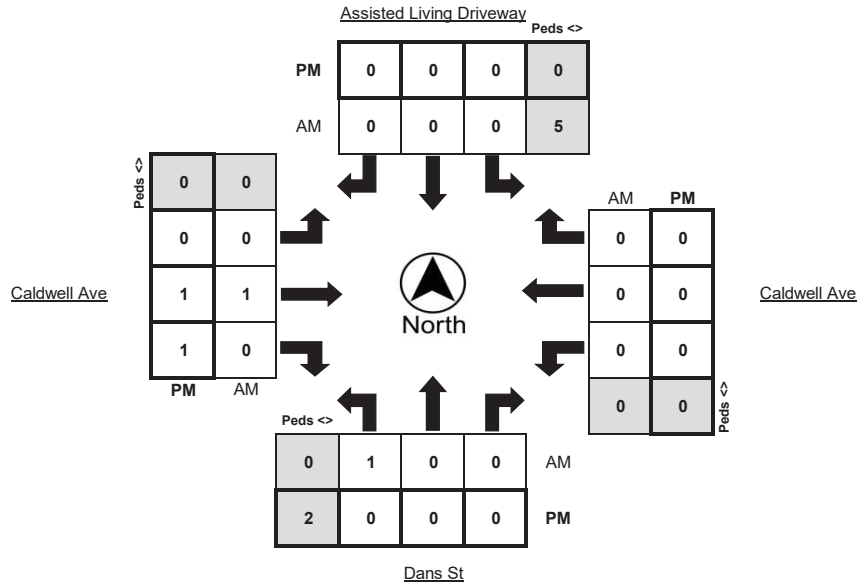
LOCATION 6 Caldwell / Dans **LATITUDE** 36.298407

COUNTY Tulare **LONGITUDE** -119.325935

COLLECTION DATE Tuesday, May 7, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	2	1
7:15 AM - 7:30 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0
7:30 AM - 7:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
HOUR TOTAL	0	0	0	6	0	0	0	0	0	1	0	0	0	1	0	0	6	2
8:00 AM - 8:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
8:15 AM - 8:30 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
8:30 AM - 8:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:45 AM - 9:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
HOUR TOTAL	1	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7	1
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
HOUR TOTAL	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
12:30 PM - 12:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12:45 PM - 1:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
HOUR TOTAL	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
2:30 PM - 2:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	1
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	2	1
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	1	2
HOUR TOTAL	0	0	0	0	0	0	0	2	0	1	1	0	0	1	0	0	2	3
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
5:00 PM - 5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:15 PM - 5:30 PM	0	0	1	2	0	0	0	0	0	0	0	0	0	1	0	0	2	2
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	1	3	0	0	0	0	0	0	0	0	0	2	0	0	3	3

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:45 AM - 8:45 AM	1	0	0	5	0	0	0	0	0	1	0	0	0	0	0	0	5	2
3:15 PM - 4:15 PM	0	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	2	2



Turning Movement Report
(Vehicles)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
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Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 8 Caldwell / Shady
LATITUDE 36.298375
COUNTY Tulare
LONGITUDE -119.316513
COLLECTION DATE Wednesday, May 15, 2019
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound					Interval
Time	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Total
7:00 AM - 7:15 AM	2	0	7	2	0	0	0	0	0	0	1	66	1	0	2	3	58	0	0	3	138
7:15 AM - 7:30 AM	3	0	6	1	0	0	0	0	0	0	6	63	1	0	1	5	70	0	0	4	154
7:30 AM - 7:45 AM	2	0	9	0	0	2	0	1	0	0	2	83	1	0	1	3	120	0	0	2	223
7:45 AM - 8:00 AM	11	1	8	0	0	0	0	0	0	0	8	139	4	0	1	4	123	0	0	2	298
8:00 AM - 8:15 AM	4	0	7	1	0	2	0	0	0	0	9	118	3	0	1	5	120	3	0	2	271
8:15 AM - 8:30 AM	0	0	8	7	0	0	0	1	1	0	4	170	4	0	1	3	90	2	0	1	282
8:30 AM - 8:45 AM	2	0	8	7	0	0	0	0	0	0	4	98	3	0	2	6	89	0	0	3	210
8:45 AM - 9:00 AM	4	0	6	1	0	1	0	0	0	0	6	131	2	0	5	7	82	1	0	2	240
11:00 AM - 11:15 AM	1	0	10	4	0	3	0	1	1	0	7	186	1	0	3	7	120	7	0	4	343
11:15 AM - 11:30 AM	6	0	4	1	0	2	1	2	0	0	5	151	4	0	3	10	103	4	0	2	292
11:30 AM - 11:45 AM	1	0	9	8	0	3	0	2	2	1	5	157	0	0	4	15	125	1	0	2	318
11:45 AM - 12:00 PM	3	0	8	6	0	4	0	1	1	0	15	142	1	0	2	12	147	6	0	3	339
12:00 PM - 12:15 PM	3	1	3	2	0	5	2	1	1	0	12	171	1	0	3	12	143	4	0	2	358
12:15 PM - 12:30 PM	5	1	4	3	0	4	0	2	2	1	13	129	2	0	2	13	148	4	0	2	325
12:30 PM - 12:45 PM	4	1	10	5	0	6	0	3	2	1	7	150	3	0	3	9	141	1	0	2	335
12:45 PM - 1:00 PM	1	0	10	9	1	2	0	4	4	0	13	156	4	0	3	16	133	4	0	4	343
2:00 PM - 2:15 PM	3	0	7	4	0	1	0	6	3	0	10	113	3	0	4	17	146	0	0	3	306
2:15 PM - 2:30 PM	7	0	10	5	0	7	0	4	0	0	12	166	2	0	7	10	140	2	1	1	360
2:30 PM - 2:45 PM	6	1	9	5	0	6	0	1	0	0	8	159	8	0	4	14	153	2	0	4	367
2:45 PM - 3:00 PM	4	0	9	5	1	3	0	0	0	1	11	153	3	0	3	15	139	1	0	2	338
3:00 PM - 3:15 PM	2	0	8	2	0	2	1	3	2	0	12	144	2	0	1	11	174	2	0	2	361
3:15 PM - 3:30 PM	6	0	7	6	0	1	0	1	0	0	17	177	5	0	3	16	183	1	0	4	414
3:30 PM - 3:45 PM	7	0	13	6	0	2	0	2	1	0	9	189	3	0	1	14	140	2	0	3	381
3:45 PM - 4:00 PM	9	0	4	4	0	3	1	2	0	0	15	150	4	0	6	24	154	6	0	2	372
4:00 PM - 4:15 PM	6	0	13	9	0	8	0	4	3	0	8	186	7	0	2	11	138	3	0	2	384
4:15 PM - 4:30 PM	2	0	5	3	0	7	0	2	0	0	10	154	1	0	2	9	149	1	0	1	340
4:30 PM - 4:45 PM	4	0	6	3	0	2	0	1	1	0	15	178	4	0	1	13	147	3	0	5	373
4:45 PM - 5:00 PM	5	0	10	5	1	7	0	2	2	0	6	163	4	0	2	11	133	6	0	3	347
5:00 PM - 5:15 PM	2	0	10	7	0	4	0	1	1	0	10	178	2	0	0	18	171	6	0	0	402
5:15 PM - 5:30 PM	7	0	14	6	0	5	0	4	2	0	12	184	5	0	1	19	146	3	0	2	399
5:30 PM - 5:45 PM	1	0	9	4	0	5	0	0	0	0	13	178	2	0	3	14	145	2	0	2	369
5:45 PM - 6:00 PM	3	0	9	3	0	4	0	2	0	0	10	183	4	0	3	13	127	7	0	1	362

7-9 AM Peak Hour: 7:30 AM - 8:30 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 3:15 PM - 4:15 PM

4-6 PM Peak Hour: 5:00 PM - 6:00 PM

Turning Movement Report
(Bicycles & Pedestrians)

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Prepared For:

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952 Pollasky Avenue
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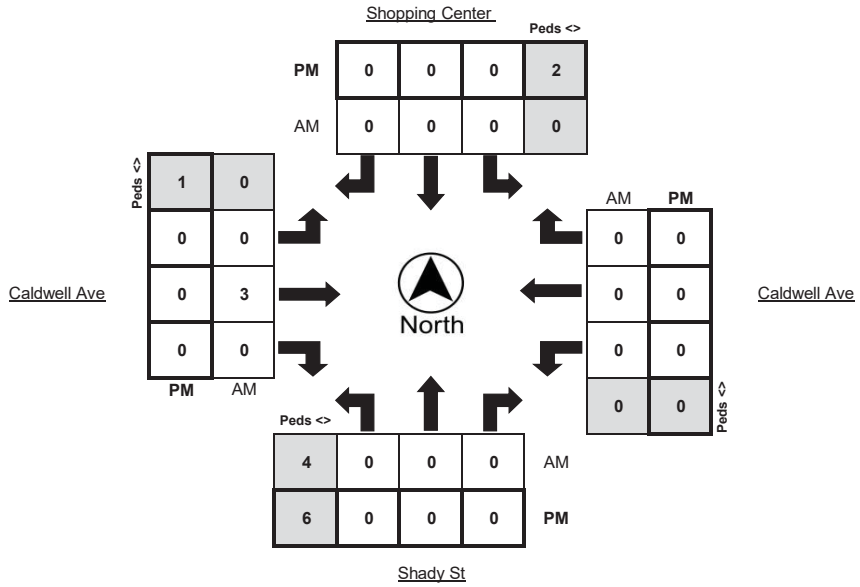
LOCATION 8 Caldwell / Shady **LATITUDE** 36.298375

COUNTY Tulare **LONGITUDE** -119.316513

COLLECTION DATE Wednesday, May 15, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0
7:45 AM - 8:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
HOUR TOTAL	1	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	2	2
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	3	1
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	4	0	3	0	0	0	0	0	0	4	3
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	2	1
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
HOUR TOTAL	0	0	0	0	0	0	1	3	0	0	0	0	0	1	0	0	3	2
2:00 PM - 2:15 PM	0	0	1	1	0	0	0	2	0	1	0	0	0	0	0	0	3	2
2:15 PM - 2:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	1
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
2:45 PM - 3:00 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	1	2
HOUR TOTAL	0	0	1	3	0	1	0	2	0	1	0	1	0	2	0	0	6	5
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
3:30 PM - 3:45 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	3	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0
HOUR TOTAL	0	0	0	1	0	0	0	6	0	0	0	0	0	0	0	1	8	0
4:00 PM - 4:15 PM	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	3	0
4:15 PM - 4:30 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0	4	5	3
HOUR TOTAL	0	0	1	4	0	0	0	2	0	2	0	0	0	0	0	4	10	3
5:00 PM - 5:15 PM	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2	1
5:15 PM - 5:30 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	4	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:45 PM - 6:00 PM	0	0	1	0	0	1	0	5	0	1	0	0	0	0	0	0	5	3
HOUR TOTAL	0	0	2	5	0	1	0	5	0	1	0	0	0	1	0	1	11	5

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	4	0	3	0	0	0	0	0	0	4	3
3:15 PM - 4:15 PM	0	0	0	2	0	0	0	6	0	0	0	0	0	0	0	1	9	0



Turning Movement Report
(Vehicles)

Metro Traffic Data Inc.
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Hanford, CA 93230

800-975-6938 Phone/Fax
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Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 9 Caldwell / Mooney
LATITUDE 36.298424
COUNTY Tulare
LONGITUDE -119.313678
COLLECTION DATE Tuesday, May 14, 2019
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound					Interval
Time	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Total
7:00 AM - 7:15 AM	19	51	7	3	0	13	40	12	2	3	23	60	6	1	3	7	68	9	1	3	315
7:15 AM - 7:30 AM	12	53	6	4	6	25	56	12	1	1	27	98	11	3	4	5	63	10	0	6	378
7:30 AM - 7:45 AM	33	95	16	3	1	26	68	14	4	4	16	103	23	3	4	12	96	8	1	6	510
7:45 AM - 8:00 AM	24	99	18	2	1	40	75	17	4	3	19	137	15	8	3	9	111	22	6	5	586
8:00 AM - 8:15 AM	20	94	11	3	4	39	89	21	4	4	29	127	31	13	5	19	93	22	8	2	595
8:15 AM - 8:30 AM	23	88	15	2	1	36	111	27	5	2	23	110	16	4	5	17	118	19	6	4	603
8:30 AM - 8:45 AM	22	48	18	6	0	26	60	11	5	4	31	125	18	4	6	21	101	20	4	4	501
8:45 AM - 9:00 AM	31	59	14	5	0	29	65	20	1	4	24	153	15	1	9	18	112	14	3	9	554
11:00 AM - 11:15 AM	43	70	34	6	2	52	69	35	4	2	38	161	28	13	6	30	216	26	2	6	802
11:15 AM - 11:30 AM	48	54	28	9	0	53	66	43	9	2	44	190	21	7	1	44	235	41	7	6	867
11:30 AM - 11:45 AM	54	64	30	10	1	69	71	46	10	4	61	178	20	5	9	35	238	31	6	3	897
11:45 AM - 12:00 PM	57	55	26	3	1	54	82	43	3	2	58	210	31	13	4	40	271	30	4	5	957
12:00 PM - 12:15 PM	52	67	27	4	0	69	98	41	9	4	68	221	28	6	2	39	300	25	6	6	1035
12:15 PM - 12:30 PM	54	58	28	2	0	75	77	38	2	4	63	196	29	5	2	58	315	33	11	5	1024
12:30 PM - 12:45 PM	63	69	19	3	1	54	68	34	5	1	73	215	22	4	7	38	256	34	7	5	945
12:45 PM - 1:00 PM	61	81	27	6	0	72	81	36	11	1	47	198	21	11	6	38	247	26	6	5	935
2:00 PM - 2:15 PM	66	65	16	6	2	43	68	28	5	3	52	153	26	9	5	35	252	30	11	5	834
2:15 PM - 2:30 PM	33	74	13	5	1	44	88	31	8	4	43	193	22	6	1	43	238	30	5	6	852
2:30 PM - 2:45 PM	59	76	23	9	2	49	81	24	5	3	50	179	27	13	2	35	238	31	3	5	872
2:45 PM - 3:00 PM	40	79	19	8	4	67	95	42	8	0	58	191	26	6	2	37	253	31	3	4	938
3:00 PM - 3:15 PM	65	90	30	5	1	59	119	28	5	4	59	169	21	10	3	34	209	36	10	3	919
3:15 PM - 3:30 PM	37	72	17	7	2	40	101	35	5	4	48	179	25	12	1	34	224	44	8	3	856
3:30 PM - 3:45 PM	41	92	20	7	1	53	130	42	8	3	53	158	22	8	3	38	239	49	3	4	937
3:45 PM - 4:00 PM	58	94	20	5	2	54	122	32	8	2	52	186	32	16	1	43	262	34	5	5	989
4:00 PM - 4:15 PM	43	78	25	5	2	61	116	40	7	2	63	193	34	9	3	32	251	26	2	3	962
4:15 PM - 4:30 PM	53	67	19	5	0	68	117	46	9	2	39	165	21	4	4	40	249	25	5	3	909
4:30 PM - 4:45 PM	56	79	22	8	1	58	115	39	11	2	53	216	30	9	2	37	235	22	3	4	962
4:45 PM - 5:00 PM	46	100	30	7	0	69	120	42	9	2	61	164	29	9	2	37	241	23	10	3	962
5:00 PM - 5:15 PM	68	95	20	3	1	67	102	37	5	1	58	204	21	5	4	49	283	27	5	2	1031
5:15 PM - 5:30 PM	32	90	27	7	0	58	111	41	7	1	58	214	26	5	2	39	242	28	8	3	966
5:30 PM - 5:45 PM	49	67	23	2	0	67	77	35	11	2	51	204	20	6	3	46	286	24	5	3	949
5:45 PM - 6:00 PM	51	75	26	12	1	52	97	25	7	1	67	197	29	14	2	37	209	27	6	3	892

7-9 AM Peak Hour: 7:30 AM - 8:30 AM

11-1 Mid-Day Peak Hour: 11:45 AM - 12:45 PM

2-6 PM Peak Hour: 4:30 PM - 5:30 PM

4-6 PM Peak Hour: 4:30 PM - 5:30 PM

Turning Movement Report
(Bicycles & Pedestrians)

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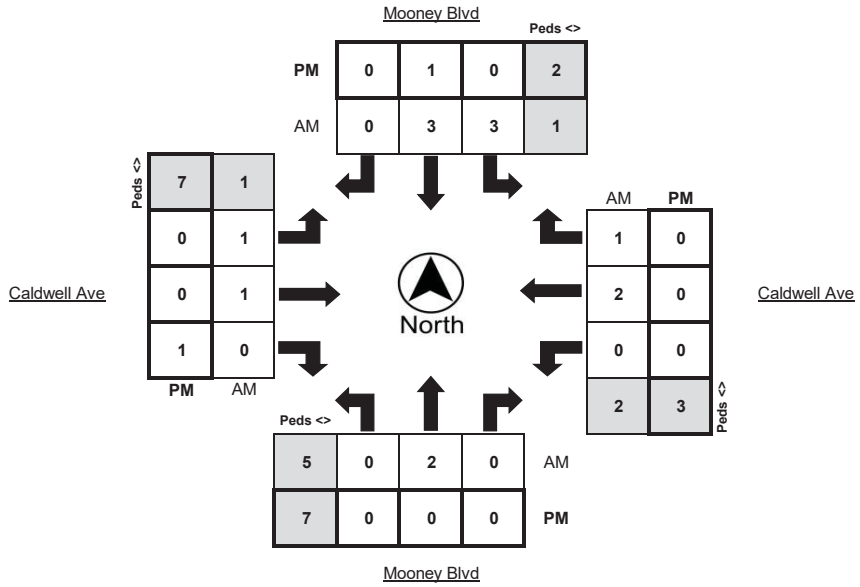
LOCATION 9 Caldwell / Mooney **LATITUDE** 36.298424

COUNTY Tulare **LONGITUDE** -119.313678

COLLECTION DATE Tuesday, May 14, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
7:15 AM - 7:30 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	1	2
7:30 AM - 7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2	0
HOUR TOTAL	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**3**	**5**	**3**
8:00 AM - 8:15 AM	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0	0	4	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2	4	0
8:30 AM - 8:45 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0
HOUR TOTAL	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**12**	**0**
11:00 AM - 11:15 AM	0	0	0	0	0	2	0	2	1	0	0	1	0	2	1	0	3	6
11:15 AM - 11:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1
11:30 AM - 11:45 AM	0	0	0	1	0	1	0	2	0	1	0	0	0	0	0	1	4	2
11:45 AM - 12:00 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	0	0	1	4
HOUR TOTAL	**0**	**2**	**0**	**1**	**3**	**3**	**0**	**5**	**1**	**1**	**0**	**2**	**0**	**2**	**1**	**1**	**9**	**13**
12:00 PM - 12:15 PM	0	0	0	2	0	0	0	1	0	1	0	1	0	0	0	0	4	1
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	5	0	0	0	1	0	0	0	1	7	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	6	0	0	0	2	0	0	0	3	11	0
12:45 PM - 1:00 PM	0	0	0	1	0	0	1	4	0	1	0	2	0	0	1	3	10	3
HOUR TOTAL	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**16**	**0**	**2**	**0**	**6**	**0**	**0**	**1**	**7**	**32**	**4**
2:00 PM - 2:15 PM	0	0	0	2	1	2	0	2	0	0	0	0	1	0	0	2	6	4
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	1	2	2
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	2	6	0
HOUR TOTAL	**0**	**0**	**0**	**4**	**1**	**2**	**0**	**5**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**5**	**14**	**6**
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	3	5	0
3:15 PM - 3:30 PM	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	3	5	1
3:30 PM - 3:45 PM	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	2	6	0
3:45 PM - 4:00 PM	0	2	0	1	0	0	0	2	0	0	0	0	0	0	0	0	3	2
HOUR TOTAL	**0**	**2**	**0**	**3**	**0**	**1**	**0**	**7**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**8**	**19**	**3**
4:00 PM - 4:15 PM	0	0	0	2	0	0	0	1	0	0	0	2	0	0	0	0	5	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2	0
4:30 PM - 4:45 PM	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0	2	6	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	3	0	0	1	2	0	0	0	2	7	1
HOUR TOTAL	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**6**	**0**	**0**	**1**	**5**	**0**	**0**	**0**	**5**	**20**	**1**
5:00 PM - 5:15 PM	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	3	5	1
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
5:30 PM - 5:45 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0
5:45 PM - 6:00 PM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	3	0
HOUR TOTAL	**0**	**0**	**0**	**3**	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**11**	**1**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
11:00 AM - 12:00 PM	0	2	0	**1**	3	3	0	**5**	1	1	0	**2**	0	2	1	**1**	9	13
12:00 PM - 1:00 PM	0	0	0	**2**	0	1	0	**7**	0	0	1	**3**	0	0	0	**7**	19	2



Turning Movement Report
(Vehicles)

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Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 10 Caldwell / Fairway
LATITUDE 36.298429
COUNTY Tulare
LONGITUDE -119.310715
COLLECTION DATE Wednesday, May 15, 2019
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound					Interval
Time	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Total
7:00 AM - 7:15 AM	2	0	4	3	1	5	0	3	2	1	4	46	4	0	0	12	64	8	1	1	152
7:15 AM - 7:30 AM	4	2	8	5	0	4	0	2	1	0	5	54	7	1	3	8	87	15	1	3	196
7:30 AM - 7:45 AM	7	0	9	5	0	4	0	3	2	1	8	61	5	0	0	14	99	15	0	0	225
7:45 AM - 8:00 AM	6	3	4	2	0	7	1	2	1	2	17	83	5	0	1	19	132	37	2	3	316
8:00 AM - 8:15 AM	5	3	11	8	0	8	0	11	1	2	9	83	5	0	1	17	118	24	1	2	294
8:15 AM - 8:30 AM	3	1	12	5	1	7	0	1	0	0	14	110	15	0	0	22	88	24	3	2	297
8:30 AM - 8:45 AM	7	3	10	2	0	12	3	10	1	1	9	64	11	1	0	13	82	16	0	1	240
8:45 AM - 9:00 AM	5	2	9	3	0	7	1	3	1	1	15	77	11	1	3	21	84	32	0	3	267
11:00 AM - 11:15 AM	10	5	19	7	1	22	8	16	1	1	16	113	23	1	2	16	105	15	1	2	368
11:15 AM - 11:30 AM	11	8	28	11	1	14	11	13	3	0	22	94	18	1	2	28	98	13	0	1	358
11:30 AM - 11:45 AM	20	7	33	13	0	24	10	9	4	1	14	105	26	2	5	33	132	14	1	3	427
11:45 AM - 12:00 PM	23	11	27	9	0	22	11	13	2	2	26	99	28	3	2	26	107	29	4	0	422
12:00 PM - 12:15 PM	14	10	34	8	0	17	9	21	7	1	17	106	13	3	1	30	101	25	0	1	397
12:15 PM - 12:30 PM	22	7	30	7	0	24	4	7	1	1	27	95	14	2	2	33	127	15	2	2	405
12:30 PM - 12:45 PM	28	5	27	7	0	32	4	15	1	1	19	105	16	2	1	30	95	15	2	1	391
12:45 PM - 1:00 PM	18	7	25	5	0	28	5	16	4	1	22	117	16	2	2	28	105	26	3	2	413
2:00 PM - 2:15 PM	17	4	20	7	0	23	7	12	2	1	23	100	15	2	1	25	132	15	1	1	393
2:15 PM - 2:30 PM	19	9	35	10	0	17	3	10	3	0	15	138	27	4	1	36	120	22	1	2	451
2:30 PM - 2:45 PM	13	4	23	15	0	26	8	8	4	2	11	126	23	1	3	32	119	18	2	2	411
2:45 PM - 3:00 PM	21	5	32	13	0	22	5	12	1	1	24	120	23	2	1	30	111	21	5	1	426
3:00 PM - 3:15 PM	22	6	23	5	0	24	5	14	3	2	14	119	22	1	0	26	131	20	1	1	426
3:15 PM - 3:30 PM	27	7	26	8	1	32	5	16	2	0	21	131	13	0	1	19	114	16	5	4	427
3:30 PM - 3:45 PM	22	6	18	9	0	26	9	7	2	0	17	150	15	0	1	30	121	16	2	0	437
3:45 PM - 4:00 PM	17	5	27	9	0	24	6	12	2	2	26	135	18	1	4	34	136	23	1	1	463
4:00 PM - 4:15 PM	20	10	32	11	0	24	7	18	4	2	17	162	25	0	2	28	109	15	3	1	467
4:15 PM - 4:30 PM	21	8	30	7	0	29	6	10	0	0	23	138	21	2	0	40	113	19	2	0	458
4:30 PM - 4:45 PM	17	8	28	5	0	36	6	19	0	2	27	134	20	3	1	36	109	26	2	2	466
4:45 PM - 5:00 PM	19	5	31	6	0	32	8	13	2	1	23	136	20	4	1	33	121	28	8	3	469
5:00 PM - 5:15 PM	24	4	39	8	0	49	7	31	6	1	21	135	23	1	0	40	131	28	8	0	532
5:15 PM - 5:30 PM	16	4	36	17	0	40	4	11	4	0	25	154	17	3	1	42	148	25	6	2	522
5:30 PM - 5:45 PM	16	7	39	11	0	34	8	10	1	1	26	168	21	5	1	28	115	26	0	1	498
5:45 PM - 6:00 PM	22	8	35	9	0	26	4	8	3	1	27	135	19	2	1	34	133	20	3	1	471

7-9 AM Peak Hour: **7:45 AM - 8:45 AM**

11-1 Mid-Day Peak Hour: **11:30 AM - 12:30 PM**

2-6 PM Peak Hour: **5:00 PM - 6:00 PM**

4-6 PM Peak Hour: **5:00 PM - 6:00 PM**

Turning Movement Report
(Bicycles & Pedestrians)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
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Prepared For:

Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

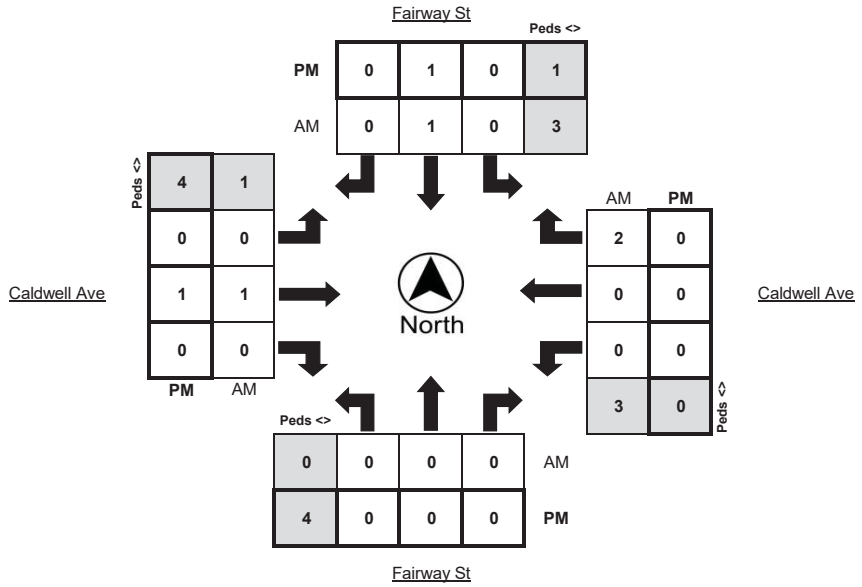
LOCATION 10 Caldwell / Fairway **LATITUDE** 36.298429

COUNTY Tulare **LONGITUDE** -119.310715

COLLECTION DATE Wednesday, May 15, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	**0**	**3**
7:15 AM - 7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**1**
7:30 AM - 7:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	**1**	**2**
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	**3**	**1**
HOUR TOTAL	**0**	**2**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**1**	**4**	**7**
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
8:15 AM - 8:30 AM	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	**2**	**1**
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	**1**	**1**
8:45 AM - 9:00 AM	0	0	0	0	2	1	0	0	0	0	0	1	0	0	0	0	**1**	**3**
HOUR TOTAL	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**2**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**4**	**5**
11:00 AM - 11:15 AM	0	0	0	1	0	0	0	0	0	1	0	1	0	0	1	0	**2**	**2**
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
11:30 AM - 11:45 AM	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	**2**	**1**
11:45 AM - 12:00 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	1	**3**	**1**
HOUR TOTAL	**0**	**0**	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**2**	**1**	**7**	**4**
12:00 PM - 12:15 PM	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	**1**	**1**
12:15 PM - 12:30 PM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	**2**	**1**
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	**0**
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	**2**	**0**
HOUR TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**6**	**2**
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	**1**	**2**
2:15 PM - 2:30 PM	0	1	0	1	0	0	0	0	0	0	0	3	0	0	0	0	**4**	**1**
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	**0**
2:45 PM - 3:00 PM	0	0	0	1	0	1	0	0	0	0	1	1	0	0	0	2	**4**	**2**
HOUR TOTAL	**0**	**1**	**0**	**2**	**0**	**1**	**0**	**1**	**0**	**2**	**1**	**4**	**0**	**0**	**0**	**3**	**10**	**5**
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	**1**	**2**
3:15 PM - 3:30 PM	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	**0**	**4**
3:30 PM - 3:45 PM	0	1	0	2	0	2	0	1	0	0	1	2	0	0	0	0	**5**	**4**
3:45 PM - 4:00 PM	0	0	1	3	0	0	0	0	0	0	0	1	0	1	0	0	**4**	**2**
HOUR TOTAL	**0**	**3**	**1**	**5**	**0**	**2**	**0**	**2**	**1**	**1**	**1**	**3**	**0**	**3**	**0**	**0**	**10**	**12**
4:00 PM - 4:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	**2**	**1**
4:15 PM - 4:30 PM	0	0	0	0	0	1	0	1	0	0	0	2	0	0	0	0	**3**	**1**
4:30 PM - 4:45 PM	0	0	0	1	0	1	0	1	0	2	0	4	0	0	0	0	**6**	**3**
4:45 PM - 5:00 PM	0	0	0	0	0	1	0	4	0	0	0	0	0	1	0	0	**4**	**2**
HOUR TOTAL	**0**	**0**	**0**	**3**	**0**	**3**	**0**	**6**	**0**	**2**	**0**	**6**	**0**	**2**	**0**	**0**	**15**	**7**
5:00 PM - 5:15 PM	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	**2**	**1**
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**	**0**
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	**0**
5:45 PM - 6:00 PM	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	3	**5**	**1**
HOUR TOTAL	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**	**9**	**2**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
11:00 AM - 12:00 PM	0	0	0	**3**	0	1	0	**0**	0	1	0	**3**	0	0	2	**1**	**7**	**4**
5:00 PM - 6:00 PM	0	0	0	**1**	0	1	0	**4**	0	1	0	**0**	0	0	0	**4**	**9**	**2**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
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Turning Movement Report
(Vehicles)

Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 11 Caldwell / Stonebrook
LATITUDE 36.298345
COUNTY Tulare
LONGITUDE -119.30516
COLLECTION DATE Wednesday, May 15, 2019
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound					Interval
Time	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Total
7:00 AM - 7:15 AM	0	0	0	0	0	9	0	4	3	0	1	53	0	0	1	0	72	0	0	1	139
7:15 AM - 7:30 AM	0	0	1	1	0	4	0	7	6	0	3	57	0	0	1	0	100	4	0	3	176
7:30 AM - 7:45 AM	0	0	0	0	0	10	0	13	12	0	3	76	0	0	2	0	115	6	0	0	223
7:45 AM - 8:00 AM	0	0	0	0	0	20	0	18	17	1	2	80	0	0	2	0	167	4	0	4	291
8:00 AM - 8:15 AM	0	0	0	0	0	10	0	1	1	0	4	96	1	1	1	0	167	4	0	2	283
8:15 AM - 8:30 AM	2	0	0	0	0	6	0	8	8	0	8	110	2	0	0	0	121	5	0	1	262
8:30 AM - 8:45 AM	1	0	0	0	0	9	0	7	5	0	2	84	1	0	1	1	95	4	0	1	204
8:45 AM - 9:00 AM	0	0	1	0	0	3	0	6	6	0	4	74	0	0	2	1	131	4	0	3	224
11:00 AM - 11:15 AM	0	0	0	0	0	3	0	5	5	0	7	132	1	0	1	0	125	7	0	1	280
11:15 AM - 11:30 AM	3	0	0	0	0	7	0	5	4	0	8	127	0	0	2	1	134	6	0	1	291
11:30 AM - 11:45 AM	3	0	0	0	0	3	0	5	5	0	5	148	1	0	4	0	158	6	0	3	329
11:45 AM - 12:00 PM	1	0	0	0	0	1	0	6	6	0	4	140	1	0	5	1	150	5	0	1	309
12:00 PM - 12:15 PM	2	0	0	0	0	3	0	5	4	0	6	155	0	0	2	0	154	4	0	0	329
12:15 PM - 12:30 PM	5	0	3	1	0	3	0	6	4	1	7	133	2	0	1	0	146	4	0	5	309
12:30 PM - 12:45 PM	2	0	0	0	0	8	0	6	5	0	5	170	1	1	2	2	132	3	0	2	329
12:45 PM - 1:00 PM	2	0	0	0	0	2	0	3	3	0	6	156	1	0	1	0	143	0	0	1	313
2:00 PM - 2:15 PM	2	0	0	0	0	7	0	4	4	0	3	131	4	0	3	0	150	8	2	1	309
2:15 PM - 2:30 PM	3	0	0	0	0	6	0	8	7	0	14	166	2	0	1	0	157	7	2	2	363
2:30 PM - 2:45 PM	4	0	0	0	0	8	0	7	4	0	3	157	2	0	4	1	157	5	1	3	344
2:45 PM - 3:00 PM	2	0	1	1	0	1	0	3	3	0	4	154	5	0	1	0	147	5	0	3	322
3:00 PM - 3:15 PM	1	0	0	0	0	8	0	10	7	0	4	150	1	0	2	0	147	7	2	1	328
3:15 PM - 3:30 PM	0	0	2	2	0	3	0	4	4	0	10	185	0	0	3	0	145	8	0	3	357
3:30 PM - 3:45 PM	2	0	2	1	0	8	0	6	5	0	8	170	0	0	0	1	157	10	1	1	364
3:45 PM - 4:00 PM	2	0	0	0	0	2	0	11	11	0	5	158	6	0	3	1	165	5	0	1	355
4:00 PM - 4:15 PM	6	0	0	0	0	4	0	3	2	0	9	216	3	1	4	0	142	8	0	1	391
4:15 PM - 4:30 PM	1	0	1	0	0	5	0	7	7	0	6	166	0	0	0	1	150	4	2	0	341
4:30 PM - 4:45 PM	1	0	0	0	0	5	0	3	2	0	11	186	5	0	1	1	153	4	1	4	369
4:45 PM - 5:00 PM	4	0	1	1	0	6	0	8	5	1	14	175	2	0	1	1	149	9	1	0	369
5:00 PM - 5:15 PM	2	0	0	0	0	6	0	9	8	0	6	210	2	0	1	1	166	9	2	0	411
5:15 PM - 5:30 PM	5	0	1	0	0	8	1	7	5	0	14	231	1	0	0	0	183	8	0	2	459
5:30 PM - 5:45 PM	2	1	0	0	0	7	0	2	1	1	12	219	2	0	1	0	157	7	0	1	409
5:45 PM - 6:00 PM	3	0	0	0	0	5	0	8	7	1	12	175	0	0	1	0	172	3	0	2	378

7-9 AM Peak Hour: 7:30 AM - 8:30 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 5:00 PM - 6:00 PM

4-6 PM Peak Hour: 5:00 PM - 6:00 PM

Turning Movement Report
(Bicycles & Pedestrians)

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Prepared For:

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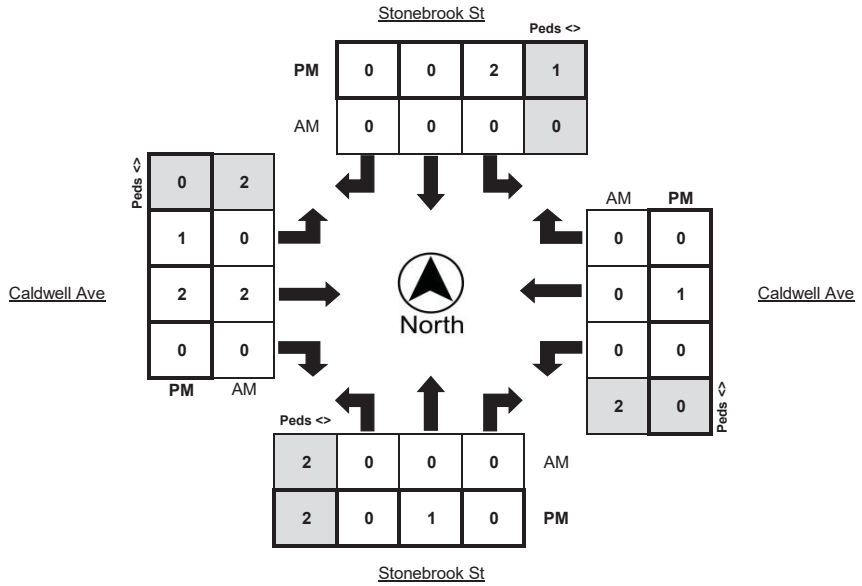
LOCATION 11 Caldwell / Stonebrook **LATITUDE** 36.298345

COUNTY Tulare **LONGITUDE** -119.30516

COLLECTION DATE Wednesday, May 15, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM - 8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
HOUR TOTAL	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0
8:30 AM - 8:45 AM	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	2	1
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
HOUR TOTAL	0	0	0	1	0	0	0	3	1	0	0	0	0	0	0	1	5	1
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	3	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
HOUR TOTAL	0	0	0	0	0	0	0	2	0	2	0	2	0	0	0	2	6	2
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	0
HOUR TOTAL	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1	2	2
3:00 PM - 3:15 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	3	1
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
3:45 PM - 4:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	1
HOUR TOTAL	0	0	0	4	0	0	0	0	0	1	0	0	0	2	0	0	4	3
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:30 PM - 4:45 PM	0	0	0	1	0	0	0	0	0	2	0	0	0	0	2	3	4	4
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	1	4	1
HOUR TOTAL	0	0	0	1	0	0	0	3	0	3	0	0	0	2	2	4	8	7
5:00 PM - 5:15 PM	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	1	2
5:15 PM - 5:30 PM	0	1	0	1	0	0	0	1	1	1	0	0	0	0	0	0	2	3
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
HOUR TOTAL	0	1	0	1	2	0	0	2	1	2	0	0	0	1	0	0	3	7

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	2	0	2	0	2	0	0	0	2	6	2
5:00 PM - 6:00 PM	0	1	0	1	2	0	0	2	1	2	0	0	0	1	0	0	3	7



Turning Movement Report
(Vehicles)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 12 Cameron / County Center
LATITUDE 0
COUNTY Tulare
LONGITUDE 0
COLLECTION DATE Tuesday, May 7, 2019
WEATHER 0.0000

	Northbound				Southbound				Eastbound				Westbound				Interval
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Total
7:00 AM - 7:15 AM	0	4	2	0	27	21	0	2	0	0	0	0	6	0	16	0	76
7:15 AM - 7:30 AM	0	10	2	0	19	24	0	1	0	0	0	0	5	0	23	0	83
7:30 AM - 7:45 AM	0	17	6	0	23	39	0	0	0	0	0	0	7	0	27	0	119
7:45 AM - 8:00 AM	0	24	4	1	40	40	0	0	0	0	0	0	15	0	42	0	165
8:00 AM - 8:15 AM	0	28	5	0	57	53	0	1	0	0	0	0	15	0	23	0	181
8:15 AM - 8:30 AM	0	37	3	0	58	20	0	0	0	0	0	0	5	0	30	1	153
8:30 AM - 8:45 AM	0	17	4	0	28	15	0	0	0	0	0	0	6	0	25	0	95
8:45 AM - 9:00 AM	0	20	4	1	34	13	0	1	0	0	0	0	6	0	26	0	103
11:00 AM - 11:15 AM	0	18	2	0	44	22	0	0	0	0	0	0	6	0	37	1	129
11:15 AM - 11:30 AM	0	24	5	0	47	25	0	1	0	0	0	0	8	0	45	0	154
11:30 AM - 11:45 AM	0	16	4	1	44	20	0	0	0	0	0	0	8	0	60	0	152
11:45 AM - 12:00 PM	0	19	5	0	52	16	0	0	0	0	0	0	7	0	56	0	155
12:00 PM - 12:15 PM	0	23	10	0	66	30	0	0	0	0	0	0	3	0	54	0	186
12:15 PM - 12:30 PM	0	20	5	0	56	30	0	0	0	0	0	0	9	0	68	0	188
12:30 PM - 12:45 PM	0	33	2	0	49	26	0	0	0	0	0	0	9	0	55	0	174
12:45 PM - 1:00 PM	0	27	4	0	61	41	0	1	0	0	0	0	14	0	76	0	223
2:00 PM - 2:15 PM	0	28	8	0	50	38	0	0	0	0	0	0	16	0	55	0	195
2:15 PM - 2:30 PM	0	32	5	0	63	30	0	1	0	0	0	0	12	0	58	0	200
2:30 PM - 2:45 PM	0	33	9	1	45	25	0	0	0	0	0	0	10	0	68	0	190
2:45 PM - 3:00 PM	0	29	7	0	46	30	0	0	0	0	0	0	8	0	50	1	170
3:00 PM - 3:15 PM	0	36	13	0	66	42	0	1	0	0	0	0	9	0	59	1	225
3:15 PM - 3:30 PM	0	33	5	0	59	20	0	0	0	0	0	0	11	0	43	2	171
3:30 PM - 3:45 PM	0	31	11	0	60	26	0	0	0	0	0	0	13	0	67	0	208
3:45 PM - 4:00 PM	0	39	10	0	66	26	0	0	0	0	0	0	11	0	51	0	203
4:00 PM - 4:15 PM	0	41	5	1	60	29	0	0	0	0	0	0	7	0	61	1	203
4:15 PM - 4:30 PM	0	34	3	0	53	22	0	0	0	0	0	0	8	0	53	0	173
4:30 PM - 4:45 PM	0	30	6	0	57	26	0	0	0	0	0	0	9	0	90	0	218
4:45 PM - 5:00 PM	0	32	6	0	63	24	0	0	0	0	0	0	10	0	75	0	210
5:00 PM - 5:15 PM	0	45	7	0	73	16	0	0	0	0	0	0	12	0	70	0	223
5:15 PM - 5:30 PM	0	43	9	0	81	34	0	0	0	0	0	0	20	0	54	0	241
5:30 PM - 5:45 PM	0	48	6	0	73	29	0	0	0	0	0	0	10	0	83	0	249
5:45 PM - 6:00 PM	0	27	5	0	51	27	0	0	0	0	0	0	9	0	63	1	182

7-9 AM Peak Hour: 7:30 AM - 8:30 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 4:45 PM - 5:45 PM

4-6 PM Peak Hour: 4:45 PM - 5:45 PM

Turning Movement Report
(Bicycles & Pedestrians)

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Prepared For:

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952 Pollasky Avenue
Clovis, CA 93612

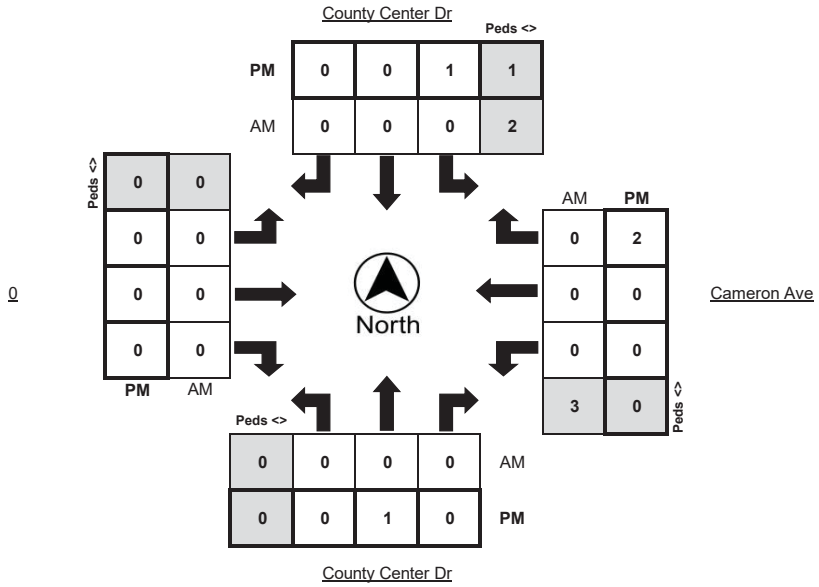
LOCATION 12 Cameron / County Center **LATITUDE** 36.293702

COUNTY Tulare **LONGITUDE** -119.322383

COLLECTION DATE Tuesday, May 7, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	0
7:15 AM - 7:30 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:30 AM - 7:45 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	1	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	5	1
8:00 AM - 8:15 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	3	0
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
HOUR TOTAL	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	0
12:00 PM - 12:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	2
12:15 PM - 12:30 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
12:45 PM - 1:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	2
HOUR TOTAL	0	0	0	1	2	0	0	0	0	0	0	1	1	0	2	0	2	5
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00 PM - 3:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	4	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	3	0	0	0	0	0	0	0	2	0	0	1	0	5	1
4:00 PM - 4:15 PM	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	3	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	3	0
5:00 PM - 5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
5:15 PM - 5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	1	0	1	1	0	0	0	0	0	0	0	0	0	2	0	1	4

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:30 AM - 8:30 AM	0	0	0	2	0	0	0	0	0	0	0	3	0	0	0	0	5	0
4:45 PM - 5:45 PM	0	1	0	1	1	0	0	0	0	0	0	0	0	0	2	0	1	4



Turning Movement Report
(Vehicles)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 13 Cameron / Mooney
LATITUDE 36.294514
COUNTY Tulare
LONGITUDE -119.313669
COLLECTION DATE Tuesday, May 14, 2019
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound					Interval
Time	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Total
7:00 AM - 7:15 AM	1	58	16	3	1	12	63	10	1	2	7	24	2	0	0	21	12	24	6	3	250
7:15 AM - 7:30 AM	0	93	11	2	2	13	64	5	1	4	8	22	4	0	0	19	28	22	2	2	289
7:30 AM - 7:45 AM	3	126	25	4	6	10	102	6	1	6	11	19	7	1	2	25	48	21	6	2	403
7:45 AM - 8:00 AM	1	137	20	2	3	20	100	6	0	5	16	36	1	1	1	24	55	17	2	3	433
8:00 AM - 8:15 AM	3	132	25	8	2	14	86	10	3	4	19	45	3	1	0	22	36	26	9	2	421
8:15 AM - 8:30 AM	1	124	20	4	4	33	91	9	4	2	18	45	2	1	3	21	25	21	7	3	410
8:30 AM - 8:45 AM	7	116	17	2	5	25	83	13	0	3	13	28	3	3	0	23	13	41	15	0	382
8:45 AM - 9:00 AM	4	142	15	1	8	39	97	12	2	6	18	19	2	1	1	14	20	29	5	1	411
11:00 AM - 11:15 AM	15	110	18	6	3	64	137	25	11	2	47	41	6	0	3	18	37	63	20	0	581
11:15 AM - 11:30 AM	8	148	19	15	4	86	175	36	10	10	39	42	4	2	1	16	31	63	35	2	667
11:30 AM - 11:45 AM	17	153	17	7	4	59	172	47	18	3	41	46	2	1	0	24	44	47	18	2	669
11:45 AM - 12:00 PM	12	156	18	8	3	93	212	50	18	4	59	47	4	1	0	14	39	58	20	0	762
12:00 PM - 12:15 PM	18	212	14	5	3	89	209	58	16	4	51	43	7	1	0	26	28	54	28	0	809
12:15 PM - 12:30 PM	20	159	17	13	3	83	239	45	21	3	59	69	13	5	0	29	31	69	32	0	833
12:30 PM - 12:45 PM	17	169	17	8	7	84	213	40	16	4	59	53	14	5	1	28	30	66	21	3	790
12:45 PM - 1:00 PM	14	144	14	7	4	65	231	42	16	5	69	78	4	1	0	27	35	46	15	1	769
2:00 PM - 2:15 PM	11	136	16	3	4	76	218	29	5	6	32	52	5	0	0	28	34	44	11	0	681
2:15 PM - 2:30 PM	13	150	20	4	2	49	200	28	10	4	43	55	5	1	0	17	30	45	25	0	655
2:30 PM - 2:45 PM	19	140	21	7	2	74	177	25	18	5	56	58	3	1	0	22	44	62	20	0	701
2:45 PM - 3:00 PM	12	191	31	15	1	61	198	35	11	2	39	65	3	1	0	19	42	51	13	2	747
3:00 PM - 3:15 PM	10	136	18	5	1	57	179	23	7	5	36	50	5	4	0	18	50	42	13	0	624
3:15 PM - 3:30 PM	13	140	15	4	3	60	184	22	7	3	41	55	9	3	1	26	46	52	15	0	663
3:30 PM - 3:45 PM	17	172	20	6	3	62	175	33	8	3	31	59	12	4	0	28	31	53	17	1	693
3:45 PM - 4:00 PM	16	158	25	7	0	80	196	33	10	3	47	76	6	2	1	19	27	38	9	2	721
4:00 PM - 4:15 PM	13	182	28	7	2	64	217	38	4	3	35	68	5	1	0	22	32	45	7	1	749
4:15 PM - 4:30 PM	10	130	23	6	3	74	181	38	17	3	41	64	8	3	0	30	42	63	11	0	704
4:30 PM - 4:45 PM	15	200	22	4	2	82	215	33	9	4	53	59	11	5	0	23	43	47	22	0	803
4:45 PM - 5:00 PM	15	164	31	4	2	57	201	40	12	2	35	71	9	1	0	38	38	56	14	0	755
5:00 PM - 5:15 PM	14	154	31	6	3	79	237	40	12	2	59	67	12	3	0	32	34	47	16	1	806
5:15 PM - 5:30 PM	16	207	36	11	4	69	187	32	5	3	32	64	9	2	0	40	40	56	13	0	788
5:30 PM - 5:45 PM	14	176	30	10	1	80	207	46	21	3	39	67	8	2	1	30	35	61	23	0	793
5:45 PM - 6:00 PM	15	185	31	12	1	54	192	29	6	3	47	50	5	0	0	25	41	51	19	0	725

7-9 AM Peak Hour: 7:30 AM - 8:30 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 4:30 PM - 5:30 PM

4-6 PM Peak Hour: 4:30 PM - 5:30 PM

Turning Movement Report
(Bicycles & Pedestrians)

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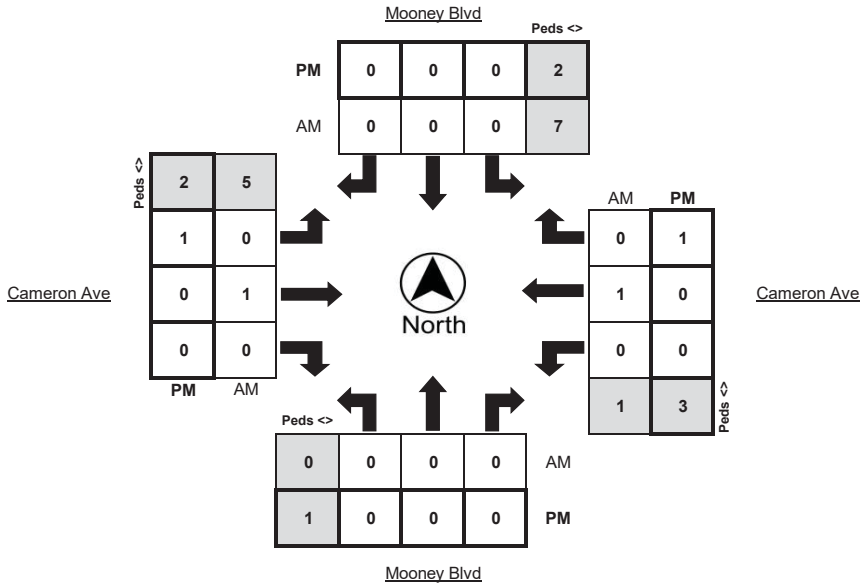
Prepared For:

Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 13 Cameron / Mooney
LATITUDE 36.294514
COUNTY Tulare
LONGITUDE -119.313669
COLLECTION DATE Tuesday, May 14, 2019
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	0	0	1	0	1	0	0	0	1	0	1	0	0	2	2
7:15 AM - 7:30 AM	0	0	0	2	0	1	1	0	0	0	0	1	0	1	0	0	3	3
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	2	0	2	1	1	0	0	0	2	0	3	0	0	5	6
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	3	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	6	0
11:00 AM - 11:15 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	1	2	2
11:15 AM - 11:30 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	2	5	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
11:45 AM - 12:00 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	2	5	0
HOUR TOTAL	0	0	0	7	0	0	0	0	0	1	0	1	0	1	0	5	13	2
12:00 PM - 12:15 PM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
12:15 PM - 12:30 PM	0	1	0	0	0	0	0	0	0	0	0	2	0	1	1	0	2	3
12:30 PM - 12:45 PM	0	0	0	2	0	0	0	1	0	2	0	0	0	0	0	0	3	2
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	2
HOUR TOTAL	0	2	0	2	0	0	0	1	0	3	0	4	0	1	2	0	7	8
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	3	0
2:15 PM - 2:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	1	2
2:30 PM - 2:45 PM	0	1	0	1	0	0	0	1	0	0	0	1	0	0	0	2	5	1
2:45 PM - 3:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	3	5	1
HOUR TOTAL	0	1	0	3	0	2	0	3	0	0	0	2	0	1	0	6	14	4
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
3:15 PM - 3:30 PM	0	0	0	3	0	0	0	1	0	0	0	2	0	1	0	0	6	1
3:30 PM - 3:45 PM	0	0	0	2	0	0	0	1	0	0	0	1	0	0	2	1	5	2
3:45 PM - 4:00 PM	0	0	0	0	0	2	0	1	0	0	0	1	0	0	0	1	3	2
HOUR TOTAL	0	0	0	5	0	2	0	4	0	0	0	4	0	1	2	2	15	5
4:00 PM - 4:15 PM	0	1	0	0	0	1	0	0	0	0	0	3	0	0	0	0	3	2
4:15 PM - 4:30 PM	0	0	0	2	0	1	0	0	0	0	0	2	0	0	0	0	4	1
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	1	3	1
HOUR TOTAL	0	1	0	4	0	2	0	0	1	0	0	5	0	0	0	1	10	4
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	1	4	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
5:30 PM - 5:45 PM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	3	0
5:45 PM - 6:00 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	0
HOUR TOTAL	0	0	0	2	0	0	0	2	0	0	0	5	0	0	1	1	10	1

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
11:00 AM - 12:00 PM	0	0	0	7	0	0	0	0	0	1	0	1	0	1	0	5	13	2
12:00 PM - 1:00 PM	0	0	0	2	0	0	0	1	1	0	0	3	0	0	1	2	8	2



Turning Movement Report
(Vehicles)

Metro Traffic Data Inc.
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Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 14 Cameron / Stonebook
LATITUDE 0
COUNTY Tulare
LONGITUDE 0
COLLECTION DATE Tuesday, May 7, 2019
WEATHER 0.0000

	Northbound				Southbound				Eastbound				Westbound				Interval
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Total
7:00 AM - 7:15 AM	0	0	17	0	0	0	0	0	0	32	0	0	30	70	0	0	149
7:15 AM - 7:30 AM	1	0	17	0	0	0	0	0	0	44	1	0	47	78	0	1	188
7:30 AM - 7:45 AM	2	0	25	1	0	0	0	0	0	52	1	0	72	85	0	2	237
7:45 AM - 8:00 AM	0	0	38	1	0	0	0	0	0	58	3	1	104	111	0	3	314
8:00 AM - 8:15 AM	1	0	41	1	0	0	0	0	0	61	0	3	75	87	0	1	265
8:15 AM - 8:30 AM	2	0	58	0	0	0	0	0	0	65	0	1	25	73	0	1	223
8:30 AM - 8:45 AM	0	0	33	1	0	0	0	0	0	58	0	0	21	65	0	1	177
8:45 AM - 9:00 AM	1	0	28	0	0	0	0	0	0	39	0	1	28	68	0	0	164
11:00 AM - 11:15 AM	4	0	25	1	0	0	0	0	0	89	3	0	37	97	0	0	255
11:15 AM - 11:30 AM	1	0	44	0	0	0	0	0	0	71	8	0	28	118	0	1	270
11:30 AM - 11:45 AM	2	0	48	0	0	0	0	0	0	81	3	1	39	96	0	1	269
11:45 AM - 12:00 PM	1	0	38	0	0	0	0	0	0	89	1	0	35	101	0	1	265
12:00 PM - 12:15 PM	4	0	51	0	0	0	0	0	0	96	3	0	54	108	0	2	316
12:15 PM - 12:30 PM	5	0	48	0	0	0	0	0	0	108	6	0	39	114	0	0	320
12:30 PM - 12:45 PM	3	0	59	0	0	0	0	0	0	116	2	0	44	109	0	4	333
12:45 PM - 1:00 PM	6	0	46	1	0	0	0	0	0	117	4	1	42	112	0	0	327
2:00 PM - 2:15 PM	2	0	55	1	0	0	0	0	0	108	3	1	44	103	0	0	315
2:15 PM - 2:30 PM	5	0	58	1	0	0	0	0	0	146	4	2	49	92	0	0	354
2:30 PM - 2:45 PM	3	0	59	2	0	0	0	0	0	128	3	1	48	90	0	2	331
2:45 PM - 3:00 PM	1	0	61	0	0	0	0	0	0	107	2	0	35	91	0	2	297
3:00 PM - 3:15 PM	4	0	75	1	0	0	0	0	0	134	4	2	48	105	0	2	370
3:15 PM - 3:30 PM	0	1	64	0	0	0	0	0	0	123	2	1	46	111	0	0	347
3:30 PM - 3:45 PM	1	0	50	0	0	0	0	0	0	129	5	1	29	124	0	2	338
3:45 PM - 4:00 PM	1	0	57	0	0	0	0	0	0	120	2	0	42	119	0	2	341
4:00 PM - 4:15 PM	1	0	64	0	1	0	0	0	0	138	5	1	35	118	0	0	362
4:15 PM - 4:30 PM	4	0	56	1	0	0	0	0	0	133	8	2	58	112	0	0	371
4:30 PM - 4:45 PM	1	0	69	0	0	0	0	0	0	153	3	1	39	107	0	1	372
4:45 PM - 5:00 PM	1	0	54	0	0	0	0	0	0	132	0	0	44	118	0	0	349
5:00 PM - 5:15 PM	0	0	55	0	0	0	0	0	0	135	3	0	45	137	0	1	375
5:15 PM - 5:30 PM	2	0	68	0	0	0	0	0	0	149	1	0	54	122	0	0	396
5:30 PM - 5:45 PM	2	0	80	0	0	0	0	0	0	143	2	0	33	133	0	2	393
5:45 PM - 6:00 PM	2	0	52	0	0	0	0	0	0	160	5	0	35	125	0	0	379

7-9 AM Peak Hour: **7:30 AM - 8:30 AM**

11-1 Mid-Day Peak Hour: **12:00 PM - 1:00 PM**

2-6 PM Peak Hour: **5:00 PM - 6:00 PM**

4-6 PM Peak Hour: **5:00 PM - 6:00 PM**

Turning Movement Report
(Bicycles & Pedestrians)

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Prepared For:

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952 Pollasky Avenue
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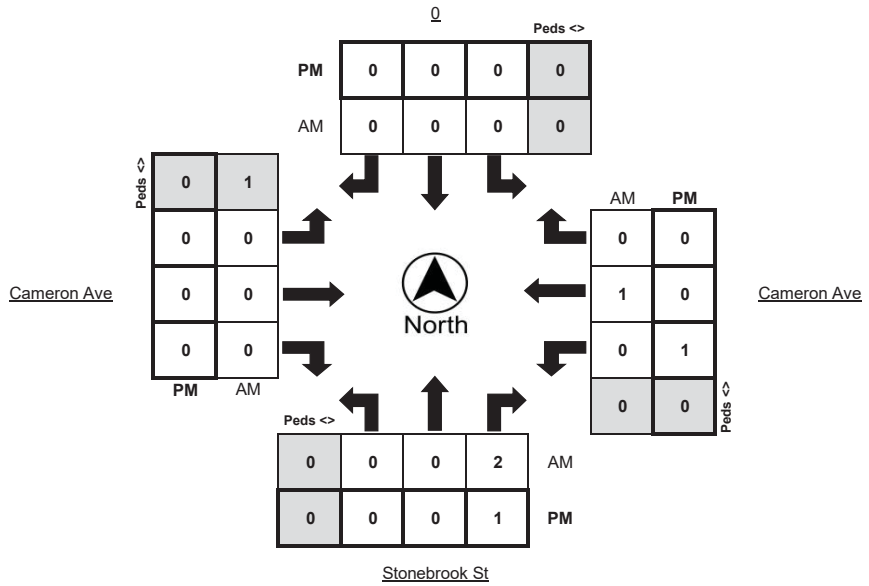
LOCATION 14 Cameron / Stonebook **LATITUDE** 36.294026

COUNTY Tulare **LONGITUDE** -119.305272

COLLECTION DATE Tuesday, May 7, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	1	2
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM - 11:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM - 11:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
HOUR TOTAL	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	1	1	3
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	4
HOUR TOTAL	0	0	2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	4
2:00 PM - 2:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:15 PM - 2:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	1	1	0	0	1	0	0	0	0	0	0	1	0	0	1	3
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	1	2
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
HOUR TOTAL	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	3
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
HOUR TOTAL	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
11:00 AM - 12:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	1	1	3
5:00 PM - 6:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2



Turning Movement Report
(Vehicles)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 15 Cameron / West
LATITUDE 0
COUNTY Tulare
LONGITUDE 0
COLLECTION DATE Tuesday, May 7, 2019
WEATHER 0.0000

	Northbound				Southbound				Eastbound				Westbound				Interval
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Total
7:00 AM - 7:15 AM	4	1	2	0	0	1	23	0	5	39	0	0	0	46	0	0	121
7:15 AM - 7:30 AM	5	3	1	0	0	0	18	0	10	44	0	0	0	82	1	0	164
7:30 AM - 7:45 AM	6	3	1	0	3	0	27	0	18	65	0	0	0	73	2	1	198
7:45 AM - 8:00 AM	9	2	3	0	0	1	46	1	11	84	3	1	0	100	0	1	259
8:00 AM - 8:15 AM	6	1	2	0	0	1	26	0	12	73	2	4	0	75	1	0	199
8:15 AM - 8:30 AM	3	0	2	0	0	1	16	0	13	83	4	0	0	67	2	1	191
8:30 AM - 8:45 AM	1	1	0	0	1	0	13	0	7	74	0	1	0	59	1	1	157
8:45 AM - 9:00 AM	3	0	1	0	0	1	14	0	10	49	2	0	0	58	2	0	140
11:00 AM - 11:15 AM	1	1	0	0	0	0	19	0	14	92	1	0	1	94	1	0	224
11:15 AM - 11:30 AM	1	1	1	1	0	2	18	1	15	105	0	0	0	110	2	1	255
11:30 AM - 11:45 AM	2	1	0	0	0	0	19	0	20	101	1	0	1	101	0	2	246
11:45 AM - 12:00 PM	4	2	0	0	0	0	20	0	11	113	1	0	0	96	0	1	247
12:00 PM - 12:15 PM	1	1	0	0	0	2	26	0	21	116	1	0	3	102	0	2	273
12:15 PM - 12:30 PM	2	0	1	0	1	0	27	0	21	135	2	1	0	102	0	0	291
12:30 PM - 12:45 PM	5	1	0	0	0	1	25	2	21	128	4	0	2	109	1	0	297
12:45 PM - 1:00 PM	4	1	0	0	0	0	28	1	24	138	1	1	0	96	0	0	292
2:00 PM - 2:15 PM	1	0	1	0	0	1	24	0	26	136	1	1	2	97	0	0	289
2:15 PM - 2:30 PM	2	1	1	0	0	3	22	0	26	134	2	0	0	94	0	0	285
2:30 PM - 2:45 PM	6	1	0	0	2	3	24	0	16	146	2	1	0	92	0	0	292
2:45 PM - 3:00 PM	1	1	0	0	0	2	24	0	19	133	2	2	0	72	1	0	255
3:00 PM - 3:15 PM	2	0	3	0	0	1	19	1	36	156	2	1	1	100	1	0	321
3:15 PM - 3:30 PM	2	2	3	0	2	4	30	0	20	155	2	1	1	96	1	0	318
3:30 PM - 3:45 PM	1	0	1	0	0	6	37	0	18	113	4	2	3	95	0	0	278
3:45 PM - 4:00 PM	3	1	0	0	1	1	25	0	29	155	3	0	0	114	0	1	332
4:00 PM - 4:15 PM	3	0	0	0	0	2	25	0	38	139	5	0	1	106	0	0	319
4:15 PM - 4:30 PM	1	0	0	0	1	1	28	0	24	142	6	0	0	122	3	0	328
4:30 PM - 4:45 PM	0	1	3	0	0	0	30	0	30	167	1	1	2	97	1	0	332
4:45 PM - 5:00 PM	2	4	2	0	1	1	21	0	32	137	3	0	3	105	1	0	312
5:00 PM - 5:15 PM	3	2	0	0	0	1	32	0	27	146	2	0	4	134	3	0	354
5:15 PM - 5:30 PM	3	2	0	0	3	2	41	0	35	159	4	0	1	118	1	0	369
5:30 PM - 5:45 PM	0	1	0	0	0	3	31	0	42	162	5	0	2	114	1	0	361
5:45 PM - 6:00 PM	2	1	2	0	3	1	32	0	18	158	6	0	2	112	4	0	341

7-9 AM Peak Hour: 7:30 AM - 8:30 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 5:00 PM - 6:00 PM

4-6 PM Peak Hour: 5:00 PM - 6:00 PM

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(Bicycles & Pedestrians)

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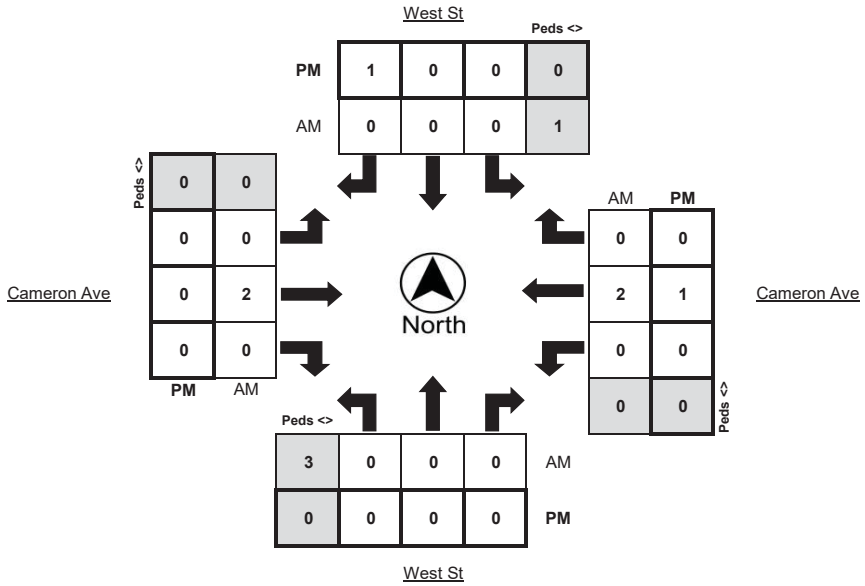
LOCATION 15 Cameron / West **LATITUDE** 36.293725

COUNTY Tulare **LONGITUDE** -119.296237

COLLECTION DATE Tuesday, May 7, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
HOUR TOTAL	0	0	0	0	0	0	0	1	0	2	0	1	0	0	0	0	2	2
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	3
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1
11:45 AM - 12:00 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0
HOUR TOTAL	0	0	0	1	0	0	0	3	0	2	0	0	0	2	0	0	4	4
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	2	1
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:45 PM - 6:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
HOUR TOTAL	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
11:00 AM - 12:00 PM	0	0	0	1	0	0	0	3	0	2	0	0	0	2	0	0	4	4
5:00 PM - 6:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2



Turning Movement Report
(Vehicles)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
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Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 16 Visalia Parkway / Demaree
LATITUDE 36.29122
COUNTY Tulare
LONGITUDE -119.331446
COLLECTION DATE Tuesday, May 14, 2019
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound					Interval
Time	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Total
7:00 AM - 7:15 AM	9	65	11	4	1	11	56	1	0	2	4	18	13	3	0	18	21	3	0	0	230
7:15 AM - 7:30 AM	3	71	10	0	0	5	103	3	0	2	7	25	20	2	2	22	27	8	0	0	304
7:30 AM - 7:45 AM	13	91	6	0	0	18	118	11	0	1	6	35	26	5	0	13	30	3	0	2	370
7:45 AM - 8:00 AM	15	150	16	0	1	21	115	13	0	1	10	83	17	2	0	19	57	22	4	0	538
8:00 AM - 8:15 AM	22	159	20	6	1	29	90	24	2	0	12	101	14	3	1	17	81	18	6	0	587
8:15 AM - 8:30 AM	6	104	17	4	0	21	80	7	2	1	11	56	17	2	0	12	46	25	5	1	402
8:30 AM - 8:45 AM	7	106	13	0	0	20	66	3	0	0	3	36	10	0	1	14	28	16	4	1	322
8:45 AM - 9:00 AM	7	113	23	1	0	22	68	4	0	1	10	28	7	0	0	4	17	9	1	0	312
11:00 AM - 11:15 AM	11	55	15	4	0	20	71	6	0	0	6	31	6	0	1	7	26	17	3	0	271
11:15 AM - 11:30 AM	4	77	13	4	1	21	66	4	0	0	3	29	6	1	1	8	24	16	5	1	271
11:30 AM - 11:45 AM	9	68	8	0	0	26	67	2	0	2	4	39	4	0	0	14	33	30	3	0	304
11:45 AM - 12:00 PM	4	76	27	3	1	26	70	9	1	1	7	34	4	0	0	19	29	24	7	2	329
12:00 PM - 12:15 PM	8	105	18	1	2	31	97	9	1	4	6	39	5	0	1	13	32	28	2	1	391
12:15 PM - 12:30 PM	5	79	15	4	1	23	104	4	0	1	5	29	6	2	0	9	39	15	2	0	333
12:30 PM - 12:45 PM	6	69	17	5	2	22	100	8	0	1	4	42	10	1	0	23	33	20	4	0	354
12:45 PM - 1:00 PM	6	101	16	3	0	27	75	6	0	0	7	37	6	0	0	21	33	37	1	0	372
2:00 PM - 2:15 PM	4	79	18	0	1	20	103	10	2	1	14	43	8	0	0	13	35	15	7	0	362
2:15 PM - 2:30 PM	4	76	10	3	1	38	123	18	1	3	4	39	10	4	0	26	54	31	13	2	433
2:30 PM - 2:45 PM	6	66	13	4	0	12	96	15	5	3	6	33	7	4	1	14	48	18	4	1	334
2:45 PM - 3:00 PM	12	133	16	4	1	13	89	6	4	0	8	45	12	3	0	16	39	19	2	2	408
3:00 PM - 3:15 PM	11	110	18	6	1	22	97	17	5	1	4	42	7	1	0	20	72	27	5	2	447
3:15 PM - 3:30 PM	7	107	18	3	0	27	88	17	2	2	10	40	7	1	2	11	58	22	0	0	412
3:30 PM - 3:45 PM	11	101	19	2	0	23	82	9	1	1	8	44	7	2	0	20	53	22	3	0	399
3:45 PM - 4:00 PM	7	96	20	5	1	28	107	14	3	0	18	37	12	5	0	18	42	27	9	2	426
4:00 PM - 4:15 PM	9	123	11	9	0	19	104	13	0	2	6	33	9	4	0	32	49	20	3	0	428
4:15 PM - 4:30 PM	15	98	17	2	2	20	99	11	2	1	8	59	8	3	0	25	41	29	9	2	430
4:30 PM - 4:45 PM	17	132	18	3	0	25	120	8	1	1	4	48	10	1	0	26	54	29	5	0	491
4:45 PM - 5:00 PM	8	124	30	6	1	23	104	13	1	0	5	49	14	2	0	15	47	34	9	0	466
5:00 PM - 5:15 PM	22	126	26	5	0	24	137	16	1	0	3	56	13	7	0	28	45	33	8	1	529
5:15 PM - 5:30 PM	14	111	35	16	0	38	114	10	0	0	5	70	11	1	1	22	56	26	7	0	512
5:30 PM - 5:45 PM	12	114	24	5	1	24	132	10	0	0	3	49	11	3	1	27	74	25	8	0	505
5:45 PM - 6:00 PM	19	119	31	9	3	17	94	14	2	0	5	44	12	5	1	17	49	30	6	0	451

7-9 AM Peak Hour: 7:30 AM - 8:30 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 4:45 PM - 5:45 PM

4-6 PM Peak Hour: 4:45 PM - 5:45 PM

Turning Movement Report
(Bicycles & Pedestrians)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

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Prepared For:

Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

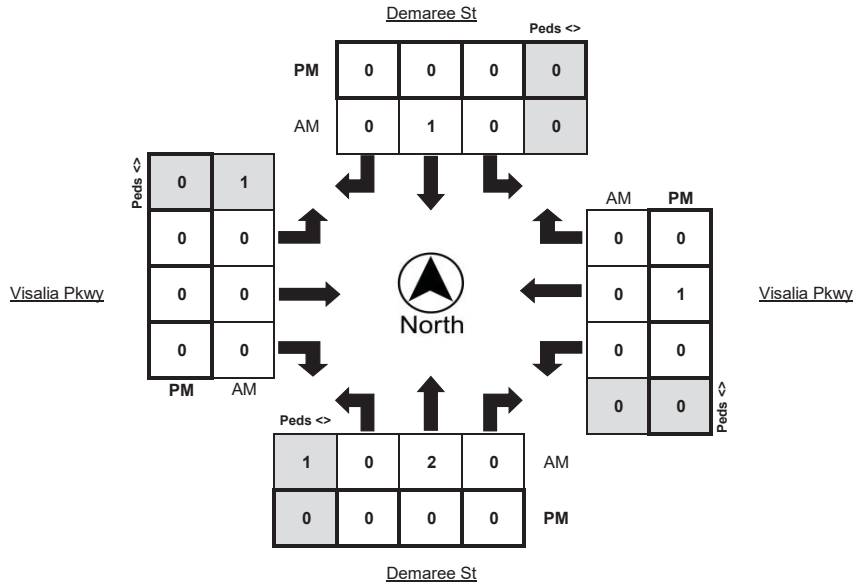
LOCATION 16 Visalia Parkway / Demaree | **LATITUDE** 36.29122

COUNTY Tulare | **LONGITUDE** -119.331446

COLLECTION DATE Tuesday, May 14, 2019 | **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	**0**	**2**
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
HOUR TOTAL	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**	**0**
8:15 AM - 8:30 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	1	**1**	**3**
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
HOUR TOTAL	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**3**
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
HOUR TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
HOUR TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
2:45 PM - 3:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**2**
HOUR TOTAL	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
3:00 PM - 3:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**0**
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
3:30 PM - 3:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**0**	**1**
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	**0**	**1**
HOUR TOTAL	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
HOUR TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	**0**	**1**
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
HOUR TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:30 AM - 8:30 AM	0	2	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**1**	**2**	**3**
4:45 PM - 5:45 PM	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**0**	**0**	**1**





Metro Traffic Data Inc.
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Turning Movement Report
(Vehicles)

Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 17 Visalia Parkway / Dans
LATITUDE 0
COUNTY Tulare
LONGITUDE 0
COLLECTION DATE Tuesday, May 7, 2019
WEATHER 0.0000

	Northbound				Southbound				Eastbound				Westbound				Interval
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Total
7:00 AM - 7:15 AM	1	0	0	0	3	0	2	0	2	27	0	1	0	42	0	0	77
7:15 AM - 7:30 AM	0	0	0	0	0	0	3	0	8	31	0	1	0	44	2	0	88
7:30 AM - 7:45 AM	0	0	1	0	8	0	19	1	20	54	1	1	0	51	18	0	172
7:45 AM - 8:00 AM	1	0	1	0	8	0	32	0	58	72	1	2	1	71	29	0	274
8:00 AM - 8:15 AM	3	0	1	2	10	0	37	0	62	75	1	0	0	80	37	0	306
8:15 AM - 8:30 AM	1	0	0	0	15	0	36	0	20	67	0	0	0	61	12	0	212
8:30 AM - 8:45 AM	1	0	0	0	4	0	7	0	4	53	0	1	0	40	2	2	111
8:45 AM - 9:00 AM	0	1	1	1	6	1	2	1	6	54	0	1	1	24	1	1	97
11:00 AM - 11:15 AM	0	0	1	1	1	0	0	1	2	77	0	0	0	56	3	0	140
11:15 AM - 11:30 AM	0	0	0	0	6	0	0	0	6	68	0	0	1	73	6	3	160
11:30 AM - 11:45 AM	0	0	1	0	6	0	8	0	4	68	0	0	1	65	3	0	156
11:45 AM - 12:00 PM	0	0	0	0	5	0	1	0	1	70	1	1	0	82	3	0	163
12:00 PM - 12:15 PM	0	0	0	0	10	1	9	0	4	82	0	0	1	67	4	1	178
12:15 PM - 12:30 PM	0	0	0	0	4	0	6	0	6	81	0	0	0	82	10	1	189
12:30 PM - 12:45 PM	0	1	0	0	0	0	3	0	13	61	0	1	5	69	5	1	157
12:45 PM - 1:00 PM	0	0	0	0	7	0	12	0	6	83	0	0	0	85	5	0	198
2:00 PM - 2:15 PM	0	0	0	0	10	0	13	0	19	73	0	0	0	118	9	1	242
2:15 PM - 2:30 PM	2	0	2	1	11	1	25	1	11	78	1	0	2	93	7	1	233
2:30 PM - 2:45 PM	1	0	1	0	2	0	6	0	10	80	2	1	0	98	7	0	207
2:45 PM - 3:00 PM	0	0	0	0	2	1	5	0	21	81	0	0	0	84	14	0	208
3:00 PM - 3:15 PM	0	0	0	0	17	1	29	0	14	85	2	0	1	111	8	0	268
3:15 PM - 3:30 PM	2	0	1	0	3	1	3	0	4	91	2	0	0	98	4	1	209
3:30 PM - 3:45 PM	2	0	1	0	4	0	6	0	8	98	2	1	1	103	2	0	227
3:45 PM - 4:00 PM	0	0	1	0	0	0	12	0	9	105	2	0	0	81	6	0	216
4:00 PM - 4:15 PM	1	0	0	0	2	0	10	0	9	98	0	0	1	92	5	0	218
4:15 PM - 4:30 PM	1	0	0	0	4	0	8	0	8	92	0	1	0	107	5	1	225
4:30 PM - 4:45 PM	0	0	0	0	8	0	7	0	8	111	0	1	2	83	2	0	221
4:45 PM - 5:00 PM	0	0	0	0	4	0	4	0	8	90	0	0	1	103	5	0	215
5:00 PM - 5:15 PM	2	0	0	0	8	0	15	0	10	79	1	0	1	107	3	2	226
5:15 PM - 5:30 PM	0	0	1	0	4	0	12	0	9	118	2	2	1	110	6	0	263
5:30 PM - 5:45 PM	0	0	0	0	4	1	9	0	2	108	1	0	2	98	3	0	228
5:45 PM - 6:00 PM	1	0	1	0	1	1	6	0	7	97	0	0	2	89	3	0	208

7-9 AM Peak Hour: 7:30 AM - 8:30 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 4:45 PM - 5:45 PM

4-6 PM Peak Hour: 4:45 PM - 5:45 PM

Turning Movement Report
(Bicycles & Pedestrians)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:

Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

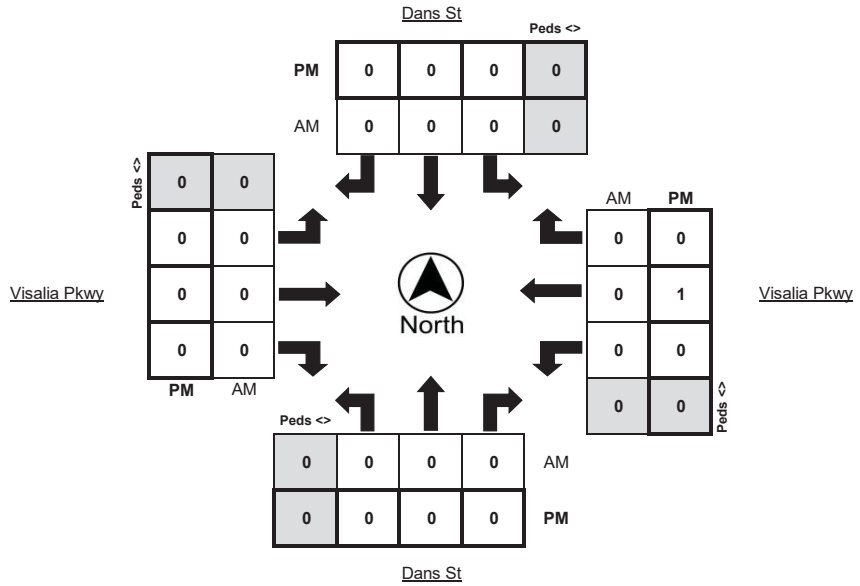
LOCATION 17 Visalia Parkway / Dans **LATITUDE** 36.291343

COUNTY Tulare **LONGITUDE** -119.325892

COLLECTION DATE Tuesday, May 7, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM - 11:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	0	5
HOUR TOTAL	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	0	5
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	3	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1



Turning Movement Report
(Vehicles)

Metro Traffic Data Inc.
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Hanford, CA 93230

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www.metrotrafficdata.com

Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 18 Visalia Parkway/ County Center
LATITUDE 0
COUNTY Tulare
LONGITUDE 0
COLLECTION DATE Tuesday, May 7, 2019
WEATHER 0.0000

	Northbound				Southbound				Eastbound				Westbound				Interval
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Total
7:00 AM - 7:15 AM	0	0	0	0	14	0	14	1	4	25	0	0	0	29	3	0	89
7:15 AM - 7:30 AM	0	0	0	0	14	0	16	0	9	23	0	0	0	35	3	0	100
7:30 AM - 7:45 AM	0	0	0	0	21	0	23	0	11	47	0	1	0	65	14	1	181
7:45 AM - 8:00 AM	0	0	0	0	16	0	40	0	18	54	0	3	0	91	9	0	228
8:00 AM - 8:15 AM	0	0	0	0	13	0	56	0	24	69	0	0	0	97	8	0	267
8:15 AM - 8:30 AM	0	0	0	0	10	0	15	0	22	78	0	2	0	45	17	1	187
8:30 AM - 8:45 AM	0	0	0	0	9	0	13	0	16	42	0	2	0	32	7	2	119
8:45 AM - 9:00 AM	0	0	0	0	11	0	9	0	15	48	0	2	0	21	9	1	113
11:00 AM - 11:15 AM	0	0	0	0	12	0	17	0	7	74	0	1	0	46	13	0	169
11:15 AM - 11:30 AM	0	0	0	0	12	0	18	1	13	64	0	0	0	69	14	4	190
11:30 AM - 11:45 AM	0	0	0	0	13	0	15	0	11	63	0	4	0	57	11	2	170
11:45 AM - 12:00 PM	0	0	0	0	11	0	12	0	11	73	0	1	0	73	12	0	192
12:00 PM - 12:15 PM	0	0	0	0	20	0	12	0	19	72	0	0	0	65	12	1	200
12:15 PM - 12:30 PM	0	0	0	0	21	0	21	0	12	73	0	0	0	76	14	1	217
12:30 PM - 12:45 PM	0	0	0	0	17	0	19	0	10	54	0	1	0	60	22	0	182
12:45 PM - 1:00 PM	0	0	0	0	26	0	29	0	13	74	0	0	0	65	20	0	227
2:00 PM - 2:15 PM	0	0	0	0	14	0	37	0	19	69	0	0	0	100	17	1	256
2:15 PM - 2:30 PM	0	0	0	0	22	0	24	0	18	76	0	0	0	72	20	1	232
2:30 PM - 2:45 PM	0	0	0	0	18	0	16	0	23	64	0	1	0	89	19	0	229
2:45 PM - 3:00 PM	0	0	0	0	10	0	28	0	18	63	0	0	0	89	13	0	221
3:00 PM - 3:15 PM	0	0	0	0	19	0	30	0	31	102	0	0	0	82	21	0	285
3:15 PM - 3:30 PM	0	0	0	0	6	0	25	1	12	59	0	0	0	80	22	0	204
3:30 PM - 3:45 PM	0	0	0	0	14	0	27	0	22	82	0	1	0	82	20	0	247
3:45 PM - 4:00 PM	0	0	0	0	14	0	19	0	22	83	0	0	0	68	26	0	232
4:00 PM - 4:15 PM	0	0	0	0	19	0	16	0	21	85	0	0	0	77	24	1	242
4:15 PM - 4:30 PM	0	0	0	0	12	0	18	0	11	81	0	1	0	92	23	1	237
4:30 PM - 4:45 PM	0	0	0	0	17	0	17	0	16	109	0	1	0	79	19	0	257
4:45 PM - 5:00 PM	0	0	0	0	17	0	19	0	19	75	0	0	0	88	20	0	238
5:00 PM - 5:15 PM	0	0	0	0	10	0	18	0	19	69	0	0	0	93	31	2	240
5:15 PM - 5:30 PM	0	0	0	0	18	0	35	0	26	99	0	0	0	89	25	0	292
5:30 PM - 5:45 PM	0	0	0	0	17	0	20	0	21	91	0	0	0	90	34	0	273
5:45 PM - 6:00 PM	0	0	0	0	17	0	20	0	14	90	0	0	0	76	14	0	231

7-9 AM Peak Hour: 7:30 AM - 8:30 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 4:45 PM - 5:45 PM

4-6 PM Peak Hour: 4:45 PM - 5:45 PM

Turning Movement Report
(Bicycles & Pedestrians)

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Prepared For:

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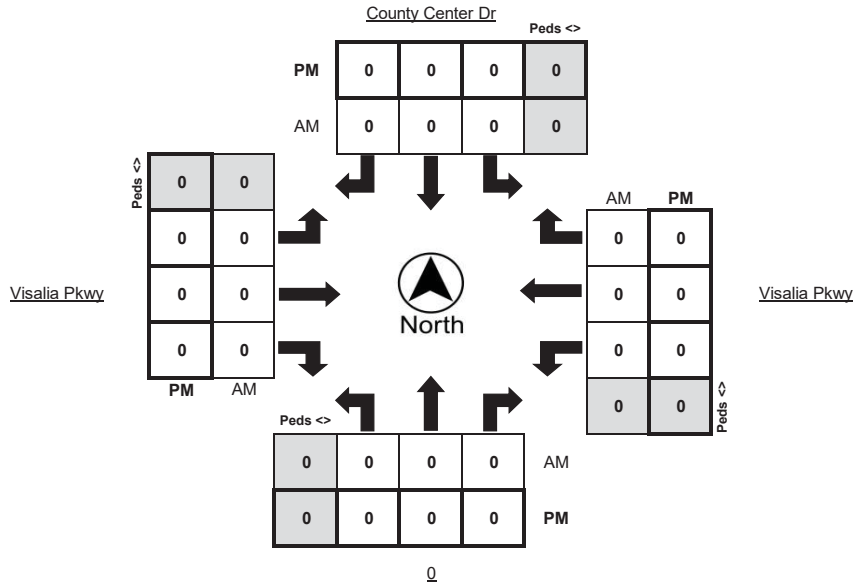
LOCATION 18 Visalia Parkway/ County Center **LATITUDE** 36.291337

COUNTY Tulare **LONGITUDE** -119.322443

COLLECTION DATE Tuesday, May 7, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4
HOUR TOTAL	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	0	5
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
HOUR TOTAL	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0





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Turning Movement Report
(Vehicles)

Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 19 Visalia Parkway / West Target Access
LATITUDE 0

COUNTY Tulare
LONGITUDE 0

COLLECTION DATE Thursday, May 9, 2019
WEATHER 0.0000

	Northbound				Southbound				Eastbound				Westbound				Interval
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Total
7:00 AM - 7:15 AM	0	0	0	0	0	0	1	0	0	31	0	0	0	30	0	0	62
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	40	0	1	0	41	0	0	81
7:30 AM - 7:45 AM	0	0	0	0	1	0	1	0	0	43	0	1	0	65	1	0	111
7:45 AM - 8:00 AM	0	0	0	0	1	0	0	0	5	77	0	3	0	82	6	4	171
8:00 AM - 8:15 AM	0	0	0	0	2	0	4	0	15	74	0	2	0	100	3	0	198
8:15 AM - 8:30 AM	0	0	0	0	3	0	10	0	15	95	0	2	0	42	3	0	168
8:30 AM - 8:45 AM	0	0	0	0	4	0	5	0	10	55	0	0	0	27	4	0	105
8:45 AM - 9:00 AM	0	0	0	0	5	0	5	0	4	53	0	0	0	40	4	0	111
11:00 AM - 11:15 AM	0	0	0	0	9	0	8	0	13	59	0	0	0	52	7	2	148
11:15 AM - 11:30 AM	0	0	0	0	2	0	11	0	12	72	0	1	0	61	10	1	168
11:30 AM - 11:45 AM	0	0	0	0	10	0	14	2	18	63	0	0	0	78	3	0	186
11:45 AM - 12:00 PM	0	0	0	0	11	0	5	0	11	72	0	0	0	74	6	1	179
12:00 PM - 12:15 PM	0	0	0	0	8	0	14	0	8	67	0	0	0	85	11	0	193
12:15 PM - 12:30 PM	0	0	0	0	15	0	12	0	18	86	0	0	0	61	6	0	198
12:30 PM - 12:45 PM	0	0	0	0	11	0	20	0	14	50	0	0	0	86	12	1	193
12:45 PM - 1:00 PM	0	0	0	0	10	0	14	0	19	77	0	0	0	77	5	0	202
2:00 PM - 2:15 PM	0	0	0	0	9	0	24	0	12	71	0	0	0	86	9	1	211
2:15 PM - 2:30 PM	0	0	0	0	6	0	13	0	18	80	0	1	0	81	12	2	210
2:30 PM - 2:45 PM	0	0	0	0	10	0	11	0	9	59	0	0	0	97	6	2	192
2:45 PM - 3:00 PM	0	0	0	0	14	0	16	0	9	57	0	0	0	76	3	1	175
3:00 PM - 3:15 PM	0	0	0	0	4	0	23	0	10	75	0	2	0	91	10	1	213
3:15 PM - 3:30 PM	0	0	0	0	11	0	10	0	17	69	0	1	0	62	6	1	175
3:30 PM - 3:45 PM	0	0	0	0	8	0	18	0	19	82	0	1	0	78	10	0	215
3:45 PM - 4:00 PM	0	0	0	0	7	0	19	0	24	98	0	0	0	66	5	0	219
4:00 PM - 4:15 PM	0	0	0	0	5	0	26	1	22	77	0	1	0	104	8	0	242
4:15 PM - 4:30 PM	0	0	0	0	9	0	23	0	15	83	0	0	0	88	8	2	226
4:30 PM - 4:45 PM	0	0	0	0	10	0	17	0	11	78	0	0	0	93	13	2	222
4:45 PM - 5:00 PM	0	0	0	0	11	0	12	1	20	82	0	2	0	99	5	0	229
5:00 PM - 5:15 PM	0	0	0	0	11	0	15	0	19	78	0	1	0	104	11	1	238
5:15 PM - 5:30 PM	0	0	0	0	14	0	20	0	16	86	0	1	0	88	6	0	230
5:30 PM - 5:45 PM	0	0	0	0	7	0	21	0	17	92	0	0	0	81	7	0	225
5:45 PM - 6:00 PM	0	0	0	0	5	0	26	0	13	82	0	0	0	83	10	0	219

7-9 AM Peak Hour: 7:30 AM - 8:30 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 4:45 PM - 5:45 PM

4-6 PM Peak Hour: 4:45 PM - 5:45 PM

Turning Movement Report
(Bicycles & Pedestrians)

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Prepared For:

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952 Pollasky Avenue
Clovis, CA 93612

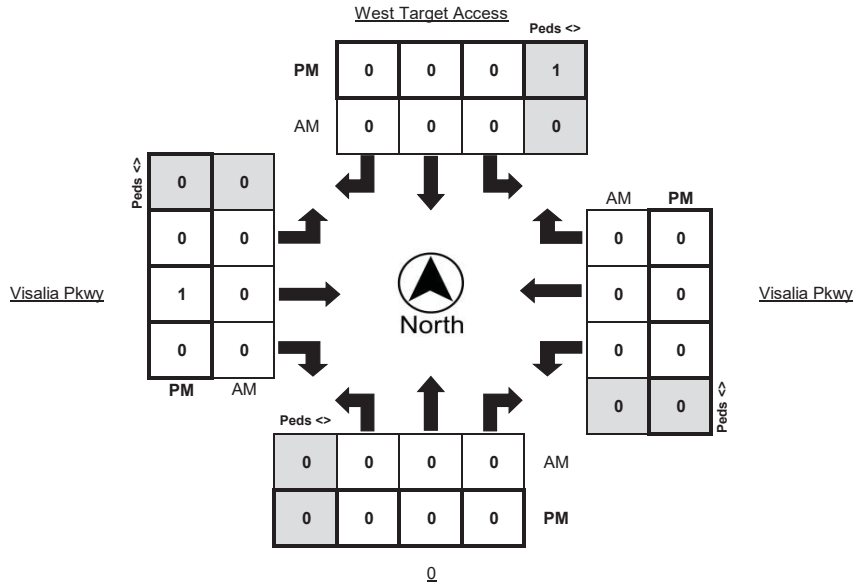
LOCATION 19 Visalia Parkway / West Target Access **LATITUDE** 36.291303

COUNTY Tulare **LONGITUDE** -119.316496

COLLECTION DATE Thursday, May 9, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
HOUR TOTAL	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	0
3:45 PM - 4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
HOUR TOTAL	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	1	2	2
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	1	2
5:00 PM - 5:15 PM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	1
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	1

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:45 PM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	1



Turning Movement Report
(Vehicles)

Metro Traffic Data Inc.
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Hanford, CA 93230

800-975-6938 Phone/Fax
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Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 20 Visalia Parkway / Mooney
LATITUDE 36.291289
COUNTY Tulare
LONGITUDE -119.313604
COLLECTION DATE Tuesday, May 14, 2019
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound					Interval
Time	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Total
7:00 AM - 7:15 AM	11	69	12	1	2	0	71	4	1	2	3	11	24	4	1	40	13	2	0	2	260
7:15 AM - 7:30 AM	12	93	20	1	1	0	69	8	1	1	4	7	28	6	0	40	19	3	0	2	303
7:30 AM - 7:45 AM	20	145	19	6	3	2	105	6	4	5	4	15	25	3	1	52	31	3	0	2	427
7:45 AM - 8:00 AM	23	162	30	11	3	1	102	17	5	2	9	19	33	7	0	67	56	1	0	1	520
8:00 AM - 8:15 AM	17	141	21	9	4	3	78	11	4	5	17	32	27	5	3	41	59	3	0	0	450
8:15 AM - 8:30 AM	18	118	20	4	2	4	97	6	3	2	23	48	20	0	0	25	17	3	0	1	399
8:30 AM - 8:45 AM	19	126	31	0	3	3	62	5	0	2	10	25	19	0	0	25	21	2	0	2	348
8:45 AM - 9:00 AM	15	157	39	5	5	6	77	5	1	3	10	32	19	3	1	13	9	5	0	0	387
11:00 AM - 11:15 AM	19	103	42	18	2	9	87	2	0	1	24	34	18	2	1	38	34	13	0	2	423
11:15 AM - 11:30 AM	25	134	39	8	3	16	116	5	0	8	12	33	25	1	1	63	31	20	1	4	519
11:30 AM - 11:45 AM	26	159	40	11	3	9	125	15	5	2	12	44	15	0	1	51	34	16	0	2	546
11:45 AM - 12:00 PM	22	138	34	8	3	16	129	15	5	3	21	50	24	0	2	55	49	10	1	1	563
12:00 PM - 12:15 PM	27	188	51	12	3	16	157	14	2	4	20	49	28	0	1	37	39	17	5	1	643
12:15 PM - 12:30 PM	18	120	41	10	3	24	169	15	2	1	30	33	18	0	1	51	36	23	4	0	578
12:30 PM - 12:45 PM	18	149	41	9	5	25	165	13	2	3	24	29	27	0	0	68	51	14	1	1	624
12:45 PM - 1:00 PM	32	135	53	15	5	14	141	18	0	3	28	52	26	1	0	61	44	13	1	2	617
2:00 PM - 2:15 PM	28	109	47	9	4	10	166	11	1	4	21	38	29	2	0	50	50	9	2	0	568
2:15 PM - 2:30 PM	16	109	41	16	2	11	152	14	2	3	34	44	26	1	2	64	38	17	3	1	566
2:30 PM - 2:45 PM	26	127	34	10	2	11	146	16	4	3	24	37	27	0	0	46	35	12	0	3	541
2:45 PM - 3:00 PM	22	158	47	4	1	8	125	16	5	2	16	25	21	2	1	53	55	18	0	0	564
3:00 PM - 3:15 PM	21	109	55	18	2	13	132	16	3	2	23	45	20	0	1	48	49	9	0	1	540
3:15 PM - 3:30 PM	13	124	41	14	3	11	143	15	3	3	13	40	25	0	0	60	61	10	1	0	556
3:30 PM - 3:45 PM	42	174	49	10	2	8	146	12	5	3	18	46	23	0	0	48	40	6	0	1	612
3:45 PM - 4:00 PM	30	130	55	10	0	13	130	15	4	4	29	49	17	0	0	50	54	11	1	0	583
4:00 PM - 4:15 PM	23	178	46	13	2	15	159	20	4	3	19	31	26	2	0	46	51	11	1	3	625
4:15 PM - 4:30 PM	32	130	61	19	4	12	137	13	6	1	18	38	37	0	0	61	36	11	0	0	586
4:30 PM - 4:45 PM	29	164	46	5	1	16	154	15	3	2	21	45	34	0	0	73	63	15	0	2	675
4:45 PM - 5:00 PM	23	145	46	10	1	9	173	7	4	2	28	41	27	1	0	53	39	16	0	1	607
5:00 PM - 5:15 PM	33	138	62	14	1	10	187	15	7	2	25	32	42	0	2	48	43	11	0	0	646
5:15 PM - 5:30 PM	28	198	53	20	4	8	186	16	4	2	33	49	28	0	0	62	38	13	1	0	712
5:30 PM - 5:45 PM	42	146	55	9	0	12	154	20	6	3	20	54	30	0	0	58	52	16	1	1	659
5:45 PM - 6:00 PM	28	173	52	16	1	10	151	7	4	1	20	35	23	0	0	55	55	4	0	0	613

7-9 AM Peak Hour: 7:30 AM - 8:30 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 4:30 PM - 5:30 PM

4-6 PM Peak Hour: 4:30 PM - 5:30 PM

Turning Movement Report
(Bicycles & Pedestrians)

Metro Traffic Data Inc.
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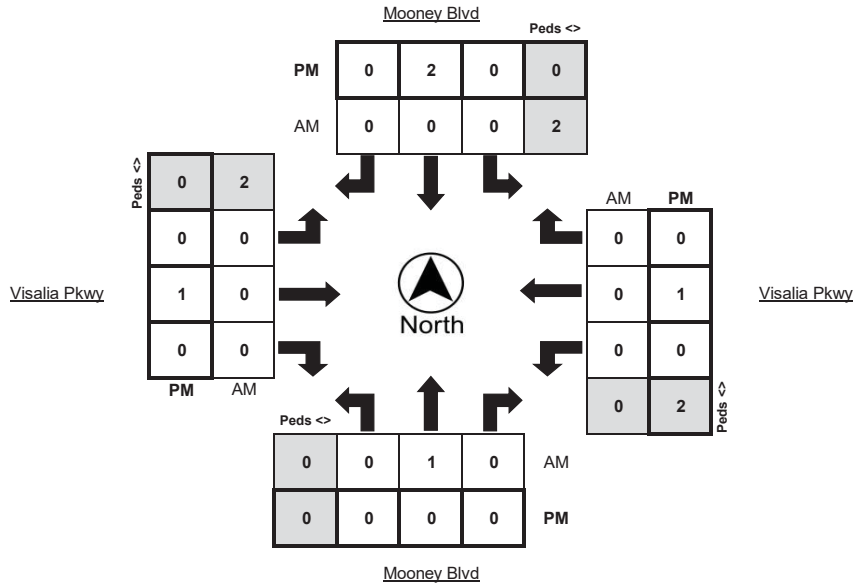
Prepared For:

Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 20 Visalia Parkway / Mooney
LATITUDE 36.291289
COUNTY Tulare
LONGITUDE -119.313604
COLLECTION DATE Tuesday, May 14, 2019
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**2**	**1**
8:00 AM - 8:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**0**
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1
11:45 AM - 12:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
HOUR TOTAL	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**4**	**1**
12:00 PM - 12:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
HOUR TOTAL	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**3**	**0**
2:00 PM - 2:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
HOUR TOTAL	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**3**	**1**
3:00 PM - 3:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	2	1
3:15 PM - 3:30 PM	0	0	0	1	0	0	0	0	0	2	0	1	0	0	0	0	2	2
3:30 PM - 3:45 PM	0	0	0	1	0	1	0	0	0	0	1	1	0	0	0	0	2	2
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
HOUR TOTAL	**0**	**0**	**0**	**4**	**0**	**1**	**0**	**0**	**0**	**2**	**2**	**2**	**0**	**1**	**0**	**0**	**6**	**6**
4:00 PM - 4:15 PM	0	0	0	1	0	0	0	0	0	0	2	1	0	0	0	0	2	2
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0
4:45 PM - 5:00 PM	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	3
HOUR TOTAL	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**1**	**2**	**3**	**0**	**0**	**0**	**0**	**4**	**5**
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**1**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
11:00 AM - 12:00 PM	0	1	0	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**2**	**4**	**1**
4:30 PM - 5:30 PM	0	0	0	**0**	0	2	0	**0**	0	1	0	**2**	0	1	0	**0**	**2**	**4**



Turning Movement Report
(Vehicles)

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Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 21 Visalia Parkway / Stonebrook
LATITUDE 0
COUNTY Tulare
LONGITUDE 0
COLLECTION DATE Thursday, May 9, 2019
WEATHER 0.0000

	Northbound				Southbound				Eastbound				Westbound				Interval
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Total
7:00 AM - 7:15 AM	0	0	0	0	1	0	33	0	11	0	0	0	0	0	0	0	45
7:15 AM - 7:30 AM	0	0	0	0	1	0	44	0	15	0	0	0	0	0	0	0	60
7:30 AM - 7:45 AM	0	0	0	0	0	0	80	1	24	0	0	0	0	0	0	0	104
7:45 AM - 8:00 AM	0	0	0	0	0	0	87	1	43	0	0	0	0	0	0	0	130
8:00 AM - 8:15 AM	0	0	0	0	0	0	73	0	49	0	0	0	0	0	0	0	122
8:15 AM - 8:30 AM	0	0	0	0	1	0	27	0	52	0	0	0	0	0	0	0	80
8:30 AM - 8:45 AM	0	0	0	0	0	0	21	1	34	0	0	0	0	0	0	0	55
8:45 AM - 9:00 AM	0	0	0	0	0	0	30	0	28	0	0	0	0	0	0	0	58
11:00 AM - 11:15 AM	0	0	0	0	0	0	21	0	30	0	0	0	0	0	0	0	51
11:15 AM - 11:30 AM	0	0	0	0	0	0	29	0	34	0	0	0	0	0	0	0	63
11:30 AM - 11:45 AM	0	0	0	0	0	0	39	1	48	0	0	2	0	0	0	0	87
11:45 AM - 12:00 PM	0	0	0	0	0	0	33	0	36	0	0	1	0	0	0	0	69
12:00 PM - 12:15 PM	0	0	0	0	0	0	36	0	47	0	0	0	0	0	0	0	83
12:15 PM - 12:30 PM	0	0	0	0	0	0	44	0	39	0	0	0	0	0	0	0	83
12:30 PM - 12:45 PM	0	0	0	0	1	0	32	1	31	0	0	0	0	0	0	0	64
12:45 PM - 1:00 PM	0	0	0	0	0	0	36	0	28	0	0	0	0	0	0	0	64
2:00 PM - 2:15 PM	0	0	0	0	1	0	44	2	41	0	0	0	0	0	0	0	86
2:15 PM - 2:30 PM	0	0	0	0	0	0	41	1	57	0	0	1	0	0	0	0	98
2:30 PM - 2:45 PM	0	0	0	0	0	0	45	2	34	0	0	1	0	0	0	0	79
2:45 PM - 3:00 PM	0	0	0	0	0	0	26	0	44	0	0	0	0	0	0	0	70
3:00 PM - 3:15 PM	0	0	0	0	0	0	28	0	52	0	0	1	0	0	0	0	80
3:15 PM - 3:30 PM	0	0	0	0	0	0	28	0	51	0	0	2	0	0	0	0	79
3:30 PM - 3:45 PM	0	0	0	0	0	0	33	1	46	0	0	0	0	0	0	0	79
3:45 PM - 4:00 PM	0	0	0	0	0	0	39	0	48	0	0	0	0	0	0	0	87
4:00 PM - 4:15 PM	0	0	0	0	0	0	38	0	68	0	0	1	0	0	0	0	106
4:15 PM - 4:30 PM	0	0	0	0	0	0	56	2	58	0	0	0	0	0	0	0	114
4:30 PM - 4:45 PM	0	0	0	0	0	0	46	1	63	0	0	1	0	0	0	0	109
4:45 PM - 5:00 PM	0	0	0	0	0	0	36	0	49	0	0	0	0	0	0	0	85
5:00 PM - 5:15 PM	0	0	0	0	0	0	35	0	64	0	0	0	0	0	0	0	99
5:15 PM - 5:30 PM	0	0	0	0	0	0	48	0	65	0	0	1	0	0	0	0	113
5:30 PM - 5:45 PM	0	0	0	0	0	0	36	1	62	0	0	0	0	0	0	0	98
5:45 PM - 6:00 PM	0	0	0	0	0	0	37	0	43	0	0	0	0	0	0	0	80

7-9 AM Peak Hour: 7:30 AM - 8:30 AM

11-1 Mid-Day Peak Hour: 11:30 AM - 12:30 PM

2-6 PM Peak Hour: 3:45 PM - 4:45 PM

4-6 PM Peak Hour: 4:00 PM - 5:00 PM

Turning Movement Report
(Bicycles & Pedestrians)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
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800-975-6938 Phone/Fax
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Prepared For:

Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

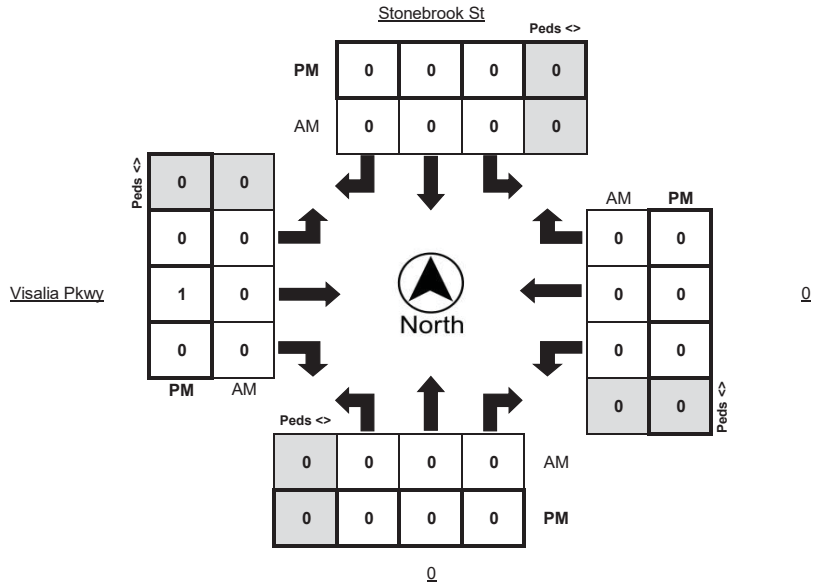
LOCATION 21 Visalia Parkway / Stonebrook **LATITUDE** 36.291412

COUNTY Tulare **LONGITUDE** -119.305346

COLLECTION DATE Thursday, May 9, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
HOUR TOTAL	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	1
HOUR TOTAL	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	1	2
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1



Turning Movement Report
(Vehicles)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 22 Midvalley / Mooney
LATITUDE 36.287514
COUNTY Tulare
LONGITUDE -119.313526
COLLECTION DATE Tuesday, May 14, 2019
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound					Interval
Time	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Total
7:00 AM - 7:15 AM	1	90	0	0	2	0	119	7	0	5	9	0	7	6	0	0	0	1	1	0	234
7:15 AM - 7:30 AM	0	107	0	0	1	1	124	8	0	2	10	0	4	4	0	1	0	4	3	0	259
7:30 AM - 7:45 AM	2	172	2	0	3	2	166	5	0	5	15	0	6	5	0	3	0	5	3	2	378
7:45 AM - 8:00 AM	2	191	0	0	3	2	201	6	1	2	11	0	4	4	0	3	0	4	2	0	424
8:00 AM - 8:15 AM	1	179	1	0	4	3	132	10	0	7	5	0	1	1	0	0	0	3	2	0	335
8:15 AM - 8:30 AM	2	167	0	0	3	0	140	8	0	2	4	0	1	1	0	0	0	0	0	0	322
8:30 AM - 8:45 AM	1	180	1	0	1	3	101	4	0	2	11	0	1	1	1	1	0	1	1	0	304
8:45 AM - 9:00 AM	2	188	0	0	6	2	103	7	0	3	9	0	6	4	1	4	1	3	1	0	325
11:00 AM - 11:15 AM	2	162	2	0	2	1	150	13	0	1	10	0	4	3	1	1	0	2	2	0	347
11:15 AM - 11:30 AM	1	173	0	0	3	6	185	10	0	8	14	0	6	6	0	0	0	6	4	0	401
11:30 AM - 11:45 AM	3	224	1	0	3	5	175	8	0	2	15	0	1	1	0	3	0	2	2	0	437
11:45 AM - 12:00 PM	2	206	0	0	3	3	186	13	0	4	10	0	2	2	0	1	1	2	0	0	426
12:00 PM - 12:15 PM	4	271	1	0	5	4	207	11	0	4	3	0	3	3	0	0	0	0	0	0	504
12:15 PM - 12:30 PM	2	188	1	0	4	3	219	10	0	1	4	0	2	2	0	2	0	3	1	0	434
12:30 PM - 12:45 PM	2	200	1	0	3	4	220	19	0	3	13	0	8	6	1	0	0	6	6	0	473
12:45 PM - 1:00 PM	1	201	2	0	6	1	237	13	0	5	13	0	4	4	0	2	0	3	2	0	477
2:00 PM - 2:15 PM	2	189	1	0	4	3	240	7	0	3	4	0	4	4	0	0	0	3	3	0	453
2:15 PM - 2:30 PM	1	170	0	0	2	3	232	17	1	1	10	0	6	5	0	1	0	3	2	0	443
2:30 PM - 2:45 PM	2	198	0	0	3	1	214	10	0	4	9	0	5	3	0	3	0	1	1	0	443
2:45 PM - 3:00 PM	0	225	1	0	1	5	180	10	1	3	14	0	4	3	0	4	0	2	1	0	445
3:00 PM - 3:15 PM	6	176	0	0	2	3	190	13	0	2	10	2	4	4	1	2	1	1	1	0	408
3:15 PM - 3:30 PM	2	190	1	0	3	4	198	14	0	3	8	0	2	2	0	1	0	2	0	0	422
3:30 PM - 3:45 PM	0	232	0	0	2	2	207	13	4	3	10	1	4	4	0	1	0	6	2	0	476
3:45 PM - 4:00 PM	0	230	1	0	1	2	196	7	1	4	7	1	6	3	0	3	2	6	3	0	461
4:00 PM - 4:15 PM	1	231	1	0	1	4	205	12	2	2	9	0	7	6	0	3	2	3	2	1	478
4:15 PM - 4:30 PM	4	236	0	0	3	9	235	11	0	1	9	0	1	1	1	1	0	4	3	0	510
4:30 PM - 4:45 PM	5	240	1	0	1	4	244	8	0	2	11	0	2	2	0	0	0	3	3	0	518
4:45 PM - 5:00 PM	3	211	2	0	1	1	245	19	2	2	5	1	2	2	0	1	0	4	4	0	494
5:00 PM - 5:15 PM	2	249	1	0	2	1	247	20	2	2	10	1	3	1	0	4	0	3	2	0	541
5:15 PM - 5:30 PM	2	233	0	0	0	2	256	20	0	2	10	0	2	1	0	0	0	5	4	0	530
5:30 PM - 5:45 PM	0	281	1	0	0	5	227	10	2	1	9	1	3	3	0	0	0	4	4	0	541
5:45 PM - 6:00 PM	2	231	1	0	1	6	195	17	0	1	12	0	1	1	0	2	0	2	2	0	469

7-9 AM Peak Hour: 7:30 AM - 8:30 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 4:45 PM - 5:45 PM

4-6 PM Peak Hour: 4:45 PM - 5:45 PM

Turning Movement Report
(Bicycles & Pedestrians)

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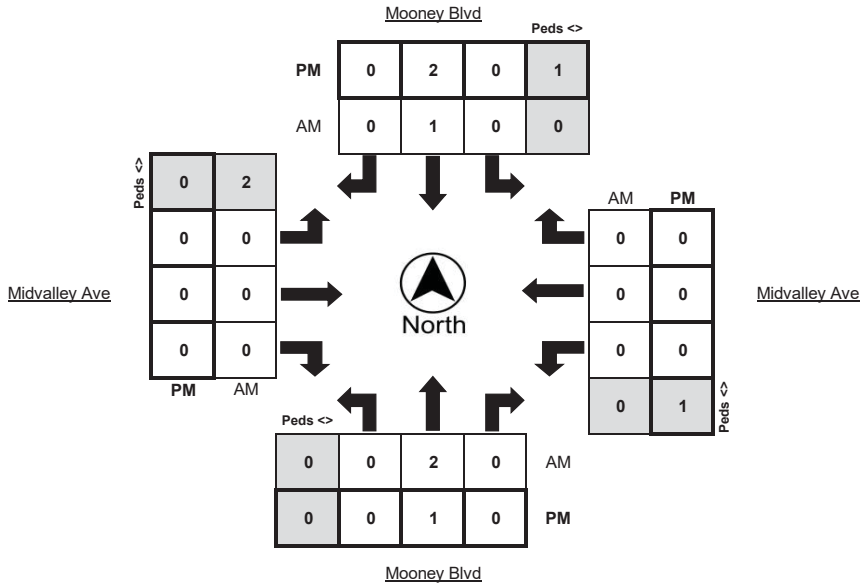
Prepared For:

Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 22 Midvalley / Mooney
LATITUDE 36.287514
COUNTY Tulare
LONGITUDE -119.313526
COLLECTION DATE Tuesday, May 14, 2019
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
7:15 AM - 7:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
HOUR TOTAL	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**1**
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
8:30 AM - 8:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**
11:00 AM - 11:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1
11:45 AM - 12:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
HOUR TOTAL	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**3**
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
HOUR TOTAL	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**
2:00 PM - 2:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0
HOUR TOTAL	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**2**	**5**
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
3:45 PM - 4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
HOUR TOTAL	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**3**
4:00 PM - 4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0
4:45 PM - 5:00 PM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3
HOUR TOTAL	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**4**
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
11:00 AM - 12:00 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	2	2	3
4:45 PM - 5:45 PM	0	1	0	1	0	2	0	0	0	0	0	1	0	0	0	0	2	3



Turning Movement Report
(Vehicles)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 24 Avenue 272 / Mooney
LATITUDE 0
COUNTY Tulare
LONGITUDE 0
COLLECTION DATE Tuesday, May 7, 2019
WEATHER 0.0000

	Northbound				Southbound				Eastbound				Westbound				Interval
Time	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Total
7:00 AM - 7:15 AM	6	85	0	1	2	113	4	2	1	1	23	1	2	2	0	0	239
7:15 AM - 7:30 AM	5	99	0	2	1	133	5	4	1	3	40	1	6	1	2	0	296
7:30 AM - 7:45 AM	15	187	3	3	0	165	5	3	3	0	48	0	7	4	2	0	439
7:45 AM - 8:00 AM	11	183	4	5	1	177	3	4	3	0	42	0	12	5	2	1	443
8:00 AM - 8:15 AM	16	191	6	4	0	127	6	4	4	4	24	1	4	4	1	0	387
8:15 AM - 8:30 AM	6	181	9	3	2	110	3	2	1	3	29	1	6	5	4	2	359
8:30 AM - 8:45 AM	13	186	8	5	2	119	8	1	3	1	11	0	2	2	4	0	359
8:45 AM - 9:00 AM	6	181	1	3	2	111	3	2	4	2	13	0	1	2	3	0	329
11:00 AM - 11:15 AM	9	196	6	3	6	161	4	1	4	2	7	0	1	0	2	0	398
11:15 AM - 11:30 AM	13	214	11	4	4	152	6	1	9	1	6	0	3	2	8	0	429
11:30 AM - 11:45 AM	10	198	4	2	3	179	3	4	1	0	8	0	2	3	3	0	414
11:45 AM - 12:00 PM	10	219	0	4	4	178	6	8	3	1	8	2	4	0	4	0	437
12:00 PM - 12:15 PM	4	203	6	4	3	180	4	2	5	1	8	0	2	0	5	0	421
12:15 PM - 12:30 PM	7	181	4	2	3	282	5	5	4	3	15	0	4	1	5	0	514
12:30 PM - 12:45 PM	5	219	5	3	0	230	8	3	2	7	10	0	4	1	5	1	496
12:45 PM - 1:00 PM	9	214	8	3	10	271	9	2	6	3	13	1	1	3	5	0	552
2:00 PM - 2:15 PM	17	196	9	2	4	230	6	4	7	5	15	1	4	2	8	0	503
2:15 PM - 2:30 PM	7	161	3	2	5	229	7	1	2	0	11	0	3	4	4	0	436
2:30 PM - 2:45 PM	13	206	6	4	2	218	4	0	5	2	11	1	4	3	3	0	477
2:45 PM - 3:00 PM	20	233	4	2	4	203	11	5	7	3	4	0	0	1	2	0	492
3:00 PM - 3:15 PM	15	197	5	2	3	206	7	4	2	0	7	1	2	6	8	2	458
3:15 PM - 3:30 PM	16	201	6	3	5	205	9	1	3	3	14	1	7	1	9	1	479
3:30 PM - 3:45 PM	24	204	10	2	3	223	4	2	4	2	16	0	0	3	5	0	498
3:45 PM - 4:00 PM	10	230	3	1	4	202	7	3	4	2	10	0	1	3	9	0	485
4:00 PM - 4:15 PM	20	182	9	2	3	216	6	3	1	2	9	0	2	2	3	1	455
4:15 PM - 4:30 PM	11	238	7	2	1	241	8	2	10	1	9	1	2	4	6	0	538
4:30 PM - 4:45 PM	38	271	11	0	5	251	10	1	4	2	9	0	1	1	9	0	612
4:45 PM - 5:00 PM	21	207	11	2	5	258	7	3	0	1	9	0	0	0	7	0	526
5:00 PM - 5:15 PM	57	263	21	0	6	245	9	1	3	0	7	0	1	1	4	0	617
5:15 PM - 5:30 PM	21	258	14	1	1	281	6	4	2	1	2	0	0	1	4	0	591
5:30 PM - 5:45 PM	35	295	19	2	3	201	4	2	5	6	6	0	0	4	6	1	584
5:45 PM - 6:00 PM	19	216	8	2	7	217	1	1	3	2	4	0	1	0	3	0	481

7-9 AM Peak Hour: 7:30 AM - 8:30 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 4:30 PM - 5:30 PM

4-6 PM Peak Hour: 4:30 PM - 5:30 PM

Turning Movement Report
(Bicycles & Pedestrians)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
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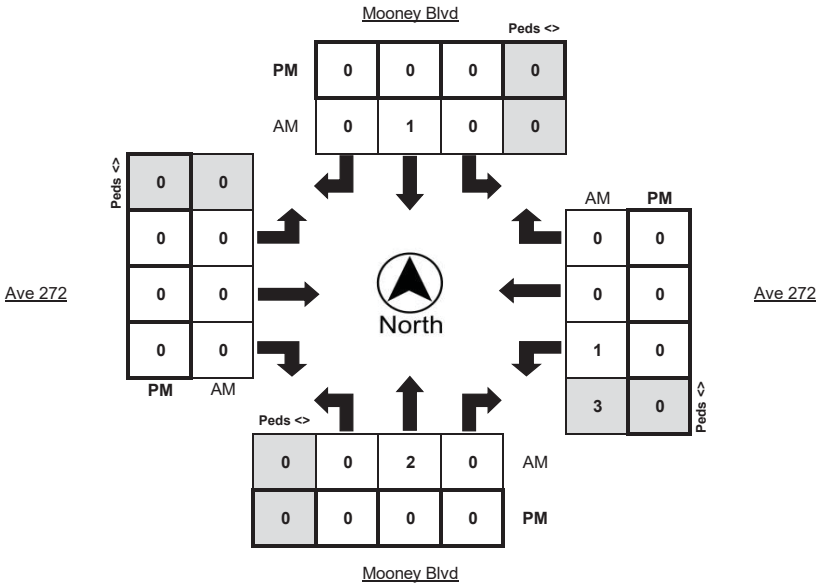
Prepared For:

Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 24 Avenue 272 / Mooney
LATITUDE 36.283889
COUNTY Tulare
LONGITUDE -119.313502
COLLECTION DATE Tuesday, May 7, 2019
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
11:15 AM - 11:30 AM	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	2
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	1
HOUR TOTAL	0	2	0	0	0	1	0	0	0	0	0	3	1	0	0	0	3	4
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
12:30 PM - 12:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:45 PM - 1:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
HOUR TOTAL	0	3	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	6
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
2:45 PM - 3:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
HOUR TOTAL	0	1	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	3
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0
3:15 PM - 3:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1
4:00 PM - 4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM - 4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
HOUR TOTAL	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
11:00 AM - 12:00 PM	0	2	0	0	0	1	0	0	0	0	0	3	1	0	0	0	3	4
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Turning Movement Report
(Vehicles)

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
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Prepared For:
Peters Engineering Group
952 Pollasky Avenue
Clovis, CA 93612

LOCATION 25 Mooney / 268 **LATITUDE** 36.276768

COUNTY Tulare **LONGITUDE** -119.313383

COLLECTION DATE Tuesday, May 14, 2019 **WEATHER** Clear

	Northbound					Southbound					Eastbound					Westbound					Interval
Time	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Total
7:00 AM - 7:15 AM	19	88	3	0	1	0	101	36	5	3	2	0	0	2	1	2	0	2	2	0	253
7:15 AM - 7:30 AM	31	123	1	0	1	2	105	35	3	3	3	0	1	0	1	1	0	6	2	2	308
7:30 AM - 7:45 AM	30	172	1	0	1	8	148	24	1	4	5	0	2	0	1	6	1	7	4	0	404
7:45 AM - 8:00 AM	21	179	4	0	3	12	205	21	2	2	4	0	4	2	1	8	1	8	7	0	467
8:00 AM - 8:15 AM	9	179	6	0	2	8	137	22	1	6	6	1	4	2	1	7	0	6	4	0	385
8:15 AM - 8:30 AM	13	163	2	0	2	13	125	8	1	3	7	0	0	2	1	1	0	4	2	0	336
8:30 AM - 8:45 AM	11	157	3	1	0	16	97	10	1	3	10	0	6	4	1	1	0	1	1	0	312
8:45 AM - 9:00 AM	13	158	5	0	5	10	99	7	0	2	12	0	5	4	1	0	0	9	8	0	318
11:00 AM - 11:15 AM	7	157	5	0	3	10	142	8	2	2	14	0	0	3	0	2	0	6	2	1	351
11:15 AM - 11:30 AM	13	147	1	0	1	5	179	11	1	7	17	0	6	2	0	2	0	1	1	0	382
11:30 AM - 11:45 AM	15	200	2	0	2	5	155	8	0	1	24	0	8	6	1	0	0	6	3	0	423
11:45 AM - 12:00 PM	13	201	1	0	1	10	188	6	0	5	27	0	0	0	1	2	0	1	0	0	449
12:00 PM - 12:15 PM	16	214	2	0	6	7	178	6	1	2	39	0	9	6	1	1	0	6	4	0	478
12:15 PM - 12:30 PM	16	183	3	0	3	13	213	17	3	2	25	0	10	3	1	0	0	5	2	0	485
12:30 PM - 12:45 PM	17	175	1	0	3	13	200	20	2	4	21	0	5	4	1	0	0	7	2	0	459
12:45 PM - 1:00 PM	19	195	2	0	4	7	197	17	1	5	19	0	5	2	0	1	0	11	5	0	473
2:00 PM - 2:15 PM	14	161	1	0	2	8	241	10	0	1	17	0	4	1	2	2	0	7	5	0	465
2:15 PM - 2:30 PM	12	152	3	0	1	6	192	7	0	4	7	0	6	3	0	1	0	4	3	0	390
2:30 PM - 2:45 PM	8	186	2	0	1	7	221	13	0	3	8	0	1	1	1	4	0	2	1	0	452
2:45 PM - 3:00 PM	9	201	2	0	2	10	181	6	0	3	8	0	2	1	0	3	0	6	5	0	428
3:00 PM - 3:15 PM	14	178	5	0	1	8	179	6	0	3	9	0	7	4	1	3	0	7	6	0	416
3:15 PM - 3:30 PM	16	186	3	0	1	9	190	12	0	2	11	0	5	4	1	4	0	3	2	0	439
3:30 PM - 3:45 PM	18	223	4	1	0	15	196	9	0	4	8	1	8	5	2	2	1	4	3	0	489
3:45 PM - 4:00 PM	13	242	9	1	0	11	187	12	0	5	10	0	5	1	1	1	1	5	3	0	496
4:00 PM - 4:15 PM	18	226	7	0	1	16	179	6	1	2	21	0	9	7	0	3	0	4	2	1	489
4:15 PM - 4:30 PM	16	216	3	1	3	9	212	4	1	1	18	0	2	0	1	4	0	7	6	0	491
4:30 PM - 4:45 PM	23	217	1	0	0	19	243	5	1	2	41	0	14	7	2	3	0	4	3	0	570
4:45 PM - 5:00 PM	15	196	1	0	0	13	235	3	0	2	23	0	12	4	2	1	1	4	3	0	504
5:00 PM - 5:15 PM	49	262	2	1	1	20	248	3	0	2	48	0	25	11	1	2	0	3	1	0	662
5:15 PM - 5:30 PM	16	240	6	0	1	12	247	3	0	2	20	0	6	5	2	4	0	6	3	0	560
5:30 PM - 5:45 PM	34	258	4	1	1	13	237	2	0	1	58	1	34	6	0	2	0	5	4	0	648
5:45 PM - 6:00 PM	10	219	2	0	0	6	189	3	0	1	14	0	13	2	3	2	0	7	4	0	465

7-9 AM Peak Hour: 7:30 AM - 8:30 AM

11-1 Mid-Day Peak Hour: 12:00 PM - 1:00 PM

2-6 PM Peak Hour: 4:45 PM - 5:45 PM

4-6 PM Peak Hour: 4:45 PM - 5:45 PM

Turning Movement Report
(Bicycles & Pedestrians)

Metro Traffic Data Inc.
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Hanford, CA 93230

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Prepared For:

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Clovis, CA 93612

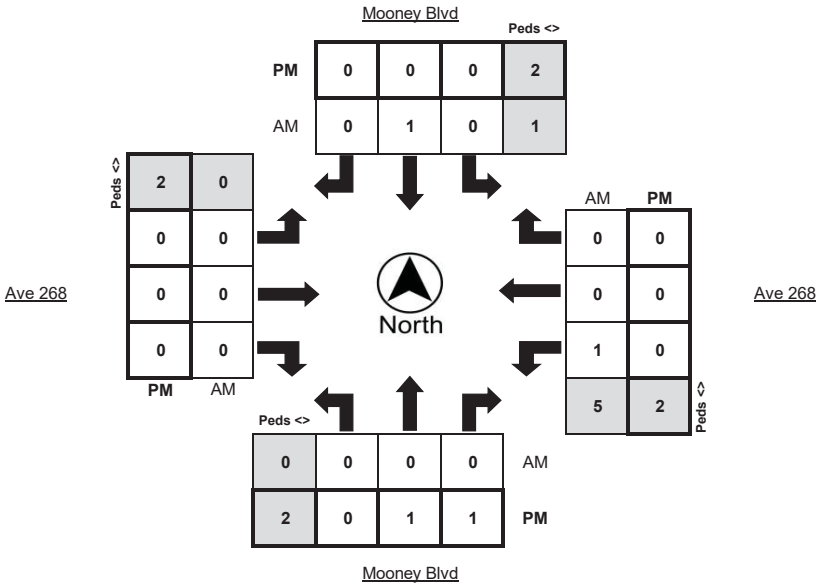
LOCATION 25 Mooney / 268 **LATITUDE** 36.276768

COUNTY Tulare **LONGITUDE** -119.313383

COLLECTION DATE Tuesday, May 14, 2019 **WEATHER** Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM - 7:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	1
7:45 AM - 8:00 AM	0	0	1	2	0	0	0	0	0	0	0	0	1	0	0	0	2	2
HOUR TOTAL	0	0	1	3	0	1	0	1	0	0	0	0	1	0	0	0	4	3
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	1
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	0	0	1	0	1	0	0	0	2	0	0	0	0	3	1
11:00 AM - 11:15 AM	0	0	0	0	0	1	0	0	0	0	0	5	0	0	0	0	5	1
11:15 AM - 11:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	0	0	1	0	1	0	0	0	0	0	5	1	0	0	0	6	2
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0
12:15 PM - 12:30 PM	0	0	1	0	0	0	0	1	0	0	0	2	0	0	0	1	4	1
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0
12:45 PM - 1:00 PM	0	0	0	2	1	0	0	0	0	0	0	2	0	0	0	0	4	1
HOUR TOTAL	0	0	1	2	1	0	0	1	0	0	0	8	0	0	0	1	12	2
2:00 PM - 2:15 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0
2:15 PM - 2:30 PM	0	1	0	0	0	0	0	0	1	0	0	6	0	0	0	0	6	2
2:30 PM - 2:45 PM	0	2	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	2
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	1	0	0	0	2	1	0	0	1	4	1
HOUR TOTAL	0	3	0	1	0	0	0	2	1	0	0	12	1	0	0	1	16	5
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	1	0	0	0	5	0	0	0	2	0	0	0	4	12	0
3:30 PM - 3:45 PM	0	0	0	0	2	0	1	0	0	0	0	2	0	0	0	2	4	3
3:45 PM - 4:00 PM	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0	0	4	0
HOUR TOTAL	0	0	0	2	2	0	1	6	0	0	0	6	0	0	0	6	20	3
4:00 PM - 4:15 PM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	1	2
4:15 PM - 4:30 PM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	2	6	0
HOUR TOTAL	0	0	1	6	0	0	0	2	0	0	0	1	0	0	1	2	11	2
5:00 PM - 5:15 PM	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOUR TOTAL	0	1	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg	Total	Total
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Peds	Bikes
11:00 AM - 12:00 PM	0	0	0	1	0	1	0	0	0	0	0	5	1	0	0	0	6	2
4:45 PM - 5:45 PM	0	1	1	2	0	0	0	2	0	0	0	2	0	0	0	2	8	2



National Data & Surveying Services

Intersection Turning Movement Count

Location: S West St & W Caldwell Ave
City: Visalia
Control: Signalized

Project ID: 20-090139-001
Date: 8/25/2020

Total

NS/EW Streets:	S West St				S West St				W Caldwell Ave				W Caldwell Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0	1	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	8	10	1	0	4	6	8	0	2	46	2	1	4	53	4	1	150
7:15 AM	6	8	3	0	1	16	8	0	7	58	6	0	9	89	2	0	213
7:30 AM	6	15	5	0	13	18	10	0	6	68	4	2	7	101	3	1	259
7:45 AM	6	18	2	0	3	14	8	0	12	88	3	0	6	111	6	0	277
8:00 AM	6	8	7	0	7	9	6	0	6	68	7	0	5	88	8	1	226
8:15 AM	7	8	2	0	3	10	6	0	4	71	1	0	5	99	8	2	226
8:30 AM	2	15	4	0	2	5	15	0	3	63	3	0	2	112	5	0	231
8:45 AM	6	13	5	0	2	12	10	0	8	63	6	2	2	99	4	2	234
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	47	95	29	0	35	90	71	0	48	525	32	5	40	752	40	7	1816
APPROACH %'s :	27.49%	55.56%	16.96%	0.00%	17.86%	45.92%	36.22%	0.00%	7.87%	86.07%	5.25%	0.82%	4.77%	89.63%	4.77%	0.83%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	25	49	16	0	26	51	30	0	28	295	15	2	23	399	25	4	988
PEAK HR FACTOR :	0.893	0.681	0.571	0.000	0.500	0.708	0.750	0.000	0.583	0.838	0.536	0.250	0.821	0.899	0.781	0.500	0.892
	0.865				0.652				0.825				0.917				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0	1	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	12	21	6	0	4	19	8	0	11	122	17	4	6	117	8	5	360
2:15 PM	6	25	3	0	7	11	10	0	7	129	14	1	11	141	8	3	376
2:30 PM	15	16	5	0	3	16	10	0	19	126	14	4	8	131	6	3	376
2:45 PM	9	18	3	0	5	16	14	0	11	134	11	4	19	144	9	3	400
3:00 PM	4	26	5	0	6	16	11	0	15	145	11	2	12	118	8	3	382
3:15 PM	7	22	5	0	9	16	14	0	15	123	8	2	10	129	8	4	372
3:30 PM	15	20	4	0	5	25	19	0	9	132	12	4	15	141	8	4	413
3:45 PM	7	17	6	0	9	13	9	0	15	112	12	3	14	140	10	3	370
4:00 PM	12	17	3	0	5	12	19	0	13	135	9	3	13	130	5	2	378
4:15 PM	12	24	8	0	4	13	12	0	13	134	8	2	15	150	6	4	405
4:30 PM	8	23	3	0	5	10	14	0	15	161	9	7	9	153	16	1	434
4:45 PM	3	30	6	0	6	19	20	0	25	148	12	4	16	132	9	3	433
5:00 PM	6	31	7	0	8	25	16	0	25	177	15	6	20	142	16	2	496
5:15 PM	15	27	5	0	6	19	23	0	22	135	10	3	22	157	5	6	455
5:30 PM	11	26	7	0	3	17	12	0	21	140	12	3	12	131	11	4	410
5:45 PM	6	29	3	0	3	13	14	0	21	126	13	3	12	129	5	5	382
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	148	372	79	0	88	260	225	0	257	2179	187	55	214	2185	138	55	6442
APPROACH %'s :	24.71%	62.10%	13.19%	0.00%	15.36%	45.38%	39.27%	0.00%	9.60%	81.37%	6.98%	2.05%	8.26%	84.30%	5.32%	2.12%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	32	111	21	0	25	73	73	0	87	621	46	20	67	584	46	12	1818
PEAK HR FACTOR :	0.533	0.895	0.750	0.000	0.781	0.730	0.793	0.000	0.870	0.877	0.767	0.714	0.761	0.930	0.719	0.500	0.916
	0.872				0.872				0.868				0.933				

Prepared by National Data & Surveying Services

S West St & W Caldwell Ave

Peak Hour Turning Movement Count

ID: 20-090139-001
City: Visalia

Day: Tuesday
Date: 08/25/2020

PEAK HOURS	
AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	02:00 PM - 06:00 PM

S West St — SOUTHBOUND

AM	30	51	26	0	102	AM
NOON	0	0	0	0	0	NOON
PM	73	73	25	0	244	PM

W Caldwell Ave — EASTBOUND

AM	NOON	PM		
456	0	709	⇦	
2	0	20	↶	0
28	0	87	↱	1
295	0	621	→	2
15	0	46	↴	1
AM	NOON	PM		

W Caldwell Ave — WESTBOUND

PM	NOON	AM		
46	0	25	↰	1
584	0	399	←	2
67	0	23	↰	1
12	0	4	↶	0
679	0	341	⇨	
PM	NOON	AM		

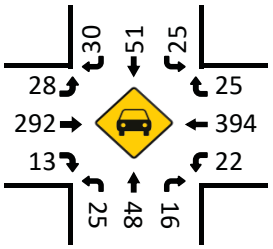
	0	1	0	0
	0	0	1	1

CONTROL			
Signalized			
TEV	988	0	1818
	AM	NOON	PM
PHF	0.89		0.92

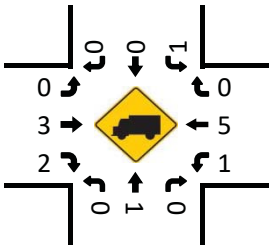
S West St — NORTHBOUND

PM	186	0	32	111	21	PM
NOON	0	0	0	0	0	NOON
AM	89	0	25	49	16	AM

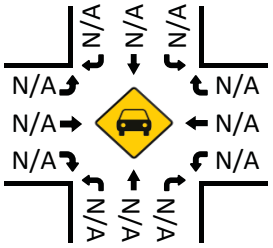
Cars (AM)



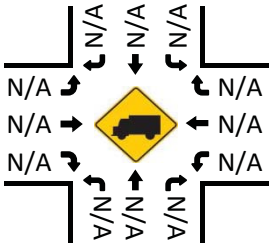
HT (AM)



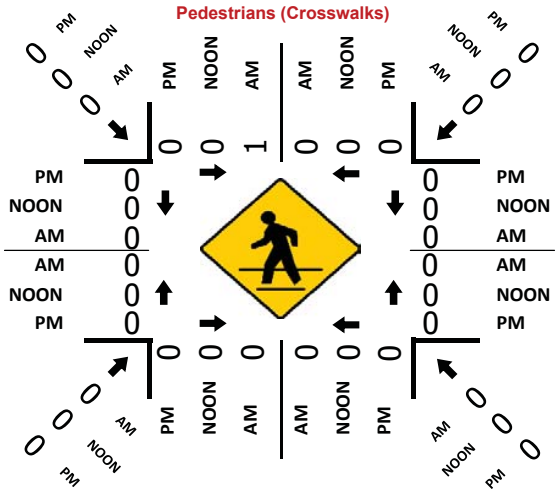
Cars (NOON)



HT (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
1
0
0
0

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Giddings St & W Whitendale Ave
City: Visalia
Control: Signalized

Project ID: 20-90136-001
Date: 8/5/2020

Total

NS/EW Streets:	S Giddings St				S Giddings St				W Whitendale Ave				W Whitendale Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	1	0	1	1	0	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	3	0	0	5	3	8	0	11	10	1	0	0	22	10	0	74
7:15 AM	2	3	0	0	4	3	14	0	5	16	1	0	0	19	13	0	80
7:30 AM	3	3	1	0	11	2	18	0	11	18	0	0	1	24	18	0	110
7:45 AM	1	4	1	0	11	3	19	0	22	18	3	0	1	44	20	0	147
8:00 AM	5	2	1	0	12	3	15	0	9	17	2	0	0	28	13	0	107
8:15 AM	4	4	0	0	7	1	19	0	10	23	2	0	0	28	12	0	110
8:30 AM	2	4	1	0	13	0	22	0	12	23	1	0	4	41	12	0	135
8:45 AM	5	3	1	0	11	3	16	0	11	23	1	0	2	32	17	0	125
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	23	26	5	0	74	18	131	0	91	148	11	0	8	238	115	0	888
APPROACH %'s :	42.59%	48.15%	9.26%	0.00%	33.18%	8.07%	58.74%	0.00%	36.40%	59.20%	4.40%	0.00%	2.22%	65.93%	31.86%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	12	14	3	0	43	7	75	0	53	81	8	0	5	141	57	0	499
PEAK HR FACTOR :	0.600	0.875	0.750	0.000	0.827	0.583	0.852	0.000	0.602	0.880	0.667	0.000	0.313	0.801	0.713	0.000	0.849
	0.906				0.893				0.826				0.781				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	1	0	1	1	0	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	1	1	2	0	11	1	37	0	38	42	2	0	0	42	12	0	189
2:15 PM	1	1	1	0	16	3	32	0	18	34	6	0	0	30	14	0	156
2:30 PM	2	0	0	0	20	0	36	0	33	46	1	0	0	28	19	0	185
2:45 PM	0	3	0	0	15	4	42	0	25	50	0	0	0	43	20	0	202
3:00 PM	0	3	0	0	20	0	29	0	24	47	5	0	0	35	14	0	177
3:15 PM	1	3	1	0	14	3	41	0	31	47	1	0	0	35	8	0	185
3:30 PM	2	1	0	0	19	4	40	0	21	44	1	0	0	38	20	0	190
3:45 PM	2	4	1	0	20	3	45	0	32	57	2	0	0	39	23	0	228
4:00 PM	2	4	0	0	24	6	37	0	22	31	4	0	0	38	21	0	189
4:15 PM	3	1	1	0	30	4	40	0	26	48	1	0	0	42	22	0	218
4:30 PM	0	2	0	0	24	1	36	0	30	48	3	0	1	35	19	0	199
4:45 PM	2	2	0	0	22	3	32	0	24	52	2	0	0	35	11	0	185
5:00 PM	1	1	1	0	17	1	49	0	29	64	4	0	2	27	15	0	211
5:15 PM	1	2	1	0	24	6	37	0	36	45	6	0	0	45	20	0	223
5:30 PM	1	5	0	0	21	4	35	0	26	56	2	0	0	29	17	0	196
5:45 PM	1	0	0	0	30	4	34	0	23	35	0	0	1	31	18	0	177
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	20	33	8	0	327	47	602	0	438	746	40	0	4	572	273	0	3110
APPROACH %'s :	32.79%	54.10%	13.11%	0.00%	33.50%	4.82%	61.68%	0.00%	35.78%	60.95%	3.27%	0.00%	0.47%	67.37%	32.16%	0.00%	
PEAK HR :	03:45 PM - 04:45 PM																TOTAL
PEAK HR VOL :	7	11	2	0	98	14	158	0	110	184	10	0	1	154	85	0	834
PEAK HR FACTOR :	0.583	0.688	0.500	0.000	0.817	0.583	0.878	0.000	0.859	0.807	0.625	0.000	0.250	0.917	0.924	0.000	0.914
	0.714				0.912				0.835				0.938				

Prepared by National Data & Surveying Services

S Giddings St & W Whitendale Ave

Peak Hour Turning Movement Count

ID: 20-90136-001
City: Visalia

Day: Wednesday
Date: 08/05/2020

PEAK HOURS	
AM	07:45 AM - 08:45 AM
NOON	NONE
PM	03:45 PM - 04:45 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	02:00 PM - 06:00 PM

S Giddings St — SOUTHBOUND

AM	75	7	43	0	124	AM
NOON	0	0	0	0	0	NOON
PM	158	14	98	0	206	PM

W Whitendale Ave — EASTBOUND

AM	NOON	PM		
228	0	319	⇦	
0	0	0	↶	0
53	0	110	↱	1
81	0	184	→	1
8	0	10	↳	0
AM	NOON	PM		

W Whitendale Ave — WESTBOUND

PM	NOON	AM		
85	0	57	↰	1
154	0	141	←	1
1	0	5	↰	1
0	0	0	↶	0
284	0	127	⇨	
PM	NOON	AM		

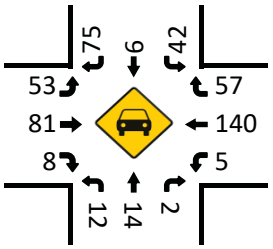
S Giddings St — NORTHBOUND

PM	25	0	7	11	2	PM
NOON	0	0	0	0	0	NOON
AM	20	0	12	14	3	AM

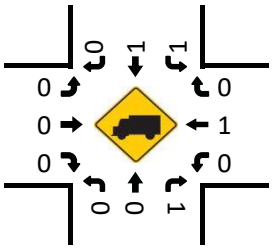
↶	↰	↑	↱	
0	0	1	0	

CONTROL			
Signalized			
TEV	499 AM	0 NOON	834 PM
PHF	0.85		0.91

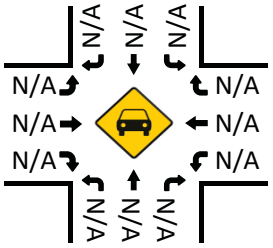
Cars (AM)



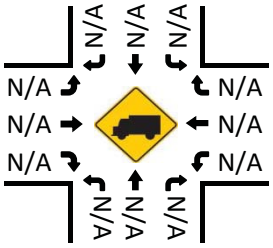
HT (AM)



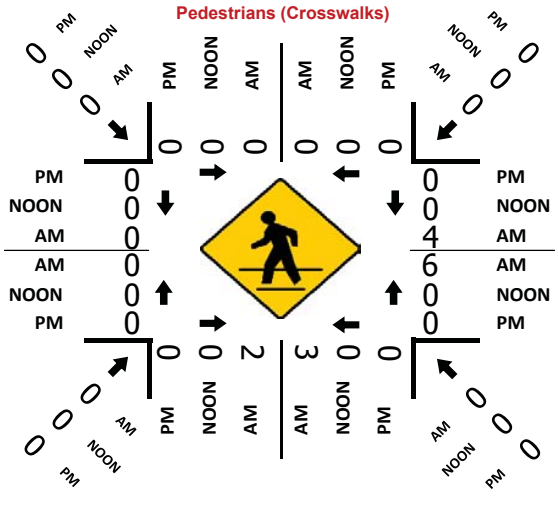
Cars (NOON)



HT (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Court St & W Cameron Ave
City: Visalia
Control: 4-Way Stop

Project ID: 20-90136-003
Date: 8/5/2020

Total

NS/EW Streets:	S Court St				S Court St				W Cameron Ave				W Cameron Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	1.5	1.5	0	1.5	1.5	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	1	0	0	3	0	30	2	19	1	0	0	0	4	3	0	64
7:15 AM	1	1	0	0	1	0	30	1	43	0	0	0	0	2	6	0	85
7:30 AM	0	0	0	0	4	0	46	5	48	0	0	0	0	5	9	0	117
7:45 AM	1	1	0	0	1	0	52	6	70	1	0	0	0	6	8	0	146
8:00 AM	0	1	0	0	0	0	44	1	45	1	0	0	0	2	8	0	102
8:15 AM	0	0	0	0	4	1	60	1	43	2	0	0	0	2	2	0	115
8:30 AM	0	0	0	0	2	1	53	0	49	2	0	0	0	4	3	0	114
8:45 AM	1	0	0	0	3	1	59	3	61	2	0	0	0	5	8	0	143
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	4	0	0	18	3	374	19	378	9	0	0	0	30	47	0	886
APPROACH %'s :	50.00%	50.00%	0.00%	0.00%	4.35%	0.72%	90.34%	4.59%	97.67%	2.33%	0.00%	0.00%	0.00%	38.96%	61.04%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	1	2	0	0	9	1	202	13	206	4	0	0	0	15	27	0	480
PEAK HR FACTOR :	0.250	0.500	0.000	0.000	0.563	0.250	0.842	0.542	0.736	0.500	0.000	0.000	0.000	0.625	0.750	0.000	0.822
	0.375				0.852				0.739				0.750				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	1.5	1.5	0	1.5	1.5	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	2	0	0	0	7	0	106	3	116	4	0	0	0	4	2	0	244
2:15 PM	1	1	0	0	3	0	90	2	136	2	0	0	0	1	3	0	239
2:30 PM	0	0	1	0	7	0	108	1	132	2	1	0	0	3	4	0	259
2:45 PM	1	0	0	0	7	0	76	2	144	2	0	0	0	7	5	0	244
3:00 PM	0	0	0	0	4	0	78	4	131	7	1	0	0	6	2	0	233
3:15 PM	0	0	0	0	10	1	87	1	138	5	0	0	0	2	5	0	249
3:30 PM	0	0	0	0	7	1	100	2	120	7	1	0	0	3	2	0	243
3:45 PM	0	1	0	0	7	1	85	2	126	6	0	0	0	4	5	0	237
4:00 PM	1	1	0	0	6	1	105	1	132	5	0	0	0	4	4	0	260
4:15 PM	0	1	0	0	6	1	101	1	116	7	2	0	0	2	5	0	242
4:30 PM	0	0	0	0	7	1	105	2	126	5	0	0	0	6	4	0	256
4:45 PM	0	0	0	0	8	0	99	1	127	5	1	0	0	3	6	0	250
5:00 PM	0	1	0	0	4	0	101	0	152	3	0	0	0	9	5	0	275
5:15 PM	1	1	0	0	7	1	121	2	169	4	1	0	0	6	4	0	317
5:30 PM	1	1	0	0	11	1	93	2	123	9	2	0	1	1	8	0	253
5:45 PM	0	2	0	0	9	2	97	1	154	8	0	0	0	4	4	0	281
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	7	9	1	0	110	10	1552	27	2142	81	9	0	1	65	68	0	4082
APPROACH %'s :	41.18%	52.94%	5.88%	0.00%	6.47%	0.59%	91.35%	1.59%	95.97%	3.63%	0.40%	0.00%	0.75%	48.51%	50.75%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	2	5	0	0	31	4	412	5	598	24	3	0	1	20	21	0	1126
PEAK HR FACTOR :	0.500	0.625	0.000	0.000	0.705	0.500	0.851	0.625	0.885	0.667	0.375	0.000	0.250	0.556	0.656	0.000	0.888
	0.875				0.863				0.898				0.750				

Prepared by National Data & Surveying Services

S Court St & W Cameron Ave

Peak Hour Turning Movement Count

ID: 20-90136-003
City: Visalia

Day: Wednesday
Date: 08/05/2020

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 02:00 PM - 06:00 PM

SOUTHBOUND (S Court St)

AM	202	1	9	13	248	AM
NOON	0	0	0	0	0	NOON
PM	412	4	31	5	629	PM
	1.5	1.5	1	0		

EASTBOUND (W Cameron Ave)

AM	NOON	PM	
218	0	434	
0	0	0	0
206	0	598	1.5
4	0	24	1.5
0	0	3	0

WESTBOUND (W Cameron Ave)

PM	NOON	AM	
21	0	27	0
20	0	15	1
1	0	0	0
0	0	0	0
55	0	13	

NORTHBOUND (S Court St)

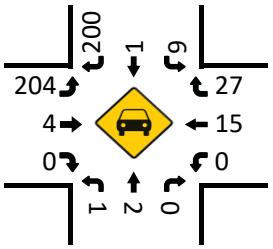
PM	8	0	2	5	0	PM
NOON	0	0	0	0	0	NOON
AM	1	0	1	2	0	AM
		0	1	2	0	

CONTROL

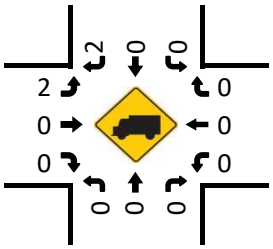
4-Way Stop

TEV	480 AM	0 NOON	1126 PM
PHF	0.82		0.89

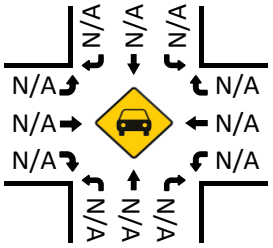
Cars (AM)



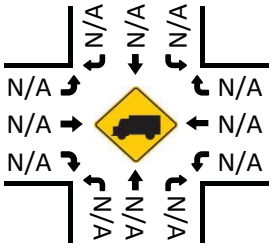
HT (AM)



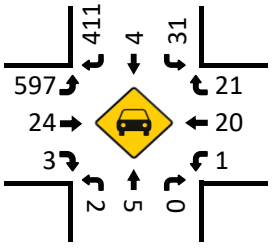
Cars (NOON)



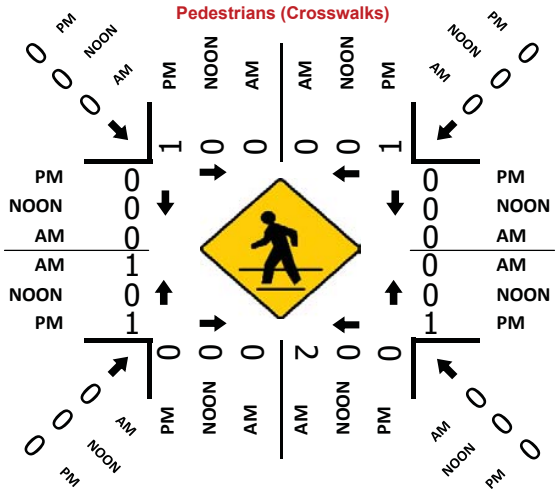
HT (NOON)



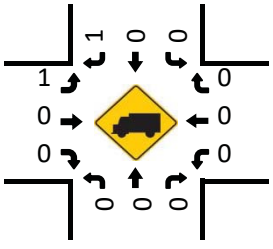
Cars (PM)



Pedestrians (Crosswalks)



HT (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Rd 122 & Ave 271
City: Visalia
Control: No Control

Project ID: 20-90136-004
Date: 8/5/2020

Total

NS/EW Streets:	Rd 122				Rd 122				Ave 271				Ave 271				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	0	8
7:15 AM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	6	0	9
7:30 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	8	0	10
7:45 AM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	11	0	14
8:00 AM	0	0	0	0	4	0	0	0	0	0	0	0	0	0	7	0	11
8:15 AM	0	0	0	0	5	0	0	0	0	0	0	0	0	0	5	0	10
8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	7	0	8
8:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	6	0	8
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	24	0	0	0	0	0	0	0	0	0	54	0	78
APPROACH %'s :					100.00%	0.00%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	**07:30 AM - 08:30 AM**																TOTAL
PEAK HR VOL :	0	0	0	0	14	0	0	0	0	0	0	0	0	0	31	0	45
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.700	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.705	0.000	0.804
					0.700								0.705				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	6	0	0	0	0	0	0	0	0	0	9	1	16
2:15 PM	0	0	0	0	7	0	0	0	0	0	0	0	0	0	9	0	16
2:30 PM	0	0	0	0	13	0	0	0	0	0	0	0	0	0	7	0	20
2:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0	5
3:00 PM	0	0	0	0	16	0	0	0	0	0	0	0	0	0	5	0	21
3:15 PM	0	0	0	0	8	0	0	0	0	0	0	0	0	0	15	0	23
3:30 PM	0	0	0	0	9	0	0	0	0	0	0	0	0	0	8	0	17
3:45 PM	0	0	0	0	9	0	0	0	0	0	0	0	0	0	8	0	17
4:00 PM	0	0	0	0	12	1	0	0	0	0	0	0	0	0	9	0	22
4:15 PM	0	0	0	0	11	0	0	0	0	0	0	0	0	0	10	0	21
4:30 PM	0	0	0	0	14	0	0	0	0	0	0	0	0	0	9	0	23
4:45 PM	0	0	0	0	8	0	0	0	0	0	0	0	0	0	9	0	17
5:00 PM	0	0	0	0	20	0	0	0	0	0	0	0	0	0	7	0	27
5:15 PM	0	0	0	0	10	0	0	0	0	0	0	0	0	0	11	0	21
5:30 PM	0	0	0	0	14	0	0	0	0	0	0	0	0	0	4	0	18
5:45 PM	0	0	0	0	11	0	0	0	0	0	0	0	0	0	5	0	16
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	170	1	0	0	0	0	0	0	0	0	128	1	300
APPROACH %'s :					99.42%	0.58%	0.00%	0.00%					0.00%	0.00%	99.22%	0.78%	
PEAK HR :	**04:15 PM - 05:15 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	53	0	0	0	0	0	0	0	0	0	35	0	88
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.663	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.875	0.000	0.815
					0.663								0.875				

Prepared by National Data & Surveying Services

Rd 122 & Ave 271

Peak Hour Turning Movement Count

ID: 20-90136-004
City: Visalia

Day: Wednesday
Date: 08/05/2020

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	02:00 PM - 06:00 PM

Rd 122 — SOUTHBOUND

AM	0	0	14	0	31	AM
NOON	0	0	0	0	0	NOON
PM	0	0	53	0	35	PM

EASTBOUND — Ave 271

AM	NOON	PM	
0	0	0	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
AM	NOON	PM	

WESTBOUND — Ave 271

PM	NOON	AM	
35	0	31	0
0	0	0	1
0	0	0	0
0	0	0	0
53	0	14	
PM	NOON	AM	

CONTROL

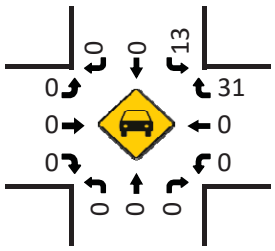
No Control

TEV	45 AM	0 NOON	88 PM
PHF	0.80		0.81

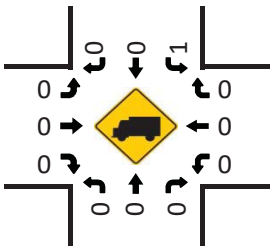
Rd 122 — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

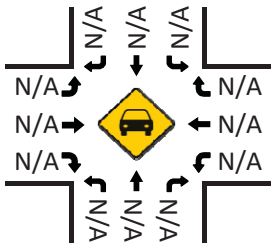
Cars (AM)



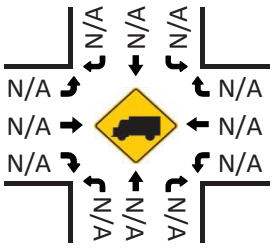
HT (AM)



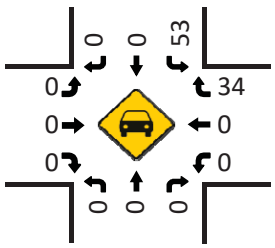
Cars (NOON)



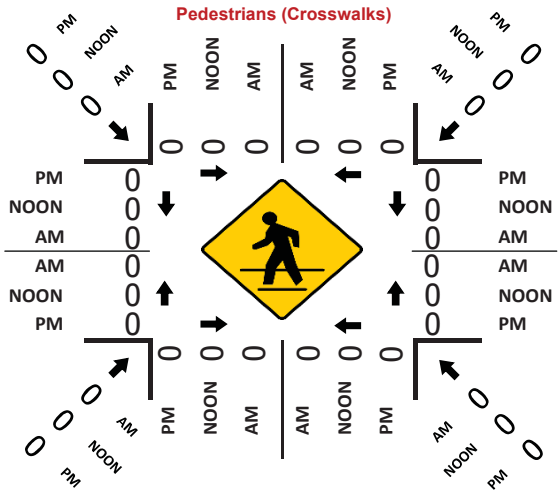
HT (NOON)



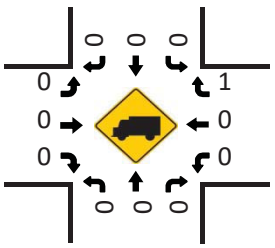
Cars (PM)



Pedestrians (Crosswalks)



HT (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Tuesday Morning Dwy & Visalia Pkwy
City: Visalia
Control: 1-Way Stop(SB)

Project ID: 20-90136-006
Date: 8/5/2020

Total

NS/EW Streets:	Tuesday Morning Dwy				Tuesday Morning Dwy				Visalia Pkwy				Visalia Pkwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	1	0	3	0	0	20	0	0	0	23	0	0	47
7:15 AM	0	0	0	0	0	0	1	0	0	22	0	0	0	35	0	0	58
7:30 AM	0	0	0	0	0	0	2	0	2	25	0	0	0	44	3	0	76
7:45 AM	0	0	0	0	1	0	0	0	2	30	0	0	0	51	1	0	85
8:00 AM	0	0	0	0	1	0	2	0	1	30	0	0	0	29	1	0	64
8:15 AM	0	0	0	0	0	0	6	0	3	24	0	0	0	21	2	0	56
8:30 AM	0	0	0	0	0	0	1	0	3	38	0	0	0	31	2	0	75
8:45 AM	0	0	0	0	1	0	1	0	0	83	0	0	0	26	0	0	111
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	4	0	16	0	11	272	0	0	0	260	9	0	572
APPROACH %'s :					20.00%	0.00%	80.00%	0.00%	3.89%	96.11%	0.00%	0.00%	0.00%	96.65%	3.35%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	2	0	10	0	7	175	0	0	0	107	5	0	306
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.500	0.000	0.417	0.000	0.583	0.527	0.000	0.000	0.000	0.863	0.625	0.000	0.689
					0.500				0.548				0.848				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	2	0	4	0	3	84	0	0	0	82	4	0	179
2:15 PM	0	0	0	0	2	0	3	0	3	116	0	0	0	99	4	0	227
2:30 PM	0	0	0	0	5	0	4	0	3	85	0	0	0	127	8	0	232
2:45 PM	0	0	0	0	2	0	7	0	15	94	0	0	0	110	5	0	233
3:00 PM	0	0	0	0	3	0	4	0	4	106	0	0	0	94	7	0	218
3:15 PM	0	0	0	0	8	0	13	0	8	91	0	0	0	107	6	0	233
3:30 PM	0	0	0	0	2	0	8	0	6	83	0	0	0	91	10	0	200
3:45 PM	0	0	0	0	4	0	9	0	9	102	0	0	0	113	5	0	242
4:00 PM	0	0	0	0	1	0	7	0	12	108	0	0	0	95	6	0	229
4:15 PM	0	0	0	0	3	0	7	0	5	97	0	0	0	103	5	0	220
4:30 PM	0	0	0	0	5	0	6	0	8	105	0	0	0	106	5	0	235
4:45 PM	0	0	0	0	6	0	6	0	5	102	0	0	0	95	2	0	216
5:00 PM	0	0	0	0	5	0	5	0	6	118	0	0	0	106	9	0	249
5:15 PM	0	0	0	0	7	0	11	0	7	122	0	0	0	97	4	0	248
5:30 PM	0	0	0	0	3	0	3	0	1	110	0	0	0	119	8	0	244
5:45 PM	0	0	0	0	5	0	5	0	7	96	0	0	0	88	6	0	207
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	63	0	102	0	102	1619	0	0	0	1632	94	0	3612
APPROACH %'s :					38.18%	0.00%	61.82%	0.00%	5.93%	94.07%	0.00%	0.00%	0.00%	94.55%	5.45%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	21	0	25	0	19	452	0	0	0	417	23	0	957
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.750	0.000	0.568	0.000	0.679	0.926	0.000	0.000	0.000	0.876	0.639	0.000	0.961
					0.639				0.913				0.866				

Prepared by National Data & Surveying Services

Tuesday Morning Dwy & Visalia Pkwy

Peak Hour Turning Movement Count

ID: 20-90136-006
City: Visalia

Day: Wednesday
Date: 08/05/2020

PEAK HOURS

AM	08:00 AM - 09:00 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	02:00 PM - 06:00 PM

Tuesday Morning Dwy — SOUTHBOUND

AM	10	0	2	0	12	AM
NOON	0	0	0	0	0	NOON
PM	25	0	21	0	42	PM

Visalia Pkwy — EASTBOUND

AM	NOON	PM	
117	0	442	⇦
0	0	0	↶ 0
7	0	19	↱ 0
175	0	452	→ 1
0	0	0	↷ 0
AM	NOON	PM	

CONTROL

1-Way Stop(SB)

TEV	306 AM	0 NOON	957 PM
PHF	0.69		0.96

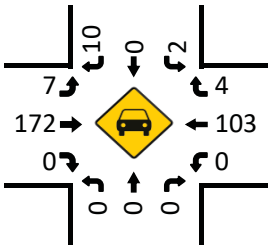
Visalia Pkwy — WESTBOUND

PM	NOON	AM	
23	0	5	0 ↶
417	0	107	1 ←
0	0	0	0 ↰
0	0	0	0 ↶
473	0	177	⇨
PM	NOON	AM	

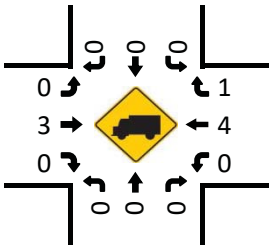
Tuesday Morning Dwy — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

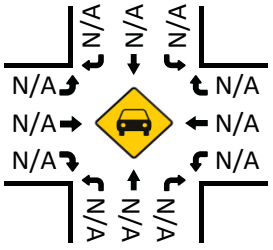
Cars (AM)



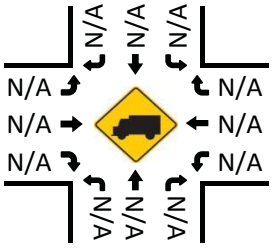
HT (AM)



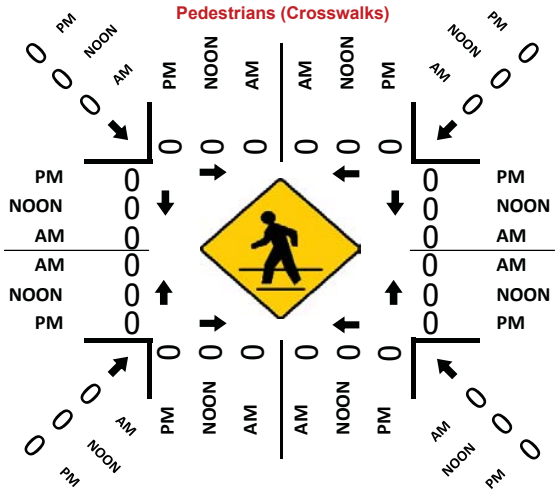
Cars (NOON)



HT (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
0
0
0

National Data & Surveying Services

Intersection Turning Movement Count

Location: Costco Dwy & Visalia Pkwy
City: Visalia
Control: 1-Way Stop(SB)

Project ID: 20-90136-008
Date: 8/5/2020

Total

NS/EW Streets:	Costco Dwy				Costco Dwy				Visalia Pkwy				Visalia Pkwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	4	0	7	10	0	0	0	19	0	0	40
7:15 AM	0	0	0	0	0	0	9	0	5	15	0	0	0	27	1	0	57
7:30 AM	0	0	0	0	0	0	9	0	10	16	0	0	0	36	0	0	71
7:45 AM	0	0	0	0	0	0	10	0	11	18	0	0	0	39	0	0	78
8:00 AM	0	0	0	0	0	0	7	0	6	23	0	0	0	25	0	0	61
8:15 AM	0	0	0	0	0	0	7	0	12	14	0	0	0	17	0	0	50
8:30 AM	0	0	0	0	0	0	13	0	15	26	0	0	0	19	1	0	74
8:45 AM	0	0	0	0	0	0	12	0	47	26	0	0	0	12	1	0	98
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	71	0	113	148	0	0	0	194	3	0	529
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	43.30%	56.70%	0.00%	0.00%	0.00%	98.48%	1.52%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	39	0	80	89	0	0	0	73	2	0	283
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.426	0.856	0.000	0.000	0.000	0.730	0.500	0.000	0.722
					0.750				0.579				0.750				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	2	0	51	0	51	28	0	0	0	30	1	0	163
2:15 PM	0	0	0	0	0	0	71	0	61	49	0	0	0	29	0	0	210
2:30 PM	0	0	0	0	2	0	87	0	45	40	0	0	0	42	2	0	218
2:45 PM	0	0	0	0	5	0	83	0	50	32	0	0	0	22	1	0	193
3:00 PM	0	0	0	0	2	0	69	0	53	47	0	0	0	24	0	0	195
3:15 PM	0	0	0	0	2	0	68	0	52	47	0	0	0	40	1	0	210
3:30 PM	0	0	0	0	3	0	50	0	41	45	0	0	0	44	2	0	185
3:45 PM	0	0	0	0	1	0	77	0	48	50	0	0	0	33	0	0	209
4:00 PM	0	0	0	0	1	0	57	0	56	41	0	0	0	34	2	0	191
4:15 PM	0	0	0	0	0	0	72	0	55	47	0	0	0	28	1	0	203
4:30 PM	0	0	0	0	4	0	67	0	50	47	0	0	0	40	0	0	208
4:45 PM	0	0	0	0	2	0	60	0	61	46	0	0	0	28	0	0	197
5:00 PM	0	0	0	0	0	0	64	0	62	53	0	0	0	42	0	0	221
5:15 PM	0	0	0	0	0	0	63	0	68	46	0	0	0	33	2	0	212
5:30 PM	0	0	0	0	2	0	78	0	55	60	0	0	0	37	1	0	233
5:45 PM	0	0	0	0	2	0	57	0	46	49	0	0	0	33	3	0	190
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	28	0	1074	0	854	727	0	0	0	539	16	0	3238
APPROACH %'s :					2.54%	0.00%	97.46%	0.00%	54.02%	45.98%	0.00%	0.00%	0.00%	97.12%	2.88%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	4	0	265	0	246	205	0	0	0	140	3	0	863
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.500	0.000	0.849	0.000	0.904	0.854	0.000	0.000	0.000	0.833	0.375	0.000	0.926
					0.841				0.980				0.851				

Prepared by National Data & Surveying Services

Costco Dwy & Visalia Pkwy

Peak Hour Turning Movement Count

ID: 20-90136-008
City: Visalia

Day: Wednesday
Date: 08/05/2020

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NONE	NONE
04:45 PM - 05:45 PM	02:00 PM - 06:00 PM

SOUTHBOUND (Costco Dwy)

AM	39	0	0	0	82	AM
NOON	0	0	0	0	0	NOON
PM	265	0	4	0	249	PM

EASTBOUND (Visalia Pkwy)

AM	NOON	PM	
112	0	405	⇦
0	0	0	0 ↶
80	0	246	0 ↱
89	0	205	1 →
0	0	0	0 ↷
AM	NOON	PM	

WESTBOUND (Visalia Pkwy)

PM	NOON	AM	
3	0	2	0 ↶
140	0	73	1 ←
0	0	0	0 ↰
0	0	0	0 ↷
209	0	89	⇨
PM	NOON	AM	

NORTHBOUND (Costco Dwy)

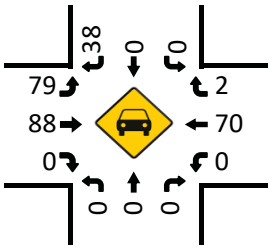
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

CONTROL

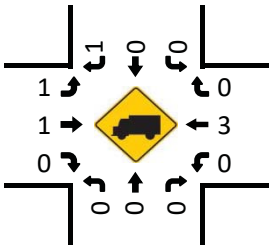
1-Way Stop(SB)

TEV	283	0	863
	AM	NOON	PM
PHF	0.72		0.93

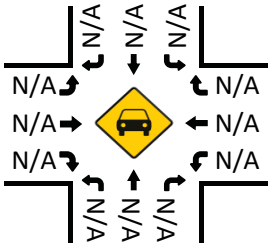
Cars (AM)



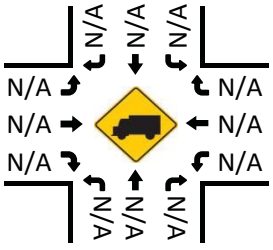
HT (AM)



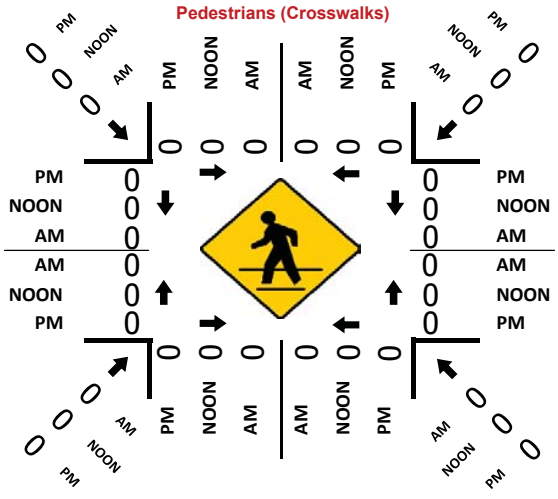
Cars (NOON)



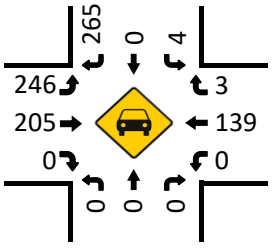
HT (NOON)



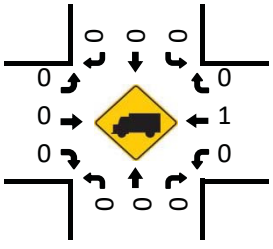
Pedestrians (Crosswalks)



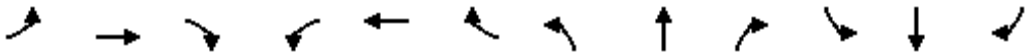
Cars (PM)



HT (PM)



Appendix C – Existing Conditions Intersection Level of Service and Queuing Analysis Work Sheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	104	216	121	160	260	62	85	571	122	65	508	45
v/c Ratio	0.48	0.46	0.35	0.61	0.50	0.17	0.24	0.19	0.13	0.37	0.19	0.05
Control Delay	72.7	59.6	5.0	74.6	58.9	1.0	61.7	16.3	3.9	72.4	20.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.7	59.6	5.0	74.6	58.9	1.0	61.7	16.3	3.9	72.4	20.4	0.1
Queue Length 50th (ft)	50	103	0	76	124	0	38	85	0	31	86	0
Queue Length 95th (ft)	79	123	21	112	141	0	65	156	39	56	149	0
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	284	878	506	355	951	534	355	2992	969	355	2642	865
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.25	0.24	0.45	0.27	0.12	0.24	0.19	0.13	0.18	0.19	0.05

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	192	108	142	231	55	76	508	109	58	452	40
Future Volume (veh/h)	93	192	108	142	231	55	76	508	109	58	452	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	104	216	121	160	260	62	85	571	122	65	508	45
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	456	203	207	460	204	900	3081	947	132	1922	596
Arrive On Green	0.06	0.13	0.13	0.06	0.13	0.13	0.26	0.61	0.61	0.04	0.38	0.38
Sat Flow, veh/h	3442	3539	1572	3442	3539	1565	3442	5085	1563	3442	5085	1578
Grp Volume(v), veh/h	104	216	121	160	260	62	85	571	122	65	508	45
Grp Sat Flow(s),veh/h/ln	1721	1770	1572	1721	1770	1565	1721	1695	1563	1721	1695	1578
Q Serve(g_s), s	4.3	8.2	10.5	6.6	10.0	4.5	2.7	7.2	3.1	2.7	10.0	2.6
Cycle Q Clear(g_c), s	4.3	8.2	10.5	6.6	10.0	4.5	2.7	7.2	3.1	2.7	10.0	2.6
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	203	456	203	207	460	204	900	3081	947	132	1922	596
V/C Ratio(X)	0.51	0.47	0.60	0.77	0.56	0.30	0.09	0.19	0.13	0.49	0.26	0.08
Avail Cap(c_a), veh/h	285	879	390	285	952	421	900	3081	947	356	1922	596
HCM Platoon Ratio	1.00	1.00	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	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.2	58.6	59.6	67.2	59.2	42.3	40.5	12.7	4.9	68.3	31.2	28.9
Incr Delay (d2), s/veh	0.7	1.5	5.4	5.5	2.1	1.6	0.0	0.1	0.3	1.1	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	4.1	4.9	3.3	5.0	2.2	1.3	3.4	2.0	1.3	4.8	1.2
LnGrp Delay(d),s/veh	67.0	60.1	65.0	72.7	61.3	43.9	40.6	12.8	5.2	69.4	31.5	29.1
LnGrp LOS	E	E	E	E	E	D	D	B	A	E	C	C
Approach Vol, veh/h		441			482			778			618	
Approach Delay, s/veh		63.1			62.8			14.7			35.3	
Approach LOS		E			E			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	11.3	94.2	14.4	25.1	44.3	61.2	14.2	25.3
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 15	54.8	12.0	* 36	15.0	* 55	12.0	* 39
Max Q Clear Time (g_c+I1), s	4.7	9.2	8.6	12.5	4.7	12.0	6.3	12.0
Green Ext Time (p_c), s	0.0	8.9	0.1	3.1	0.1	7.1	0.1	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	39.4
HCM 2010 LOS	D

Notes



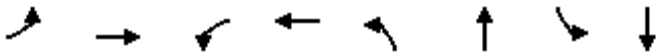
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	93	156	8	247	100	51	75	12	132
v/c Ratio	0.22	0.16	0.02	0.32	0.14	0.09	0.16	0.02	0.21
Control Delay	22.3	9.2	25.1	15.4	6.9	14.5	16.3	15.3	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	9.2	25.1	15.4	6.9	14.5	16.3	15.3	4.9
Queue Length 50th (ft)	20	15	2	48	4	9	15	2	0
Queue Length 95th (ft)	74	78	15	140	35	34	49	13	29
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	844	1371	844	1391	1175	1071	879	1233	1071
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.11	0.01	0.18	0.09	0.05	0.09	0.01	0.12

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	121	12	7	210	85	18	21	4	64	10	112
Future Volume (veh/h)	79	121	12	7	210	85	18	21	4	64	10	112
Number	5	2	12	1	6	16	7	4	14	3	8	18
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	0.98		0.98	0.98		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	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	93	142	14	8	247	100	21	25	5	75	12	132
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	588	58	23	494	410	251	251	39	545	469	382
Arrive On Green	0.10	0.35	0.35	0.01	0.27	0.27	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	1668	164	1774	1863	1545	444	996	157	1349	1863	1519
Grp Volume(v), veh/h	93	0	156	8	247	100	51	0	0	75	12	132
Grp Sat Flow(s),veh/h/ln	1774	0	1832	1774	1863	1545	1597	0	0	1349	1863	1519
Q Serve(g_s), s	1.8	0.0	2.2	0.2	4.1	1.9	0.0	0.0	0.0	0.6	0.2	2.6
Cycle Q Clear(g_c), s	1.8	0.0	2.2	0.2	4.1	1.9	0.8	0.0	0.0	1.4	0.2	2.6
Prop In Lane	1.00		0.09	1.00		1.00	0.41		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	178	0	646	23	494	410	541	0	0	545	469	382
V/C Ratio(X)	0.52	0.00	0.24	0.35	0.50	0.24	0.09	0.00	0.00	0.14	0.03	0.35
Avail Cap(c_a), veh/h	727	0	1503	727	1528	1267	1191	0	0	1127	1273	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	0.0	8.4	17.9	11.4	10.6	10.5	0.0	0.0	10.7	10.3	11.2
Incr Delay (d2), s/veh	0.9	0.0	0.3	3.4	1.3	0.5	0.1	0.0	0.0	0.2	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.1	0.1	2.2	0.8	0.4	0.0	0.0	0.6	0.1	1.2
LnGrp Delay(d),s/veh	16.5	0.0	8.7	21.3	12.7	11.1	10.7	0.0	0.0	10.9	10.3	12.1
LnGrp LOS	B		A	C	B	B	B			B	B	B
Approach Vol, veh/h		249			355			51			219	
Approach Delay, s/veh		11.6			12.5			10.7			11.6	
Approach LOS		B			B			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	4.5	17.9		14.2	7.7	14.7		14.2
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	15.0	30.0		25.0	15.0	30.0		25.0
Max Q Clear Time (g_c+I1), s	2.2	4.2		2.8	3.8	6.1		4.6
Green Ext Time (p_c), s	0.0	1.3		0.3	0.1	2.9		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	11.9
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	44	14	2	33	40	696	89	668
v/c Ratio	0.17	0.02	0.01	0.04	0.16	0.24	0.31	0.22
Control Delay	35.4	0.0	40.0	0.1	36.1	18.4	33.9	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	0.0	40.0	0.1	36.1	18.4	33.9	16.2
Queue Length 50th (ft)	12	0	1	0	11	56	25	49
Queue Length 95th (ft)	66	0	10	0	62	207	110	184
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	581	1066	581	1007	581	2988	581	2995
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.01	0.00	0.03	0.07	0.23	0.15	0.22

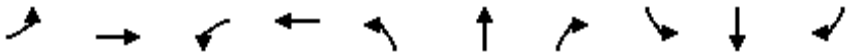
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	13	2	0	31	38	658	3	85	582	52
Future Volume (veh/h)	42	0	13	2	0	31	38	658	3	85	582	52
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		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	44	0	14	2	0	33	40	693	3	89	613	55
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	0	218	6	0	137	91	1512	7	153	1541	137
Arrive On Green	0.06	0.00	0.14	0.00	0.00	0.09	0.05	0.29	0.29	0.09	0.32	0.32
Sat Flow, veh/h	1774	0	1578	1774	0	1580	1774	5226	23	1774	4754	423
Grp Volume(v), veh/h	44	0	14	2	0	33	40	449	247	89	436	232
Grp Sat Flow(s),veh/h/ln	1774	0	1578	1774	0	1580	1774	1695	1858	1774	1695	1787
Q Serve(g_s), s	1.2	0.0	0.4	0.1	0.0	0.9	1.1	5.3	5.3	2.3	4.9	4.9
Cycle Q Clear(g_c), s	1.2	0.0	0.4	0.1	0.0	0.9	1.1	5.3	5.3	2.3	4.9	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.24
Lane Grp Cap(c), veh/h	98	0	218	6	0	137	91	981	538	153	1099	579
V/C Ratio(X)	0.45	0.00	0.06	0.34	0.00	0.24	0.44	0.46	0.46	0.58	0.40	0.40
Avail Cap(c_a), veh/h	437	0	648	547	0	649	547	1741	954	547	1741	917
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.3	0.0	18.2	24.2	0.0	20.7	22.4	14.2	14.2	21.4	12.8	12.8
Incr Delay (d2), s/veh	1.2	0.0	0.1	12.4	0.0	0.7	1.2	0.7	1.2	1.3	0.5	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	0.6	0.0	0.2	0.0	0.0	0.4	0.6	2.5	2.8	1.2	2.3	2.5
LnGrp Delay(d),s/veh	23.5	0.0	18.3	36.6	0.0	21.4	23.6	14.8	15.4	22.7	13.2	13.7
LnGrp LOS	C		B	D		C	C	B	B	C	B	B
Approach Vol, veh/h		58			35			736			757	
Approach Delay, s/veh		22.2			22.3			15.5			14.5	
Approach LOS		C			C			B			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	9.9	20.5	5.9	12.4	8.2	22.2	8.4	9.9
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	* 5.7	6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 15	25.0	* 15	* 20	* 15	25.0	* 12	* 20
Max Q Clear Time (g_c+I1), s	4.3	7.3	2.1	2.4	3.1	6.9	3.2	2.9
Green Ext Time (p_c), s	0.1	6.6	0.0	0.0	0.0	6.4	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	15.4
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	3	1	18	23	11	672	27	63	538	5
v/c Ratio	0.02	0.00	0.20	0.04	0.05	0.18	0.02	0.52	0.14	0.00
Control Delay	45.7	0.0	66.3	0.1	55.7	11.2	0.0	74.6	10.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	0.0	66.3	0.1	55.7	11.2	0.0	74.6	10.7	0.0
Queue Length 50th (ft)	3	0	16	0	4	57	0	54	22	0
Queue Length 95th (ft)	10	0	42	0	14	196	0	101	160	0
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	246	820	170	843	381	3735	1159	196	3951	1241
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.00	0.11	0.03	0.03	0.18	0.02	0.32	0.14	0.00

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	1	17	0	22	10	638	26	60	511	5
Future Volume (veh/h)	3	0	1	17	0	22	10	638	26	60	511	5
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		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	3	0	1	18	0	23	11	672	27	63	538	5
Adj No. of Lanes	1	1	0	1	1	0	2	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	23	0	74	39	0	90	1526	3599	1117	81	1548	482
Arrive On Green	0.01	0.00	0.05	0.02	0.00	0.06	0.89	1.00	1.00	0.05	0.30	0.30
Sat Flow, veh/h	1774	0	1543	1774	0	1583	3442	5085	1579	1774	5085	1582
Grp Volume(v), veh/h	3	0	1	18	0	23	11	672	27	63	538	5
Grp Sat Flow(s),veh/h/ln	1774	0	1543	1774	0	1583	1721	1695	1579	1774	1695	1582
Q Serve(g_s), s	0.2	0.0	0.1	1.4	0.0	1.9	0.0	0.0	0.0	4.7	11.1	0.3
Cycle Q Clear(g_c), s	0.2	0.0	0.1	1.4	0.0	1.9	0.0	0.0	0.0	4.7	11.1	0.3
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	23	0	74	39	0	90	1526	3599	1117	81	1548	482
V/C Ratio(X)	0.13	0.00	0.01	0.47	0.00	0.26	0.01	0.19	0.02	0.78	0.35	0.01
Avail Cap(c_a), veh/h	171	0	480	171	0	493	1526	3599	1117	197	1548	482
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.97	0.97	0.97	0.98	0.98	0.98
Uniform Delay (d), s/veh	65.9	0.0	61.2	65.2	0.0	60.9	4.2	0.0	0.0	63.8	36.5	32.8
Incr Delay (d2), s/veh	0.9	0.0	0.0	3.2	0.0	1.1	0.0	0.1	0.0	5.9	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	0.1	0.0	0.0	0.7	0.0	0.9	0.0	0.0	0.0	2.5	5.3	0.1
LnGrp Delay(d),s/veh	66.8	0.0	61.2	68.5	0.0	62.0	4.2	0.1	0.0	69.7	37.1	32.8
LnGrp LOS	E		E	E		E	A	A	A	E	D	C
Approach Vol, veh/h		4			41			710			606	
Approach Delay, s/veh		65.4			64.8			0.2			40.5	
Approach LOS		E			E			A			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	101.9	8.6	12.6	66.3	47.5	7.4	13.8
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 15	41.1	13.0	* 42	15.0	* 41	13.0	* 42
Max Q Clear Time (g_c+I1), s	6.7	2.0	3.4	2.1	2.0	13.1	2.2	3.9
Green Ext Time (p_c), s	0.0	10.2	0.0	0.0	0.0	6.4	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	20.3
HCM 2010 LOS	C

Notes

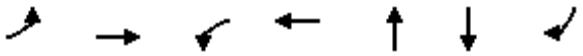
Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	570	67	49	563	28	47	0	78	8	0	17
Future Vol, veh/h	33	570	67	49	563	28	47	0	78	8	0	17
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	640	75	55	633	31	53	0	88	9	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	669	0	0	715	0	0	1179	1531	358	1158	1553	337
Stage 1	-	-	-	-	-	-	752	752	-	764	764	-
Stage 2	-	-	-	-	-	-	427	779	-	394	789	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	917	-	-	881	-	-	146	116	638	151	112	659
Stage 1	-	-	-	-	-	-	368	416	-	362	411	-
Stage 2	-	-	-	-	-	-	576	404	-	602	400	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	913	-	-	881	-	-	124	97	638	114	94	656
Mov Cap-2 Maneuver	-	-	-	-	-	-	124	97	-	114	94	-
Stage 1	-	-	-	-	-	-	343	388	-	336	368	-
Stage 2	-	-	-	-	-	-	504	362	-	484	373	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1.1	36.7	20.5
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	249	913	-	-	881	-	-	260
HCM Lane V/C Ratio	0.564	0.041	-	-	0.062	-	-	0.108
HCM Control Delay (s)	36.7	9.1	0.3	-	9.4	0.4	-	20.5
HCM Lane LOS	E	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	3.1	0.1	-	-	0.2	-	-	0.4



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	26	580	17	509	56	4	2
v/c Ratio	0.06	0.15	0.04	0.13	0.12	0.01	0.00
Control Delay	17.6	5.7	18.0	5.8	10.9	19.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	5.7	18.0	5.8	10.9	19.0	0.0
Queue Length 50th (ft)	1	0	1	0	1	0	0
Queue Length 95th (ft)	29	81	22	72	35	9	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	1386	4706	1386	4713	1317	1386	1263
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.12	0.01	0.11	0.04	0.00	0.00

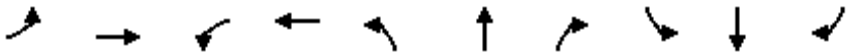
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	510	12	15	453	5	17	1	32	4	0	2
Future Volume (veh/h)	23	510	12	15	453	5	17	1	32	4	0	2
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	26	567	13	17	503	6	19	1	36	4	0	2
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	1848	42	46	1809	22	40	2	75	17	0	15
Arrive On Green	0.04	0.36	0.36	0.03	0.35	0.35	0.07	0.07	0.07	0.01	0.00	0.01
Sat Flow, veh/h	1774	5115	117	1774	5179	62	559	29	1059	1774	0	1583
Grp Volume(v), veh/h	26	375	205	17	329	180	56	0	0	4	0	2
Grp Sat Flow(s),veh/h/ln	1774	1695	1842	1774	1695	1850	1648	0	0	1774	0	1583
Q Serve(g_s), s	0.5	3.0	3.0	0.4	2.6	2.6	1.2	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.5	3.0	3.0	0.4	2.6	2.6	1.2	0.0	0.0	0.1	0.0	0.0
Prop In Lane	1.00		0.06	1.00		0.03	0.34		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	67	1225	665	46	1184	646	116	0	0	17	0	15
V/C Ratio(X)	0.39	0.31	0.31	0.37	0.28	0.28	0.48	0.00	0.00	0.23	0.00	0.13
Avail Cap(c_a), veh/h	944	3610	1961	944	3610	1970	877	0	0	944	0	843
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.6	8.6	8.6	18.0	8.8	8.8	16.8	0.0	0.0	18.5	0.0	18.4
Incr Delay (d2), s/veh	1.3	0.4	0.7	1.8	0.3	0.6	2.3	0.0	0.0	5.0	0.0	2.8
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	0.3	1.4	1.6	0.2	1.3	1.5	0.6	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	19.0	9.0	9.3	19.8	9.2	9.5	19.1	0.0	0.0	23.5	0.0	21.2
LnGrp LOS	B	A	A	B	A	A	B			C		C
Approach Vol, veh/h		606			526			56			6	
Approach Delay, s/veh		9.5			9.6			19.1			22.7	
Approach LOS		A			A			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	19.6		5.4	5.4	19.1		7.7
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	2.4	5.0		2.1	2.5	4.6		3.2
Green Ext Time (p_c), s	0.0	8.5		0.0	0.0	7.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	10.1
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	148	444	105	459	92	502	89	60	440	75
v/c Ratio	0.57	0.51	0.38	0.52	0.30	0.18	0.10	0.34	0.18	0.09
Control Delay	68.9	47.0	62.3	48.9	60.6	19.2	2.4	66.6	22.3	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.9	47.0	62.3	48.9	60.6	19.2	2.4	66.6	22.3	0.8
Queue Length 50th (ft)	65	123	45	133	39	78	0	26	73	0
Queue Length 95th (ft)	100	127	75	136	68	150	20	50	137	5
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	355	1595	355	1596	304	2722	890	304	2447	815
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.28	0.30	0.29	0.30	0.18	0.10	0.20	0.18	0.09

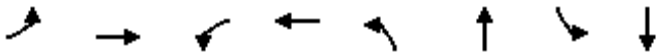
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	343	79	100	376	60	87	477	85	57	418	71
Future Volume (veh/h)	141	343	79	100	376	60	87	477	85	57	418	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		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	148	361	83	105	396	63	92	502	89	60	440	75
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	636	141	206	688	107	1004	2890	899	137	1582	491
Arrive On Green	0.06	0.15	0.15	0.06	0.15	0.15	0.58	1.00	1.00	0.08	0.62	0.62
Sat Flow, veh/h	3442	4161	922	3442	4439	689	3442	5085	1582	3442	5085	1577
Grp Volume(v), veh/h	148	292	152	105	300	159	92	502	89	60	440	75
Grp Sat Flow(s),veh/h/ln	1721	1695	1694	1721	1695	1738	1721	1695	1582	1721	1695	1577
Q Serve(g_s), s	5.7	10.8	11.3	4.0	11.1	11.5	1.6	0.0	0.0	2.2	5.3	2.7
Cycle Q Clear(g_c), s	5.7	10.8	11.3	4.0	11.1	11.5	1.6	0.0	0.0	2.2	5.3	2.7
Prop In Lane	1.00		0.54	1.00		0.40	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	199	518	259	206	525	269	1004	2890	899	137	1582	491
V/C Ratio(X)	0.74	0.56	0.59	0.51	0.57	0.59	0.09	0.17	0.10	0.44	0.28	0.15
Avail Cap(c_a), veh/h	357	1080	539	357	1080	554	1004	2890	899	306	1582	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.99	0.99	0.99	0.99	0.99	0.99	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.6	53.0	53.2	61.5	52.9	53.1	20.2	0.0	0.0	60.7	18.6	18.1
Incr Delay (d2), s/veh	2.1	1.9	4.1	0.7	1.9	3.9	0.0	0.1	0.2	0.8	0.4	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	2.8	5.2	5.6	1.9	5.3	5.8	0.8	0.0	0.1	1.1	2.5	1.2
LnGrp Delay(d),s/veh	64.7	54.9	57.3	62.2	54.8	57.0	20.3	0.1	0.2	61.5	19.0	18.7
LnGrp LOS	E	D	E	E	D	E	C	A	A	E	B	B
Approach Vol, veh/h		592			564			683			575	
Approach Delay, s/veh		58.0			56.8			2.9			23.4	
Approach LOS		E			E			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	83.1	13.8	27.0	45.8	48.4	13.5	27.3
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 12	42.0	14.0	* 43	12.0	* 42	14.0	* 43
Max Q Clear Time (g_c+I1), s	4.2	2.0	6.0	13.3	3.6	7.3	7.7	13.5
Green Ext Time (p_c), s	0.0	8.2	0.1	5.1	0.1	6.8	0.1	5.2

Intersection Summary	
HCM 2010 Ctrl Delay	33.9
HCM 2010 LOS	C

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	414	78	573	23	52	37	30
v/c Ratio	0.14	0.14	0.20	0.20	0.04	0.08	0.06	0.04
Control Delay	30.3	15.7	29.0	14.3	12.9	10.1	13.3	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.3	15.7	29.0	14.3	12.9	10.1	13.3	8.9
Queue Length 50th (ft)	14	28	20	37	5	2	9	1
Queue Length 95th (ft)	69	104	90	132	20	30	28	21
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	880	3422	880	3375	1014	1076	989	1059
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.12	0.09	0.17	0.02	0.05	0.04	0.03

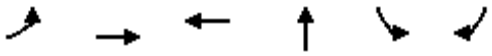
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	340	36	71	420	101	21	10	37	34	4	24
Future Volume (veh/h)	49	340	36	71	420	101	21	10	37	34	4	24
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	54	374	40	78	462	111	23	11	41	37	4	26
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	1413	148	153	1319	307	399	41	152	386	29	186
Arrive On Green	0.07	0.30	0.30	0.09	0.32	0.32	0.03	0.12	0.12	0.05	0.13	0.13
Sat Flow, veh/h	1774	4673	491	1774	4105	955	1774	345	1285	1774	213	1383
Grp Volume(v), veh/h	54	269	145	78	379	194	23	0	52	37	0	30
Grp Sat Flow(s),veh/h/ln	1774	1695	1774	1774	1695	1670	1774	0	1630	1774	0	1595
Q Serve(g_s), s	1.2	2.4	2.5	1.7	3.5	3.6	0.5	0.0	1.2	0.7	0.0	0.7
Cycle Q Clear(g_c), s	1.2	2.4	2.5	1.7	3.5	3.6	0.5	0.0	1.2	0.7	0.0	0.7
Prop In Lane	1.00		0.28	1.00		0.57	1.00		0.79	1.00		0.87
Lane Grp Cap(c), veh/h	120	1025	536	153	1089	537	399	0	192	386	0	215
V/C Ratio(X)	0.45	0.26	0.27	0.51	0.35	0.36	0.06	0.00	0.27	0.10	0.00	0.14
Avail Cap(c_a), veh/h	655	2503	1310	655	2503	1233	994	0	1003	951	0	942
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.2	10.7	10.8	17.7	10.5	10.6	14.8	0.0	16.3	14.4	0.0	15.5
Incr Delay (d2), s/veh	1.0	0.4	0.7	1.0	0.5	1.1	0.1	0.0	2.1	0.2	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.2	1.3	0.9	1.7	1.8	0.2	0.0	0.6	0.4	0.0	0.3
LnGrp Delay(d),s/veh	19.2	11.1	11.5	18.7	11.1	11.7	14.9	0.0	18.4	14.6	0.0	16.3
LnGrp LOS	B	B	B	B	B	B	B		B	B		B
Approach Vol, veh/h		468			651			75			67	
Approach Delay, s/veh		12.2			12.2			17.3			15.4	
Approach LOS		B			B			B			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	7.5	18.3	5.0	9.8	6.7	19.1	4.4	10.5
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	15.0	30.0	15.0	25.0	15.0	30.0	15.0	24.0
Max Q Clear Time (g_c+I1), s	3.7	4.5	2.7	3.2	3.2	5.6	2.5	2.7
Green Ext Time (p_c), s	0.1	5.3	0.1	0.4	0.0	7.5	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBT	NBT	SBL	SBR
Lane Group Flow (vph)	19	401	647	2	51	44
v/c Ratio	0.05	0.18	0.27	0.00	0.10	0.05
Control Delay	20.9	4.7	6.8	17.0	16.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	4.7	6.8	17.0	16.4	0.1
Queue Length 50th (ft)	4	24	43	0	8	0
Queue Length 95th (ft)	24	44	116	6	42	0
Internal Link Dist (ft)		1064	2599	260		
Turn Bay Length (ft)	235					200
Base Capacity (vph)	1136	3227	3213	937	937	1183
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.12	0.20	0.00	0.05	0.04

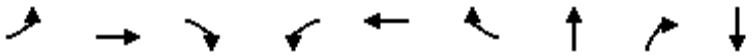
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	362	3	0	570	19	2	0	0	46	0	40
Future Volume (veh/h)	17	362	3	0	570	19	2	0	0	46	0	40
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	19	398	3	0	626	21	2	0	0	51	0	44
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	2012	15	4	1503	50	405	0	0	413	308	261
Arrive On Green	0.03	0.56	0.56	0.00	0.43	0.43	0.17	0.00	0.00	0.17	0.00	0.17
Sat Flow, veh/h	1774	3600	27	1774	3494	117	1357	0	0	1406	1863	1583
Grp Volume(v), veh/h	19	196	205	0	317	330	2	0	0	51	0	44
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1842	1357	0	0	1406	1863	1583
Q Serve(g_s), s	0.4	2.2	2.2	0.0	5.0	5.0	0.0	0.0	0.0	1.2	0.0	1.0
Cycle Q Clear(g_c), s	0.4	2.2	2.2	0.0	5.0	5.0	0.0	0.0	0.0	1.2	0.0	1.0
Prop In Lane	1.00		0.01	1.00		0.06	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	51	989	1038	4	761	792	405	0	0	413	308	261
V/C Ratio(X)	0.38	0.20	0.20	0.00	0.42	0.42	0.00	0.00	0.00	0.12	0.00	0.17
Avail Cap(c_a), veh/h	890	1775	1864	890	1775	1848	861	0	0	886	934	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.0	4.4	4.4	0.0	7.9	7.9	13.9	0.0	0.0	14.4	0.0	14.3
Incr Delay (d2), s/veh	1.7	0.4	0.3	0.0	1.3	1.3	0.0	0.0	0.0	0.3	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.1	1.2	0.0	2.7	2.8	0.0	0.0	0.0	0.5	0.0	0.5
LnGrp Delay(d),s/veh	20.7	4.7	4.7	0.0	9.2	9.2	13.9	0.0	0.0	14.7	0.0	14.9
LnGrp LOS	C	A	A		A	A	B			B		B
Approach Vol, veh/h		420			647			2			95	
Approach Delay, s/veh		5.4			9.2			13.9			14.8	
Approach LOS		A			A			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	0.0	28.3		11.6	5.1	23.1		11.6
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	0.0	4.2		2.0	2.4	7.0		3.2
Green Ext Time (p_c), s	0.0	6.2		0.0	0.0	10.1		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	8.3
HCM 2010 LOS	A

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	51	494	25	45	669	42	124	27	180
v/c Ratio	0.21	0.26	0.03	0.19	0.35	0.05	0.32	0.06	0.43
Control Delay	30.0	11.7	0.0	30.1	12.5	1.4	23.2	0.2	22.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	11.7	0.0	30.1	12.5	1.4	23.2	0.2	22.2
Queue Length 50th (ft)	17	60	0	15	86	0	36	0	47
Queue Length 95th (ft)	55	113	0	50	158	7	95	0	121
Internal Link Dist (ft)		2599			1240		330		332
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	557	2475	1107	557	2475	1104	654	712	676
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.20	0.02	0.08	0.27	0.04	0.19	0.04	0.27

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	440	22	40	595	37	37	73	24	39	76	45
Future Volume (veh/h)	45	440	22	40	595	37	37	73	24	39	76	45
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	51	494	25	45	669	42	42	82	27	44	85	51
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	1497	656	102	1478	646	175	238	274	145	155	79
Arrive On Green	0.06	0.42	0.42	0.06	0.42	0.42	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1774	3539	1550	1774	3539	1547	390	1357	1562	260	885	453
Grp Volume(v), veh/h	51	494	25	45	669	42	124	0	27	180	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1550	1774	1770	1547	1747	0	1562	1598	0	0
Q Serve(g_s), s	1.2	4.2	0.4	1.1	6.1	0.7	0.0	0.0	0.7	2.1	0.0	0.0
Cycle Q Clear(g_c), s	1.2	4.2	0.4	1.1	6.1	0.7	2.7	0.0	0.7	4.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.34		1.00	0.24		0.28
Lane Grp Cap(c), veh/h	111	1497	656	102	1478	646	413	0	274	380	0	0
V/C Ratio(X)	0.46	0.33	0.04	0.44	0.45	0.07	0.30	0.00	0.10	0.47	0.00	0.00
Avail Cap(c_a), veh/h	591	2751	1205	591	2751	1203	843	0	694	811	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.4	8.7	7.6	20.5	9.4	7.8	16.4	0.0	15.6	17.2	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.5	0.1	1.1	0.8	0.2	0.9	0.0	0.3	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	0.6	2.2	0.2	0.6	3.1	0.3	1.4	0.0	0.3	2.3	0.0	0.0
LnGrp Delay(d),s/veh	21.4	9.2	7.7	21.6	10.2	8.0	17.3	0.0	15.9	19.2	0.0	0.0
LnGrp LOS	C	A	A	C	B	A	B		B	B		
Approach Vol, veh/h		570			756			151			180	
Approach Delay, s/veh		10.2			10.8			17.0			19.2	
Approach LOS		B			B			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	25.5		12.9	6.8	25.3		12.9
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	15.0	35.0		20.0	15.0	35.0		20.0
Max Q Clear Time (g_c+I1), s	3.1	6.2		4.7	3.2	8.1		6.7
Green Ext Time (p_c), s	0.0	7.8		1.1	0.0	10.6		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B

Notes

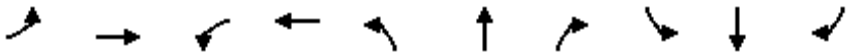
Intersection	
Int Delay, s/veh	5.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	42	122	106	18	178	152
Future Vol, veh/h	42	122	106	18	178	152
Conflicting Peds, #/hr	0	2	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	160	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	144	125	21	209	179

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	725	130	0	0	149	0
Stage 1	128	-	-	-	-	-
Stage 2	597	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	392	920	-	-	1432	-
Stage 1	898	-	-	-	-	-
Stage 2	550	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	334	916	-	-	1428	-
Mov Cap-2 Maneuver	405	-	-	-	-	-
Stage 1	895	-	-	-	-	-
Stage 2	470	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	4.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	405	916	1428	-
HCM Lane V/C Ratio	-	-	0.122	0.157	0.147	-
HCM Control Delay (s)	-	-	15.1	9.7	8	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.5	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	67	165	96	260	8	541	94	80	395	32
v/c Ratio	0.53	0.48	0.62	0.52	0.05	0.21	0.11	0.19	0.12	0.03
Control Delay	74.8	59.1	75.2	43.1	62.6	19.3	1.8	54.0	9.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.8	59.1	75.2	43.1	62.6	19.3	1.8	54.0	9.9	0.1
Queue Length 50th (ft)	58	69	83	82	3	92	0	32	40	0
Queue Length 95th (ft)	106	105	137	124	12	134	16	58	83	0
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	161	1143	176	1139	305	2589	856	432	3356	1068
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.14	0.55	0.23	0.03	0.21	0.11	0.19	0.12	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	145	13	92	164	85	8	519	90	77	379	31
Future Volume (veh/h)	64	145	13	92	164	85	8	519	90	77	379	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	67	151	14	96	171	89	8	541	94	80	395	32
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	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	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	236	22	159	259	128	40	1424	443	1288	3294	1024
Arrive On Green	0.05	0.07	0.07	0.09	0.11	0.11	0.01	0.28	0.28	0.75	1.00	1.00
Sat Flow, veh/h	1774	3279	301	1774	2283	1131	3442	5085	1582	3442	5085	1581
Grp Volume(v), veh/h	67	81	84	96	131	129	8	541	94	80	395	32
Grp Sat Flow(s),veh/h/ln	1774	1770	1810	1774	1770	1644	1721	1695	1582	1721	1695	1581
Q Serve(g_s), s	5.0	6.0	6.1	7.0	9.5	10.2	0.3	11.6	6.1	0.8	0.0	0.0
Cycle Q Clear(g_c), s	5.0	6.0	6.1	7.0	9.5	10.2	0.3	11.6	6.1	0.8	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.69	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	85	127	130	159	201	186	40	1424	443	1288	3294	1024
V/C Ratio(X)	0.79	0.63	0.65	0.60	0.65	0.69	0.20	0.38	0.21	0.06	0.12	0.03
Avail Cap(c_a), veh/h	158	577	590	159	577	536	306	1424	443	1288	3294	1024
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	0.98	0.98	0.98
Uniform Delay (d), s/veh	63.6	60.9	61.0	59.2	57.3	57.6	66.1	39.2	37.2	10.7	0.0	0.0
Incr Delay (d2), s/veh	5.8	9.3	9.6	4.6	8.1	10.4	0.7	0.6	0.8	0.0	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	2.6	3.3	3.4	3.6	5.1	5.2	0.2	5.5	2.8	0.4	0.0	0.0
LnGrp Delay(d),s/veh	69.4	70.3	70.6	63.8	65.4	68.0	66.8	39.8	38.0	10.7	0.1	0.1
LnGrp LOS	E	E	E	E	E	E	E	D	D	B	A	A
Approach Vol, veh/h		232			356			643			507	
Approach Delay, s/veh		70.1			65.9			39.8			1.8	
Approach LOS		E			E			D			A	

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	56.9	44.2	17.8	16.1	7.3	93.9	12.2	21.7
Change Period (Y+Rc), s	6.4	* 6.4	5.7	* 6.4	* 5.7	6.4	5.7	* 6.4
Max Green Setting (Gmax), s	17.0	* 38	12.0	* 44	* 12	42.8	12.0	* 44
Max Q Clear Time (g_c+I1), s	2.8	13.6	9.0	8.1	2.3	2.0	7.0	12.2
Green Ext Time (p_c), s	0.1	10.7	0.0	1.6	0.0	9.0	0.0	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	38.1
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	236	4	276	356	5	162
Future Vol, veh/h	236	4	276	356	5	162
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	284	5	333	429	6	195

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	289	0	1382	287
Stage 1	-	-	-	-	287	-
Stage 2	-	-	-	-	1095	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1273	-	159	752
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	321	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1273	-	104	752
Mov Cap-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	211	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.9	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	179	752	-	-	1273	-
HCM Lane V/C Ratio	0.034	0.26	-	-	0.261	-
HCM Control Delay (s)	25.8	11.5	-	-	8.8	0
HCM Lane LOS	D	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	1	-	-	1.1	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	54	305	9	0	315	5	24	6	8	3	3	11
Future Vol, veh/h	54	305	9	0	315	5	24	6	8	3	3	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	66	372	11	0	384	6	29	7	10	4	4	13

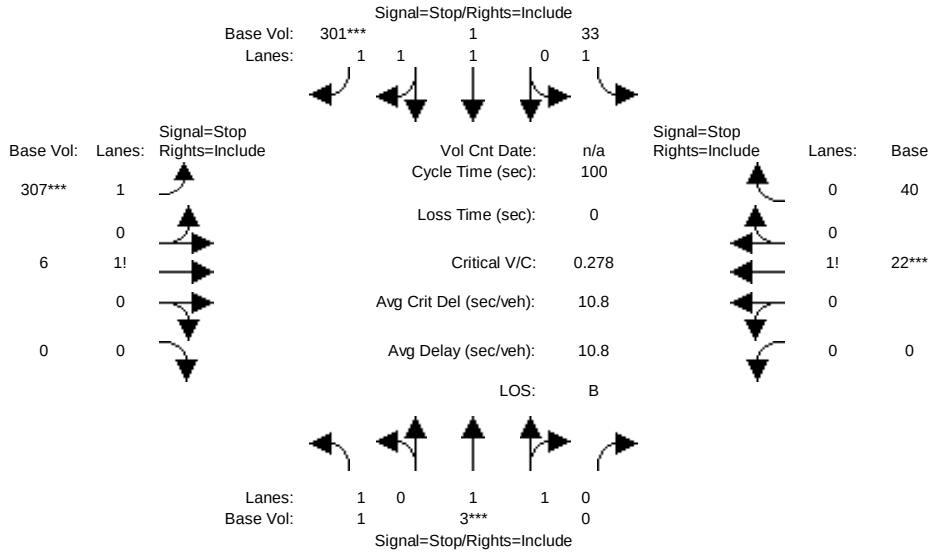
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	390	0	0	383	0	0	906	900	379	906	902	387
Stage 1	-	-	-	-	-	-	510	510	-	387	387	-
Stage 2	-	-	-	-	-	-	396	390	-	519	515	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1169	-	-	1175	-	-	257	278	668	257	277	661
Stage 1	-	-	-	-	-	-	546	538	-	637	610	-
Stage 2	-	-	-	-	-	-	629	608	-	540	535	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1169	-	-	1175	-	-	238	262	667	237	261	661
Mov Cap-2 Maneuver	-	-	-	-	-	-	238	262	-	237	261	-
Stage 1	-	-	-	-	-	-	515	508	-	601	610	-
Stage 2	-	-	-	-	-	-	613	608	-	494	505	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0	20.4	13.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	280	1169	-	-	1175	-	-	237	498
HCM Lane V/C Ratio	0.166	0.056	-	-	-	-	-	0.015	0.034
HCM Control Delay (s)	20.4	8.3	-	-	0	-	-	20.4	12.5
HCM Lane LOS	C	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0	-	-	0	0.1

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

Intersection #15: Cameron Ave/Court St



Street Name:	Court St						Cameron Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	1	3	0	33	1	301	307	6	0	0	22	40
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:	1	3	0	33	1	301	307	6	0	0	22	40
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:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	1	4	0	40	1	367	374	7	0	0	27	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	4	0	40	1	367	374	7	0	0	27	49
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:	1	4	0	40	1	367	374	7	0	0	27	49
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	2.00	0.00	1.00	1.00	2.00	1.96	0.04	0.00	0.00	0.35	0.65
Final Sat.:	463	991	0	539	583	1321	1618	-512	0	0	217	395
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	xxxx	0.07	0.00	0.28	0.23	-0.01	xxxx	xxxx	0.12	0.12
Crit Moves:		****				****	****				****	
Delay/Veh:	9.9	9.4	0.0	9.6	8.6	9.8	12.4	12.8	0.0	0.0	9.3	9.3
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:	9.9	9.4	0.0	9.6	8.6	9.8	12.4	12.8	0.0	0.0	9.3	9.3
LOS by Move:	A	A	*	A	A	A	B	B	*	*	A	A
ApproachDel:		9.5			9.8			12.2			9.3	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.5			9.8			12.2			9.3	
LOS by Appr:		A			A			B			A	
AllWayAvgQ:	0.0	0.0	0.0	0.1	0.0	0.3	0.5	0.5	0.5	0.1	0.1	0.1
Note: Queue reported is the number of cars per lane.												
Time Period: 0.25 hour												
HevVeh:		0%			0%			0%			0%	
Alpha Value: 0.01												
GroupType:		6			6			5			4B	
P[C1]:		0.19			0.39			0.44			0.22	

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P[C2]:	0.20	0.00	0.06	0.28
P[C3]:	0.27	0.54	0.44	0.22
P[C4]:	0.31	0.07	0.06	0.28
P[C5]:	0.03	0.00	0.00	0.00
Padj[C1]:	0.018	0.013	0.011	0.016
Padj[C2]:	0.008	0.007	0.005	0.005
Padj[C3]:	-0.004	-0.015	-0.013	-0.004
Padj[C4]:	-0.018	-0.004	-0.004	-0.017
Padj[C5]:	-0.003	-0.000	-0.000	-0.000

Lanes:	L1	L2	L1	L2	L1	L2	L1	L2
LaneType:	LEFT	RTTHRU	LEFT	RITE	LEFT	LTR	LTR	NOLANE
HeadwayAdj:	0.500	0.000	0.500	-0.700	0.500	0.981	-0.387	xx.xxx
Volume:	1	2	40	184	191	191	76	xxxxxx
Capacity:	463	495	539	660	573	533	612	xxxxx
DegOfUtil:	0.00	0.00	0.07	0.27	0.32	0.35	0.12	x.xx
DepHeadway:	7.20	6.70	6.43	5.23	6.10	6.58	5.59	xx.xx
ServiceTime:	4.9	4.4	4.1	2.9	3.8	4.3	3.6	xx.x
Delay:	9.9	9.4	9.6	9.8	11.7	12.8	9.3	xxx.x
Queue:	0.0	0.0	0.1	0.3	0.5	0.5	0.1	xxx.x

Lanes:	L3	L4	L3	L4	L3	L4	L3	L4
LaneType:	THRU	NOLANE	RTTHRU	THRU	NOLANE	NOLANE	NOLANE	NOLANE
HeadwayAdj:	0.000	xx.xxx	-0.700	0.000	xx.xxx	xx.xxx	xx.xxx	xx.xxx
Volume:	2	xxxxxx	184	1	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Capacity:	495	xxxxx	660	583	xxxxx	xxxxx	xxxxx	xxxxx
DegOfUtil:	0.00	x.xx	0.27	0.00	x.xx	x.xx	x.xx	x.xx
DepHeadway:	6.70	xx.xx	5.23	5.93	xx.xx	xx.xx	xx.xx	xx.xx
ServiceTime:	4.4	xx.x	2.9	3.6	xx.x	xx.x	xx.x	xx.x
Delay:	9.4	xxx.x	9.8	8.6	xxx.x	xxx.x	xxx.x	xxx.x
Queue:	0.0	xxx.x	0.3	0.0	xxx.x	xxx.x	xxx.x	xxx.x

Approach:	North Bound	South Bound	East Bound	West Bound
ApproachDel:	9.5	9.8	12.2	9.3
Delay Adj:	1.00	1.00	1.00	1.00
ApprAdjDel:	9.5	9.8	12.2	9.3
LOS by Appr:	A	A	B	A

OverallDel: 10.8
OverallLOS: B

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1 Cameron Ave/Court St

****

Base Volume Alternative: Peak Hour Warrant NOT Met

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		
Lanes:	1 0	1 1	0	1 0	1 1	1	1 0	1! 0	0	0 0	0 1	0
Initial Vol:	1	3	0	33	1	301	307	6	0	0	22	40

Major Street Volume: 375
Minor Approach Volume: 335
Minor Approach Volume Threshold: 796

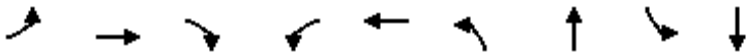
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	48	340	91	75	348	69	695	110	566
v/c Ratio	0.29	0.65	0.17	0.40	0.31	0.38	0.65	0.52	0.50
Control Delay	47.3	37.5	2.8	47.7	23.6	47.6	30.1	49.3	25.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	37.5	2.8	47.7	23.6	47.6	30.1	49.3	25.9
Queue Length 50th (ft)	24	167	0	38	71	35	163	56	121
Queue Length 95th (ft)	66	284	8	92	119	86	267	123	207
Internal Link Dist (ft)		776			1573		775		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	350	535	541	350	1139	350	1587	350	1598
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.64	0.17	0.21	0.31	0.20	0.44	0.31	0.35

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	275	74	61	214	68	56	504	59	89	403	55
Future Volume (veh/h)	39	275	74	61	214	68	56	504	59	89	403	55
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		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	48	340	91	75	264	84	69	622	73	110	498	68
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	94	442	375	121	670	208	116	961	113	142	989	134
Arrive On Green	0.05	0.24	0.24	0.07	0.25	0.25	0.07	0.30	0.30	0.08	0.32	0.32
Sat Flow, veh/h	1774	1863	1581	1774	2659	828	1774	3184	373	1774	3126	425
Grp Volume(v), veh/h	48	340	91	75	174	174	69	345	350	110	281	285
Grp Sat Flow(s),veh/h/ln	1774	1863	1581	1774	1770	1717	1774	1770	1787	1774	1770	1781
Q Serve(g_s), s	1.7	11.2	3.1	2.7	5.4	5.6	2.5	11.1	11.2	4.0	8.5	8.6
Cycle Q Clear(g_c), s	1.7	11.2	3.1	2.7	5.4	5.6	2.5	11.1	11.2	4.0	8.5	8.6
Prop In Lane	1.00		1.00	1.00		0.48	1.00		0.21	1.00		0.24
Lane Grp Cap(c), veh/h	94	442	375	121	446	432	116	534	539	142	560	563
V/C Ratio(X)	0.51	0.77	0.24	0.62	0.39	0.40	0.60	0.65	0.65	0.78	0.50	0.51
Avail Cap(c_a), veh/h	404	566	481	404	538	522	404	928	937	404	928	934
HCM Platoon Ratio	1.00	1.00	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	30.3	23.4	20.3	29.8	20.4	20.5	29.9	19.9	19.9	29.7	18.3	18.3
Incr Delay (d2), s/veh	1.6	9.2	1.0	1.9	1.7	1.9	1.8	2.6	2.6	3.4	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	6.9	1.5	1.4	2.8	2.8	1.3	5.7	5.8	2.1	4.3	4.4
LnGrp Delay(d),s/veh	31.9	32.6	21.3	31.8	22.1	22.3	31.7	22.5	22.5	33.1	19.6	19.7
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		479			423			764			676	
Approach Delay, s/veh		30.4			23.9			23.3			21.8	
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	9.5	26.9	8.7	20.8	8.5	27.8	7.7	21.8
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 15	34.5	* 15	20.0	* 15	34.5	* 15	20.0
Max Q Clear Time (g_c+I1), s	6.0	13.2	4.7	13.2	4.5	10.6	3.7	7.6
Green Ext Time (p_c), s	0.1	6.7	0.0	2.4	0.0	5.7	0.0	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.4
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	160	268	3	1	263	96	5	0	3	41	0	124
Future Vol, veh/h	160	268	3	1	263	96	5	0	3	41	0	124
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	203	339	4	1	333	122	6	0	4	52	0	157

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	455	0	0	343	0	0	1222	1204	341	1145	1145	394
Stage 1	-	-	-	-	-	-	747	747	-	396	396	-
Stage 2	-	-	-	-	-	-	475	457	-	749	749	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1106	-	-	1216	-	-	156	184	701	177	200	655
Stage 1	-	-	-	-	-	-	405	420	-	629	604	-
Stage 2	-	-	-	-	-	-	570	568	-	404	419	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1106	-	-	1216	-	-	102	150	701	151	163	655
Mov Cap-2 Maneuver	-	-	-	-	-	-	102	150	-	151	163	-
Stage 1	-	-	-	-	-	-	330	343	-	513	603	-
Stage 2	-	-	-	-	-	-	433	567	-	328	342	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0	30.7	28.2
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	150	1106	-	-	1216	-	-	358
HCM Lane V/C Ratio	0.068	0.183	-	-	0.001	-	-	0.583
HCM Control Delay (s)	30.7	9	-	-	8	-	-	28.2
HCM Lane LOS	D	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.2	0.7	-	-	0	-	-	3.5

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	75	248	298	48	60	134
Future Vol, veh/h	75	248	298	48	60	134
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	306	368	59	74	165

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	427	0	-	0	890	398
Stage 1	-	-	-	-	398	-
Stage 2	-	-	-	-	492	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1132	-	-	-	313	652
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	615	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1132	-	-	-	287	652
Mov Cap-2 Maneuver	-	-	-	-	287	-
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	615	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	15.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1132	-	-	-	287	652
HCM Lane V/C Ratio	0.082	-	-	-	0.258	0.254
HCM Control Delay (s)	8.5	-	-	-	21.9	12.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1	1

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	289	289	13	7	15
Future Vol, veh/h	35	289	289	13	7	15
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	314	314	14	8	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	328	0	-	0	711	322
Stage 1	-	-	-	-	321	-
Stage 2	-	-	-	-	390	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1232	-	-	-	400	719
Stage 1	-	-	-	-	735	-
Stage 2	-	-	-	-	684	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1232	-	-	-	385	718
Mov Cap-2 Maneuver	-	-	-	-	385	-
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	684	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1232	-	-	-	563
HCM Lane V/C Ratio	0.031	-	-	-	0.042
HCM Control Delay (s)	8	0	-	-	11.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	62	255	215	202	91	763	12	444	47
v/c Ratio	0.37	0.59	0.77	0.33	0.47	0.61	0.09	0.37	0.09
Control Delay	48.4	31.3	56.6	25.7	49.0	26.8	47.4	31.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.4	31.3	56.6	25.7	49.0	26.8	47.4	31.3	0.4
Queue Length 50th (ft)	32	103	107	81	46	161	6	75	0
Queue Length 95th (ft)	85	191	#295	164	113	328	28	135	0
Internal Link Dist (ft)		765		339		302		1110	
Turn Bay Length (ft)	180		175		205		290		210
Base Capacity (vph)	326	507	326	619	326	1288	326	1560	598
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.50	0.66	0.33	0.28	0.59	0.04	0.28	0.08

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	114	105	185	163	10	78	566	90	10	382	40
Future Volume (veh/h)	53	114	105	185	163	10	78	566	90	10	382	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	62	133	122	215	190	12	91	658	105	12	444	47
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	3	1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	172	157	258	481	30	125	920	147	32	1263	393
Arrive On Green	0.06	0.19	0.19	0.15	0.28	0.28	0.07	0.30	0.30	0.02	0.25	0.25
Sat Flow, veh/h	1774	896	822	1774	1734	109	1774	3058	487	1774	5085	1583
Grp Volume(v), veh/h	62	0	255	215	0	202	91	380	383	12	444	47
Grp Sat Flow(s),veh/h/ln	1774	0	1718	1774	0	1843	1774	1770	1776	1774	1695	1583
Q Serve(g_s), s	2.4	0.0	10.1	8.4	0.0	6.4	3.6	13.7	13.7	0.5	5.1	1.6
Cycle Q Clear(g_c), s	2.4	0.0	10.1	8.4	0.0	6.4	3.6	13.7	13.7	0.5	5.1	1.6
Prop In Lane	1.00		0.48	1.00		0.06	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	105	0	329	258	0	512	125	532	534	32	1263	393
V/C Ratio(X)	0.59	0.00	0.77	0.83	0.00	0.39	0.73	0.71	0.72	0.38	0.35	0.12
Avail Cap(c_a), veh/h	372	0	481	372	0	516	372	619	621	372	1779	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	0.0	27.4	29.7	0.0	20.9	32.6	22.3	22.3	34.7	22.1	20.8
Incr Delay (d2), s/veh	1.9	0.0	11.6	7.1	0.0	1.4	3.1	7.6	7.6	2.8	0.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	5.8	4.6	0.0	3.4	1.9	7.8	7.8	0.3	2.5	0.8
LnGrp Delay(d),s/veh	34.7	0.0	39.0	36.7	0.0	22.4	35.6	29.8	29.9	37.5	22.8	21.4
LnGrp LOS	C		D	D		C	D	C	C	D	C	C
Approach Vol, veh/h		317			417			854			503	
Approach Delay, s/veh		38.1			29.8			30.5			23.0	
Approach LOS		D			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	7.0	28.3	16.1	20.1	10.7	24.5	9.9	26.2
Change Period (Y+Rc), s	* 5.7	6.8	* 5.7	6.4	* 5.7	6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 15	25.0	* 15	20.0	* 15	25.0	* 15	20.0
Max Q Clear Time (g_c+I1), s	2.5	15.7	10.4	12.1	5.6	7.1	4.4	8.4
Green Ext Time (p_c), s	0.0	5.8	0.1	1.6	0.1	6.1	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	29.7
HCM 2010 LOS	C

Notes



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	41	14	21	8	827	8	743	34
v/c Ratio	0.16	0.04	0.06	0.04	0.33	0.04	0.29	0.03
Control Delay	21.1	0.2	0.3	22.4	7.1	22.4	6.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	0.2	0.3	22.4	7.1	22.4	6.9	0.0
Queue Length 50th (ft)	12	0	0	3	64	3	56	0
Queue Length 95th (ft)	35	0	0	13	148	13	131	0
Internal Link Dist (ft)	1563		335		1230		572	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	1021	1195	1078	568	2520	568	2523	1138
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.01	0.02	0.01	0.33	0.01	0.29	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	0	12	6	0	12	7	709	3	7	639	29
Future Volume (veh/h)	35	0	12	6	0	12	7	709	3	7	639	29
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	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	41	0	14	7	0	14	8	824	3	8	743	34
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	321	0	174	141	26	116	23	1531	6	23	1498	669
Arrive On Green	0.11	0.00	0.11	0.11	0.00	0.11	0.01	0.42	0.42	0.01	0.42	0.42
Sat Flow, veh/h	1433	0	1583	293	233	1052	1774	3617	13	1774	3539	1581
Grp Volume(v), veh/h	41	0	14	21	0	0	8	403	424	8	743	34
Grp Sat Flow(s),veh/h/ln	1433	0	1583	1579	0	0	1774	1770	1860	1774	1770	1581
Q Serve(g_s), s	0.5	0.0	0.3	0.0	0.0	0.0	0.2	7.5	7.5	0.2	6.7	0.6
Cycle Q Clear(g_c), s	1.0	0.0	0.3	0.5	0.0	0.0	0.2	7.5	7.5	0.2	6.7	0.6
Prop In Lane	1.00		1.00	0.33		0.67	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	321	0	174	283	0	0	23	749	788	23	1498	669
V/C Ratio(X)	0.13	0.00	0.08	0.07	0.00	0.00	0.36	0.54	0.54	0.36	0.50	0.05
Avail Cap(c_a), veh/h	801	0	719	1251	0	0	604	1004	1056	604	2009	898
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.9	0.0	17.6	17.7	0.0	0.0	21.6	9.5	9.5	21.6	9.3	7.5
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.0	0.0	3.5	2.6	2.5	3.5	1.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.2	0.2	0.0	0.0	0.1	4.1	4.3	0.1	3.5	0.3
LnGrp Delay(d),s/veh	18.0	0.0	17.7	17.7	0.0	0.0	25.1	12.1	11.9	25.1	10.3	7.6
LnGrp LOS	B		B	B			C	B	B	C	B	A
Approach Vol, veh/h		55			21			835			785	
Approach Delay, s/veh		17.9			17.7			12.1			10.3	
Approach LOS		B			B			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	6.3	25.4		12.3	6.3	25.4		12.3
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 15	25.0		* 20	* 15	25.0		33.0
Max Q Clear Time (g_c+I1), s	2.2	9.5		3.0	2.2	8.7		2.5
Green Ext Time (p_c), s	0.0	9.2		0.1	0.0	8.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.5
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	7	143	29	18	9	48	742	22	3	579	17
Future Vol, veh/h	11	7	143	29	18	9	48	742	22	3	579	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	8	155	32	20	10	52	807	24	3	629	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1162	1579	324	1248	1576	416	647	0	0	831	0	0
Stage 1	644	644	-	923	923	-	-	-	-	-	-	-
Stage 2	518	935	-	325	653	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	150	108	672	130	109	585	934	-	-	797	-	-
Stage 1	428	466	-	290	347	-	-	-	-	-	-	-
Stage 2	509	342	-	661	462	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	120	102	672	90	102	585	934	-	-	797	-	-
Mov Cap-2 Maneuver	120	102	-	90	102	-	-	-	-	-	-	-
Stage 1	404	464	-	274	328	-	-	-	-	-	-	-
Stage 2	444	323	-	498	460	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.9	73.5	0.5	0
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	934	-	-	432	109	797	-	-
HCM Lane V/C Ratio	0.056	-	-	0.405	0.558	0.004	-	-
HCM Control Delay (s)	9.1	-	-	18.9	73.5	9.5	-	-
HCM Lane LOS	A	-	-	C	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.9	2.6	0	-	-



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	51	77	743	43	726
v/c Ratio	0.12	0.16	0.30	0.31	0.19	0.33
Control Delay	18.1	15.2	29.1	10.6	29.3	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.1	15.2	29.1	10.6	29.3	12.8
Queue Length 50th (ft)	7	8	25	53	14	92
Queue Length 95th (ft)	29	34	73	206	48	208
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	615	656	536	2406	536	2205
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.08	0.14	0.31	0.08	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1	10	22	2	25	73	693	13	41	615	75
Future Volume (veh/h)	22	1	10	22	2	25	73	693	13	41	615	75
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		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	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	23	1	11	23	2	26	77	729	14	43	647	79
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	30	59	170	39	100	145	1430	27	98	1192	145
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.08	0.40	0.40	0.06	0.38	0.38
Sat Flow, veh/h	794	243	475	456	311	797	1774	3552	68	1774	3168	386
Grp Volume(v), veh/h	35	0	0	51	0	0	77	363	380	43	361	365
Grp Sat Flow(s),veh/h/ln	1512	0	0	1564	0	0	1774	1770	1851	1774	1770	1784
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.9	7.1	7.1	1.1	7.4	7.4
Cycle Q Clear(g_c), s	0.8	0.0	0.0	1.2	0.0	0.0	1.9	7.1	7.1	1.1	7.4	7.4
Prop In Lane	0.66		0.31	0.45		0.51	1.00		0.04	1.00		0.22
Lane Grp Cap(c), veh/h	318	0	0	308	0	0	145	713	745	98	666	671
V/C Ratio(X)	0.11	0.00	0.00	0.17	0.00	0.00	0.53	0.51	0.51	0.44	0.54	0.54
Avail Cap(c_a), veh/h	823	0	0	833	0	0	575	956	1000	575	956	964
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	0.0	18.3	0.0	0.0	20.4	10.4	10.4	21.2	11.3	11.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.4	0.0	0.0	1.1	2.4	2.3	1.2	2.9	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.6	0.0	0.0	1.0	3.9	4.1	0.6	4.2	4.2
LnGrp Delay(d),s/veh	18.3	0.0	0.0	18.7	0.0	0.0	21.5	12.8	12.7	22.3	14.2	14.2
LnGrp LOS	B			B			C	B	B	C	B	B
Approach Vol, veh/h		35			51			820			769	
Approach Delay, s/veh		18.3			18.7			13.6			14.7	
Approach LOS		B			B			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	8.2	26.5		11.5	9.5	25.3		11.5
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 15	25.0		* 22	* 15	25.0		* 22
Max Q Clear Time (g_c+I1), s	3.1	9.1		2.8	3.9	9.4		3.2
Green Ext Time (p_c), s	0.0	8.2		0.2	0.0	8.0		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	14.3
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	280	0	0	192	0	0
Future Vol, veh/h	280	0	0	192	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	67	67	67	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	418	0	0	287	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	418
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	635
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	635
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	261	159	7	3	15
Future Vol, veh/h	10	261	159	7	3	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	378	230	10	4	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	240	0	-	0	641	235
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	406	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1327	-	-	-	439	804
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	673	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1327	-	-	-	433	804
Mov Cap-2 Maneuver	-	-	-	-	433	-
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	673	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1327	-	-	-	704
HCM Lane V/C Ratio	0.011	-	-	-	0.037
HCM Control Delay (s)	7.7	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	252	0	0	167	0	0
Future Vol, veh/h	252	0	0	167	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	274	0	0	182	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	274
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	765
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	765
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	133	109	3	0	58
Future Vol, veh/h	119	133	109	3	0	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	165	185	151	4	0	81

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	155	0	-	0	668	153
Stage 1	-	-	-	-	153	-
Stage 2	-	-	-	-	515	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1425	-	-	-	423	893
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	600	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1425	-	-	-	368	893
Mov Cap-2 Maneuver	-	-	-	-	368	-
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	600	-

Approach	EB	WB	SB
HCM Control Delay, s	3.7	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1425	-	-	-	-	893
HCM Lane V/C Ratio	0.116	-	-	-	-	0.09
HCM Control Delay (s)	7.9	0	-	-	0	9.4
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	-	-	0.3

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	756	675	0
Future Vol, veh/h	0	0	0	756	675	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	822	734	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	367	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	538	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	538	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	756	675	0
Future Vol, veh/h	0	0	0	756	675	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	822	734	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	367	734	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	630	867	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	630	867	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	867	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	18	0	0	0
Future Vol, veh/h	0	10	18	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	20	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	31	20
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1596	-	-	-	983	1058
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1596	-	-	-	983	1058
Mov Cap-2 Maneuver	-	-	-	-	983	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1596	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	18	0	0	0
Future Vol, veh/h	0	10	18	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	20	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	31	20
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1596	-	-	-	983	1058
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1596	-	-	-	983	1058
Mov Cap-2 Maneuver	-	-	-	-	983	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1596	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	18	0	0	0
Future Vol, veh/h	0	10	18	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	20	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	31	20
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1596	-	-	-	983	1058
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1596	-	-	-	983	1058
Mov Cap-2 Maneuver	-	-	-	-	983	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1596	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	18	0	0	0
Future Vol, veh/h	0	10	18	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	20	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	31	20
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1596	-	-	-	983	1058
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1596	-	-	-	983	1058
Mov Cap-2 Maneuver	-	-	-	-	983	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1596	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

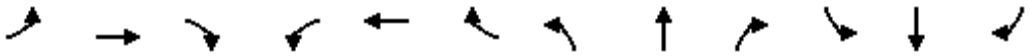
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	92	232	168	187	221	63	200	982	187	110	1095	80
v/c Ratio	0.32	0.48	0.47	0.66	0.45	0.18	0.56	0.35	0.20	0.52	0.42	0.09
Control Delay	65.2	59.5	10.9	75.4	59.0	1.1	66.8	20.9	11.0	74.1	24.5	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.2	59.5	10.9	75.4	59.0	1.1	66.8	20.9	11.0	74.1	24.5	1.6
Queue Length 50th (ft)	42	110	0	89	105	0	102	128	20	53	223	0
Queue Length 95th (ft)	73	132	60	129	123	0	145	350	92	84	347	12
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	306	878	513	355	951	536	355	2795	917	355	2585	847
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.26	0.33	0.53	0.23	0.12	0.56	0.35	0.20	0.31	0.42	0.09

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	225	163	181	214	61	194	953	181	107	1062	78
Future Volume (veh/h)	89	225	163	181	214	61	194	953	181	107	1062	78
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		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	92	232	168	187	221	63	200	982	187	110	1095	80
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	378	526	231	233	378	169	805	2905	893	156	1922	596
Arrive On Green	0.11	0.15	0.15	0.07	0.11	0.11	0.47	1.00	1.00	0.05	0.38	0.38
Sat Flow, veh/h	3442	3539	1553	3442	3539	1579	3442	5085	1564	3442	5085	1576
Grp Volume(v), veh/h	92	232	168	187	221	63	200	982	187	110	1095	80
Grp Sat Flow(s),veh/h/ln	1721	1770	1553	1721	1770	1579	1721	1695	1564	1721	1695	1576
Q Serve(g_s), s	3.5	8.7	15.0	7.8	8.6	4.6	5.1	0.0	0.0	4.6	24.8	4.8
Cycle Q Clear(g_c), s	3.5	8.7	15.0	7.8	8.6	4.6	5.1	0.0	0.0	4.6	24.8	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	378	526	231	233	378	169	805	2905	893	156	1922	596
V/C Ratio(X)	0.24	0.44	0.73	0.80	0.59	0.37	0.25	0.34	0.21	0.70	0.57	0.13
Avail Cap(c_a), veh/h	378	879	385	285	952	425	805	2905	893	356	1922	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.0	56.2	58.9	66.6	61.7	44.1	30.9	0.0	0.0	68.2	35.8	29.6
Incr Delay (d2), s/veh	0.1	1.1	8.2	10.3	2.8	2.7	0.1	0.3	0.5	2.2	1.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.3	6.9	4.0	4.4	2.4	2.4	0.1	0.1	2.2	11.8	2.2
LnGrp Delay(d),s/veh	59.2	57.4	67.2	76.9	64.5	46.8	31.0	0.3	0.5	70.4	37.0	30.0
LnGrp LOS	E	E	E	E	E	D	C	A	A	E	D	C
Approach Vol, veh/h		492			471			1369			1285	
Approach Delay, s/veh		61.0			67.0			4.8			39.4	
Approach LOS		E			E			A			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	12.3	89.2	15.5	28.0	40.3	61.2	21.6	21.9
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 15	54.8	12.0	* 36	15.0	* 55	12.0	* 39
Max Q Clear Time (g_c+I1), s	6.6	2.0	9.8	17.0	7.1	26.8	5.5	10.6
Green Ext Time (p_c), s	0.1	18.6	0.1	3.3	0.2	14.8	0.1	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	32.9
HCM 2010 LOS	C

Notes



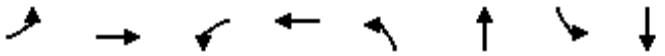
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	121	213	1	169	93	22	108	15	174
v/c Ratio	0.27	0.20	0.00	0.23	0.14	0.04	0.23	0.02	0.26
Control Delay	19.6	8.5	21.0	15.5	5.5	14.1	16.6	14.6	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	8.5	21.0	15.5	5.5	14.1	16.6	14.6	4.6
Queue Length 50th (ft)	26	23	0	33	1	4	21	3	0
Queue Length 95th (ft)	77	92	4	89	29	19	65	15	38
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	818	1340	818	1350	1147	1055	882	1187	1072
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.16	0.00	0.13	0.08	0.02	0.12	0.01	0.16

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	184	10	1	154	85	7	11	2	98	14	158
Future Volume (veh/h)	110	184	10	1	154	85	7	11	2	98	14	158
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	121	202	11	1	169	93	8	12	2	108	15	174
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	666	36	5	490	408	216	250	33	514	407	346
Arrive On Green	0.12	0.38	0.38	0.00	0.26	0.26	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	1751	95	1774	1863	1550	346	1146	149	1394	1863	1583
Grp Volume(v), veh/h	121	0	213	1	169	93	22	0	0	108	15	174
Grp Sat Flow(s),veh/h/ln	1774	0	1846	1774	1863	1550	1641	0	0	1394	1863	1583
Q Serve(g_s), s	2.3	0.0	2.8	0.0	2.6	1.6	0.0	0.0	0.0	1.9	0.2	3.4
Cycle Q Clear(g_c), s	2.3	0.0	2.8	0.0	2.6	1.6	0.3	0.0	0.0	2.2	0.2	3.4
Prop In Lane	1.00		0.05	1.00		1.00	0.36		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	210	0	702	5	490	408	498	0	0	514	407	346
V/C Ratio(X)	0.58	0.00	0.30	0.20	0.34	0.23	0.04	0.00	0.00	0.21	0.04	0.50
Avail Cap(c_a), veh/h	760	0	1582	760	1596	1328	1254	0	0	1205	1330	1131
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	7.6	17.4	10.4	10.1	10.8	0.0	0.0	11.5	10.8	12.0
Incr Delay (d2), s/veh	0.9	0.0	0.4	6.9	0.7	0.5	0.1	0.0	0.0	0.3	0.1	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.5	0.0	1.4	0.8	0.2	0.0	0.0	0.9	0.1	1.7
LnGrp Delay(d),s/veh	15.5	0.0	8.0	24.3	11.2	10.6	10.9	0.0	0.0	11.9	10.8	14.0
LnGrp LOS	B		A	C	B	B	B			B	B	B
Approach Vol, veh/h		334			263			22			297	
Approach Delay, s/veh		10.7			11.0			10.9			13.0	
Approach LOS		B			B			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	4.1	18.3		12.6	8.2	14.2		12.6
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	15.0	30.0		25.0	15.0	30.0		25.0
Max Q Clear Time (g_c+I1), s	2.0	4.8		2.3	4.3	4.6		5.4
Green Ext Time (p_c), s	0.0	1.9		0.1	0.1	2.1		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	119	56	5	124	61	1192	75	1445
v/c Ratio	0.59	0.17	0.04	0.59	0.38	0.40	0.59	0.49
Control Delay	73.1	18.3	60.0	22.6	56.2	15.4	106.9	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.1	18.3	60.0	22.6	56.2	15.4	106.9	5.3
Queue Length 50th (ft)	108	4	5	2	44	144	72	116
Queue Length 95th (ft)	173	50	17	67	77	229	116	69
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	201	426	151	475	183	2999	183	2967
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.13	0.03	0.26	0.33	0.40	0.41	0.49

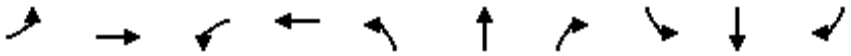
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	5	47	5	2	113	57	1101	7	70	1277	67
Future Volume (veh/h)	111	5	47	5	2	113	57	1101	7	70	1277	67
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		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	119	5	51	5	2	122	61	1184	8	75	1373	72
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	8	81	192	2	148	436	3240	22	93	2095	110
Arrive On Green	0.07	0.06	0.06	0.11	0.09	0.09	0.49	1.00	1.00	0.11	0.85	0.85
Sat Flow, veh/h	1774	143	1462	1774	26	1562	1774	5210	35	1774	4939	259
Grp Volume(v), veh/h	119	0	56	5	0	124	61	770	422	75	943	502
Grp Sat Flow(s),veh/h/ln	1774	0	1605	1774	0	1587	1774	1695	1855	1774	1695	1807
Q Serve(g_s), s	9.7	0.0	5.0	0.4	0.0	11.1	2.7	0.0	0.0	6.0	13.8	13.8
Cycle Q Clear(g_c), s	9.7	0.0	5.0	0.4	0.0	11.1	2.7	0.0	0.0	6.0	13.8	13.8
Prop In Lane	1.00		0.91	1.00		0.98	1.00		0.02	1.00		0.14
Lane Grp Cap(c), veh/h	122	0	89	192	0	150	436	2108	1154	93	1438	767
V/C Ratio(X)	0.97	0.00	0.63	0.03	0.00	0.83	0.14	0.37	0.37	0.80	0.66	0.66
Avail Cap(c_a), veh/h	122	0	387	192	0	383	436	2108	1154	184	1438	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.94	0.94	0.94	0.89	0.89	0.89
Uniform Delay (d), s/veh	67.4	0.0	67.1	57.8	0.0	64.5	28.5	0.0	0.0	64.1	7.4	7.4
Incr Delay (d2), s/veh	72.3	0.0	5.4	0.0	0.0	8.3	0.1	0.5	0.8	5.3	2.1	3.9
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	7.2	0.0	2.3	0.2	0.0	5.2	1.3	0.1	0.3	3.1	6.6	7.4
LnGrp Delay(d),s/veh	139.6	0.0	72.5	57.8	0.0	72.8	28.6	0.5	0.8	69.4	9.5	11.2
LnGrp LOS	F		E	E		E	C	A	A	E	A	B
Approach Vol, veh/h		175			129			1253			1520	
Approach Delay, s/veh		118.2			72.2			2.0			13.0	
Approach LOS		F			E			A			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	13.3	96.6	21.4	13.7	42.0	67.9	15.7	19.4
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	6.4	* 6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 15	61.5	* 10	* 35	15.0	* 62	* 10	* 35
Max Q Clear Time (g_c+I1), s	8.0	2.0	2.4	7.0	4.7	15.8	11.7	13.1
Green Ext Time (p_c), s	0.0	20.8	0.0	0.2	0.0	24.8	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	17.0
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	19	39	63	88	68	1032	52	168	1247	38
v/c Ratio	0.17	0.20	0.55	0.34	0.22	0.36	0.06	0.77	0.40	0.04
Control Delay	66.2	17.1	82.3	16.3	50.4	15.6	1.9	105.8	5.2	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.2	17.1	82.3	16.3	50.4	15.6	1.9	105.8	5.2	0.4
Queue Length 50th (ft)	17	2	59	9	25	106	1	149	33	0
Queue Length 95th (ft)	45	31	108	50	m43	239	m9	#294	173	m6
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	158	481	158	516	355	2847	908	221	3096	989
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.08	0.40	0.17	0.19	0.36	0.06	0.76	0.40	0.04

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	2	35	59	9	73	64	970	49	158	1172	36
Future Volume (veh/h)	18	2	35	59	9	73	64	970	49	158	1172	36
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		0.98	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	19	2	37	63	10	78	68	1032	52	168	1247	38
Adj No. of Lanes	1	1	0	1	1	0	2	3	1	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	8	141	80	19	150	1164	3010	915	184	1792	556
Arrive On Green	0.03	0.09	0.09	0.05	0.11	0.11	0.68	1.00	1.00	0.21	0.70	0.70
Sat Flow, veh/h	1774	80	1486	1774	182	1417	3442	5085	1547	1774	5085	1577
Grp Volume(v), veh/h	19	0	39	63	0	88	68	1032	52	168	1247	38
Grp Sat Flow(s),veh/h/ln	1774	0	1567	1774	0	1598	1721	1695	1547	1774	1695	1577
Q Serve(g_s), s	1.5	0.0	3.4	5.1	0.0	7.6	1.0	0.0	0.0	13.4	20.6	1.1
Cycle Q Clear(g_c), s	1.5	0.0	3.4	5.1	0.0	7.6	1.0	0.0	0.0	13.4	20.6	1.1
Prop In Lane	1.00		0.95	1.00		0.89	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	0	148	80	0	170	1164	3010	915	184	1792	556
V/C Ratio(X)	0.32	0.00	0.26	0.78	0.00	0.52	0.06	0.34	0.06	0.92	0.70	0.07
Avail Cap(c_a), veh/h	159	0	454	159	0	463	1164	3010	915	184	1792	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.91	0.91	0.91	0.87	0.87	0.87
Uniform Delay (d), s/veh	68.4	0.0	60.9	68.5	0.0	61.3	15.7	0.0	0.0	56.9	16.9	14.0
Incr Delay (d2), s/veh	1.1	0.0	0.3	6.2	0.0	1.8	0.0	0.3	0.1	38.6	2.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.5	2.6	0.0	3.4	0.4	0.1	0.0	8.5	9.7	0.5
LnGrp Delay(d),s/veh	69.5	0.0	61.3	74.7	0.0	63.1	15.7	0.3	0.1	95.5	18.9	14.2
LnGrp LOS	E		E	E		E	B	A	A	F	B	B
Approach Vol, veh/h		58			151			1152			1453	
Approach Delay, s/veh		64.0			68.0			1.2			27.6	
Approach LOS		E			E			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.7	92.2	12.3	19.8	55.4	57.5	10.6	21.5
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 15	51.1	13.0	* 42	15.0	* 51	13.0	* 42
Max Q Clear Time (g_c+I1), s	15.4	2.0	7.1	5.4	3.0	22.6	3.5	9.6
Green Ext Time (p_c), s	0.0	18.9	0.0	0.1	0.1	16.7	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	19.7
HCM 2010 LOS	B

Notes

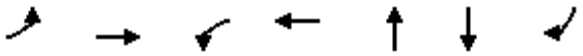
Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	913	42	34	721	20	17	0	32	18	0	35
Future Vol, veh/h	24	913	42	34	721	20	17	0	32	18	0	35
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	951	44	35	751	21	18	0	33	19	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	777	0	0	995	0	0	1469	1870	498	1363	1882	391
Stage 1	-	-	-	-	-	-	1023	1023	-	837	837	-
Stage 2	-	-	-	-	-	-	446	847	-	526	1045	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	835	-	-	691	-	-	89	71	518	107	70	608
Stage 1	-	-	-	-	-	-	252	311	-	327	380	-
Stage 2	-	-	-	-	-	-	561	376	-	503	304	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	831	-	-	691	-	-	74	60	518	88	59	605
Mov Cap-2 Maneuver	-	-	-	-	-	-	74	60	-	88	59	-
Stage 1	-	-	-	-	-	-	235	290	-	303	344	-
Stage 2	-	-	-	-	-	-	480	341	-	439	283	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.8	35.5	29.4
HCM LOS			E	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	168	831	-	-	691	-	-	202
HCM Lane V/C Ratio	0.304	0.03	-	-	0.051	-	-	0.273
HCM Control Delay (s)	35.5	9.5	0.3	-	10.5	0.4	-	29.4
HCM Lane LOS	E	A	A	-	B	A	-	D
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0.2	-	-	1.1



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	52	767	69	667	69	16	10
v/c Ratio	0.16	0.24	0.20	0.21	0.18	0.04	0.02
Control Delay	32.4	13.6	31.5	12.9	4.2	25.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	13.6	31.5	12.9	4.2	25.0	0.1
Queue Length 50th (ft)	14	50	18	41	0	4	0
Queue Length 95th (ft)	72	188	88	158	16	23	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	989	3872	989	3877	989	1038	956
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.20	0.07	0.17	0.07	0.02	0.01

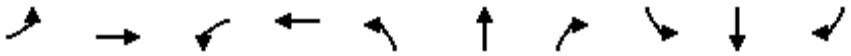
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	702	19	65	615	12	28	0	37	14	1	9
Future Volume (veh/h)	49	702	19	65	615	12	28	0	37	14	1	9
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	52	747	20	69	654	13	30	0	39	15	1	10
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	1991	53	134	2072	41	54	0	71	65	4	61
Arrive On Green	0.06	0.39	0.39	0.08	0.40	0.40	0.08	0.00	0.08	0.04	0.04	0.04
Sat Flow, veh/h	1774	5089	136	1774	5130	102	722	0	939	1668	111	1558
Grp Volume(v), veh/h	52	497	270	69	432	235	69	0	0	16	0	10
Grp Sat Flow(s),veh/h/ln	1774	1695	1834	1774	1695	1841	1661	0	0	1779	0	1558
Q Serve(g_s), s	1.4	5.0	5.0	1.8	4.2	4.2	1.9	0.0	0.0	0.4	0.0	0.3
Cycle Q Clear(g_c), s	1.4	5.0	5.0	1.8	4.2	4.2	1.9	0.0	0.0	0.4	0.0	0.3
Prop In Lane	1.00		0.07	1.00		0.06	0.43		0.57	0.94		1.00
Lane Grp Cap(c), veh/h	111	1326	718	134	1369	744	125	0	0	70	0	61
V/C Ratio(X)	0.47	0.37	0.38	0.52	0.32	0.32	0.55	0.00	0.00	0.23	0.00	0.16
Avail Cap(c_a), veh/h	743	2840	1537	743	2840	1543	696	0	0	745	0	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.6	10.4	10.4	21.2	9.7	9.7	21.3	0.0	0.0	22.2	0.0	22.2
Incr Delay (d2), s/veh	1.1	0.5	0.9	1.1	0.4	0.7	2.8	0.0	0.0	1.2	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.4	2.7	0.9	2.0	2.2	1.0	0.0	0.0	0.2	0.0	0.1
LnGrp Delay(d),s/veh	22.7	10.9	11.3	22.4	10.1	10.4	24.1	0.0	0.0	23.5	0.0	23.1
LnGrp LOS	C	B	B	C	B	B	C			C		C
Approach Vol, veh/h		819			736			69			26	
Approach Delay, s/veh		11.7			11.3			24.1			23.3	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.6	24.7		6.9	7.0	25.3		8.6
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	3.8	7.0		2.4	3.4	6.2		3.9
Green Ext Time (p_c), s	0.1	11.5		0.0	0.0	9.9		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	265	639	213	487	242	840	112	171	1054	105
v/c Ratio	0.66	0.63	0.70	0.56	0.51	0.35	0.14	0.62	0.51	0.15
Control Delay	69.5	49.9	76.6	51.1	53.4	23.1	6.4	71.4	11.3	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.5	49.9	76.6	51.1	53.4	23.1	6.4	71.4	11.3	1.2
Queue Length 50th (ft)	123	187	102	145	122	141	4	69	209	0
Queue Length 95th (ft)	#178	201	145	153	m107	223	m21	90	118	1
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	407	1486	355	1489	473	2371	786	355	2075	702
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.43	0.60	0.33	0.51	0.35	0.14	0.48	0.51	0.15

Intersection Summary

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

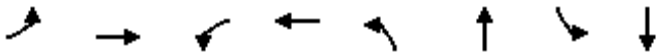
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	448	159	202	364	99	230	798	106	162	1001	100
Future Volume (veh/h)	252	448	159	202	364	99	230	798	106	162	1001	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	265	472	167	213	383	104	242	840	112	171	1054	105
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	755	257	261	679	177	879	2504	778	217	1501	458
Arrive On Green	0.11	0.20	0.20	0.08	0.17	0.17	0.51	0.98	0.98	0.13	0.59	0.59
Sat Flow, veh/h	3442	3739	1274	3442	4015	1049	3442	5085	1580	3442	5085	1552
Grp Volume(v), veh/h	265	426	213	213	321	166	242	840	112	171	1054	105
Grp Sat Flow(s),veh/h/ln	1721	1695	1622	1721	1695	1673	1721	1695	1580	1721	1695	1552
Q Serve(g_s), s	10.8	16.6	17.5	8.8	12.6	13.3	5.8	0.5	0.1	7.0	21.0	4.6
Cycle Q Clear(g_c), s	10.8	16.6	17.5	8.8	12.6	13.3	5.8	0.5	0.1	7.0	21.0	4.6
Prop In Lane	1.00		0.79	1.00		0.63	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	374	685	328	261	573	283	879	2504	778	217	1501	458
V/C Ratio(X)	0.71	0.62	0.65	0.82	0.56	0.59	0.28	0.34	0.14	0.79	0.70	0.23
Avail Cap(c_a), veh/h	374	1005	481	356	1005	496	879	2504	778	356	1501	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.98	0.98	0.98	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Uniform Delay (d), s/veh	62.4	52.8	53.1	66.0	55.3	55.6	27.8	0.6	0.3	62.4	25.2	21.9
Incr Delay (d2), s/veh	5.1	1.8	4.1	6.9	1.6	3.5	0.1	0.3	0.4	2.2	2.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	8.0	8.2	4.5	6.1	6.4	2.7	0.3	0.1	3.4	10.0	2.1
LnGrp Delay(d),s/veh	67.5	54.6	57.2	73.0	56.8	59.0	27.9	0.9	0.6	64.7	27.8	23.0
LnGrp LOS	E	D	E	E	E	E	C	A	A	E	C	C
Approach Vol, veh/h		904			700			1194			1330	
Approach Delay, s/veh		59.0			62.3			6.3			32.1	
Approach LOS		E			E			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.8	77.8	16.7	35.7	43.4	49.2	21.5	30.9
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 15	47.8	15.0	* 43	20.0	* 43	15.0	* 43
Max Q Clear Time (g_c+I1), s	9.0	2.5	10.8	19.5	7.8	23.0	12.8	15.3
Green Ext Time (p_c), s	0.1	15.4	0.1	7.1	0.3	12.4	0.1	5.5

Intersection Summary	
HCM 2010 Ctrl Delay	35.7
HCM 2010 LOS	D

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	104	707	152	659	82	181	157	87
v/c Ratio	0.49	0.50	0.62	0.40	0.16	0.43	0.36	0.23
Control Delay	44.1	25.2	47.0	22.0	16.7	10.8	19.1	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	25.2	47.0	22.0	16.7	10.8	19.1	13.2
Queue Length 50th (ft)	43	89	63	77	23	9	46	9
Queue Length 95th (ft)	125	193	#176	176	59	64	104	49
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	358	2028	358	2024	611	672	498	620
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.35	0.42	0.33	0.13	0.27	0.32	0.14

Intersection Summary

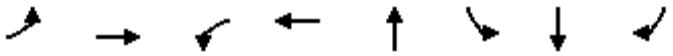
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	592	80	144	527	99	78	23	149	149	23	60
Future Volume (veh/h)	99	592	80	144	527	99	78	23	149	149	23	60
Number	5	2	12	1	6	16	7	4	14	3	8	18
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		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	104	623	84	152	555	104	82	24	157	157	24	63
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	1369	182	195	1412	260	456	36	232	386	87	229
Arrive On Green	0.09	0.30	0.30	0.11	0.33	0.33	0.08	0.17	0.17	0.11	0.19	0.19
Sat Flow, veh/h	1774	4525	602	1774	4317	794	1774	214	1401	1774	449	1179
Grp Volume(v), veh/h	104	465	242	152	434	225	82	0	181	157	0	87
Grp Sat Flow(s),veh/h/ln	1774	1695	1736	1774	1695	1721	1774	0	1615	1774	0	1628
Q Serve(g_s), s	3.2	6.3	6.4	4.7	5.6	5.8	2.1	0.0	6.0	4.0	0.0	2.6
Cycle Q Clear(g_c), s	3.2	6.3	6.4	4.7	5.6	5.8	2.1	0.0	6.0	4.0	0.0	2.6
Prop In Lane	1.00		0.35	1.00		0.46	1.00		0.87	1.00		0.72
Lane Grp Cap(c), veh/h	151	1026	525	195	1109	563	456	0	268	386	0	317
V/C Ratio(X)	0.69	0.45	0.46	0.78	0.39	0.40	0.18	0.00	0.68	0.41	0.00	0.27
Avail Cap(c_a), veh/h	468	1789	916	468	1789	908	788	0	710	667	0	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.3	16.0	16.1	24.6	14.8	14.8	17.1	0.0	22.3	16.5	0.0	19.5
Incr Delay (d2), s/veh	2.1	0.9	1.7	2.6	0.6	1.3	0.4	0.0	7.9	1.5	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	3.0	3.3	2.5	2.7	2.9	1.1	0.0	3.3	2.0	0.0	1.3
LnGrp Delay(d),s/veh	27.4	16.9	17.8	27.2	15.4	16.1	17.5	0.0	30.2	18.0	0.0	20.8
LnGrp LOS	C	B	B	C	B	B	B		C	B		C
Approach Vol, veh/h		811			811			263			244	
Approach Delay, s/veh		18.5			17.8			26.3			19.0	
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	10.2	23.2	9.0	14.4	8.8	24.6	7.4	16.1
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	15.0	30.0	15.0	25.0	15.0	30.0	15.0	24.0
Max Q Clear Time (g_c+I1), s	6.7	8.4	6.0	8.0	5.2	7.8	4.1	4.6
Green Ext Time (p_c), s	0.1	8.7	0.6	1.9	0.1	8.2	0.3	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	19.2
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	49	934	1	783	15	29	1	29
v/c Ratio	0.16	0.35	0.00	0.33	0.04	0.07	0.00	0.06
Control Delay	26.5	5.5	28.0	8.6	23.3	23.9	24.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	5.5	28.0	8.6	23.3	23.9	24.0	0.2
Queue Length 50th (ft)	15	70	0	91	4	8	0	0
Queue Length 95th (ft)	50	164	5	145	21	34	5	1
Internal Link Dist (ft)		1064		2597	260		519	
Turn Bay Length (ft)	235		300					200
Base Capacity (vph)	959	2789	959	2774	793	859	1009	894
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.33	0.00	0.28	0.02	0.03	0.00	0.03

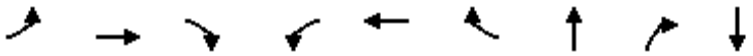
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	835	5	1	678	27	12	1	1	26	1	26
Future Volume (veh/h)	44	835	5	1	678	27	12	1	1	26	1	26
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	49	928	6	1	753	30	13	1	1	29	1	29
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	1951	13	4	1672	67	299	23	13	345	247	210
Arrive On Green	0.06	0.54	0.54	0.00	0.48	0.48	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1774	3604	23	1774	3466	138	1161	175	95	1409	1863	1583
Grp Volume(v), veh/h	49	456	478	1	384	399	15	0	0	29	1	29
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1835	1431	0	0	1409	1863	1583
Q Serve(g_s), s	1.2	7.4	7.4	0.0	6.6	6.6	0.0	0.0	0.0	0.4	0.0	0.7
Cycle Q Clear(g_c), s	1.2	7.4	7.4	0.0	6.6	6.6	0.3	0.0	0.0	0.8	0.0	0.7
Prop In Lane	1.00		0.01	1.00		0.08	0.87		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	108	958	1006	4	853	885	335	0	0	345	247	210
V/C Ratio(X)	0.46	0.48	0.48	0.26	0.45	0.45	0.04	0.00	0.00	0.08	0.00	0.14
Avail Cap(c_a), veh/h	767	1531	1607	767	1531	1587	758	0	0	768	806	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	6.6	6.6	23.0	7.9	7.9	17.5	0.0	0.0	17.7	17.4	17.7
Incr Delay (d2), s/veh	1.1	1.3	1.3	12.8	1.4	1.3	0.1	0.0	0.0	0.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.9	4.1	0.0	3.5	3.6	0.2	0.0	0.0	0.3	0.0	0.4
LnGrp Delay(d),s/veh	22.1	7.9	7.8	35.8	9.3	9.2	17.6	0.0	0.0	17.9	17.4	18.3
LnGrp LOS	C	A	A	D	A	A	B			B	B	B
Approach Vol, veh/h		983			784			15			59	
Approach Delay, s/veh		8.6			9.3			17.6			18.1	
Approach LOS		A			A			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	4.1	31.0		11.1	6.8	28.3		11.1
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	2.0	9.4		2.3	3.2	8.6		2.8
Green Ext Time (p_c), s	0.0	15.6		0.0	0.0	12.4		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	9.2
HCM 2010 LOS	A

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	116	675	50	86	635	50	156	23	185
v/c Ratio	0.37	0.37	0.06	0.30	0.35	0.06	0.37	0.05	0.42
Control Delay	30.7	13.9	1.9	30.9	14.7	2.1	26.0	0.2	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.7	13.9	1.9	30.9	14.7	2.1	26.0	0.2	21.6
Queue Length 50th (ft)	38	90	0	28	86	0	48	0	44
Queue Length 95th (ft)	105	172	11	84	168	11	124	0	124
Internal Link Dist (ft)		2597			1242		378		317
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	582	2280	1047	582	2274	1023	714	749	736
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.30	0.05	0.15	0.28	0.05	0.22	0.03	0.25

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	621	46	79	584	46	32	111	21	25	73	73
Future Volume (veh/h)	107	621	46	79	584	46	32	111	21	25	73	73
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	116	675	50	86	635	50	35	121	23	27	79	79
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	1449	648	153	1401	614	137	270	279	111	139	121
Arrive On Green	0.10	0.41	0.41	0.09	0.40	0.40	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1774	3539	1583	1774	3539	1550	248	1533	1583	135	791	690
Grp Volume(v), veh/h	116	675	50	86	635	50	156	0	23	185	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1550	1781	0	1583	1616	0	0
Q Serve(g_s), s	3.0	6.6	0.9	2.2	6.2	0.9	0.0	0.0	0.6	1.5	0.0	0.0
Cycle Q Clear(g_c), s	3.0	6.6	0.9	2.2	6.2	0.9	3.6	0.0	0.6	5.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.22		1.00	0.15		0.43
Lane Grp Cap(c), veh/h	176	1449	648	153	1401	614	407	0	279	372	0	0
V/C Ratio(X)	0.66	0.47	0.08	0.56	0.45	0.08	0.38	0.00	0.08	0.50	0.00	0.00
Avail Cap(c_a), veh/h	564	2627	1175	564	2627	1151	821	0	672	774	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.5	10.2	8.5	20.7	10.5	8.9	17.5	0.0	16.2	18.0	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.8	0.2	1.2	0.8	0.2	1.3	0.0	0.3	2.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.4	0.4	1.1	3.2	0.4	2.0	0.0	0.3	2.4	0.0	0.0
LnGrp Delay(d),s/veh	22.0	11.0	8.7	21.9	11.3	9.1	18.7	0.0	16.5	20.2	0.0	0.0
LnGrp LOS	C	B	A	C	B	A	B		B	C		
Approach Vol, veh/h		841			771			179			185	
Approach Delay, s/veh		12.4			12.4			18.5			20.2	
Approach LOS		B			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.1	25.8		13.3	8.7	25.2		13.3
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	15.0	35.0		20.0	15.0	35.0		20.0
Max Q Clear Time (g_c+I1), s	4.2	8.6		5.6	5.0	8.2		7.0
Green Ext Time (p_c), s	0.1	10.7		1.3	0.1	10.1		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	13.7
HCM 2010 LOS	B

Notes

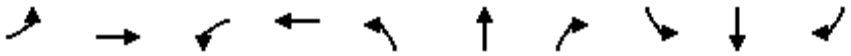
Intersection	
Int Delay, s/veh	7.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	282	168	28	290	103
Future Vol, veh/h	52	282	168	28	290	103
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	160	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	303	181	30	312	111

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	916	182	0	0	211	0
Stage 1	181	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	302	861	-	-	1360	-
Stage 1	850	-	-	-	-	-
Stage 2	474	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	233	860	-	-	1360	-
Mov Cap-2 Maneuver	312	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	365	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	6.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	312	860	1360	-
HCM Lane V/C Ratio	-	-	0.179	0.353	0.229	-
HCM Control Delay (s)	-	-	19	11.4	8.4	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	1.6	0.9	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	183	308	136	368	61	740	122	293	857	148
v/c Ratio	0.74	0.48	0.81	0.59	0.24	0.33	0.16	0.76	0.34	0.17
Control Delay	76.9	51.5	97.7	26.8	84.1	45.8	18.4	98.3	8.3	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.9	51.5	97.7	26.8	84.1	45.8	18.4	98.3	8.3	0.6
Queue Length 50th (ft)	165	136	127	74	24	202	23	134	51	0
Queue Length 95th (ft)	#342	154	#230	102	m46	289	m83	199	92	1
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	248	1058	183	1120	284	2249	776	449	2521	856
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.29	0.74	0.33	0.21	0.33	0.16	0.65	0.34	0.17

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	261	41	133	155	206	60	725	120	287	840	145
Future Volume (veh/h)	179	261	41	133	155	206	60	725	120	287	840	145
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	183	266	42	136	158	210	61	740	122	293	857	148
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	602	94	158	313	280	686	2286	710	338	1747	543
Arrive On Green	0.10	0.20	0.20	0.09	0.18	0.18	0.40	0.90	0.90	0.20	0.69	0.69
Sat Flow, veh/h	1774	3069	479	1774	1770	1578	3442	5085	1580	3442	5085	1581
Grp Volume(v), veh/h	183	152	156	136	158	210	61	740	122	293	857	148
Grp Sat Flow(s),veh/h/ln	1774	1770	1777	1774	1770	1578	1721	1695	1580	1721	1695	1581
Q Serve(g_s), s	15.0	11.0	11.2	11.0	11.7	18.3	1.6	3.0	1.3	12.0	11.5	5.2
Cycle Q Clear(g_c), s	15.0	11.0	11.2	11.0	11.7	18.3	1.6	3.0	1.3	12.0	11.5	5.2
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	184	347	349	158	313	280	686	2286	710	338	1747	543
V/C Ratio(X)	1.00	0.44	0.45	0.86	0.50	0.75	0.09	0.32	0.17	0.87	0.49	0.27
Avail Cap(c_a), veh/h	184	537	539	184	537	479	686	2286	710	451	1747	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.72	0.72	0.72	0.83	0.83	0.83
Uniform Delay (d), s/veh	65.0	51.2	51.4	65.1	53.9	56.6	35.4	4.2	4.1	57.4	16.7	15.7
Incr Delay (d2), s/veh	65.5	1.6	1.7	25.8	2.9	9.2	0.0	0.3	0.4	9.0	0.8	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	5.5	5.7	6.5	6.0	8.7	0.8	1.3	0.6	6.1	5.4	2.4
LnGrp Delay(d),s/veh	130.5	52.9	53.0	90.9	56.8	65.8	35.4	4.4	4.5	66.3	17.5	16.7
LnGrp LOS	F	D	D	F	E	E	D	A	A	E	B	B
Approach Vol, veh/h		491			504			923			1298	
Approach Delay, s/veh		81.9			69.8			6.5			28.5	
Approach LOS		F			E			A			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	19.9	71.6	18.6	34.8	35.3	56.2	21.4	32.1
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	6.4	6.4	* 6.4	6.4	* 6.4
Max Green Setting (Gmax), s	* 19	42.8	* 15	44.0	12.0	* 50	15.0	* 44
Max Q Clear Time (g_c+I1), s	14.0	5.0	13.0	13.2	3.6	13.5	17.0	20.3
Green Ext Time (p_c), s	0.3	18.6	0.0	3.1	0.0	21.3	0.0	4.2

Intersection Summary	
HCM 2010 Ctrl Delay	36.8
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	587	11	167	517	6	255
Future Vol, veh/h	587	11	167	517	6	255
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	605	11	172	533	6	263

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	616	0	1488	611
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	877	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	964	-	137	494
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	407	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	964	-	102	494
Mov Cap-2 Maneuver	-	-	-	-	219	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	304	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.3	20.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	219	494	-	-	964	-
HCM Lane V/C Ratio	0.028	0.532	-	-	0.179	-
HCM Control Delay (s)	21.9	20.3	-	-	9.5	0
HCM Lane LOS	C	C	-	-	A	A
HCM 95th %tile Q(veh)	0.1	3.1	-	-	0.6	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	122	625	17	9	478	9	8	6	2	6	7	136
Future Vol, veh/h	122	625	17	9	478	9	8	6	2	6	7	136
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	126	644	18	9	493	9	8	6	2	6	7	140

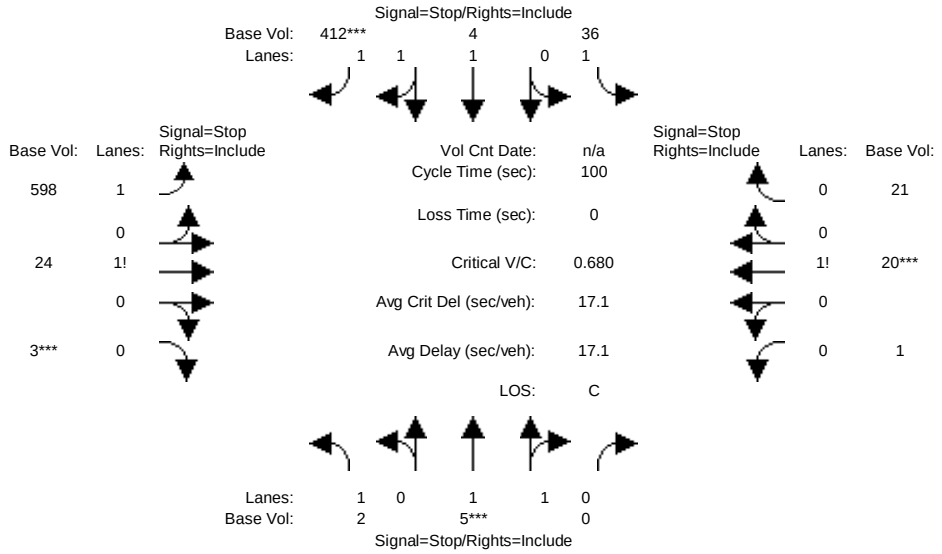
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	502	0	0	662	0	0	1494	1425	653	1425	1430	498
Stage 1	-	-	-	-	-	-	905	905	-	516	516	-
Stage 2	-	-	-	-	-	-	589	520	-	909	914	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1062	-	-	927	-	-	101	136	467	113	135	572
Stage 1	-	-	-	-	-	-	331	355	-	542	534	-
Stage 2	-	-	-	-	-	-	494	532	-	329	352	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1062	-	-	927	-	-	66	119	467	98	118	572
Mov Cap-2 Maneuver	-	-	-	-	-	-	66	119	-	98	118	-
Stage 1	-	-	-	-	-	-	292	313	-	478	529	-
Stage 2	-	-	-	-	-	-	364	527	-	283	310	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.2	53.1	16.9
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	91	1062	-	-	927	-	-	98	481
HCM Lane V/C Ratio	0.181	0.118	-	-	0.01	-	-	0.063	0.306
HCM Control Delay (s)	53.1	8.8	-	-	8.9	-	-	44.2	15.8
HCM Lane LOS	F	A	-	-	A	-	-	E	C
HCM 95th %tile Q(veh)	0.6	0.4	-	-	0	-	-	0.2	1.3

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

Intersection #15: Cameron Ave/Court St



Street Name:	Court St						Cameron Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	2	5	0	36	4	412	598	24	3	1	20	21
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:	2	5	0	36	4	412	598	24	3	1	20	21
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:	2	6	0	40	4	463	672	27	3	1	22	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	6	0	40	4	463	672	27	3	1	22	24
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:	2	6	0	40	4	463	672	27	3	1	22	24
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	2.00	0.00	1.00	1.00	2.00	1.91	0.08	0.01	0.02	0.48	0.50
Final Sat.:	405	859	0	482	517	1155	1540	-476	5	13	259	272
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	xxxx	0.08	0.01	0.40	0.44	-0.06	0.68	0.09	0.09	0.09
Crit Moves:		****				****			****		****	
Delay/Veh:	11.0	10.5	0.0	10.6	9.5	12.5	21.5	22.6	22.6	9.9	9.9	9.9
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:	11.0	10.5	0.0	10.6	9.5	12.5	21.5	22.6	22.6	9.9	9.9	9.9
LOS by Move:	B	B	*	B	A	B	C	C	C	A	A	A
ApproachDel:		10.7			12.3			21.0			9.9	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		10.7			12.3			21.0			9.9	
LOS by Appr:		B			B			C			A	
AllWayAvgQ:	0.0	0.0	0.0	0.1	0.0	0.6	1.9	1.9	1.9	0.1	0.1	0.1
Note: Queue reported is the number of cars per lane.												
Time Period: 0.25 hour												
HevVeh:		0%			0%			0%			0%	
Alpha Value: 0.01												
GroupType:		6			6			5			4B	
P[C1]:		0.04			0.11			0.31			0.04	

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P[C2]:	0.07	0.00	0.03	0.29
P[C3]:	0.28	0.80	0.60	0.08
P[C4]:	0.56	0.09	0.06	0.58
P[C5]:	0.05	0.00	0.00	0.01
Padj[C1]:	0.025	0.019	0.014	0.022
Padj[C2]:	0.015	0.010	0.007	0.010
Padj[C3]:	-0.002	-0.023	-0.017	0.004
Padj[C4]:	-0.033	-0.005	-0.004	-0.034
Padj[C5]:	-0.005	-0.000	-0.000	-0.001

Lanes:	L1	L2	L1	L2	L1	L2	L1	L2
LaneType:	LEFT	RTTHRU	LEFT	RITE	LEFT	LTR	LTR	NOLANE
HeadwayAdj:	0.500	0.000	0.500	-0.700	0.500	0.950	-0.295	xx.xxx
Volume:	2	3	40	231	351	351	47	xxxxxx
Capacity:	405	429	482	578	552	517	544	xxxxx
DegOfUtil:	0.01	0.01	0.08	0.39	0.63	0.67	0.08	x.xx
DepHeadway:	8.27	7.77	7.24	6.04	6.45	6.90	6.33	xx.xx
ServiceTime:	6.0	5.5	4.9	3.7	4.1	4.6	4.3	xx.x
Delay:	11.0	10.5	10.6	12.5	19.4	22.6	9.9	xxx.x
Queue:	0.0	0.0	0.1	0.6	1.6	1.9	0.1	xxx.x

Lanes:	L3	L4	L3	L4	L3	L4	L3	L4
LaneType:	THRU	NOLANE	RTTHRU	THRU	NOLANE	NOLANE	NOLANE	NOLANE
HeadwayAdj:	0.000	xx.xxx	-0.700	0.000	xx.xxx	xx.xxx	xx.xxx	xx.xxx
Volume:	3	xxxxxx	231	4	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Capacity:	429	xxxxx	578	517	xxxxx	xxxxx	xxxxx	xxxxx
DegOfUtil:	0.01	x.xx	0.39	0.01	x.xx	x.xx	x.xx	x.xx
DepHeadway:	7.77	xx.xx	6.04	6.74	xx.xx	xx.xx	xx.xx	xx.xx
ServiceTime:	5.5	xx.x	3.7	4.4	xx.x	xx.x	xx.x	xx.x
Delay:	10.5	xxx.x	12.5	9.5	xxx.x	xxx.x	xxx.x	xxx.x
Queue:	0.0	xxx.x	0.6	0.0	xxx.x	xxx.x	xxx.x	xxx.x

Approach:	North Bound	South Bound	East Bound	West Bound
ApproachDel:	10.7	12.3	21.0	9.9
Delay Adj:	1.00	1.00	1.00	1.00
ApprAdjDel:	10.7	12.3	21.0	9.9
LOS by Appr:	B	B	C	A

OverallDel: 17.1
OverallLOS: C

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1 Cameron Ave/Court St

****

Base Volume Alternative: Peak Hour Warrant NOT Met

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		
Lanes:	1 0	1 1	0	1 0	1 1	1	1 0	1! 0	0	0 0	1! 0	0
Initial Vol:	2	5	0	36	4	412	598	24	3	1	20	21

Major Street Volume: 667
Minor Approach Volume: 452
Minor Approach Volume Threshold: 548

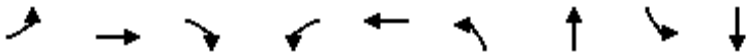
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	17	236	52	97	358	59	621	115	565
v/c Ratio	0.10	0.55	0.11	0.43	0.32	0.31	0.58	0.48	0.44
Control Delay	43.0	36.5	0.5	43.1	18.5	42.9	26.0	43.5	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	36.5	0.5	43.1	18.5	42.9	26.0	43.5	21.7
Queue Length 50th (ft)	8	105	0	46	46	28	134	55	117
Queue Length 95th (ft)	33	226	0	110	118	77	224	126	194
Internal Link Dist (ft)		776			1573		775		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	397	557	563	397	1290	397	1786	397	1819
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.42	0.09	0.24	0.28	0.15	0.35	0.29	0.31

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	224	49	92	222	118	56	475	115	109	487	49
Future Volume (veh/h)	16	224	49	92	222	118	56	475	115	109	487	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	17	236	52	97	234	124	59	500	121	115	513	52
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	349	296	144	551	281	112	827	199	154	1025	104
Arrive On Green	0.02	0.19	0.19	0.08	0.24	0.24	0.06	0.29	0.29	0.09	0.32	0.32
Sat Flow, veh/h	1774	1863	1583	1774	2259	1152	1774	2831	681	1774	3246	328
Grp Volume(v), veh/h	17	236	52	97	181	177	59	312	309	115	279	286
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	1642	1774	1770	1742	1774	1770	1805
Q Serve(g_s), s	0.6	6.9	1.6	3.1	5.0	5.3	1.9	8.8	8.9	3.7	7.5	7.5
Cycle Q Clear(g_c), s	0.6	6.9	1.6	3.1	5.0	5.3	1.9	8.8	8.9	3.7	7.5	7.5
Prop In Lane	1.00		1.00	1.00		0.70	1.00		0.39	1.00		0.18
Lane Grp Cap(c), veh/h	44	349	296	144	432	400	112	517	509	154	559	570
V/C Ratio(X)	0.39	0.68	0.18	0.67	0.42	0.44	0.53	0.60	0.61	0.75	0.50	0.50
Avail Cap(c_a), veh/h	455	637	542	455	605	562	455	1044	1028	455	1044	1065
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	22.1	20.0	26.1	18.6	18.7	26.5	17.8	17.8	26.1	16.2	16.3
Incr Delay (d2), s/veh	2.1	6.9	0.9	2.0	2.0	2.3	1.4	2.2	2.3	2.7	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.2	0.8	1.6	2.7	2.7	1.0	4.6	4.6	1.9	3.9	3.9
LnGrp Delay(d),s/veh	30.1	29.0	20.8	28.1	20.6	21.1	28.0	20.0	20.1	28.8	17.6	17.6
LnGrp LOS	C	C	C	C	C	C	C	B	C	C	B	B
Approach Vol, veh/h		305			455			680			680	
Approach Delay, s/veh		27.6			22.4			20.7			19.5	
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	9.3	24.1	9.0	16.1	7.9	25.5	5.6	19.5
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 15	34.5	* 15	20.0	* 15	34.5	* 15	20.0
Max Q Clear Time (g_c+I1), s	5.7	10.9	5.1	8.9	3.9	9.5	2.6	7.3
Green Ext Time (p_c), s	0.1	6.2	0.1	2.2	0.0	5.7	0.0	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	21.7
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	395	4	5	418	17	2	0	1	20	1	40
Future Vol, veh/h	29	395	4	5	418	17	2	0	1	20	1	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	444	4	6	470	19	2	0	1	22	1	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	489	0	0	448	0	0	1027	1013	446	1005	1006	480
Stage 1	-	-	-	-	-	-	512	512	-	492	492	-
Stage 2	-	-	-	-	-	-	515	501	-	513	514	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1074	-	-	1112	-	-	213	239	612	220	241	586
Stage 1	-	-	-	-	-	-	545	536	-	558	548	-
Stage 2	-	-	-	-	-	-	543	543	-	544	535	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1074	-	-	1112	-	-	191	230	612	214	232	586
Mov Cap-2 Maneuver	-	-	-	-	-	-	191	230	-	214	232	-
Stage 1	-	-	-	-	-	-	528	519	-	541	545	-
Stage 2	-	-	-	-	-	-	498	540	-	526	518	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	19.7	17
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	248	1074	-	-	1112	-	-	367
HCM Lane V/C Ratio	0.014	0.03	-	-	0.005	-	-	0.187
HCM Control Delay (s)	19.7	8.5	-	-	8.3	-	-	17
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	334	360	110	62	92
Future Vol, veh/h	85	334	360	110	62	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	96	375	404	124	70	103

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	528	0	-	0	1033	466
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	567	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1039	-	-	-	258	597
Stage 1	-	-	-	-	632	-
Stage 2	-	-	-	-	568	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1039	-	-	-	234	597
Mov Cap-2 Maneuver	-	-	-	-	234	-
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	568	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1039	-	-	-	234	597
HCM Lane V/C Ratio	0.092	-	-	-	0.298	0.173
HCM Control Delay (s)	8.8	-	-	-	26.8	12.3
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1.2	0.6

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	72	338	372	29	43	68
Future Vol, veh/h	72	338	372	29	43	68
Conflicting Peds, #/hr	0	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	367	404	32	47	74

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	437	0	-	0	944	421
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	523	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1123	-	-	-	291	632
Stage 1	-	-	-	-	662	-
Stage 2	-	-	-	-	595	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1122	-	-	-	265	631
Mov Cap-2 Maneuver	-	-	-	-	265	-
Stage 1	-	-	-	-	604	-
Stage 2	-	-	-	-	594	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	17.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1122	-	-	-	411
HCM Lane V/C Ratio	0.07	-	-	-	0.294
HCM Control Delay (s)	8.4	0	-	-	17.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	1.2



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	115	321	254	256	122	917	46	753	57
v/c Ratio	0.68	0.84	0.86	0.50	0.50	0.64	0.46	0.47	0.09
Control Delay	83.2	70.2	85.4	45.1	65.7	37.7	82.9	22.0	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.2	70.2	85.4	45.1	65.7	37.7	82.9	22.0	1.0
Queue Length 50th (ft)	107	267	235	189	108	373	36	186	0
Queue Length 95th (ft)	170	#401	330	280	178	486	m0	172	m5
Internal Link Dist (ft)		765		337		302		1110	
Turn Bay Length (ft)	180		175		205		290		210
Base Capacity (vph)	244	413	354	540	244	1426	122	1612	605
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.78	0.72	0.47	0.50	0.64	0.38	0.47	0.09

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	167	131	236	183	55	113	645	207	43	700	53
Future Volume (veh/h)	107	167	131	236	183	55	113	645	207	43	700	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	115	180	141	254	197	59	122	694	223	46	753	57
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	3	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	198	155	245	372	111	372	1178	378	62	1347	410
Arrive On Green	0.08	0.21	0.21	0.14	0.27	0.27	0.21	0.45	0.45	0.07	0.53	0.53
Sat Flow, veh/h	1774	963	755	1774	1373	411	1774	2634	846	1774	5085	1547
Grp Volume(v), veh/h	115	0	321	254	0	256	122	466	451	46	753	57
Grp Sat Flow(s),veh/h/ln	1774	0	1718	1774	0	1784	1774	1770	1711	1774	1695	1547
Q Serve(g_s), s	9.3	0.0	26.5	20.0	0.0	17.7	8.5	28.7	28.7	3.7	14.3	2.1
Cycle Q Clear(g_c), s	9.3	0.0	26.5	20.0	0.0	17.7	8.5	28.7	28.7	3.7	14.3	2.1
Prop In Lane	1.00		0.44	1.00		0.23	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h	138	0	353	245	0	483	372	791	765	62	1347	410
V/C Ratio(X)	0.84	0.00	0.91	1.04	0.00	0.53	0.33	0.59	0.59	0.74	0.56	0.14
Avail Cap(c_a), veh/h	245	0	391	245	0	517	372	791	765	122	1347	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	66.0	0.0	56.3	62.5	0.0	45.0	48.6	30.1	30.1	66.8	28.4	15.5
Incr Delay (d2), s/veh	5.0	0.0	26.9	67.8	0.0	2.6	0.2	3.2	3.3	5.9	1.5	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	4.8	0.0	15.2	14.4	0.0	9.1	4.2	14.7	14.2	1.9	6.8	1.1
LnGrp Delay(d),s/veh	71.0	0.0	83.2	130.3	0.0	47.6	48.8	33.3	33.4	72.7	30.0	16.2
LnGrp LOS	E		F	F		D	D	C	C	E	C	B
Approach Vol, veh/h		436			510			1039			856	
Approach Delay, s/veh		80.0			88.8			35.2			31.4	
Approach LOS		E			F			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	71.6	26.4	36.2	37.2	45.2	16.9	45.7
Change Period (Y+Rc), s	* 5.7	6.8	6.4	* 6.4	6.8	* 6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 10	48.4	20.0	* 33	20.0	* 38	* 20	42.0
Max Q Clear Time (g_c+I1), s	5.7	30.7	22.0	28.5	10.5	16.3	11.3	19.7
Green Ext Time (p_c), s	0.0	11.2	0.0	1.3	0.1	11.4	0.1	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	50.5
HCM 2010 LOS	D

Notes



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	38	10	21	7	1008	9	1005	71
v/c Ratio	0.13	0.02	0.05	0.04	0.41	0.05	0.41	0.06
Control Delay	17.9	0.1	0.2	29.1	12.5	29.2	12.4	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	0.1	0.2	29.1	12.5	29.2	12.4	1.4
Queue Length 50th (ft)	12	0	0	2	83	3	83	0
Queue Length 95th (ft)	31	0	0	16	#403	19	#400	10
Internal Link Dist (ft)	1563		335		1230		572	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	861	1046	958	490	2443	490	2446	1106
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.01	0.02	0.01	0.41	0.02	0.41	0.06

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	3	10	5	0	16	7	974	4	9	975	69
Future Volume (veh/h)	34	3	10	5	0	16	7	974	4	9	975	69
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		0.98
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	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	35	3	10	5	0	16	7	1004	4	9	1005	71
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	282	18	166	116	19	126	20	1651	7	25	1627	712
Arrive On Green	0.10	0.10	0.10	0.10	0.00	0.10	0.01	0.46	0.46	0.01	0.46	0.46
Sat Flow, veh/h	1285	175	1583	200	177	1204	1774	3615	14	1774	3539	1549
Grp Volume(v), veh/h	38	0	10	21	0	0	7	491	517	9	1005	71
Grp Sat Flow(s),veh/h/ln	1459	0	1583	1581	0	0	1774	1770	1860	1774	1770	1549
Q Serve(g_s), s	0.5	0.0	0.3	0.0	0.0	0.0	0.2	9.8	9.8	0.2	10.1	1.2
Cycle Q Clear(g_c), s	1.0	0.0	0.3	0.5	0.0	0.0	0.2	9.8	9.8	0.2	10.1	1.2
Prop In Lane	0.92		1.00	0.24		0.76	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	300	0	166	260	0	0	20	808	849	25	1627	712
V/C Ratio(X)	0.13	0.00	0.06	0.08	0.00	0.00	0.35	0.61	0.61	0.36	0.62	0.10
Avail Cap(c_a), veh/h	752	0	672	1172	0	0	564	938	986	564	1877	822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.3	0.0	19.0	19.1	0.0	0.0	23.1	9.6	9.6	23.0	9.6	7.2
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.0	0.0	3.9	3.2	3.0	3.2	1.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.1	0.2	0.0	0.0	0.1	5.5	5.7	0.1	5.2	0.6
LnGrp Delay(d),s/veh	19.4	0.0	19.1	19.2	0.0	0.0	27.1	12.8	12.7	26.2	11.1	7.4
LnGrp LOS	B		B	B			C	B	B	C	B	A
Approach Vol, veh/h		48			21			1015			1085	
Approach Delay, s/veh		19.3			19.2			12.8			11.0	
Approach LOS		B			B			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	6.4	28.3		12.4	6.2	28.5		12.4
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 15	25.0		* 20	* 15	25.0		33.0
Max Q Clear Time (g_c+I1), s	2.2	11.8		3.0	2.2	12.1		2.5
Green Ext Time (p_c), s	0.0	9.4		0.1	0.0	9.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	4	27	2	3	24	137	999	57	17	1035	32
Future Vol, veh/h	9	4	27	2	3	24	137	999	57	17	1035	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	4	28	2	3	25	144	1052	60	18	1089	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1958	2542	562	1953	2529	556	1123	0	0	1112	0	0
Stage 1	1142	1142	-	1370	1370	-	-	-	-	-	-	-
Stage 2	816	1400	-	583	1159	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	38	27	470	38	27	475	618	-	-	624	-	-
Stage 1	213	273	-	154	212	-	-	-	-	-	-	-
Stage 2	337	205	-	465	268	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	26	20	470	24	20	475	618	-	-	624	-	-
Mov Cap-2 Maneuver	26	20	-	24	20	-	-	-	-	-	-	-
Stage 1	163	265	-	118	163	-	-	-	-	-	-	-
Stage 2	240	157	-	418	260	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	127.4	54.7	1.4	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	618	-	-	66	102	624	-	-
HCM Lane V/C Ratio	0.233	-	-	0.638	0.299	0.029	-	-
HCM Control Delay (s)	12.6	-	-	127.4	54.7	10.9	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0.9	-	-	2.8	1.1	0.1	-	-



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	253	31	127	1076	64	1086
v/c Ratio	0.70	0.08	0.52	0.69	0.33	0.82
Control Delay	32.9	13.1	37.6	21.5	36.6	29.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	13.1	37.6	21.5	36.6	29.6
Queue Length 50th (ft)	89	4	54	216	27	234
Queue Length 95th (ft)	178	24	109	#347	66	#426
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	475	502	396	1556	396	1324
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.06	0.32	0.69	0.16	0.82

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	1	77	9	1	18	114	956	13	58	967	11
Future Volume (veh/h)	149	1	77	9	1	18	114	956	13	58	967	11
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		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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	166	1	86	10	1	20	127	1062	14	64	1074	12
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	297	12	110	159	45	233	163	1455	19	114	1360	15
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.09	0.41	0.41	0.06	0.38	0.38
Sat Flow, veh/h	913	55	498	376	205	1056	1774	3576	47	1774	3585	40
Grp Volume(v), veh/h	253	0	0	31	0	0	127	526	550	64	530	556
Grp Sat Flow(s),veh/h/ln	1466	0	0	1636	0	0	1774	1770	1853	1774	1770	1856
Q Serve(g_s), s	9.2	0.0	0.0	0.0	0.0	0.0	4.4	15.7	15.7	2.2	16.6	16.6
Cycle Q Clear(g_c), s	10.1	0.0	0.0	0.9	0.0	0.0	4.4	15.7	15.7	2.2	16.6	16.6
Prop In Lane	0.66		0.34	0.32		0.65	1.00		0.03	1.00		0.02
Lane Grp Cap(c), veh/h	419	0	0	437	0	0	163	720	754	114	671	704
V/C Ratio(X)	0.60	0.00	0.00	0.07	0.00	0.00	0.78	0.73	0.73	0.56	0.79	0.79
Avail Cap(c_a), veh/h	607	0	0	630	0	0	424	720	754	424	705	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	0.0	19.4	0.0	0.0	27.8	15.7	15.7	28.5	17.2	17.2
Incr Delay (d2), s/veh	2.4	0.0	0.0	0.1	0.0	0.0	3.0	6.2	5.9	1.6	8.9	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	0.0	0.4	0.0	0.0	2.3	8.8	9.2	1.1	9.8	10.2
LnGrp Delay(d),s/veh	25.3	0.0	0.0	19.5	0.0	0.0	30.9	21.9	21.6	30.1	26.1	25.8
LnGrp LOS	C			B			C	C	C	C	C	C
Approach Vol, veh/h		253			31			1203			1150	
Approach Delay, s/veh		25.3			19.5			22.7			26.2	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.7	33.4		19.6	11.5	31.7		19.6
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 15	25.0		* 22	* 15	25.0		* 22
Max Q Clear Time (g_c+I1), s	4.2	17.7		12.1	6.4	18.6		2.9
Green Ext Time (p_c), s	0.0	5.8		1.5	0.1	5.1		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	24.4
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	482	0	0	497	0	0
Future Vol, veh/h	482	0	0	497	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	502	0	0	518	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	502
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	569
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	569
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	452	417	23	21	25
Future Vol, veh/h	19	452	417	23	21	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	471	434	24	22	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	458	0	-	0	957	446
Stage 1	-	-	-	-	446	-
Stage 2	-	-	-	-	511	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1103	-	-	-	286	612
Stage 1	-	-	-	-	645	-
Stage 2	-	-	-	-	602	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1103	-	-	-	279	612
Mov Cap-2 Maneuver	-	-	-	-	279	-
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	602	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	15.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1103	-	-	-	396
HCM Lane V/C Ratio	0.018	-	-	-	0.121
HCM Control Delay (s)	8.3	0	-	-	15.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	473	0	0	405	0	0
Future Vol, veh/h	473	0	0	405	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	514	0	0	440	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	514
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	560
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	560
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	246	205	140	3	4	265
Future Vol, veh/h	246	205	140	3	4	265
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	265	220	151	3	4	285

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	154	0	-	0	903	153
Stage 1	-	-	-	-	153	-
Stage 2	-	-	-	-	750	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1426	-	-	-	308	893
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	467	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1426	-	-	-	243	893
Mov Cap-2 Maneuver	-	-	-	-	243	-
Stage 1	-	-	-	-	690	-
Stage 2	-	-	-	-	467	-

Approach	EB	WB	SB
HCM Control Delay, s	4.4	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1426	-	-	-	243	893
HCM Lane V/C Ratio	0.185	-	-	-	0.018	0.319
HCM Control Delay (s)	8.1	0	-	-	20.1	10.9
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.7	-	-	-	0.1	1.4

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1024	1067	0
Future Vol, veh/h	0	0	0	1024	1067	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	1113	1160	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	580	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	392	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	392	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1024	1067	0
Future Vol, veh/h	0	0	0	1024	1067	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	1113	1160	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	580	1160	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	458	598	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	458	598	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	598	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	21	0	0	0
Future Vol, veh/h	0	16	21	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	23	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	40	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	972	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	972	1054
Mov Cap-2 Maneuver	-	-	-	-	972	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	21	0	0	0
Future Vol, veh/h	0	16	21	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	23	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	40	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	972	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	972	1054
Mov Cap-2 Maneuver	-	-	-	-	972	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	21	0	0	0
Future Vol, veh/h	0	16	21	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	23	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	40	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	972	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	972	1054
Mov Cap-2 Maneuver	-	-	-	-	972	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	21	0	0	0
Future Vol, veh/h	0	16	21	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	23	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	40	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	972	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	972	1054
Mov Cap-2 Maneuver	-	-	-	-	972	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Appendix D – Existing and Existing plus Project Signal Warrants

Existing Conditions
Signal Warrants

Peak Hour Warrant (Rural Areas)

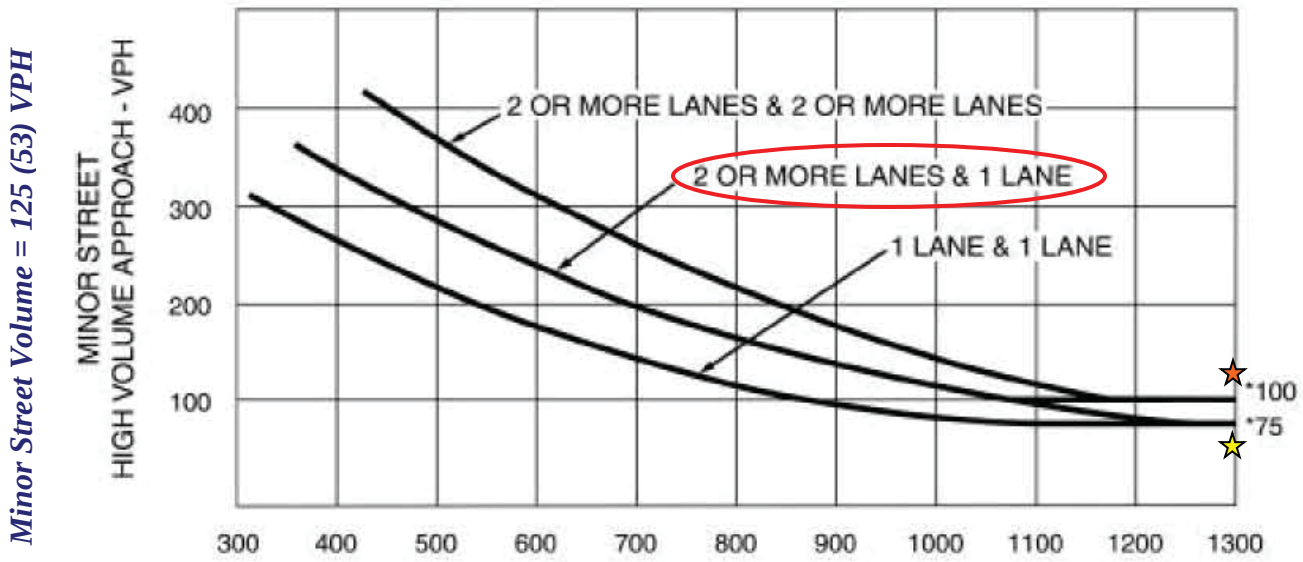
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Caldwell Avenue and Dans Street, Visalia, CA

Scenario: Existing Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

☆ – P.M.

Major Street Volume = 1310 (1754) VPH

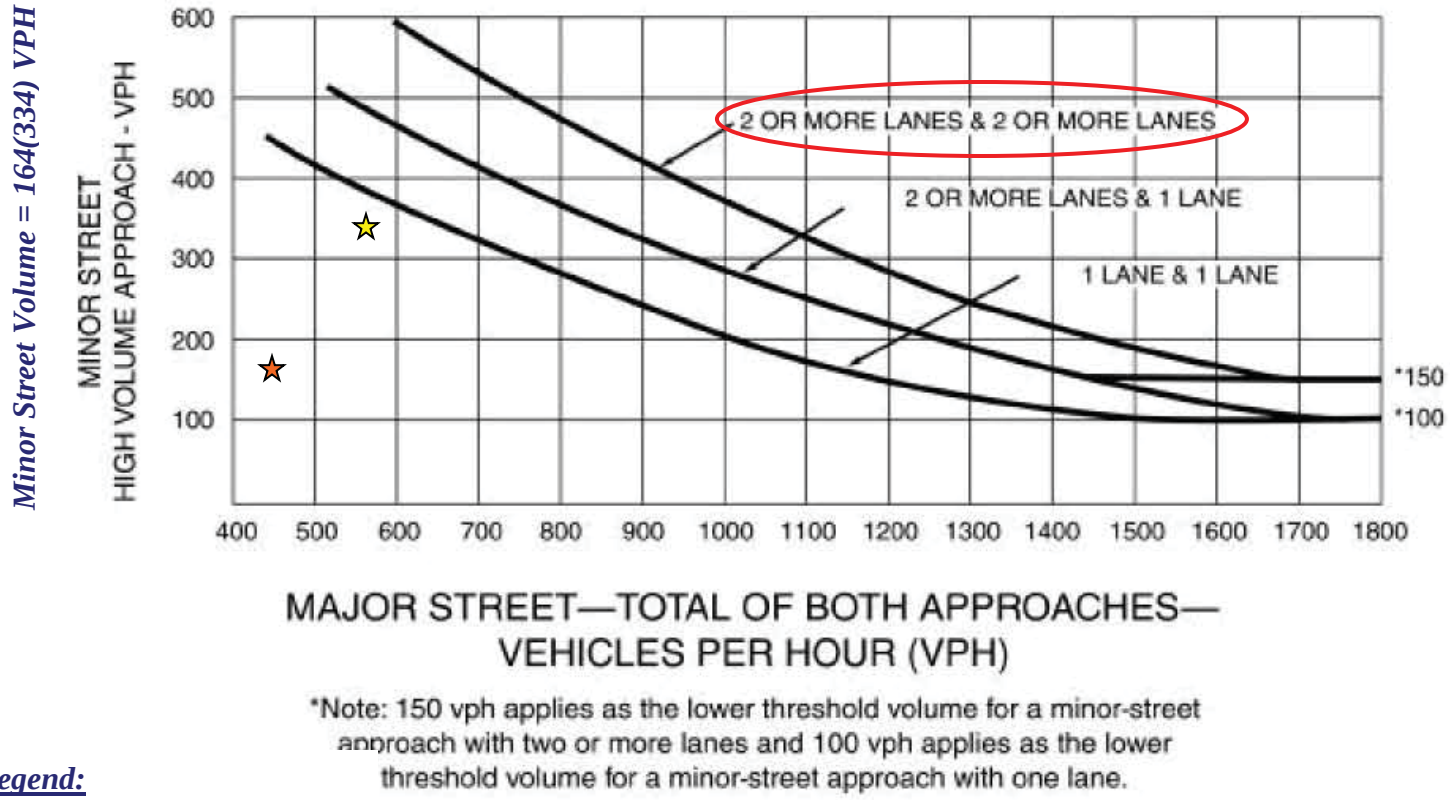
A signal is warranted for the A.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Urban Areas)

Intersection: Cameron Avenue and County Center Drive, Visalia, CA
Scenario: Existing Conditions A.M. & P.M. Peak Hour

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
★ – A.M.
★ – P.M.

Major Street Volume = 454 (589) VPH

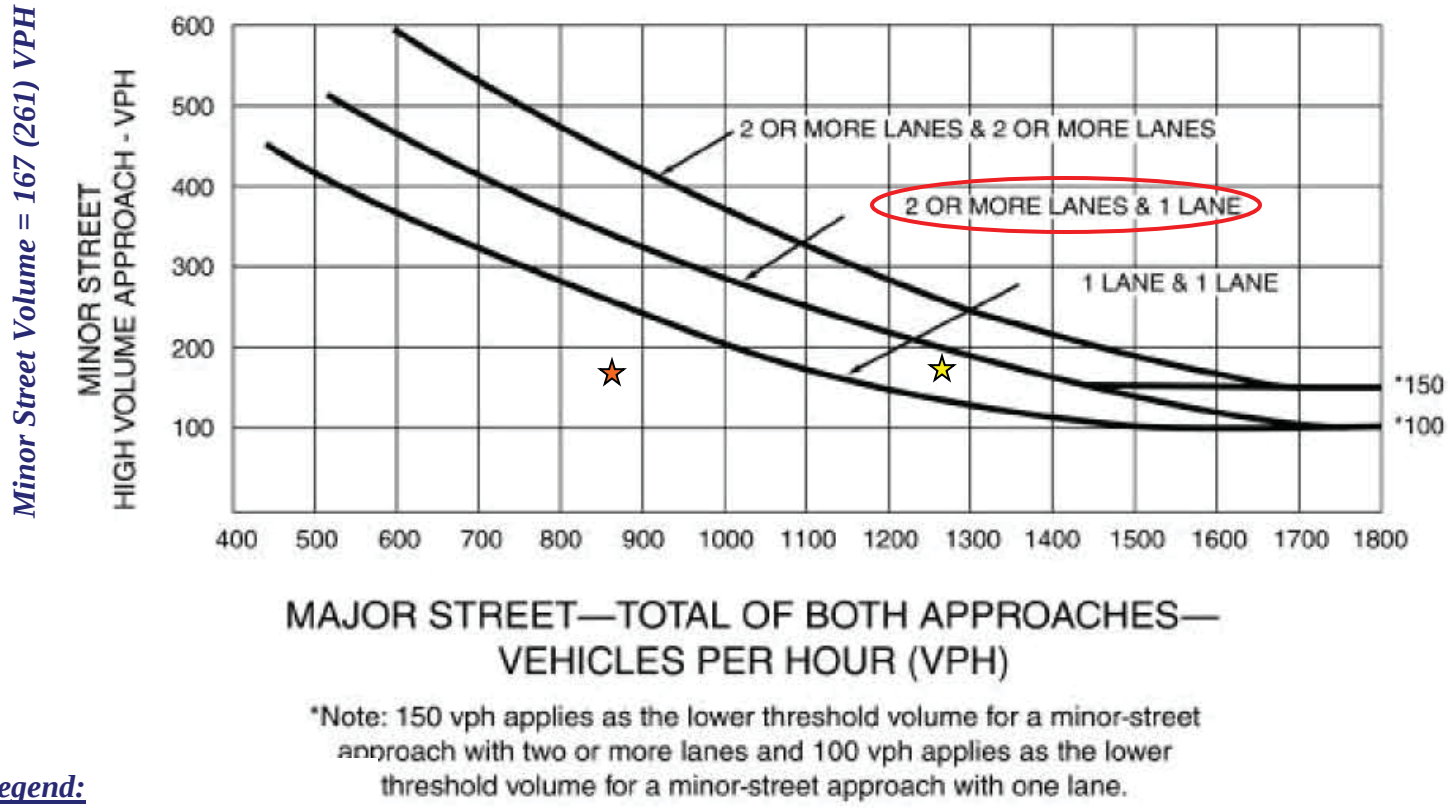
A signal is not warranted for the A.M. or P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

Peak Hour Warrant (Urban Areas)

Intersection: Cameron Avenue and Stonebrook Street, Visalia, CA
Scenario: Existing Conditions A.M. & P.M. Peak Hour

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Major Street Volume = 872 (1282) VPH

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
– A.M.
– P.M.

A signal is not warranted for the A.M. or P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

Peak Hour Warrant (Rural Areas)

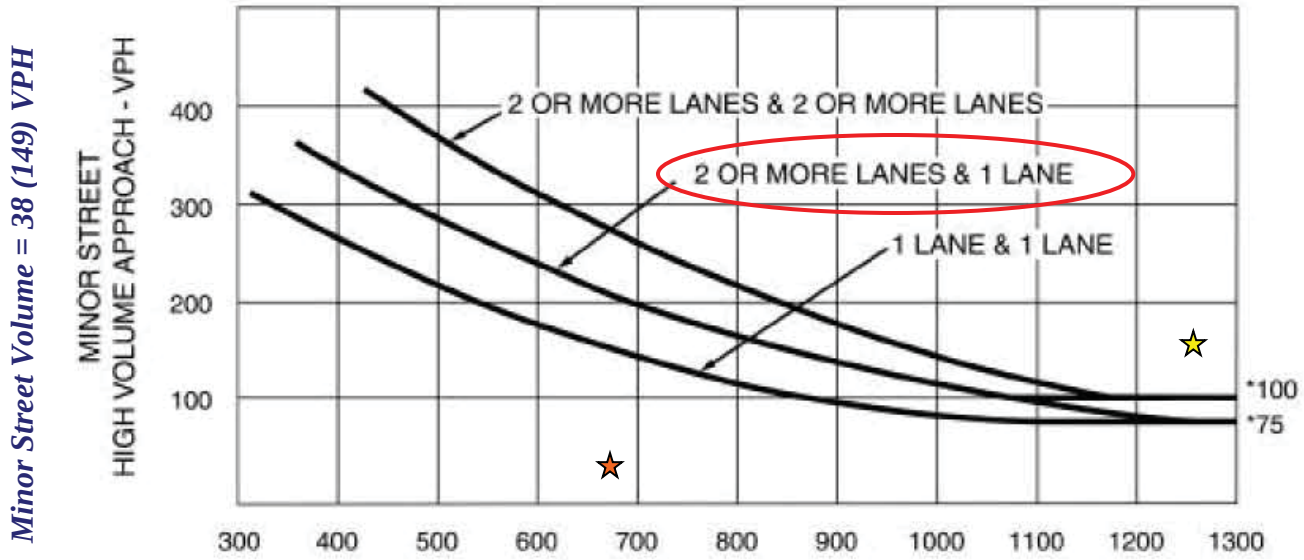
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Cameron Avenue and West Street, Visalia, CA

Scenario: Existing Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

★ – P.M.

Major Street Volume = 688 (1260) VPH

A signal is warranted for the P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Rural Areas)

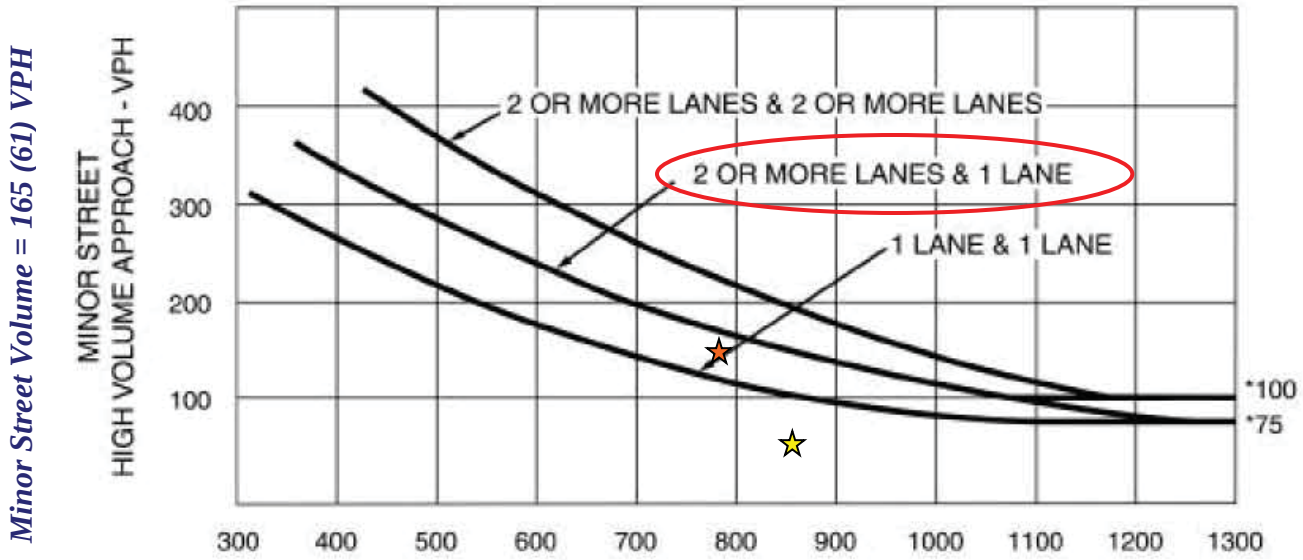
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Visalia Parkway and Dans Street, Visalia, CA

Scenario: Existing Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

★ – P.M.

Major Street Volume = 791 (868) VPH

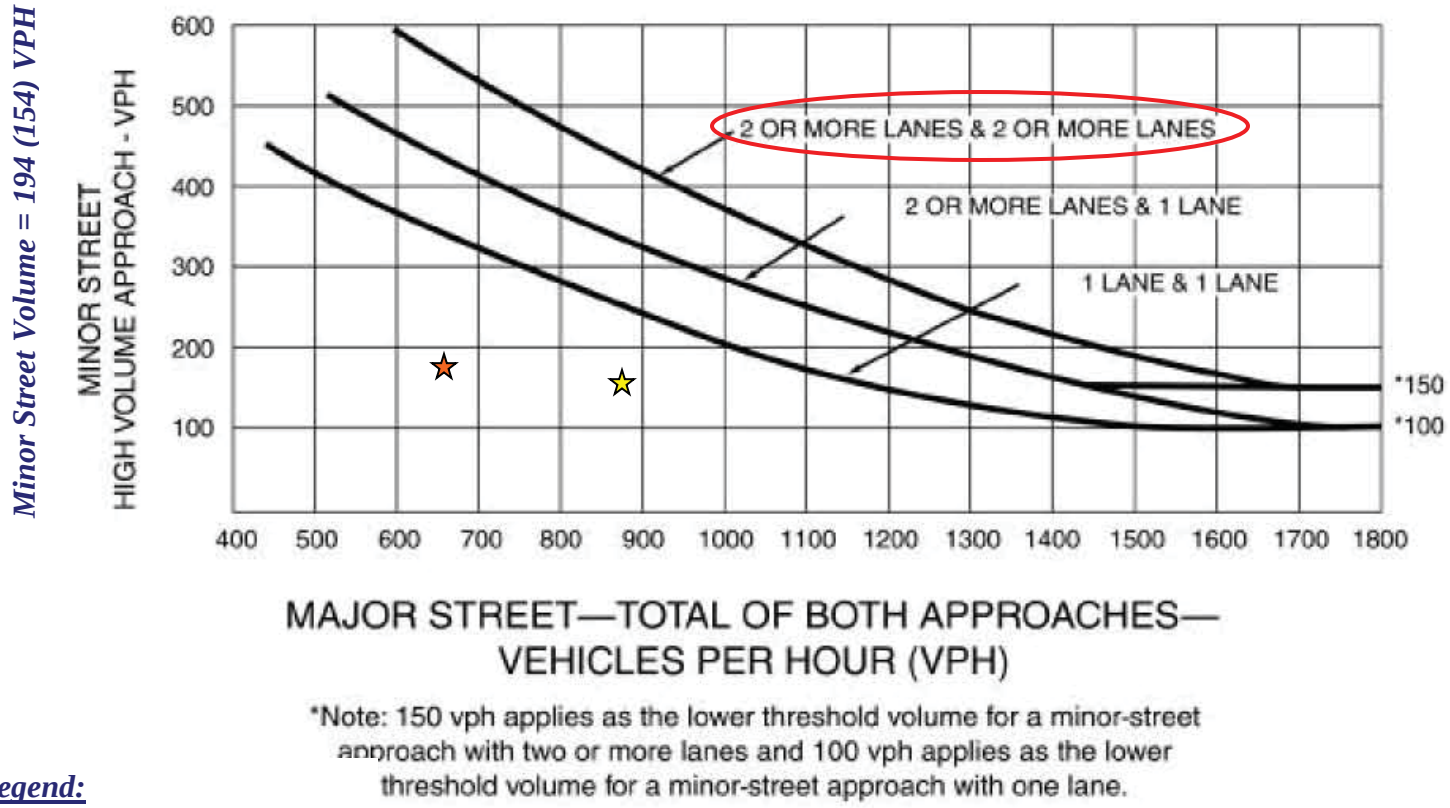
A signal is not warranted for the A.M. or P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Urban Areas)

Intersection: Visalia Parkway and County Center Drive, Visalia, CA
Scenario: Existing Conditions A.M. & P.M. Peak Hour

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Major Street Volume = 669 (889) VPH

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
– A.M.
– P.M.

A signal is not warranted for the A.M. or P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

Peak Hour Warrant (Rural Areas)

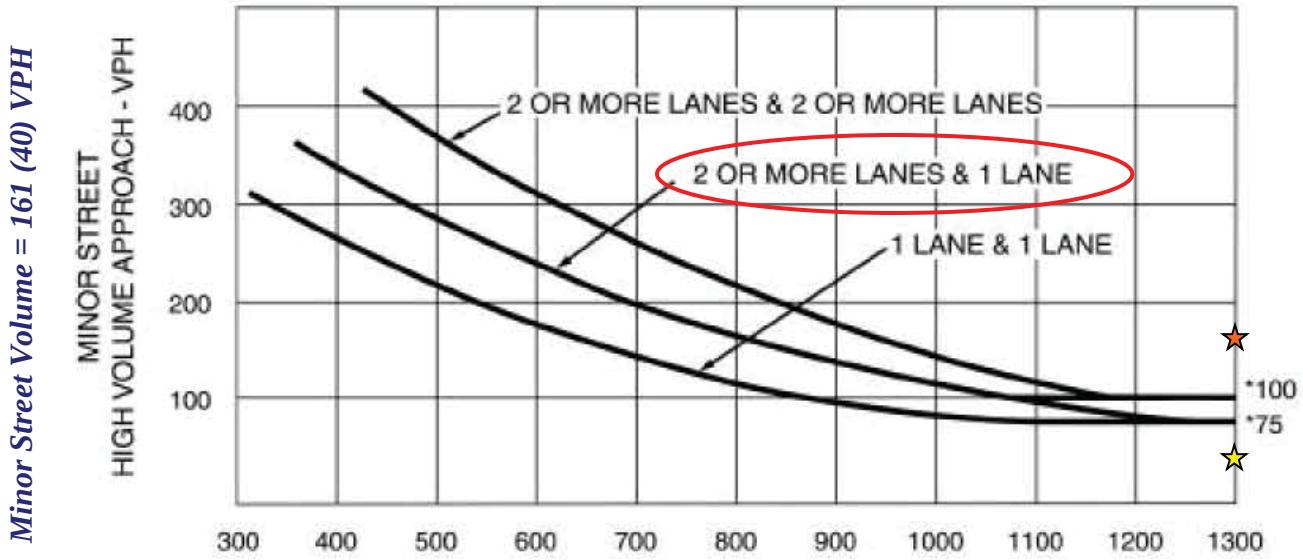
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Mooney Boulevard and Avenue 272, Visalia, CA

Scenario: Existing Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

★ – P.M.

Major Street Volume = 1411 (2277) VPH

A signal is warranted for the A.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Rural Areas)

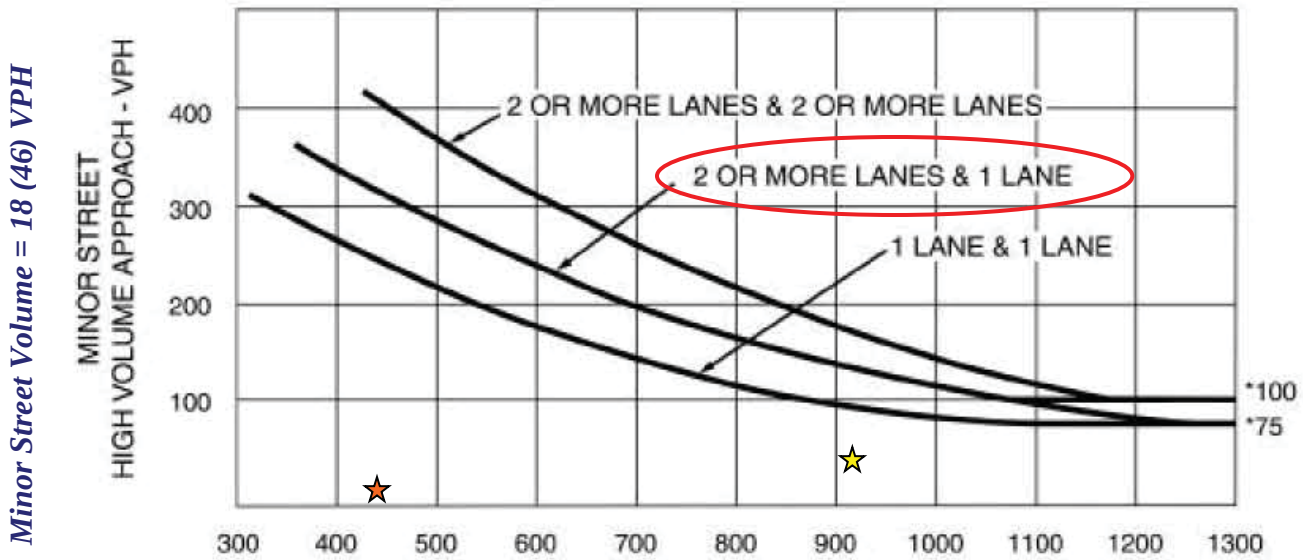
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Visalia Parkway and Tuesday Morning Driveway, Visalia, CA

Scenario: Existing Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

★ – P.M.

Major Street Volume = 437 (911) VPH

A signal is not warranted for the A.M. or P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Rural Areas)

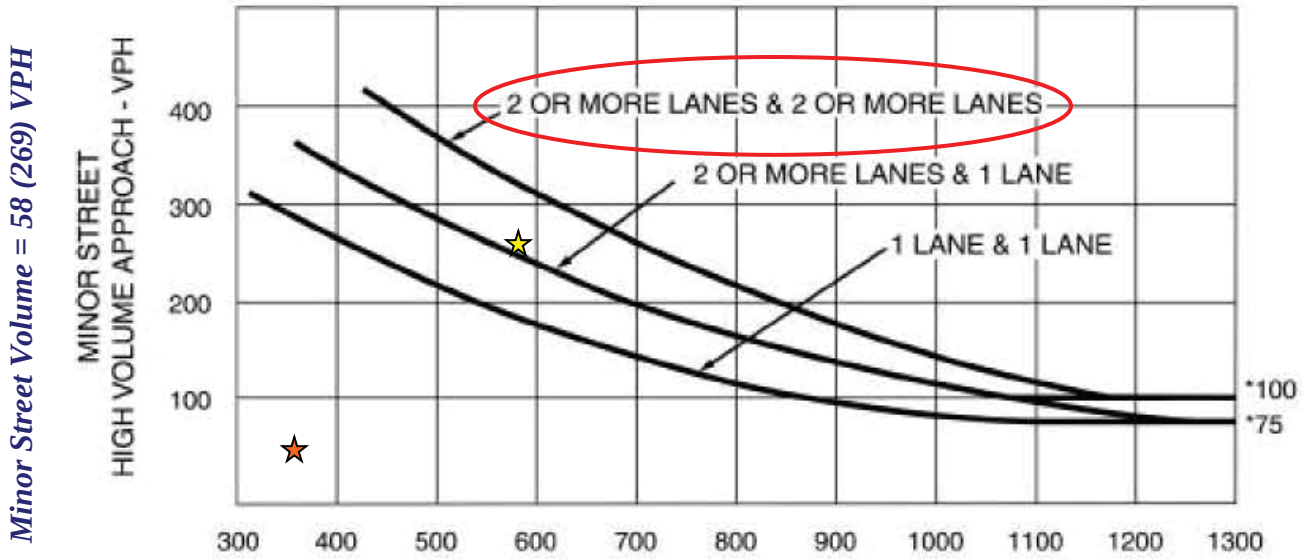
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Visalia Parkway and Costco Driveway, Visalia, CA

Scenario: Existing Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

★ – P.M.

Major Street Volume = 364 (594) VPH

A signal is not warranted for the A.M. or P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Existing Conditions 8 Hour Signal Warrants (from Visalia Parkway Shopping Center TIS)

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 5)

COUNT DATE 5-7-19
CALC JR DATE
CHK DATE

DIST CO RTE PM

Major St: CALDWELL
Minor St: DANS

Critical Approach Speed 45 mph
Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 40 mph ☒ or
In built up area of isolated community of < 10,000 population ☐ } RURAL (R)
☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume SATISFIED YES ☐ NO ☒
(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				730-830 100%		700-800 80%	800-900 80%				Hour
	U	(R)	U	(R)								
APPROACH LANES	1		2 or More									
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	1310		914	1220				
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	125		85	94				

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☒ NO ☐

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				700-800 100%	800-900 100%	1215-1315 100%	1315-1415 100%	1715-1815 100%	930-1030 80%	1115-1215 80%	1315-1415 80%	Hour
	U	R	U	R									
APPROACH LANES	1		2 or More										
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	1150	1089	1488	1754	1567	1152	1118	1308	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	108	67	54	53	56	44	44	47	

Combination of Conditions A & B SATISFIED YES ☐ NO ☒

REQUIREMENT	CONDITION	✓	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☒
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC	✓	
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 5)

COUNT DATE 5-7-19
CALC JR DATE
CHK DATE

DIST CO RTE PM

Major St: CALDWELL
Minor St: DANS

Critical Approach Speed 45 mph
Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 40 mph ☒ or
In built up area of isolated community of < 10,000 population ☐ } RURAL (R)
☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume SATISFIED YES ☐ NO ☒
(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				730-830 100%		700-800 80%	800-900 80%				Hour
	U	(R)	U	(R)								
APPROACH LANES	1		2 or More									
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	1310		914	1220				
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	125		85	94				

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☒ NO ☐

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				700-800 100%	800-900 100%	1215-1315 100%	1315-1415 100%	1715-1815 100%	930-1030 80%	1115-1215 80%	1315-1415 80%	Hour
	U	R	U	R									
APPROACH LANES	1		2 or More										
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	1150	1089	1488	1754	1567	1152	1118	1308	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	108	67	54	53	56	44	44	47	

Combination of Conditions A & B SATISFIED YES ☐ NO ☒

REQUIREMENT	CONDITION	✓	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☒
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC	✓	
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 5)

COUNT DATE 5-7-19

DIST ____ CO ____ RTE ____ PM ____

CALC ____ DATE ____

CHK ____ DATE ____

Major St: CAMERON

Minor St: STONEBROOK

Critical Approach Speed 40 mph

Critical Approach Speed 35 mph

Speed limit or critical speed on major street traffic > 40 mph ☐ or
In built up area of isolated community of < 10,000 population ☐ } RURAL (R)

☒ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume SATISFIED YES ☒ NO ☐
(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☒ NO ☐

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				1200-1300	1300-1400	1400-1500	1500-1600	1600-1700	1700-1800	1800-1915-2015	Hour
	U	R	U	R								
APPROACH LANES	1		2 or More									
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	1074	1018	1053	1143	1203	1282	1074	787
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	227	229	244	253	250	261	209	162

7 HRS @ 100%.
10 HRS @ 80%.

100% 80%

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES ☒ NO ☐
80% SATISFIED YES ☐ NO ☐

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				745-845	1030-1130	1130-1230	1230-1330	1330-1430	1430-1530	1530-1630	Hour
	U	R	U	R								
APPROACH LANES	1		2 or More									
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	806	850	973	1037	1076	1077	1177	1342
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	173	161	197	241	222	268	234	251

11 HRS @ 100%.

Combination of Conditions A & B SATISFIED YES ☒ NO ☐

REQUIREMENT	CONDITION	✓	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME	✓	Yes ☒ No ☐
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC	✓	
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			Yes ☐ No ☐

NEED TO TRY ALL-WAY STOP.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

MINIMAL NBLT

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 5)

COUNT DATE 5-7-19

DIST ____ CO ____ RTE ____ PM ____

CALC ____ DATE ____

CHK ____ DATE ____

Major St: CAMERON

Minor St: WEST

Critical Approach Speed 45 mph

Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 40 mph ☒ or In built up area of isolated community of < 10,000 population ☐ } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume SATISFIED YES ☒ NO ☐

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume 100% SATISFIED YES ☐ NO ☒

80% SATISFIED YES ☒ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7-8	8-9	12-1	1-2	2-3	3-4	4-5	5-6	6-7	10-11	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	671	1026	1031	1185	1241	1114	484	733			
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	105	105	125	114	136	110	92	85			

100% → 80% 80%

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES ☒ NO ☐

80% SATISFIED YES ☐ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7-8	8-9	12-1	1-2	2-3	3-4	4-5	5-6	10-11	7-8	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	671	1026	1031	1185	1241	1114	733	717			
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	105	105	125	114	136	110	85	62			

13 @ 100%

Combination of Conditions A & B SATISFIED YES ☒ NO ☐

REQUIREMENT	CONDITION	✓	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME	✓	Yes ☒ No ☐
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC	✓	
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			Yes ☐ No ☐

TRY ALL-WAY STOP.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

MOSTLY SBRT.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 5)

COUNT DATE 5-7-19

DIST ___ CO ___ RTE ___ PM ___

CALC ___ DATE ___

CHK ___ DATE ___

Major St: VISALIA PKWY

Minor St: DANS

Critical Approach Speed 45 mph

Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 40 mph ☒ } RURAL (R)

In built up area of isolated community of < 10,000 population ☐ } or

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume SATISFIED YES ☐ NO ☒

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume 100% SATISFIED YES ☐ NO ☒

80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				800-900	1415-1515							Hour
	U	R	U	R									
APPROACH LANES	1		2 or More										
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	600	810							
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	118	100							
					100%	80%							

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES ☐ NO ☒

80% SATISFIED YES ☒ NO ☐

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				700-800	800-900	1400-1500	1500-1600	1700-1800	1130-1230	1245-1345	1600-1700	Hour
	U	R	U	R									
APPROACH LANES	1		2 or More										
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	532	600	808	837	859	635	683	830	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	75	118	76	76	61	50	52	47	
					100%	100	100	100	100%	80%	80	80	

5 @ 100%

3 @ 80%

Combination of Conditions A & B SATISFIED YES ☐ NO ☒

REQUIREMENT	CONDITION	✓	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☒
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC	✓	
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			Yes ☐ No ☐

TRY ALL-WAY STOP.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

MOST IS SBRT

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 5)

COUNT DATE 5-7-19

DIST ___ CO ___ RTE ___ PM ___

CALC ___ DATE ___

CHK ___ DATE ___

Major St: VISALIA PKWY

Minor St: COUNTY CENTER

Critical Approach Speed 40 mph

Critical Approach Speed 40 mph

Speed limit or critical speed on major street traffic > 40 mph ☐ or
In built up area of isolated community of < 10,000 population ☐ } RURAL (R)

☒ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume SATISFIED YES ☐ NO ☒
(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				745-845	1330-1330	1415-1515					Hour
	U	R	U	R								
APPROACH LANES	1		2 or More									
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	629	652	800					
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	172	164	167					
					80%	80%	80%					

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☒ NO ☐

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				1330-1430	1430-1530	1530-1630	1630-1730	745-845	1145-1245	1845-1945	Hour
	U	R	U	R								
APPROACH LANES	1		2 or More									
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	771	787	819	876	796	629	658	608
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	166	152	139	151	135	172	133	80
					100%	→	→	→	→	80%	→	→

Combination of Conditions A & B SATISFIED YES ☐ NO ☒

REQUIREMENT	CONDITION	✓	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☒
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC	✓	
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 5)

COUNT DATE 5-7-19

DIST ___ CO ___ RTE ___ PM ___

CALC ___ DATE ___

CHK ___ DATE ___

Major St: MOONEY BLVD

Minor St: AVE 272

Critical Approach Speed 55 mph

Critical Approach Speed >40 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒ } RURAL (R)

In built up area of isolated community of < 10,000 population..... ☐ or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume **SATISFIED YES ☒ NO ☐**
(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume **100% SATISFIED YES ☐ NO ☒**
80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				645-745	745-845	1345-1445					Hour
	U	R	U	R								
APPROACH LANES	1		2 or More									
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	105	1372	1812					
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	152	125	85					
					100%	100%	80%					

Condition B - Interruption of Continuous Traffic **100% SATISFIED YES ☒ NO ☐**
80% SATISFIED YES ☐ NO ☐

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				715-815	815-915	1015-1115	1215-1315	1315	1415	1515	1615	Hour
	U	R	U	R									
APPROACH LANES	1		2 or More										
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	1343	1194	1456	1942	1721	1769	1802	2202	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	172	79	57	89	79	54	70	55	

9 HRS @ 100%

Combination of Conditions A & B **SATISFIED YES ☐ NO ☒**

REQUIREMENT	CONDITION	✓	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☒
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC	✓	
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Existing plus Project Conditions
Signal Warrants

Peak Hour Warrant (Rural Areas)

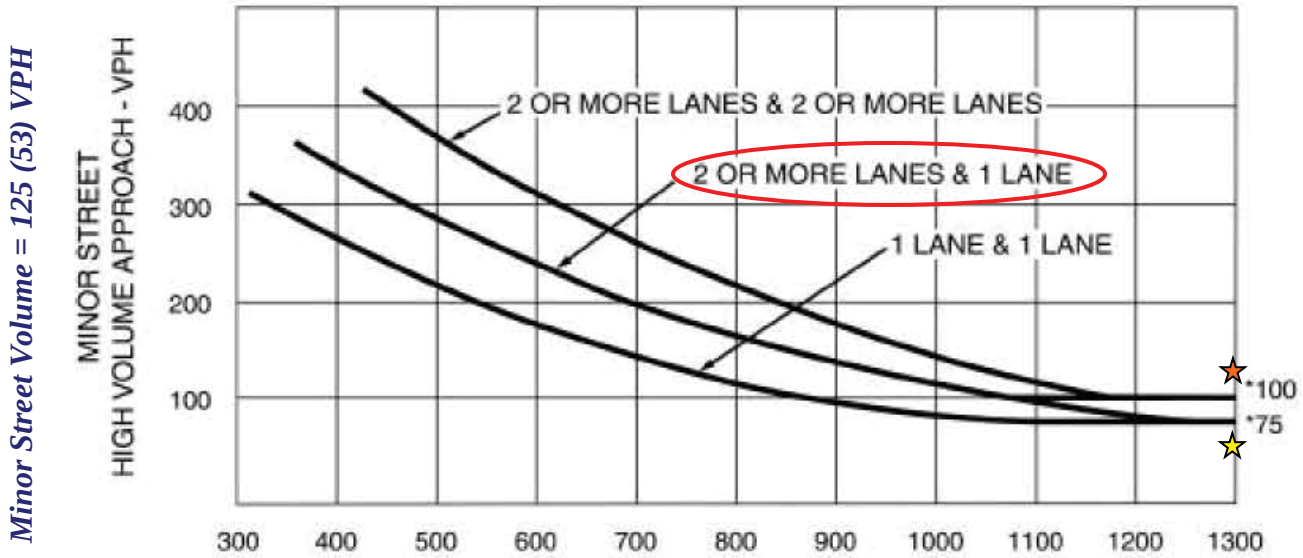
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Caldwell Avenue and Dans Street, Visalia, CA

Scenario: Existing plus Project Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Minor Street Volume = 125 (53) VPH

Major Street Volume = 1387 (1873) VPH

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

★ – P.M.

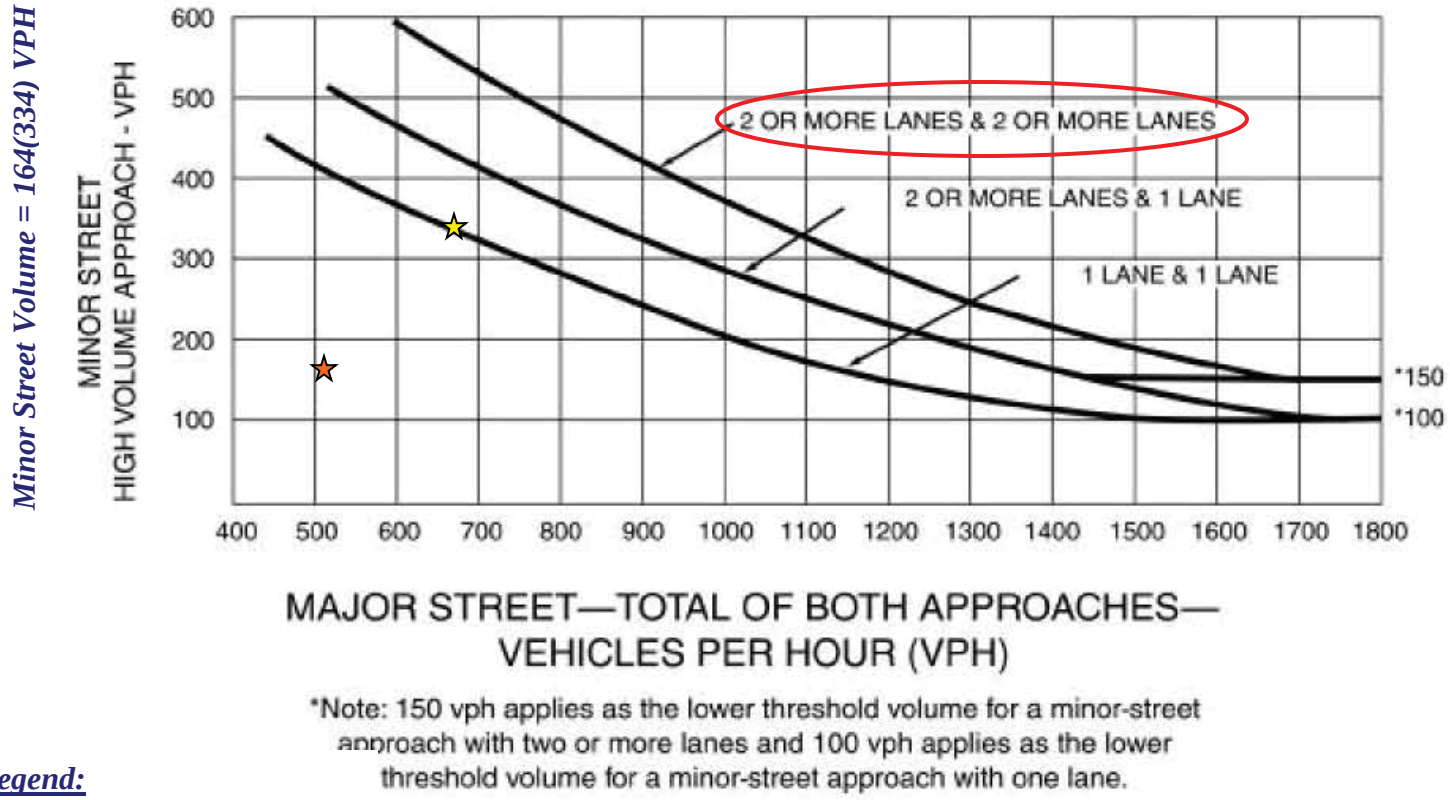
A signal is warranted for the A.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Urban Areas)

Intersection: Cameron Avenue and County Center Drive, Visalia, CA
Scenario: Existing plus Project Conditions A.M. & P.M. Peak Hour

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Major Street Volume = 508 (674) VPH

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
– A.M.
– P.M.

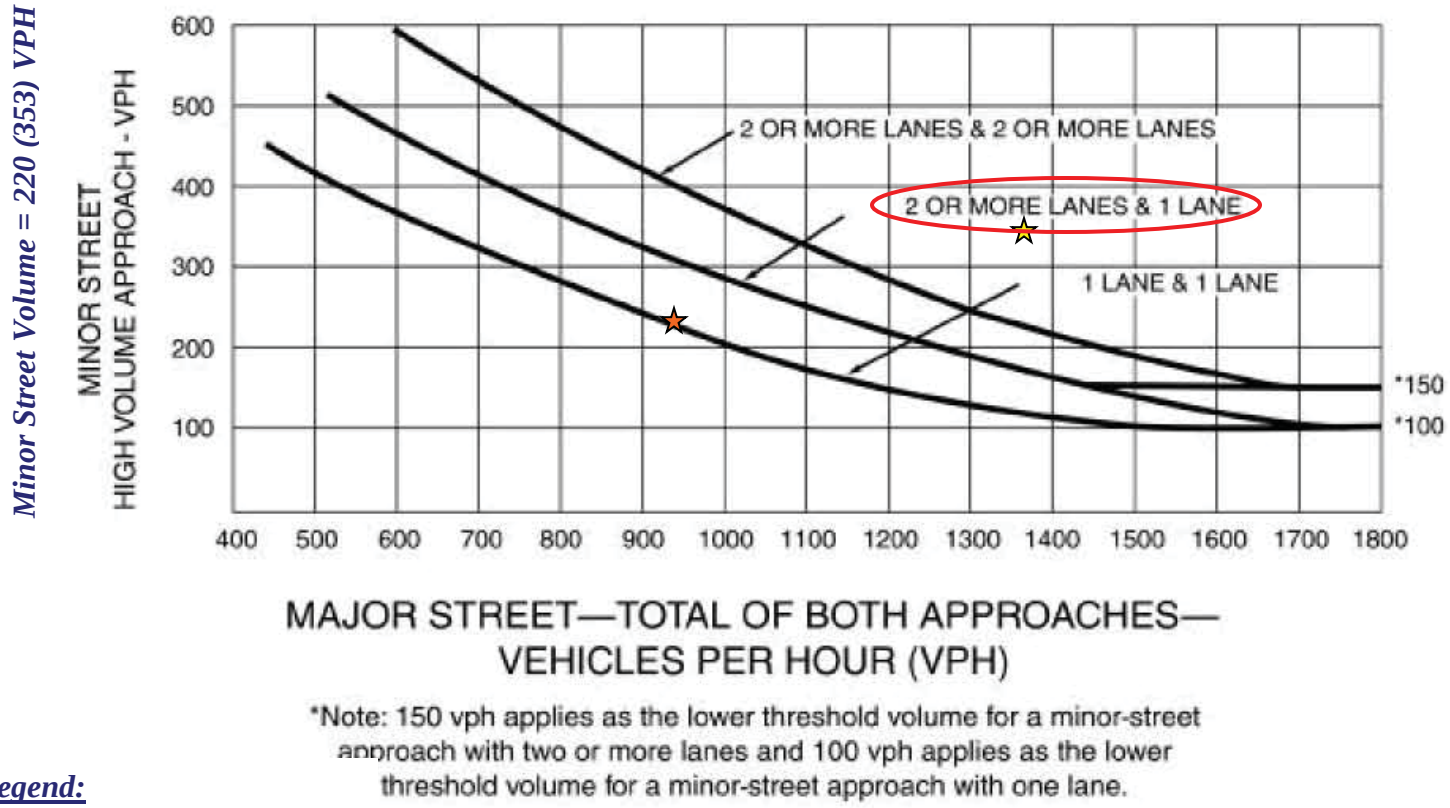
A signal is not warranted for the A.M. or P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

Peak Hour Warrant (Urban Areas)

Intersection: Cameron Avenue and Stonebrook Street, Visalia, CA
Scenario: Existing plus Project Conditions A.M. & P.M. Peak Hour

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Major Street Volume = 934 (1372) VPH

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
– A.M.
– P.M.

A signal is warranted for the P.M. Peak Hour.

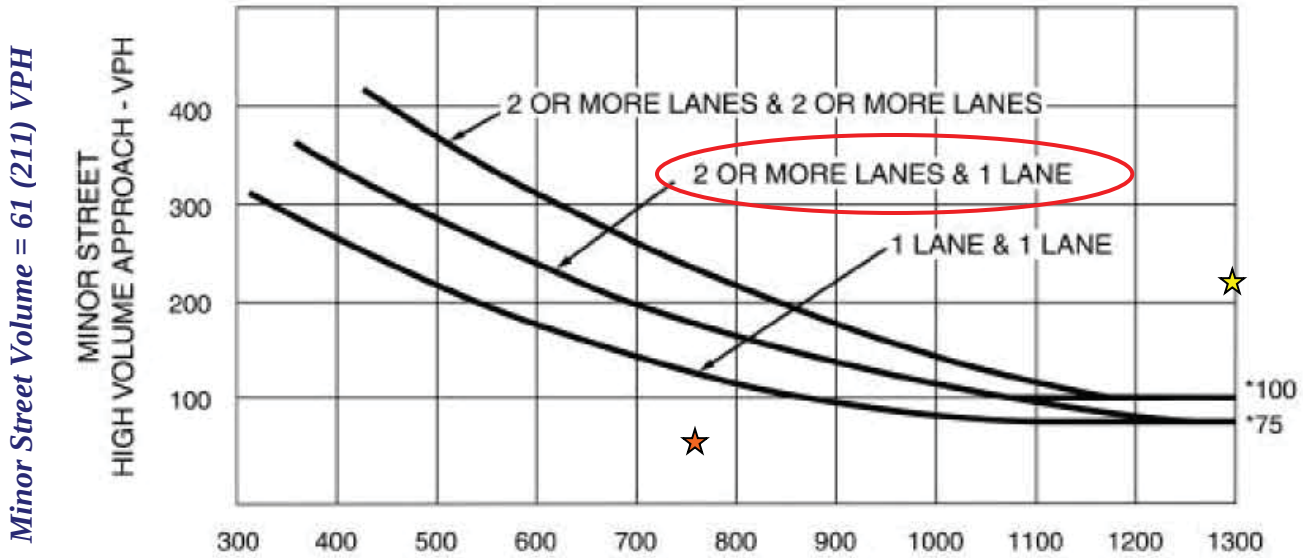
Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

Peak Hour Warrant (Rural Areas)

(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)
Intersection: Cameron Avenue and West Street, Visalia, CA
Scenario: Existing plus Project Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
★ – A.M.
★ – P.M.

Major Street Volume = 759 (1380) VPH

A signal is warranted for the P.M. Peak Hour.

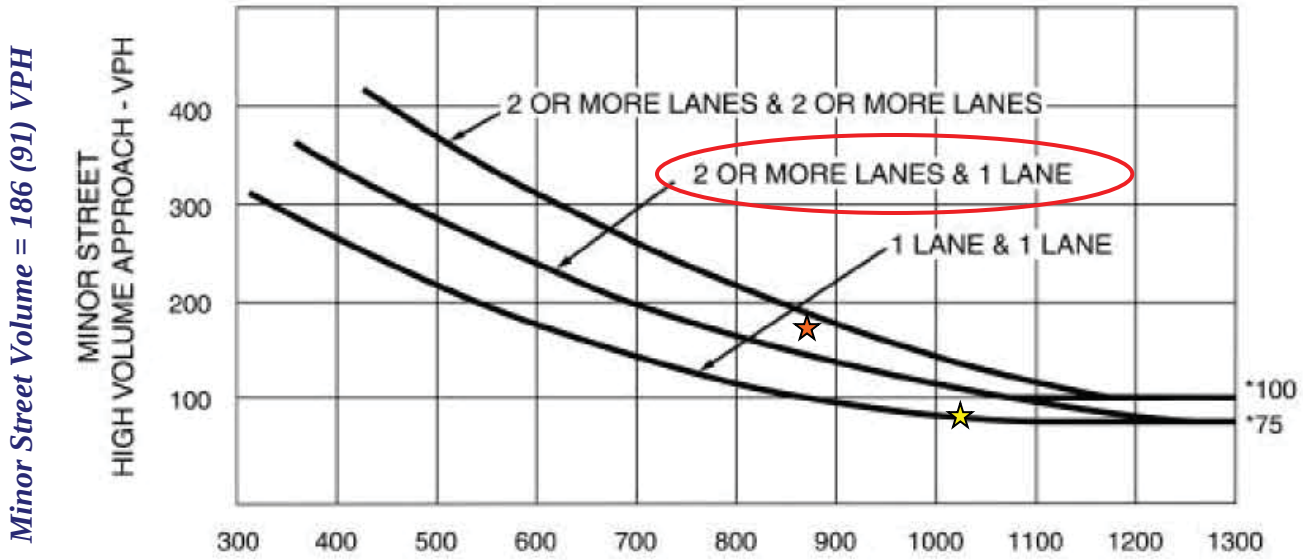
Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Rural Areas)

(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)
Intersection: Visalia Parkway and Dans Street, Visalia, CA
Scenario: Existing plus Project Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
★ – A.M.
☆ – P.M.

Major Street Volume = 887 (1021) VPH

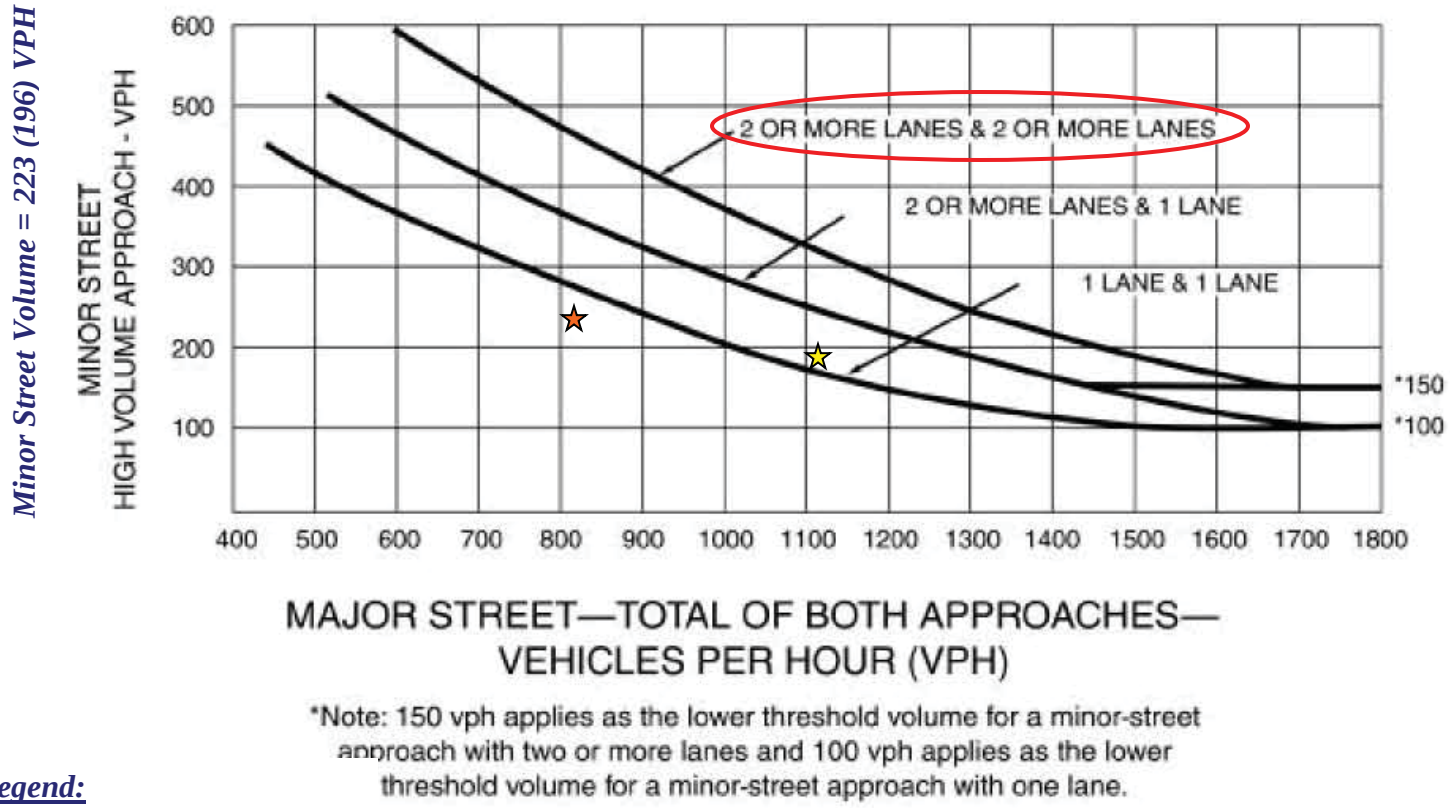
A signal is warranted for the A.M. and P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Urban Areas)

Intersection: Visalia Parkway and County Center Drive, Visalia, CA
Scenario: Existing plus Project Conditions A.M. & P.M. Peak Hour

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Major Street Volume = 811 (1115) VPH

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
– A.M.
– P.M.

A signal is not warranted for the A.M. or P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

Peak Hour Warrant (Rural Areas)

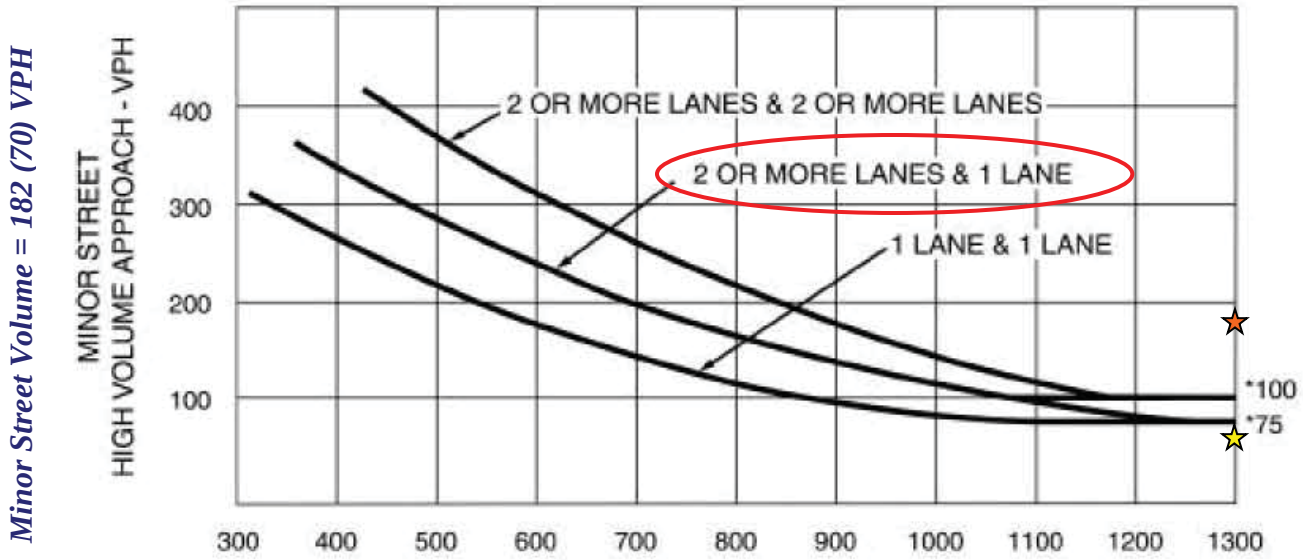
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Mooney Boulevard and Avenue 272, Visalia, CA

Scenario: Existing plus Project Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

★ – P.M.

Major Street Volume = 1589 (2439) VPH

A signal is warranted for the A.M. Peak Hour.

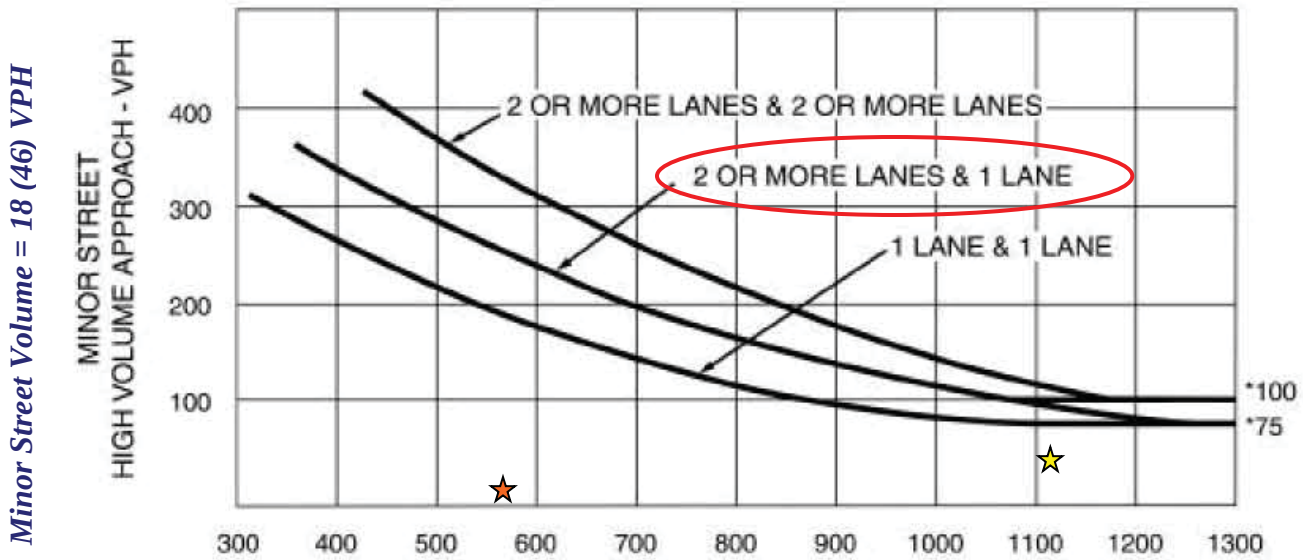
Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Rural Areas)

(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)
Intersection: Visalia Parkway and Tuesday Morning Driveway, Visalia, CA
Scenario: Existing plus Project Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Minor Street Volume = 18 (46) VPH

Major Street Volume = 572 (911) VPH

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
★ – A.M.
★ – P.M.

A signal is not warranted for the A.M. or P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Rural Areas)

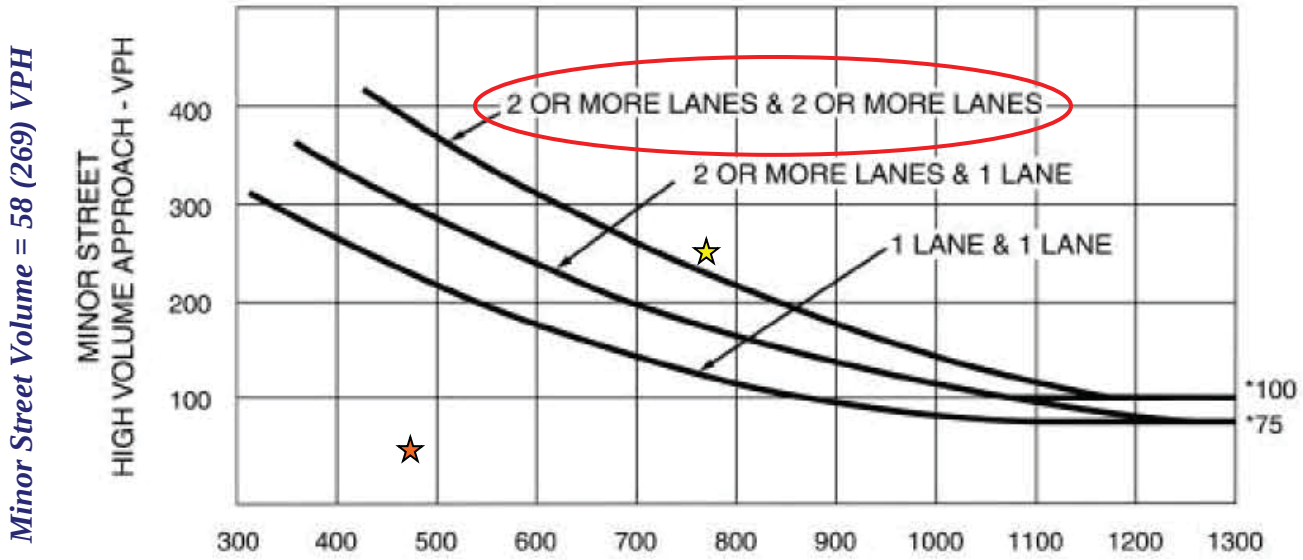
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Visalia Parkway and Costco Driveway, Visalia, CA

Scenario: Existing plus Project Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

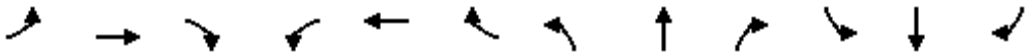
☆ – P.M.

Major Street Volume = 479 (776) VPH

A signal is warranted for the P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Appendix E – Existing plus Project Conditions Intersections Level of Service and Queuing Work Sheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	104	216	145	192	260	62	106	611	151	65	554	45
v/c Ratio	0.43	0.46	0.42	0.67	0.50	0.17	0.30	0.21	0.16	0.37	0.21	0.05
Control Delay	69.7	59.6	8.8	75.6	58.9	1.0	62.6	16.9	3.6	72.4	21.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.7	59.6	8.8	75.6	58.9	1.0	62.6	16.9	3.6	72.4	21.2	0.1
Queue Length 50th (ft)	49	103	0	92	124	0	48	94	0	31	97	0
Queue Length 95th (ft)	79	123	43	130	141	0	78	168	42	56	163	0
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	284	878	506	355	951	534	355	2954	970	355	2604	854
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.25	0.29	0.54	0.27	0.12	0.30	0.21	0.16	0.18	0.21	0.05

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	192	129	171	231	55	94	544	134	58	493	40
Future Volume (veh/h)	93	192	129	171	231	55	94	544	134	58	493	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	104	216	145	192	260	62	106	611	151	65	554	45
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	278	501	223	238	460	204	824	2969	913	132	1922	596
Arrive On Green	0.08	0.14	0.14	0.07	0.13	0.13	0.24	0.58	0.58	0.04	0.38	0.38
Sat Flow, veh/h	3442	3539	1573	3442	3539	1565	3442	5085	1563	3442	5085	1578
Grp Volume(v), veh/h	104	216	145	192	260	62	106	611	151	65	554	45
Grp Sat Flow(s),veh/h/ln	1721	1770	1573	1721	1770	1565	1721	1695	1563	1721	1695	1578
Q Serve(g_s), s	4.2	8.1	12.6	8.0	10.0	4.5	3.5	8.2	4.1	2.7	11.0	2.6
Cycle Q Clear(g_c), s	4.2	8.1	12.6	8.0	10.0	4.5	3.5	8.2	4.1	2.7	11.0	2.6
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	278	501	223	238	460	204	824	2969	913	132	1922	596
V/C Ratio(X)	0.37	0.43	0.65	0.81	0.56	0.30	0.13	0.21	0.17	0.49	0.29	0.08
Avail Cap(c_a), veh/h	285	879	391	285	952	421	824	2969	913	356	1922	596
HCM Platoon Ratio	1.00	1.00	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	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.2	56.9	58.8	66.5	59.2	42.3	43.3	14.3	5.6	68.3	31.5	28.9
Incr Delay (d2), s/veh	0.3	1.1	6.1	11.1	2.1	1.6	0.0	0.2	0.4	1.1	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	4.0	5.9	4.2	5.0	2.2	1.7	3.9	2.6	1.3	5.2	1.2
LnGrp Delay(d),s/veh	63.5	58.0	65.0	77.7	61.3	43.9	43.3	14.4	6.0	69.4	31.9	29.1
LnGrp LOS	E	E	E	E	E	D	D	B	A	E	C	C
Approach Vol, veh/h		465			514			868			664	
Approach Delay, s/veh		61.4			65.3			16.5			35.4	
Approach LOS		E			E			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	11.3	91.1	15.7	26.9	41.1	61.2	17.4	25.3
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 15	54.8	12.0	* 36	15.0	* 55	12.0	* 39
Max Q Clear Time (g_c+I1), s	4.7	10.2	10.0	14.6	5.5	13.0	6.2	12.0
Green Ext Time (p_c), s	0.0	9.9	0.1	3.1	0.1	7.8	0.1	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	39.8
HCM 2010 LOS	D

Notes



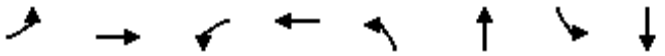
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	101	178	8	272	100	51	75	12	141
v/c Ratio	0.30	0.19	0.03	0.42	0.17	0.11	0.20	0.02	0.27
Control Delay	24.3	8.9	26.3	17.3	7.1	15.6	18.0	16.1	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.3	8.9	26.3	17.3	7.1	15.6	18.0	16.1	5.4
Queue Length 50th (ft)	23	18	2	54	4	9	16	2	0
Queue Length 95th (ft)	81	88	15	155	35	36	51	14	31
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	699	1269	699	1283	1090	980	806	1132	997
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.14	0.01	0.21	0.09	0.05	0.09	0.01	0.14

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	139	12	7	231	85	18	21	4	64	10	120
Future Volume (veh/h)	86	139	12	7	231	85	18	21	4	64	10	120
Number	5	2	12	1	6	16	7	4	14	3	8	18
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	0.98		0.98	0.98		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	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	101	164	14	8	272	100	21	25	5	75	12	141
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	604	52	23	493	409	249	249	39	542	468	381
Arrive On Green	0.10	0.36	0.36	0.01	0.26	0.26	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	1692	144	1774	1863	1545	444	992	156	1349	1863	1518
Grp Volume(v), veh/h	101	0	178	8	272	100	51	0	0	75	12	141
Grp Sat Flow(s),veh/h/ln	1774	0	1836	1774	1863	1545	1592	0	0	1349	1863	1518
Q Serve(g_s), s	2.0	0.0	2.5	0.2	4.6	1.9	0.0	0.0	0.0	0.6	0.2	2.8
Cycle Q Clear(g_c), s	2.0	0.0	2.5	0.2	4.6	1.9	0.8	0.0	0.0	1.4	0.2	2.8
Prop In Lane	1.00		0.08	1.00		1.00	0.41		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	186	0	655	23	493	409	538	0	0	542	468	381
V/C Ratio(X)	0.54	0.00	0.27	0.35	0.55	0.24	0.09	0.00	0.00	0.14	0.03	0.37
Avail Cap(c_a), veh/h	721	0	1492	721	1513	1255	1176	0	0	1117	1261	1028
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.7	0.0	8.5	18.1	11.7	10.7	10.6	0.0	0.0	10.8	10.4	11.4
Incr Delay (d2), s/veh	0.9	0.0	0.4	3.4	1.6	0.5	0.1	0.0	0.0	0.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	1.4	0.1	2.6	0.9	0.4	0.0	0.0	0.6	0.1	1.3
LnGrp Delay(d),s/veh	16.6	0.0	8.8	21.5	13.3	11.2	10.8	0.0	0.0	11.0	10.5	12.4
LnGrp LOS	B		A	C	B	B	B			B	B	B
Approach Vol, veh/h		279			380			51			228	
Approach Delay, s/veh		11.6			12.9			10.8			11.9	
Approach LOS		B			B			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	4.5	18.2		14.3	7.9	14.8		14.3
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	15.0	30.0		25.0	15.0	30.0		25.0
Max Q Clear Time (g_c+I1), s	2.2	4.5		2.8	4.0	6.6		4.8
Green Ext Time (p_c), s	0.0	1.5		0.3	0.1	3.1		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	44	14	11	33	40	787	89	763
v/c Ratio	0.17	0.02	0.05	0.04	0.17	0.26	0.32	0.25
Control Delay	36.4	0.0	39.4	0.1	37.1	18.3	34.9	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.4	0.0	39.4	0.1	37.1	18.3	34.9	16.2
Queue Length 50th (ft)	13	0	3	0	12	65	26	57
Queue Length 95th (ft)	66	0	27	0	62	235	110	213
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	561	1035	561	990	561	2904	561	2941
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.01	0.02	0.03	0.07	0.27	0.16	0.26

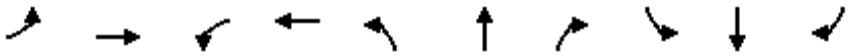
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	13	10	0	31	38	737	10	85	673	52
Future Volume (veh/h)	42	0	13	10	0	31	38	737	10	85	673	52
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		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	44	0	14	11	0	33	40	776	11	89	708	55
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	0	208	30	0	149	90	1585	22	149	1638	127
Arrive On Green	0.05	0.00	0.13	0.02	0.00	0.09	0.05	0.31	0.31	0.08	0.34	0.34
Sat Flow, veh/h	1774	0	1577	1774	0	1580	1774	5164	73	1774	4814	372
Grp Volume(v), veh/h	44	0	14	11	0	33	40	509	278	89	497	266
Grp Sat Flow(s),veh/h/ln	1774	0	1577	1774	0	1580	1774	1695	1847	1774	1695	1796
Q Serve(g_s), s	1.2	0.0	0.4	0.3	0.0	1.0	1.1	6.3	6.3	2.5	5.8	5.9
Cycle Q Clear(g_c), s	1.2	0.0	0.4	0.3	0.0	1.0	1.1	6.3	6.3	2.5	5.8	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.21
Lane Grp Cap(c), veh/h	97	0	208	30	0	149	90	1040	567	149	1153	611
V/C Ratio(X)	0.45	0.00	0.07	0.37	0.00	0.22	0.44	0.49	0.49	0.60	0.43	0.43
Avail Cap(c_a), veh/h	417	0	617	521	0	619	521	1659	904	521	1659	879
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	19.4	24.8	0.0	21.4	23.5	14.4	14.4	22.6	13.0	13.0
Incr Delay (d2), s/veh	1.2	0.0	0.1	2.7	0.0	0.5	1.3	0.7	1.3	1.4	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.2	0.2	0.0	0.5	0.6	3.0	3.4	1.3	2.8	3.0
LnGrp Delay(d),s/veh	24.7	0.0	19.5	27.6	0.0	21.9	24.8	15.1	15.7	24.0	13.5	14.0
LnGrp LOS	C		B	C		C	C	B	B	C	B	B
Approach Vol, veh/h		58			44			827			852	
Approach Delay, s/veh		23.4			23.4			15.8			14.8	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	22.1	6.6	12.4	8.3	23.8	8.5	10.5
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	* 5.7	6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 15	25.0	* 15	* 20	* 15	25.0	* 12	* 20
Max Q Clear Time (g_c+I1), s	4.5	8.3	2.3	2.4	3.1	7.9	3.2	3.0
Green Ext Time (p_c), s	0.1	7.2	0.0	0.0	0.0	7.1	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	3	1	18	23	11	762	27	63	642	5
v/c Ratio	0.02	0.00	0.20	0.04	0.05	0.20	0.02	0.52	0.16	0.00
Control Delay	45.7	0.0	66.3	0.1	55.7	11.4	0.0	74.6	10.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	0.0	66.3	0.1	55.7	11.4	0.0	74.6	10.8	0.0
Queue Length 50th (ft)	3	0	16	0	4	67	0	54	27	0
Queue Length 95th (ft)	10	0	42	0	14	224	0	101	191	0
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	246	804	170	835	381	3735	1159	196	3951	1241
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.00	0.11	0.03	0.03	0.20	0.02	0.32	0.16	0.00

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	1	17	0	22	10	724	26	60	610	5
Future Volume (veh/h)	3	0	1	17	0	22	10	724	26	60	610	5
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		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	3	0	1	18	0	23	11	762	27	63	642	5
Adj No. of Lanes	1	1	0	1	1	0	2	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	23	0	74	39	0	90	1526	3599	1117	81	1548	482
Arrive On Green	0.01	0.00	0.05	0.02	0.00	0.06	0.89	1.00	1.00	0.05	0.30	0.30
Sat Flow, veh/h	1774	0	1543	1774	0	1583	3442	5085	1579	1774	5085	1582
Grp Volume(v), veh/h	3	0	1	18	0	23	11	762	27	63	642	5
Grp Sat Flow(s),veh/h/ln	1774	0	1543	1774	0	1583	1721	1695	1579	1774	1695	1582
Q Serve(g_s), s	0.2	0.0	0.1	1.4	0.0	1.9	0.0	0.0	0.0	4.7	13.6	0.3
Cycle Q Clear(g_c), s	0.2	0.0	0.1	1.4	0.0	1.9	0.0	0.0	0.0	4.7	13.6	0.3
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	23	0	74	39	0	90	1526	3599	1117	81	1548	482
V/C Ratio(X)	0.13	0.00	0.01	0.47	0.00	0.26	0.01	0.21	0.02	0.78	0.41	0.01
Avail Cap(c_a), veh/h	171	0	480	171	0	493	1526	3599	1117	197	1548	482
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.97	0.97	0.97	0.98	0.98	0.98
Uniform Delay (d), s/veh	65.9	0.0	61.2	65.2	0.0	60.9	4.2	0.0	0.0	63.8	37.4	32.8
Incr Delay (d2), s/veh	0.9	0.0	0.0	3.2	0.0	1.1	0.0	0.1	0.0	5.9	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.7	0.0	0.9	0.0	0.0	0.0	2.5	6.5	0.1
LnGrp Delay(d),s/veh	66.8	0.0	61.2	68.5	0.0	62.0	4.2	0.1	0.0	69.7	38.2	32.8
LnGrp LOS	E		E	E		E	A	A	A	E	D	C
Approach Vol, veh/h		4			41			800			710	
Approach Delay, s/veh		65.4			64.8			0.2			40.9	
Approach LOS		E			E			A			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	101.9	8.6	12.6	66.3	47.5	7.4	13.8
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 15	41.1	13.0	* 42	15.0	* 41	13.0	* 42
Max Q Clear Time (g_c+I1), s	6.7	2.0	3.4	2.1	2.0	15.6	2.2	3.9
Green Ext Time (p_c), s	0.0	11.8	0.0	0.0	0.0	7.6	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	20.7
HCM 2010 LOS	C

Notes

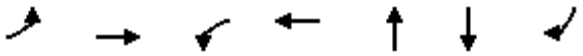
Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	611	67	49	599	28	47	0	78	8	0	17
Future Vol, veh/h	33	611	67	49	599	28	47	0	78	8	0	17
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	687	75	55	673	31	53	0	88	9	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	709	0	0	762	0	0	1246	1618	381	1222	1640	357
Stage 1	-	-	-	-	-	-	799	799	-	804	804	-
Stage 2	-	-	-	-	-	-	447	819	-	418	836	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	886	-	-	846	-	-	130	102	617	136	99	639
Stage 1	-	-	-	-	-	-	345	396	-	343	394	-
Stage 2	-	-	-	-	-	-	560	388	-	583	381	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	882	-	-	846	-	-	109	84	617	101	81	636
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	84	-	101	81	-
Stage 1	-	-	-	-	-	-	319	367	-	316	350	-
Stage 2	-	-	-	-	-	-	485	345	-	463	353	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1	44.7	22.3
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	224	882	-	-	846	-	-	236
HCM Lane V/C Ratio	0.627	0.042	-	-	0.065	-	-	0.119
HCM Control Delay (s)	44.7	9.3	0.3	-	9.6	0.4	-	22.3
HCM Lane LOS	E	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	3.7	0.1	-	-	0.2	-	-	0.4



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	26	625	17	549	56	4	2
v/c Ratio	0.06	0.16	0.04	0.14	0.12	0.01	0.00
Control Delay	17.8	5.7	18.2	5.8	11.0	19.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	5.7	18.2	5.8	11.0	19.0	0.0
Queue Length 50th (ft)	1	0	1	0	1	0	0
Queue Length 95th (ft)	29	87	22	79	35	9	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	1382	4700	1382	4707	1314	1382	1260
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.13	0.01	0.12	0.04	0.00	0.00

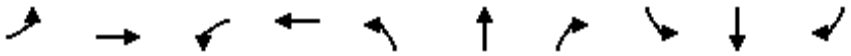
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	551	12	15	489	5	17	1	32	4	0	2
Future Volume (veh/h)	23	551	12	15	489	5	17	1	32	4	0	2
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	26	612	13	17	543	6	19	1	36	4	0	2
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	1934	41	46	1895	21	39	2	74	17	0	15
Arrive On Green	0.04	0.38	0.38	0.03	0.37	0.37	0.07	0.07	0.07	0.01	0.00	0.01
Sat Flow, veh/h	1774	5125	109	1774	5184	57	559	29	1059	1774	0	1583
Grp Volume(v), veh/h	26	404	221	17	355	194	56	0	0	4	0	2
Grp Sat Flow(s),veh/h/ln	1774	1695	1843	1774	1695	1851	1648	0	0	1774	0	1583
Q Serve(g_s), s	0.6	3.3	3.3	0.4	2.9	2.9	1.3	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.6	3.3	3.3	0.4	2.9	2.9	1.3	0.0	0.0	0.1	0.0	0.0
Prop In Lane	1.00		0.06	1.00		0.03	0.34		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	67	1279	696	46	1239	677	116	0	0	17	0	15
V/C Ratio(X)	0.39	0.32	0.32	0.37	0.29	0.29	0.48	0.00	0.00	0.23	0.00	0.13
Avail Cap(c_a), veh/h	917	3505	1906	917	3505	1914	852	0	0	917	0	818
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.2	8.5	8.5	18.5	8.7	8.7	17.3	0.0	0.0	19.0	0.0	19.0
Incr Delay (d2), s/veh	1.4	0.4	0.7	1.8	0.3	0.6	2.3	0.0	0.0	5.0	0.0	2.8
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	0.3	1.6	1.8	0.2	1.4	1.6	0.7	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	19.5	8.9	9.2	20.4	9.0	9.3	19.6	0.0	0.0	24.0	0.0	21.8
LnGrp LOS	B	A	A	C	A	A	B			C		C
Approach Vol, veh/h		651			566			56			6	
Approach Delay, s/veh		9.4			9.5			19.6			23.3	
Approach LOS		A			A			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	20.6		5.4	5.5	20.1		7.7
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	2.4	5.3		2.1	2.6	4.9		3.3
Green Ext Time (p_c), s	0.0	9.3		0.0	0.0	8.0		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	10.0
HCM 2010 LOS	A

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	148	487	114	459	129	593	97	60	544	75
v/c Ratio	0.57	0.54	0.44	0.52	0.42	0.22	0.11	0.34	0.22	0.09
Control Delay	68.9	44.6	64.4	48.9	63.0	19.6	3.1	66.6	22.7	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.9	44.6	64.4	48.9	63.0	19.6	3.1	66.6	22.7	0.8
Queue Length 50th (ft)	65	128	50	133	56	94	0	26	93	0
Queue Length 95th (ft)	100	134	80	136	90	177	26	50	169	5
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	355	1594	355	1596	304	2722	890	304	2447	815
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.31	0.32	0.29	0.42	0.22	0.11	0.20	0.22	0.09

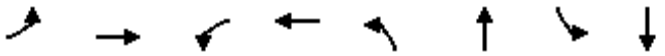
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	343	120	108	376	60	123	563	92	57	517	71
Future Volume (veh/h)	141	343	120	108	376	60	123	563	92	57	517	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		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	148	361	126	114	396	63	129	593	97	60	544	75
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	622	207	164	688	107	1004	2890	899	137	1582	491
Arrive On Green	0.06	0.16	0.16	0.05	0.15	0.15	0.58	1.00	1.00	0.08	0.62	0.62
Sat Flow, veh/h	3442	3772	1252	3442	4439	689	3442	5085	1582	3442	5085	1577
Grp Volume(v), veh/h	148	323	164	114	300	159	129	593	97	60	544	75
Grp Sat Flow(s),veh/h/ln	1721	1695	1634	1721	1695	1738	1721	1695	1582	1721	1695	1577
Q Serve(g_s), s	5.7	11.9	12.6	4.4	11.1	11.5	2.3	0.0	0.0	2.2	6.9	2.7
Cycle Q Clear(g_c), s	5.7	11.9	12.6	4.4	11.1	11.5	2.3	0.0	0.0	2.2	6.9	2.7
Prop In Lane	1.00		0.77	1.00		0.40	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	199	559	270	164	525	269	1004	2890	899	137	1582	491
V/C Ratio(X)	0.74	0.58	0.61	0.69	0.57	0.59	0.13	0.21	0.11	0.44	0.34	0.15
Avail Cap(c_a), veh/h	357	1080	520	357	1080	554	1004	2890	899	306	1582	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.99	0.99	0.99	0.99	0.99	0.99	0.97	0.97	0.97	0.99	0.99	0.99
Uniform Delay (d), s/veh	62.6	52.0	52.3	63.3	52.9	53.1	20.4	0.0	0.0	60.7	18.9	18.1
Incr Delay (d2), s/veh	2.1	1.8	4.3	1.9	1.9	3.9	0.0	0.2	0.2	0.8	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	2.8	5.7	6.0	2.1	5.3	5.8	1.1	0.0	0.1	1.1	3.3	1.2
LnGrp Delay(d),s/veh	64.7	53.8	56.6	65.3	54.8	57.0	20.4	0.2	0.2	61.5	19.5	18.7
LnGrp LOS	E	D	E	E	D	E	C	A	A	E	B	B
Approach Vol, veh/h		635			573			819			679	
Approach Delay, s/veh		57.1			57.5			3.4			23.1	
Approach LOS		E			E			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	83.1	12.1	28.7	45.8	48.4	13.5	27.3
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 12	42.0	14.0	* 43	12.0	* 42	14.0	* 43
Max Q Clear Time (g_c+I1), s	4.2	2.0	6.4	14.6	4.3	8.9	7.7	13.5
Green Ext Time (p_c), s	0.0	9.9	0.1	5.6	0.1	8.3	0.1	5.2

Intersection Summary	
HCM 2010 Ctrl Delay	32.4
HCM 2010 LOS	C

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	421	78	581	23	52	37	30
v/c Ratio	0.14	0.15	0.20	0.20	0.04	0.08	0.06	0.04
Control Delay	30.4	15.8	29.1	14.3	13.0	10.1	13.4	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.4	15.8	29.1	14.3	13.0	10.1	13.4	9.0
Queue Length 50th (ft)	14	29	20	38	5	2	9	1
Queue Length 95th (ft)	69	106	90	134	20	30	28	21
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	878	3418	878	3372	1011	1075	986	1057
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.12	0.09	0.17	0.02	0.05	0.04	0.03

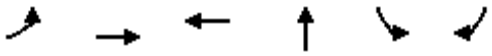
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	347	36	71	428	101	21	10	37	34	4	24
Future Volume (veh/h)	49	347	36	71	428	101	21	10	37	34	4	24
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	54	381	40	78	470	111	23	11	41	37	4	26
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	1427	147	153	1334	305	398	41	151	384	29	186
Arrive On Green	0.07	0.30	0.30	0.09	0.32	0.32	0.03	0.12	0.12	0.05	0.13	0.13
Sat Flow, veh/h	1774	4683	483	1774	4119	943	1774	345	1285	1774	213	1383
Grp Volume(v), veh/h	54	274	147	78	384	197	23	0	52	37	0	30
Grp Sat Flow(s),veh/h/ln	1774	1695	1776	1774	1695	1672	1774	0	1630	1774	0	1595
Q Serve(g_s), s	1.2	2.5	2.6	1.7	3.5	3.7	0.5	0.0	1.2	0.7	0.0	0.7
Cycle Q Clear(g_c), s	1.2	2.5	2.6	1.7	3.5	3.7	0.5	0.0	1.2	0.7	0.0	0.7
Prop In Lane	1.00		0.27	1.00		0.56	1.00		0.79	1.00		0.87
Lane Grp Cap(c), veh/h	119	1033	541	153	1098	541	398	0	192	384	0	214
V/C Ratio(X)	0.45	0.27	0.27	0.51	0.35	0.36	0.06	0.00	0.27	0.10	0.00	0.14
Avail Cap(c_a), veh/h	652	2491	1304	652	2491	1229	989	0	998	947	0	938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.3	10.7	10.8	17.8	10.5	10.6	14.9	0.0	16.4	14.4	0.0	15.6
Incr Delay (d2), s/veh	1.0	0.4	0.7	1.0	0.5	1.1	0.1	0.0	2.1	0.2	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.2	1.3	0.9	1.7	1.9	0.2	0.0	0.6	0.4	0.0	0.3
LnGrp Delay(d),s/veh	19.3	11.1	11.5	18.8	11.1	11.7	15.0	0.0	18.5	14.7	0.0	16.4
LnGrp LOS	B	B	B	B	B	B	B		B	B		B
Approach Vol, veh/h		475			659			75			67	
Approach Delay, s/veh		12.2			12.2			17.4			15.5	
Approach LOS		B			B			B			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	7.5	18.4	5.1	9.8	6.7	19.2	4.4	10.5
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	15.0	30.0	15.0	25.0	15.0	30.0	15.0	24.0
Max Q Clear Time (g_c+I1), s	3.7	4.6	2.7	3.2	3.2	5.7	2.5	2.7
Green Ext Time (p_c), s	0.1	5.4	0.1	0.4	0.0	7.6	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBT	NBT	SBL	SBR
Lane Group Flow (vph)	26	401	647	2	51	53
v/c Ratio	0.07	0.18	0.27	0.00	0.10	0.06
Control Delay	21.0	4.7	6.8	17.0	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.0	4.7	6.8	17.0	16.6	0.1
Queue Length 50th (ft)	5	24	43	0	8	0
Queue Length 95th (ft)	29	44	118	6	42	0
Internal Link Dist (ft)		1064	2599	260		
Turn Bay Length (ft)	235					200
Base Capacity (vph)	1134	3220	3205	936	936	1182
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.12	0.20	0.00	0.05	0.04

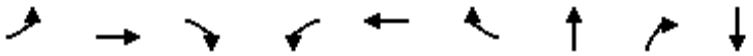
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	362	3	0	570	19	2	0	0	46	0	48
Future Volume (veh/h)	24	362	3	0	570	19	2	0	0	46	0	48
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	26	398	3	0	626	21	2	0	0	51	0	53
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	2014	15	4	1481	50	407	0	0	418	319	271
Arrive On Green	0.04	0.56	0.56	0.00	0.42	0.42	0.17	0.00	0.00	0.17	0.00	0.17
Sat Flow, veh/h	1774	3600	27	1774	3494	117	1346	0	0	1406	1863	1583
Grp Volume(v), veh/h	26	196	205	0	317	330	2	0	0	51	0	53
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1842	1346	0	0	1406	1863	1583
Q Serve(g_s), s	0.6	2.2	2.2	0.0	5.1	5.1	0.1	0.0	0.0	1.2	0.0	1.2
Cycle Q Clear(g_c), s	0.6	2.2	2.2	0.0	5.1	5.1	0.1	0.0	0.0	1.3	0.0	1.2
Prop In Lane	1.00		0.01	1.00		0.06	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	67	990	1039	4	750	781	407	0	0	418	319	271
V/C Ratio(X)	0.39	0.20	0.20	0.00	0.42	0.42	0.00	0.00	0.00	0.12	0.00	0.20
Avail Cap(c_a), veh/h	869	1734	1820	869	1734	1804	835	0	0	865	912	776
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.2	4.5	4.5	0.0	8.3	8.3	14.0	0.0	0.0	14.5	0.0	14.5
Incr Delay (d2), s/veh	1.4	0.4	0.3	0.0	1.4	1.3	0.0	0.0	0.0	0.3	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.2	1.2	0.0	2.8	2.9	0.0	0.0	0.0	0.5	0.0	0.6
LnGrp Delay(d),s/veh	20.6	4.8	4.8	0.0	9.6	9.6	14.1	0.0	0.0	14.8	0.0	15.2
LnGrp LOS	C	A	A		A	A	B			B		B
Approach Vol, veh/h		427			647			2			104	
Approach Delay, s/veh		5.8			9.6			14.1			15.0	
Approach LOS		A			A			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	0.0	28.8		12.0	5.5	23.3		12.0
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	0.0	4.2		2.1	2.6	7.1		3.3
Green Ext Time (p_c), s	0.0	6.2		0.0	0.0	10.1		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	8.7
HCM 2010 LOS	A

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	49	478	24	60	647	40	147	38	205
v/c Ratio	0.21	0.33	0.03	0.25	0.45	0.06	0.35	0.08	0.47
Control Delay	29.8	13.4	0.1	29.7	14.1	1.3	22.6	0.3	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	13.4	0.1	29.7	14.1	1.3	22.6	0.3	22.8
Queue Length 50th (ft)	16	60	0	19	85	0	42	0	55
Queue Length 95th (ft)	53	115	0	61	155	6	107	0	138
Internal Link Dist (ft)		2599			1240		330		332
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	529	2470	1128	529	2470	1128	662	689	663
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.19	0.02	0.11	0.26	0.04	0.22	0.06	0.31

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	440	22	55	595	37	37	98	35	39	105	45
Future Volume (veh/h)	45	440	22	55	595	37	37	98	35	39	105	45
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	49	478	24	60	647	40	40	107	38	42	114	49
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	1399	626	125	1432	640	159	280	303	137	197	75
Arrive On Green	0.06	0.40	0.40	0.07	0.40	0.40	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	301	1463	1583	213	1029	390
Grp Volume(v), veh/h	49	478	24	60	647	40	147	0	38	205	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1764	0	1583	1631	0	0
Q Serve(g_s), s	1.2	4.3	0.4	1.5	6.0	0.7	0.0	0.0	0.9	2.1	0.0	0.0
Cycle Q Clear(g_c), s	1.2	4.3	0.4	1.5	6.0	0.7	3.1	0.0	0.9	5.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.27		1.00	0.20		0.24
Lane Grp Cap(c), veh/h	108	1399	626	125	1432	640	439	0	303	409	0	0
V/C Ratio(X)	0.45	0.34	0.04	0.48	0.45	0.06	0.33	0.00	0.13	0.50	0.00	0.00
Avail Cap(c_a), veh/h	589	2740	1226	589	2740	1226	848	0	700	816	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.5	9.6	8.4	20.2	9.8	8.2	16.0	0.0	15.1	16.8	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.5	0.1	1.1	0.8	0.1	0.9	0.0	0.4	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	0.6	2.2	0.2	0.8	3.0	0.3	1.7	0.0	0.4	2.6	0.0	0.0
LnGrp Delay(d),s/veh	21.6	10.1	8.5	21.3	10.6	8.4	17.0	0.0	15.5	18.8	0.0	0.0
LnGrp LOS	C	B	A	C	B	A	B		B	B		
Approach Vol, veh/h		551			747			185			205	
Approach Delay, s/veh		11.0			11.4			16.7			18.8	
Approach LOS		B			B			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	7.2	24.4		13.7	6.8	24.8		13.7
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	15.0	35.0		20.0	15.0	35.0		20.0
Max Q Clear Time (g_c+I1), s	3.5	6.3		5.1	3.2	8.0		7.2
Green Ext Time (p_c), s	0.0	7.5		1.4	0.0	10.3		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

Notes

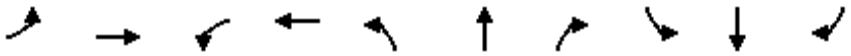
Intersection	
Int Delay, s/veh	4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	42	122	131	18	178	181
Future Vol, veh/h	42	122	131	18	178	181
Conflicting Peds, #/hr	0	2	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	160	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	144	154	21	209	213

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	788	159	0	0	178	0
Stage 1	157	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	360	886	-	-	1398	-
Stage 1	871	-	-	-	-	-
Stage 2	530	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	305	882	-	-	1394	-
Mov Cap-2 Maneuver	384	-	-	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	451	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	384	882	1394	-
HCM Lane V/C Ratio	-	-	0.129	0.163	0.15	-
HCM Control Delay (s)	-	-	15.8	9.9	8	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.5	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	67	165	96	260	8	675	94	80	549	32
v/c Ratio	0.53	0.48	0.62	0.52	0.05	0.26	0.11	0.19	0.16	0.03
Control Delay	74.8	59.1	75.2	43.1	62.6	19.9	1.8	54.0	10.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.8	59.1	75.2	43.1	62.6	19.9	1.8	54.0	10.1	0.1
Queue Length 50th (ft)	58	69	83	82	3	119	0	32	58	0
Queue Length 95th (ft)	106	105	137	124	12	168	16	58	114	0
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	161	1143	176	1139	305	2589	856	432	3356	1068
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.14	0.55	0.23	0.03	0.26	0.11	0.19	0.16	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	145	13	92	164	85	8	648	90	77	527	31
Future Volume (veh/h)	64	145	13	92	164	85	8	648	90	77	527	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	67	151	14	96	171	89	8	675	94	80	549	32
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	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	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	236	22	159	259	128	40	1424	443	1288	3294	1024
Arrive On Green	0.05	0.07	0.07	0.09	0.11	0.11	0.01	0.28	0.28	0.75	1.00	1.00
Sat Flow, veh/h	1774	3279	301	1774	2283	1131	3442	5085	1582	3442	5085	1581
Grp Volume(v), veh/h	67	81	84	96	131	129	8	675	94	80	549	32
Grp Sat Flow(s),veh/h/ln	1774	1770	1810	1774	1770	1644	1721	1695	1582	1721	1695	1581
Q Serve(g_s), s	5.0	6.0	6.1	7.0	9.5	10.2	0.3	14.9	6.1	0.8	0.0	0.0
Cycle Q Clear(g_c), s	5.0	6.0	6.1	7.0	9.5	10.2	0.3	14.9	6.1	0.8	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.69	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	85	127	130	159	201	186	40	1424	443	1288	3294	1024
V/C Ratio(X)	0.79	0.63	0.65	0.60	0.65	0.69	0.20	0.47	0.21	0.06	0.17	0.03
Avail Cap(c_a), veh/h	158	577	590	159	577	536	306	1424	443	1288	3294	1024
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.31	0.31	0.31	0.98	0.98	0.98
Uniform Delay (d), s/veh	63.6	60.9	61.0	59.2	57.3	57.6	66.1	40.3	37.2	10.7	0.0	0.0
Incr Delay (d2), s/veh	5.8	9.3	9.6	4.6	8.1	10.4	0.3	0.4	0.3	0.0	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	2.6	3.3	3.4	3.6	5.1	5.2	0.1	7.0	2.7	0.4	0.0	0.0
LnGrp Delay(d),s/veh	69.4	70.3	70.6	63.8	65.4	68.0	66.4	40.7	37.5	10.7	0.1	0.1
LnGrp LOS	E	E	E	E	E	E	E	D	D	B	A	A
Approach Vol, veh/h		232			356			777			661	
Approach Delay, s/veh		70.1			65.9			40.6			1.4	
Approach LOS		E			E			D			A	

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	56.9	44.2	17.8	16.1	7.3	93.9	12.2	21.7
Change Period (Y+Rc), s	6.4	* 6.4	5.7	* 6.4	* 5.7	6.4	5.7	* 6.4
Max Green Setting (Gmax), s	17.0	* 38	12.0	* 44	* 12	42.8	12.0	* 44
Max Q Clear Time (g_c+I1), s	2.8	16.9	9.0	8.1	2.3	2.0	7.0	12.2
Green Ext Time (p_c), s	0.1	11.7	0.0	1.6	0.0	12.8	0.0	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	35.6
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	5.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	236	4	338	356	5	215
Future Vol, veh/h	236	4	338	356	5	215
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	284	5	407	429	6	259

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	289	0	1530	287
Stage 1	-	-	-	-	287	-
Stage 2	-	-	-	-	1243	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1273	-	129	752
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	272	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1273	-	75	752
Mov Cap-2 Maneuver	-	-	-	-	136	-
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	158	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.5	12.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	136	752	-	-	1273	-
HCM Lane V/C Ratio	0.044	0.344	-	-	0.32	-
HCM Control Delay (s)	32.7	12.3	-	-	9.2	0
HCM Lane LOS	D	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	1.5	-	-	1.4	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	322	9	0	333	5	24	6	8	3	3	55
Future Vol, veh/h	90	322	9	0	333	5	24	6	8	3	3	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	393	11	0	406	6	29	7	10	4	4	67

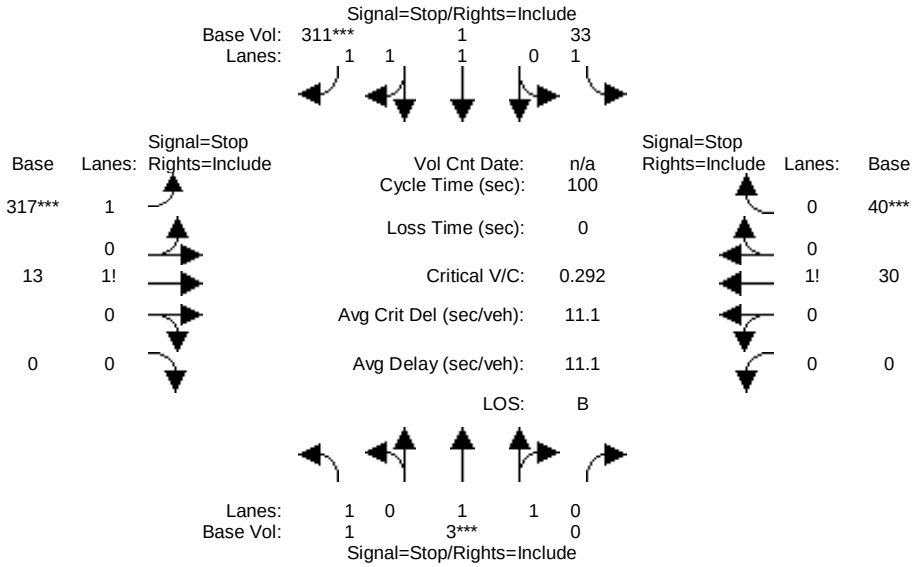
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	412	0	0	404	0	0	1064	1031	400	1037	1033	409
Stage 1	-	-	-	-	-	-	619	619	-	409	409	-
Stage 2	-	-	-	-	-	-	445	412	-	628	624	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1147	-	-	1155	-	-	201	233	650	209	232	642
Stage 1	-	-	-	-	-	-	476	480	-	619	596	-
Stage 2	-	-	-	-	-	-	592	594	-	471	478	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1147	-	-	1155	-	-	165	211	649	186	210	642
Mov Cap-2 Maneuver	-	-	-	-	-	-	165	211	-	186	210	-
Stage 1	-	-	-	-	-	-	430	434	-	560	596	-
Stage 2	-	-	-	-	-	-	527	594	-	412	432	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0	27.8	12.7
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	204	1147	-	-	1155	-	-	186	580
HCM Lane V/C Ratio	0.227	0.096	-	-	-	-	-	0.02	0.122
HCM Control Delay (s)	27.8	8.5	-	-	0	-	-	24.7	12.1
HCM Lane LOS	D	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.8	0.3	-	-	0	-	-	0.1	0.4

Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)
Existing plus Project AM

Intersection #1: Cameron Ave/Court St



Street Name:	Court St						Cameron Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	1	3	0	33	1	311	317	13	0	0	30	40
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:	1	3	0	33	1	311	317	13	0	0	30	40
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:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	1	4	0	40	1	379	387	16	0	0	37	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	4	0	40	1	379	387	16	0	0	37	49
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:	1	4	0	40	1	379	387	16	0	0	37	49
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	2.00	0.00	1.00	1.00	2.00	1.92	0.08	0.00	0.00	0.43	0.57
Final Sat.:	454	971	0	532	574	1299	1587	-488	0	0	258	344
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	xxxx	0.08	0.00	0.29	0.24	-0.03	xxxx	xxxx	0.14	0.14
Crit Moves:		****				****	****					****
Delay/Veh:	10.0	9.5	0.0	9.7	8.7	10.1	12.8	13.1	0.0	0.0	9.6	9.6
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:	10.0	9.5	0.0	9.7	8.7	10.1	12.8	13.1	0.0	0.0	9.6	9.6
LOS by Move:	B	A	*	A	A	B	B	B	*	*	A	A
ApproachDel:		9.7			10.1			12.6			9.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.7			10.1			12.6			9.6	
LOS by Appr:		A			B			B			A	
AllWayAvgQ:	0.0	0.0	0.0	0.1	0.0	0.4	0.6	0.6	0.6	0.1	0.1	0.1
Note: Queue reported is the number of cars per lane.												
Time Period: 0.25 hour												
HevVeh:		0%			0%			0%			0%	
Alpha Value: 0.01												
GroupType:		6			6			5			4B	

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P[C1]:	0.17	0.35	0.41	0.20
P[C2]:	0.19	0.00	0.06	0.28
P[C3]:	0.27	0.56	0.45	0.22
P[C4]:	0.33	0.08	0.07	0.31
P[C5]:	0.04	0.00	0.00	0.00
Padj[C1]:	0.019	0.014	0.012	0.016
Padj[C2]:	0.009	0.007	0.005	0.006
Padj[C3]:	-0.004	-0.016	-0.013	-0.003
Padj[C4]:	-0.019	-0.005	-0.004	-0.018
Padj[C5]:	-0.004	-0.000	-0.000	-0.000

Lanes:	L1	L2	L1	L2	L1	L2	L1	L2
LaneType:	LEFT	RTTHRU	LEFT	RITE	LEFT	LTR	LTR	NOLANE
HeadwayAdj:	0.500	0.000	0.500	-0.700	0.500	0.961	-0.343	xx.xxx
Volume:	1	2	40	190	201	201	85	xxxxxx
Capacity:	454	485	532	649	568	530	602	xxxxx
DegOfUtil:	0.00	0.00	0.07	0.28	0.34	0.37	0.14	x.xx
DepHeadway:	7.33	6.83	6.53	5.33	6.15	6.61	5.70	xx.xx
ServiceTime:	5.0	4.5	4.2	3.0	3.9	4.3	3.7	xx.x
Delay:	10.0	9.5	9.7	10.1	12.0	13.1	9.6	xxx.x
Queue:	0.0	0.0	0.1	0.4	0.5	0.6	0.1	xxx.x

Lanes:	L3	L4	L3	L4	L3	L4	L3	L4
LaneType:	THRU	NOLANE	RTTHRU	THRU	NOLANE	NOLANE	NOLANE	NOLANE
HeadwayAdj:	0.000	xx.xxx	-0.700	0.000	xx.xxx	xx.xxx	xx.xxx	xx.xxx
Volume:	2	xxxxxx	190	1	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Capacity:	485	xxxxx	649	574	xxxxx	xxxxx	xxxxx	xxxxx
DegOfUtil:	0.00	x.xx	0.28	0.00	x.xx	x.xx	x.xx	x.xx
DepHeadway:	6.83	xx.xx	5.33	6.03	xx.xx	xx.xx	xx.xx	xx.xx
ServiceTime:	4.5	xx.x	3.0	3.7	xx.x	xx.x	xx.x	xx.x
Delay:	9.5	xxx.x	10.1	8.7	xxx.x	xxx.x	xxx.x	xxx.x
Queue:	0.0	xxx.x	0.4	0.0	xxx.x	xxx.x	xxx.x	xxx.x

Approach:	North Bound	South Bound	East Bound	West Bound
ApproachDel:	9.7	10.1	12.6	9.6
Delay Adj:	1.00	1.00	1.00	1.00
ApprAdjDel:	9.7	10.1	12.6	9.6
LOS by Appr:	A	B	B	A

OverallDel: 11.1
OverallLOS: B

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1 Cameron Ave/Court St

****

Base Volume Alternative: Peak Hour Warrant NOT Met

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		
Lanes:	1 0	1 1	0	1 0	1 1	1	1 0	1! 0	0	0 0	0 1	0
Initial Vol:	1	3	0	33	1	311	317	13	0	0	30	40

Major Street Volume: 400
Minor Approach Volume: 345
Minor Approach Volume Threshold: 768

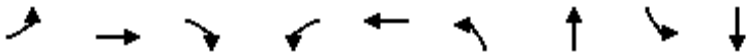
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	48	365	91	75	392	69	695	136	566
v/c Ratio	0.31	0.73	0.18	0.42	0.37	0.40	0.68	0.62	0.46
Control Delay	48.6	42.2	2.9	49.3	24.4	49.2	31.7	53.2	25.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	42.2	2.9	49.3	24.4	49.2	31.7	53.2	25.0
Queue Length 50th (ft)	25	188	0	39	82	36	167	70	121
Queue Length 95th (ft)	66	308	8	92	131	86	267	148	207
Internal Link Dist (ft)		776			1573		775		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	323	497	512	323	1070	323	1466	323	1478
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.73	0.18	0.23	0.37	0.21	0.47	0.42	0.38

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	296	74	61	232	86	56	504	59	110	403	55
Future Volume (veh/h)	39	296	74	61	232	86	56	504	59	110	403	55
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		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	48	365	91	75	286	106	69	622	73	136	498	68
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	453	385	117	655	237	113	941	110	173	1029	140
Arrive On Green	0.05	0.24	0.24	0.07	0.26	0.26	0.06	0.30	0.30	0.10	0.33	0.33
Sat Flow, veh/h	1774	1863	1581	1774	2546	923	1774	3184	373	1774	3126	425
Grp Volume(v), veh/h	48	365	91	75	197	195	69	345	350	136	281	285
Grp Sat Flow(s),veh/h/ln	1774	1863	1581	1774	1770	1700	1774	1770	1787	1774	1770	1781
Q Serve(g_s), s	1.8	12.8	3.2	2.9	6.4	6.7	2.6	11.8	11.9	5.2	8.8	8.8
Cycle Q Clear(g_c), s	1.8	12.8	3.2	2.9	6.4	6.7	2.6	11.8	11.9	5.2	8.8	8.8
Prop In Lane	1.00		1.00	1.00		0.54	1.00		0.21	1.00		0.24
Lane Grp Cap(c), veh/h	93	453	385	117	455	437	113	523	528	173	583	586
V/C Ratio(X)	0.52	0.81	0.24	0.64	0.43	0.45	0.61	0.66	0.66	0.79	0.48	0.49
Avail Cap(c_a), veh/h	385	539	457	385	512	491	385	882	891	385	882	888
HCM Platoon Ratio	1.00	1.00	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	31.9	24.6	21.0	31.5	21.5	21.6	31.6	21.3	21.3	30.5	18.5	18.5
Incr Delay (d2), s/veh	1.7	11.4	1.0	2.1	2.0	2.2	2.0	2.8	2.8	3.0	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	7.9	1.5	1.5	3.4	3.4	1.3	6.2	6.2	2.7	4.5	4.6
LnGrp Delay(d),s/veh	33.6	36.1	22.0	33.6	23.5	23.8	33.5	24.1	24.1	33.5	19.7	19.7
LnGrp LOS	C	D	C	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		504			467			764			702	
Approach Delay, s/veh		33.3			25.2			25.0			22.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	27.4	8.8	22.0	8.6	29.8	7.8	23.0
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 15	34.5	* 15	20.0	* 15	34.5	* 15	20.0
Max Q Clear Time (g_c+I1), s	7.2	13.9	4.9	14.8	4.6	10.8	3.8	8.7
Green Ext Time (p_c), s	0.1	6.6	0.0	2.0	0.0	5.6	0.0	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	26.0
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	13.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	160	310	3	1	299	114	5	0	3	62	0	124
Future Vol, veh/h	160	310	3	1	299	114	5	0	3	62	0	124
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	203	392	4	1	378	144	6	0	4	78	0	157

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	522	0	0	396	0	0	1331	1324	394	1254	1254	450
Stage 1	-	-	-	-	-	-	800	800	-	452	452	-
Stage 2	-	-	-	-	-	-	531	524	-	802	802	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1044	-	-	1163	-	-	132	156	655	149	172	609
Stage 1	-	-	-	-	-	-	379	397	-	587	570	-
Stage 2	-	-	-	-	-	-	532	530	-	378	396	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1044	-	-	1163	-	-	83	126	655	126	138	609
Mov Cap-2 Maneuver	-	-	-	-	-	-	83	126	-	126	138	-
Stage 1	-	-	-	-	-	-	305	320	-	473	569	-
Stage 2	-	-	-	-	-	-	395	529	-	303	319	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.1	0	36.9	69.7
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	123	1044	-	-	1163	-	-	267
HCM Lane V/C Ratio	0.082	0.194	-	-	0.001	-	-	0.882
HCM Control Delay (s)	36.9	9.3	-	-	8.1	-	-	69.7
HCM Lane LOS	E	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.3	0.7	-	-	0	-	-	7.6

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	75	311	352	73	89	134
Future Vol, veh/h	75	311	352	73	89	134
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	384	435	90	110	165

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	525	0	-	0	1050	480
Stage 1	-	-	-	-	480	-
Stage 2	-	-	-	-	570	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1042	-	-	-	252	586
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	566	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1042	-	-	-	230	586
Mov Cap-2 Maneuver	-	-	-	-	230	-
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	566	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	21.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1042	-	-	-	230	586
HCM Lane V/C Ratio	0.089	-	-	-	0.478	0.282
HCM Control Delay (s)	8.8	-	-	-	34.2	13.5
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.3	-	-	-	2.4	1.2

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	381	368	13	7	15
Future Vol, veh/h	35	381	368	13	7	15
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	414	400	14	8	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	414	0	-	0	897	408
Stage 1	-	-	-	-	407	-
Stage 2	-	-	-	-	490	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1145	-	-	-	310	643
Stage 1	-	-	-	-	672	-
Stage 2	-	-	-	-	616	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1145	-	-	-	297	642
Mov Cap-2 Maneuver	-	-	-	-	297	-
Stage 1	-	-	-	-	643	-
Stage 2	-	-	-	-	616	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1145	-	-	-	469
HCM Lane V/C Ratio	0.033	-	-	-	0.051
HCM Control Delay (s)	8.3	0	-	-	13.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	62	362	215	202	183	913	105	523	47
v/c Ratio	0.41	0.80	0.85	0.33	0.78	0.94	0.57	0.47	0.10
Control Delay	53.3	46.6	70.8	28.3	64.9	53.0	56.0	35.2	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.3	46.6	70.8	28.3	64.9	53.0	56.0	35.2	0.4
Queue Length 50th (ft)	36	195	125	95	105	283	61	100	0
Queue Length 95th (ft)	85	293	#296	165	#239	#540	127	158	0
Internal Link Dist (ft)		765		339		250		1110	
Turn Bay Length (ft)	180		175		205		290		210
Base Capacity (vph)	281	450	281	614	281	975	281	1347	538
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.80	0.77	0.33	0.65	0.94	0.37	0.39	0.09

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	176	135	185	163	10	157	695	90	90	450	40
Future Volume (veh/h)	53	176	135	185	163	10	157	695	90	90	450	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	62	205	157	215	190	12	183	808	105	105	523	47
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	3	1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	94	221	169	250	544	34	218	882	115	134	1181	368
Arrive On Green	0.05	0.23	0.23	0.14	0.31	0.31	0.12	0.28	0.28	0.08	0.23	0.23
Sat Flow, veh/h	1774	980	750	1774	1734	109	1774	3150	409	1774	5085	1583
Grp Volume(v), veh/h	62	0	362	215	0	202	183	454	459	105	523	47
Grp Sat Flow(s),veh/h/ln	1774	0	1730	1774	0	1843	1774	1770	1790	1774	1695	1583
Q Serve(g_s), s	3.0	0.0	18.1	10.5	0.0	7.5	8.9	22.0	22.0	5.2	7.8	2.1
Cycle Q Clear(g_c), s	3.0	0.0	18.1	10.5	0.0	7.5	8.9	22.0	22.0	5.2	7.8	2.1
Prop In Lane	1.00		0.43	1.00		0.06	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	94	0	391	250	0	579	218	496	501	134	1181	368
V/C Ratio(X)	0.66	0.00	0.93	0.86	0.00	0.35	0.84	0.92	0.92	0.79	0.44	0.13
Avail Cap(c_a), veh/h	300	0	391	300	0	579	300	499	505	300	1435	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.2	0.0	33.6	37.2	0.0	23.4	38.0	30.9	30.9	40.3	29.1	26.9
Incr Delay (d2), s/veh	2.9	0.0	29.3	16.5	0.0	1.0	10.5	23.9	23.7	3.8	1.1	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	1.6	0.0	11.8	6.3	0.0	4.0	5.0	14.0	14.1	2.7	3.8	1.0
LnGrp Delay(d),s/veh	44.1	0.0	62.9	53.7	0.0	24.5	48.5	54.8	54.6	44.1	30.2	27.6
LnGrp LOS	D		E	D		C	D	D	D	D	C	C
Approach Vol, veh/h		424			417			1096			675	
Approach Delay, s/veh		60.1			39.5			53.7			32.2	
Approach LOS		E			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	31.6	18.2	26.4	16.6	27.4	10.4	34.2
Change Period (Y+Rc), s	* 5.7	6.8	* 5.7	6.4	* 5.7	6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 15	25.0	* 15	20.0	* 15	25.0	* 15	20.0
Max Q Clear Time (g_c+I1), s	7.2	24.0	12.5	20.1	10.9	9.8	5.0	9.5
Green Ext Time (p_c), s	0.1	0.8	0.1	0.0	0.1	6.5	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	46.9
HCM 2010 LOS	D

Notes



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	41	14	213	8	957	55	743	34
v/c Ratio	0.18	0.04	0.65	0.04	0.59	0.26	0.38	0.04
Control Delay	23.0	0.2	22.2	28.0	15.6	29.1	9.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	0.2	22.2	28.0	15.6	29.1	9.5	0.1
Queue Length 50th (ft)	13	0	35	3	135	19	56	0
Queue Length 95th (ft)	36	0	91	15	232	50	158	0
Internal Link Dist (ft)	1563		335		1230		634	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	731	993	857	462	1612	462	1941	903
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.01	0.25	0.02	0.59	0.12	0.38	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	0	12	102	0	81	7	770	53	47	639	29
Future Volume (veh/h)	35	0	12	102	0	81	7	770	53	47	639	29
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	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	41	0	14	119	0	94	8	895	62	55	743	34
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	361	0	296	231	16	116	22	1322	92	109	1566	700
Arrive On Green	0.19	0.00	0.19	0.19	0.00	0.19	0.01	0.39	0.39	0.06	0.44	0.44
Sat Flow, veh/h	1245	0	1583	699	88	621	1774	3359	233	1774	3539	1582
Grp Volume(v), veh/h	41	0	14	213	0	0	8	472	485	55	743	34
Grp Sat Flow(s),veh/h/ln	1245	0	1583	1408	0	0	1774	1770	1822	1774	1770	1582
Q Serve(g_s), s	0.0	0.0	0.4	6.7	0.0	0.0	0.2	12.3	12.3	1.7	8.3	0.7
Cycle Q Clear(g_c), s	1.6	0.0	0.4	8.2	0.0	0.0	0.2	12.3	12.3	1.7	8.3	0.7
Prop In Lane	1.00		1.00	0.56		0.44	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	361	0	296	363	0	0	22	696	717	109	1566	700
V/C Ratio(X)	0.11	0.00	0.05	0.59	0.00	0.00	0.36	0.68	0.68	0.50	0.47	0.05
Avail Cap(c_a), veh/h	583	0	567	958	0	0	476	792	815	476	1584	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.1	0.0	18.6	22.0	0.0	0.0	27.4	14.0	14.0	25.4	11.0	8.9
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.6	0.0	0.0	3.6	5.0	4.8	1.3	0.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.2	3.2	0.0	0.0	0.1	6.9	7.0	0.9	4.2	0.3
LnGrp Delay(d),s/veh	19.2	0.0	18.7	22.5	0.0	0.0	31.0	19.0	18.8	26.7	11.8	9.0
LnGrp LOS	B		B	C			C	B	B	C	B	A
Approach Vol, veh/h		55			213			965			832	
Approach Delay, s/veh		19.0			22.5			19.0			12.7	
Approach LOS		B			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	9.1	28.8		17.9	6.4	31.5		17.9
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 15	25.0		* 20	* 15	25.0		33.0
Max Q Clear Time (g_c+I1), s	3.7	14.3		3.6	2.2	10.3		10.2
Green Ext Time (p_c), s	0.0	7.7		0.1	0.0	8.3		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.8
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	9.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	7	143	29	18	17	48	824	22	10	650	35
Future Vol, veh/h	32	7	143	29	18	17	48	824	22	10	650	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	8	155	32	20	18	52	896	24	11	707	38

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1310	1772	373	1392	1779	460	745	0	0	920	0	0
Stage 1	748	748	-	1012	1012	-	-	-	-	-	-	-
Stage 2	562	1024	-	380	767	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	117	82	624	101	81	548	859	-	-	738	-	-
Stage 1	371	418	-	256	315	-	-	-	-	-	-	-
Stage 2	479	311	-	614	410	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	85	76	624	66	75	548	859	-	-	738	-	-
Mov Cap-2 Maneuver	85	76	-	66	75	-	-	-	-	-	-	-
Stage 1	348	412	-	240	296	-	-	-	-	-	-	-
Stage 2	406	292	-	446	404	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	51.9	122.5	0.5	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	859	-	-	261	90	738	-	-
HCM Lane V/C Ratio	0.061	-	-	0.758	0.773	0.015	-	-
HCM Control Delay (s)	9.5	-	-	51.9	122.5	10	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	5.5	4	0	-	-



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	51	77	830	43	801
v/c Ratio	0.13	0.17	0.31	0.34	0.19	0.36
Control Delay	18.3	15.3	29.5	10.9	29.6	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	15.3	29.5	10.9	29.6	13.1
Queue Length 50th (ft)	8	8	26	62	15	104
Queue Length 95th (ft)	29	34	73	236	48	235
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	600	640	523	2413	523	2199
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.08	0.15	0.34	0.08	0.36

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1	10	22	2	25	73	775	13	41	686	75
Future Volume (veh/h)	22	1	10	22	2	25	73	775	13	41	686	75
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		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	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	23	1	11	23	2	26	77	816	14	43	722	79
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	30	59	165	38	98	143	1490	26	97	1260	138
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.08	0.42	0.42	0.05	0.39	0.39
Sat Flow, veh/h	798	240	476	455	312	797	1774	3560	61	1774	3210	351
Grp Volume(v), veh/h	35	0	0	51	0	0	77	406	424	43	398	403
Grp Sat Flow(s),veh/h/ln	1513	0	0	1564	0	0	1774	1770	1852	1774	1770	1792
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	2.0	8.3	8.3	1.1	8.4	8.4
Cycle Q Clear(g_c), s	0.8	0.0	0.0	1.3	0.0	0.0	2.0	8.3	8.3	1.1	8.4	8.4
Prop In Lane	0.66		0.31	0.45		0.51	1.00		0.03	1.00		0.20
Lane Grp Cap(c), veh/h	311	0	0	302	0	0	143	740	775	97	695	703
V/C Ratio(X)	0.11	0.00	0.00	0.17	0.00	0.00	0.54	0.55	0.55	0.44	0.57	0.57
Avail Cap(c_a), veh/h	797	0	0	806	0	0	557	926	969	557	926	937
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	0.0	0.0	18.9	0.0	0.0	21.1	10.5	10.5	21.9	11.4	11.4
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.4	0.0	0.0	1.2	2.7	2.6	1.2	3.2	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.6	0.0	0.0	1.0	4.5	4.7	0.6	4.7	4.8
LnGrp Delay(d),s/veh	19.0	0.0	0.0	19.4	0.0	0.0	22.3	13.2	13.1	23.1	14.6	14.5
LnGrp LOS	B			B			C	B	B	C	B	B
Approach Vol, veh/h		35			51			907			844	
Approach Delay, s/veh		19.0			19.4			13.9			15.0	
Approach LOS		B			B			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	8.3	27.9		11.6	9.5	26.7		11.6
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 15	25.0		* 22	* 15	25.0		* 22
Max Q Clear Time (g_c+I1), s	3.1	10.3		2.8	4.0	10.4		3.3
Green Ext Time (p_c), s	0.0	8.6		0.2	0.0	8.3		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	341	81	0	192	0	12
Future Vol, veh/h	341	81	0	192	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	67	67	67	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	509	121	0	287	0	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	570
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	521
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	521
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	521	-	-	-
HCM Lane V/C Ratio	0.034	-	-	-
HCM Control Delay (s)	12.2	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

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	10	273	61	62	159	7	0	0	12	3	0	15
Future Vol, veh/h	10	273	61	62	159	7	0	0	12	3	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	92	92	69	69	92	92	92	69	92	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	396	66	67	230	10	0	0	13	4	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	240	0	0	462	0	0	-	-	429	833	-	235
Stage 1	-	-	-	-	-	-	-	-	-	369	-	-
Stage 2	-	-	-	-	-	-	-	-	-	464	-	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	-	6.22	7.12	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.12	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.12	-	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	-	3.318	3.518	-	3.318
Pot Cap-1 Maneuver	1327	-	-	1099	-	-	0	0	626	288	0	804
Stage 1	-	-	-	-	-	-	0	0	-	651	0	-
Stage 2	-	-	-	-	-	-	0	0	-	578	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1327	-	-	1099	-	-	-	-	626	267	-	804
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	267	-	-
Stage 1	-	-	-	-	-	-	-	-	-	644	-	-
Stage 2	-	-	-	-	-	-	-	-	-	560	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.9	10.9	9.6
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	626	1327	-	-	1099	-	-	804
HCM Lane V/C Ratio	0.021	0.011	-	-	0.061	-	-	0.027
HCM Control Delay (s)	10.9	7.7	-	-	8.5	-	-	9.6
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.2	-	-	0.1

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	276	0	0	229	0	29
Future Vol, veh/h	276	0	0	229	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	300	0	0	249	0	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	300
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	740
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	740
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	740	-	-	-
HCM Lane V/C Ratio	0.043	-	-	-
HCM Control Delay (s)	10.1	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	186	171	3	0	58
Future Vol, veh/h	119	186	171	3	0	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	165	258	238	4	0	81

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	242	0	-	0	828	240
Stage 1	-	-	-	-	240	-
Stage 2	-	-	-	-	588	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1324	-	-	-	341	799
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	555	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1324	-	-	-	291	799
Mov Cap-2 Maneuver	-	-	-	-	291	-
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	555	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1324	-	-	-	-	799
HCM Lane V/C Ratio	0.125	-	-	-	-	0.101
HCM Control Delay (s)	8.1	0	-	-	0	10
HCM Lane LOS	A	A	-	-	A	B
HCM 95th %tile Q(veh)	0.4	-	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	76	0	888	30	0	773	0
Future Vol, veh/h	0	0	0	0	0	76	0	888	30	0	773	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	83	0	965	33	0	840	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	420	-	-	499	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	497	0	0	517	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	497	-	-	517	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	13.3	0	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	517	-	-
HCM Lane V/C Ratio	-	-	-	0.16	-	-
HCM Control Delay (s)	-	-	0	13.3	-	-
HCM Lane LOS	-	-	A	B	-	-
HCM 95th %tile Q(veh)	-	-	-	0.6	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	63	0	855	31	58	715	0
Future Vol, veh/h	0	0	0	0	0	63	0	855	31	58	715	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	68	0	929	34	63	777	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	389	-	-	482	777	0	0	963	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	610	0	0	530	835	-	-	711	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	610	-	-	530	835	-	-	711	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	12.8	0	0.8
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	835	-	-	-	530	711	-	-
HCM Lane V/C Ratio	-	-	-	-	0.129	0.089	-	-
HCM Control Delay (s)	0	-	-	0	12.8	10.6	-	-
HCM Lane LOS	A	-	-	A	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.3	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	43	57	116	0	0	67
Future Vol, veh/h	43	57	116	0	0	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	62	126	0	0	73

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	126	0	-	0	282	126
Stage 1	-	-	-	-	126	-
Stage 2	-	-	-	-	156	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1460	-	-	-	708	924
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	872	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1460	-	-	-	685	924
Mov Cap-2 Maneuver	-	-	-	-	685	-
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	872	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1460	-	-	-	924
HCM Lane V/C Ratio	0.032	-	-	-	0.079
HCM Control Delay (s)	7.5	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	24	65	0	0	51
Future Vol, veh/h	33	24	65	0	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	26	71	0	0	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	71	0	-	0	169	71
Stage 1	-	-	-	-	71	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1529	-	-	-	821	991
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	926	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1529	-	-	-	801	991
Mov Cap-2 Maneuver	-	-	-	-	801	-
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	926	-

Approach	EB	WB	SB
HCM Control Delay, s	4.3	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1529	-	-	-	991
HCM Lane V/C Ratio	0.023	-	-	-	0.056
HCM Control Delay (s)	7.4	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	10	36	0	0	29
Future Vol, veh/h	14	10	36	0	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	11	39	0	0	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	39	0	-	0	80	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1571	-	-	-	922	1033
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	981	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1571	-	-	-	913	1033
Mov Cap-2 Maneuver	-	-	-	-	913	-
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	981	-

Approach	EB	WB	SB
HCM Control Delay, s	4.3	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1571	-	-	-	1033
HCM Lane V/C Ratio	0.01	-	-	-	0.031
HCM Control Delay (s)	7.3	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	18	0	0	18
Future Vol, veh/h	0	10	18	0	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	20	0	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	31	20
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1596	-	-	-	983	1058
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1596	-	-	-	983	1058
Mov Cap-2 Maneuver	-	-	-	-	983	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1596	-	-	-	1058
HCM Lane V/C Ratio	-	-	-	-	0.018
HCM Control Delay (s)	0	-	-	-	8.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

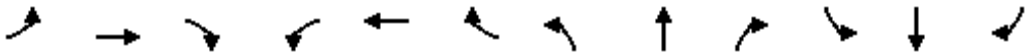
Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	18	0	0	0	0
Future Vol, veh/h	29	18	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	20	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	1045	-	-
HCM Lane V/C Ratio	-	-	0.049	-	-
HCM Control Delay (s)	0	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	92	232	199	230	221	63	232	1045	231	110	1158	80
v/c Ratio	0.29	0.48	0.52	0.73	0.45	0.18	0.65	0.38	0.25	0.52	0.46	0.10
Control Delay	63.4	59.5	10.9	77.3	59.0	1.1	66.8	19.8	9.9	74.1	25.8	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.4	59.5	10.9	77.3	59.0	1.1	66.8	19.8	9.9	74.1	25.8	1.7
Queue Length 50th (ft)	41	110	0	110	105	0	118	132	29	53	246	0
Queue Length 95th (ft)	73	132	64	156	123	0	165	323	101	84	371	12
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	328	878	536	358	951	536	355	2747	913	355	2537	833
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.26	0.37	0.64	0.23	0.12	0.65	0.38	0.25	0.31	0.46	0.10

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	225	193	223	214	61	225	1014	224	107	1123	78
Future Volume (veh/h)	89	225	193	223	214	61	225	1014	224	107	1123	78
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		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	92	232	199	230	221	63	232	1045	231	110	1158	80
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	480	588	258	275	378	169	703	2754	847	156	1922	596
Arrive On Green	0.14	0.17	0.17	0.08	0.11	0.11	0.41	1.00	1.00	0.05	0.38	0.38
Sat Flow, veh/h	3442	3539	1554	3442	3539	1579	3442	5085	1564	3442	5085	1576
Grp Volume(v), veh/h	92	232	199	230	221	63	232	1045	231	110	1158	80
Grp Sat Flow(s),veh/h/ln	1721	1770	1554	1721	1770	1579	1721	1695	1564	1721	1695	1576
Q Serve(g_s), s	3.4	8.5	17.8	9.6	8.6	4.6	6.7	0.0	0.0	4.6	26.6	4.8
Cycle Q Clear(g_c), s	3.4	8.5	17.8	9.6	8.6	4.6	6.7	0.0	0.0	4.6	26.6	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	480	588	258	275	378	169	703	2754	847	156	1922	596
V/C Ratio(X)	0.19	0.39	0.77	0.84	0.59	0.37	0.33	0.38	0.27	0.70	0.60	0.13
Avail Cap(c_a), veh/h	480	879	386	285	952	425	703	2754	847	356	1922	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	53.9	57.8	65.8	61.7	44.1	36.1	0.0	0.0	68.2	36.3	29.6
Incr Delay (d2), s/veh	0.1	0.8	9.4	17.5	2.8	2.7	0.1	0.4	0.7	2.2	1.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	4.2	8.3	5.2	4.4	2.4	3.1	0.1	0.2	2.2	12.7	2.2
LnGrp Delay(d),s/veh	55.2	54.8	67.2	83.3	64.5	46.8	36.2	0.4	0.7	70.4	37.7	30.0
LnGrp LOS	E	D	E	F	E	D	D	A	A	E	D	C
Approach Vol, veh/h		523			514			1508			1348	
Approach Delay, s/veh		59.6			70.8			5.9			39.9	
Approach LOS		E			E			A			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	12.3	84.9	17.3	30.5	36.0	61.2	25.9	21.9
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 15	54.8	12.0	* 36	15.0	* 55	12.0	* 39
Max Q Clear Time (g_c+I1), s	6.6	2.0	11.6	19.8	8.7	28.6	5.4	10.6
Green Ext Time (p_c), s	0.1	20.8	0.0	3.3	0.2	15.0	0.1	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	33.5
HCM 2010 LOS	C

Notes



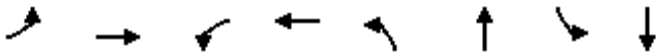
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	134	247	1	202	93	22	108	15	187
v/c Ratio	0.40	0.28	0.00	0.37	0.18	0.05	0.30	0.03	0.34
Control Delay	22.7	9.3	23.0	17.5	6.9	15.0	18.5	15.5	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.7	9.3	23.0	17.5	6.9	15.0	18.5	15.5	5.4
Queue Length 50th (ft)	30	28	0	41	3	4	22	3	0
Queue Length 95th (ft)	89	110	4	110	33	20	69	16	40
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	634	1300	634	1308	1111	1014	826	1112	1020
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.19	0.00	0.15	0.08	0.02	0.13	0.01	0.18

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	215	10	1	184	85	7	11	2	98	14	170
Future Volume (veh/h)	122	215	10	1	184	85	7	11	2	98	14	170
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	134	236	11	1	202	93	8	12	2	108	15	187
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	685	32	5	495	412	213	247	32	508	403	343
Arrive On Green	0.12	0.39	0.39	0.00	0.27	0.27	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	1766	82	1774	1863	1550	345	1142	149	1394	1863	1583
Grp Volume(v), veh/h	134	0	247	1	202	93	22	0	0	108	15	187
Grp Sat Flow(s),veh/h/ln	1774	0	1848	1774	1863	1550	1635	0	0	1394	1863	1583
Q Serve(g_s), s	2.5	0.0	3.4	0.0	3.2	1.7	0.0	0.0	0.0	1.9	0.2	3.7
Cycle Q Clear(g_c), s	2.5	0.0	3.4	0.0	3.2	1.7	0.3	0.0	0.0	2.2	0.2	3.7
Prop In Lane	1.00		0.04	1.00		1.00	0.36		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	220	0	717	5	495	412	492	0	0	508	403	343
V/C Ratio(X)	0.61	0.00	0.34	0.20	0.41	0.23	0.04	0.00	0.00	0.21	0.04	0.55
Avail Cap(c_a), veh/h	748	0	1559	748	1572	1307	1230	0	0	1186	1310	1113
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	7.7	17.7	10.7	10.2	11.0	0.0	0.0	11.8	11.0	12.4
Incr Delay (d2), s/veh	1.0	0.0	0.5	7.1	0.9	0.5	0.1	0.0	0.0	0.4	0.1	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	1.8	0.0	1.8	0.8	0.2	0.0	0.0	1.0	0.1	1.8
LnGrp Delay(d),s/veh	15.8	0.0	8.2	24.8	11.7	10.7	11.1	0.0	0.0	12.1	11.1	14.7
LnGrp LOS	B		A	C	B	B	B			B	B	B
Approach Vol, veh/h		381			296			22			310	
Approach Delay, s/veh		10.8			11.4			11.1			13.6	
Approach LOS		B			B			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	4.1	18.8		12.7	8.4	14.5		12.7
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	15.0	30.0		25.0	15.0	30.0		25.0
Max Q Clear Time (g_c+I1), s	2.0	5.4		2.3	4.5	5.2		5.7
Green Ext Time (p_c), s	0.0	2.2		0.1	0.1	2.4		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	11.9
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	119	56	18	124	61	1349	75	1588
v/c Ratio	0.59	0.25	0.11	0.59	0.38	0.45	0.59	0.54
Control Delay	73.1	22.0	57.5	22.6	61.0	19.1	104.7	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.1	22.0	57.5	22.6	61.0	19.1	104.7	5.7
Queue Length 50th (ft)	108	5	16	2	47	147	71	139
Queue Length 95th (ft)	173	50	40	67	80	286	m115	79
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	201	426	186	475	183	2996	183	2967
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.13	0.10	0.26	0.33	0.45	0.41	0.54

Intersection Summary

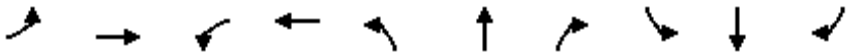
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	5	47	17	2	113	57	1236	19	70	1410	67
Future Volume (veh/h)	111	5	47	17	2	113	57	1236	19	70	1410	67
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		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	119	5	51	18	2	122	61	1329	20	75	1516	72
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	8	81	192	2	148	436	3208	48	93	2107	100
Arrive On Green	0.07	0.06	0.06	0.11	0.09	0.09	0.49	1.00	1.00	0.11	0.85	0.85
Sat Flow, veh/h	1774	143	1462	1774	26	1562	1774	5159	78	1774	4967	236
Grp Volume(v), veh/h	119	0	56	18	0	124	61	873	476	75	1035	553
Grp Sat Flow(s),veh/h/ln	1774	0	1605	1774	0	1587	1774	1695	1847	1774	1695	1812
Q Serve(g_s), s	9.7	0.0	5.0	1.3	0.0	11.1	2.7	0.0	0.0	6.0	17.2	17.2
Cycle Q Clear(g_c), s	9.7	0.0	5.0	1.3	0.0	11.1	2.7	0.0	0.0	6.0	17.2	17.2
Prop In Lane	1.00		0.91	1.00		0.98	1.00		0.04	1.00		0.13
Lane Grp Cap(c), veh/h	122	0	89	192	0	150	436	2108	1148	93	1438	769
V/C Ratio(X)	0.97	0.00	0.63	0.09	0.00	0.83	0.14	0.41	0.41	0.80	0.72	0.72
Avail Cap(c_a), veh/h	122	0	387	192	0	383	436	2108	1148	184	1438	769
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.91	0.91	0.91	0.86	0.86	0.86
Uniform Delay (d), s/veh	67.4	0.0	67.1	58.2	0.0	64.5	28.5	0.0	0.0	64.1	7.6	7.6
Incr Delay (d2), s/veh	72.3	0.0	5.4	0.1	0.0	8.3	0.0	0.6	1.0	5.1	2.7	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	0.0	2.3	0.7	0.0	5.2	1.3	0.2	0.3	3.1	8.2	9.2
LnGrp Delay(d),s/veh	139.6	0.0	72.5	58.3	0.0	72.8	28.6	0.6	1.0	69.2	10.3	12.6
LnGrp LOS	F		E	E		E	C	A	A	E	B	B
Approach Vol, veh/h		175			142			1410			1663	
Approach Delay, s/veh		118.2			71.0			1.9			13.7	
Approach LOS		F			E			A			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	13.3	96.6	21.4	13.7	42.0	67.9	15.7	19.4
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	6.4	* 6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 15	61.5	* 10	* 35	15.0	* 62	* 10	* 35
Max Q Clear Time (g_c+I1), s	8.0	2.0	3.3	7.0	4.7	19.2	11.7	13.1
Green Ext Time (p_c), s	0.0	25.2	0.0	0.2	0.0	26.6	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	16.6
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	19	39	63	88	68	1188	52	168	1401	38
v/c Ratio	0.17	0.20	0.55	0.34	0.22	0.42	0.06	0.77	0.45	0.04
Control Delay	66.2	17.1	82.3	16.3	51.4	17.9	1.7	104.7	5.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.2	17.1	82.3	16.3	51.4	17.9	1.7	104.7	5.6	0.4
Queue Length 50th (ft)	17	2	59	9	26	213	1	151	41	0
Queue Length 95th (ft)	45	31	108	50	m40	243	m7	#296	206	m2
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	158	481	158	516	355	2847	908	221	3096	989
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.08	0.40	0.17	0.19	0.42	0.06	0.76	0.45	0.04

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	2	35	59	9	73	64	1117	49	158	1317	36
Future Volume (veh/h)	18	2	35	59	9	73	64	1117	49	158	1317	36
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		0.98	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	19	2	37	63	10	78	68	1188	52	168	1401	38
Adj No. of Lanes	1	1	0	1	1	0	2	3	1	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	8	141	80	19	150	1164	3010	915	184	1792	556
Arrive On Green	0.03	0.09	0.09	0.05	0.11	0.11	0.68	1.00	1.00	0.21	0.70	0.70
Sat Flow, veh/h	1774	80	1486	1774	182	1417	3442	5085	1547	1774	5085	1577
Grp Volume(v), veh/h	19	0	39	63	0	88	68	1188	52	168	1401	38
Grp Sat Flow(s),veh/h/ln	1774	0	1567	1774	0	1598	1721	1695	1547	1774	1695	1577
Q Serve(g_s), s	1.5	0.0	3.4	5.1	0.0	7.6	1.0	0.0	0.0	13.4	26.3	1.1
Cycle Q Clear(g_c), s	1.5	0.0	3.4	5.1	0.0	7.6	1.0	0.0	0.0	13.4	26.3	1.1
Prop In Lane	1.00		0.95	1.00		0.89	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	0	148	80	0	170	1164	3010	915	184	1792	556
V/C Ratio(X)	0.32	0.00	0.26	0.78	0.00	0.52	0.06	0.39	0.06	0.92	0.78	0.07
Avail Cap(c_a), veh/h	159	0	454	159	0	463	1164	3010	915	184	1792	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.88	0.88	0.88	0.83	0.83	0.83
Uniform Delay (d), s/veh	68.4	0.0	60.9	68.5	0.0	61.3	15.7	0.0	0.0	56.9	17.7	14.0
Incr Delay (d2), s/veh	1.1	0.0	0.3	6.2	0.0	1.8	0.0	0.3	0.1	37.6	2.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.5	2.6	0.0	3.4	0.4	0.1	0.0	8.5	12.3	0.5
LnGrp Delay(d),s/veh	69.5	0.0	61.3	74.7	0.0	63.1	15.7	0.3	0.1	94.5	20.6	14.2
LnGrp LOS	E		E	E		E	B	A	A	F	C	B
Approach Vol, veh/h		58			151			1308			1607	
Approach Delay, s/veh		64.0			68.0			1.1			28.2	
Approach LOS		E			E			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.7	92.2	12.3	19.8	55.4	57.5	10.6	21.5
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 15	51.1	13.0	* 42	15.0	* 51	13.0	* 42
Max Q Clear Time (g_c+I1), s	15.4	2.0	7.1	5.4	3.0	28.3	3.5	9.6
Green Ext Time (p_c), s	0.0	22.8	0.0	0.1	0.1	15.9	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	19.5
HCM 2010 LOS	B

Notes

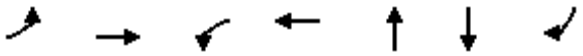
Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	974	42	34	782	20	17	0	32	18	0	35
Future Vol, veh/h	24	974	42	34	782	20	17	0	32	18	0	35
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	1015	44	35	815	21	18	0	33	19	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	841	0	0	1059	0	0	1565	1998	530	1459	2010	423
Stage 1	-	-	-	-	-	-	1087	1087	-	901	901	-
Stage 2	-	-	-	-	-	-	478	911	-	558	1109	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	790	-	-	653	-	-	75	59	493	90	58	579
Stage 1	-	-	-	-	-	-	231	290	-	299	355	-
Stage 2	-	-	-	-	-	-	537	351	-	482	283	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	786	-	-	653	-	-	61	49	493	73	48	576
Mov Cap-2 Maneuver	-	-	-	-	-	-	61	49	-	73	48	-
Stage 1	-	-	-	-	-	-	213	267	-	274	318	-
Stage 2	-	-	-	-	-	-	453	314	-	414	261	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.9	43.5	35.5
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	143	786	-	-	653	-	-	172
HCM Lane V/C Ratio	0.357	0.032	-	-	0.054	-	-	0.321
HCM Control Delay (s)	43.5	9.7	0.4	-	10.8	0.5	-	35.5
HCM Lane LOS	E	A	A	-	B	A	-	E
HCM 95th %tile Q(veh)	1.5	0.1	-	-	0.2	-	-	1.3



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	52	832	69	732	69	16	10
v/c Ratio	0.16	0.26	0.20	0.22	0.18	0.04	0.02
Control Delay	33.8	13.4	32.7	12.6	4.2	26.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	13.4	32.7	12.6	4.2	26.4	0.1
Queue Length 50th (ft)	14	55	19	46	0	4	0
Queue Length 95th (ft)	74	205	90	174	16	25	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	958	3807	958	3811	962	1005	929
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.22	0.07	0.19	0.07	0.02	0.01

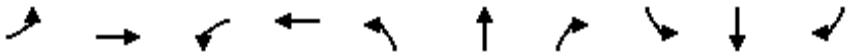
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	763	19	65	676	12	28	0	37	14	1	9
Future Volume (veh/h)	49	763	19	65	676	12	28	0	37	14	1	9
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	52	812	20	69	719	13	30	0	39	15	1	10
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	2084	51	132	2163	39	54	0	70	65	4	61
Arrive On Green	0.06	0.41	0.41	0.07	0.42	0.42	0.07	0.00	0.07	0.04	0.04	0.04
Sat Flow, veh/h	1774	5101	125	1774	5141	93	722	0	939	1668	111	1558
Grp Volume(v), veh/h	52	539	293	69	474	258	69	0	0	16	0	10
Grp Sat Flow(s),veh/h/ln	1774	1695	1837	1774	1695	1843	1661	0	0	1779	0	1558
Q Serve(g_s), s	1.4	5.5	5.6	1.9	4.7	4.7	2.0	0.0	0.0	0.4	0.0	0.3
Cycle Q Clear(g_c), s	1.4	5.5	5.6	1.9	4.7	4.7	2.0	0.0	0.0	0.4	0.0	0.3
Prop In Lane	1.00		0.07	1.00		0.05	0.43		0.57	0.94		1.00
Lane Grp Cap(c), veh/h	110	1385	750	132	1427	776	123	0	0	69	0	61
V/C Ratio(X)	0.47	0.39	0.39	0.52	0.33	0.33	0.56	0.00	0.00	0.23	0.00	0.16
Avail Cap(c_a), veh/h	717	2739	1484	717	2739	1490	671	0	0	719	0	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.4	10.3	10.3	22.1	9.7	9.7	22.1	0.0	0.0	23.1	0.0	23.0
Incr Delay (d2), s/veh	1.2	0.5	0.9	1.2	0.4	0.7	2.9	0.0	0.0	1.2	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.6	3.0	0.9	2.2	2.5	1.0	0.0	0.0	0.2	0.0	0.1
LnGrp Delay(d),s/veh	23.6	10.8	11.2	23.3	10.0	10.3	25.1	0.0	0.0	24.3	0.0	23.9
LnGrp LOS	C	B	B	C	B	B	C			C		C
Approach Vol, veh/h		884			801			69			26	
Approach Delay, s/veh		11.7			11.3			25.1			24.2	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.7	26.2		6.9	7.1	26.8		8.7
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	3.9	7.6		2.4	3.4	6.7		4.0
Green Ext Time (p_c), s	0.1	12.6		0.0	0.0	11.0		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	265	704	225	487	306	995	124	171	1206	105
v/c Ratio	0.59	0.65	0.72	0.56	0.65	0.43	0.16	0.62	0.60	0.15
Control Delay	65.1	48.1	77.2	51.1	51.4	21.1	8.5	72.1	13.5	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.1	48.1	77.2	51.1	51.4	21.1	8.5	72.1	13.5	1.3
Queue Length 50th (ft)	121	201	108	145	156	121	4	70	316	8
Queue Length 95th (ft)	#178	217	153	153	147	283	m50	95	130	0
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	451	1486	357	1489	473	2300	766	355	2004	682
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.47	0.63	0.33	0.65	0.43	0.16	0.48	0.60	0.15

Intersection Summary

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

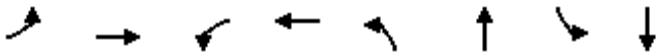
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	448	220	214	364	99	291	945	118	162	1146	100
Future Volume (veh/h)	252	448	220	214	364	99	291	945	118	162	1146	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	265	472	232	225	383	104	306	995	124	171	1206	105
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	439	738	341	272	679	177	813	2407	748	217	1501	458
Arrive On Green	0.13	0.22	0.22	0.08	0.17	0.17	0.47	0.95	0.95	0.13	0.59	0.59
Sat Flow, veh/h	3442	3390	1568	3442	4015	1049	3442	5085	1580	3442	5085	1552
Grp Volume(v), veh/h	265	472	232	225	321	166	306	995	124	171	1206	105
Grp Sat Flow(s),veh/h/ln	1721	1695	1568	1721	1695	1673	1721	1695	1580	1721	1695	1552
Q Serve(g_s), s	10.6	18.3	19.7	9.3	12.6	13.3	8.3	2.5	0.5	7.0	26.8	4.6
Cycle Q Clear(g_c), s	10.6	18.3	19.7	9.3	12.6	13.3	8.3	2.5	0.5	7.0	26.8	4.6
Prop In Lane	1.00		1.00	1.00		0.63	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	439	738	341	272	573	283	813	2407	748	217	1501	458
V/C Ratio(X)	0.60	0.64	0.68	0.83	0.56	0.59	0.38	0.41	0.17	0.79	0.80	0.23
Avail Cap(c_a), veh/h	439	1005	465	356	1005	496	813	2407	748	356	1501	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.98	0.98	0.98	0.94	0.94	0.94	0.87	0.87	0.87	0.89	0.89	0.89
Uniform Delay (d), s/veh	59.8	51.6	52.1	65.8	55.3	55.6	31.4	2.1	1.0	62.4	26.4	21.9
Incr Delay (d2), s/veh	1.6	1.8	4.5	8.5	1.6	3.5	0.1	0.5	0.4	2.2	4.2	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	8.8	9.0	4.8	6.1	6.4	3.9	1.1	0.3	3.4	13.0	2.1
LnGrp Delay(d),s/veh	61.4	53.3	56.6	74.3	56.8	59.0	31.5	2.6	1.4	64.6	30.6	22.9
LnGrp LOS	E	D	E	E	E	E	C	A	A	E	C	C
Approach Vol, veh/h		969			712			1425			1482	
Approach Delay, s/veh		56.3			62.9			8.7			34.0	
Approach LOS		E			E			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.8	75.0	17.2	38.0	40.7	49.2	24.2	30.9
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 15	47.8	15.0	* 43	20.0	* 43	15.0	* 43
Max Q Clear Time (g_c+I1), s	9.0	4.5	11.3	21.7	10.3	28.8	12.6	15.3
Green Ext Time (p_c), s	0.1	18.7	0.1	7.5	0.4	10.5	0.1	5.5

Intersection Summary	
HCM 2010 Ctrl Delay	35.3
HCM 2010 LOS	D

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	104	720	152	671	82	181	157	87
v/c Ratio	0.49	0.50	0.62	0.40	0.16	0.43	0.37	0.23
Control Delay	44.4	25.2	47.2	22.1	16.8	10.8	19.3	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	25.2	47.2	22.1	16.8	10.8	19.3	13.3
Queue Length 50th (ft)	44	92	65	79	24	10	48	9
Queue Length 95th (ft)	125	197	#176	179	59	64	104	49
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	356	2014	356	2012	607	669	495	617
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.36	0.43	0.33	0.14	0.27	0.32	0.14

Intersection Summary

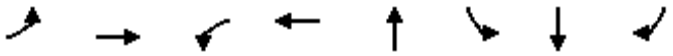
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	604	80	144	539	99	78	23	149	149	23	60
Future Volume (veh/h)	99	604	80	144	539	99	78	23	149	149	23	60
Number	5	2	12	1	6	16	7	4	14	3	8	18
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		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	104	636	84	152	567	104	82	24	157	157	24	63
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	150	1386	181	194	1431	258	454	35	231	384	87	228
Arrive On Green	0.08	0.31	0.31	0.11	0.33	0.33	0.08	0.16	0.16	0.11	0.19	0.19
Sat Flow, veh/h	1774	4537	592	1774	4333	781	1774	214	1401	1774	449	1179
Grp Volume(v), veh/h	104	473	247	152	442	229	82	0	181	157	0	87
Grp Sat Flow(s),veh/h/ln	1774	1695	1739	1774	1695	1724	1774	0	1615	1774	0	1628
Q Serve(g_s), s	3.3	6.4	6.6	4.8	5.7	5.9	2.1	0.0	6.0	4.0	0.0	2.6
Cycle Q Clear(g_c), s	3.3	6.4	6.6	4.8	5.7	5.9	2.1	0.0	6.0	4.0	0.0	2.6
Prop In Lane	1.00		0.34	1.00		0.45	1.00		0.87	1.00		0.72
Lane Grp Cap(c), veh/h	150	1036	531	194	1120	569	454	0	267	384	0	316
V/C Ratio(X)	0.69	0.46	0.46	0.78	0.39	0.40	0.18	0.00	0.68	0.41	0.00	0.28
Avail Cap(c_a), veh/h	465	1778	912	465	1778	904	783	0	706	663	0	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.4	16.0	16.1	24.8	14.7	14.8	17.3	0.0	22.5	16.6	0.0	19.6
Incr Delay (d2), s/veh	2.1	0.9	1.7	2.6	0.6	1.3	0.4	0.0	8.1	1.5	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	3.1	3.4	2.5	2.8	3.0	1.1	0.0	3.3	2.1	0.0	1.3
LnGrp Delay(d),s/veh	27.6	16.9	17.8	27.4	15.4	16.1	17.7	0.0	30.5	18.1	0.0	20.9
LnGrp LOS	C	B	B	C	B	B	B		C	B		C
Approach Vol, veh/h		824			823			263			244	
Approach Delay, s/veh		18.5			17.8			26.5			19.1	
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	10.3	23.5	9.0	14.4	8.9	24.9	7.4	16.1
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	15.0	30.0	15.0	25.0	15.0	30.0	15.0	24.0
Max Q Clear Time (g_c+I1), s	6.8	8.6	6.0	8.0	5.3	7.9	4.1	4.6
Green Ext Time (p_c), s	0.1	8.8	0.6	1.9	0.1	8.4	0.3	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	19.3
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBR
Lane Group Flow (vph)	62	934	1	783	15	29	1	42
v/c Ratio	0.20	0.34	0.00	0.33	0.05	0.07	0.00	0.09
Control Delay	26.5	5.5	28.0	8.9	23.4	24.2	24.0	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	5.5	28.0	8.9	23.4	24.2	24.0	2.9
Queue Length 50th (ft)	19	70	0	93	4	8	0	0
Queue Length 95th (ft)	59	164	5	151	21	34	5	10
Internal Link Dist (ft)		1064		2597	260		519	
Turn Bay Length (ft)	235		300					200
Base Capacity (vph)	912	2775	912	2760	740	799	960	854
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.34	0.00	0.28	0.02	0.04	0.00	0.05

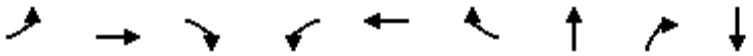
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	835	5	1	678	27	12	1	1	26	1	38
Future Volume (veh/h)	56	835	5	1	678	27	12	1	1	26	1	38
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	62	928	6	1	753	30	13	1	1	29	1	42
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	126	1929	12	4	1615	64	309	24	14	359	269	229
Arrive On Green	0.07	0.54	0.54	0.00	0.47	0.47	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1774	3604	23	1774	3466	138	1155	166	94	1409	1863	1583
Grp Volume(v), veh/h	62	456	478	1	384	399	15	0	0	29	1	42
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1835	1415	0	0	1409	1863	1583
Q Serve(g_s), s	1.6	7.6	7.6	0.0	7.0	7.0	0.0	0.0	0.0	0.4	0.0	1.1
Cycle Q Clear(g_c), s	1.6	7.6	7.6	0.0	7.0	7.0	0.3	0.0	0.0	0.8	0.0	1.1
Prop In Lane	1.00		0.01	1.00		0.08	0.87		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	126	947	994	4	825	855	347	0	0	359	269	229
V/C Ratio(X)	0.49	0.48	0.48	0.27	0.47	0.47	0.04	0.00	0.00	0.08	0.00	0.18
Avail Cap(c_a), veh/h	754	1504	1579	754	1504	1560	739	0	0	755	792	673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	6.8	6.8	23.5	8.6	8.6	17.4	0.0	0.0	17.5	17.2	17.7
Incr Delay (d2), s/veh	1.1	1.4	1.3	13.3	1.5	1.4	0.1	0.0	0.0	0.2	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	4.0	4.2	0.0	3.7	3.8	0.2	0.0	0.0	0.4	0.0	0.5
LnGrp Delay(d),s/veh	22.2	8.2	8.2	36.7	10.1	10.0	17.5	0.0	0.0	17.7	17.2	18.5
LnGrp LOS	C	A	A	D	B	B	B			B	B	B
Approach Vol, veh/h		996			784			15			72	
Approach Delay, s/veh		9.1			10.1			17.5			18.2	
Approach LOS		A			B			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	4.1	31.2		11.8	7.3	27.9		11.8
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	2.0	9.6		2.3	3.6	9.0		3.1
Green Ext Time (p_c), s	0.0	15.6		0.0	0.0	12.3		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	9.9
HCM 2010 LOS	A

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	116	675	50	108	635	50	202	42	231
v/c Ratio	0.44	0.48	0.07	0.42	0.46	0.08	0.49	0.09	0.54
Control Delay	33.8	16.5	2.0	33.8	16.5	2.1	28.0	0.4	26.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	16.5	2.0	33.8	16.5	2.1	28.0	0.4	26.1
Queue Length 50th (ft)	41	100	0	39	93	0	66	0	67
Queue Length 95th (ft)	105	177	11	100	168	11	158	2	166
Internal Link Dist (ft)		2597			1242		378		317
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	468	2185	1007	468	2185	1007	604	620	610
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.31	0.05	0.23	0.29	0.05	0.33	0.07	0.38

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	621	46	99	584	46	32	154	39	25	115	73
Future Volume (veh/h)	107	621	46	99	584	46	32	154	39	25	115	73
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	116	675	50	108	635	50	35	167	42	27	125	79
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	1394	624	165	1384	619	122	330	324	101	198	114
Arrive On Green	0.10	0.39	0.39	0.09	0.39	0.39	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	184	1614	1583	101	970	557
Grp Volume(v), veh/h	116	675	50	108	635	50	202	0	42	231	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1798	0	1583	1627	0	0
Q Serve(g_s), s	3.2	7.2	1.0	3.0	6.7	1.0	0.0	0.0	1.1	1.8	0.0	0.0
Cycle Q Clear(g_c), s	3.2	7.2	1.0	3.0	6.7	1.0	4.9	0.0	1.1	6.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.17		1.00	0.12		0.34
Lane Grp Cap(c), veh/h	170	1394	624	165	1384	619	452	0	324	413	0	0
V/C Ratio(X)	0.68	0.48	0.08	0.65	0.46	0.08	0.45	0.00	0.13	0.56	0.00	0.00
Avail Cap(c_a), veh/h	530	2467	1104	530	2467	1104	780	0	631	732	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.0	11.4	9.5	22.0	11.3	9.6	17.8	0.0	16.3	18.4	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.9	0.2	1.6	0.9	0.2	1.5	0.0	0.4	2.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.7	0.5	1.5	3.4	0.5	2.7	0.0	0.5	3.2	0.0	0.0
LnGrp Delay(d),s/veh	23.8	12.3	9.7	23.6	12.2	9.8	19.3	0.0	16.7	21.0	0.0	0.0
LnGrp LOS	C	B	A	C	B	A	B		B	C		
Approach Vol, veh/h		841			793			244			231	
Approach Delay, s/veh		13.8			13.6			18.9			21.0	
Approach LOS		B			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.7	26.3		15.3	8.8	26.1		15.3
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	15.0	35.0		20.0	15.0	35.0		20.0
Max Q Clear Time (g_c+I1), s	5.0	9.2		6.9	5.2	8.7		8.7
Green Ext Time (p_c), s	0.1	10.6		1.8	0.1	10.1		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	15.1
HCM 2010 LOS	B

Notes

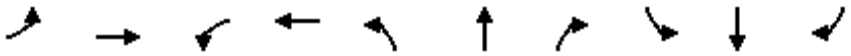
Intersection	
Int Delay, s/veh	6.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	282	211	28	290	145
Future Vol, veh/h	52	282	211	28	290	145
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	160	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	303	227	30	312	156

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1007	228	0	0	257	0
Stage 1	227	-	-	-	-	-
Stage 2	780	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	267	811	-	-	1308	-
Stage 1	811	-	-	-	-	-
Stage 2	452	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	203	810	-	-	1308	-
Mov Cap-2 Maneuver	290	-	-	-	-	-
Stage 1	811	-	-	-	-	-
Stage 2	344	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	5.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	290	810	1308	-
HCM Lane V/C Ratio	-	-	0.193	0.374	0.238	-
HCM Control Delay (s)	-	-	20.4	12.1	8.6	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	1.7	0.9	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	183	308	136	368	61	964	122	293	1080	148
v/c Ratio	0.74	0.48	0.81	0.59	0.24	0.43	0.16	0.76	0.43	0.17
Control Delay	77.1	51.7	97.7	26.8	95.9	59.4	22.1	95.8	10.7	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.1	51.7	97.7	26.8	95.9	59.4	22.1	95.8	10.7	1.1
Queue Length 50th (ft)	165	136	127	74	28	317	40	131	72	0
Queue Length 95th (ft)	m#337	m155	#230	102	m32	m331	m49	198	186	15
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	248	1058	183	1120	284	2249	776	449	2521	856
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.29	0.74	0.33	0.21	0.43	0.16	0.65	0.43	0.17

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	261	41	133	155	206	60	945	120	287	1058	145
Future Volume (veh/h)	179	261	41	133	155	206	60	945	120	287	1058	145
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	183	266	42	136	158	210	61	964	122	293	1080	148
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	602	94	158	313	280	686	2286	710	338	1747	543
Arrive On Green	0.10	0.20	0.20	0.09	0.18	0.18	0.40	0.90	0.90	0.20	0.69	0.69
Sat Flow, veh/h	1774	3069	479	1774	1770	1578	3442	5085	1580	3442	5085	1581
Grp Volume(v), veh/h	183	152	156	136	158	210	61	964	122	293	1080	148
Grp Sat Flow(s),veh/h/ln	1774	1770	1777	1774	1770	1578	1721	1695	1580	1721	1695	1581
Q Serve(g_s), s	15.0	11.0	11.2	11.0	11.7	18.3	1.6	4.5	1.3	12.0	16.8	5.2
Cycle Q Clear(g_c), s	15.0	11.0	11.2	11.0	11.7	18.3	1.6	4.5	1.3	12.0	16.8	5.2
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	184	347	349	158	313	280	686	2286	710	338	1747	543
V/C Ratio(X)	1.00	0.44	0.45	0.86	0.50	0.75	0.09	0.42	0.17	0.87	0.62	0.27
Avail Cap(c_a), veh/h	184	537	539	184	537	479	686	2286	710	451	1747	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.16	0.16	0.16	0.75	0.75	0.75
Uniform Delay (d), s/veh	65.0	51.2	51.4	65.1	53.9	56.6	35.4	4.2	4.1	57.4	17.5	15.7
Incr Delay (d2), s/veh	65.5	1.6	1.7	25.8	2.9	9.2	0.0	0.1	0.1	8.2	1.2	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	10.7	5.5	5.7	6.5	6.0	8.7	0.8	1.9	0.6	6.0	7.9	2.4
LnGrp Delay(d),s/veh	130.5	52.9	53.0	90.9	56.8	65.8	35.4	4.3	4.2	65.6	18.8	16.6
LnGrp LOS	F	D	D	F	E	E	D	A	A	E	B	B
Approach Vol, veh/h		491			504			1147			1521	
Approach Delay, s/veh		81.9			69.8			6.0			27.6	
Approach LOS		F			E			A			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	19.9	71.6	18.6	34.8	35.3	56.2	21.4	32.1
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	6.4	6.4	* 6.4	6.4	* 6.4
Max Green Setting (Gmax), s	* 19	42.8	* 15	44.0	12.0	* 50	15.0	* 44
Max Q Clear Time (g_c+I1), s	14.0	6.5	13.0	13.2	3.6	18.8	17.0	20.3
Green Ext Time (p_c), s	0.3	23.1	0.0	3.1	0.0	22.9	0.0	4.2

Intersection Summary	
HCM 2010 Ctrl Delay	33.9
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	7.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	587	11	257	517	6	347
Future Vol, veh/h	587	11	257	517	6	347
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	605	11	265	533	6	358

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	616	0	1674	611
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	1063	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	964	-	105	494
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	332	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	964	-	64	494
Mov Cap-2 Maneuver	-	-	-	-	156	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	202	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	29.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	156	494	-	-	964	-
HCM Lane V/C Ratio	0.04	0.724	-	-	0.275	-
HCM Control Delay (s)	29	29.1	-	-	10.1	0
HCM Lane LOS	D	D	-	-	B	A
HCM 95th %tile Q(veh)	0.1	5.9	-	-	1.1	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	183	656	17	9	506	9	8	6	2	6	7	198
Future Vol, veh/h	183	656	17	9	506	9	8	6	2	6	7	198
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	189	676	18	9	522	9	8	6	2	6	7	204

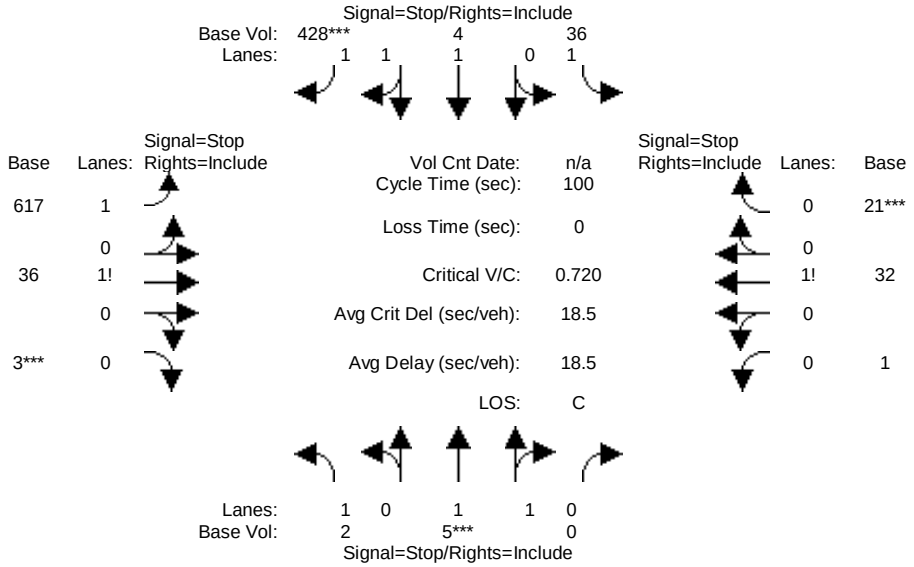
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	531	0	0	694	0	0	1713	1612	685	1612	1617	527
Stage 1	-	-	-	-	-	-	1063	1063	-	545	545	-
Stage 2	-	-	-	-	-	-	650	549	-	1067	1072	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1036	-	-	901	-	-	71	104	448	84	103	551
Stage 1	-	-	-	-	-	-	270	300	-	523	519	-
Stage 2	-	-	-	-	-	-	458	516	-	269	297	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1036	-	-	901	-	-	36	84	448	67	83	551
Mov Cap-2 Maneuver	-	-	-	-	-	-	36	84	-	67	83	-
Stage 1	-	-	-	-	-	-	221	245	-	428	514	-
Stage 2	-	-	-	-	-	-	281	511	-	213	243	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	0.2	98.7	20.5
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	54	1036	-	-	901	-	-	67	462
HCM Lane V/C Ratio	0.305	0.182	-	-	0.01	-	-	0.092	0.457
HCM Control Delay (s)	98.7	9.2	-	-	9	-	-	64.1	19.2
HCM Lane LOS	F	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	1.1	0.7	-	-	0	-	-	0.3	2.4

Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)
Existing plus Project PM

Intersection #1: Cameron Ave/Court St



Street Name:	Court St						Cameron Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	2	5	0	36	4	428	617	36	3	1	32	21
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:	2	5	0	36	4	428	617	36	3	1	32	21
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:	2	6	0	40	4	481	693	40	3	1	36	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	6	0	40	4	481	693	40	3	1	36	24
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:	2	6	0	40	4	481	693	40	3	1	36	24
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	2.00	0.00	1.00	1.00	2.00	1.88	0.11	0.01	0.02	0.59	0.39
Final Sat.:	395	836	0	475	507	1133	1509	-455	5	10	316	207
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	xxxx	0.09	0.01	0.42	0.46	-0.09	0.72	0.11	0.11	0.11
Crit Moves:		****				****			****			****
Delay/Veh:	11.2	10.7	0.0	10.7	9.6	13.1	23.9	25.1	25.1	10.3	10.3	10.3
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:	11.2	10.7	0.0	10.7	9.6	13.1	23.9	25.1	25.1	10.3	10.3	10.3
LOS by Move:	B	B	*	B	A	B	C	D	D	B	B	B
ApproachDel:		10.8			12.9			23.3			10.3	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		10.8			12.9			23.3			10.3	
LOS by Appr:		B			B			C			B	
AllWayAvgQ:	0.0	0.0	0.0	0.1	0.0	0.7	2.2	2.2	2.2	0.1	0.1	0.1
Note: Queue reported is the number of cars per lane.												
Time Period: 0.25 hour												
HevVeh:		0%			0%			0%			0%	
Alpha Value: 0.01												
GroupType:		6			6			5			4B	

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P[C1]:	0.03	0.08	0.28	0.03
P[C2]:	0.06	0.00	0.03	0.28
P[C3]:	0.26	0.80	0.60	0.06
P[C4]:	0.59	0.11	0.08	0.62
P[C5]:	0.07	0.00	0.00	0.01
Padj[C1]:	0.026	0.019	0.015	0.023
Padj[C2]:	0.016	0.010	0.007	0.010
Padj[C3]:	-0.000	-0.023	-0.017	0.004
Padj[C4]:	-0.035	-0.007	-0.005	-0.037
Padj[C5]:	-0.007	-0.000	-0.000	-0.001

Lanes:	L1	L2	L1	L2	L1	L2	L1	L2
LaneType:	LEFT	RTTHRU	LEFT	RITE	LEFT	LTR	LTR	NOLANE
HeadwayAdj:	0.500	0.000	0.500	-0.700	0.500	0.934	-0.230	xx.xxx
Volume:	2	3	40	240	369	369	61	xxxxxx
Capacity:	395	418	475	566	545	512	533	xxxxx
DegOfUtil:	0.01	0.01	0.08	0.41	0.67	0.71	0.11	x.xx
DepHeadway:	8.45	7.95	7.37	6.17	6.53	6.97	6.48	xx.xx
ServiceTime:	6.2	5.7	5.1	3.9	4.2	4.7	4.5	xx.x
Delay:	11.2	10.7	10.7	13.1	21.4	25.1	10.3	xxx.x
Queue:	0.0	0.0	0.1	0.7	1.8	2.2	0.1	xxx.x

Lanes:	L3	L4	L3	L4	L3	L4	L3	L4
LaneType:	THRU	NOLANE	RTTHRU	THRU	NOLANE	NOLANE	NOLANE	NOLANE
HeadwayAdj:	0.000	xx.xxx	-0.700	0.000	xx.xxx	xx.xxx	xx.xxx	xx.xxx
Volume:	3	xxxxxx	240	4	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Capacity:	418	xxxxx	566	507	xxxxx	xxxxx	xxxxx	xxxxx
DegOfUtil:	0.01	x.xx	0.41	0.01	x.xx	x.xx	x.xx	x.xx
DepHeadway:	7.95	xx.xx	6.17	6.87	xx.xx	xx.xx	xx.xx	xx.xx
ServiceTime:	5.7	xx.x	3.9	4.6	xx.x	xx.x	xx.x	xx.x
Delay:	10.7	xxx.x	13.1	9.6	xxx.x	xxx.x	xxx.x	xxx.x
Queue:	0.0	xxx.x	0.7	0.0	xxx.x	xxx.x	xxx.x	xxx.x

Approach:	North Bound	South Bound	East Bound	West Bound
ApproachDel:	10.8	12.9	23.3	10.3
Delay Adj:	1.00	1.00	1.00	1.00
ApprAdjDel:	10.8	12.9	23.3	10.3
LOS by Appr:	B	B	C	B

OverallDel: 18.5
OverallLOS: C

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1 Cameron Ave/Court St

****

Base Volume Alternative: Peak Hour Warrant NOT Met

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		
Lanes:	1 0	1 1	0	1 0	1 1	1	1 0	1! 0	0	0 0	1! 0	0
Initial Vol:	2	5	0	36	4	428	617	36	3	1	32	21

Major Street Volume: 710
Minor Approach Volume: 468
Minor Approach Volume Threshold: 521

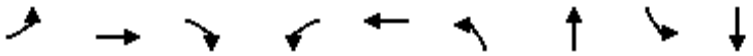
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	17	267	52	97	423	59	621	146	565
v/c Ratio	0.12	0.63	0.11	0.47	0.38	0.34	0.62	0.61	0.44
Control Delay	44.0	39.7	0.5	45.6	19.2	44.9	27.9	48.0	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.0	39.7	0.5	45.6	19.2	44.9	27.9	48.0	22.7
Queue Length 50th (ft)	9	126	0	49	58	30	144	74	123
Queue Length 95th (ft)	33	#276	0	110	138	77	224	156	194
Internal Link Dist (ft)		776			1573		775		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	353	495	515	353	1216	353	1593	353	1622
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.54	0.10	0.27	0.35	0.17	0.39	0.41	0.35

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	254	49	92	253	149	56	475	115	139	487	49
Future Volume (veh/h)	16	254	49	92	253	149	56	475	115	139	487	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	17	267	52	97	266	157	59	500	121	146	513	52
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	374	318	139	551	314	109	805	194	186	1064	108
Arrive On Green	0.02	0.20	0.20	0.08	0.25	0.25	0.06	0.28	0.28	0.10	0.33	0.33
Sat Flow, veh/h	1774	1863	1583	1774	2162	1234	1774	2831	681	1774	3246	328
Grp Volume(v), veh/h	17	267	52	97	216	207	59	312	309	146	279	286
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	1626	1774	1770	1742	1774	1770	1805
Q Serve(g_s), s	0.6	8.3	1.7	3.3	6.4	6.8	2.0	9.5	9.6	5.0	7.8	7.9
Cycle Q Clear(g_c), s	0.6	8.3	1.7	3.3	6.4	6.8	2.0	9.5	9.6	5.0	7.8	7.9
Prop In Lane	1.00		1.00	1.00		0.76	1.00		0.39	1.00		0.18
Lane Grp Cap(c), veh/h	44	374	318	139	451	414	109	503	496	186	580	591
V/C Ratio(X)	0.39	0.71	0.16	0.70	0.48	0.50	0.54	0.62	0.62	0.78	0.48	0.48
Avail Cap(c_a), veh/h	428	599	509	428	569	523	428	982	967	428	982	1002
HCM Platoon Ratio	1.00	1.00	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	29.9	23.2	20.5	27.9	19.7	19.8	28.3	19.3	19.4	27.1	16.7	16.7
Incr Delay (d2), s/veh	2.1	7.5	0.7	2.3	2.4	2.8	1.5	2.4	2.5	2.8	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.0	0.8	1.7	3.4	3.4	1.0	4.9	4.9	2.6	4.0	4.1
LnGrp Delay(d),s/veh	32.0	30.7	21.3	30.3	22.1	22.6	29.8	21.7	21.9	29.9	17.9	17.9
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		336			520			680			711	
Approach Delay, s/veh		29.3			23.8			22.5			20.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	24.7	9.1	17.7	8.0	27.4	5.7	21.0
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 15	34.5	* 15	20.0	* 15	34.5	* 15	20.0
Max Q Clear Time (g_c+I1), s	7.0	11.6	5.3	10.3	4.0	9.9	2.6	8.8
Green Ext Time (p_c), s	0.1	6.1	0.1	2.2	0.0	5.7	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	23.1
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	455	4	5	480	48	2	0	1	50	1	40
Future Vol, veh/h	29	455	4	5	480	48	2	0	1	50	1	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	511	4	6	539	54	2	0	1	56	1	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	593	0	0	515	0	0	1180	1184	513	1158	1159	566
Stage 1	-	-	-	-	-	-	579	579	-	578	578	-
Stage 2	-	-	-	-	-	-	601	605	-	580	581	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	983	-	-	1051	-	-	167	189	561	173	196	524
Stage 1	-	-	-	-	-	-	501	501	-	501	501	-
Stage 2	-	-	-	-	-	-	487	487	-	500	500	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	983	-	-	1051	-	-	147	181	561	167	188	524
Mov Cap-2 Maneuver	-	-	-	-	-	-	147	181	-	167	188	-
Stage 1	-	-	-	-	-	-	484	484	-	484	498	-
Stage 2	-	-	-	-	-	-	442	484	-	482	483	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	23.8	30.9
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	195	983	-	-	1051	-	-	239
HCM Lane V/C Ratio	0.017	0.033	-	-	0.005	-	-	0.428
HCM Control Delay (s)	23.8	8.8	-	-	8.4	-	-	30.9
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	2

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	424	453	153	104	92
Future Vol, veh/h	85	424	453	153	104	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	96	476	509	172	117	103

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	681	0	-	0	1263	595
Stage 1	-	-	-	-	595	-
Stage 2	-	-	-	-	668	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	912	-	-	-	187	504
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	510	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	912	-	-	-	167	504
Mov Cap-2 Maneuver	-	-	-	-	167	-
Stage 1	-	-	-	-	493	-
Stage 2	-	-	-	-	510	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	41.3
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	912	-	-	-	167	504
HCM Lane V/C Ratio	0.105	-	-	-	0.7	0.205
HCM Control Delay (s)	9.4	-	-	-	65.5	14
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.3	-	-	-	4.2	0.8

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	72	470	508	29	43	68
Future Vol, veh/h	72	470	508	29	43	68
Conflicting Peds, #/hr	0	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	511	552	32	47	74

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	585	0	-	0	1236	569
Stage 1	-	-	-	-	569	-
Stage 2	-	-	-	-	667	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	990	-	-	-	195	522
Stage 1	-	-	-	-	566	-
Stage 2	-	-	-	-	510	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	989	-	-	-	173	522
Mov Cap-2 Maneuver	-	-	-	-	173	-
Stage 1	-	-	-	-	503	-
Stage 2	-	-	-	-	509	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	25.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	989	-	-	-	293
HCM Lane V/C Ratio	0.079	-	-	-	0.412
HCM Control Delay (s)	9	0	-	-	25.6
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.3	-	-	-	1.9



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	115	462	254	256	268	1153	175	858	57
v/c Ratio	0.68	1.12	0.86	0.47	1.10	1.00	0.97	0.57	0.10
Control Delay	83.2	129.2	85.4	43.1	142.5	73.0	112.0	21.9	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.2	129.2	85.4	43.1	142.5	73.0	112.0	21.9	0.8
Queue Length 50th (ft)	107	~485	235	189	~286	564	~155	193	0
Queue Length 95th (ft)	170	#707	330	280	#470	#726	m#373	210	m4
Internal Link Dist (ft)		765		337		302		1110	
Turn Bay Length (ft)	180		175		205		290		210
Base Capacity (vph)	244	412	354	543	244	1155	181	1517	579
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	1.12	0.72	0.47	1.10	1.00	0.97	0.57	0.10

Intersection Summary

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

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	255	175	236	183	55	249	865	207	163	798	53
Future Volume (veh/h)	107	255	175	236	183	55	249	865	207	163	798	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	115	274	188	254	197	59	268	930	223	175	858	57
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	3	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	233	160	245	402	120	333	1108	265	122	1347	410
Arrive On Green	0.08	0.23	0.23	0.14	0.29	0.29	0.19	0.39	0.39	0.14	0.53	0.53
Sat Flow, veh/h	1774	1025	703	1774	1373	411	1774	2832	678	1774	5085	1547
Grp Volume(v), veh/h	115	0	462	254	0	256	268	581	572	175	858	57
Grp Sat Flow(s),veh/h/ln	1774	0	1728	1774	0	1784	1774	1770	1741	1774	1695	1547
Q Serve(g_s), s	9.3	0.0	33.0	20.0	0.0	17.2	21.0	43.1	43.3	10.0	17.4	2.1
Cycle Q Clear(g_c), s	9.3	0.0	33.0	20.0	0.0	17.2	21.0	43.1	43.3	10.0	17.4	2.1
Prop In Lane	1.00		0.41	1.00		0.23	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	138	0	393	245	0	522	333	692	681	122	1347	410
V/C Ratio(X)	0.84	0.00	1.17	1.04	0.00	0.49	0.81	0.84	0.84	1.43	0.64	0.14
Avail Cap(c_a), veh/h	245	0	393	245	0	522	333	692	681	122	1347	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	66.0	0.0	56.0	62.5	0.0	42.3	56.4	40.0	40.1	62.5	29.2	15.5
Incr Delay (d2), s/veh	5.0	0.0	102.4	67.8	0.0	2.1	12.6	11.7	12.0	229.9	2.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	26.9	14.4	0.0	8.8	11.4	23.2	23.1	12.7	8.3	1.1
LnGrp Delay(d),s/veh	71.0	0.0	158.4	130.3	0.0	44.4	68.9	51.7	52.0	292.4	31.2	16.2
LnGrp LOS	E		F	F		D	E	D	D	F	C	B
Approach Vol, veh/h		577			510			1421			1090	
Approach Delay, s/veh		140.9			87.2			55.1			72.3	
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	15.7	63.5	26.4	39.4	34.0	45.2	16.9	48.9
Change Period (Y+Rc), s	* 5.7	6.8	6.4	* 6.4	6.8	* 6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 10	48.4	20.0	* 33	20.0	* 38	* 20	42.0
Max Q Clear Time (g_c+I1), s	12.0	45.3	22.0	35.0	23.0	19.4	11.3	19.2
Green Ext Time (p_c), s	0.0	2.8	0.0	0.0	0.0	11.6	0.1	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	78.6
HCM 2010 LOS	E

Notes



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	38	10	317	7	1176	75	1005	71
v/c Ratio	0.12	0.02	0.77	0.04	0.86	0.36	0.55	0.08
Control Delay	20.2	0.1	28.6	35.4	31.0	36.5	15.2	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	0.1	28.6	35.4	31.0	36.5	15.2	1.3
Queue Length 50th (ft)	12	0	79	3	225	29	114	0
Queue Length 95th (ft)	34	0	171	18	#561	81	353	9
Internal Link Dist (ft)	1563		335		1230		631	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	639	898	774	412	1363	412	1835	860
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.01	0.41	0.02	0.86	0.18	0.55	0.08

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	3	10	170	0	138	7	1065	76	73	975	69
Future Volume (veh/h)	34	3	10	170	0	138	7	1065	76	73	975	69
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		0.98
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	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	35	3	10	175	0	142	7	1098	78	75	1005	71
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	371	28	407	274	12	163	19	1248	89	120	1521	666
Arrive On Green	0.26	0.26	0.26	0.26	0.00	0.26	0.01	0.37	0.37	0.07	0.43	0.43
Sat Flow, veh/h	1037	108	1583	736	46	635	1774	3346	238	1774	3539	1549
Grp Volume(v), veh/h	38	0	10	317	0	0	7	580	596	75	1005	71
Grp Sat Flow(s),veh/h/ln	1144	0	1583	1417	0	0	1774	1770	1814	1774	1770	1549
Q Serve(g_s), s	0.0	0.0	0.3	12.7	0.0	0.0	0.3	20.3	20.3	2.7	15.0	1.8
Cycle Q Clear(g_c), s	1.6	0.0	0.3	14.3	0.0	0.0	0.3	20.3	20.3	2.7	15.0	1.8
Prop In Lane	0.92		1.00	0.55		0.45	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	399	0	407	449	0	0	19	660	677	120	1521	666
V/C Ratio(X)	0.10	0.00	0.02	0.71	0.00	0.00	0.36	0.88	0.88	0.62	0.66	0.11
Avail Cap(c_a), veh/h	456	0	478	804	0	0	402	668	685	402	1521	666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	0.0	18.4	23.8	0.0	0.0	32.5	19.4	19.4	30.0	15.0	11.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	0.0	4.1	15.2	15.0	2.0	2.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.1	5.6	0.0	0.0	0.1	12.6	12.9	1.4	7.7	0.8
LnGrp Delay(d),s/veh	18.9	0.0	18.4	24.6	0.0	0.0	36.6	34.6	34.4	32.0	17.0	11.5
LnGrp LOS	B		B	C			D	C	C	C	B	B
Approach Vol, veh/h		48			317			1183			1151	
Approach Delay, s/veh		18.8			24.6			34.5			17.7	
Approach LOS		B			C			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	10.2	31.5		24.5	6.4	35.3		24.5
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 15	25.0		* 20	* 15	25.0		33.0
Max Q Clear Time (g_c+I1), s	4.7	22.3		3.6	2.3	17.0		16.3
Green Ext Time (p_c), s	0.0	2.4		0.1	0.0	6.3		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	25.9
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	39.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	4	27	2	3	36	137	1120	57	29	1157	63
Future Vol, veh/h	39	4	27	2	3	36	137	1120	57	29	1157	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	4	28	2	3	38	144	1179	60	31	1218	66

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2192	2840	642	2170	2843	620	1284	0	0	1239	0	0
Stage 1	1313	1313	-	1497	1497	-	-	-	-	-	-	-
Stage 2	879	1527	-	673	1346	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 25	17	417	26	17	431	536	-	-	558	-	-
Stage 1	167	226	-	128	184	-	-	-	-	-	-	-
Stage 2	309	178	-	411	218	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 14	12	417	14	12	431	536	-	-	558	-	-
Mov Cap-2 Maneuver	~ 14	12	-	14	12	-	-	-	-	-	-	-
Stage 1	122	213	-	94	135	-	-	-	-	-	-	-
Stage 2	201	130	-	355	206	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	1422.5	83.2	1.5	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	536	-	-	22	86	558	-	-
HCM Lane V/C Ratio	0.269	-	-	3.349	0.502	0.055	-	-
HCM Control Delay (s)	14.2	-	-	$ 1422.5	83.2	11.8	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	1.1	-	-	9.4	2.2	0.2	-	-

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



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	253	31	127	1211	64	1222
v/c Ratio	0.70	0.08	0.52	0.78	0.33	0.92
Control Delay	32.9	13.1	37.6	24.5	36.6	37.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	13.1	37.6	24.5	36.6	37.5
Queue Length 50th (ft)	89	4	54	258	27	279
Queue Length 95th (ft)	178	24	109	#449	66	#508
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	475	502	396	1555	396	1325
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.06	0.32	0.78	0.16	0.92

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	1	77	9	1	18	114	1077	13	58	1089	11
Future Volume (veh/h)	149	1	77	9	1	18	114	1077	13	58	1089	11
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		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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	166	1	86	10	1	20	127	1197	14	64	1210	12
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	12	110	157	45	232	163	1484	17	113	1386	14
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.09	0.41	0.41	0.06	0.39	0.39
Sat Flow, veh/h	915	53	499	377	203	1054	1774	3582	42	1774	3590	36
Grp Volume(v), veh/h	253	0	0	31	0	0	127	591	620	64	596	626
Grp Sat Flow(s),veh/h/ln	1467	0	0	1634	0	0	1774	1770	1854	1774	1770	1856
Q Serve(g_s), s	9.4	0.0	0.0	0.0	0.0	0.0	4.5	18.8	18.8	2.2	19.9	19.9
Cycle Q Clear(g_c), s	10.3	0.0	0.0	0.9	0.0	0.0	4.5	18.8	18.8	2.2	19.9	19.9
Prop In Lane	0.66		0.34	0.32		0.65	1.00		0.02	1.00		0.02
Lane Grp Cap(c), veh/h	416	0	0	434	0	0	163	733	768	113	683	717
V/C Ratio(X)	0.61	0.00	0.00	0.07	0.00	0.00	0.78	0.81	0.81	0.57	0.87	0.87
Avail Cap(c_a), veh/h	596	0	0	619	0	0	417	733	768	417	693	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	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	0.0	19.8	0.0	0.0	28.4	16.5	16.5	29.0	18.1	18.2
Incr Delay (d2), s/veh	2.5	0.0	0.0	0.1	0.0	0.0	3.0	9.0	8.7	1.6	14.2	13.7
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	4.5	0.0	0.0	0.4	0.0	0.0	2.3	10.9	11.3	1.2	12.3	12.8
LnGrp Delay(d),s/veh	25.8	0.0	0.0	19.9	0.0	0.0	31.4	25.5	25.1	30.7	32.4	31.8
LnGrp LOS	C			B			C	C	C	C	C	C
Approach Vol, veh/h		253			31			1338			1286	
Approach Delay, s/veh		25.8			19.9			25.9			32.0	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.8	34.3		19.7	11.6	32.6		19.7
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 15	25.0		* 22	* 15	25.0		* 22
Max Q Clear Time (g_c+I1), s	4.2	20.8		12.3	6.5	21.9		2.9
Green Ext Time (p_c), s	0.0	3.7		1.5	0.1	2.7		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	28.5
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	566	124	0	497	0	25
Future Vol, veh/h	566	124	0	497	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	590	129	0	518	0	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	655
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	466
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	466
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	466	-	-	-
HCM Lane V/C Ratio	0.056	-	-	-
HCM Control Delay (s)	13.2	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	477	84	90	417	23	0	0	25	21	0	25
Future Vol, veh/h	19	477	84	90	417	23	0	0	25	21	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	92	92	96	96	92	92	92	96	92	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	497	91	98	434	24	0	0	27	22	0	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	458	0	0	588	0	0	-	-	543	1238	-	446
Stage 1	-	-	-	-	-	-	-	-	-	642	-	-
Stage 2	-	-	-	-	-	-	-	-	-	596	-	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	-	6.22	7.12	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.12	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.12	-	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	-	3.318	3.518	-	3.318
Pot Cap-1 Maneuver	1103	-	-	987	-	-	0	0	540	152	0	612
Stage 1	-	-	-	-	-	-	0	0	-	463	0	-
Stage 2	-	-	-	-	-	-	0	0	-	490	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1103	-	-	987	-	-	-	-	540	132	-	612
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	132	-	-
Stage 1	-	-	-	-	-	-	-	-	-	455	-	-
Stage 2	-	-	-	-	-	-	-	-	-	457	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.6	12	11.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	540	1103	-	-	987	-	-	612
HCM Lane V/C Ratio	0.05	0.018	-	-	0.099	-	-	0.043
HCM Control Delay (s)	12	8.3	-	-	9	-	-	11.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.3	-	-	0.1

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	523	0	0	495	0	42
Future Vol, veh/h	523	0	0	495	0	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	568	0	0	538	0	46

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	568
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	522
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	522
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	522	-	-	-
HCM Lane V/C Ratio	0.087	-	-	-
HCM Control Delay (s)	12.6	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	246	297	230	3	4	265
Future Vol, veh/h	246	297	230	3	4	265
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	265	319	247	3	4	285

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	250	0	-	0	1098	249
Stage 1	-	-	-	-	249	-
Stage 2	-	-	-	-	849	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1316	-	-	-	235	790
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	419	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1316	-	-	-	177	790
Mov Cap-2 Maneuver	-	-	-	-	177	-
Stage 1	-	-	-	-	598	-
Stage 2	-	-	-	-	419	-

Approach	EB	WB	SB
HCM Control Delay, s	3.8	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1316	-	-	-	177	790
HCM Lane V/C Ratio	0.201	-	-	-	0.024	0.361
HCM Control Delay (s)	8.4	0	-	-	25.8	12.1
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.1	1.6

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	128	0	1252	46	0	1209	0
Future Vol, veh/h	0	0	0	0	0	128	0	1252	46	0	1209	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	139	0	1361	50	0	1314	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	657	-	-	706	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	349	0	0	378	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	349	-	-	378	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	20	0	0
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	378	-	-
HCM Lane V/C Ratio	-	-	-	0.368	-	-
HCM Control Delay (s)	-	-	0	20	-	-
HCM Lane LOS	-	-	A	C	-	-
HCM 95th %tile Q(veh)	-	-	-	1.7	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	106	0	1192	45	78	1131	0
Future Vol, veh/h	0	0	0	0	0	106	0	1192	45	78	1131	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	115	0	1296	49	85	1229	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	615	-	-	673	1229	0	0	1345	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	434	0	0	398	563	-	-	508	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	434	-	-	398	563	-	-	508	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	17.7	0	0.9
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	563	-	-	-	398	508	-	-
HCM Lane V/C Ratio	-	-	-	-	0.289	0.167	-	-
HCM Control Delay (s)	0	-	-	0	17.7	13.5	-	-
HCM Lane LOS	A	-	-	A	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	1.2	0.6	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	65	87	190	0	0	118
Future Vol, veh/h	65	87	190	0	0	118
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	95	207	0	0	128

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	207	0	-	0	444	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	237	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1364	-	-	-	571	833
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1364	-	-	-	540	833
Mov Cap-2 Maneuver	-	-	-	-	540	-
Stage 1	-	-	-	-	782	-
Stage 2	-	-	-	-	802	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1364	-	-	-	833
HCM Lane V/C Ratio	0.052	-	-	-	0.154
HCM Control Delay (s)	7.8	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	51	36	103	0	0	87
Future Vol, veh/h	51	36	103	0	0	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	39	112	0	0	95

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	112	0	-	0	261	112
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	149	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1478	-	-	-	728	941
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	879	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1478	-	-	-	700	941
Mov Cap-2 Maneuver	-	-	-	-	700	-
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	879	-

Approach	EB	WB	SB
HCM Control Delay, s	4.4	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1478	-	-	-	941
HCM Lane V/C Ratio	0.038	-	-	-	0.1
HCM Control Delay (s)	7.5	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	16	52	0	0	51
Future Vol, veh/h	20	16	52	0	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	17	57	0	0	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	57	0	-	0	118	57
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1547	-	-	-	878	1009
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	962	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1547	-	-	-	866	1009
Mov Cap-2 Maneuver	-	-	-	-	866	-
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	962	-

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1547	-	-	-	1009
HCM Lane V/C Ratio	0.014	-	-	-	0.055
HCM Control Delay (s)	7.4	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	21	0	0	31
Future Vol, veh/h	0	16	21	0	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	23	0	0	34

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	40	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	972	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	972	1054
Mov Cap-2 Maneuver	-	-	-	-	972	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	1054
HCM Lane V/C Ratio	-	-	-	-	0.032
HCM Control Delay (s)	0	-	-	-	8.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	8.6

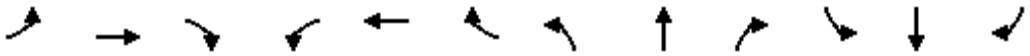
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	31	0	0	0	0
Future Vol, veh/h	42	31	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	34	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	1047	-	-
HCM Lane V/C Ratio	-	-	0.076	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Appendix F – Five-Year Cumulative Conditions Level of Service and Queuing Work Sheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	105	218	137	187	262	60	95	654	136	63	635	46
v/c Ratio	0.44	0.46	0.40	0.66	0.50	0.16	0.27	0.22	0.14	0.37	0.24	0.05
Control Delay	70.2	59.6	7.4	75.4	58.9	1.0	62.1	17.0	3.8	72.2	21.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.2	59.6	7.4	75.4	58.9	1.0	62.1	17.0	3.8	72.2	21.6	0.1
Queue Length 50th (ft)	50	104	0	89	125	0	43	102	0	30	113	0
Queue Length 95th (ft)	81	125	38	129	144	0	73	183	42	55	190	0
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	284	878	506	355	951	534	355	2959	965	355	2607	855
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.25	0.27	0.53	0.28	0.11	0.27	0.22	0.14	0.18	0.24	0.05

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	201	126	172	241	55	87	602	125	58	584	42
Future Volume (veh/h)	97	201	126	172	241	55	87	602	125	58	584	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	105	218	137	187	262	60	95	654	136	63	635	46
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	257	487	216	233	462	204	843	2999	922	131	1922	596
Arrive On Green	0.07	0.14	0.14	0.07	0.13	0.13	0.25	0.59	0.59	0.04	0.38	0.38
Sat Flow, veh/h	3442	3539	1573	3442	3539	1565	3442	5085	1563	3442	5085	1578
Grp Volume(v), veh/h	105	218	137	187	262	60	95	654	136	63	635	46
Grp Sat Flow(s),veh/h/ln	1721	1770	1573	1721	1770	1565	1721	1695	1563	1721	1695	1578
Q Serve(g_s), s	4.2	8.2	11.9	7.8	10.1	4.3	3.1	8.8	3.6	2.6	12.9	2.7
Cycle Q Clear(g_c), s	4.2	8.2	11.9	7.8	10.1	4.3	3.1	8.8	3.6	2.6	12.9	2.7
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	257	487	216	233	462	204	843	2999	922	131	1922	596
V/C Ratio(X)	0.41	0.45	0.63	0.80	0.57	0.29	0.11	0.22	0.15	0.48	0.33	0.08
Avail Cap(c_a), veh/h	285	879	391	285	952	421	843	2999	922	356	1922	596
HCM Platoon Ratio	1.00	1.00	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	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.0	57.5	59.1	66.6	59.2	42.2	42.5	14.0	5.3	68.3	32.1	28.9
Incr Delay (d2), s/veh	0.4	1.3	5.9	10.3	2.1	1.5	0.0	0.2	0.3	1.0	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	4.1	5.5	4.0	5.1	2.2	1.5	4.2	2.3	1.3	6.1	1.2
LnGrp Delay(d),s/veh	64.4	58.7	64.9	76.9	61.3	43.7	42.5	14.2	5.7	69.3	32.5	29.1
LnGrp LOS	E	E	E	E	E	D	D	B	A	E	C	C
Approach Vol, veh/h		460			509			885			744	
Approach Delay, s/veh		61.9			65.0			15.9			35.4	
Approach LOS		E			E			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	11.2	91.9	15.5	26.3	41.9	61.2	16.5	25.3
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 15	54.8	12.0	* 36	15.0	* 55	12.0	* 39
Max Q Clear Time (g_c+I1), s	4.6	10.8	9.8	13.9	5.1	14.9	6.2	12.1
Green Ext Time (p_c), s	0.0	10.4	0.1	3.1	0.1	9.0	0.1	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	39.2
HCM 2010 LOS	D

Notes



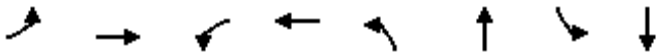
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	89	149	8	236	96	49	72	11	126
v/c Ratio	0.22	0.15	0.02	0.31	0.14	0.10	0.17	0.02	0.22
Control Delay	19.4	7.8	21.0	13.5	5.7	15.2	16.8	15.7	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.4	7.8	21.0	13.5	5.7	15.2	16.8	15.7	5.4
Queue Length 50th (ft)	19	14	2	45	3	9	14	2	0
Queue Length 95th (ft)	62	62	13	111	30	35	49	13	34
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	870	1424	870	1441	1242	1092	926	1278	1126
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.10	0.01	0.16	0.08	0.04	0.08	0.01	0.11

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	125	12	7	217	88	19	22	4	66	10	116
Future Volume (veh/h)	82	125	12	7	217	88	19	22	4	66	10	116
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	89	136	13	8	236	96	21	24	4	72	11	126
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	177	613	59	23	520	442	245	222	28	512	397	337
Arrive On Green	0.10	0.37	0.37	0.01	0.28	0.28	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	1674	160	1774	1863	1583	444	1043	132	1377	1863	1583
Grp Volume(v), veh/h	89	0	149	8	236	96	49	0	0	72	11	126
Grp Sat Flow(s),veh/h/ln	1774	0	1834	1774	1863	1583	1620	0	0	1377	1863	1583
Q Serve(g_s), s	1.6	0.0	1.9	0.2	3.6	1.6	0.0	0.0	0.0	0.5	0.2	2.3
Cycle Q Clear(g_c), s	1.6	0.0	1.9	0.2	3.6	1.6	0.7	0.0	0.0	1.3	0.2	2.3
Prop In Lane	1.00		0.09	1.00		1.00	0.43		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	177	0	672	23	520	442	495	0	0	512	397	337
V/C Ratio(X)	0.50	0.00	0.22	0.35	0.45	0.22	0.10	0.00	0.00	0.14	0.03	0.37
Avail Cap(c_a), veh/h	775	0	1603	775	1628	1384	1278	0	0	1221	1357	1153
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	7.5	16.8	10.2	9.5	10.9	0.0	0.0	11.1	10.7	11.5
Incr Delay (d2), s/veh	0.8	0.0	0.3	3.4	1.1	0.4	0.1	0.0	0.0	0.2	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	0.8	0.0	1.0	0.1	2.0	0.7	0.4	0.0	0.0	0.6	0.1	1.1
LnGrp Delay(d),s/veh	15.5	0.0	7.8	20.2	11.3	9.9	11.1	0.0	0.0	11.3	10.7	12.7
LnGrp LOS	B		A	C	B	A	B			B	B	B
Approach Vol, veh/h		238			340			49			209	
Approach Delay, s/veh		10.7			11.1			11.1			12.1	
Approach LOS		B			B			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	4.4	17.6		12.3	7.4	14.6		12.3
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	15.0	30.0		25.0	15.0	30.0		25.0
Max Q Clear Time (g_c+I1), s	2.2	3.9		2.7	3.6	5.6		4.3
Green Ext Time (p_c), s	0.0	1.2		0.3	0.1	2.7		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	35	4	4	105	788	89	838
v/c Ratio	0.24	0.09	0.02	0.01	0.37	0.31	0.32	0.34
Control Delay	33.8	9.1	38.0	17.5	33.6	17.9	33.6	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	9.1	38.0	17.5	33.6	17.9	33.6	17.7
Queue Length 50th (ft)	18	0	1	0	31	64	26	67
Queue Length 95th (ft)	89	21	15	9	129	242	112	251
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	551	737	551	733	551	2863	551	2803
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.05	0.01	0.01	0.19	0.28	0.16	0.30

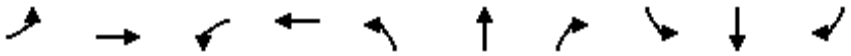
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	1	32	4	1	3	100	745	4	85	675	121
Future Volume (veh/h)	61	1	32	4	1	3	100	745	4	85	675	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		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	64	1	34	4	1	3	105	784	4	89	711	127
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	6	216	11	32	96	159	1691	9	147	1379	244
Arrive On Green	0.07	0.14	0.14	0.01	0.08	0.08	0.09	0.32	0.32	0.08	0.32	0.32
Sat Flow, veh/h	1774	45	1539	1774	411	1232	1774	5221	27	1774	4346	768
Grp Volume(v), veh/h	64	0	35	4	0	4	105	509	279	89	553	285
Grp Sat Flow(s),veh/h/ln	1774	0	1584	1774	0	1642	1774	1695	1857	1774	1695	1724
Q Serve(g_s), s	1.8	0.0	1.0	0.1	0.0	0.1	3.0	6.3	6.3	2.6	7.0	7.1
Cycle Q Clear(g_c), s	1.8	0.0	1.0	0.1	0.0	0.1	3.0	6.3	6.3	2.6	7.0	7.1
Prop In Lane	1.00		0.97	1.00		0.75	1.00		0.01	1.00		0.45
Lane Grp Cap(c), veh/h	123	0	223	11	0	128	159	1098	601	147	1076	547
V/C Ratio(X)	0.52	0.00	0.16	0.35	0.00	0.03	0.66	0.46	0.46	0.60	0.51	0.52
Avail Cap(c_a), veh/h	404	0	602	505	0	624	505	1609	882	505	1609	819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	19.9	26.1	0.0	22.5	23.2	14.2	14.2	23.3	14.7	14.7
Incr Delay (d2), s/veh	1.3	0.0	0.2	6.6	0.0	0.1	1.8	0.6	1.1	1.5	0.7	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.5	0.1	0.0	0.1	1.5	3.0	3.4	1.3	3.3	3.6
LnGrp Delay(d),s/veh	24.9	0.0	20.1	32.6	0.0	22.5	25.0	14.8	15.3	24.8	15.4	16.2
LnGrp LOS	C		C	C		C	C	B	B	C	B	B
Approach Vol, veh/h		99			8			893			927	
Approach Delay, s/veh		23.2			27.6			16.1			16.6	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	23.5	6.0	13.1	10.4	23.1	9.3	9.8
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	* 5.7	6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 15	25.0	* 15	* 20	* 15	25.0	* 12	* 20
Max Q Clear Time (g_c+I1), s	4.6	8.3	2.1	3.0	5.0	9.1	3.8	2.1
Green Ext Time (p_c), s	0.1	7.2	0.0	0.1	0.1	7.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	3	6	22	27	14	826	31	64	655	5
v/c Ratio	0.02	0.03	0.23	0.23	0.06	0.22	0.03	0.52	0.17	0.00
Control Delay	45.3	27.0	66.2	26.3	56.1	11.6	0.0	74.9	10.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.3	27.0	66.2	26.3	56.1	11.6	0.0	74.9	10.9	0.0
Queue Length 50th (ft)	3	1	19	1	6	73	0	55	27	0
Queue Length 95th (ft)	10	12	48	33	17	246	0	103	196	0
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	247	504	170	514	381	3729	1157	196	3947	1240
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.13	0.05	0.04	0.22	0.03	0.33	0.17	0.00

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1	5	21	1	25	13	785	29	61	622	5
Future Volume (veh/h)	3	1	5	21	1	25	13	785	29	61	622	5
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		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	3	1	5	22	1	26	14	826	31	64	655	5
Adj No. of Lanes	1	1	0	1	1	0	2	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	31	14	71	44	4	94	1495	3549	1102	82	1548	482
Arrive On Green	0.02	0.05	0.05	0.02	0.06	0.06	0.87	1.00	1.00	0.05	0.30	0.30
Sat Flow, veh/h	1774	265	1324	1774	59	1533	3442	5085	1579	1774	5085	1582
Grp Volume(v), veh/h	3	0	6	22	0	27	14	826	31	64	655	5
Grp Sat Flow(s),veh/h/ln	1774	0	1588	1774	0	1592	1721	1695	1579	1774	1695	1582
Q Serve(g_s), s	0.2	0.0	0.5	1.7	0.0	2.2	0.1	0.0	0.0	4.8	13.9	0.3
Cycle Q Clear(g_c), s	0.2	0.0	0.5	1.7	0.0	2.2	0.1	0.0	0.0	4.8	13.9	0.3
Prop In Lane	1.00		0.83	1.00		0.96	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	31	0	86	44	0	98	1495	3549	1102	82	1548	482
V/C Ratio(X)	0.10	0.00	0.07	0.50	0.00	0.28	0.01	0.23	0.03	0.78	0.42	0.01
Avail Cap(c_a), veh/h	171	0	494	171	0	495	1495	3549	1102	197	1548	482
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.96	0.96	0.96	0.95	0.95	0.95
Uniform Delay (d), s/veh	65.3	0.0	60.6	65.0	0.0	60.5	5.0	0.0	0.0	63.7	37.5	32.8
Incr Delay (d2), s/veh	0.5	0.0	0.1	3.2	0.0	1.1	0.0	0.1	0.0	5.7	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.9	0.0	1.0	0.0	0.0	0.0	2.5	6.6	0.1
LnGrp Delay(d),s/veh	65.8	0.0	60.8	68.2	0.0	61.6	5.0	0.1	0.0	69.4	38.3	32.8
LnGrp LOS	E		E	E		E	A	A	A	E	D	C
Approach Vol, veh/h		9			49			871			724	
Approach Delay, s/veh		62.4			64.5			0.2			41.0	
Approach LOS		E			E			A			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	100.6	9.1	13.4	65.0	47.5	8.1	14.4
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 15	41.1	13.0	* 42	15.0	* 41	13.0	* 42
Max Q Clear Time (g_c+I1), s	6.8	2.0	3.7	2.5	2.1	15.9	2.2	4.2
Green Ext Time (p_c), s	0.0	13.0	0.0	0.0	0.0	7.7	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	20.3
HCM 2010 LOS	C

Notes

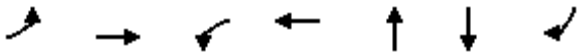
Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	645	67	49	630	28	47	0	78	8	0	17
Future Vol, veh/h	33	645	67	49	630	28	47	0	78	8	0	17
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	701	73	53	685	30	51	0	85	9	0	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	720	0	0	774	0	0	1259	1636	387	1234	1657	363
Stage 1	-	-	-	-	-	-	810	810	-	811	811	-
Stage 2	-	-	-	-	-	-	449	826	-	423	846	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	877	-	-	837	-	-	127	100	611	133	97	634
Stage 1	-	-	-	-	-	-	340	391	-	339	391	-
Stage 2	-	-	-	-	-	-	559	385	-	579	377	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	873	-	-	837	-	-	107	83	611	99	80	631
Mov Cap-2 Maneuver	-	-	-	-	-	-	107	83	-	99	80	-
Stage 1	-	-	-	-	-	-	315	362	-	313	348	-
Stage 2	-	-	-	-	-	-	485	343	-	462	349	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1	44.6	22.6
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	220	873	-	-	837	-	-	232
HCM Lane V/C Ratio	0.618	0.041	-	-	0.064	-	-	0.117
HCM Control Delay (s)	44.6	9.3	0.3	-	9.6	0.4	-	22.6
HCM Lane LOS	E	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	3.6	0.1	-	-	0.2	-	-	0.4



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	25	651	16	567	54	5	2
v/c Ratio	0.06	0.17	0.04	0.14	0.12	0.01	0.00
Control Delay	18.2	5.6	18.7	5.7	11.3	19.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	5.6	18.7	5.7	11.3	19.4	0.0
Queue Length 50th (ft)	2	0	1	0	1	1	0
Queue Length 95th (ft)	28	91	22	80	35	11	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	1361	4698	1361	4709	1294	1378	1243
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.14	0.01	0.12	0.04	0.00	0.00

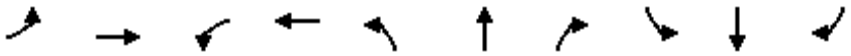
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	587	12	15	517	5	17	1	32	4	1	2
Future Volume (veh/h)	23	587	12	15	517	5	17	1	32	4	1	2
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	25	638	13	16	562	5	18	1	35	4	1	2
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	1984	40	43	1948	17	37	2	73	16	4	18
Arrive On Green	0.04	0.39	0.39	0.02	0.37	0.37	0.07	0.07	0.07	0.01	0.01	0.01
Sat Flow, veh/h	1774	5130	104	1774	5197	46	549	31	1067	1433	358	1583
Grp Volume(v), veh/h	25	421	230	16	366	201	54	0	0	5	0	2
Grp Sat Flow(s),veh/h/ln	1774	1695	1844	1774	1695	1853	1647	0	0	1791	0	1583
Q Serve(g_s), s	0.5	3.4	3.4	0.3	3.0	3.0	1.2	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.5	3.4	3.4	0.3	3.0	3.0	1.2	0.0	0.0	0.1	0.0	0.0
Prop In Lane	1.00		0.06	1.00		0.02	0.33		0.65	0.80		1.00
Lane Grp Cap(c), veh/h	65	1311	713	43	1271	695	112	0	0	20	0	18
V/C Ratio(X)	0.39	0.32	0.32	0.37	0.29	0.29	0.48	0.00	0.00	0.25	0.00	0.11
Avail Cap(c_a), veh/h	904	3454	1879	904	3454	1888	839	0	0	912	0	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.5	8.4	8.4	18.9	8.6	8.6	17.6	0.0	0.0	19.2	0.0	19.2
Incr Delay (d2), s/veh	1.4	0.4	0.7	1.9	0.3	0.6	2.4	0.0	0.0	4.7	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.6	1.9	0.2	1.4	1.6	0.6	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	19.9	8.8	9.1	20.8	8.9	9.2	20.0	0.0	0.0	23.9	0.0	21.3
LnGrp LOS	B	A	A	C	A	A	C			C		C
Approach Vol, veh/h		676			583			54			7	
Approach Delay, s/veh		9.3			9.4			20.0			23.2	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	21.2		5.4	5.4	20.7		7.7
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	2.3	5.4		2.1	2.5	5.0		3.2
Green Ext Time (p_c), s	0.0	9.7		0.0	0.0	8.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	9.9
HCM 2010 LOS	A

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	163	508	144	484	127	665	121	66	577	82
v/c Ratio	0.60	0.55	0.53	0.53	0.42	0.25	0.14	0.36	0.24	0.10
Control Delay	69.0	45.2	66.4	48.3	62.8	20.5	5.0	66.9	23.4	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.0	45.2	66.4	48.3	62.8	20.5	5.0	66.9	23.4	1.6
Queue Length 50th (ft)	72	135	63	138	55	109	0	29	101	0
Queue Length 95th (ft)	108	141	97	142	89	202	44	54	180	11
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	355	1595	355	1595	304	2678	879	304	2411	804
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.32	0.41	0.30	0.42	0.25	0.14	0.22	0.24	0.10

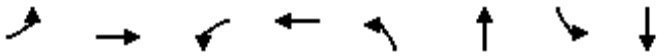
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	365	118	137	387	73	121	632	115	63	548	78
Future Volume (veh/h)	155	365	118	137	387	73	121	632	115	63	548	78
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	163	384	124	144	407	77	127	665	121	66	577	82
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	652	201	195	697	128	958	2817	876	140	1582	491
Arrive On Green	0.06	0.17	0.17	0.06	0.16	0.16	0.56	1.00	1.00	0.08	0.62	0.62
Sat Flow, veh/h	3442	3848	1188	3442	4315	794	3442	5085	1582	3442	5085	1577
Grp Volume(v), veh/h	163	336	172	144	317	167	127	665	121	66	577	82
Grp Sat Flow(s),veh/h/ln	1721	1695	1646	1721	1695	1719	1721	1695	1582	1721	1695	1577
Q Serve(g_s), s	6.3	12.3	13.1	5.6	11.7	12.2	2.4	0.0	0.0	2.5	7.5	3.0
Cycle Q Clear(g_c), s	6.3	12.3	13.1	5.6	11.7	12.2	2.4	0.0	0.0	2.5	7.5	3.0
Prop In Lane	1.00		0.72	1.00		0.46	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	575	279	195	547	278	958	2817	876	140	1582	491
V/C Ratio(X)	0.73	0.58	0.62	0.74	0.58	0.60	0.13	0.24	0.14	0.47	0.36	0.17
Avail Cap(c_a), veh/h	357	1080	524	357	1080	548	958	2817	876	306	1582	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.99	0.99	0.99	0.99	0.99	0.99	0.96	0.96	0.96	0.99	0.99	0.99
Uniform Delay (d), s/veh	62.0	51.7	52.0	62.7	52.4	52.6	22.1	0.0	0.0	60.6	19.0	18.1
Incr Delay (d2), s/veh	1.7	1.8	4.2	2.0	1.9	4.0	0.0	0.2	0.3	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	3.0	5.9	6.3	2.7	5.6	6.1	1.1	0.0	0.1	1.2	3.6	1.4
LnGrp Delay(d),s/veh	63.7	53.5	56.2	64.7	54.2	56.5	22.2	0.2	0.3	61.5	19.6	18.9
LnGrp LOS	E	D	E	E	D	E	C	A	A	E	B	B
Approach Vol, veh/h		671			628			913			725	
Approach Delay, s/veh		56.7			57.3			3.3			23.4	
Approach LOS		E			E			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	81.2	13.3	29.3	44.0	48.4	14.4	28.2
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 12	42.0	14.0	* 43	12.0	* 42	14.0	* 43
Max Q Clear Time (g_c+I1), s	4.5	2.0	7.6	15.1	4.4	9.5	8.3	14.2
Green Ext Time (p_c), s	0.0	11.5	0.1	5.8	0.1	8.9	0.1	5.5

Intersection Summary	
HCM 2010 Ctrl Delay	32.0
HCM 2010 LOS	C

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	57	455	77	627	23	51	38	34
v/c Ratio	0.15	0.16	0.20	0.22	0.04	0.08	0.06	0.05
Control Delay	31.0	15.6	29.8	14.5	13.7	10.6	14.1	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	15.6	29.8	14.5	13.7	10.6	14.1	8.9
Queue Length 50th (ft)	15	32	20	42	5	3	9	1
Queue Length 95th (ft)	74	115	92	149	21	31	30	22
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	870	3395	870	3352	1000	1067	975	1049
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.13	0.09	0.19	0.02	0.05	0.04	0.03

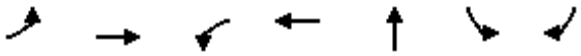
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	383	36	71	475	102	21	10	37	35	4	28
Future Volume (veh/h)	52	383	36	71	475	102	21	10	37	35	4	28
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	57	416	39	77	516	111	23	11	40	38	4	30
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	1521	141	150	1412	296	386	41	148	378	25	187
Arrive On Green	0.07	0.32	0.32	0.08	0.34	0.34	0.03	0.12	0.12	0.05	0.13	0.13
Sat Flow, veh/h	1774	4736	438	1774	4195	880	1774	352	1279	1774	187	1404
Grp Volume(v), veh/h	57	296	159	77	414	213	23	0	51	38	0	34
Grp Sat Flow(s),veh/h/ln	1774	1695	1784	1774	1695	1685	1774	0	1631	1774	0	1591
Q Serve(g_s), s	1.3	2.7	2.8	1.7	3.9	4.0	0.5	0.0	1.2	0.8	0.0	0.8
Cycle Q Clear(g_c), s	1.3	2.7	2.8	1.7	3.9	4.0	0.5	0.0	1.2	0.8	0.0	0.8
Prop In Lane	1.00		0.25	1.00		0.52	1.00		0.78	1.00		0.88
Lane Grp Cap(c), veh/h	123	1089	573	150	1141	567	386	0	188	378	0	211
V/C Ratio(X)	0.46	0.27	0.28	0.51	0.36	0.37	0.06	0.00	0.27	0.10	0.00	0.16
Avail Cap(c_a), veh/h	632	2417	1272	632	2417	1201	959	0	969	920	0	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.8	10.6	10.6	18.4	10.6	10.6	15.4	0.0	17.0	15.0	0.0	16.2
Incr Delay (d2), s/veh	1.0	0.4	0.7	1.0	0.5	1.1	0.1	0.0	2.1	0.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.3	1.5	0.9	1.9	2.0	0.2	0.0	0.6	0.4	0.0	0.4
LnGrp Delay(d),s/veh	19.8	11.0	11.4	19.4	11.1	11.7	15.6	0.0	19.1	15.2	0.0	17.1
LnGrp LOS	B	B	B	B	B	B	B		B	B		B
Approach Vol, veh/h		512			704			74			72	
Approach Delay, s/veh		12.1			12.2			18.0			16.1	
Approach LOS		B			B			B			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	7.6	19.5	5.2	9.9	6.9	20.2	4.4	10.6
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	15.0	30.0	15.0	25.0	15.0	30.0	15.0	24.0
Max Q Clear Time (g_c+I1), s	3.7	4.8	2.8	3.2	3.3	6.0	2.5	2.8
Green Ext Time (p_c), s	0.1	5.8	0.1	0.4	0.0	8.1	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBR
Lane Group Flow (vph)	22	443	7	693	17	50	48
v/c Ratio	0.06	0.21	0.02	0.28	0.04	0.10	0.06
Control Delay	21.9	6.4	22.3	6.8	0.1	17.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	6.4	22.3	6.8	0.1	17.2	0.1
Queue Length 50th (ft)	4	27	1	47	0	8	0
Queue Length 95th (ft)	27	77	13	127	0	42	0
Internal Link Dist (ft)		1064		2598	260		
Turn Bay Length (ft)	235		300				200
Base Capacity (vph)	1116	3169	1116	3166	938	921	1165
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.14	0.01	0.22	0.02	0.05	0.04

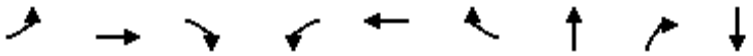
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	397	10	6	618	19	9	0	6	46	0	44
Future Volume (veh/h)	20	397	10	6	618	19	9	0	6	46	0	44
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	22	432	11	7	672	21	10	0	7	50	0	48
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	1622	41	20	1537	48	256	32	108	418	326	277
Arrive On Green	0.03	0.46	0.46	0.01	0.44	0.44	0.17	0.00	0.17	0.17	0.00	0.17
Sat Flow, veh/h	1774	3527	90	1774	3503	109	692	186	615	1403	1863	1583
Grp Volume(v), veh/h	22	216	227	7	339	354	17	0	0	50	0	48
Grp Sat Flow(s),veh/h/ln	1774	1770	1847	1774	1770	1843	1493	0	0	1403	1863	1583
Q Serve(g_s), s	0.5	3.2	3.2	0.2	5.6	5.6	0.0	0.0	0.0	0.9	0.0	1.1
Cycle Q Clear(g_c), s	0.5	3.2	3.2	0.2	5.6	5.6	0.3	0.0	0.0	1.2	0.0	1.1
Prop In Lane	1.00		0.05	1.00		0.06	0.59		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	57	814	849	20	777	809	396	0	0	418	326	277
V/C Ratio(X)	0.38	0.27	0.27	0.35	0.44	0.44	0.04	0.00	0.00	0.12	0.00	0.17
Avail Cap(c_a), veh/h	837	1670	1743	837	1670	1739	823	0	0	835	879	747
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.1	7.0	7.0	20.8	8.3	8.3	14.6	0.0	0.0	14.9	0.0	14.9
Incr Delay (d2), s/veh	1.6	0.6	0.6	3.9	1.4	1.4	0.1	0.0	0.0	0.3	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.6	1.7	0.1	3.0	3.2	0.2	0.0	0.0	0.5	0.0	0.5
LnGrp Delay(d),s/veh	21.7	7.7	7.7	24.7	9.7	9.6	14.7	0.0	0.0	15.2	0.0	15.5
LnGrp LOS	C	A	A	C	A	A	B			B		B
Approach Vol, veh/h		465			700			17			98	
Approach Delay, s/veh		8.3			9.8			14.7			15.3	
Approach LOS		A			A			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	4.5	25.5		12.4	5.4	24.6		12.4
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	2.2	5.2		2.3	2.5	7.6		3.2
Green Ext Time (p_c), s	0.0	6.9		0.1	0.0	10.9		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	9.7
HCM 2010 LOS	A

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	52	515	26	47	697	43	129	28	187
v/c Ratio	0.21	0.27	0.03	0.19	0.36	0.05	0.33	0.06	0.44
Control Delay	30.5	11.8	0.0	30.6	12.7	1.4	23.8	0.2	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.5	11.8	0.0	30.6	12.7	1.4	23.8	0.2	22.9
Queue Length 50th (ft)	17	63	0	16	92	0	38	0	50
Queue Length 95th (ft)	57	120	0	53	168	7	101	0	130
Internal Link Dist (ft)		2598			1241		361		363
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	561	2432	1112	561	2429	1110	652	724	678
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.21	0.02	0.08	0.29	0.04	0.20	0.04	0.28

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	474	24	43	641	40	40	79	26	42	82	48
Future Volume (veh/h)	48	474	24	43	641	40	40	79	26	42	82	48
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	52	515	26	47	697	43	43	86	28	46	89	52
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	1511	676	104	1495	669	173	246	285	144	160	79
Arrive On Green	0.06	0.43	0.43	0.06	0.42	0.42	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	384	1367	1583	260	887	442
Grp Volume(v), veh/h	52	515	26	47	697	43	129	0	28	187	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1751	0	1583	1589	0	0
Q Serve(g_s), s	1.3	4.5	0.4	1.2	6.6	0.7	0.0	0.0	0.7	2.3	0.0	0.0
Cycle Q Clear(g_c), s	1.3	4.5	0.4	1.2	6.6	0.7	2.8	0.0	0.7	5.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.33		1.00	0.25		0.28
Lane Grp Cap(c), veh/h	112	1511	676	104	1495	669	419	0	285	383	0	0
V/C Ratio(X)	0.46	0.34	0.04	0.45	0.47	0.06	0.31	0.00	0.10	0.49	0.00	0.00
Avail Cap(c_a), veh/h	574	2673	1196	574	2673	1196	820	0	683	786	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.0	8.9	7.7	21.1	9.6	7.9	16.7	0.0	15.9	17.6	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.5	0.1	1.1	0.8	0.1	0.9	0.0	0.3	2.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.2	0.2	0.6	3.4	0.3	1.5	0.0	0.3	2.5	0.0	0.0
LnGrp Delay(d),s/veh	22.1	9.4	7.8	22.2	10.4	8.1	17.6	0.0	16.2	19.7	0.0	0.0
LnGrp LOS	C	A	A	C	B	A	B		B	B		
Approach Vol, veh/h		593			787			157			187	
Approach Delay, s/veh		10.4			11.0			17.4			19.7	
Approach LOS		B			B			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	6.7	26.3		13.3	6.9	26.1		13.3
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	15.0	35.0		20.0	15.0	35.0		20.0
Max Q Clear Time (g_c+I1), s	3.2	6.5		4.8	3.3	8.6		7.1
Green Ext Time (p_c), s	0.0	8.1		1.2	0.0	11.0		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B

Notes

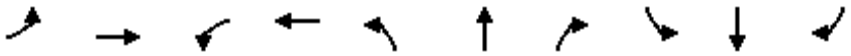
Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	133	147	22	184	198
Future Vol, veh/h	44	133	147	22	184	198
Conflicting Peds, #/hr	0	2	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	160	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	145	160	24	200	215

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	778	165	0	0	187	0
Stage 1	163	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	365	879	-	-	1387	-
Stage 1	866	-	-	-	-	-
Stage 2	539	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	311	875	-	-	1383	-
Mov Cap-2 Maneuver	392	-	-	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	461	-	-	-	-	-

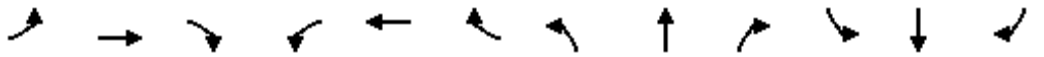
Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	3.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	392	875	1383	-
HCM Lane V/C Ratio	-	-	0.122	0.165	0.145	-
HCM Control Delay (s)	-	-	15.5	9.9	8	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.5	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	71	189	122	310	20	744	117	96	593	36
v/c Ratio	0.46	0.51	0.66	0.55	0.13	0.30	0.14	0.22	0.19	0.04
Control Delay	67.3	57.7	73.9	37.5	63.8	22.1	3.6	54.6	13.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.3	57.7	73.9	37.5	63.8	22.1	3.6	54.6	13.8	0.1
Queue Length 50th (ft)	60	77	104	84	8	140	0	39	89	0
Queue Length 95th (ft)	110	115	166	130	23	193	33	67	130	0
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	172	1138	194	1159	305	2475	824	432	3063	985
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.17	0.63	0.27	0.07	0.30	0.14	0.22	0.19	0.04

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	156	25	117	180	117	19	714	112	92	569	35
Future Volume (veh/h)	68	156	25	117	180	117	19	714	112	92	569	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	71	162	26	122	188	122	20	744	117	96	593	36
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	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	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	248	39	182	278	171	81	1424	443	1211	3121	970
Arrive On Green	0.05	0.08	0.08	0.10	0.13	0.13	0.02	0.28	0.28	0.70	1.00	1.00
Sat Flow, veh/h	1774	3064	483	1774	2095	1289	3442	5085	1582	3442	5085	1581
Grp Volume(v), veh/h	71	92	96	122	157	153	20	744	117	96	593	36
Grp Sat Flow(s),veh/h/ln	1774	1770	1777	1774	1770	1614	1721	1695	1582	1721	1695	1581
Q Serve(g_s), s	5.3	6.8	7.1	8.9	11.4	12.2	0.8	16.7	7.8	1.2	0.0	0.0
Cycle Q Clear(g_c), s	5.3	6.8	7.1	8.9	11.4	12.2	0.8	16.7	7.8	1.2	0.0	0.0
Prop In Lane	1.00		0.27	1.00		0.80	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	143	144	182	235	214	81	1424	443	1211	3121	970
V/C Ratio(X)	0.79	0.65	0.67	0.67	0.67	0.71	0.25	0.52	0.26	0.08	0.19	0.04
Avail Cap(c_a), veh/h	158	577	579	182	577	526	306	1424	443	1211	3121	970
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.62	0.62	0.62	0.96	0.96	0.96
Uniform Delay (d), s/veh	63.4	60.2	60.3	58.3	55.7	56.1	64.7	41.0	37.8	13.1	0.0	0.0
Incr Delay (d2), s/veh	5.6	8.8	9.5	7.4	7.5	9.9	0.4	0.9	0.9	0.0	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	2.8	3.7	3.9	4.8	6.1	6.1	0.4	7.9	3.5	0.5	0.0	0.0
LnGrp Delay(d),s/veh	69.0	69.0	69.8	65.8	63.2	65.9	65.1	41.8	38.7	13.1	0.1	0.1
LnGrp LOS	E	E	E	E	E	E	E	D	D	B	A	A
Approach Vol, veh/h		259			432			881			725	
Approach Delay, s/veh		69.3			64.9			42.0			1.8	
Approach LOS		E			E			D			A	

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	53.9	44.2	19.6	17.3	8.9	89.2	12.6	24.3
Change Period (Y+Rc), s	6.4	* 6.4	5.7	* 6.4	* 5.7	6.4	5.7	* 6.4
Max Green Setting (Gmax), s	17.0	* 38	12.0	* 44	* 12	42.8	12.0	* 44
Max Q Clear Time (g_c+I1), s	3.2	18.7	10.9	9.1	2.8	2.0	7.3	14.2
Green Ext Time (p_c), s	0.1	12.0	0.0	1.9	0.0	14.0	0.0	3.7

Intersection Summary	
HCM 2010 Ctrl Delay	36.7
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	4.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	274	12	300	407	33	191
Future Vol, veh/h	274	12	300	407	33	191
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	298	13	326	442	36	208

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	311	0	1399	305
Stage 1	-	-	-	-	305	-
Stage 2	-	-	-	-	1094	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1249	-	155	735
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	321	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1249	-	101	735
Mov Cap-2 Maneuver	-	-	-	-	177	-
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	210	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.8	14.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	177	735	-	-	1249	-
HCM Lane V/C Ratio	0.203	0.282	-	-	0.261	-
HCM Control Delay (s)	30.4	11.8	-	-	8.9	0
HCM Lane LOS	D	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	1.2	-	-	1.1	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	74	361	11	0	385	6	27	7	8	3	3	1
Future Vol, veh/h	74	361	11	0	385	6	27	7	8	3	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	80	392	12	0	418	7	29	8	9	3	3	1

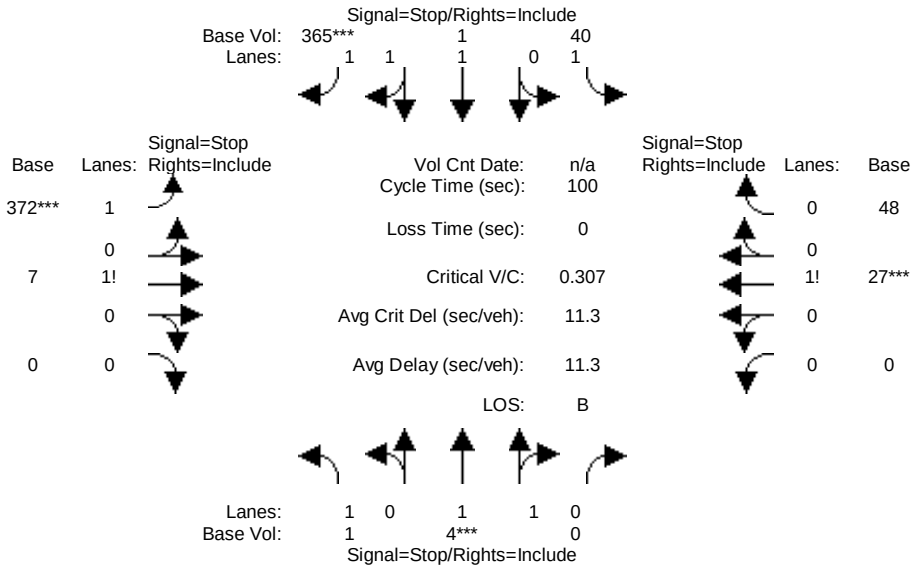
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	425	0	0	404	0	0	982	983	399	990	986	422
Stage 1	-	-	-	-	-	-	558	558	-	422	422	-
Stage 2	-	-	-	-	-	-	424	425	-	568	564	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1134	-	-	1155	-	-	228	249	651	225	248	632
Stage 1	-	-	-	-	-	-	514	512	-	609	588	-
Stage 2	-	-	-	-	-	-	608	586	-	508	508	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1134	-	-	1155	-	-	213	231	650	205	230	632
Mov Cap-2 Maneuver	-	-	-	-	-	-	213	231	-	205	230	-
Stage 1	-	-	-	-	-	-	478	476	-	566	588	-
Stage 2	-	-	-	-	-	-	604	586	-	458	472	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0	22.8	20.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	248	1134	-	-	1155	-	-	205	273
HCM Lane V/C Ratio	0.184	0.071	-	-	-	-	-	0.016	0.016
HCM Control Delay (s)	22.8	8.4	-	-	0	-	-	22.8	18.4
HCM Lane LOS	C	A	-	-	A	-	-	C	C
HCM 95th %tile Q(veh)	0.7	0.2	-	-	0	-	-	0	0

Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)
5 Year Cumulative AM

Intersection #1: Cameron Ave/Court St



Street Name:	Court St						Cameron Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	1	4	0	40	1	365	372	7	0	0	27	48
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:	1	4	0	40	1	365	372	7	0	0	27	48
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:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	1	4	0	43	1	397	404	8	0	0	29	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	4	0	43	1	397	404	8	0	0	29	52
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:	1	4	0	43	1	397	404	8	0	0	29	52
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	2.00	0.00	1.00	1.00	2.00	1.96	0.04	0.00	0.00	0.36	0.64
Final Sat.:	450	962	0	531	572	1293	1594	-504	0	0	216	383
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	xxxx	0.08	0.00	0.31	0.25	-0.02	xxxx	xxxx	0.14	0.14
Crit Moves:		****				****	****				****	
Delay/Veh:	10.1	9.6	0.0	9.8	8.8	10.3	13.1	13.5	0.0	0.0	9.6	9.6
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:	10.1	9.6	0.0	9.8	8.8	10.3	13.1	13.5	0.0	0.0	9.6	9.6
LOS by Move:	B	A	*	A	A	B	B	B	*	*	A	A
ApproachDel:		9.7			10.2			12.9			9.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.7			10.2			12.9			9.6	
LOS by Appr:		A			B			B			A	
AllWayAvgQ:	0.0	0.0	0.0	0.1	0.0	0.4	0.6	0.6	0.6	0.1	0.1	0.1
Note: Queue reported is the number of cars per lane.												
Time Period: 0.25 hour												
HevVeh:		0%			0%			0%			0%	
Alpha Value: 0.01												
GroupType:		6			6			5			4B	

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P[C1]:	0.16	0.34	0.39	0.18
P[C2]:	0.19	0.00	0.06	0.27
P[C3]:	0.26	0.57	0.47	0.22
P[C4]:	0.35	0.08	0.08	0.33
P[C5]:	0.04	0.00	0.00	0.00
Padj[C1]:	0.019	0.014	0.012	0.017
Padj[C2]:	0.009	0.007	0.006	0.006
Padj[C3]:	-0.004	-0.016	-0.013	-0.003
Padj[C4]:	-0.020	-0.005	-0.004	-0.020
Padj[C5]:	-0.004	-0.000	-0.000	-0.000

Lanes:	L1	L2	L1	L2	L1	L2	L1	L2
LaneType:	LEFT	RTTHRU	LEFT	RITE	LEFT	LTR	LTR	NOLANE
HeadwayAdj:	0.500	0.000	0.500	-0.700	0.500	0.982	-0.384	xx.xxx
Volume:	1	2	43	198	206	206	82	xxxxxx
Capacity:	450	481	531	647	564	524	599	xxxxx
DegOfUtil:	0.00	0.00	0.08	0.29	0.35	0.38	0.13	x.xx
DepHeadway:	7.39	6.89	6.55	5.35	6.20	6.68	5.72	xx.xx
ServiceTime:	5.1	4.6	4.3	3.1	3.9	4.4	3.7	xx.x
Delay:	10.1	9.6	9.8	10.3	12.3	13.5	9.6	xxx.x
Queue:	0.0	0.0	0.1	0.4	0.5	0.6	0.1	xxx.x

Lanes:	L3	L4	L3	L4	L3	L4	L3	L4
LaneType:	THRU	NOLANE	RTTHRU	THRU	NOLANE	NOLANE	NOLANE	NOLANE
HeadwayAdj:	0.000	xx.xxx	-0.700	0.000	xx.xxx	xx.xxx	xx.xxx	xx.xxx
Volume:	2	xxxxxx	198	1	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Capacity:	481	xxxxx	647	572	xxxxx	xxxxx	xxxxx	xxxxx
DegOfUtil:	0.00	x.xx	0.29	0.00	x.xx	x.xx	x.xx	x.xx
DepHeadway:	6.89	xx.xx	5.35	6.05	xx.xx	xx.xx	xx.xx	xx.xx
ServiceTime:	4.6	xx.x	3.1	3.8	xx.x	xx.x	xx.x	xx.x
Delay:	9.6	xxx.x	10.3	8.8	xxx.x	xxx.x	xxx.x	xxx.x
Queue:	0.0	xxx.x	0.4	0.0	xxx.x	xxx.x	xxx.x	xxx.x

Approach:	North Bound	South Bound	East Bound	West Bound
ApproachDel:	9.7	10.2	12.9	9.6
Delay Adj:	1.00	1.00	1.00	1.00
ApprAdjDel:	9.7	10.2	12.9	9.6
LOS by Appr:	A	B	B	A

OverallDel: 11.3
OverallLOS: B

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1 Cameron Ave/Court St

****

Base Volume Alternative: Peak Hour Warrant NOT Met

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		
Lanes:	1 0	1 1	0	1 0	1 1	1	1 0	1! 0	0	0 0	0 1	0
Initial Vol:	1	4	0	40	1	365	372	7	0	0	27	48

Major Street Volume: 454
Minor Approach Volume: 406
Minor Approach Volume Threshold: 714

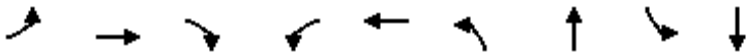
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	349	85	74	390	72	667	128	530
v/c Ratio	0.28	0.65	0.16	0.40	0.34	0.39	0.64	0.57	0.47
Control Delay	47.2	37.7	2.2	47.7	23.2	47.7	30.1	50.7	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.2	37.7	2.2	47.7	23.2	47.7	30.1	50.7	25.6
Queue Length 50th (ft)	23	170	0	37	77	36	155	64	111
Queue Length 95th (ft)	72	336	13	101	148	99	292	158	221
Internal Link Dist (ft)		776			1573		775		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	348	533	539	348	1137	348	1575	348	1589
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.65	0.16	0.21	0.34	0.21	0.42	0.37	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	321	78	68	258	101	66	531	83	118	429	59
Future Volume (veh/h)	42	321	78	68	258	101	66	531	83	118	429	59
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		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	46	349	85	74	280	110	72	577	90	128	466	64
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	446	379	119	639	245	118	892	139	164	992	136
Arrive On Green	0.05	0.24	0.24	0.07	0.26	0.26	0.07	0.29	0.29	0.09	0.32	0.32
Sat Flow, veh/h	1774	1863	1581	1774	2502	960	1774	3060	476	1774	3123	427
Grp Volume(v), veh/h	46	349	85	74	196	194	72	333	334	128	263	267
Grp Sat Flow(s),veh/h/ln	1774	1863	1581	1774	1770	1693	1774	1770	1766	1774	1770	1781
Q Serve(g_s), s	1.7	11.7	2.9	2.7	6.2	6.4	2.6	10.9	11.0	4.7	7.9	8.0
Cycle Q Clear(g_c), s	1.7	11.7	2.9	2.7	6.2	6.4	2.6	10.9	11.0	4.7	7.9	8.0
Prop In Lane	1.00		1.00	1.00		0.57	1.00		0.27	1.00		0.24
Lane Grp Cap(c), veh/h	92	446	379	119	452	432	118	516	515	164	562	565
V/C Ratio(X)	0.50	0.78	0.22	0.62	0.43	0.45	0.61	0.65	0.65	0.78	0.47	0.47
Avail Cap(c_a), veh/h	400	559	475	400	531	508	400	917	915	400	917	922
HCM Platoon Ratio	1.00	1.00	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	30.7	23.7	20.3	30.2	20.8	20.9	30.3	20.6	20.6	29.6	18.2	18.2
Incr Delay (d2), s/veh	1.6	9.8	0.9	2.0	2.0	2.2	1.9	2.6	2.7	3.1	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	7.2	1.3	1.4	3.2	3.2	1.3	5.6	5.7	2.5	4.1	4.1
LnGrp Delay(d),s/veh	32.3	33.5	21.3	32.2	22.8	23.1	32.2	23.2	23.3	32.6	19.4	19.4
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		480			464			739			658	
Approach Delay, s/veh		31.2			24.4			24.1			22.0	
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	10.4	26.4	8.7	21.2	8.6	28.2	7.6	22.2
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 15	34.5	* 15	20.0	* 15	34.5	* 15	20.0
Max Q Clear Time (g_c+I1), s	6.7	13.0	4.7	13.7	4.6	10.0	3.7	8.4
Green Ext Time (p_c), s	0.1	6.4	0.0	2.3	0.0	5.3	0.0	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	25.0
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	160	345	3	2	345	99	5	0	4	45	0	124
Future Vol, veh/h	160	345	3	2	345	99	5	0	4	45	0	124
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	174	375	3	2	375	108	5	0	4	49	0	135

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	483	0	0	378	0	0	1226	1212	377	1160	1159	429
Stage 1	-	-	-	-	-	-	725	725	-	433	433	-
Stage 2	-	-	-	-	-	-	501	487	-	727	726	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1080	-	-	1180	-	-	155	182	670	172	196	626
Stage 1	-	-	-	-	-	-	416	430	-	601	582	-
Stage 2	-	-	-	-	-	-	552	550	-	415	430	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1080	-	-	1180	-	-	106	152	670	150	164	626
Mov Cap-2 Maneuver	-	-	-	-	-	-	106	152	-	150	164	-
Stage 1	-	-	-	-	-	-	349	361	-	504	581	-
Stage 2	-	-	-	-	-	-	432	549	-	346	361	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.8	0	27.6	27.5
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	169	1080	-	-	1180	-	-	339
HCM Lane V/C Ratio	0.058	0.161	-	-	0.002	-	-	0.542
HCM Control Delay (s)	27.6	9	-	-	8.1	-	-	27.5
HCM Lane LOS	D	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.2	0.6	-	-	0	-	-	3.1

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	90	314	368	82	92	150
Future Vol, veh/h	90	314	368	82	92	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	341	400	89	100	163

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	489	0	-	0	982	445
Stage 1	-	-	-	-	445	-
Stage 2	-	-	-	-	537	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1074	-	-	-	276	613
Stage 1	-	-	-	-	646	-
Stage 2	-	-	-	-	586	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1074	-	-	-	251	613
Mov Cap-2 Maneuver	-	-	-	-	251	-
Stage 1	-	-	-	-	587	-
Stage 2	-	-	-	-	586	-

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	18.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1074	-	-	-	251	613
HCM Lane V/C Ratio	0.091	-	-	-	0.398	0.266
HCM Control Delay (s)	8.7	-	-	-	28.5	13
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1.8	1.1

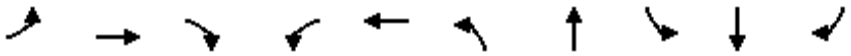
Intersection	
Int Delay, s/veh	24.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	301	62	119	304	13	90	0	244	7	0	15
Future Vol, veh/h	67	301	62	119	304	13	90	0	244	7	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	73	327	67	129	330	14	98	0	265	8	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	344	0	0	394	0	0	1111	1109	361	1234	1135	338
Stage 1	-	-	-	-	-	-	507	507	-	595	595	-
Stage 2	-	-	-	-	-	-	604	602	-	639	540	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1215	-	-	1165	-	-	186	210	684	153	202	704
Stage 1	-	-	-	-	-	-	548	539	-	491	492	-
Stage 2	-	-	-	-	-	-	485	489	-	464	521	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1215	-	-	1165	-	-	159	176	684	82	169	703
Mov Cap-2 Maneuver	-	-	-	-	-	-	159	176	-	82	169	-
Stage 1	-	-	-	-	-	-	515	507	-	462	437	-
Stage 2	-	-	-	-	-	-	421	435	-	267	490	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	2.3	82.6	24.8
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	362	1215	-	-	1165	-	-	206
HCM Lane V/C Ratio	1.003	0.06	-	-	0.111	-	-	0.116
HCM Control Delay (s)	82.6	8.2	-	-	8.5	-	-	24.8
HCM Lane LOS	F	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	11.7	0.2	-	-	0.4	-	-	0.4



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	313	164	152	253	238	114	726	13	596	113
v/c Ratio	1.05	0.38	0.31	0.87	0.57	0.58	0.56	0.11	0.46	0.22
Control Delay	107.9	33.7	5.4	69.8	37.5	55.3	26.2	50.0	32.9	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	107.9	33.7	5.4	69.8	37.5	55.3	26.2	50.0	32.9	2.7
Queue Length 50th (ft)	~209	84	0	147	126	64	153	7	108	0
Queue Length 95th (ft)	#510	148	38	#398	210	146	340	31	195	16
Internal Link Dist (ft)		765			339		249		1110	
Turn Bay Length (ft)	180			175		205		290		210
Base Capacity (vph)	297	483	533	297	481	297	1337	297	1426	560
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.34	0.29	0.85	0.49	0.38	0.54	0.04	0.42	0.20

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	288	151	140	233	207	12	105	561	107	12	548	104
Future Volume (veh/h)	288	151	140	233	207	12	105	561	107	12	548	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	313	164	152	253	225	13	114	610	116	13	596	113
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	348	375	319	293	298	17	146	869	165	34	1167	363
Arrive On Green	0.20	0.20	0.20	0.17	0.17	0.17	0.08	0.29	0.29	0.02	0.23	0.23
Sat Flow, veh/h	1774	1863	1583	1774	1744	101	1774	2968	563	1774	5085	1583
Grp Volume(v), veh/h	313	164	152	253	0	238	114	363	363	13	596	113
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1845	1774	1770	1762	1774	1695	1583
Q Serve(g_s), s	13.2	5.9	6.5	10.6	0.0	9.4	4.8	14.0	14.0	0.6	7.8	4.5
Cycle Q Clear(g_c), s	13.2	5.9	6.5	10.6	0.0	9.4	4.8	14.0	14.0	0.6	7.8	4.5
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	348	375	319	293	0	315	146	518	516	34	1167	363
V/C Ratio(X)	0.90	0.44	0.48	0.86	0.00	0.76	0.78	0.70	0.70	0.39	0.51	0.31
Avail Cap(c_a), veh/h	348	487	414	348	0	482	348	578	576	348	1662	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	26.8	27.0	31.1	0.0	30.2	34.4	24.1	24.1	37.1	25.7	24.5
Incr Delay (d2), s/veh	24.6	2.5	3.4	15.3	0.0	10.2	3.4	7.3	7.4	2.7	1.5	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	3.3	3.1	6.5	0.0	5.7	2.5	7.8	7.8	0.3	3.8	2.2
LnGrp Delay(d),s/veh	54.6	29.2	30.4	46.4	0.0	40.4	37.9	31.4	31.5	39.8	27.2	26.5
LnGrp LOS	D	C	C	D		D	D	C	C	D	C	C
Approach Vol, veh/h		629			491			840			722	
Approach Delay, s/veh		42.1			43.5			32.3			27.3	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	29.2	18.4	21.8	12.0	24.4	20.7	19.5
Change Period (Y+Rc), s	* 5.7	6.8	* 5.7	6.4	* 5.7	6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 15	25.0	* 15	20.0	* 15	25.0	* 15	20.0
Max Q Clear Time (g_c+I1), s	2.6	16.0	12.6	8.5	6.8	9.8	15.2	11.4
Green Ext Time (p_c), s	0.0	5.4	0.1	2.3	0.1	7.7	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	35.3
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	191	6	20	0	0	307
Future Vol, veh/h	191	6	20	0	0	307
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	208	7	22	0	0	334

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	22	0	-	0	445	22
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	423	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1593	-	-	-	571	1055
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	661	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1593	-	-	-	496	1055
Mov Cap-2 Maneuver	-	-	-	-	496	-
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	661	-

Approach	EB	WB	SB
HCM Control Delay, s	7.4	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1593	-	-	-	1055
HCM Lane V/C Ratio	0.13	-	-	-	0.316
HCM Control Delay (s)	7.6	-	-	-	10
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.4	-	-	-	1.4



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	46	13	20	8	987	8	878	38
v/c Ratio	0.19	0.04	0.06	0.04	0.39	0.04	0.35	0.03
Control Delay	21.6	0.2	0.4	22.4	7.6	22.4	7.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	0.2	0.4	22.4	7.6	22.4	7.2	0.1
Queue Length 50th (ft)	14	0	0	3	81	3	70	0
Queue Length 95th (ft)	40	0	0	13	198	13	171	0
Internal Link Dist (ft)	1563		335		1230		636	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	939	1108	993	523	2518	523	2518	1136
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.01	0.02	0.02	0.39	0.02	0.35	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	12	6	0	12	7	905	3	7	808	35
Future Volume (veh/h)	42	0	12	6	0	12	7	905	3	7	808	35
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	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	46	0	13	7	0	13	8	984	3	8	878	38
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	311	0	174	137	28	113	22	1629	5	22	1593	712
Arrive On Green	0.11	0.00	0.11	0.11	0.00	0.11	0.01	0.45	0.45	0.01	0.45	0.45
Sat Flow, veh/h	1433	0	1583	298	256	1028	1774	3619	11	1774	3539	1582
Grp Volume(v), veh/h	46	0	13	20	0	0	8	481	506	8	878	38
Grp Sat Flow(s),veh/h/ln	1433	0	1583	1582	0	0	1774	1770	1861	1774	1770	1582
Q Serve(g_s), s	0.8	0.0	0.3	0.0	0.0	0.0	0.2	9.6	9.6	0.2	8.5	0.6
Cycle Q Clear(g_c), s	1.3	0.0	0.3	0.5	0.0	0.0	0.2	9.6	9.6	0.2	8.5	0.6
Prop In Lane	1.00		1.00	0.35		0.65	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	311	0	174	277	0	0	22	796	837	22	1593	712
V/C Ratio(X)	0.15	0.00	0.07	0.07	0.00	0.00	0.36	0.60	0.60	0.36	0.55	0.05
Avail Cap(c_a), veh/h	755	0	677	1178	0	0	569	946	995	569	1892	845
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.1	0.0	18.7	18.8	0.0	0.0	22.9	9.7	9.7	22.9	9.4	7.2
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.0	0.0	3.5	3.2	3.0	3.5	1.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.2	0.2	0.0	0.0	0.1	5.4	5.6	0.1	4.3	0.3
LnGrp Delay(d),s/veh	19.2	0.0	18.8	18.8	0.0	0.0	26.4	12.9	12.7	26.4	10.6	7.4
LnGrp LOS	B		B	B			C	B	B	C	B	A
Approach Vol, veh/h		59			20			995			924	
Approach Delay, s/veh		19.1			18.8			12.9			10.6	
Approach LOS		B			B			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	6.3	27.8		12.6	6.3	27.8		12.6
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 15	25.0		* 20	* 15	25.0		33.0
Max Q Clear Time (g_c+I1), s	2.2	11.6		3.3	2.2	10.5		2.5
Green Ext Time (p_c), s	0.0	9.4		0.1	0.0	9.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	11.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	7	149	30	19	9	50	935	23	3	742	21
Future Vol, veh/h	16	7	149	30	19	9	50	935	23	3	742	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	8	162	33	21	10	54	1016	25	3	807	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1452	1974	415	1551	1973	521	830	0	0	1041	0	0
Stage 1	825	825	-	1137	1137	-	-	-	-	-	-	-
Stage 2	627	1149	-	414	836	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	92	61	586	77	62	500	798	-	-	664	-	-
Stage 1	333	385	-	215	275	-	-	-	-	-	-	-
Stage 2	438	271	-	586	381	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	61	57	586	47	57	500	798	-	-	664	-	-
Mov Cap-2 Maneuver	61	57	-	47	57	-	-	-	-	-	-	-
Stage 1	310	383	-	200	256	-	-	-	-	-	-	-
Stage 2	368	253	-	414	379	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	44.1	253.4	0.5	0
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	798	-	-	269	59	664	-	-
HCM Lane V/C Ratio	0.068	-	-	0.695	1.069	0.005	-	-
HCM Control Delay (s)	9.8	-	-	44.1	253.4	10.4	-	-
HCM Lane LOS	A	-	-	E	F	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	4.7	5.1	0	-	-



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	52	79	945	44	902
v/c Ratio	0.13	0.17	0.32	0.39	0.20	0.41
Control Delay	18.4	15.1	29.8	11.4	29.8	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	15.1	29.8	11.4	29.8	13.9
Queue Length 50th (ft)	8	8	27	73	15	123
Queue Length 95th (ft)	29	34	74	278	49	274
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	582	625	508	2416	508	2202
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.08	0.16	0.39	0.09	0.41

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1	10	22	2	26	75	884	13	42	780	77
Future Volume (veh/h)	22	1	10	22	2	26	75	884	13	42	780	77
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		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	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	23	1	11	23	2	27	79	931	14	44	821	81
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	29	58	159	37	99	142	1555	23	97	1332	131
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.08	0.44	0.44	0.05	0.41	0.41
Sat Flow, veh/h	804	235	476	445	307	812	1774	3569	54	1774	3247	320
Grp Volume(v), veh/h	35	0	0	52	0	0	79	462	483	44	447	455
Grp Sat Flow(s),veh/h/ln	1516	0	0	1565	0	0	1774	1770	1853	1774	1770	1798
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	2.1	9.9	9.9	1.2	9.9	9.9
Cycle Q Clear(g_c), s	0.9	0.0	0.0	1.4	0.0	0.0	2.1	9.9	9.9	1.2	9.9	9.9
Prop In Lane	0.66		0.31	0.44		0.52	1.00		0.03	1.00		0.18
Lane Grp Cap(c), veh/h	304	0	0	295	0	0	142	771	807	97	726	738
V/C Ratio(X)	0.12	0.00	0.00	0.18	0.00	0.00	0.56	0.60	0.60	0.45	0.62	0.62
Avail Cap(c_a), veh/h	766	0	0	774	0	0	535	889	931	535	889	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.6	0.0	0.0	19.8	0.0	0.0	22.0	10.7	10.7	22.8	11.6	11.6
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.5	0.0	0.0	1.3	3.2	3.1	1.2	3.6	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.7	0.0	0.0	1.1	5.4	5.7	0.6	5.6	5.7
LnGrp Delay(d),s/veh	19.9	0.0	0.0	20.3	0.0	0.0	23.3	13.9	13.8	24.0	15.2	15.2
LnGrp LOS	B			C			C	B	B	C	B	B
Approach Vol, veh/h		35			52			1024			946	
Approach Delay, s/veh		19.9			20.3			14.6			15.6	
Approach LOS		B			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	8.4	29.6		11.8	9.7	28.3		11.8
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 15	25.0		* 22	* 15	25.0		* 22
Max Q Clear Time (g_c+I1), s	3.2	11.9		2.9	4.1	11.9		3.4
Green Ext Time (p_c), s	0.0	8.8		0.2	0.0	8.5		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.3
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	270	0	0	452	0	0
Future Vol, veh/h	270	0	0	452	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	293	0	0	491	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	293
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	746
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	746
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	260	437	7	3	15
Future Vol, veh/h	10	260	437	7	3	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	283	475	8	3	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	483	0	-	0	784	479
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	305	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1080	-	-	-	362	587
Stage 1	-	-	-	-	623	-
Stage 2	-	-	-	-	748	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1080	-	-	-	358	587
Mov Cap-2 Maneuver	-	-	-	-	358	-
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	748	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1080	-	-	-	530
HCM Lane V/C Ratio	0.01	-	-	-	0.037
HCM Control Delay (s)	8.4	0	-	-	12.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	263	0	0	444	0	0
Future Vol, veh/h	263	0	0	444	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	286	0	0	483	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	286
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	753
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	753
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	144	327	3	0	58
Future Vol, veh/h	119	144	327	3	0	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	157	355	3	0	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	358	0	-	0	772	357
Stage 1	-	-	-	-	357	-
Stage 2	-	-	-	-	415	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1201	-	-	-	368	687
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	666	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1201	-	-	-	325	687
Mov Cap-2 Maneuver	-	-	-	-	325	-
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	666	-

Approach	EB	WB	SB
HCM Control Delay, s	3.8	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1201	-	-	-	-	687
HCM Lane V/C Ratio	0.108	-	-	-	-	0.092
HCM Control Delay (s)	8.4	0	-	-	0	10.8
HCM Lane LOS	A	A	-	-	A	B
HCM 95th %tile Q(veh)	0.4	-	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	66	0	767	779	126
Future Vol, veh/h	0	66	0	767	779	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	72	0	834	847	137

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	424	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	579	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	579	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	579	-	-
HCM Lane V/C Ratio	-	0.124	-	-
HCM Control Delay (s)	-	12.1	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	87	171	767	754	98
Future Vol, veh/h	0	87	171	767	754	98
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	150	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	95	186	834	820	107

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	410	927	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	591	733	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	591	733	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.2	2.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	733	-	591	-	-
HCM Lane V/C Ratio	0.254	-	0.16	-	-
HCM Control Delay (s)	11.6	-	12.2	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	1	-	0.6	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	18	0	0	0
Future Vol, veh/h	0	10	18	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	20	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	31	20
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1596	-	-	-	983	1058
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1596	-	-	-	983	1058
Mov Cap-2 Maneuver	-	-	-	-	983	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1596	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	18	0	0	0
Future Vol, veh/h	0	10	18	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	20	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	31	20
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1596	-	-	-	983	1058
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1596	-	-	-	983	1058
Mov Cap-2 Maneuver	-	-	-	-	983	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1596	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	18	0	0	0
Future Vol, veh/h	0	10	18	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	20	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	31	20
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1596	-	-	-	983	1058
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1596	-	-	-	983	1058
Mov Cap-2 Maneuver	-	-	-	-	983	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1596	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	18	0	0	0
Future Vol, veh/h	0	10	18	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	20	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	31	20
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1596	-	-	-	983	1058
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1596	-	-	-	983	1058
Mov Cap-2 Maneuver	-	-	-	-	983	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1596	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

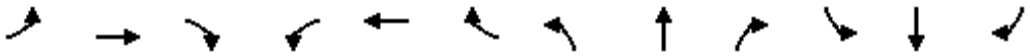
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	93	233	188	210	231	63	222	1142	215	110	1259	84
v/c Ratio	0.31	0.48	0.50	0.70	0.47	0.18	0.63	0.41	0.24	0.52	0.49	0.10
Control Delay	64.6	59.5	10.9	76.4	59.1	1.1	58.7	17.3	9.1	74.1	26.1	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.6	59.5	10.9	76.4	59.1	1.1	58.7	17.3	9.1	74.1	26.1	2.0
Queue Length 50th (ft)	42	110	0	100	110	0	111	121	12	53	272	0
Queue Length 95th (ft)	73	133	62	143	128	0	159	254	100	84	412	16
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	312	878	528	355	951	536	355	2769	909	355	2559	839
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.27	0.36	0.59	0.24	0.12	0.63	0.41	0.24	0.31	0.49	0.10

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	226	182	204	224	61	215	1108	209	107	1221	81
Future Volume (veh/h)	90	226	182	204	224	61	215	1108	209	107	1221	81
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		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	93	233	188	210	231	63	222	1142	215	110	1259	84
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	429	567	249	256	389	173	743	2814	865	156	1922	596
Arrive On Green	0.12	0.16	0.16	0.07	0.11	0.11	0.43	1.00	1.00	0.05	0.38	0.38
Sat Flow, veh/h	3442	3539	1553	3442	3539	1579	3442	5085	1564	3442	5085	1576
Grp Volume(v), veh/h	93	233	188	210	231	63	222	1142	215	110	1259	84
Grp Sat Flow(s),veh/h/ln	1721	1770	1553	1721	1770	1579	1721	1695	1564	1721	1695	1576
Q Serve(g_s), s	3.5	8.6	16.8	8.7	9.0	4.6	6.1	0.0	0.0	4.6	29.7	5.1
Cycle Q Clear(g_c), s	3.5	8.6	16.8	8.7	9.0	4.6	6.1	0.0	0.0	4.6	29.7	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	429	567	249	256	389	173	743	2814	865	156	1922	596
V/C Ratio(X)	0.22	0.41	0.76	0.82	0.59	0.36	0.30	0.41	0.25	0.70	0.66	0.14
Avail Cap(c_a), veh/h	429	879	386	285	952	425	743	2814	865	356	1922	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.83	0.83	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.1	54.7	58.2	66.2	61.5	43.8	34.0	0.0	0.0	68.2	37.3	29.6
Incr Delay (d2), s/veh	0.1	0.9	8.7	14.2	2.8	2.5	0.1	0.4	0.6	2.2	1.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.3	7.8	4.6	4.6	2.4	2.9	0.1	0.1	2.2	14.2	2.3
LnGrp Delay(d),s/veh	57.2	55.7	66.9	80.4	64.3	46.2	34.1	0.4	0.6	70.4	39.0	30.1
LnGrp LOS	E	E	E	F	E	D	C	A	A	E	D	C
Approach Vol, veh/h		514			504			1579			1453	
Approach Delay, s/veh		60.1			68.7			5.1			40.9	
Approach LOS		E			E			A			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	12.3	86.6	16.5	29.6	37.7	61.2	23.8	22.3
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 15	54.8	12.0	* 36	15.0	* 55	12.0	* 39
Max Q Clear Time (g_c+I1), s	6.6	2.0	10.7	18.8	8.1	31.7	5.5	11.0
Green Ext Time (p_c), s	0.1	23.0	0.1	3.4	0.2	14.9	0.1	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	32.9
HCM 2010 LOS	C

Notes



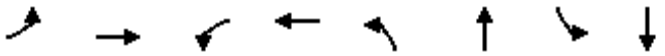
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	124	218	1	173	96	22	110	15	177
v/c Ratio	0.27	0.20	0.00	0.23	0.14	0.04	0.23	0.02	0.26
Control Delay	19.7	8.6	21.0	15.6	5.6	14.2	16.7	14.6	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	8.6	21.0	15.6	5.6	14.2	16.7	14.6	4.6
Queue Length 50th (ft)	27	24	0	34	1	4	22	3	0
Queue Length 95th (ft)	79	94	4	92	30	19	67	15	38
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	815	1333	815	1343	1166	1050	877	1181	1068
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.16	0.00	0.13	0.08	0.02	0.13	0.01	0.17

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	190	10	1	159	88	7	11	2	101	14	163
Future Volume (veh/h)	114	190	10	1	159	88	7	11	2	101	14	163
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	124	207	11	1	173	96	8	12	2	110	15	177
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	670	36	5	492	418	215	250	32	512	406	345
Arrive On Green	0.12	0.38	0.38	0.00	0.26	0.26	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	1753	93	1774	1863	1583	346	1145	149	1394	1863	1583
Grp Volume(v), veh/h	124	0	218	1	173	96	22	0	0	110	15	177
Grp Sat Flow(s),veh/h/ln	1774	0	1846	1774	1863	1583	1639	0	0	1394	1863	1583
Q Serve(g_s), s	2.3	0.0	2.9	0.0	2.6	1.7	0.0	0.0	0.0	1.9	0.2	3.5
Cycle Q Clear(g_c), s	2.3	0.0	2.9	0.0	2.6	1.7	0.3	0.0	0.0	2.3	0.2	3.5
Prop In Lane	1.00		0.05	1.00		1.00	0.36		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	213	0	705	5	492	418	497	0	0	512	406	345
V/C Ratio(X)	0.58	0.00	0.31	0.20	0.35	0.23	0.04	0.00	0.00	0.21	0.04	0.51
Avail Cap(c_a), veh/h	757	0	1576	757	1590	1351	1248	0	0	1200	1325	1126
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	7.6	17.5	10.5	10.1	10.9	0.0	0.0	11.6	10.8	12.1
Incr Delay (d2), s/veh	0.9	0.0	0.4	6.9	0.7	0.5	0.1	0.0	0.0	0.4	0.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.5	0.0	1.4	0.8	0.2	0.0	0.0	0.9	0.1	1.7
LnGrp Delay(d),s/veh	15.6	0.0	8.0	24.4	11.2	10.6	10.9	0.0	0.0	12.0	10.9	14.1
LnGrp LOS	B		A	C	B	B	B			B	B	B
Approach Vol, veh/h		342			270			22			302	
Approach Delay, s/veh		10.8			11.1			10.9			13.2	
Approach LOS		B			B			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	4.1	18.4		12.7	8.2	14.3		12.7
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	15.0	30.0		25.0	15.0	30.0		25.0
Max Q Clear Time (g_c+I1), s	2.0	4.9		2.3	4.3	4.6		5.5
Green Ext Time (p_c), s	0.0	1.9		0.1	0.1	2.1		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	204	136	11	124	92	1334	75	1625
v/c Ratio	0.55	0.26	0.09	0.59	0.50	0.53	0.59	0.70
Control Delay	58.4	10.9	59.6	22.6	64.9	24.5	92.8	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.4	10.9	59.6	22.6	64.9	24.5	92.8	15.2
Queue Length 50th (ft)	177	3	10	2	77	160	59	450
Queue Length 95th (ft)	267	72	27	67	120	289	m123	115
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	373	565	163	475	183	2505	183	2328
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.24	0.07	0.26	0.50	0.53	0.41	0.70

Intersection Summary

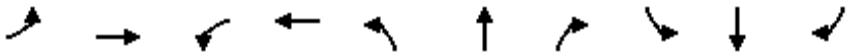
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	5	122	10	2	113	86	1231	9	70	1417	94
Future Volume (veh/h)	190	5	122	10	2	113	86	1231	9	70	1417	94
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		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	204	5	131	11	2	122	92	1324	10	75	1524	101
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	6	156	109	2	148	435	3237	24	93	2062	137
Arrive On Green	0.07	0.10	0.10	0.06	0.09	0.09	0.49	1.00	1.00	0.11	0.85	0.85
Sat Flow, veh/h	1774	59	1534	1774	26	1562	1774	5205	39	1774	4862	322
Grp Volume(v), veh/h	204	0	136	11	0	124	92	862	472	75	1063	562
Grp Sat Flow(s),veh/h/ln	1774	0	1592	1774	0	1587	1774	1695	1855	1774	1695	1794
Q Serve(g_s), s	10.0	0.0	12.2	0.8	0.0	11.1	4.3	0.0	0.0	6.0	18.5	18.5
Cycle Q Clear(g_c), s	10.0	0.0	12.2	0.8	0.0	11.1	4.3	0.0	0.0	6.0	18.5	18.5
Prop In Lane	1.00		0.96	1.00		0.98	1.00		0.02	1.00		0.18
Lane Grp Cap(c), veh/h	122	0	162	109	0	150	435	2108	1153	93	1438	761
V/C Ratio(X)	1.67	0.00	0.84	0.10	0.00	0.83	0.21	0.41	0.41	0.80	0.74	0.74
Avail Cap(c_a), veh/h	122	0	384	122	0	383	435	2108	1153	184	1438	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.91	0.91	0.91	0.84	0.84	0.84
Uniform Delay (d), s/veh	67.5	0.0	63.9	64.3	0.0	64.5	28.9	0.0	0.0	64.1	7.7	7.7
Incr Delay (d2), s/veh	333.4	0.0	8.2	0.1	0.0	8.3	0.1	0.5	1.0	5.0	2.9	5.4
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	16.2	0.0	5.7	0.4	0.0	5.2	2.1	0.2	0.3	3.1	8.7	9.7
LnGrp Delay(d),s/veh	400.9	0.0	72.1	64.4	0.0	72.8	29.0	0.5	1.0	69.2	10.7	13.1
LnGrp LOS	F		E	E		E	C	A	A	E	B	B
Approach Vol, veh/h		340			135			1426			1700	
Approach Delay, s/veh		269.4			72.1			2.5			14.1	
Approach LOS		F			E			A			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	13.3	96.6	14.6	20.5	42.0	67.9	15.7	19.4
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	6.4	* 6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 15	61.5	* 10	* 35	15.0	* 62	* 10	* 35
Max Q Clear Time (g_c+I1), s	8.0	2.0	2.8	14.2	6.3	20.5	12.0	13.1
Green Ext Time (p_c), s	0.0	24.7	0.0	0.6	0.1	26.8	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	35.8
HCM 2010 LOS	D

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	19	45	68	89	73	1200	57	172	1469	38
v/c Ratio	0.17	0.23	0.57	0.34	0.21	0.43	0.06	0.76	0.50	0.04
Control Delay	65.9	16.6	83.4	16.2	53.6	20.2	2.3	103.5	6.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	16.6	83.4	16.2	53.6	20.2	2.3	103.5	6.1	0.1
Queue Length 50th (ft)	17	2	63	9	30	238	2	172	46	0
Queue Length 95th (ft)	45	33	115	49	42	252	m7	m#299	206	m0
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	158	485	158	517	355	2818	900	226	2940	945
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.09	0.43	0.17	0.21	0.43	0.06	0.76	0.50	0.04

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	2	40	64	9	74	69	1128	54	162	1381	36
Future Volume (veh/h)	18	2	40	64	9	74	69	1128	54	162	1381	36
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		0.98	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	19	2	43	68	10	79	73	1200	57	172	1469	38
Adj No. of Lanes	1	1	0	1	1	0	2	3	1	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	7	142	86	19	151	1152	2993	910	184	1792	556
Arrive On Green	0.04	0.09	0.09	0.05	0.11	0.11	0.67	1.00	1.00	0.21	0.70	0.70
Sat Flow, veh/h	1774	70	1495	1774	180	1419	3442	5085	1547	1774	5085	1577
Grp Volume(v), veh/h	19	0	45	68	0	89	73	1200	57	172	1469	38
Grp Sat Flow(s),veh/h/ln	1774	0	1565	1774	0	1598	1721	1695	1547	1774	1695	1577
Q Serve(g_s), s	1.5	0.0	3.9	5.5	0.0	7.6	1.1	0.0	0.0	13.8	29.3	1.1
Cycle Q Clear(g_c), s	1.5	0.0	3.9	5.5	0.0	7.6	1.1	0.0	0.0	13.8	29.3	1.1
Prop In Lane	1.00		0.96	1.00		0.89	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	65	0	148	86	0	170	1152	2993	910	184	1792	556
V/C Ratio(X)	0.29	0.00	0.30	0.79	0.00	0.52	0.06	0.40	0.06	0.94	0.82	0.07
Avail Cap(c_a), veh/h	159	0	453	159	0	463	1152	2993	910	184	1792	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.87	0.87	0.87	0.66	0.66	0.66
Uniform Delay (d), s/veh	68.0	0.0	61.2	68.2	0.0	61.3	16.1	0.0	0.0	57.0	18.2	14.0
Incr Delay (d2), s/veh	0.9	0.0	0.4	5.9	0.0	1.8	0.0	0.3	0.1	36.9	2.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.7	2.8	0.0	3.5	0.5	0.1	0.0	8.6	13.7	0.5
LnGrp Delay(d),s/veh	69.0	0.0	61.6	74.2	0.0	63.1	16.1	0.3	0.1	94.0	21.1	14.2
LnGrp LOS	E		E	E		E	B	A	A	F	C	B
Approach Vol, veh/h		64			157			1330			1679	
Approach Delay, s/veh		63.8			67.9			1.2			28.4	
Approach LOS		E			E			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.7	91.7	12.7	19.8	54.9	57.5	11.0	21.6
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 15	51.1	13.0	* 42	15.0	* 51	13.0	* 42
Max Q Clear Time (g_c+I1), s	15.8	2.0	7.5	5.9	3.1	31.3	3.5	9.6
Green Ext Time (p_c), s	0.0	23.2	0.0	0.2	0.1	14.8	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	19.8
HCM 2010 LOS	B

Notes

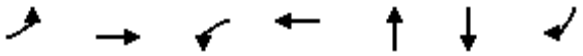
Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	1024	42	34	824	20	17	0	32	18	0	35
Future Vol, veh/h	24	1024	42	34	824	20	17	0	32	18	0	35
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	1067	44	35	858	21	18	0	33	19	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	884	0	0	1111	0	0	1638	2093	556	1528	2105	445
Stage 1	-	-	-	-	-	-	1139	1139	-	944	944	-
Stage 2	-	-	-	-	-	-	499	954	-	584	1161	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	761	-	-	624	-	-	66	52	475	80	51	561
Stage 1	-	-	-	-	-	-	214	274	-	282	339	-
Stage 2	-	-	-	-	-	-	522	335	-	465	268	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	757	-	-	624	-	-	53	42	475	63	41	558
Mov Cap-2 Maneuver	-	-	-	-	-	-	53	42	-	63	41	-
Stage 1	-	-	-	-	-	-	195	250	-	256	300	-
Stage 2	-	-	-	-	-	-	434	297	-	395	245	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1	51.8	41.6
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	126	757	-	-	624	-	-	152
HCM Lane V/C Ratio	0.405	0.033	-	-	0.057	-	-	0.363
HCM Control Delay (s)	51.8	9.9	0.4	-	11.1	0.6	-	41.6
HCM Lane LOS	F	A	A	-	B	A	-	E
HCM 95th %tile Q(veh)	1.7	0.1	-	-	0.2	-	-	1.5



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	52	879	69	777	70	16	10
v/c Ratio	0.18	0.32	0.23	0.28	0.23	0.05	0.03
Control Delay	36.8	15.1	35.9	14.2	23.2	29.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.8	15.1	35.9	14.2	23.2	29.0	0.1
Queue Length 50th (ft)	15	60	20	50	9	5	0
Queue Length 95th (ft)	78	233	97	200	67	27	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	842	3718	842	3733	823	887	832
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.24	0.08	0.21	0.09	0.02	0.01

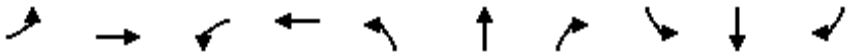
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	807	19	65	718	12	28	1	37	14	1	9
Future Volume (veh/h)	49	807	19	65	718	12	28	1	37	14	1	9
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	52	859	20	69	764	13	30	1	39	15	1	10
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	2145	50	130	2224	38	53	2	69	65	4	60
Arrive On Green	0.06	0.42	0.42	0.07	0.43	0.43	0.07	0.07	0.07	0.04	0.04	0.04
Sat Flow, veh/h	1774	5109	119	1774	5147	87	713	24	927	1668	111	1557
Grp Volume(v), veh/h	52	570	309	69	503	274	70	0	0	16	0	10
Grp Sat Flow(s),veh/h/ln	1774	1695	1838	1774	1695	1845	1664	0	0	1779	0	1557
Q Serve(g_s), s	1.4	6.0	6.0	1.9	5.0	5.0	2.1	0.0	0.0	0.4	0.0	0.3
Cycle Q Clear(g_c), s	1.4	6.0	6.0	1.9	5.0	5.0	2.1	0.0	0.0	0.4	0.0	0.3
Prop In Lane	1.00		0.06	1.00		0.05	0.43		0.56	0.94		1.00
Lane Grp Cap(c), veh/h	109	1424	772	130	1465	797	123	0	0	69	0	60
V/C Ratio(X)	0.48	0.40	0.40	0.53	0.34	0.34	0.57	0.00	0.00	0.23	0.00	0.17
Avail Cap(c_a), veh/h	698	2669	1447	698	2669	1452	655	0	0	700	0	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.1	10.3	10.3	22.7	9.6	9.6	22.7	0.0	0.0	23.7	0.0	23.6
Incr Delay (d2), s/veh	1.2	0.5	0.9	1.2	0.4	0.7	3.0	0.0	0.0	1.3	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.9	3.2	1.0	2.4	2.7	1.1	0.0	0.0	0.2	0.0	0.2
LnGrp Delay(d),s/veh	24.3	10.8	11.2	23.9	10.0	10.3	25.8	0.0	0.0	24.9	0.0	24.6
LnGrp LOS	C	B	B	C	B	B	C			C		C
Approach Vol, veh/h		931			846			70			26	
Approach Delay, s/veh		11.7			11.2			25.8			24.8	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.7	27.3		7.0	7.1	27.9		8.8
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	3.9	8.0		2.4	3.4	7.0		4.1
Green Ext Time (p_c), s	0.1	13.3		0.0	0.0	11.7		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	284	737	269	511	305	1020	172	192	1269	122
v/c Ratio	0.56	0.66	0.77	0.57	0.64	0.47	0.23	0.66	0.67	0.19
Control Delay	62.2	48.6	78.1	51.3	53.0	25.3	10.0	84.8	11.6	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	48.6	78.1	51.3	53.0	25.3	10.0	84.8	11.6	1.1
Queue Length 50th (ft)	126	213	128	153	136	130	6	76	190	0
Queue Length 95th (ft)	#204	232	#187	160	150	294	m85	110	153	0
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	504	1485	371	1489	473	2177	741	355	1905	654
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.50	0.73	0.34	0.64	0.47	0.23	0.54	0.67	0.19

Intersection Summary

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

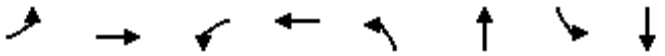
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	489	211	256	383	103	290	969	163	182	1206	116
Future Volume (veh/h)	270	489	211	256	383	103	290	969	163	182	1206	116
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	284	515	222	269	403	108	305	1020	172	192	1269	122
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	479	780	325	315	701	181	756	2292	712	237	1501	458
Arrive On Green	0.14	0.22	0.22	0.09	0.17	0.17	0.44	0.90	0.90	0.14	0.59	0.59
Sat Flow, veh/h	3442	3516	1463	3442	4025	1040	3442	5085	1580	3442	5085	1552
Grp Volume(v), veh/h	284	496	241	269	337	174	305	1020	172	192	1269	122
Grp Sat Flow(s),veh/h/ln	1721	1695	1588	1721	1695	1675	1721	1695	1580	1721	1695	1552
Q Serve(g_s), s	11.2	19.3	20.2	11.2	13.2	13.9	8.8	4.8	1.4	7.9	29.6	5.5
Cycle Q Clear(g_c), s	11.2	19.3	20.2	11.2	13.2	13.9	8.8	4.8	1.4	7.9	29.6	5.5
Prop In Lane	1.00		0.92	1.00		0.62	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	479	752	352	315	590	292	756	2292	712	237	1501	458
V/C Ratio(X)	0.59	0.66	0.68	0.85	0.57	0.60	0.40	0.45	0.24	0.81	0.85	0.27
Avail Cap(c_a), veh/h	479	1005	471	356	1005	497	756	2292	712	356	1501	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.96	0.96	0.96	0.92	0.92	0.92	0.85	0.85	0.85	0.86	0.86	0.86
Uniform Delay (d), s/veh	58.5	51.4	51.7	64.9	54.9	55.2	34.2	4.2	1.9	61.6	27.0	22.1
Incr Delay (d2), s/veh	1.3	1.8	4.5	14.0	1.6	3.5	0.1	0.5	0.7	4.0	5.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	9.3	9.3	5.9	6.3	6.7	4.1	2.1	0.8	3.8	14.2	2.5
LnGrp Delay(d),s/veh	59.8	53.3	56.2	78.9	56.5	58.7	34.3	4.7	2.5	65.6	32.2	23.3
LnGrp LOS	E	D	E	E	E	E	C	A	A	E	C	C
Approach Vol, veh/h		1021			780			1497			1583	
Approach Delay, s/veh		55.8			64.7			10.5			35.6	
Approach LOS		E			E			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	15.7	71.8	19.0	38.6	38.2	49.2	25.9	31.7
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 15	47.8	15.0	* 43	20.0	* 43	15.0	* 43
Max Q Clear Time (g_c+I1), s	9.9	6.8	13.2	22.2	10.8	31.6	13.2	15.9
Green Ext Time (p_c), s	0.1	19.4	0.1	7.8	0.4	9.0	0.1	5.8

Intersection Summary	
HCM 2010 Ctrl Delay	36.8
HCM 2010 LOS	D

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	109	788	152	733	82	181	158	104
v/c Ratio	0.51	0.52	0.63	0.42	0.17	0.44	0.37	0.27
Control Delay	45.9	25.6	48.5	22.5	17.5	11.0	20.2	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.9	25.6	48.5	22.5	17.5	11.0	20.2	12.5
Queue Length 50th (ft)	49	104	67	90	25	10	51	10
Queue Length 95th (ft)	131	218	#176	198	59	64	104	52
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	345	1960	345	1959	589	655	481	608
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.40	0.44	0.37	0.14	0.28	0.33	0.17

Intersection Summary

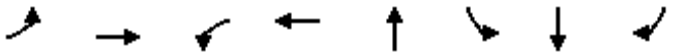
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	669	80	144	597	100	78	23	149	150	23	76
Future Volume (veh/h)	104	669	80	144	597	100	78	23	149	150	23	76
Number	5	2	12	1	6	16	7	4	14	3	8	18
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		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	109	704	84	152	628	105	82	24	157	158	24	80
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	150	1464	173	194	1511	249	430	35	228	377	72	240
Arrive On Green	0.08	0.32	0.32	0.11	0.34	0.34	0.08	0.16	0.16	0.11	0.19	0.19
Sat Flow, veh/h	1774	4596	543	1774	4398	726	1774	214	1401	1774	373	1242
Grp Volume(v), veh/h	109	518	270	152	482	251	82	0	181	158	0	104
Grp Sat Flow(s),veh/h/ln	1774	1695	1749	1774	1695	1733	1774	0	1615	1774	0	1615
Q Serve(g_s), s	3.5	7.3	7.4	4.9	6.4	6.6	2.2	0.0	6.3	4.2	0.0	3.3
Cycle Q Clear(g_c), s	3.5	7.3	7.4	4.9	6.4	6.6	2.2	0.0	6.3	4.2	0.0	3.3
Prop In Lane	1.00		0.31	1.00		0.42	1.00		0.87	1.00		0.77
Lane Grp Cap(c), veh/h	150	1080	557	194	1165	595	430	0	263	377	0	312
V/C Ratio(X)	0.73	0.48	0.49	0.78	0.41	0.42	0.19	0.00	0.69	0.42	0.00	0.33
Avail Cap(c_a), veh/h	450	1718	886	450	1718	878	747	0	682	640	0	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.4	16.2	16.3	25.7	14.9	14.9	18.1	0.0	23.4	17.3	0.0	20.6
Incr Delay (d2), s/veh	2.5	0.9	1.8	2.6	0.6	1.3	0.5	0.0	8.5	1.6	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.5	3.8	2.5	3.1	3.4	1.1	0.0	3.4	2.2	0.0	1.6
LnGrp Delay(d),s/veh	29.0	17.1	18.1	28.3	15.5	16.2	18.5	0.0	31.9	18.9	0.0	22.3
LnGrp LOS	C	B	B	C	B	B	B		C	B		C
Approach Vol, veh/h		897			885			263			262	
Approach Delay, s/veh		18.8			17.9			27.7			20.2	
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	10.5	24.9	9.2	14.6	9.0	26.3	7.4	16.4
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	15.0	30.0	15.0	25.0	15.0	30.0	15.0	24.0
Max Q Clear Time (g_c+I1), s	6.9	9.4	6.2	8.3	5.5	8.6	4.2	5.3
Green Ext Time (p_c), s	0.1	9.5	0.6	1.9	0.1	9.0	0.3	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	19.7
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	53	998	4	839	22	28	1	34
v/c Ratio	0.18	0.37	0.01	0.35	0.07	0.07	0.00	0.07
Control Delay	27.1	5.6	28.5	8.7	22.6	24.5	25.0	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	5.6	28.5	8.7	22.6	24.5	25.0	1.3
Queue Length 50th (ft)	17	76	1	101	5	8	0	0
Queue Length 95th (ft)	53	178	10	159	26	32	5	5
Internal Link Dist (ft)		1064		2597	260		519	
Turn Bay Length (ft)	235		300					200
Base Capacity (vph)	907	2767	907	2738	721	812	955	850
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.36	0.00	0.31	0.03	0.03	0.00	0.04

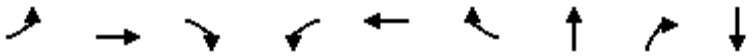
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	909	9	4	745	27	16	1	4	26	1	31
Future Volume (veh/h)	49	909	9	4	745	27	16	1	4	26	1	31
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	53	988	10	4	810	29	17	1	4	28	1	34
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	1968	20	12	1713	61	270	26	37	347	260	221
Arrive On Green	0.06	0.55	0.55	0.01	0.49	0.49	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1774	3589	36	1774	3482	125	1002	184	264	1405	1863	1583
Grp Volume(v), veh/h	53	487	511	4	412	427	22	0	0	28	1	34
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1837	1450	0	0	1405	1863	1583
Q Serve(g_s), s	1.4	8.4	8.4	0.1	7.6	7.6	0.0	0.0	0.0	0.2	0.0	0.9
Cycle Q Clear(g_c), s	1.4	8.4	8.4	0.1	7.6	7.6	0.5	0.0	0.0	0.7	0.0	0.9
Prop In Lane	1.00		0.02	1.00		0.07	0.77		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	112	970	1017	12	870	904	333	0	0	347	260	221
V/C Ratio(X)	0.48	0.50	0.50	0.35	0.47	0.47	0.07	0.00	0.00	0.08	0.00	0.15
Avail Cap(c_a), veh/h	723	1441	1511	723	1441	1497	712	0	0	723	759	645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	6.9	6.9	24.3	8.3	8.3	18.4	0.0	0.0	18.5	18.2	18.6
Incr Delay (d2), s/veh	1.2	1.5	1.4	6.5	1.4	1.4	0.2	0.0	0.0	0.2	0.0	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	0.7	4.5	4.7	0.1	4.0	4.2	0.3	0.0	0.0	0.4	0.0	0.4
LnGrp Delay(d),s/veh	23.4	8.4	8.3	30.8	9.7	9.7	18.6	0.0	0.0	18.7	18.2	19.2
LnGrp LOS	C	A	A	C	A	A	B			B	B	B
Approach Vol, veh/h		1051			843			22			63	
Approach Delay, s/veh		9.1			9.8			18.6			19.0	
Approach LOS		A			A			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	4.3	32.9		11.9	7.1	30.2		11.9
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	2.1	10.4		2.5	3.4	9.6		2.9
Green Ext Time (p_c), s	0.0	16.5		0.1	0.0	13.3		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	9.8
HCM 2010 LOS	A

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	125	727	54	92	684	54	167	25	201
v/c Ratio	0.45	0.50	0.08	0.38	0.49	0.08	0.43	0.06	0.50
Control Delay	33.7	15.6	2.3	33.7	16.5	2.5	28.1	0.3	24.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	15.6	2.3	33.7	16.5	2.5	28.1	0.3	24.2
Queue Length 50th (ft)	44	103	0	33	99	0	55	0	52
Queue Length 95th (ft)	113	189	13	90	186	14	135	0	139
Internal Link Dist (ft)		2597			1242		359		327
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	471	2216	1020	471	2198	1012	598	623	608
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.33	0.05	0.20	0.31	0.05	0.28	0.04	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	669	50	85	629	50	34	120	23	27	79	79
Future Volume (veh/h)	115	669	50	85	629	50	34	120	23	27	79	79
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	125	727	54	92	684	54	37	130	25	29	86	86
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	1481	663	154	1437	643	133	284	293	107	146	127
Arrive On Green	0.10	0.42	0.42	0.09	0.41	0.41	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	246	1538	1583	132	787	687
Grp Volume(v), veh/h	125	727	54	92	684	54	167	0	25	201	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1784	0	1583	1606	0	0
Q Serve(g_s), s	3.4	7.5	1.0	2.5	7.1	1.0	0.0	0.0	0.7	1.8	0.0	0.0
Cycle Q Clear(g_c), s	3.4	7.5	1.0	2.5	7.1	1.0	4.0	0.0	0.7	5.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.22		1.00	0.14		0.43
Lane Grp Cap(c), veh/h	175	1481	663	154	1437	643	418	0	293	379	0	0
V/C Ratio(X)	0.71	0.49	0.08	0.60	0.48	0.08	0.40	0.00	0.09	0.53	0.00	0.00
Avail Cap(c_a), veh/h	532	2478	1109	532	2478	1109	776	0	634	728	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.8	10.6	8.8	22.0	10.9	9.1	18.2	0.0	16.9	18.9	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.9	0.2	1.4	0.9	0.2	1.3	0.0	0.3	2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.8	0.5	1.3	3.6	0.5	2.2	0.0	0.3	2.8	0.0	0.0
LnGrp Delay(d),s/veh	23.8	11.6	8.9	23.4	11.8	9.3	19.6	0.0	17.1	21.3	0.0	0.0
LnGrp LOS	C	B	A	C	B	A	B		B	C		
Approach Vol, veh/h		906			830			192			201	
Approach Delay, s/veh		13.1			12.9			19.2			21.3	
Approach LOS		B			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.3	27.4		14.2	8.9	26.8		14.2
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	15.0	35.0		20.0	15.0	35.0		20.0
Max Q Clear Time (g_c+I1), s	4.5	9.5		6.0	5.4	9.1		7.9
Green Ext Time (p_c), s	0.1	11.4		1.4	0.1	10.8		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	14.4
HCM 2010 LOS	B

Notes

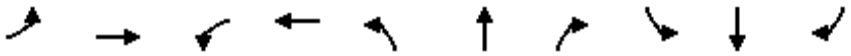
Intersection	
Int Delay, s/veh	7.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	61	289	232	35	304	165
Future Vol, veh/h	61	289	232	35	304	165
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	160	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	311	249	38	327	177

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1080	250	0	0	287	0
Stage 1	249	-	-	-	-	-
Stage 2	831	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	241	789	-	-	1275	-
Stage 1	792	-	-	-	-	-
Stage 2	428	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	179	788	-	-	1275	-
Mov Cap-2 Maneuver	267	-	-	-	-	-
Stage 1	792	-	-	-	-	-
Stage 2	318	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	5.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	267	788	1275	-
HCM Lane V/C Ratio	-	-	0.246	0.394	0.256	-
HCM Control Delay (s)	-	-	22.8	12.5	8.8	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.9	1.9	1	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	187	350	176	394	81	1021	160	332	1137	153
v/c Ratio	0.73	0.54	0.96	0.61	0.29	0.47	0.21	0.80	0.48	0.19
Control Delay	75.5	52.8	120.9	27.1	82.1	47.5	19.6	92.9	11.7	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.5	52.8	120.9	27.1	82.1	47.5	19.6	92.9	11.7	1.3
Queue Length 50th (ft)	169	154	168	81	36	328	50	147	72	0
Queue Length 95th (ft)	#348	174	#324	108	m42	m311	m72	221	209	m23
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	257	1055	183	1131	284	2164	753	455	2356	810
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.33	0.96	0.35	0.29	0.47	0.21	0.73	0.48	0.19

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	284	59	172	167	220	79	1001	157	325	1114	150
Future Volume (veh/h)	183	284	59	172	167	220	79	1001	157	325	1114	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	187	290	60	176	170	224	81	1021	160	332	1137	153
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	560	114	184	330	294	654	2184	679	375	1747	543
Arrive On Green	0.10	0.19	0.19	0.10	0.19	0.19	0.38	0.86	0.86	0.22	0.69	0.69
Sat Flow, veh/h	1774	2929	597	1774	1770	1578	3442	5085	1580	3442	5085	1581
Grp Volume(v), veh/h	187	174	176	176	170	224	81	1021	160	332	1137	153
Grp Sat Flow(s),veh/h/ln	1774	1770	1756	1774	1770	1578	1721	1695	1580	1721	1695	1581
Q Serve(g_s), s	15.0	12.8	13.1	14.3	12.5	19.5	2.2	6.9	2.6	13.6	18.4	5.4
Cycle Q Clear(g_c), s	15.0	12.8	13.1	14.3	12.5	19.5	2.2	6.9	2.6	13.6	18.4	5.4
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	184	338	336	184	330	294	654	2184	679	375	1747	543
V/C Ratio(X)	1.02	0.51	0.53	0.96	0.52	0.76	0.12	0.47	0.24	0.89	0.65	0.28
Avail Cap(c_a), veh/h	184	537	533	184	537	479	654	2184	679	451	1747	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.67	0.67	0.67
Uniform Delay (d), s/veh	65.0	52.6	52.7	64.7	53.1	55.9	37.1	6.3	6.0	55.8	17.8	15.8
Incr Delay (d2), s/veh	71.5	2.2	2.4	54.0	2.9	9.2	0.0	0.1	0.1	10.7	1.3	0.9
Initial Q Delay(d3),s/veh	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	6.4	6.6	9.8	6.4	9.3	1.0	2.9	1.1	7.0	8.5	2.5
LnGrp Delay(d),s/veh	136.6	54.8	55.1	118.7	56.0	65.1	37.1	6.4	6.1	66.5	19.1	16.6
LnGrp LOS	F	D	E	F	E	E	D	A	A	E	B	B
Approach Vol, veh/h		537			570			1262			1622	
Approach Delay, s/veh		83.4			78.9			8.3			28.5	
Approach LOS		F			E			A			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	21.5	68.7	20.7	34.1	34.0	56.2	21.4	33.4
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	6.4	6.4	* 6.4	6.4	* 6.4
Max Green Setting (Gmax), s	* 19	42.8	* 15	44.0	12.0	* 50	15.0	* 44
Max Q Clear Time (g_c+I1), s	15.6	8.9	16.3	15.1	4.2	20.4	17.0	21.5
Green Ext Time (p_c), s	0.2	23.6	0.0	3.6	0.1	22.7	0.0	4.4

Intersection Summary	
HCM 2010 Ctrl Delay	36.7
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	5.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	649	39	206	577	12	285
Future Vol, veh/h	649	39	206	577	12	285
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	669	40	212	595	12	294

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	709	0	1708	689
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	1019	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	890	-	100	446
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	348	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	890	-	64	446
Mov Cap-2 Maneuver	-	-	-	-	165	-
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	224	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	27.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	165	446	-	-	890	-
HCM Lane V/C Ratio	0.075	0.659	-	-	0.239	-
HCM Control Delay (s)	28.6	27.3	-	-	10.3	0
HCM Lane LOS	D	D	-	-	B	A
HCM 95th %tile Q(veh)	0.2	4.7	-	-	0.9	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	140	712	20	10	555	9	11	6	3	6	7	156
Future Vol, veh/h	140	712	20	10	555	9	11	6	3	6	7	156
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	144	734	21	10	572	9	11	6	3	6	7	161

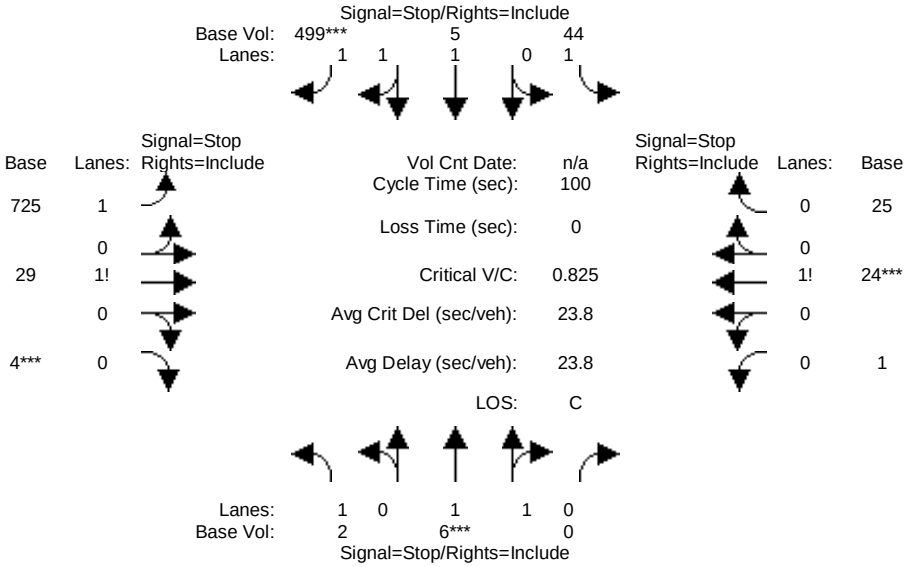
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	581	0	0	755	0	0	1714	1634	745	1634	1640	577
Stage 1	-	-	-	-	-	-	1033	1033	-	597	597	-
Stage 2	-	-	-	-	-	-	681	601	-	1037	1043	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	993	-	-	855	-	-	71	101	414	81	100	516
Stage 1	-	-	-	-	-	-	281	310	-	490	491	-
Stage 2	-	-	-	-	-	-	440	489	-	279	306	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	993	-	-	855	-	-	40	85	414	67	85	516
Mov Cap-2 Maneuver	-	-	-	-	-	-	40	85	-	67	85	-
Stage 1	-	-	-	-	-	-	240	265	-	419	485	-
Stage 2	-	-	-	-	-	-	295	483	-	231	262	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.2	100.3	20.6
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	57	993	-	-	855	-	-	67	424
HCM Lane V/C Ratio	0.362	0.145	-	-	0.012	-	-	0.092	0.396
HCM Control Delay (s)	100.3	9.2	-	-	9.3	-	-	64.1	19
HCM Lane LOS	F	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	1.3	0.5	-	-	0	-	-	0.3	1.9

Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)
5 Year Cumulative PM

Intersection #1: Cameron Ave/Court St



Street Name:	Court St						Cameron Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	2	6	0	44	5	499	725	29	4	1	24	25
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:	2	6	0	44	5	499	725	29	4	1	24	25
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:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	2	7	0	48	5	542	788	32	4	1	26	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	7	0	48	5	542	788	32	4	1	26	27
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:	2	7	0	48	5	542	788	32	4	1	26	27
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	2.00	0.00	1.00	1.00	2.00	1.91	0.08	0.01	0.02	0.48	0.50
Final Sat.:	379	800	0	464	496	1105	1487	-461	5	10	251	262
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	xxxx	0.10	0.01	0.49	0.53	-0.07	0.83	0.10	0.10	0.10
Crit Moves:		****				****			****		****	
Delay/Veh:	11.6	11.1	0.0	11.1	9.8	14.8	32.7	34.9	34.9	10.4	10.4	10.4
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:	11.6	11.1	0.0	11.1	9.8	14.8	32.7	34.9	34.9	10.4	10.4	10.4
LOS by Move:	B	B	*	B	A	B	D	D	D	B	B	B
ApproachDel:		11.2			14.5			31.6			10.4	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		11.2			14.5			31.6			10.4	
LOS by Appr:		B			B			D			B	
AllWayAvgQ:	0.0	0.0	0.0	0.1	0.0	0.9	3.5	3.5	3.5	0.1	0.1	0.1
Note: Queue reported is the number of cars per lane.												
Time Period: 0.25 hour												
HevVeh:		0%			0%			0%			0%	
Alpha Value: 0.01												
GroupType:		6			6			5			4B	

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P[C1]:	0.01	0.04	0.21	0.01
P[C2]:	0.03	0.00	0.02	0.23
P[C3]:	0.21	0.85	0.67	0.03
P[C4]:	0.68	0.11	0.09	0.72
P[C5]:	0.07	0.00	0.00	0.01
Padj[C1]:	0.028	0.020	0.016	0.025
Padj[C2]:	0.018	0.011	0.008	0.013
Padj[C3]:	0.002	-0.024	-0.019	0.007
Padj[C4]:	-0.040	-0.007	-0.005	-0.043
Padj[C5]:	-0.007	-0.000	-0.000	-0.001

Lanes:	L1	L2	L1	L2	L1	L2	L1	L2
LaneType:	LEFT	RTTHRU	LEFT	RITE	LEFT	LTR	LTR	NOLANE
HeadwayAdj:	0.500	0.000	0.500	-0.700	0.500	0.949	-0.296	xx.xxx
Volume:	2	3	48	271	412	412	54	xxxxxx
Capacity:	379	400	464	553	532	499	523	xxxxx
DegOfUtil:	0.01	0.01	0.10	0.48	0.77	0.82	0.10	x.xx
DepHeadway:	8.82	8.32	7.57	6.37	6.72	7.17	6.64	xx.xx
ServiceTime:	6.5	6.0	5.3	4.1	4.4	4.9	4.6	xx.x
Delay:	11.6	11.1	11.1	14.8	28.4	34.9	10.4	xxx.x
Queue:	0.0	0.0	0.1	0.9	2.8	3.5	0.1	xxx.x

Lanes:	L3	L4	L3	L4	L3	L4	L3	L4
LaneType:	THRU	NOLANE	RTTHRU	THRU	NOLANE	NOLANE	NOLANE	NOLANE
HeadwayAdj:	0.000	xx.xxx	-0.700	0.000	xx.xxx	xx.xxx	xx.xxx	xx.xxx
Volume:	3	xxxxxx	271	5	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Capacity:	400	xxxxx	553	496	xxxxx	xxxxx	xxxxx	xxxxx
DegOfUtil:	0.01	x.xx	0.48	0.01	x.xx	x.xx	x.xx	x.xx
DepHeadway:	8.32	xx.xx	6.37	7.07	xx.xx	xx.xx	xx.xx	xx.xx
ServiceTime:	6.0	xx.x	4.1	4.8	xx.x	xx.x	xx.x	xx.x
Delay:	11.1	xxx.x	14.8	9.8	xxx.x	xxx.x	xxx.x	xxx.x
Queue:	0.0	xxx.x	0.9	0.0	xxx.x	xxx.x	xxx.x	xxx.x

Approach:	North Bound	South Bound	East Bound	West Bound
ApproachDel:	11.2	14.5	31.6	10.4
Delay Adj:	1.00	1.00	1.00	1.00
ApprAdjDel:	11.2	14.5	31.6	10.4
LOS by Appr:	B	B	D	B

OverallDel: 23.8
OverallLOS: C

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1 Cameron Ave/Court St

****

Base Volume Alternative: Peak Hour Warrant Met

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		
Lanes:	1 0	1 1	0	1 0	1 1	1	1 0	1! 0	0	0 0	1! 0	0
Initial Vol:	2	6	0	44	5	499	725	29	4	1	24	25

Major Street Volume: 808
Minor Approach Volume: 548
Minor Approach Volume Threshold: 466

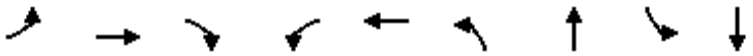
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	20	304	59	83	451	71	692	159	601
v/c Ratio	0.14	0.70	0.13	0.44	0.41	0.40	0.66	0.65	0.45
Control Delay	45.1	43.6	0.6	47.1	19.9	47.0	28.3	50.6	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.1	43.6	0.6	47.1	19.9	47.0	28.3	50.6	22.8
Queue Length 50th (ft)	11	156	0	44	65	38	165	84	133
Queue Length 95th (ft)	37	#338	0	99	147	88	246	169	207
Internal Link Dist (ft)		776			1573		775		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	334	469	495	334	1171	334	1509	334	1545
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.65	0.12	0.25	0.39	0.21	0.46	0.48	0.39

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	289	56	79	262	166	67	506	151	151	518	53
Future Volume (veh/h)	19	289	56	79	262	166	67	506	151	151	518	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	20	304	59	83	276	175	71	533	159	159	545	56
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	399	339	124	538	330	116	809	240	199	1127	116
Arrive On Green	0.03	0.21	0.21	0.07	0.26	0.26	0.07	0.30	0.30	0.11	0.35	0.35
Sat Flow, veh/h	1774	1863	1583	1774	2098	1287	1774	2692	800	1774	3241	332
Grp Volume(v), veh/h	20	304	59	83	231	220	71	350	342	159	297	304
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	1616	1774	1770	1722	1774	1770	1804
Q Serve(g_s), s	0.8	10.4	2.1	3.1	7.6	8.0	2.6	11.7	11.8	5.9	8.9	9.0
Cycle Q Clear(g_c), s	0.8	10.4	2.1	3.1	7.6	8.0	2.6	11.7	11.8	5.9	8.9	9.0
Prop In Lane	1.00		1.00	1.00		0.80	1.00		0.46	1.00		0.18
Lane Grp Cap(c), veh/h	49	399	339	124	453	414	116	532	517	199	615	627
V/C Ratio(X)	0.41	0.76	0.17	0.67	0.51	0.53	0.61	0.66	0.66	0.80	0.48	0.48
Avail Cap(c_a), veh/h	392	548	466	392	521	475	392	898	874	392	898	916
HCM Platoon Ratio	1.00	1.00	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	32.5	25.1	21.8	30.8	21.6	21.8	30.9	20.7	20.8	29.4	17.4	17.4
Incr Delay (d2), s/veh	2.0	9.3	0.7	2.3	2.7	3.2	2.0	2.7	2.8	2.8	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.4	1.0	1.6	4.1	3.9	1.4	6.1	6.0	3.1	4.6	4.7
LnGrp Delay(d),s/veh	34.5	34.4	22.5	33.2	24.3	25.0	32.9	23.4	23.6	32.2	18.5	18.5
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		383			534			763			760	
Approach Delay, s/veh		32.6			26.0			24.4			21.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	27.4	8.9	19.8	8.6	30.6	6.1	22.6
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 15	34.5	* 15	20.0	* 15	34.5	* 15	20.0
Max Q Clear Time (g_c+I1), s	7.9	13.8	5.1	12.4	4.6	11.0	2.8	10.0
Green Ext Time (p_c), s	0.1	6.6	0.1	2.2	0.0	6.0	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	25.1
HCM 2010 LOS	C

Notes

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	29	507	4	6	519	22	2	0	1	25	1	40
Future Vol, veh/h	29	507	4	6	519	22	2	0	1	25	1	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	551	4	7	564	24	2	0	1	27	1	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	588	0	0	555	0	0	1229	1219	553	1208	1209	576
Stage 1	-	-	-	-	-	-	617	617	-	590	590	-
Stage 2	-	-	-	-	-	-	612	602	-	618	619	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	987	-	-	1015	-	-	155	180	533	160	183	517
Stage 1	-	-	-	-	-	-	477	481	-	494	495	-
Stage 2	-	-	-	-	-	-	480	489	-	477	480	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	987	-	-	1015	-	-	137	173	533	155	176	517
Mov Cap-2 Maneuver	-	-	-	-	-	-	137	173	-	155	176	-
Stage 1	-	-	-	-	-	-	462	466	-	478	492	-
Stage 2	-	-	-	-	-	-	436	486	-	461	465	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	25.1	23.1
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	182	987	-	-	1015	-	-	270
HCM Lane V/C Ratio	0.018	0.032	-	-	0.006	-	-	0.266
HCM Control Delay (s)	25.1	8.8	-	-	8.6	-	-	23.1
HCM Lane LOS	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	1

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	105	429	444	168	112	112
Future Vol, veh/h	105	429	444	168	112	112
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	466	483	183	122	122

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	666	0	-	0	1269	575
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	694	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	923	-	-	-	186	518
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	496	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	923	-	-	-	163	518
Mov Cap-2 Maneuver	-	-	-	-	163	-
Stage 1	-	-	-	-	493	-
Stage 2	-	-	-	-	496	-

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	43.8
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	923	-	-	-	163	518
HCM Lane V/C Ratio	0.124	-	-	-	0.747	0.235
HCM Control Delay (s)	9.4	-	-	-	73.4	14.1
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.4	-	-	-	4.7	0.9

Intersection	
Int Delay, s/veh	366.7

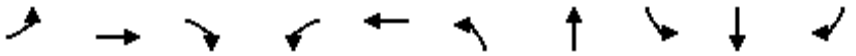
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	107	397	74	161	377	29	131	0	260	135	0	68
Future Vol, veh/h	107	397	74	161	377	29	131	0	260	135	0	68
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	116	432	80	175	410	32	142	0	283	147	0	74

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	443	0	0	512	0	0	1517	1497	472	1623	1521	427
Stage 1	-	-	-	-	-	-	704	704	-	777	777	-
Stage 2	-	-	-	-	-	-	813	793	-	846	744	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1117	-	-	1053	-	-	~ 98	123	592	~ 82	118	628
Stage 1	-	-	-	-	-	-	428	440	-	390	407	-
Stage 2	-	-	-	-	-	-	372	400	-	357	421	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1116	-	-	1053	-	-	~ 70	92	592	~ 34	88	627
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 70	92	-	~ 34	88	-
Stage 1	-	-	-	-	-	-	383	394	-	349	339	-
Stage 2	-	-	-	-	-	-	274	333	-	167	377	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	2.6	$ 741.7	$ 1700.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	169	1116	-	-	1053	-	-	50
HCM Lane V/C Ratio	2.515	0.104	-	-	0.166	-	-	4.413
HCM Control Delay (s)	$ 741.7	8.6	-	-	9.1	-	-	$ 1700.9
HCM Lane LOS	F	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	36.4	0.3	-	-	0.6	-	-	24.7

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	492	247	199	280	293	160	928	49	1004	155
v/c Ratio	2.02	0.71	0.44	0.86	0.68	0.66	0.65	0.49	0.62	0.25
Control Delay	501.9	66.1	8.9	81.1	56.4	73.0	37.3	87.1	21.4	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	501.9	66.1	8.9	81.1	56.4	73.0	37.3	87.1	21.4	3.1
Queue Length 50th (ft)	~725	220	0	258	244	145	365	47	182	21
Queue Length 95th (ft)	#950	304	66	#388	327	227	491	m71	m284	m13
Internal Link Dist (ft)		765			337		245		1110	
Turn Bay Length (ft)	180			175		205		290		210
Base Capacity (vph)	244	423	509	358	527	244	1429	122	1629	609
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.02	0.58	0.39	0.78	0.56	0.66	0.65	0.40	0.62	0.25

Intersection Summary

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

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	458	230	185	260	212	60	149	623	240	46	934	144
Future Volume (veh/h)	458	230	185	260	212	60	149	623	240	46	934	144
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	492	247	199	280	228	65	160	670	258	49	1004	155
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	3	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	245	310	260	284	269	77	402	1158	446	63	1347	410
Arrive On Green	0.14	0.17	0.17	0.16	0.19	0.19	0.23	0.46	0.46	0.07	0.53	0.53
Sat Flow, veh/h	1774	1863	1562	1774	1390	396	1774	2498	962	1774	5085	1547
Grp Volume(v), veh/h	492	247	199	280	0	293	160	475	453	49	1004	155
Grp Sat Flow(s),veh/h/ln	1774	1863	1562	1774	0	1787	1774	1770	1691	1774	1695	1547
Q Serve(g_s), s	20.0	18.5	17.6	22.8	0.0	22.9	11.1	28.5	28.5	3.9	22.3	5.9
Cycle Q Clear(g_c), s	20.0	18.5	17.6	22.8	0.0	22.9	11.1	28.5	28.5	3.9	22.3	5.9
Prop In Lane	1.00		1.00	1.00		0.22	1.00		0.57	1.00		1.00
Lane Grp Cap(c), veh/h	245	310	260	284	0	345	402	820	783	63	1347	410
V/C Ratio(X)	2.01	0.80	0.77	0.98	0.00	0.85	0.40	0.58	0.58	0.78	0.75	0.38
Avail Cap(c_a), veh/h	245	424	356	284	0	517	402	820	783	122	1347	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	62.5	58.1	57.8	60.7	0.0	56.4	47.7	28.5	28.5	66.8	30.3	13.1
Incr Delay (d2), s/veh	469.0	14.3	14.1	48.9	0.0	16.0	0.2	3.0	3.1	6.1	3.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	41.7	10.8	8.6	15.1	0.0	12.8	5.5	14.6	14.0	2.0	10.7	3.1
LnGrp Delay(d),s/veh	531.5	72.4	71.9	109.6	0.0	72.4	47.9	31.5	31.6	72.9	33.4	15.3
LnGrp LOS	F	E	E	F		E	D	C	C	E	C	B
Approach Vol, veh/h		938			573			1088			1208	
Approach Delay, s/veh		313.1			90.6			34.0			32.7	
Approach LOS		F			F			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	10.9	74.0	29.6	30.5	39.7	45.2	25.7	34.4
Change Period (Y+Rc), s	* 5.7	6.8	6.4	* 6.4	6.8	* 6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 10	48.4	20.0	* 33	20.0	* 38	* 20	42.0
Max Q Clear Time (g_c+I1), s	5.9	30.5	24.8	20.5	13.1	24.3	22.0	24.9
Green Ext Time (p_c), s	0.0	11.4	0.0	3.6	0.1	10.7	0.0	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	110.9
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	284	20	5	0	0	211
Future Vol, veh/h	284	20	5	0	0	211
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	309	22	5	0	0	229

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	5	0	-	0	645	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	640	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1616	-	-	-	437	1078
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	525	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1616	-	-	-	354	1078
Mov Cap-2 Maneuver	-	-	-	-	354	-
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	525	-

Approach	EB	WB	SB
HCM Control Delay, s	7.2	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1616	-	-	-	1078
HCM Lane V/C Ratio	0.191	-	-	-	0.213
HCM Control Delay (s)	7.8	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.7	-	-	-	0.8



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	49	10	21	7	1268	9	1266	82
v/c Ratio	0.16	0.02	0.05	0.04	0.52	0.05	0.52	0.07
Control Delay	18.0	0.1	0.2	28.9	14.1	28.9	14.1	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	0.1	0.2	28.9	14.1	28.9	14.1	2.2
Queue Length 50th (ft)	14	0	0	2	117	3	117	0
Queue Length 95th (ft)	37	0	0	16	#561	19	#560	16
Internal Link Dist (ft)	1563		335		1230		640	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	868	1058	964	496	2428	496	2428	1099
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.01	0.02	0.01	0.52	0.02	0.52	0.07

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	3	10	5	0	16	7	1226	4	9	1228	80
Future Volume (veh/h)	45	3	10	5	0	16	7	1226	4	9	1228	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	46	3	10	5	0	16	7	1264	4	9	1266	82
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	286	14	176	110	21	134	20	1720	5	25	1693	741
Arrive On Green	0.11	0.11	0.11	0.11	0.00	0.11	0.01	0.48	0.48	0.01	0.48	0.48
Sat Flow, veh/h	1320	130	1583	185	192	1208	1774	3619	11	1774	3539	1549
Grp Volume(v), veh/h	49	0	10	21	0	0	7	618	650	9	1266	82
Grp Sat Flow(s),veh/h/ln	1450	0	1583	1585	0	0	1774	1770	1860	1774	1770	1549
Q Serve(g_s), s	0.9	0.0	0.3	0.0	0.0	0.0	0.2	14.1	14.1	0.3	14.5	1.5
Cycle Q Clear(g_c), s	1.4	0.0	0.3	0.6	0.0	0.0	0.2	14.1	14.1	0.3	14.5	1.5
Prop In Lane	0.94		1.00	0.24		0.76	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	301	0	176	265	0	0	20	841	884	25	1693	741
V/C Ratio(X)	0.16	0.00	0.06	0.08	0.00	0.00	0.35	0.73	0.73	0.36	0.75	0.11
Avail Cap(c_a), veh/h	707	0	632	1104	0	0	531	883	929	531	1767	773
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.4	0.0	19.9	20.0	0.0	0.0	24.6	10.6	10.6	24.5	10.6	7.2
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	0.0	4.0	5.4	5.2	3.2	2.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.1	0.3	0.0	0.0	0.1	8.0	8.3	0.1	7.7	0.7
LnGrp Delay(d),s/veh	20.5	0.0	20.0	20.1	0.0	0.0	28.6	16.0	15.8	27.7	13.4	7.4
LnGrp LOS	C		B	C			C	B	B	C	B	A
Approach Vol, veh/h		59			21			1275			1357	
Approach Delay, s/veh		20.4			20.1			16.0			13.1	
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	6.4	30.6		13.1	6.3	30.8		13.1
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 15	25.0		* 20	* 15	25.0		33.0
Max Q Clear Time (g_c+I1), s	2.3	16.1		3.4	2.2	16.5		2.6
Green Ext Time (p_c), s	0.0	7.7		0.1	0.0	7.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	17.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	4	28	2	3	25	143	1248	60	18	1286	38
Future Vol, veh/h	14	4	28	2	3	25	143	1248	60	18	1286	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	4	29	2	3	26	151	1314	63	19	1354	40

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2373	3091	697	2365	3080	689	1394	0	0	1377	0	0
Stage 1	1412	1412	-	1648	1648	-	-	-	-	-	-	-
Stage 2	961	1679	-	717	1432	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	18	12	383	19	12	388	487	-	-	494	-	-
Stage 1	145	203	-	103	155	-	-	-	-	-	-	-
Stage 2	275	150	-	387	198	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 9	8	383	8	8	388	487	-	-	494	-	-
Mov Cap-2 Maneuver	~ 9	8	-	8	8	-	-	-	-	-	-	-
Stage 1	100	195	-	71	107	-	-	-	-	-	-	-
Stage 2	172	103	-	336	190	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 923.7	197.8	1.5	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	487	-	-	22	44	494	-	-
HCM Lane V/C Ratio	0.309	-	-	2.201	0.718	0.038	-	-
HCM Control Delay (s)	15.7	-	-	$ 923.7	197.8	12.6	-	-
HCM Lane LOS	C	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	1.3	-	-	6.2	2.8	0.1	-	-

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



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	252	31	127	1322	64	1333
v/c Ratio	0.69	0.08	0.51	0.85	0.33	1.01
Control Delay	32.8	13.1	37.6	27.9	36.5	53.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.8	13.1	37.6	27.9	36.5	53.0
Queue Length 50th (ft)	88	4	54	295	27	~356
Queue Length 95th (ft)	176	24	109	#515	66	#574
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	476	503	396	1556	396	1326
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.06	0.32	0.85	0.16	1.01

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	1	79	9	1	18	117	1203	13	59	1215	11
Future Volume (veh/h)	152	1	79	9	1	18	117	1203	13	59	1215	11
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		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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	165	1	86	10	1	20	127	1308	14	64	1321	12
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	293	12	110	156	44	231	163	1496	16	113	1398	13
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.09	0.42	0.42	0.06	0.39	0.39
Sat Flow, veh/h	913	53	501	377	203	1054	1774	3586	38	1774	3594	33
Grp Volume(v), veh/h	252	0	0	31	0	0	127	645	677	64	650	683
Grp Sat Flow(s),veh/h/ln	1467	0	0	1634	0	0	1774	1770	1855	1774	1770	1857
Q Serve(g_s), s	9.4	0.0	0.0	0.0	0.0	0.0	4.5	21.5	21.5	2.3	22.8	22.8
Cycle Q Clear(g_c), s	10.3	0.0	0.0	0.9	0.0	0.0	4.5	21.5	21.5	2.3	22.8	22.8
Prop In Lane	0.65		0.34	0.32		0.65	1.00		0.02	1.00		0.02
Lane Grp Cap(c), veh/h	414	0	0	432	0	0	163	738	774	113	688	722
V/C Ratio(X)	0.61	0.00	0.00	0.07	0.00	0.00	0.78	0.87	0.87	0.57	0.94	0.95
Avail Cap(c_a), veh/h	592	0	0	615	0	0	414	738	774	414	689	723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	0.0	0.0	20.0	0.0	0.0	28.5	17.2	17.2	29.2	19.0	19.0
Incr Delay (d2), s/veh	2.5	0.0	0.0	0.1	0.0	0.0	3.0	13.4	13.0	1.7	23.0	22.4
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	4.5	0.0	0.0	0.5	0.0	0.0	2.3	13.2	13.7	1.2	15.4	16.1
LnGrp Delay(d),s/veh	26.0	0.0	0.0	20.1	0.0	0.0	31.6	30.6	30.1	30.9	42.0	41.3
LnGrp LOS	C			C			C	C	C	C	D	D
Approach Vol, veh/h		252			31			1449			1397	
Approach Delay, s/veh		26.0			20.1			30.5			41.2	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.8	34.7		19.8	11.6	32.9		19.8
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 15	25.0		* 22	* 15	25.0		* 22
Max Q Clear Time (g_c+I1), s	4.3	23.5		12.3	6.5	24.8		2.9
Green Ext Time (p_c), s	0.0	1.4		1.5	0.1	0.2		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	34.8
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	516	0	0	532	0	0
Future Vol, veh/h	516	0	0	532	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	538	0	0	554	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	538
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	543
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	543
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	497	507	23	21	25
Future Vol, veh/h	19	497	507	23	21	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	518	528	24	22	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	552	0	-	0	1098	540
Stage 1	-	-	-	-	540	-
Stage 2	-	-	-	-	558	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1018	-	-	-	235	542
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	573	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1018	-	-	-	228	542
Mov Cap-2 Maneuver	-	-	-	-	228	-
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	573	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	17.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1018	-	-	-	333
HCM Lane V/C Ratio	0.019	-	-	-	0.144
HCM Control Delay (s)	8.6	0	-	-	17.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	518	0	0	478	0	0
Future Vol, veh/h	518	0	0	478	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	563	0	0	520	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	563
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	526
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	526
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	246	272	213	3	4	265
Future Vol, veh/h	246	272	213	3	4	265
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	265	292	229	3	4	285

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	232	0	-	0	1053	231
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	822	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1336	-	-	-	251	808
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	432	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1336	-	-	-	192	808
Mov Cap-2 Maneuver	-	-	-	-	192	-
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	432	-

Approach	EB	WB	SB
HCM Control Delay, s	4	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1336	-	-	-	192	808
HCM Lane V/C Ratio	0.198	-	-	-	0.022	0.353
HCM Control Delay (s)	8.4	0	-	-	24.2	11.9
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.7	-	-	-	0.1	1.6

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	93	0	999	1233	166
Future Vol, veh/h	0	93	0	999	1233	166
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	101	0	1086	1340	180

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	670	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	399	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	399	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	399	-	-
HCM Lane V/C Ratio	-	0.253	-	-
HCM Control Delay (s)	-	17.1	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	1	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	122	229	999	1210	123
Future Vol, veh/h	0	122	229	999	1210	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	150	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	133	249	1086	1315	134

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	658	1449	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	407	463	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	407	463	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.1	4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	463	-	407	-	-
HCM Lane V/C Ratio	0.538	-	0.326	-	-
HCM Control Delay (s)	21.5	-	18.1	-	-
HCM Lane LOS	C	-	C	-	-
HCM 95th %tile Q(veh)	3.1	-	1.4	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	21	0	0	0
Future Vol, veh/h	0	16	21	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	23	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	40	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	972	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	972	1054
Mov Cap-2 Maneuver	-	-	-	-	972	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	21	0	0	0
Future Vol, veh/h	0	16	21	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	23	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	40	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	972	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	972	1054
Mov Cap-2 Maneuver	-	-	-	-	972	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	21	0	0	0
Future Vol, veh/h	0	16	21	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	23	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	40	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	972	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	972	1054
Mov Cap-2 Maneuver	-	-	-	-	972	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	21	0	0	0
Future Vol, veh/h	0	16	21	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	23	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	40	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	972	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	972	1054
Mov Cap-2 Maneuver	-	-	-	-	972	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Appendix G – Five-Year Cumulative and Five-Year Cumulative Plus Project Conditions Signal Warrants

Five-Year Cumulative Signal Warrant Sheets

Peak Hour Warrant (Rural Areas)

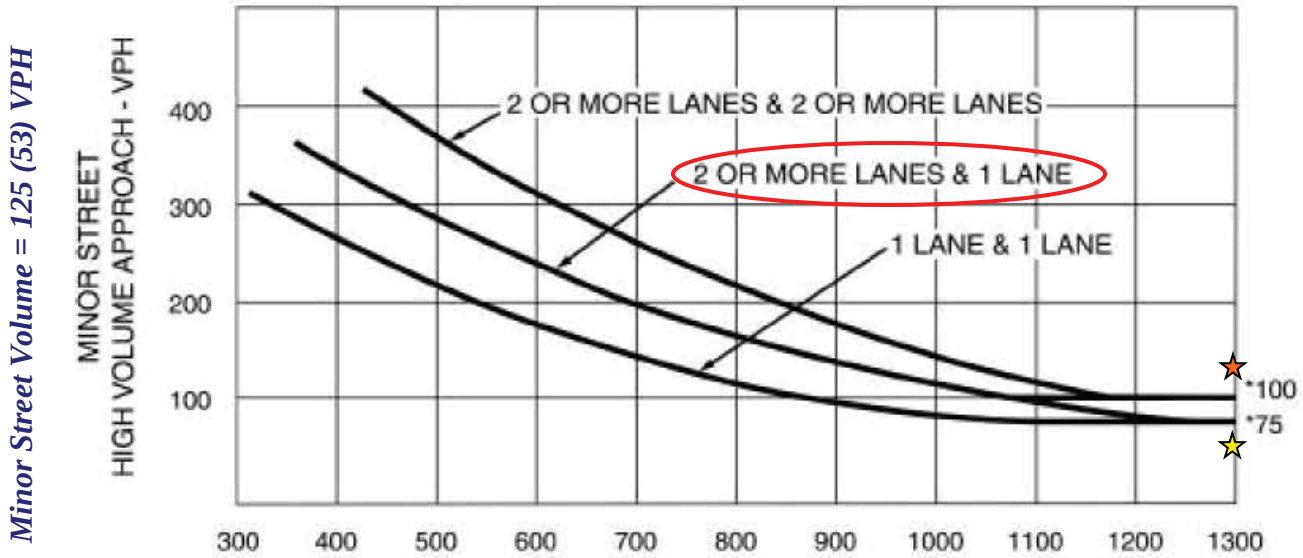
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Caldwell Avenue and Dans Street, Visalia, CA

Scenario: Five Year Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

★ – P.M.

Major Street Volume = 1452 (1968) VPH

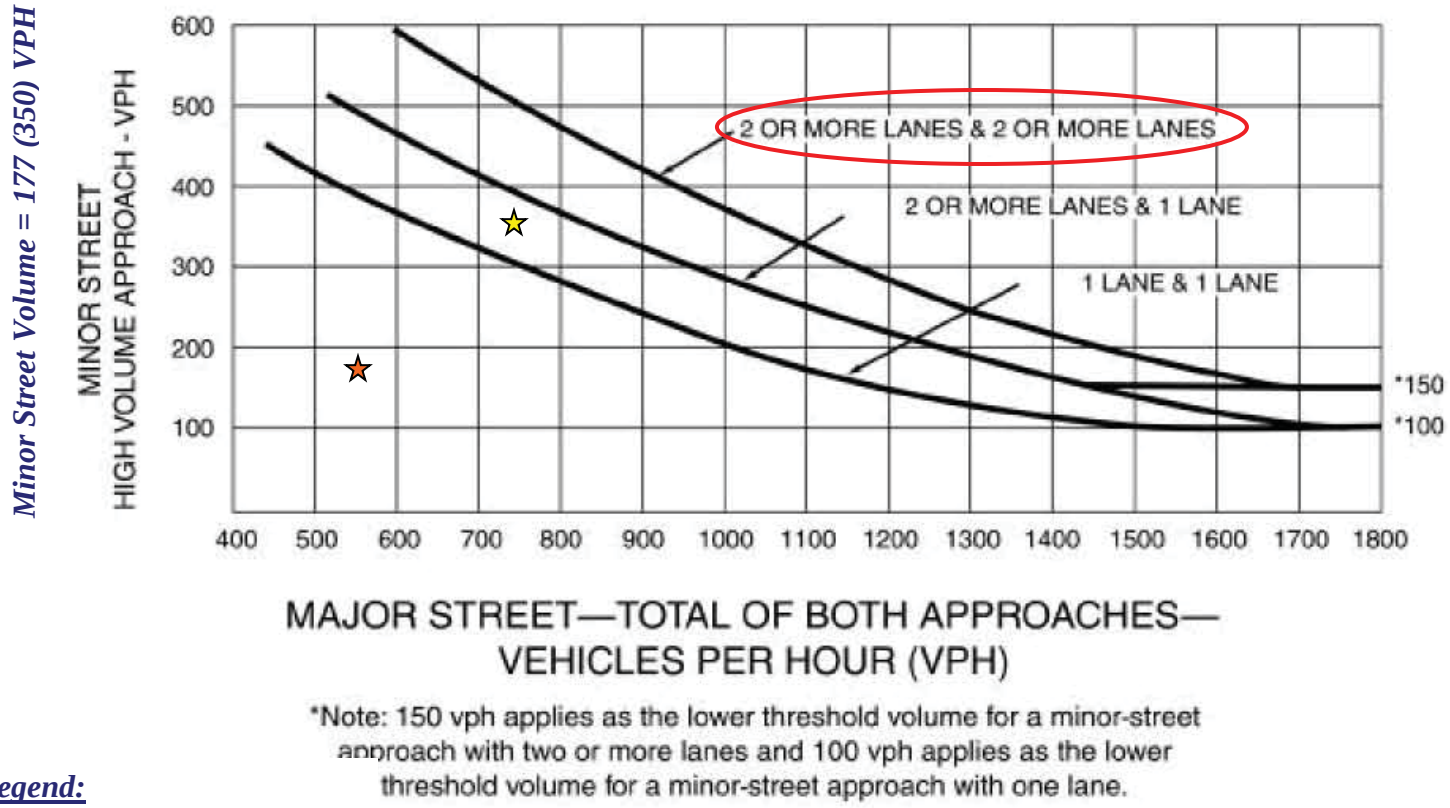
A signal is warranted for the A.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Urban Areas)

Intersection: Cameron Avenue and County Center Drive, Visalia, CA
Scenario: Five Year Conditions A.M. & P.M. Peak Hour

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Major Street Volume = 551 (736) VPH

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
– A.M.
– P.M.

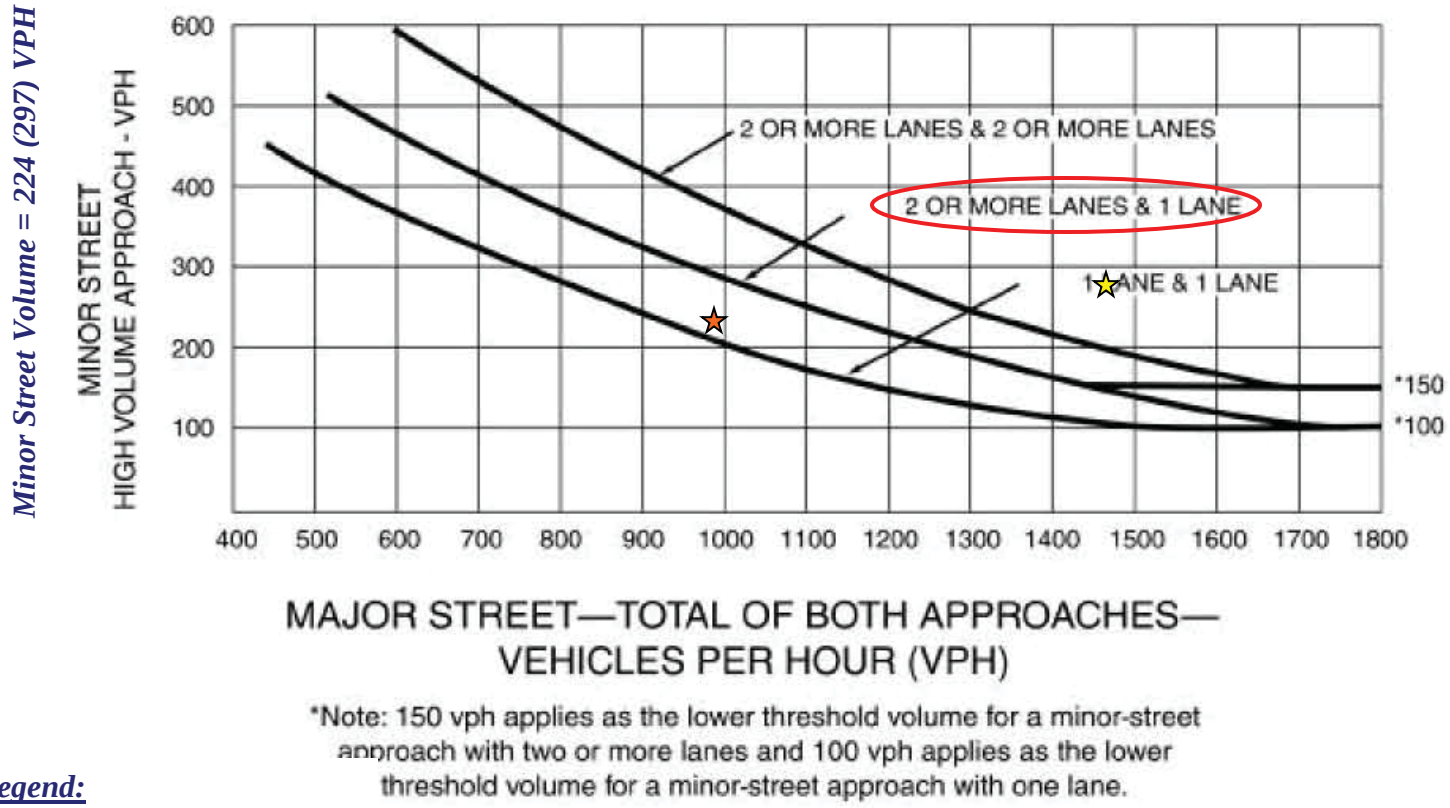
A signal is not warranted for the A.M. or P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

Peak Hour Warrant (Urban Areas)

Intersection: Cameron Avenue and Stonebrook Street, Visalia, CA
Scenario: Five Year Conditions A.M. & P.M. Peak Hour

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Major Street Volume = 993 (1471) VPH

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
– A.M.
– P.M.

A signal is warranted for the P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

Peak Hour Warrant (Rural Areas)

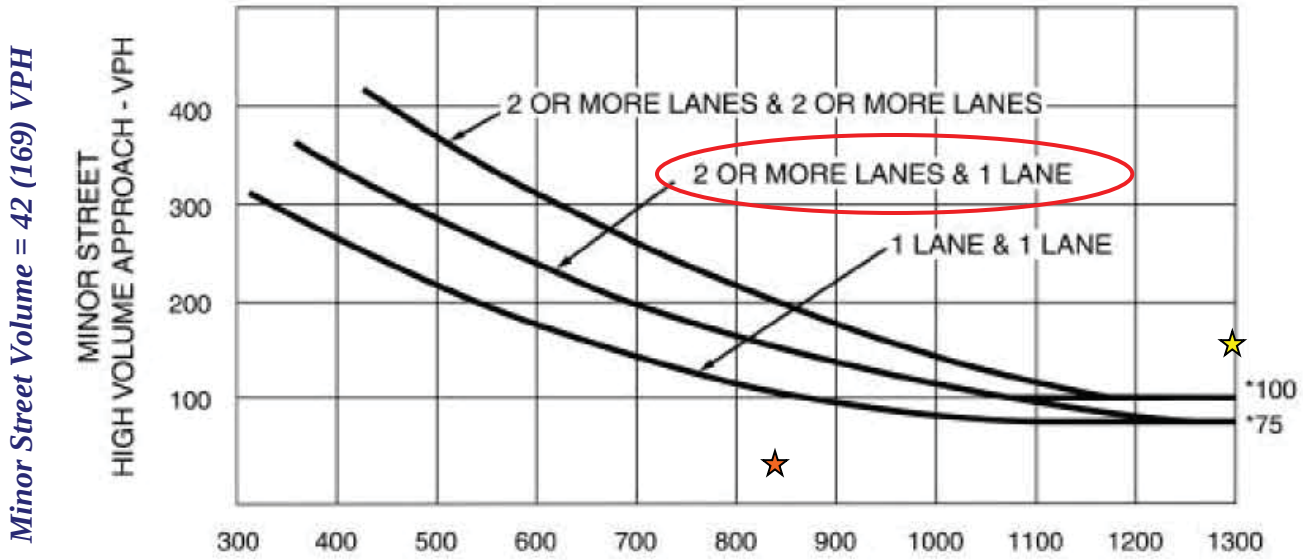
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Cameron Avenue and West Street, Visalia, CA

Scenario: Five Year Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

★ – P.M.

Major Street Volume = 837 (1446) VPH

A signal is warranted for the P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Rural Areas)

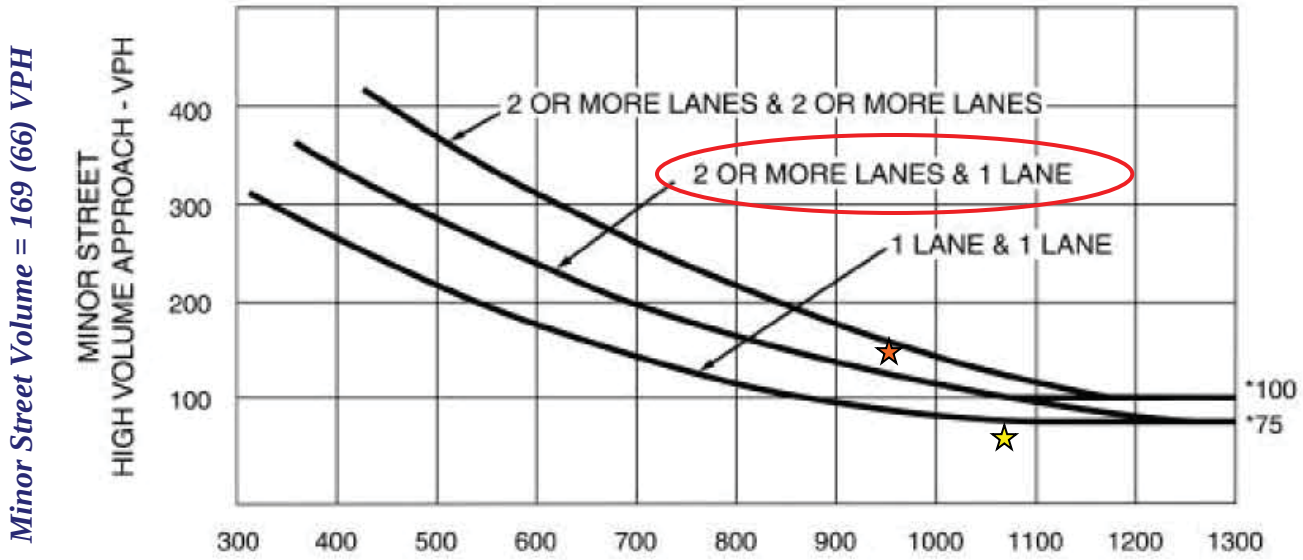
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Visalia Parkway and Dans Street, Visalia, CA

Scenario: Five Year Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

★ – P.M.

Major Street Volume = 954 (1087) VPH

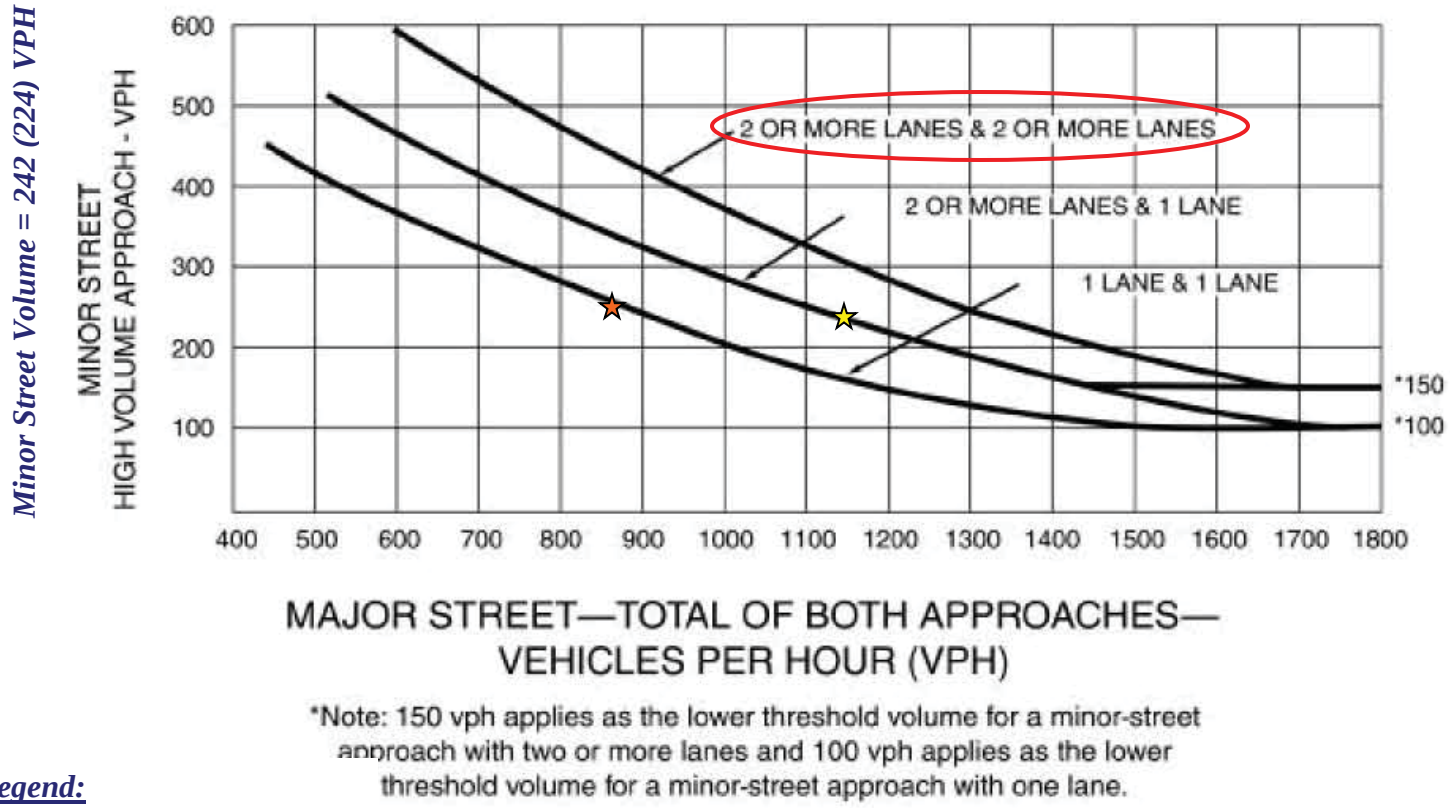
A signal is warranted for the A.M.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Urban Areas)

Intersection: Visalia Parkway and County Center Drive, Visalia, CA
Scenario: Five Year Conditions A.M. & P.M. Peak Hour

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Major Street Volume = 854 (1146) VPH

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
– A.M.
– P.M.

A signal is not warranted for the A.M. or P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

Peak Hour Warrant (Rural Areas)

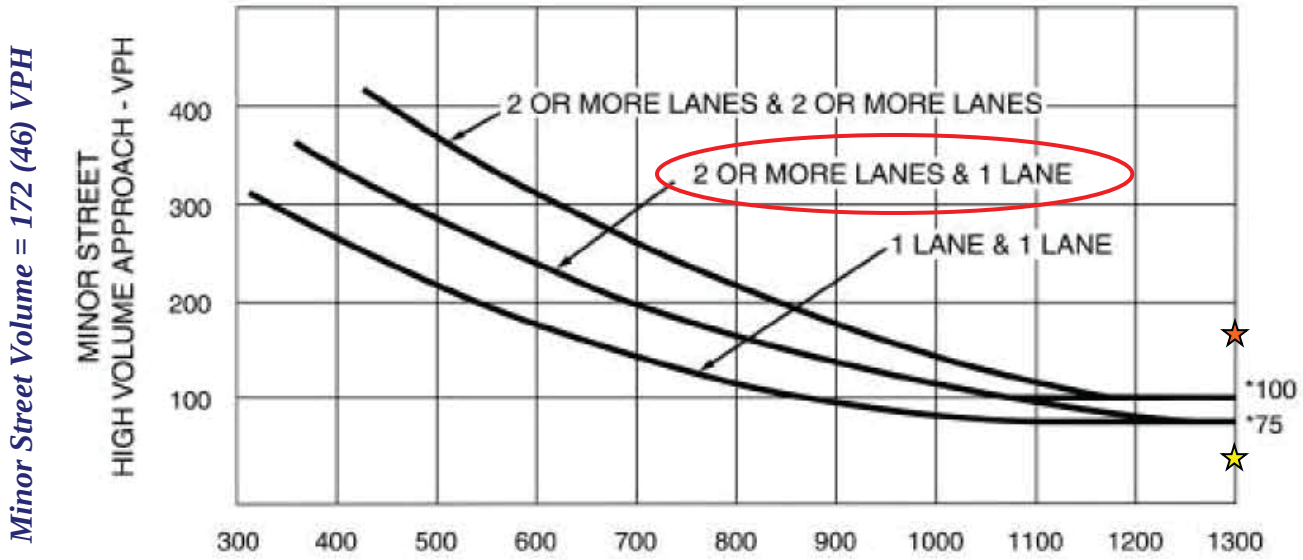
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Mooney Boulevard and Avenue 272, Visalia, CA

Scenario: Five Year Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

★ – P.M.

Major Street Volume = 1774 (2793) VPH

A signal is warranted for the A.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Rural Areas)

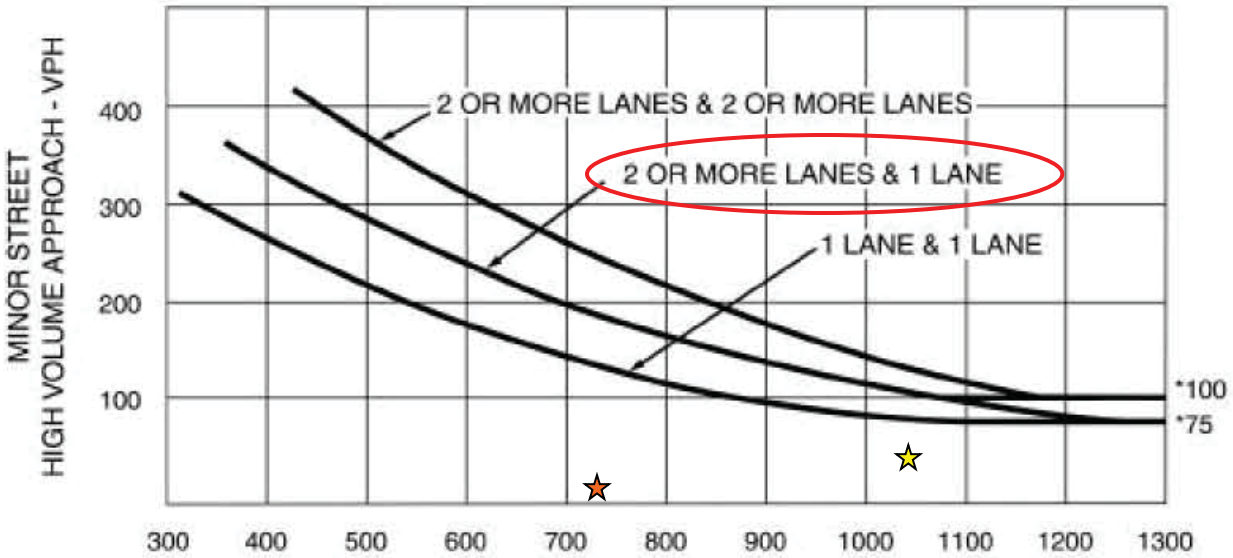
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Visalia Parkway and Tuesday Morning Driveway, Visalia, CA

Scenario: Five Year Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Minor Street Volume = 18 (46) VPH

Major Street Volume = 714 (1046) VPH

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

★ – P.M.

A signal is not warranted for the A.M. or P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Rural Areas)

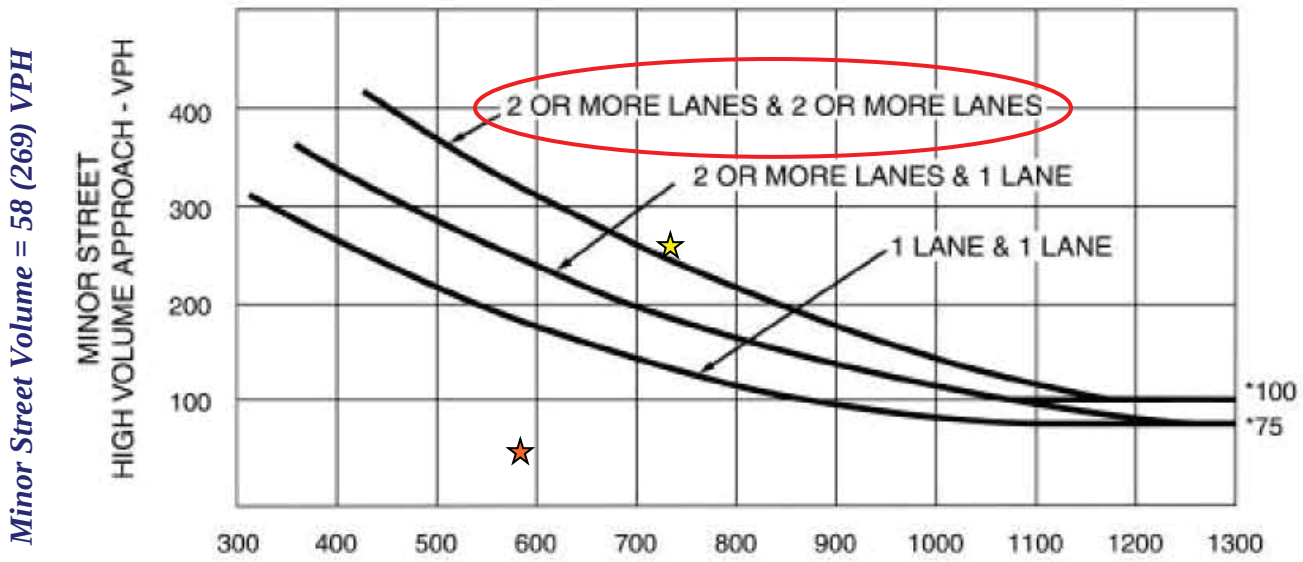
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Visalia Parkway and Costco Driveway, Visalia, CA

Scenario: Five Year Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

★ – P.M.

Major Street Volume = 593 (734) VPH

A signal is warranted for the P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

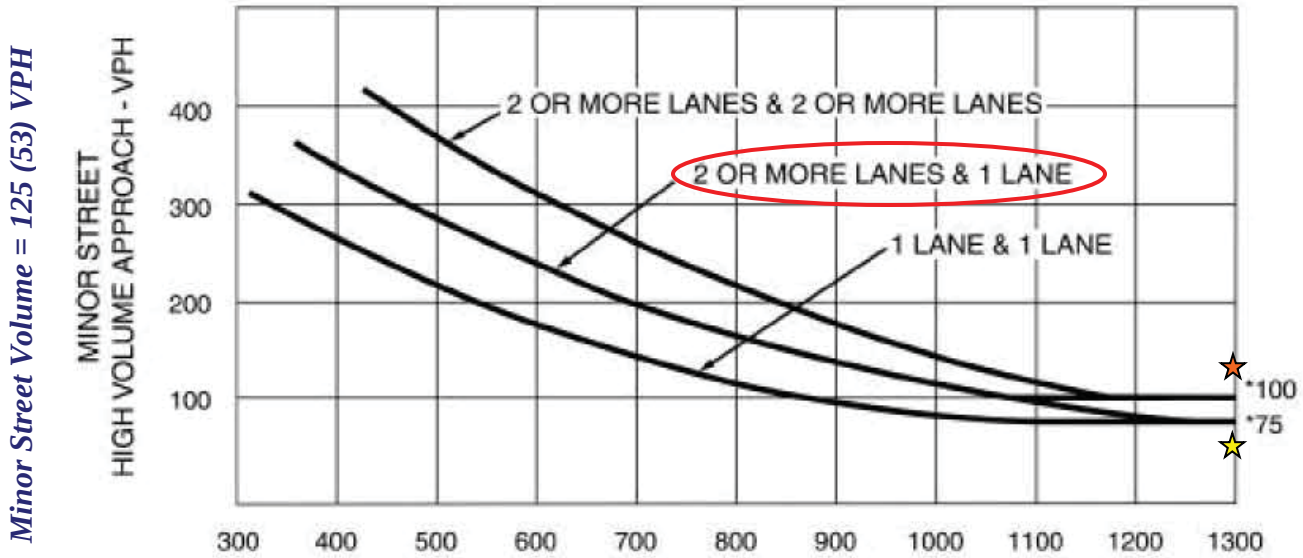
Five-Year Cumulative plus Phase 1 Signal Warrant Sheets

Peak Hour Warrant (Rural Areas)

(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)
Intersection: Caldwell Avenue and Dans Street, Visalia, CA
Scenario: Five Year plus Phase 1 Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
★ – A.M.
★ – P.M.

Major Street Volume = 1516 (2058) VPH

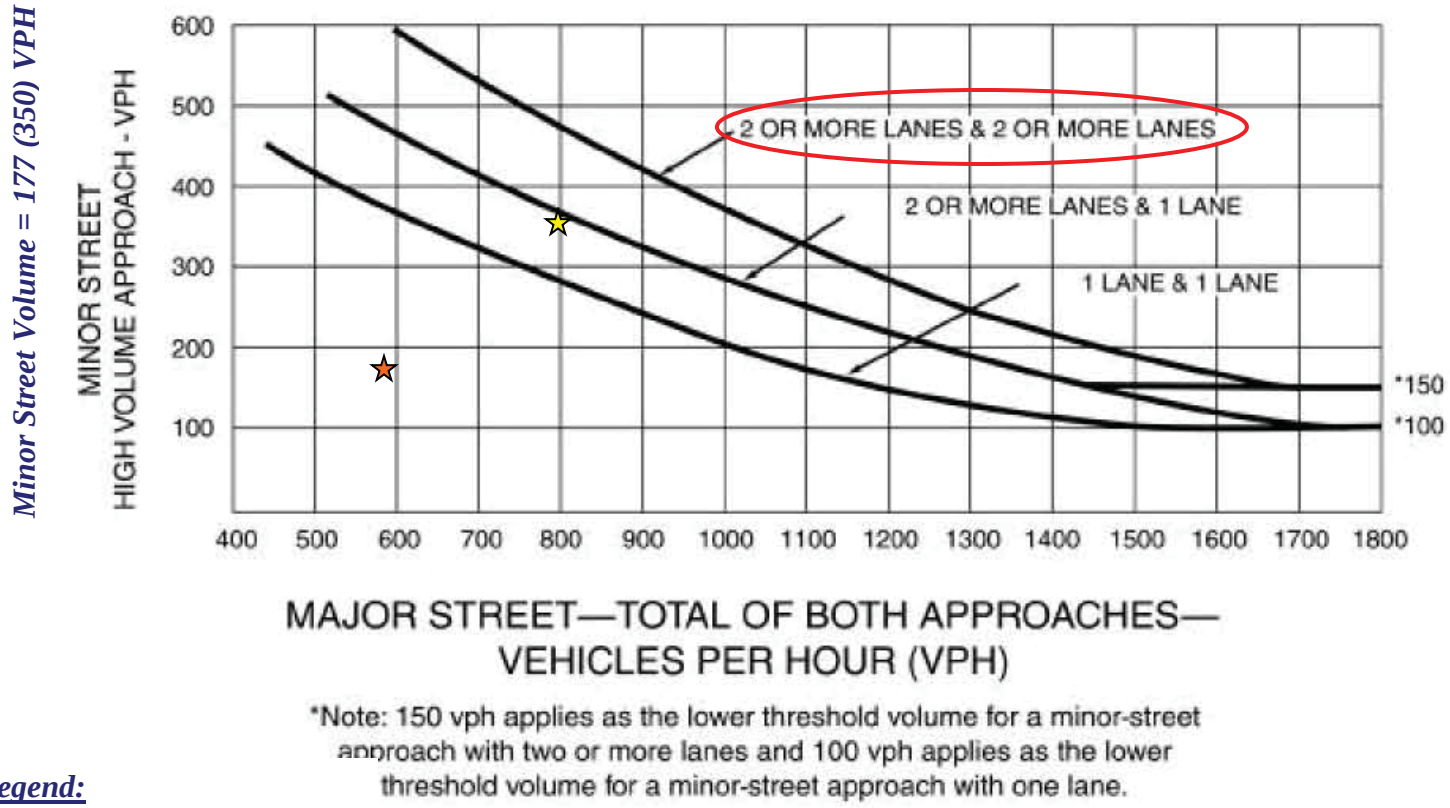
A signal is warranted for the A.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Urban Areas)

Intersection: Cameron Avenue and County Center Drive, Visalia, CA
Scenario: Five Year plus Phase 1 Conditions A.M. & P.M. Peak Hour

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Major Street Volume = 596 (800) VPH

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
– A.M.
– P.M.

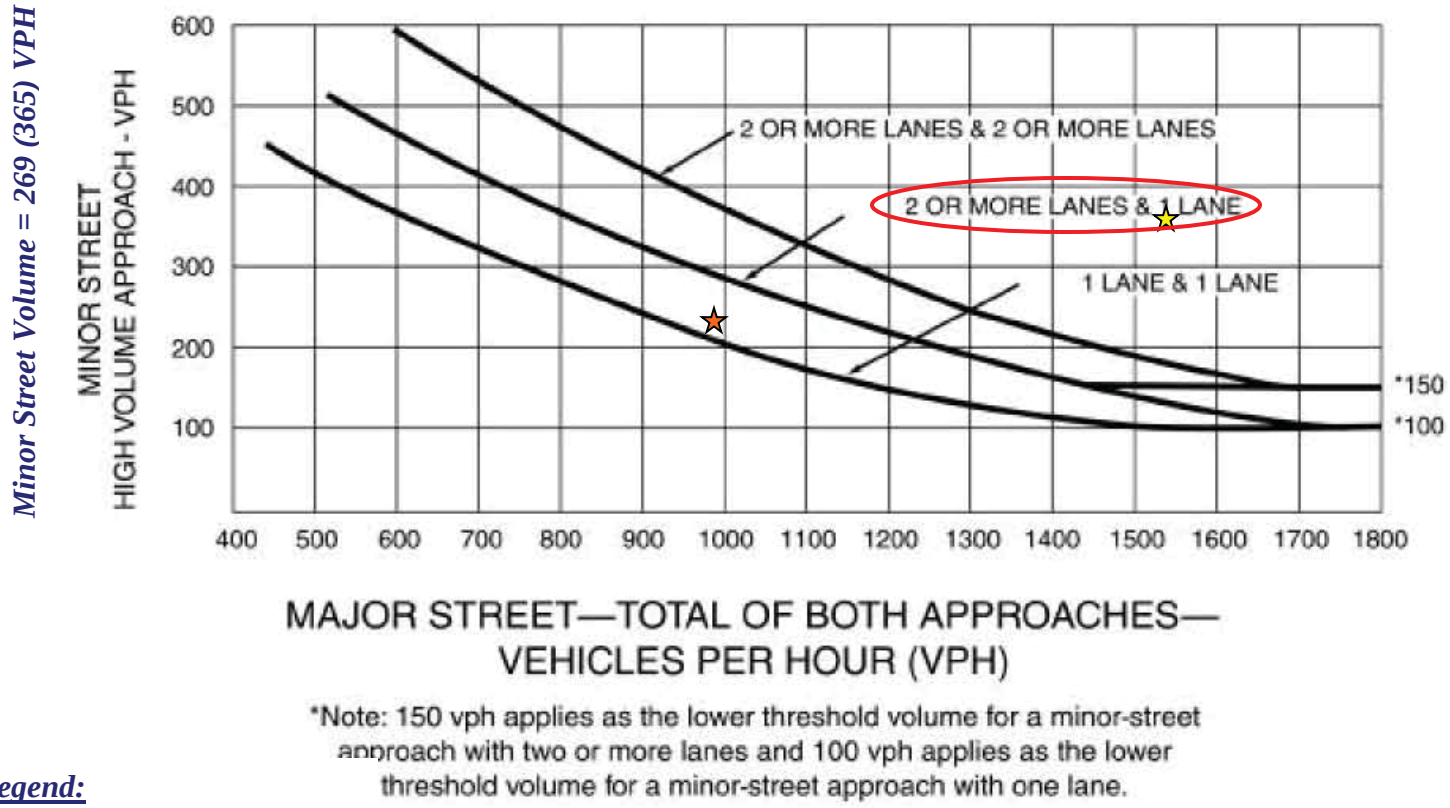
A signal is not warranted for the A.M. or P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

Peak Hour Warrant (Urban Areas)

Intersection: Cameron Avenue and Stonebrook Street, Visalia, CA
Scenario: Five Year plus Phase 1 Conditions A.M. & P.M. Peak Hour

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Major Street Volume = 1045 (1539) VPH

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
– A.M.
– P.M.

A signal is warranted for the P.M. Peak Hour.

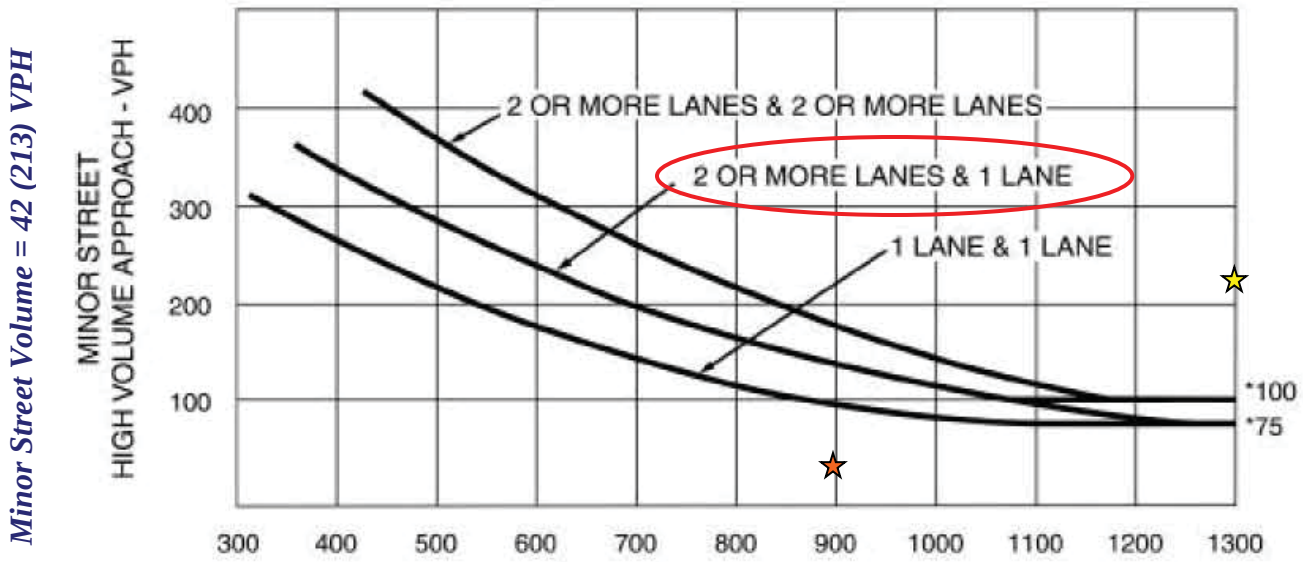
Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

Peak Hour Warrant (Rural Areas)

(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)
Intersection: Cameron Avenue and West Street, Visalia, CA
Scenario: Five Year plus Phase 1 Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
★ – A.M.
☆ – P.M.

Major Street Volume = 900 (1538) VPH

A signal is warranted for the P.M. Peak Hour.

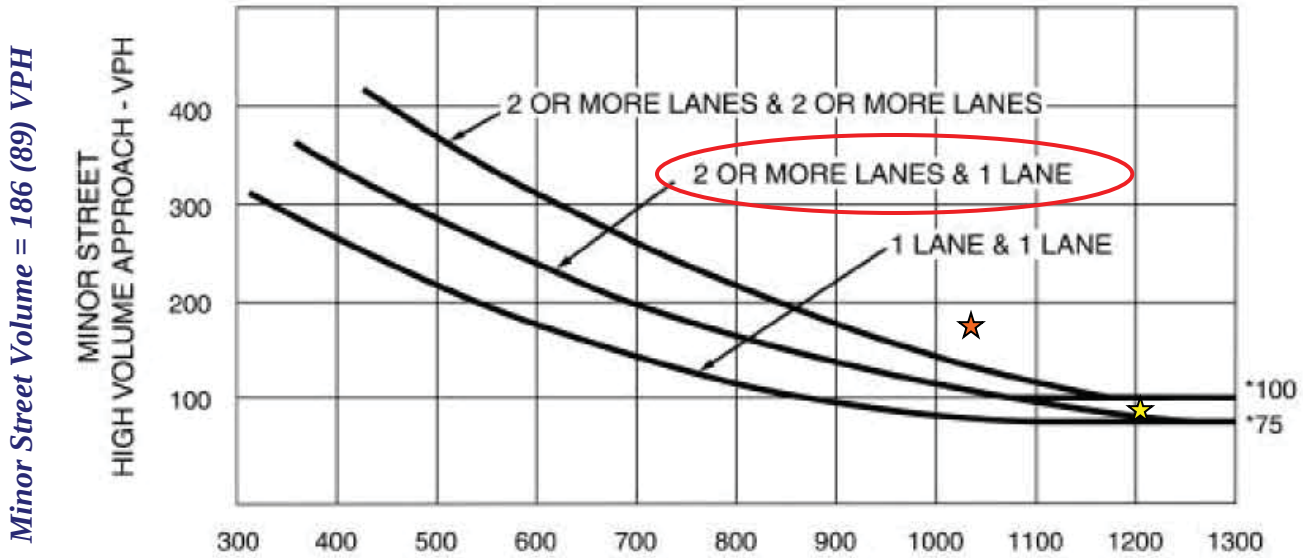
Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Rural Areas)

(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)
Intersection: Visalia Parkway and Dans Street, Visalia, CA
Scenario: Five Year plus Phase 1 Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
★ – A.M.
★ – P.M.

Major Street Volume = 1033 (1202) VPH

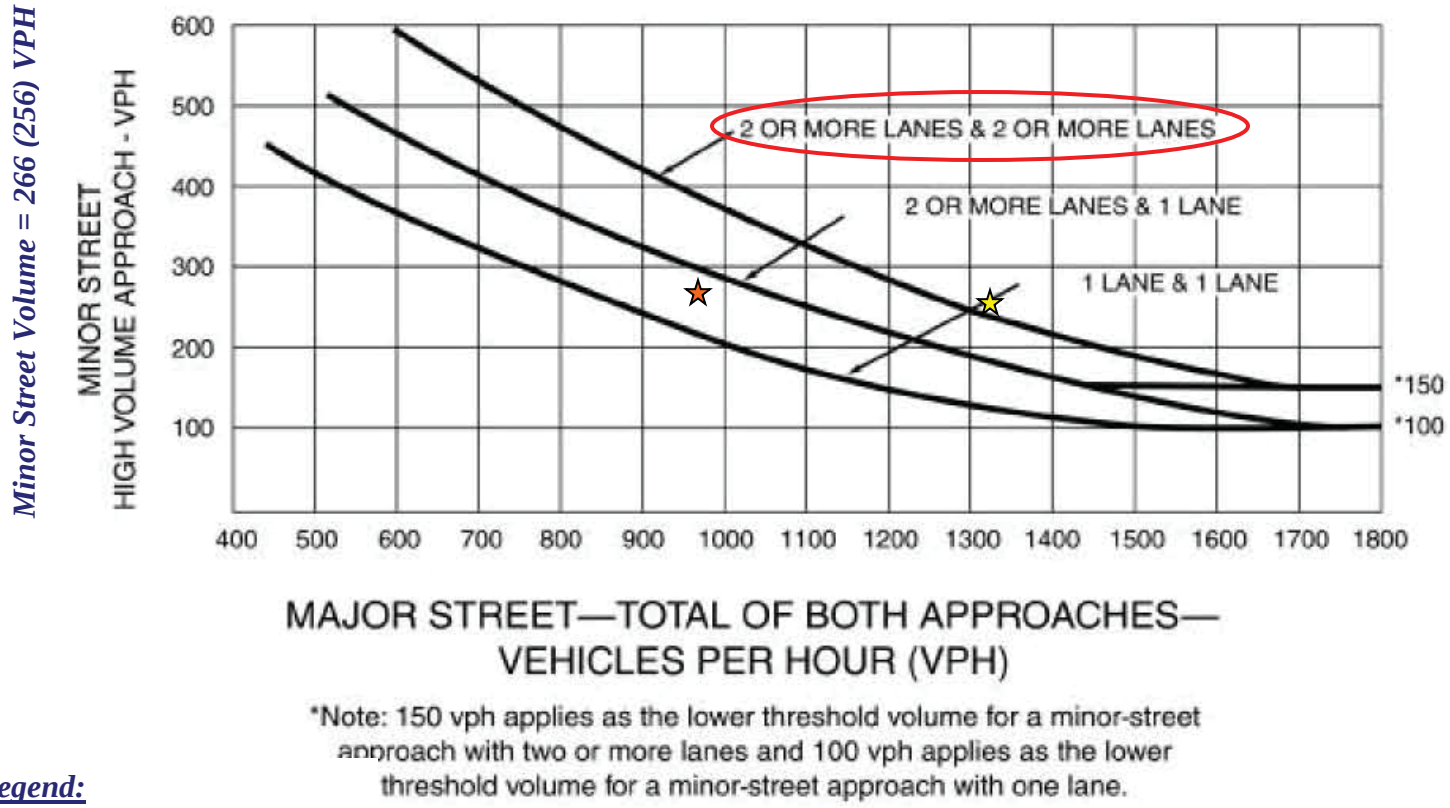
A signal is warranted for the A.M. and P.M. peak hours.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Urban Areas)

Intersection: Visalia Parkway and County Center Drive, Visalia, CA
Scenario: Five Year plus Phase 1 Conditions A.M. & P.M. Peak Hour

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Major Street Volume = 971 (1316) VPH

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
– A.M.
– P.M.

A signal is warranted for the P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

Peak Hour Warrant (Rural Areas)

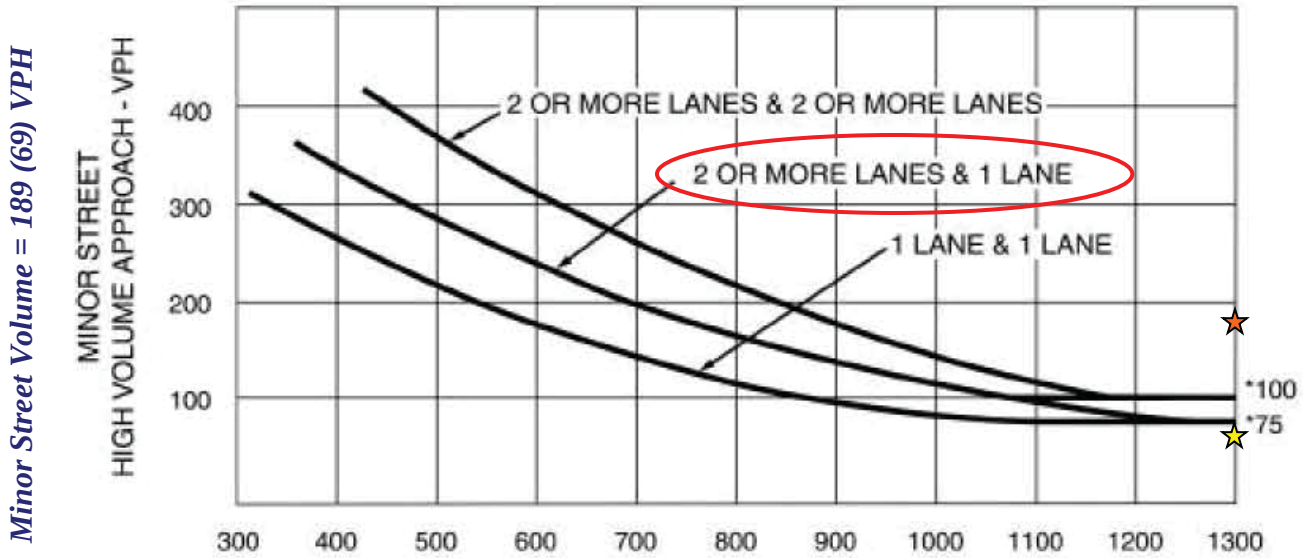
(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)

Intersection: Mooney Boulevard and Avenue 272, Visalia, CA

Scenario: Five Year plus Phase 1 Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

XX – AM Peak Volume

(XX) – PM Peak Volume

★ – A.M.

★ – P.M.

Major Street Volume = 1923 (3005) VPH

A signal is warranted for the A.M. Peak Hour.

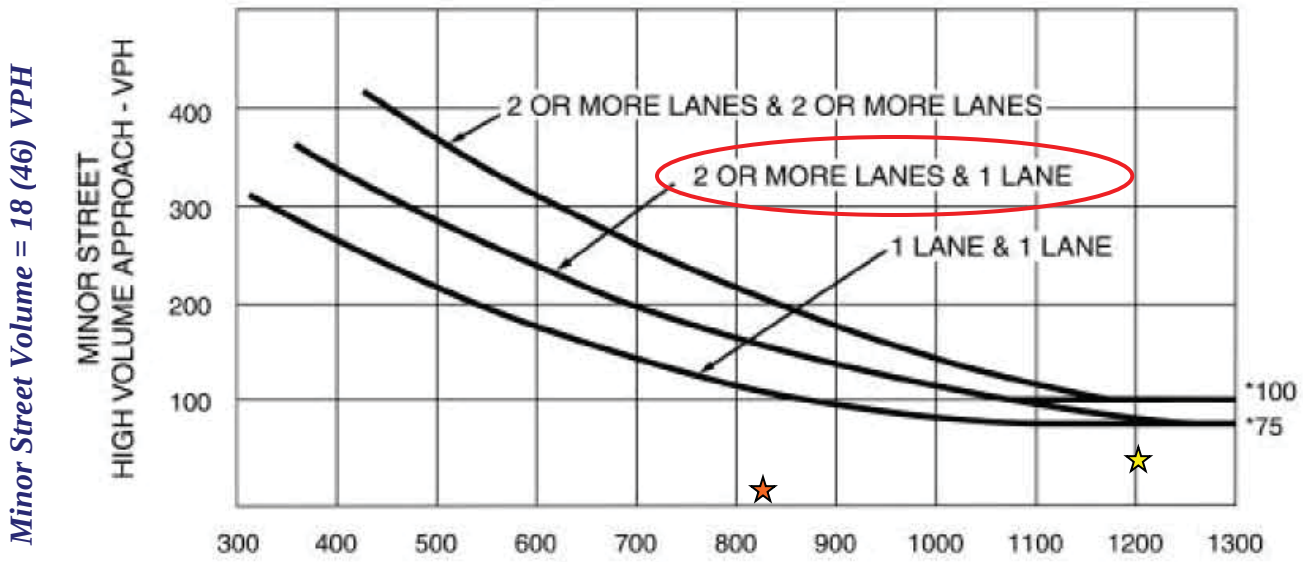
Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Rural Areas)

(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)
Intersection: Visalia Parkway and Tuesday Morning Driveway, Visalia, CA
Scenario: Five Year plus Phase 1 Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
★ – A.M.
★ – P.M.

Major Street Volume = 826 (1203) VPH

A signal is not warranted for the A.M. or P.M. Peak Hour.

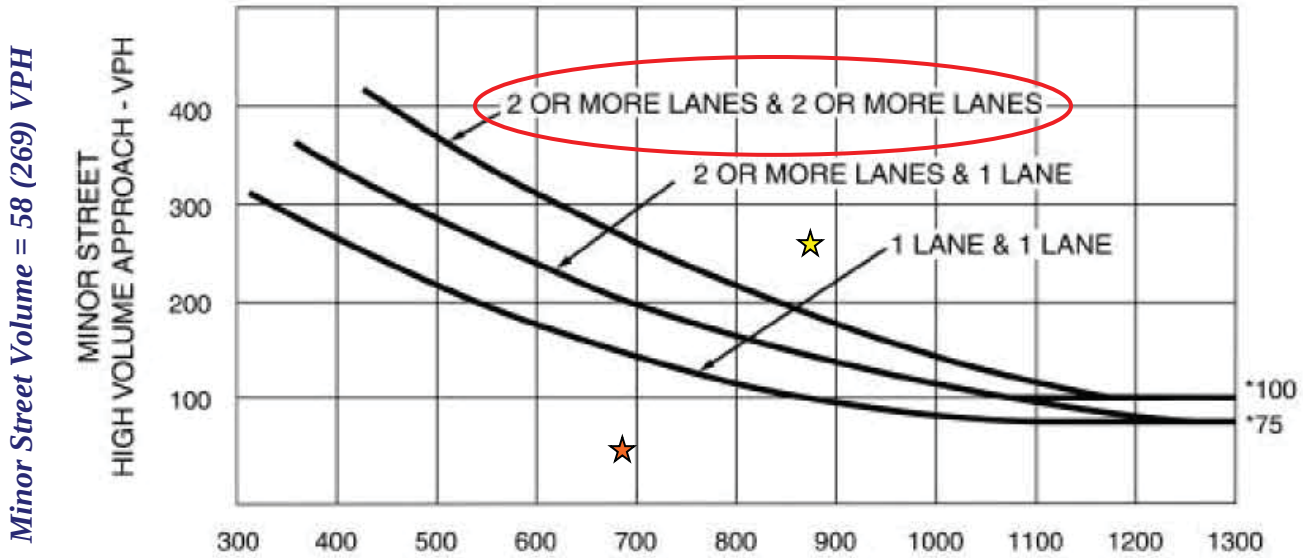
Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Peak Hour Warrant (Rural Areas)

(Community less than 10,000 population or above 70 km/h (40 mph) on Major Street)
Intersection: Visalia Parkway and Costco Driveway, Visalia, CA
Scenario: Five Year plus Phase 1 Conditions A.M. & P.M. Peak Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

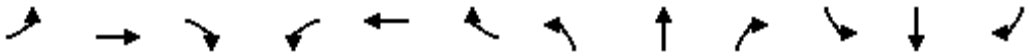
Legend:
XX – AM Peak Volume
(XX) – PM Peak Volume
★ – A.M.
☆ – P.M.

Major Street Volume = 690 (870) VPH

A signal is warranted for the P.M. Peak Hour.

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-4

Appendix H – Five-Year Cumulative Plus Project Conditions Level of Service and Queuing Work Sheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	105	218	155	213	262	60	111	687	159	63	672	46
v/c Ratio	0.41	0.46	0.45	0.70	0.50	0.16	0.31	0.23	0.16	0.37	0.26	0.05
Control Delay	68.4	59.6	10.5	76.6	58.9	1.0	62.9	17.5	3.9	72.2	22.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.4	59.6	10.5	76.6	58.9	1.0	62.9	17.5	3.9	72.2	22.2	0.1
Queue Length 50th (ft)	49	104	0	102	125	0	51	110	1	30	123	0
Queue Length 95th (ft)	81	125	54	145	144	0	82	192	46	55	202	0
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	289	878	506	355	951	534	355	2929	966	355	2577	847
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.25	0.31	0.60	0.28	0.11	0.31	0.23	0.16	0.18	0.26	0.05

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	201	143	196	241	55	102	632	146	58	618	42
Future Volume (veh/h)	97	201	143	196	241	55	102	632	146	58	618	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	105	218	155	213	262	60	111	687	159	63	672	46
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	315	520	231	259	462	204	785	2913	895	131	1922	596
Arrive On Green	0.09	0.15	0.15	0.08	0.13	0.13	0.23	0.57	0.57	0.04	0.38	0.38
Sat Flow, veh/h	3442	3539	1574	3442	3539	1565	3442	5085	1563	3442	5085	1578
Grp Volume(v), veh/h	105	218	155	213	262	60	111	687	159	63	672	46
Grp Sat Flow(s),veh/h/ln	1721	1770	1574	1721	1770	1565	1721	1695	1563	1721	1695	1578
Q Serve(g_s), s	4.1	8.1	13.5	8.8	10.1	4.3	3.7	9.7	4.4	2.6	13.7	2.7
Cycle Q Clear(g_c), s	4.1	8.1	13.5	8.8	10.1	4.3	3.7	9.7	4.4	2.6	13.7	2.7
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	315	520	231	259	462	204	785	2913	895	131	1922	596
V/C Ratio(X)	0.33	0.42	0.67	0.82	0.57	0.29	0.14	0.24	0.18	0.48	0.35	0.08
Avail Cap(c_a), veh/h	315	879	391	285	952	421	785	2913	895	356	1922	596
HCM Platoon Ratio	1.00	1.00	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	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.7	56.2	58.5	66.1	59.2	42.2	44.6	15.3	5.8	68.3	32.3	28.9
Incr Delay (d2), s/veh	0.2	1.0	6.4	14.7	2.1	1.5	0.0	0.2	0.4	1.0	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	4.0	6.3	4.7	5.1	2.2	1.8	4.6	2.8	1.3	6.5	1.2
LnGrp Delay(d),s/veh	61.9	57.3	64.9	80.8	61.3	43.7	44.7	15.5	6.2	69.3	32.8	29.1
LnGrp LOS	E	E	E	F	E	D	D	B	A	E	C	C
Approach Vol, veh/h		478			535			957			781	
Approach Delay, s/veh		60.8			67.1			17.3			35.6	
Approach LOS		E			E			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	11.2	89.5	16.6	27.7	39.5	61.2	19.0	25.3
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 15	54.8	12.0	* 36	15.0	* 55	12.0	* 39
Max Q Clear Time (g_c+I1), s	4.6	11.7	10.8	15.5	5.7	15.7	6.1	12.1
Green Ext Time (p_c), s	0.0	11.2	0.0	3.2	0.1	9.5	0.1	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	39.7
HCM 2010 LOS	D

Notes



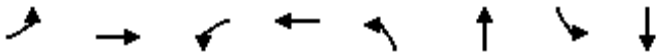
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	96	165	8	254	96	49	72	11	134
v/c Ratio	0.22	0.16	0.02	0.31	0.13	0.09	0.16	0.02	0.22
Control Delay	19.8	7.6	21.7	13.5	5.6	15.6	17.2	16.2	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.8	7.6	21.7	13.5	5.6	15.6	17.2	16.2	5.4
Queue Length 50th (ft)	21	16	2	50	3	9	15	2	0
Queue Length 95th (ft)	67	68	14	121	30	36	51	13	36
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	860	1408	860	1424	1228	1076	913	1260	1114
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.12	0.01	0.18	0.08	0.05	0.08	0.01	0.12

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	140	12	7	234	88	19	22	4	66	10	123
Future Volume (veh/h)	88	140	12	7	234	88	19	22	4	66	10	123
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	96	152	13	8	254	96	21	24	4	72	11	134
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	627	54	23	519	441	243	221	28	510	397	337
Arrive On Green	0.10	0.37	0.37	0.01	0.28	0.28	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	1692	145	1774	1863	1583	444	1039	132	1377	1863	1583
Grp Volume(v), veh/h	96	0	165	8	254	96	49	0	0	72	11	134
Grp Sat Flow(s),veh/h/ln	1774	0	1837	1774	1863	1583	1615	0	0	1377	1863	1583
Q Serve(g_s), s	1.8	0.0	2.2	0.2	3.9	1.6	0.0	0.0	0.0	0.5	0.2	2.5
Cycle Q Clear(g_c), s	1.8	0.0	2.2	0.2	3.9	1.6	0.7	0.0	0.0	1.3	0.2	2.5
Prop In Lane	1.00		0.08	1.00		1.00	0.43		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	185	0	680	23	519	441	492	0	0	510	397	337
V/C Ratio(X)	0.52	0.00	0.24	0.35	0.49	0.22	0.10	0.00	0.00	0.14	0.03	0.40
Avail Cap(c_a), veh/h	768	0	1590	768	1612	1371	1262	0	0	1209	1344	1142
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	7.6	17.0	10.4	9.6	11.0	0.0	0.0	11.2	10.8	11.7
Incr Delay (d2), s/veh	0.8	0.0	0.3	3.4	1.2	0.4	0.1	0.0	0.0	0.2	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.1	0.1	2.2	0.7	0.4	0.0	0.0	0.6	0.1	1.2
LnGrp Delay(d),s/veh	15.5	0.0	7.9	20.4	11.7	10.0	11.2	0.0	0.0	11.4	10.8	13.0
LnGrp LOS	B		A	C	B	B	B			B	B	B
Approach Vol, veh/h		261			358			49			217	
Approach Delay, s/veh		10.7			11.4			11.2			12.4	
Approach LOS		B			B			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	4.4	17.8		12.4	7.6	14.7		12.4
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	15.0	30.0		25.0	15.0	30.0		25.0
Max Q Clear Time (g_c+I1), s	2.2	4.2		2.7	3.8	5.9		4.5
Green Ext Time (p_c), s	0.0	1.4		0.3	0.1	2.9		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	11.4
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	35	12	4	105	865	89	916
v/c Ratio	0.25	0.09	0.06	0.01	0.38	0.33	0.34	0.36
Control Delay	34.6	9.4	37.7	17.8	34.7	17.9	34.6	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.6	9.4	37.7	17.8	34.7	17.9	34.6	17.9
Queue Length 50th (ft)	19	0	4	0	32	71	27	75
Queue Length 95th (ft)	89	22	29	9	129	267	112	279
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	531	711	531	708	531	2802	531	2741
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.05	0.02	0.01	0.20	0.31	0.17	0.33

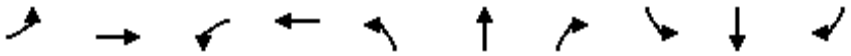
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	1	32	11	1	3	100	811	10	85	750	121
Future Volume (veh/h)	61	1	32	11	1	3	100	811	10	85	750	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		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	64	1	34	12	1	3	105	854	11	89	789	127
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	6	208	32	35	105	155	1732	22	144	1453	232
Arrive On Green	0.07	0.14	0.14	0.02	0.09	0.09	0.09	0.33	0.33	0.08	0.33	0.33
Sat Flow, veh/h	1774	45	1539	1774	411	1232	1774	5172	67	1774	4420	706
Grp Volume(v), veh/h	64	0	35	12	0	4	105	560	305	89	604	312
Grp Sat Flow(s),veh/h/ln	1774	0	1584	1774	0	1642	1774	1695	1849	1774	1695	1736
Q Serve(g_s), s	1.9	0.0	1.1	0.4	0.0	0.1	3.1	7.2	7.2	2.7	8.0	8.0
Cycle Q Clear(g_c), s	1.9	0.0	1.1	0.4	0.0	0.1	3.1	7.2	7.2	2.7	8.0	8.0
Prop In Lane	1.00		0.97	1.00		0.75	1.00		0.04	1.00		0.41
Lane Grp Cap(c), veh/h	121	0	215	32	0	140	155	1135	619	144	1114	571
V/C Ratio(X)	0.53	0.00	0.16	0.37	0.00	0.03	0.68	0.49	0.49	0.62	0.54	0.55
Avail Cap(c_a), veh/h	390	0	580	487	0	601	487	1551	846	487	1551	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	20.9	26.5	0.0	22.9	24.2	14.5	14.5	24.3	15.0	15.0
Incr Delay (d2), s/veh	1.3	0.0	0.3	2.6	0.0	0.1	1.9	0.6	1.2	1.6	0.8	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.5	0.2	0.0	0.1	1.6	3.4	3.9	1.3	3.8	4.1
LnGrp Delay(d),s/veh	25.9	0.0	21.1	29.1	0.0	23.0	26.1	15.1	15.7	25.9	15.8	16.6
LnGrp LOS	C		C	C		C	C	B	B	C	B	B
Approach Vol, veh/h		99			16			970			1005	
Approach Delay, s/veh		24.2			27.6			16.5			16.9	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	24.7	6.7	13.1	10.5	24.4	9.4	10.4
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	* 5.7	6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 15	25.0	* 15	* 20	* 15	25.0	* 12	* 20
Max Q Clear Time (g_c+I1), s	4.7	9.2	2.4	3.1	5.1	10.0	3.9	2.1
Green Ext Time (p_c), s	0.1	7.6	0.0	0.1	0.1	7.9	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	17.2
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	3	6	22	27	14	902	31	64	741	5
v/c Ratio	0.02	0.03	0.23	0.23	0.06	0.24	0.03	0.52	0.19	0.00
Control Delay	45.3	27.0	66.2	26.3	56.1	11.8	0.0	74.9	11.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.3	27.0	66.2	26.3	56.1	11.8	0.0	74.9	11.1	0.0
Queue Length 50th (ft)	3	1	19	1	6	82	0	55	31	0
Queue Length 95th (ft)	10	12	48	33	17	271	0	103	224	0
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	247	504	170	514	381	3729	1157	196	3947	1240
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.13	0.05	0.04	0.24	0.03	0.33	0.19	0.00

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1	5	21	1	25	13	857	29	61	704	5
Future Volume (veh/h)	3	1	5	21	1	25	13	857	29	61	704	5
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		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	3	1	5	22	1	26	14	902	31	64	741	5
Adj No. of Lanes	1	1	0	1	1	0	2	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	31	14	71	44	4	94	1495	3549	1102	82	1548	482
Arrive On Green	0.02	0.05	0.05	0.02	0.06	0.06	0.87	1.00	1.00	0.05	0.30	0.30
Sat Flow, veh/h	1774	265	1324	1774	59	1533	3442	5085	1579	1774	5085	1582
Grp Volume(v), veh/h	3	0	6	22	0	27	14	902	31	64	741	5
Grp Sat Flow(s),veh/h/ln	1774	0	1588	1774	0	1592	1721	1695	1579	1774	1695	1582
Q Serve(g_s), s	0.2	0.0	0.5	1.7	0.0	2.2	0.1	0.0	0.0	4.8	16.0	0.3
Cycle Q Clear(g_c), s	0.2	0.0	0.5	1.7	0.0	2.2	0.1	0.0	0.0	4.8	16.0	0.3
Prop In Lane	1.00		0.83	1.00		0.96	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	31	0	86	44	0	98	1495	3549	1102	82	1548	482
V/C Ratio(X)	0.10	0.00	0.07	0.50	0.00	0.28	0.01	0.25	0.03	0.78	0.48	0.01
Avail Cap(c_a), veh/h	171	0	494	171	0	495	1495	3549	1102	197	1548	482
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.95	0.95	0.95	0.94	0.94	0.94
Uniform Delay (d), s/veh	65.3	0.0	60.6	65.0	0.0	60.5	5.0	0.0	0.0	63.7	38.2	32.8
Incr Delay (d2), s/veh	0.5	0.0	0.1	3.2	0.0	1.1	0.0	0.2	0.0	5.6	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.9	0.0	1.0	0.0	0.1	0.0	2.5	7.6	0.1
LnGrp Delay(d),s/veh	65.8	0.0	60.8	68.2	0.0	61.6	5.0	0.2	0.0	69.3	39.2	32.8
LnGrp LOS	E		E	E		E	A	A	A	E	D	C
Approach Vol, veh/h		9			49			947			810	
Approach Delay, s/veh		62.4			64.5			0.2			41.6	
Approach LOS		E			E			A			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	100.6	9.1	13.4	65.0	47.5	8.1	14.4
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 15	41.1	13.0	* 42	15.0	* 41	13.0	* 42
Max Q Clear Time (g_c+I1), s	6.8	2.0	3.7	2.5	2.1	18.0	2.2	4.2
Green Ext Time (p_c), s	0.0	14.5	0.0	0.0	0.0	8.4	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	20.7
HCM 2010 LOS	C

Notes

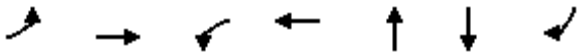
Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	679	67	49	660	28	47	0	78	8	0	17
Future Vol, veh/h	33	679	67	49	660	28	47	0	78	8	0	17
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	738	73	53	717	30	51	0	85	9	0	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	752	0	0	811	0	0	1312	1705	406	1284	1726	379
Stage 1	-	-	-	-	-	-	847	847	-	843	843	-
Stage 2	-	-	-	-	-	-	465	858	-	441	883	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	853	-	-	811	-	-	116	90	594	122	88	619
Stage 1	-	-	-	-	-	-	323	376	-	325	378	-
Stage 2	-	-	-	-	-	-	547	372	-	565	362	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	849	-	-	811	-	-	97	73	594	90	72	616
Mov Cap-2 Maneuver	-	-	-	-	-	-	97	73	-	90	72	-
Stage 1	-	-	-	-	-	-	298	347	-	298	334	-
Stage 2	-	-	-	-	-	-	471	329	-	447	334	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1.1	52.6	24.2
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	203	849	-	-	811	-	-	215
HCM Lane V/C Ratio	0.669	0.042	-	-	0.066	-	-	0.126
HCM Control Delay (s)	52.6	9.4	0.3	-	9.8	0.5	-	24.2
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	4.1	0.1	-	-	0.2	-	-	0.4



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	25	688	16	600	54	5	2
v/c Ratio	0.06	0.17	0.04	0.15	0.12	0.01	0.00
Control Delay	18.7	5.6	19.1	5.7	11.5	19.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.7	5.6	19.1	5.7	11.5	19.8	0.0
Queue Length 50th (ft)	2	0	1	0	1	1	0
Queue Length 95th (ft)	29	95	22	85	35	11	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	1353	4682	1353	4692	1287	1370	1236
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.15	0.01	0.13	0.04	0.00	0.00

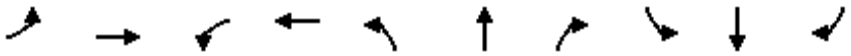
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	621	12	15	547	5	17	1	32	4	1	2
Future Volume (veh/h)	23	621	12	15	547	5	17	1	32	4	1	2
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	25	675	13	16	595	5	18	1	35	4	1	2
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	2050	39	43	2013	17	37	2	72	16	4	18
Arrive On Green	0.04	0.40	0.40	0.02	0.39	0.39	0.07	0.07	0.07	0.01	0.01	0.01
Sat Flow, veh/h	1774	5136	99	1774	5200	44	549	31	1067	1433	358	1583
Grp Volume(v), veh/h	25	445	243	16	388	212	54	0	0	5	0	2
Grp Sat Flow(s),veh/h/ln	1774	1695	1845	1774	1695	1854	1647	0	0	1791	0	1583
Q Serve(g_s), s	0.6	3.6	3.7	0.4	3.2	3.2	1.3	0.0	0.0	0.1	0.0	0.1
Cycle Q Clear(g_c), s	0.6	3.6	3.7	0.4	3.2	3.2	1.3	0.0	0.0	0.1	0.0	0.1
Prop In Lane	1.00		0.05	1.00		0.02	0.33		0.65	0.80		1.00
Lane Grp Cap(c), veh/h	64	1353	736	43	1313	718	111	0	0	20	0	18
V/C Ratio(X)	0.39	0.33	0.33	0.37	0.30	0.30	0.49	0.00	0.00	0.25	0.00	0.11
Avail Cap(c_a), veh/h	883	3374	1836	883	3374	1845	820	0	0	891	0	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.9	8.4	8.4	19.3	8.5	8.5	18.1	0.0	0.0	19.7	0.0	19.7
Incr Delay (d2), s/veh	1.4	0.4	0.7	1.9	0.3	0.6	2.4	0.0	0.0	4.7	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.7	2.0	0.2	1.5	1.7	0.6	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	20.3	8.7	9.1	21.2	8.9	9.2	20.5	0.0	0.0	24.4	0.0	21.7
LnGrp LOS	C	A	A	C	A	A	C			C		C
Approach Vol, veh/h		713			616			54			7	
Approach Delay, s/veh		9.3			9.3			20.5			23.6	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	22.0		5.5	5.5	21.6		7.7
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	2.4	5.7		2.1	2.6	5.2		3.3
Green Ext Time (p_c), s	0.0	10.3		0.0	0.0	8.8		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	9.8
HCM 2010 LOS	A

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	163	544	152	484	159	741	127	66	663	82
v/c Ratio	0.57	0.57	0.57	0.53	0.52	0.28	0.14	0.36	0.28	0.10
Control Delay	67.3	43.7	68.5	48.3	65.5	21.1	4.9	66.9	24.1	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.3	43.7	68.5	48.3	65.5	21.1	4.9	66.9	24.1	1.6
Queue Length 50th (ft)	71	140	67	138	70	127	0	29	121	0
Queue Length 95th (ft)	108	147	102	142	107	226	46	54	208	11
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	355	1595	355	1595	304	2658	876	304	2391	798
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.34	0.43	0.30	0.52	0.28	0.14	0.22	0.28	0.10

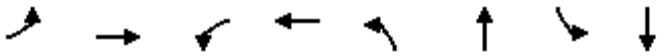
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	365	152	144	387	73	151	704	121	63	630	78
Future Volume (veh/h)	155	365	152	144	387	73	151	704	121	63	630	78
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	163	384	160	152	407	77	159	741	127	66	663	82
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	265	643	254	203	697	128	915	2754	857	140	1582	491
Arrive On Green	0.08	0.18	0.18	0.06	0.16	0.16	0.53	1.00	1.00	0.08	0.62	0.62
Sat Flow, veh/h	3442	3580	1415	3442	4315	794	3442	5085	1582	3442	5085	1577
Grp Volume(v), veh/h	163	363	181	152	317	167	159	741	127	66	663	82
Grp Sat Flow(s),veh/h/ln	1721	1695	1605	1721	1695	1719	1721	1695	1582	1721	1695	1577
Q Serve(g_s), s	6.2	13.3	14.1	5.9	11.7	12.2	3.2	0.0	0.0	2.5	9.0	3.0
Cycle Q Clear(g_c), s	6.2	13.3	14.1	5.9	11.7	12.2	3.2	0.0	0.0	2.5	9.0	3.0
Prop In Lane	1.00		0.88	1.00		0.46	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	265	609	288	203	547	278	915	2754	857	140	1582	491
V/C Ratio(X)	0.61	0.60	0.63	0.75	0.58	0.60	0.17	0.27	0.15	0.47	0.42	0.17
Avail Cap(c_a), veh/h	357	1080	511	357	1080	548	915	2754	857	306	1582	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.99	0.99	0.99	0.99	0.99	0.99	0.94	0.94	0.94	0.99	0.99	0.99
Uniform Delay (d), s/veh	60.4	50.9	51.2	62.5	52.4	52.6	23.9	0.0	0.0	60.6	19.3	18.1
Incr Delay (d2), s/veh	0.9	1.8	4.3	2.1	1.9	4.0	0.0	0.2	0.3	0.9	0.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	6.3	6.6	2.8	5.6	6.1	1.5	0.1	0.1	1.2	4.2	1.4
LnGrp Delay(d),s/veh	61.2	52.7	55.6	64.6	54.2	56.5	24.0	0.2	0.3	61.5	20.1	18.9
LnGrp LOS	E	D	E	E	D	E	C	A	A	E	C	B
Approach Vol, veh/h		707			636			1027			811	
Approach Delay, s/veh		55.4			57.3			3.9			23.3	
Approach LOS		E			E			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	79.5	13.7	30.6	42.3	48.4	16.1	28.2
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 12	42.0	14.0	* 43	12.0	* 42	14.0	* 43
Max Q Clear Time (g_c+I1), s	4.5	2.0	7.9	16.1	5.2	11.0	8.2	14.2
Green Ext Time (p_c), s	0.0	13.0	0.1	6.2	0.1	10.1	0.1	5.5

Intersection Summary	
HCM 2010 Ctrl Delay	31.0
HCM 2010 LOS	C

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	57	462	77	635	23	51	38	34
v/c Ratio	0.15	0.16	0.20	0.22	0.04	0.08	0.06	0.05
Control Delay	31.1	15.5	29.9	14.5	13.8	10.7	14.1	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.1	15.5	29.9	14.5	13.8	10.7	14.1	8.9
Queue Length 50th (ft)	15	32	20	43	5	3	9	1
Queue Length 95th (ft)	74	117	92	151	21	31	30	23
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	869	3391	869	3351	999	1066	974	1048
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.14	0.09	0.19	0.02	0.05	0.04	0.03

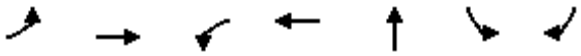
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	389	36	71	482	102	21	10	37	35	4	28
Future Volume (veh/h)	52	389	36	71	482	102	21	10	37	35	4	28
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	57	423	39	77	524	111	23	11	40	38	4	30
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	1535	140	150	1425	295	385	41	147	377	25	186
Arrive On Green	0.07	0.32	0.32	0.08	0.34	0.34	0.03	0.12	0.12	0.05	0.13	0.13
Sat Flow, veh/h	1774	4744	431	1774	4208	870	1774	352	1279	1774	187	1404
Grp Volume(v), veh/h	57	301	161	77	420	215	23	0	51	38	0	34
Grp Sat Flow(s),veh/h/ln	1774	1695	1785	1774	1695	1687	1774	0	1631	1774	0	1591
Q Serve(g_s), s	1.3	2.8	2.8	1.8	3.9	4.1	0.5	0.0	1.2	0.8	0.0	0.8
Cycle Q Clear(g_c), s	1.3	2.8	2.8	1.8	3.9	4.1	0.5	0.0	1.2	0.8	0.0	0.8
Prop In Lane	1.00		0.24	1.00		0.52	1.00		0.78	1.00		0.88
Lane Grp Cap(c), veh/h	123	1097	577	150	1148	571	385	0	188	377	0	211
V/C Ratio(X)	0.46	0.27	0.28	0.51	0.37	0.38	0.06	0.00	0.27	0.10	0.00	0.16
Avail Cap(c_a), veh/h	629	2406	1267	629	2406	1197	955	0	965	916	0	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.9	10.6	10.6	18.5	10.6	10.6	15.5	0.0	17.1	15.0	0.0	16.2
Incr Delay (d2), s/veh	1.0	0.4	0.7	1.0	0.5	1.1	0.1	0.0	2.1	0.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.4	1.5	0.9	1.9	2.0	0.2	0.0	0.6	0.4	0.0	0.4
LnGrp Delay(d),s/veh	19.9	11.0	11.4	19.5	11.1	11.7	15.7	0.0	19.2	15.3	0.0	17.2
LnGrp LOS	B	B	B	B	B	B	B		B	B		B
Approach Vol, veh/h		519			712			74			72	
Approach Delay, s/veh		12.1			12.2			18.1			16.2	
Approach LOS		B			B			B			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	7.6	19.7	5.2	9.9	6.9	20.3	4.4	10.6
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	15.0	30.0	15.0	25.0	15.0	30.0	15.0	24.0
Max Q Clear Time (g_c+I1), s	3.8	4.8	2.8	3.2	3.3	6.1	2.5	2.8
Green Ext Time (p_c), s	0.1	5.9	0.1	0.4	0.0	8.2	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBR
Lane Group Flow (vph)	28	443	7	693	17	50	55
v/c Ratio	0.08	0.20	0.02	0.29	0.04	0.10	0.07
Control Delay	23.5	6.1	24.2	8.0	0.1	18.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	6.1	24.2	8.0	0.1	18.9	0.2
Queue Length 50th (ft)	5	27	1	47	0	8	0
Queue Length 95th (ft)	31	76	13	128	0	43	0
Internal Link Dist (ft)		1064		2598	260		
Turn Bay Length (ft)	235		300				200
Base Capacity (vph)	1087	3054	1087	3051	915	897	1147
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.15	0.01	0.23	0.02	0.06	0.05

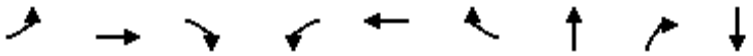
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	397	10	6	618	19	9	0	6	46	0	51
Future Volume (veh/h)	26	397	10	6	618	19	9	0	6	46	0	51
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	28	432	11	7	672	21	10	0	7	50	0	55
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	1632	42	20	1522	48	256	32	109	420	332	282
Arrive On Green	0.04	0.46	0.46	0.01	0.43	0.43	0.18	0.00	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3527	90	1774	3503	109	694	180	612	1403	1863	1583
Grp Volume(v), veh/h	28	216	227	7	339	354	17	0	0	50	0	55
Grp Sat Flow(s),veh/h/ln	1774	1770	1847	1774	1770	1843	1486	0	0	1403	1863	1583
Q Serve(g_s), s	0.7	3.2	3.2	0.2	5.8	5.8	0.0	0.0	0.0	0.9	0.0	1.3
Cycle Q Clear(g_c), s	0.7	3.2	3.2	0.2	5.8	5.8	0.4	0.0	0.0	1.2	0.0	1.3
Prop In Lane	1.00		0.05	1.00		0.06	0.59		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	70	819	855	20	769	801	397	0	0	420	332	282
V/C Ratio(X)	0.40	0.26	0.27	0.35	0.44	0.44	0.04	0.00	0.00	0.12	0.00	0.20
Avail Cap(c_a), veh/h	823	1642	1713	823	1642	1710	807	0	0	821	864	734
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.2	7.1	7.1	21.2	8.5	8.5	14.7	0.0	0.0	15.0	0.0	15.1
Incr Delay (d2), s/veh	1.4	0.6	0.6	3.9	1.4	1.4	0.1	0.0	0.0	0.3	0.0	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	0.4	1.7	1.8	0.1	3.0	3.2	0.2	0.0	0.0	0.5	0.0	0.6
LnGrp Delay(d),s/veh	21.6	7.7	7.7	25.1	10.0	9.9	14.8	0.0	0.0	15.3	0.0	15.8
LnGrp LOS	C	A	A	C	A	A	B			B		B
Approach Vol, veh/h		471			700			17			105	
Approach Delay, s/veh		8.5			10.1			14.8			15.6	
Approach LOS		A			B			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	4.5	26.0		12.7	5.7	24.7		12.7
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	2.2	5.2		2.4	2.7	7.8		3.3
Green Ext Time (p_c), s	0.0	6.9		0.1	0.0	10.8		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	10.0
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	52	515	26	58	697	43	152	38	213
v/c Ratio	0.23	0.35	0.04	0.25	0.47	0.06	0.36	0.08	0.50
Control Delay	31.3	13.3	0.1	31.3	14.2	1.4	24.1	0.3	24.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.3	13.3	0.1	31.3	14.2	1.4	24.1	0.3	24.4
Queue Length 50th (ft)	18	67	0	20	96	0	46	0	61
Queue Length 95th (ft)	57	123	0	61	168	7	115	0	150
Internal Link Dist (ft)		2598			1241		361		363
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	510	2383	1090	510	2383	1090	631	668	634
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.22	0.02	0.11	0.29	0.04	0.24	0.06	0.34

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	474	24	53	641	40	40	100	35	42	106	48
Future Volume (veh/h)	48	474	24	53	641	40	40	100	35	42	106	48
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	52	515	26	58	697	43	43	109	38	46	115	52
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	1453	650	120	1470	658	160	285	312	136	194	77
Arrive On Green	0.06	0.41	0.41	0.07	0.42	0.42	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	319	1446	1583	222	987	391
Grp Volume(v), veh/h	52	515	26	58	697	43	152	0	38	213	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1765	0	1583	1600	0	0
Q Serve(g_s), s	1.3	4.8	0.5	1.5	6.8	0.8	0.0	0.0	0.9	2.5	0.0	0.0
Cycle Q Clear(g_c), s	1.3	4.8	0.5	1.5	6.8	0.8	3.4	0.0	0.9	5.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.28		1.00	0.22		0.24
Lane Grp Cap(c), veh/h	111	1453	650	120	1470	658	444	0	312	407	0	0
V/C Ratio(X)	0.47	0.35	0.04	0.48	0.47	0.07	0.34	0.00	0.12	0.52	0.00	0.00
Avail Cap(c_a), veh/h	558	2599	1163	558	2599	1163	805	0	664	767	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.6	9.7	8.4	21.4	10.1	8.4	16.7	0.0	15.8	17.7	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.5	0.1	1.1	0.9	0.2	1.0	0.0	0.4	2.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.4	0.2	0.8	3.5	0.4	1.9	0.0	0.4	2.9	0.0	0.0
LnGrp Delay(d),s/veh	22.7	10.2	8.5	22.6	11.0	8.5	17.7	0.0	16.1	19.9	0.0	0.0
LnGrp LOS	C	B	A	C	B	A	B		B	B		
Approach Vol, veh/h		593			798			190			213	
Approach Delay, s/veh		11.2			11.7			17.4			19.9	
Approach LOS		B			B			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	7.2	26.1		14.4	7.0	26.3		14.4
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	15.0	35.0		20.0	15.0	35.0		20.0
Max Q Clear Time (g_c+I1), s	3.5	6.8		5.4	3.3	8.8		7.9
Green Ext Time (p_c), s	0.0	8.1		1.4	0.0	11.0		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	13.1
HCM 2010 LOS	B

Notes

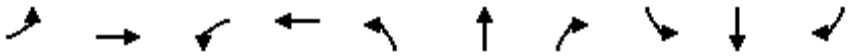
Intersection	
Int Delay, s/veh	4.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	133	168	22	184	222
Future Vol, veh/h	44	133	168	22	184	222
Conflicting Peds, #/hr	0	2	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	160	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	145	183	24	200	241

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	827	188	0	0	210	0
Stage 1	186	-	-	-	-	-
Stage 2	641	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	341	854	-	-	1361	-
Stage 1	846	-	-	-	-	-
Stage 2	525	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	290	850	-	-	1357	-
Mov Cap-2 Maneuver	377	-	-	-	-	-
Stage 1	843	-	-	-	-	-
Stage 2	448	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	3.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	377	850	1357	-
HCM Lane V/C Ratio	-	-	0.127	0.17	0.147	-
HCM Control Delay (s)	-	-	15.9	10.1	8.1	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.5	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	71	189	122	310	20	856	117	96	721	36
v/c Ratio	0.46	0.51	0.66	0.55	0.13	0.35	0.14	0.22	0.24	0.04
Control Delay	67.3	57.7	73.9	37.5	63.8	22.7	3.6	54.6	14.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.3	57.7	73.9	37.5	63.8	22.7	3.6	54.6	14.2	0.1
Queue Length 50th (ft)	60	77	104	84	8	165	0	39	112	0
Queue Length 95th (ft)	110	115	166	130	23	225	33	67	159	0
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	172	1138	194	1159	305	2475	824	432	3063	985
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.17	0.63	0.27	0.07	0.35	0.14	0.22	0.24	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	156	25	117	180	117	19	822	112	92	692	35
Future Volume (veh/h)	68	156	25	117	180	117	19	822	112	92	692	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	71	162	26	122	188	122	20	856	117	96	721	36
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	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	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	248	39	182	278	171	81	1424	443	1211	3121	970
Arrive On Green	0.05	0.08	0.08	0.10	0.13	0.13	0.02	0.28	0.28	0.70	1.00	1.00
Sat Flow, veh/h	1774	3064	483	1774	2095	1289	3442	5085	1582	3442	5085	1581
Grp Volume(v), veh/h	71	92	96	122	157	153	20	856	117	96	721	36
Grp Sat Flow(s),veh/h/ln	1774	1770	1777	1774	1770	1614	1721	1695	1582	1721	1695	1581
Q Serve(g_s), s	5.3	6.8	7.1	8.9	11.4	12.2	0.8	19.7	7.8	1.2	0.0	0.0
Cycle Q Clear(g_c), s	5.3	6.8	7.1	8.9	11.4	12.2	0.8	19.7	7.8	1.2	0.0	0.0
Prop In Lane	1.00		0.27	1.00		0.80	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	143	144	182	235	214	81	1424	443	1211	3121	970
V/C Ratio(X)	0.79	0.65	0.67	0.67	0.67	0.71	0.25	0.60	0.26	0.08	0.23	0.04
Avail Cap(c_a), veh/h	158	577	579	182	577	526	306	1424	443	1211	3121	970
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	0.95	0.95	0.95
Uniform Delay (d), s/veh	63.4	60.2	60.3	58.3	55.7	56.1	64.7	42.1	37.8	13.1	0.0	0.0
Incr Delay (d2), s/veh	5.6	8.8	9.5	7.4	7.5	9.9	0.2	0.6	0.5	0.0	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	3.7	3.9	4.8	6.1	6.1	0.4	9.3	3.4	0.5	0.0	0.0
LnGrp Delay(d),s/veh	69.0	69.0	69.8	65.8	63.2	65.9	64.9	42.7	38.3	13.1	0.2	0.1
LnGrp LOS	E	E	E	E	E	E	E	D	D	B	A	A
Approach Vol, veh/h		259			432			993			853	
Approach Delay, s/veh		69.3			64.9			42.6			1.6	
Approach LOS		E			E			D			A	

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	53.9	44.2	19.6	17.3	8.9	89.2	12.6	24.3
Change Period (Y+Rc), s	6.4	* 6.4	5.7	* 6.4	* 5.7	6.4	5.7	* 6.4
Max Green Setting (Gmax), s	17.0	* 38	12.0	* 44	* 12	42.8	12.0	* 44
Max Q Clear Time (g_c+I1), s	3.2	21.7	10.9	9.1	2.8	2.0	7.3	14.2
Green Ext Time (p_c), s	0.1	11.5	0.0	1.9	0.0	17.3	0.0	3.7

Intersection Summary	
HCM 2010 Ctrl Delay	35.4
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	5.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	274	12	352	407	33	236
Future Vol, veh/h	274	12	352	407	33	236
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	298	13	383	442	36	257

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	311	0	1513	305
Stage 1	-	-	-	-	305	-
Stage 2	-	-	-	-	1208	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1249	-	132	735
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	283	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1249	-	78	735
Mov Cap-2 Maneuver	-	-	-	-	144	-
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	168	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.2	15.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	144	735	-	-	1249	-
HCM Lane V/C Ratio	0.249	0.349	-	-	0.306	-
HCM Control Delay (s)	38.1	12.5	-	-	9.2	0
HCM Lane LOS	E	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	1.6	-	-	1.3	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	376	11	0	403	6	27	7	8	3	3	35
Future Vol, veh/h	104	376	11	0	403	6	27	7	8	3	3	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	113	409	12	0	438	7	29	8	9	3	3	38

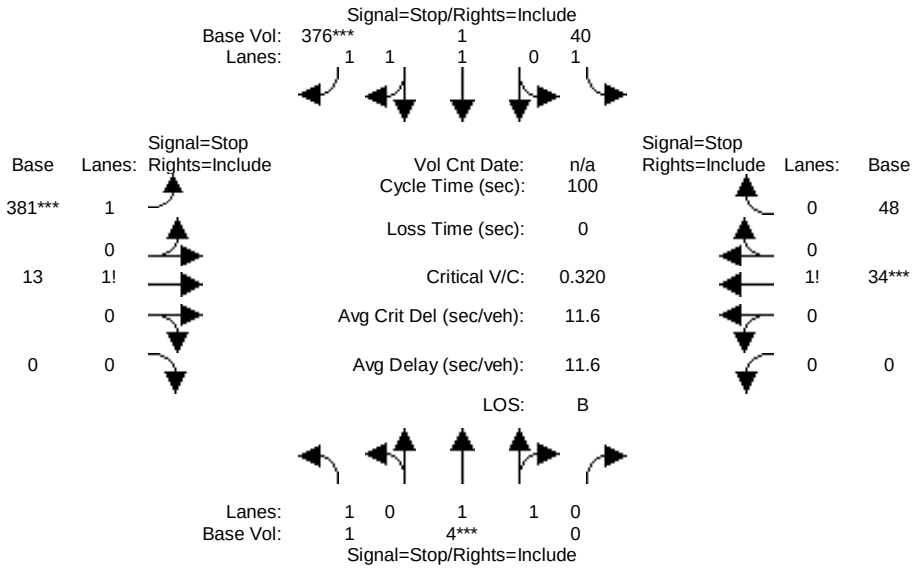
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	445	0	0	421	0	0	1103	1086	416	1093	1089	442
Stage 1	-	-	-	-	-	-	641	641	-	442	442	-
Stage 2	-	-	-	-	-	-	462	445	-	651	647	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1115	-	-	1138	-	-	189	216	637	192	215	615
Stage 1	-	-	-	-	-	-	463	469	-	594	576	-
Stage 2	-	-	-	-	-	-	580	575	-	457	467	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1115	-	-	1138	-	-	161	194	636	169	193	615
Mov Cap-2 Maneuver	-	-	-	-	-	-	161	194	-	169	193	-
Stage 1	-	-	-	-	-	-	416	422	-	534	576	-
Stage 2	-	-	-	-	-	-	541	575	-	397	420	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0	29.2	13.5
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	194	1115	-	-	1138	-	-	169	524
HCM Lane V/C Ratio	0.235	0.101	-	-	-	-	-	0.019	0.079
HCM Control Delay (s)	29.2	8.6	-	-	0	-	-	26.7	12.5
HCM Lane LOS	D	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.9	0.3	-	-	0	-	-	0.1	0.3

Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)
5 Year plus Phase 1 AM

Intersection #1: Cameron Ave/Court St



Street Name:	Court St						Cameron Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	1	4	0	40	1	376	381	13	0	0	34	48
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:	1	4	0	40	1	376	381	13	0	0	34	48
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:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	1	4	0	43	1	409	414	14	0	0	37	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	4	0	43	1	409	414	14	0	0	37	52
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:	1	4	0	43	1	409	414	14	0	0	37	52
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	2.00	0.00	1.00	1.00	2.00	1.93	0.07	0.00	0.00	0.41	0.59
Final Sat.:	443	945	0	525	565	1277	1570	-487	0	0	245	345
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	xxxx	0.08	0.00	0.32	0.26	-0.03	xxxx	xxxx	0.15	0.15
Crit Moves:		****				****	****				****	
Delay/Veh:	10.2	9.7	0.0	9.9	8.8	10.5	13.4	13.8	0.0	0.0	9.8	9.8
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:	10.2	9.7	0.0	9.9	8.8	10.5	13.4	13.8	0.0	0.0	9.8	9.8
LOS by Move:	B	A	*	A	A	B	B	B	*	*	A	A
ApproachDel:		9.8			10.5			13.2			9.8	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.8			10.5			13.2			9.8	
LOS by Appr:		A			B			B			A	
AllWayAvgQ:	0.0	0.0	0.0	0.1	0.0	0.4	0.6	0.6	0.6	0.2	0.2	0.2

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

Time Period: 0.25 hour				
HevVeh:	0%	0%	0%	0%
Alpha Value: 0.01				
GroupType:	6	6	5	4B

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P[C1]:	0.14	0.32	0.37	0.16
P[C2]:	0.18	0.00	0.06	0.27
P[C3]:	0.26	0.58	0.48	0.21
P[C4]:	0.37	0.09	0.09	0.35
P[C5]:	0.05	0.00	0.00	0.00
Padj[C1]:	0.020	0.015	0.013	0.018
Padj[C2]:	0.010	0.008	0.006	0.007
Padj[C3]:	-0.003	-0.016	-0.013	-0.003
Padj[C4]:	-0.022	-0.006	-0.005	-0.021
Padj[C5]:	-0.005	-0.000	-0.000	-0.000

Lanes:	L1	L2	L1	L2	L1	L2	L1	L2
LaneType:	LEFT	RTTHRU	LEFT	RITE	LEFT	LTR	LTR	NOLANE
HeadwayAdj:	0.500	0.000	0.500	-0.700	0.500	0.967	-0.351	xx.xxx
Volume:	1	2	43	204	214	214	89	xxxxxx
Capacity:	443	473	525	638	560	522	590	xxxxx
DegOfUtil:	0.00	0.00	0.08	0.31	0.37	0.40	0.14	x.xx
DepHeadway:	7.50	7.00	6.63	5.43	6.25	6.72	5.81	xx.xx
ServiceTime:	5.2	4.7	4.3	3.1	4.0	4.4	3.8	xx.x
Delay:	10.2	9.7	9.9	10.5	12.6	13.8	9.8	xxx.x
Queue:	0.0	0.0	0.1	0.4	0.6	0.6	0.2	xxx.x

Lanes:	L3	L4	L3	L4	L3	L4	L3	L4
LaneType:	THRU	NOLANE	RTTHRU	THRU	NOLANE	NOLANE	NOLANE	NOLANE
HeadwayAdj:	0.000	xx.xxx	-0.700	0.000	xx.xxx	xx.xxx	xx.xxx	xx.xxx
Volume:	2	xxxxxx	204	1	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Capacity:	473	xxxxx	638	565	xxxxx	xxxxx	xxxxx	xxxxx
DegOfUtil:	0.00	x.xx	0.31	0.00	x.xx	x.xx	x.xx	x.xx
DepHeadway:	7.00	xx.xx	5.43	6.13	xx.xx	xx.xx	xx.xx	xx.xx
ServiceTime:	4.7	xx.x	3.1	3.8	xx.x	xx.x	xx.x	xx.x
Delay:	9.7	xxx.x	10.5	8.8	xxx.x	xxx.x	xxx.x	xxx.x
Queue:	0.0	xxx.x	0.4	0.0	xxx.x	xxx.x	xxx.x	xxx.x

Approach:	North Bound	South Bound	East Bound	West Bound
ApproachDel:	9.8	10.5	13.2	9.8
Delay Adj:	1.00	1.00	1.00	1.00
ApprAdjDel:	9.8	10.5	13.2	9.8
LOS by Appr:	A	B	B	A

OverallDel: 11.6
OverallLOS: B

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1 Cameron Ave/Court St

****

Base Volume Alternative: Peak Hour Warrant NOT Met

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		
Lanes:	1 0	1 1	0	1 0	1 1	1	1 0	1! 0	0	0 0	0 1	0
Initial Vol:	1	4	0	40	1	376	381	13	0	0	34	48

Major Street Volume: 476
Minor Approach Volume: 417
Minor Approach Volume Threshold: 693

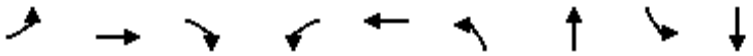
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	367	85	74	423	72	667	147	530
v/c Ratio	0.30	0.73	0.17	0.42	0.39	0.41	0.67	0.64	0.43
Control Delay	48.2	42.0	2.3	49.1	24.0	49.0	31.5	53.4	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	42.0	2.3	49.1	24.0	49.0	31.5	53.4	24.8
Queue Length 50th (ft)	23	185	0	38	86	37	158	74	111
Queue Length 95th (ft)	72	355	13	101	160	99	292	#186	221
Internal Link Dist (ft)		776			1573		775		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	324	500	514	324	1078	324	1470	324	1483
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.73	0.17	0.23	0.39	0.22	0.45	0.45	0.36

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	338	78	68	273	116	66	531	83	135	429	59
Future Volume (veh/h)	42	338	78	68	273	116	66	531	83	135	429	59
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		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	46	367	85	74	297	126	72	577	90	147	466	64
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	454	386	117	632	262	115	879	137	186	1021	139
Arrive On Green	0.05	0.24	0.24	0.07	0.26	0.26	0.07	0.29	0.29	0.10	0.33	0.33
Sat Flow, veh/h	1774	1863	1581	1774	2441	1013	1774	3060	476	1774	3123	427
Grp Volume(v), veh/h	46	367	85	74	213	210	72	333	334	147	263	267
Grp Sat Flow(s),veh/h/ln	1774	1863	1581	1774	1770	1684	1774	1770	1766	1774	1770	1781
Q Serve(g_s), s	1.7	12.8	3.0	2.8	7.0	7.3	2.7	11.4	11.5	5.6	8.1	8.2
Cycle Q Clear(g_c), s	1.7	12.8	3.0	2.8	7.0	7.3	2.7	11.4	11.5	5.6	8.1	8.2
Prop In Lane	1.00		1.00	1.00		0.60	1.00		0.27	1.00		0.24
Lane Grp Cap(c), veh/h	90	454	386	117	458	436	115	508	507	186	578	582
V/C Ratio(X)	0.51	0.81	0.22	0.63	0.47	0.48	0.62	0.66	0.66	0.79	0.45	0.46
Avail Cap(c_a), veh/h	385	540	458	385	513	488	385	884	882	385	884	890
HCM Platoon Ratio	1.00	1.00	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	31.9	24.6	20.9	31.4	21.6	21.7	31.5	21.6	21.6	30.2	18.4	18.4
Incr Delay (d2), s/veh	1.6	11.5	0.9	2.1	2.3	2.5	2.1	2.8	2.8	2.9	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	8.0	1.4	1.4	3.7	3.7	1.4	5.9	6.0	2.9	4.1	4.2
LnGrp Delay(d),s/veh	33.6	36.1	21.7	33.5	23.8	24.2	33.5	24.4	24.5	33.1	19.5	19.5
LnGrp LOS	C	D	C	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		498			497			739			677	
Approach Delay, s/veh		33.4			25.4			25.3			22.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	26.8	8.7	22.0	8.7	29.6	7.7	23.1
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 15	34.5	* 15	20.0	* 15	34.5	* 15	20.0
Max Q Clear Time (g_c+I1), s	7.6	13.5	4.8	14.8	4.7	10.2	3.7	9.3
Green Ext Time (p_c), s	0.1	6.3	0.0	2.0	0.0	5.3	0.0	3.4

Intersection Summary	
HCM 2010 Ctrl Delay	26.2
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	8.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	160	379	3	2	375	114	5	0	4	62	0	124
Future Vol, veh/h	160	379	3	2	375	114	5	0	4	62	0	124
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	174	412	3	2	408	124	5	0	4	67	0	135

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	532	0	0	415	0	0	1304	1298	414	1238	1237	470
Stage 1	-	-	-	-	-	-	762	762	-	474	474	-
Stage 2	-	-	-	-	-	-	542	536	-	764	763	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1036	-	-	1144	-	-	137	162	638	152	176	594
Stage 1	-	-	-	-	-	-	397	414	-	571	558	-
Stage 2	-	-	-	-	-	-	525	523	-	396	413	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1036	-	-	1144	-	-	92	134	638	131	146	594
Mov Cap-2 Maneuver	-	-	-	-	-	-	92	134	-	131	146	-
Stage 1	-	-	-	-	-	-	330	344	-	475	557	-
Stage 2	-	-	-	-	-	-	405	522	-	327	344	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	0	31	48.1
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	148	1036	-	-	1144	-	-	273
HCM Lane V/C Ratio	0.066	0.168	-	-	0.002	-	-	0.741
HCM Control Delay (s)	31	9.2	-	-	8.2	-	-	48.1
HCM Lane LOS	D	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.2	0.6	-	-	0	-	-	5.3

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	90	365	413	103	116	150
Future Vol, veh/h	90	365	413	103	116	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	397	449	112	126	163

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	561	0	-	0	1098	505
Stage 1	-	-	-	-	505	-
Stage 2	-	-	-	-	593	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1010	-	-	-	235	567
Stage 1	-	-	-	-	606	-
Stage 2	-	-	-	-	552	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1010	-	-	-	212	567
Mov Cap-2 Maneuver	-	-	-	-	212	-
Stage 1	-	-	-	-	547	-
Stage 2	-	-	-	-	552	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	27.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1010	-	-	-	212	567
HCM Lane V/C Ratio	0.097	-	-	-	0.595	0.288
HCM Control Delay (s)	8.9	-	-	-	44.2	13.9
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.3	-	-	-	3.4	1.2

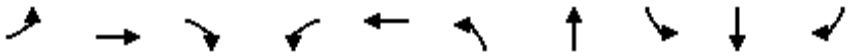
Intersection	
Int Delay, s/veh	42

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	376	62	119	370	13	90	0	244	7	0	15
Future Vol, veh/h	67	376	62	119	370	13	90	0	244	7	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	73	409	67	129	402	14	98	0	265	8	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	416	0	0	476	0	0	1265	1263	443	1388	1289	410
Stage 1	-	-	-	-	-	-	589	589	-	667	667	-
Stage 2	-	-	-	-	-	-	676	674	-	721	622	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1143	-	-	1086	-	-	146	170	615	120	164	642
Stage 1	-	-	-	-	-	-	494	495	-	448	457	-
Stage 2	-	-	-	-	-	-	443	454	-	419	479	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1143	-	-	1086	-	-	123	140	615	59	135	641
Mov Cap-2 Maneuver	-	-	-	-	-	-	123	140	-	59	135	-
Stage 1	-	-	-	-	-	-	462	463	-	419	403	-
Stage 2	-	-	-	-	-	-	380	400	-	223	448	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	2.1	164.6	32.4
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	296	1143	-	-	1086	-	-	155
HCM Lane V/C Ratio	1.226	0.064	-	-	0.119	-	-	0.154
HCM Control Delay (s)	164.6	8.4	-	-	8.8	-	-	32.4
HCM Lane LOS	F	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	16.6	0.2	-	-	0.4	-	-	0.5



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	313	221	177	253	238	186	843	86	657	113
v/c Ratio	1.13	0.54	0.36	0.92	0.59	0.79	0.80	0.50	0.55	0.23
Control Delay	133.8	38.9	6.7	82.3	40.0	66.9	40.2	55.2	36.1	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	133.8	38.9	6.7	82.3	40.0	66.9	40.2	55.2	36.1	2.8
Queue Length 50th (ft)	~239	128	0	161	138	114	250	53	131	0
Queue Length 95th (ft)	#510	198	49	#398	210	#272	#534	115	215	16
Internal Link Dist (ft)		765			339		249		1110	
Turn Bay Length (ft)	180			175		205		290		210
Base Capacity (vph)	277	454	519	277	452	277	1051	277	1329	533
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.49	0.34	0.91	0.53	0.67	0.80	0.31	0.49	0.21

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	288	203	163	233	207	12	171	669	107	79	604	104
Future Volume (veh/h)	288	203	163	233	207	12	171	669	107	79	604	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	313	221	177	253	225	13	186	727	116	86	657	113
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	321	342	291	290	290	17	223	899	143	111	1173	365
Arrive On Green	0.18	0.18	0.18	0.16	0.17	0.17	0.13	0.29	0.29	0.06	0.23	0.23
Sat Flow, veh/h	1774	1863	1583	1774	1744	101	1774	3058	488	1774	5085	1583
Grp Volume(v), veh/h	313	221	177	253	0	238	186	421	422	86	657	113
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1845	1774	1770	1776	1774	1695	1583
Q Serve(g_s), s	14.6	9.1	8.5	11.5	0.0	10.2	8.5	18.3	18.3	4.0	9.5	4.9
Cycle Q Clear(g_c), s	14.6	9.1	8.5	11.5	0.0	10.2	8.5	18.3	18.3	4.0	9.5	4.9
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	321	342	291	290	0	307	223	520	522	111	1173	365
V/C Ratio(X)	0.98	0.65	0.61	0.87	0.00	0.78	0.83	0.81	0.81	0.78	0.56	0.31
Avail Cap(c_a), veh/h	321	449	382	321	0	445	321	533	535	321	1532	477
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	31.4	31.1	33.9	0.0	33.1	35.4	27.1	27.1	38.3	28.2	26.4
Incr Delay (d2), s/veh	43.5	6.2	6.2	19.4	0.0	11.9	8.2	12.4	12.4	4.3	1.8	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	5.3	4.2	7.2	0.0	6.2	4.6	10.7	10.7	2.1	4.6	2.3
LnGrp Delay(d),s/veh	77.3	37.6	37.3	53.2	0.0	45.1	43.6	39.5	39.5	42.6	30.0	28.5
LnGrp LOS	E	D	D	D		D	D	D	D	D	C	C
Approach Vol, veh/h		711			491			1029			856	
Approach Delay, s/veh		55.0			49.3			40.3			31.1	
Approach LOS		D			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	31.2	19.3	21.6	16.1	25.9	20.7	20.2
Change Period (Y+Rc), s	* 5.7	6.8	* 5.7	6.4	* 5.7	6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 15	25.0	* 15	20.0	* 15	25.0	* 15	20.0
Max Q Clear Time (g_c+I1), s	6.0	20.3	13.5	11.1	10.5	11.5	16.6	12.2
Green Ext Time (p_c), s	0.1	3.4	0.1	2.5	0.1	7.7	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	42.5
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	236	6	20	0	0	359
Future Vol, veh/h	236	6	20	0	0	359
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	257	7	22	0	0	390

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	22	0	-	0	543	22
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	521	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1593	-	-	-	501	1055
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	596	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1593	-	-	-	420	1055
Mov Cap-2 Maneuver	-	-	-	-	420	-
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	596	-

Approach	EB	WB	SB
HCM Control Delay, s	7.5	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1593	-	-	-	1055
HCM Lane V/C Ratio	0.161	-	-	-	0.37
HCM Control Delay (s)	7.7	-	-	-	10.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.7



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	46	13	169	8	1090	35	878	38
v/c Ratio	0.19	0.03	0.54	0.04	0.62	0.17	0.45	0.04
Control Delay	22.2	0.2	16.5	25.1	13.7	25.8	9.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	0.2	16.5	25.1	13.7	25.8	9.6	0.1
Queue Length 50th (ft)	11	0	14	2	93	9	70	0
Queue Length 95th (ft)	40	0	70	14	260	36	187	0
Internal Link Dist (ft)	1563		335		1230		636	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	845	1031	887	482	1769	482	1937	901
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.01	0.19	0.02	0.62	0.07	0.45	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	12	86	0	70	7	957	46	32	808	35
Future Volume (veh/h)	42	0	12	86	0	70	7	957	46	32	808	35
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	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	46	0	13	93	0	76	8	1040	50	35	878	38
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	0	249	207	17	98	22	1467	71	81	1626	727
Arrive On Green	0.16	0.00	0.16	0.16	0.00	0.16	0.01	0.43	0.43	0.05	0.46	0.46
Sat Flow, veh/h	1339	0	1583	657	105	623	1774	3438	165	1774	3539	1582
Grp Volume(v), veh/h	46	0	13	169	0	0	8	535	555	35	878	38
Grp Sat Flow(s),veh/h/ln	1339	0	1583	1385	0	0	1774	1770	1834	1774	1770	1582
Q Serve(g_s), s	0.0	0.0	0.4	4.9	0.0	0.0	0.2	13.4	13.4	1.0	9.6	0.7
Cycle Q Clear(g_c), s	1.6	0.0	0.4	6.5	0.0	0.0	0.2	13.4	13.4	1.0	9.6	0.7
Prop In Lane	1.00		1.00	0.55		0.45	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	344	0	249	321	0	0	22	755	782	81	1626	727
V/C Ratio(X)	0.13	0.00	0.05	0.53	0.00	0.00	0.36	0.71	0.71	0.43	0.54	0.05
Avail Cap(c_a), veh/h	626	0	587	992	0	0	493	820	850	493	1641	733
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	19.3	22.0	0.0	0.0	26.4	12.7	12.7	25.1	10.5	8.1
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.5	0.0	0.0	3.6	5.3	5.1	1.4	1.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.2	2.4	0.0	0.0	0.1	7.7	7.9	0.5	4.9	0.3
LnGrp Delay(d),s/veh	19.9	0.0	19.3	22.5	0.0	0.0	30.0	18.0	17.9	26.4	11.6	8.2
LnGrp LOS	B		B	C			C	B	B	C	B	A
Approach Vol, veh/h		59			169			1098			951	
Approach Delay, s/veh		19.8			22.5			18.0			12.0	
Approach LOS		B			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	8.1	29.8		16.0	6.4	31.6		16.0
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 15	25.0		* 20	* 15	25.0		33.0
Max Q Clear Time (g_c+I1), s	3.0	15.4		3.6	2.2	11.6		8.5
Green Ext Time (p_c), s	0.0	7.6		0.1	0.0	8.8		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.9
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	32.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	7	149	30	19	16	50	1004	23	9	801	36
Future Vol, veh/h	33	7	149	30	19	16	50	1004	23	9	801	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	8	162	33	21	17	54	1091	25	10	871	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1575	2135	455	1672	2142	558	910	0	0	1116	0	0
Stage 1	911	911	-	1212	1212	-	-	-	-	-	-	-
Stage 2	664	1224	-	460	930	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	74	49	552	63	48	473	744	-	-	622	-	-
Stage 1	295	351	-	193	253	-	-	-	-	-	-	-
Stage 2	416	250	-	551	344	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	42	45	552	36	44	473	744	-	-	622	-	-
Mov Cap-2 Maneuver	42	45	-	36	44	-	-	-	-	-	-	-
Stage 1	273	345	-	179	235	-	-	-	-	-	-	-
Stage 2	339	232	-	375	338	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	236.3	$ 403.2	0.5	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	744	-	-	156	50	622	-	-
HCM Lane V/C Ratio	0.073	-	-	1.317	1.413	0.016	-	-
HCM Control Delay (s)	10.2	-	-	236.3	$ 403.2	10.9	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	12.4	6.6	0	-	-

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



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	52	79	1017	44	964
v/c Ratio	0.13	0.18	0.33	0.42	0.21	0.44
Control Delay	18.3	15.2	30.1	11.9	30.0	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	15.2	30.1	11.9	30.0	14.5
Queue Length 50th (ft)	8	8	27	81	15	135
Queue Length 95th (ft)	29	34	74	306	49	#327
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	563	605	491	2416	491	2202
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.09	0.16	0.42	0.09	0.44

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1	10	22	2	26	75	953	13	42	839	77
Future Volume (veh/h)	22	1	10	22	2	26	75	953	13	42	839	77
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		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	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	23	1	11	23	2	27	79	1003	14	44	883	81
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	28	57	156	37	98	141	1588	22	97	1373	126
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.08	0.44	0.44	0.05	0.42	0.42
Sat Flow, veh/h	806	233	477	445	307	812	1774	3574	50	1774	3271	300
Grp Volume(v), veh/h	35	0	0	52	0	0	79	497	520	44	478	486
Grp Sat Flow(s),veh/h/ln	1516	0	0	1564	0	0	1774	1770	1854	1774	1770	1802
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	2.2	11.0	11.0	1.2	10.9	10.9
Cycle Q Clear(g_c), s	0.9	0.0	0.0	1.4	0.0	0.0	2.2	11.0	11.0	1.2	10.9	10.9
Prop In Lane	0.66		0.31	0.44		0.52	1.00		0.03	1.00		0.17
Lane Grp Cap(c), veh/h	300	0	0	291	0	0	141	787	824	97	743	756
V/C Ratio(X)	0.12	0.00	0.00	0.18	0.00	0.00	0.56	0.63	0.63	0.45	0.64	0.64
Avail Cap(c_a), veh/h	751	0	0	760	0	0	524	872	913	524	872	888
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	0.0	20.2	0.0	0.0	22.5	10.9	10.9	23.3	11.7	11.7
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.5	0.0	0.0	1.3	3.6	3.5	1.2	4.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.7	0.0	0.0	1.1	6.0	6.3	0.6	6.1	6.2
LnGrp Delay(d),s/veh	20.3	0.0	0.0	20.7	0.0	0.0	23.8	14.5	14.3	24.5	15.7	15.6
LnGrp LOS	C			C			C	B	B	C	B	B
Approach Vol, veh/h		35			52			1096			1008	
Approach Delay, s/veh		20.3			20.7			15.1			16.1	
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	8.5	30.5		11.8	9.7	29.2		11.8
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 15	25.0		* 22	* 15	25.0		* 22
Max Q Clear Time (g_c+I1), s	3.2	13.0		2.9	4.2	12.9		3.4
Green Ext Time (p_c), s	0.0	8.7		0.2	0.0	8.4		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.8
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	320	69	0	452	0	10
Future Vol, veh/h	320	69	0	452	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	348	75	0	491	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	386
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	662
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	662
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	662	-	-	-
HCM Lane V/C Ratio	0.016	-	-	-
HCM Control Delay (s)	10.5	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	270	50	52	437	7	0	0	9	0	0	18
Future Vol, veh/h	10	270	50	52	437	7	0	0	9	0	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	293	54	57	475	8	0	0	10	0	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	483	0	0	347	0	0	-	-	320	-	-	479
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	-	6.22	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	-	3.318	-	-	3.318
Pot Cap-1 Maneuver	1080	-	-	1212	-	-	0	0	721	0	0	587
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1080	-	-	1212	-	-	-	-	721	-	-	587
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.9	10.1	11.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	721	1080	-	-	1212	-	-	587
HCM Lane V/C Ratio	0.014	0.01	-	-	0.047	-	-	0.033
HCM Control Delay (s)	10.1	8.4	-	-	8.1	-	-	11.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	282	0	0	496	0	26
Future Vol, veh/h	282	0	0	496	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	307	0	0	539	0	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	307
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	733
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	733
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	733	-	-	-
HCM Lane V/C Ratio	0.039	-	-	-
HCM Control Delay (s)	10.1	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	189	379	3	0	58
Future Vol, veh/h	119	189	379	3	0	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	205	412	3	0	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	415	0	-	0	877	414
Stage 1	-	-	-	-	414	-
Stage 2	-	-	-	-	463	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1144	-	-	-	319	638
Stage 1	-	-	-	-	667	-
Stage 2	-	-	-	-	634	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1144	-	-	-	278	638
Mov Cap-2 Maneuver	-	-	-	-	278	-
Stage 1	-	-	-	-	582	-
Stage 2	-	-	-	-	634	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1144	-	-	-	-	638
HCM Lane V/C Ratio	0.113	-	-	-	-	0.099
HCM Control Delay (s)	8.5	0	-	-	0	11.3
HCM Lane LOS	A	A	-	-	A	B
HCM 95th %tile Q(veh)	0.4	-	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	66	0	0	63	0	878	25	0	858	126
Future Vol, veh/h	0	0	66	0	0	63	0	878	25	0	858	126
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	72	0	0	68	0	954	27	0	933	137

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	467	-	-	491	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	542	0	0	523	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	542	-	-	523	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.7	12.9	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	542	523	-	-
HCM Lane V/C Ratio	-	-	0.132	0.131	-	-
HCM Control Delay (s)	-	-	12.7	12.9	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.5	0.4	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	87	0	0	53	171	850	27	54	779	98
Future Vol, veh/h	0	0	87	0	0	53	171	850	27	54	779	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	95	0	0	58	186	924	29	59	847	107

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	424	-	-	477	954	0	0	953	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	579	0	0	534	716	-	-	717	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	579	-	-	534	716	-	-	717	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.4	12.6	1.9	0.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	716	-	-	579	534	717	-	-
HCM Lane V/C Ratio	0.26	-	-	0.163	0.108	0.082	-	-
HCM Control Delay (s)	11.8	-	-	12.4	12.6	10.5	-	-
HCM Lane LOS	B	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	1	-	-	0.6	0.4	0.3	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	52	100	0	0	56
Future Vol, veh/h	26	52	100	0	0	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	57	109	0	0	61

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	109	0	-	0	222	109
Stage 1	-	-	-	-	109	-
Stage 2	-	-	-	-	113	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1481	-	-	-	766	945
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	912	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1481	-	-	-	751	945
Mov Cap-2 Maneuver	-	-	-	-	751	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	912	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1481	-	-	-	945
HCM Lane V/C Ratio	0.019	-	-	-	0.064
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	22	58	0	0	42
Future Vol, veh/h	30	22	58	0	0	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	24	63	0	0	46

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	63	0	-	0	153	63
Stage 1	-	-	-	-	63	-
Stage 2	-	-	-	-	90	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1540	-	-	-	839	1002
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	934	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1540	-	-	-	821	1002
Mov Cap-2 Maneuver	-	-	-	-	821	-
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	934	-

Approach	EB	WB	SB
HCM Control Delay, s	4.3	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1540	-	-	-	1002
HCM Lane V/C Ratio	0.021	-	-	-	0.046
HCM Control Delay (s)	7.4	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	10	33	0	0	25
Future Vol, veh/h	12	10	33	0	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	11	36	0	0	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	36	0	-	0	73	36
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	37	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1575	-	-	-	931	1037
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	985	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1575	-	-	-	924	1037
Mov Cap-2 Maneuver	-	-	-	-	924	-
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	SB
HCM Control Delay, s	4	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1575	-	-	-	1037
HCM Lane V/C Ratio	0.008	-	-	-	0.026
HCM Control Delay (s)	7.3	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	18	0	0	15
Future Vol, veh/h	0	10	18	0	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	20	0	0	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	31	20
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1596	-	-	-	983	1058
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1596	-	-	-	983	1058
Mov Cap-2 Maneuver	-	-	-	-	983	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1596	-	-	-	1058
HCM Lane V/C Ratio	-	-	-	-	0.015
HCM Control Delay (s)	0	-	-	-	8.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

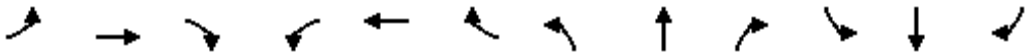
Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	15	0	0	0	0
Future Vol, veh/h	26	15	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	16	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	1044	-	-
HCM Lane V/C Ratio	-	-	0.043	-	-
HCM Control Delay (s)	0	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	93	233	211	243	231	63	245	1189	248	110	1305	84
v/c Ratio	0.28	0.47	0.53	0.74	0.47	0.18	0.69	0.44	0.27	0.52	0.52	0.10
Control Delay	63.1	59.2	10.8	78.0	59.1	1.1	58.0	16.3	8.4	74.1	27.3	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.1	59.2	10.8	78.0	59.1	1.1	58.0	16.3	8.4	74.1	27.3	2.0
Queue Length 50th (ft)	42	110	0	116	110	0	119	109	9	53	291	0
Queue Length 95th (ft)	73	133	65	164	128	0	173	248	103	84	430	16
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	334	878	545	361	951	536	355	2726	903	355	2516	827
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.27	0.39	0.67	0.24	0.12	0.69	0.44	0.27	0.31	0.52	0.10

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	226	205	236	224	61	238	1153	241	107	1266	81
Future Volume (veh/h)	90	226	205	236	224	61	238	1153	241	107	1266	81
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		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	93	233	211	243	231	63	245	1189	248	110	1305	84
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	502	612	269	285	389	173	670	2705	832	156	1922	596
Arrive On Green	0.15	0.17	0.17	0.08	0.11	0.11	0.39	1.00	1.00	0.05	0.38	0.38
Sat Flow, veh/h	3442	3539	1554	3442	3539	1579	3442	5085	1564	3442	5085	1576
Grp Volume(v), veh/h	93	233	211	243	231	63	245	1189	248	110	1305	84
Grp Sat Flow(s),veh/h/ln	1721	1770	1554	1721	1770	1579	1721	1695	1564	1721	1695	1576
Q Serve(g_s), s	3.4	8.5	18.8	10.1	9.0	4.6	7.4	0.0	0.0	4.6	31.1	5.1
Cycle Q Clear(g_c), s	3.4	8.5	18.8	10.1	9.0	4.6	7.4	0.0	0.0	4.6	31.1	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	502	612	269	285	389	173	670	2705	832	156	1922	596
V/C Ratio(X)	0.19	0.38	0.78	0.85	0.59	0.36	0.37	0.44	0.30	0.70	0.68	0.14
Avail Cap(c_a), veh/h	502	879	386	285	952	425	670	2705	832	356	1922	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	53.1	57.4	65.6	61.5	43.8	37.9	0.0	0.0	68.2	37.7	29.6
Incr Delay (d2), s/veh	0.1	0.8	10.5	20.5	2.8	2.5	0.1	0.4	0.7	2.2	2.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	4.2	8.9	5.6	4.6	2.4	3.4	0.1	0.2	2.2	14.8	2.3
LnGrp Delay(d),s/veh	54.4	53.8	67.9	86.1	64.3	46.2	38.0	0.4	0.7	70.4	39.7	30.1
LnGrp LOS	D	D	E	F	E	D	D	A	A	E	D	C
Approach Vol, veh/h		537			537			1682			1499	
Approach Delay, s/veh		59.4			72.0			5.9			41.4	
Approach LOS		E			E			A			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	12.3	83.5	17.7	31.5	34.6	61.2	26.9	22.3
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 15	54.8	12.0	* 36	15.0	* 55	12.0	* 39
Max Q Clear Time (g_c+I1), s	6.6	2.0	12.1	20.8	9.4	33.1	5.4	11.0
Green Ext Time (p_c), s	0.1	24.8	0.0	3.3	0.2	14.7	0.1	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	33.5
HCM 2010 LOS	C

Notes



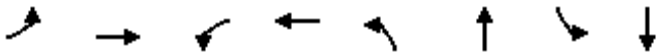
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	134	243	1	198	96	22	110	15	187
v/c Ratio	0.40	0.28	0.00	0.37	0.19	0.05	0.31	0.03	0.34
Control Delay	22.7	9.3	23.0	17.5	7.1	14.8	18.5	15.4	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.7	9.3	23.0	17.5	7.1	14.8	18.5	15.4	5.3
Queue Length 50th (ft)	30	28	0	41	3	4	23	3	0
Queue Length 95th (ft)	89	109	4	109	34	20	70	16	40
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	634	1302	634	1310	1136	1015	827	1114	1021
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.19	0.00	0.15	0.08	0.02	0.13	0.01	0.18

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	213	10	1	182	88	7	11	2	101	14	172
Future Volume (veh/h)	123	213	10	1	182	88	7	11	2	101	14	172
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	134	232	11	1	198	96	8	12	2	110	15	187
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	685	32	5	495	421	213	247	32	508	404	343
Arrive On Green	0.12	0.39	0.39	0.00	0.27	0.27	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	1764	84	1774	1863	1583	345	1142	149	1394	1863	1583
Grp Volume(v), veh/h	134	0	243	1	198	96	22	0	0	110	15	187
Grp Sat Flow(s),veh/h/ln	1774	0	1848	1774	1863	1583	1635	0	0	1394	1863	1583
Q Serve(g_s), s	2.5	0.0	3.3	0.0	3.1	1.7	0.0	0.0	0.0	1.9	0.2	3.7
Cycle Q Clear(g_c), s	2.5	0.0	3.3	0.0	3.1	1.7	0.3	0.0	0.0	2.3	0.2	3.7
Prop In Lane	1.00		0.05	1.00		1.00	0.36		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	220	0	717	5	495	421	492	0	0	508	404	343
V/C Ratio(X)	0.61	0.00	0.34	0.20	0.40	0.23	0.04	0.00	0.00	0.22	0.04	0.55
Avail Cap(c_a), veh/h	748	0	1559	748	1572	1336	1230	0	0	1186	1310	1113
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	7.7	17.7	10.7	10.2	11.0	0.0	0.0	11.8	11.0	12.4
Incr Delay (d2), s/veh	1.0	0.0	0.5	7.1	0.9	0.5	0.1	0.0	0.0	0.4	0.1	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	1.7	0.0	1.7	0.8	0.2	0.0	0.0	1.0	0.1	1.8
LnGrp Delay(d),s/veh	15.8	0.0	8.1	24.8	11.6	10.7	11.1	0.0	0.0	12.1	11.1	14.7
LnGrp LOS	B		A	C	B	B	B			B	B	B
Approach Vol, veh/h		377			295			22			312	
Approach Delay, s/veh		10.9			11.4			11.1			13.6	
Approach LOS		B			B			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	4.1	18.8		12.7	8.4	14.5		12.7
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	15.0	30.0		25.0	15.0	30.0		25.0
Max Q Clear Time (g_c+I1), s	2.0	5.3		2.3	4.5	5.1		5.7
Green Ext Time (p_c), s	0.0	2.2		0.1	0.1	2.3		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	11.9
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	204	136	20	124	92	1450	75	1732
v/c Ratio	0.55	0.30	0.11	0.59	0.50	0.58	0.59	0.74
Control Delay	58.4	12.8	55.3	22.6	68.6	27.8	94.3	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.4	12.8	55.3	22.6	68.6	27.8	94.3	16.1
Queue Length 50th (ft)	177	3	19	2	81	173	62	496
Queue Length 95th (ft)	267	72	41	67	120	332	m118	133
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	373	554	204	475	183	2502	183	2328
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.25	0.10	0.26	0.50	0.58	0.41	0.74

Intersection Summary

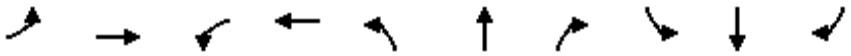
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	5	122	19	2	113	86	1331	18	70	1517	94
Future Volume (veh/h)	190	5	122	19	2	113	86	1331	18	70	1517	94
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		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	204	5	131	20	2	122	92	1431	19	75	1631	101
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	6	156	109	2	148	435	3215	43	93	2072	128
Arrive On Green	0.07	0.10	0.10	0.06	0.09	0.09	0.49	1.00	1.00	0.11	0.85	0.85
Sat Flow, veh/h	1774	59	1534	1774	26	1562	1774	5170	69	1774	4886	302
Grp Volume(v), veh/h	204	0	136	20	0	124	92	938	512	75	1131	601
Grp Sat Flow(s),veh/h/ln	1774	0	1592	1774	0	1587	1774	1695	1849	1774	1695	1798
Q Serve(g_s), s	10.0	0.0	12.2	1.6	0.0	11.1	4.3	0.0	0.0	6.0	22.1	22.2
Cycle Q Clear(g_c), s	10.0	0.0	12.2	1.6	0.0	11.1	4.3	0.0	0.0	6.0	22.1	22.2
Prop In Lane	1.00		0.96	1.00		0.98	1.00		0.04	1.00		0.17
Lane Grp Cap(c), veh/h	122	0	162	109	0	150	435	2108	1149	93	1438	763
V/C Ratio(X)	1.67	0.00	0.84	0.18	0.00	0.83	0.21	0.45	0.45	0.80	0.79	0.79
Avail Cap(c_a), veh/h	122	0	384	122	0	383	435	2108	1149	184	1438	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.88	0.88	0.88	0.82	0.82	0.82
Uniform Delay (d), s/veh	67.5	0.0	63.9	64.6	0.0	64.5	28.9	0.0	0.0	64.1	8.0	8.0
Incr Delay (d2), s/veh	333.4	0.0	8.2	0.3	0.0	8.3	0.1	0.6	1.1	4.9	3.6	6.7
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	16.2	0.0	5.7	0.8	0.0	5.2	2.1	0.2	0.4	3.1	10.3	11.6
LnGrp Delay(d),s/veh	400.9	0.0	72.1	64.9	0.0	72.8	29.0	0.6	1.1	69.0	11.6	14.7
LnGrp LOS	F		E	E		E	C	A	A	E	B	B
Approach Vol, veh/h		340			144			1542			1807	
Approach Delay, s/veh		269.4			71.7			2.5			15.0	
Approach LOS		F			E			A			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	13.3	96.6	14.6	20.5	42.0	67.9	15.7	19.4
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	6.4	* 6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 15	61.5	* 10	* 35	15.0	* 62	* 10	* 35
Max Q Clear Time (g_c+I1), s	8.0	2.0	3.6	14.2	6.3	24.2	12.0	13.1
Green Ext Time (p_c), s	0.0	28.2	0.0	0.6	0.1	26.8	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	34.7
HCM 2010 LOS	C

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	19	45	68	89	73	1316	57	172	1585	38
v/c Ratio	0.17	0.23	0.57	0.34	0.21	0.47	0.06	0.76	0.54	0.04
Control Delay	65.9	16.6	83.4	16.2	56.8	23.3	2.2	101.3	6.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	16.6	83.4	16.2	56.8	23.3	2.2	101.3	6.6	0.1
Queue Length 50th (ft)	17	2	63	9	30	287	3	172	53	0
Queue Length 95th (ft)	45	33	115	49	44	292	9	m#272	302	m1
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	158	485	158	517	355	2818	900	226	2940	945
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.09	0.43	0.17	0.21	0.47	0.06	0.76	0.54	0.04

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	2	40	64	9	74	69	1237	54	162	1490	36
Future Volume (veh/h)	18	2	40	64	9	74	69	1237	54	162	1490	36
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		0.98	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	19	2	43	68	10	79	73	1316	57	172	1585	38
Adj No. of Lanes	1	1	0	1	1	0	2	3	1	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	7	142	86	19	151	1152	2993	910	184	1792	556
Arrive On Green	0.04	0.09	0.09	0.05	0.11	0.11	0.67	1.00	1.00	0.21	0.70	0.70
Sat Flow, veh/h	1774	70	1495	1774	180	1419	3442	5085	1547	1774	5085	1577
Grp Volume(v), veh/h	19	0	45	68	0	89	73	1316	57	172	1585	38
Grp Sat Flow(s),veh/h/ln	1774	0	1565	1774	0	1598	1721	1695	1547	1774	1695	1577
Q Serve(g_s), s	1.5	0.0	3.9	5.5	0.0	7.6	1.1	0.0	0.0	13.8	35.4	1.1
Cycle Q Clear(g_c), s	1.5	0.0	3.9	5.5	0.0	7.6	1.1	0.0	0.0	13.8	35.4	1.1
Prop In Lane	1.00		0.96	1.00		0.89	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	65	0	148	86	0	170	1152	2993	910	184	1792	556
V/C Ratio(X)	0.29	0.00	0.30	0.79	0.00	0.52	0.06	0.44	0.06	0.94	0.88	0.07
Avail Cap(c_a), veh/h	159	0	453	159	0	463	1152	2993	910	184	1792	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.83	0.83	0.83	0.60	0.60	0.60
Uniform Delay (d), s/veh	68.0	0.0	61.2	68.2	0.0	61.3	16.1	0.0	0.0	57.0	19.1	14.0
Incr Delay (d2), s/veh	0.9	0.0	0.4	5.9	0.0	1.8	0.0	0.4	0.1	34.8	4.3	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	0.8	0.0	1.7	2.8	0.0	3.5	0.5	0.1	0.0	8.5	16.7	0.5
LnGrp Delay(d),s/veh	69.0	0.0	61.6	74.2	0.0	63.1	16.1	0.4	0.1	91.8	23.3	14.2
LnGrp LOS	E		E	E		E	B	A	A	F	C	B
Approach Vol, veh/h		64			157			1446			1795	
Approach Delay, s/veh		63.8			67.9			1.2			29.7	
Approach LOS		E			E			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.7	91.7	12.7	19.8	54.9	57.5	11.0	21.6
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 15	51.1	13.0	* 42	15.0	* 51	13.0	* 42
Max Q Clear Time (g_c+I1), s	15.8	2.0	7.5	5.9	3.1	37.4	3.5	9.6
Green Ext Time (p_c), s	0.0	26.1	0.0	0.2	0.1	11.4	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	20.2
HCM 2010 LOS	C

Notes

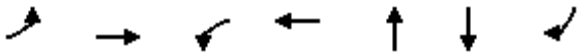
Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	1069	42	34	869	20	17	0	32	18	0	35
Future Vol, veh/h	24	1069	42	34	869	20	17	0	32	18	0	35
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	1114	44	35	905	21	18	0	33	19	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	931	0	0	1158	0	0	1709	2187	579	1598	2199	468
Stage 1	-	-	-	-	-	-	1186	1186	-	991	991	-
Stage 2	-	-	-	-	-	-	523	1001	-	607	1208	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	731	-	-	599	-	-	59	45	458	71	44	542
Stage 1	-	-	-	-	-	-	200	260	-	264	322	-
Stage 2	-	-	-	-	-	-	505	319	-	450	254	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	728	-	-	599	-	-	46	36	458	55	35	539
Mov Cap-2 Maneuver	-	-	-	-	-	-	46	36	-	55	35	-
Stage 1	-	-	-	-	-	-	180	235	-	237	282	-
Stage 2	-	-	-	-	-	-	414	279	-	376	229	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1	61.6	49
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	112	728	-	-	599	-	-	135
HCM Lane V/C Ratio	0.456	0.034	-	-	0.059	-	-	0.409
HCM Control Delay (s)	61.6	10.1	0.5	-	11.4	0.6	-	49
HCM Lane LOS	F	B	A	-	B	A	-	E
HCM 95th %tile Q(veh)	2	0.1	-	-	0.2	-	-	1.8



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	52	926	69	825	70	16	10
v/c Ratio	0.19	0.33	0.23	0.29	0.23	0.05	0.03
Control Delay	37.2	15.1	36.3	14.2	23.5	29.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.2	15.1	36.3	14.2	23.5	29.5	0.1
Queue Length 50th (ft)	16	64	21	54	9	5	0
Queue Length 95th (ft)	78	247	97	213	67	27	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	833	3678	833	3697	815	877	825
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.25	0.08	0.22	0.09	0.02	0.01

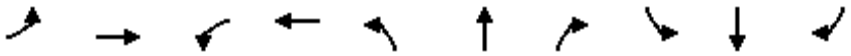
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	852	19	65	763	12	28	1	37	14	1	9
Future Volume (veh/h)	49	852	19	65	763	12	28	1	37	14	1	9
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	52	906	20	69	812	13	30	1	39	15	1	10
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	2206	49	129	2283	37	52	2	68	65	4	60
Arrive On Green	0.06	0.43	0.43	0.07	0.44	0.44	0.07	0.07	0.07	0.04	0.04	0.04
Sat Flow, veh/h	1774	5117	113	1774	5153	82	713	24	927	1668	111	1557
Grp Volume(v), veh/h	52	600	326	69	534	291	70	0	0	16	0	10
Grp Sat Flow(s),veh/h/ln	1774	1695	1839	1774	1695	1846	1664	0	0	1779	0	1557
Q Serve(g_s), s	1.5	6.4	6.4	2.0	5.4	5.4	2.1	0.0	0.0	0.5	0.0	0.3
Cycle Q Clear(g_c), s	1.5	6.4	6.4	2.0	5.4	5.4	2.1	0.0	0.0	0.5	0.0	0.3
Prop In Lane	1.00		0.06	1.00		0.04	0.43		0.56	0.94		1.00
Lane Grp Cap(c), veh/h	108	1462	793	129	1502	818	122	0	0	69	0	60
V/C Ratio(X)	0.48	0.41	0.41	0.53	0.36	0.36	0.57	0.00	0.00	0.23	0.00	0.17
Avail Cap(c_a), veh/h	681	2604	1413	681	2604	1418	639	0	0	683	0	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.7	10.2	10.2	23.3	9.6	9.6	23.3	0.0	0.0	24.3	0.0	24.2
Incr Delay (d2), s/veh	1.2	0.5	0.9	1.3	0.4	0.7	3.1	0.0	0.0	1.3	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.0	3.4	1.0	2.6	2.9	1.1	0.0	0.0	0.2	0.0	0.2
LnGrp Delay(d),s/veh	24.9	10.7	11.2	24.6	10.0	10.3	26.5	0.0	0.0	25.5	0.0	25.2
LnGrp LOS	C	B	B	C	A	B	C			C		C
Approach Vol, veh/h		978			894			70			26	
Approach Delay, s/veh		11.6			11.2			26.5			25.4	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.8	28.5		7.0	7.2	29.1		8.8
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	4.0	8.4		2.5	3.5	7.4		4.1
Green Ext Time (p_c), s	0.1	14.1		0.0	0.0	12.5		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	284	784	279	511	353	1135	181	192	1384	122
v/c Ratio	0.53	0.68	0.78	0.57	0.75	0.53	0.25	0.66	0.74	0.19
Control Delay	60.4	47.9	77.9	51.3	54.9	25.5	12.0	84.4	15.1	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.4	47.9	77.9	51.3	54.9	25.5	12.0	84.4	15.1	1.3
Queue Length 50th (ft)	124	224	133	153	139	122	6	78	272	1
Queue Length 95th (ft)	#204	245	#198	160	191	338	m105	111	#324	0
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	535	1486	377	1489	473	2132	724	355	1860	641
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.53	0.74	0.34	0.75	0.53	0.25	0.54	0.74	0.19

Intersection Summary

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

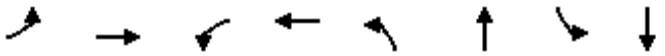
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	489	256	265	383	103	335	1078	172	182	1315	116
Future Volume (veh/h)	270	489	256	265	383	103	335	1078	172	182	1315	116
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	284	515	269	279	403	108	353	1135	181	192	1384	122
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	541	804	372	324	701	181	695	2201	684	237	1501	458
Arrive On Green	0.16	0.24	0.24	0.09	0.17	0.17	0.40	0.87	0.87	0.14	0.59	0.59
Sat Flow, veh/h	3442	3390	1569	3442	4025	1040	3442	5085	1580	3442	5085	1552
Grp Volume(v), veh/h	284	515	269	279	337	174	353	1135	181	192	1384	122
Grp Sat Flow(s),veh/h/ln	1721	1695	1569	1721	1695	1675	1721	1695	1580	1721	1695	1552
Q Serve(g_s), s	11.0	19.8	22.9	11.6	13.2	13.9	11.2	7.8	2.0	7.9	35.5	5.5
Cycle Q Clear(g_c), s	11.0	19.8	22.9	11.6	13.2	13.9	11.2	7.8	2.0	7.9	35.5	5.5
Prop In Lane	1.00		1.00	1.00		0.62	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	541	804	372	324	590	292	695	2201	684	237	1501	458
V/C Ratio(X)	0.53	0.64	0.72	0.86	0.57	0.60	0.51	0.52	0.26	0.81	0.92	0.27
Avail Cap(c_a), veh/h	541	1005	465	356	1005	497	695	2201	684	356	1501	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.95	0.95	0.95	0.92	0.92	0.92	0.80	0.80	0.80	0.83	0.83	0.83
Uniform Delay (d), s/veh	56.1	49.8	50.9	64.7	54.9	55.2	37.8	6.0	2.7	61.6	28.2	22.1
Incr Delay (d2), s/veh	0.4	1.6	5.9	15.2	1.6	3.5	0.2	0.7	0.8	3.9	9.3	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	5.3	9.5	10.5	6.2	6.3	6.7	5.3	3.6	1.1	3.8	17.6	2.5
LnGrp Delay(d),s/veh	56.6	51.4	56.8	79.9	56.5	58.7	38.0	6.7	3.4	65.5	37.5	23.2
LnGrp LOS	E	D	E	E	E	E	D	A	A	E	D	C
Approach Vol, veh/h		1068			790			1669			1698	
Approach Delay, s/veh		54.1			65.2			13.0			39.6	
Approach LOS		D			E			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	15.7	69.2	19.4	40.8	35.7	49.2	28.5	31.7
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 15	47.8	15.0	* 43	20.0	* 43	15.0	* 43
Max Q Clear Time (g_c+I1), s	9.9	9.8	13.6	24.9	13.2	37.5	13.0	15.9
Green Ext Time (p_c), s	0.1	21.1	0.1	7.7	0.4	4.7	0.1	5.8

Intersection Summary	
HCM 2010 Ctrl Delay	38.0
HCM 2010 LOS	D

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	109	798	152	743	82	181	158	104
v/c Ratio	0.52	0.53	0.63	0.42	0.17	0.44	0.38	0.27
Control Delay	46.0	25.6	48.6	22.5	17.6	11.0	20.3	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.0	25.6	48.6	22.5	17.6	11.0	20.3	12.5
Queue Length 50th (ft)	49	106	68	92	25	10	51	10
Queue Length 95th (ft)	131	221	#176	202	59	64	104	52
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	344	1955	344	1957	588	654	479	607
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.41	0.44	0.38	0.14	0.28	0.33	0.17

Intersection Summary

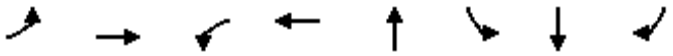
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	678	80	144	606	100	78	23	149	150	23	76
Future Volume (veh/h)	104	678	80	144	606	100	78	23	149	150	23	76
Number	5	2	12	1	6	16	7	4	14	3	8	18
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		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	109	714	84	152	638	105	82	24	157	158	24	80
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	1475	172	194	1524	248	429	35	228	376	72	240
Arrive On Green	0.08	0.32	0.32	0.11	0.35	0.35	0.07	0.16	0.16	0.11	0.19	0.19
Sat Flow, veh/h	1774	4604	537	1774	4409	716	1774	214	1401	1774	373	1242
Grp Volume(v), veh/h	109	524	274	152	489	254	82	0	181	158	0	104
Grp Sat Flow(s),veh/h/ln	1774	1695	1750	1774	1695	1735	1774	0	1615	1774	0	1615
Q Serve(g_s), s	3.6	7.4	7.5	5.0	6.6	6.7	2.2	0.0	6.3	4.2	0.0	3.3
Cycle Q Clear(g_c), s	3.6	7.4	7.5	5.0	6.6	6.7	2.2	0.0	6.3	4.2	0.0	3.3
Prop In Lane	1.00		0.31	1.00		0.41	1.00		0.87	1.00		0.77
Lane Grp Cap(c), veh/h	149	1086	561	194	1172	600	429	0	263	376	0	311
V/C Ratio(X)	0.73	0.48	0.49	0.78	0.42	0.42	0.19	0.00	0.69	0.42	0.00	0.33
Avail Cap(c_a), veh/h	447	1709	883	447	1709	875	744	0	679	636	0	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	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	16.2	16.3	25.8	14.9	14.9	18.2	0.0	23.5	17.4	0.0	20.7
Incr Delay (d2), s/veh	2.6	0.9	1.8	2.6	0.7	1.3	0.5	0.0	8.6	1.6	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.6	3.9	2.5	3.2	3.4	1.1	0.0	3.4	2.2	0.0	1.6
LnGrp Delay(d),s/veh	29.1	17.2	18.1	28.4	15.5	16.2	18.6	0.0	32.1	19.0	0.0	22.4
LnGrp LOS	C	B	B	C	B	B	B		C	B		C
Approach Vol, veh/h		907			895			263			262	
Approach Delay, s/veh		18.9			17.9			27.9			20.3	
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	10.5	25.1	9.3	14.7	9.0	26.6	7.5	16.5
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	15.0	30.0	15.0	25.0	15.0	30.0	15.0	24.0
Max Q Clear Time (g_c+I1), s	7.0	9.5	6.2	8.3	5.6	8.7	4.2	5.3
Green Ext Time (p_c), s	0.1	9.6	0.6	1.9	0.1	9.1	0.3	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	19.7
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	63	998	4	839	22	28	1	43
v/c Ratio	0.22	0.37	0.02	0.35	0.07	0.07	0.00	0.10
Control Delay	27.6	5.5	29.0	8.8	23.1	25.1	25.0	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.6	5.5	29.0	8.8	23.1	25.1	25.0	3.0
Queue Length 50th (ft)	21	76	1	102	5	8	0	0
Queue Length 95th (ft)	61	178	10	163	26	33	5	11
Internal Link Dist (ft)		1064		2597	260		519	
Turn Bay Length (ft)	235		300					200
Base Capacity (vph)	863	2769	863	2722	687	757	909	813
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.36	0.00	0.31	0.03	0.04	0.00	0.05

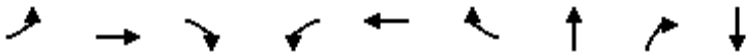
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	909	9	4	745	27	16	1	4	26	1	40
Future Volume (veh/h)	58	909	9	4	745	27	16	1	4	26	1	40
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	63	988	10	4	810	29	17	1	4	28	1	43
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	1955	20	12	1675	60	275	26	38	355	273	232
Arrive On Green	0.07	0.54	0.54	0.01	0.48	0.48	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1774	3589	36	1774	3482	125	1000	178	262	1405	1863	1583
Grp Volume(v), veh/h	63	487	511	4	412	427	22	0	0	28	1	43
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1837	1439	0	0	1405	1863	1583
Q Serve(g_s), s	1.7	8.6	8.6	0.1	7.8	7.8	0.0	0.0	0.0	0.2	0.0	1.2
Cycle Q Clear(g_c), s	1.7	8.6	8.6	0.1	7.8	7.8	0.5	0.0	0.0	0.7	0.0	1.2
Prop In Lane	1.00		0.02	1.00		0.07	0.77		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	125	964	1011	12	851	884	339	0	0	355	273	232
V/C Ratio(X)	0.51	0.51	0.51	0.35	0.48	0.48	0.06	0.00	0.00	0.08	0.00	0.19
Avail Cap(c_a), veh/h	715	1427	1496	715	1427	1482	701	0	0	716	751	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	7.1	7.1	24.5	8.7	8.7	18.3	0.0	0.0	18.4	18.1	18.6
Incr Delay (d2), s/veh	1.2	1.5	1.4	6.5	1.5	1.5	0.2	0.0	0.0	0.2	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	4.5	4.7	0.1	4.1	4.3	0.3	0.0	0.0	0.4	0.0	0.6
LnGrp Delay(d),s/veh	23.4	8.6	8.5	31.1	10.3	10.2	18.5	0.0	0.0	18.6	18.1	19.4
LnGrp LOS	C	A	A	C	B	B	B			B	B	B
Approach Vol, veh/h		1061			843			22			72	
Approach Delay, s/veh		9.4			10.3			18.5			19.1	
Approach LOS		A			B			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	4.3	33.0		12.3	7.5	29.9		12.3
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		20.0
Max Q Clear Time (g_c+I1), s	2.1	10.6		2.5	3.7	9.8		3.2
Green Ext Time (p_c), s	0.0	16.4		0.1	0.0	13.2		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	10.3
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	125	727	54	105	684	54	202	39	236
v/c Ratio	0.46	0.51	0.08	0.42	0.49	0.08	0.50	0.09	0.56
Control Delay	34.9	16.6	2.4	34.9	17.0	2.5	29.2	0.4	27.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.9	16.6	2.4	34.9	17.0	2.5	29.2	0.4	27.0
Queue Length 50th (ft)	47	111	0	39	105	0	70	0	71
Queue Length 95th (ft)	113	193	13	100	186	14	162	0	170
Internal Link Dist (ft)		2597			1242		359		327
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	457	2144	989	457	2133	985	583	608	594
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.34	0.05	0.23	0.32	0.05	0.35	0.06	0.40

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	669	50	97	629	50	34	152	36	27	111	79
Future Volume (veh/h)	115	669	50	97	629	50	34	152	36	27	111	79
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	125	727	54	105	684	54	37	165	39	29	121	86
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	1441	645	159	1419	635	122	330	327	99	189	121
Arrive On Green	0.10	0.41	0.41	0.09	0.40	0.40	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	198	1599	1583	107	916	587
Grp Volume(v), veh/h	125	727	54	105	684	54	202	0	39	236	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1797	0	1583	1610	0	0
Q Serve(g_s), s	3.6	8.0	1.1	3.0	7.5	1.1	0.0	0.0	1.0	2.1	0.0	0.0
Cycle Q Clear(g_c), s	3.6	8.0	1.1	3.0	7.5	1.1	5.1	0.0	1.0	7.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.18		1.00	0.12		0.36
Lane Grp Cap(c), veh/h	170	1441	645	159	1419	635	453	0	327	410	0	0
V/C Ratio(X)	0.73	0.50	0.08	0.66	0.48	0.09	0.45	0.00	0.12	0.58	0.00	0.00
Avail Cap(c_a), veh/h	509	2369	1060	509	2369	1060	748	0	606	698	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.0	11.6	9.5	23.0	11.6	9.7	18.5	0.0	16.9	19.2	0.0	0.0
Incr Delay (d2), s/veh	2.3	1.0	0.2	1.7	0.9	0.2	1.5	0.0	0.3	2.7	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	1.8	4.0	0.5	1.5	3.8	0.5	2.8	0.0	0.5	3.5	0.0	0.0
LnGrp Delay(d),s/veh	25.3	12.6	9.7	24.8	12.6	9.9	19.9	0.0	17.2	21.9	0.0	0.0
LnGrp LOS	C	B	A	C	B	A	B		B	C		
Approach Vol, veh/h		906			843			241			236	
Approach Delay, s/veh		14.1			13.9			19.5			21.9	
Approach LOS		B			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.7	27.8		15.8	9.0	27.5		15.8
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	15.0	35.0		20.0	15.0	35.0		20.0
Max Q Clear Time (g_c+I1), s	5.0	10.0		7.1	5.6	9.5		9.2
Green Ext Time (p_c), s	0.1	11.3		1.8	0.1	10.7		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	15.5
HCM 2010 LOS	B

Notes

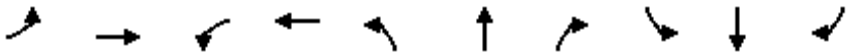
Intersection	
Int Delay, s/veh	6.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	61	289	264	35	304	197
Future Vol, veh/h	61	289	264	35	304	197
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	160	145	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	311	284	38	327	212

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1150	285	0	0	322	0
Stage 1	284	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	219	754	-	-	1238	-
Stage 1	764	-	-	-	-	-
Stage 2	412	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	161	753	-	-	1238	-
Mov Cap-2 Maneuver	252	-	-	-	-	-
Stage 1	764	-	-	-	-	-
Stage 2	303	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	5.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	252	753	1238	-
HCM Lane V/C Ratio	-	-	0.26	0.413	0.264	-
HCM Control Delay (s)	-	-	24.2	13.1	8.9	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	1	2	1.1	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	187	350	176	394	81	1188	160	332	1303	153
v/c Ratio	0.73	0.54	0.96	0.61	0.29	0.55	0.21	0.80	0.55	0.19
Control Delay	75.7	53.0	120.9	27.1	87.9	56.2	22.3	91.6	13.4	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.7	53.0	120.9	27.1	87.9	56.2	22.3	91.6	13.4	1.4
Queue Length 50th (ft)	169	154	168	81	39	405	63	147	87	0
Queue Length 95th (ft)	m#348	m174	#324	108	m35	m357	m44	221	257	m20
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	257	1055	183	1131	284	2164	753	455	2356	810
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.33	0.96	0.35	0.29	0.55	0.21	0.73	0.55	0.19

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	284	59	172	167	220	79	1164	157	325	1277	150
Future Volume (veh/h)	183	284	59	172	167	220	79	1164	157	325	1277	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	187	290	60	176	170	224	81	1188	160	332	1303	153
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	560	114	184	330	294	654	2184	679	375	1747	543
Arrive On Green	0.10	0.19	0.19	0.10	0.19	0.19	0.38	0.86	0.86	0.22	0.69	0.69
Sat Flow, veh/h	1774	2929	597	1774	1770	1578	3442	5085	1580	3442	5085	1581
Grp Volume(v), veh/h	187	174	176	176	170	224	81	1188	160	332	1303	153
Grp Sat Flow(s),veh/h/ln	1774	1770	1756	1774	1770	1578	1721	1695	1580	1721	1695	1581
Q Serve(g_s), s	15.0	12.8	13.1	14.3	12.5	19.5	2.2	9.0	2.6	13.6	23.9	5.4
Cycle Q Clear(g_c), s	15.0	12.8	13.1	14.3	12.5	19.5	2.2	9.0	2.6	13.6	23.9	5.4
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	184	338	336	184	330	294	654	2184	679	375	1747	543
V/C Ratio(X)	1.02	0.51	0.53	0.96	0.52	0.76	0.12	0.54	0.24	0.89	0.75	0.28
Avail Cap(c_a), veh/h	184	537	533	184	537	479	654	2184	679	451	1747	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.58	0.58	0.58
Uniform Delay (d), s/veh	65.0	52.6	52.7	64.7	53.1	55.9	37.1	6.5	6.0	55.8	18.6	15.8
Incr Delay (d2), s/veh	71.5	2.2	2.4	54.0	2.9	9.2	0.0	0.1	0.1	9.4	1.7	0.8
Initial Q Delay(d3),s/veh	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	6.4	6.6	9.8	6.4	9.3	1.0	3.9	1.1	6.9	11.3	2.5
LnGrp Delay(d),s/veh	136.6	54.8	55.1	118.7	56.0	65.1	37.1	6.6	6.1	65.2	20.4	16.5
LnGrp LOS	F	D	E	F	E	E	D	A	A	E	C	B
Approach Vol, veh/h		537			570			1429			1788	
Approach Delay, s/veh		83.4			78.9			8.2			28.4	
Approach LOS		F			E			A			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	21.5	68.7	20.7	34.1	34.0	56.2	21.4	33.4
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	6.4	6.4	* 6.4	6.4	* 6.4
Max Green Setting (Gmax), s	* 19	42.8	* 15	44.0	12.0	* 50	15.0	* 44
Max Q Clear Time (g_c+I1), s	15.6	11.0	16.3	15.1	4.2	25.9	17.0	21.5
Green Ext Time (p_c), s	0.2	25.0	0.0	3.6	0.1	20.5	0.0	4.4

Intersection Summary	
HCM 2010 Ctrl Delay	35.2
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	9.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	649	39	274	577	12	353
Future Vol, veh/h	649	39	274	577	12	353
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	669	40	282	595	12	364

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	709	0	1848	689
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	1159	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	890	-	82	446
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	299	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	890	-	43	446
Mov Cap-2 Maneuver	-	-	-	-	123	-
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	158	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.5	40
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	123	446	-	-	890	-
HCM Lane V/C Ratio	0.101	0.816	-	-	0.317	-
HCM Control Delay (s)	37.5	40.1	-	-	10.9	0
HCM Lane LOS	E	E	-	-	B	A
HCM 95th %tile Q(veh)	0.3	7.6	-	-	1.4	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	185	735	20	10	579	9	11	6	3	6	7	200
Future Vol, veh/h	185	735	20	10	579	9	11	6	3	6	7	200
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	191	758	21	10	597	9	11	6	3	6	7	206

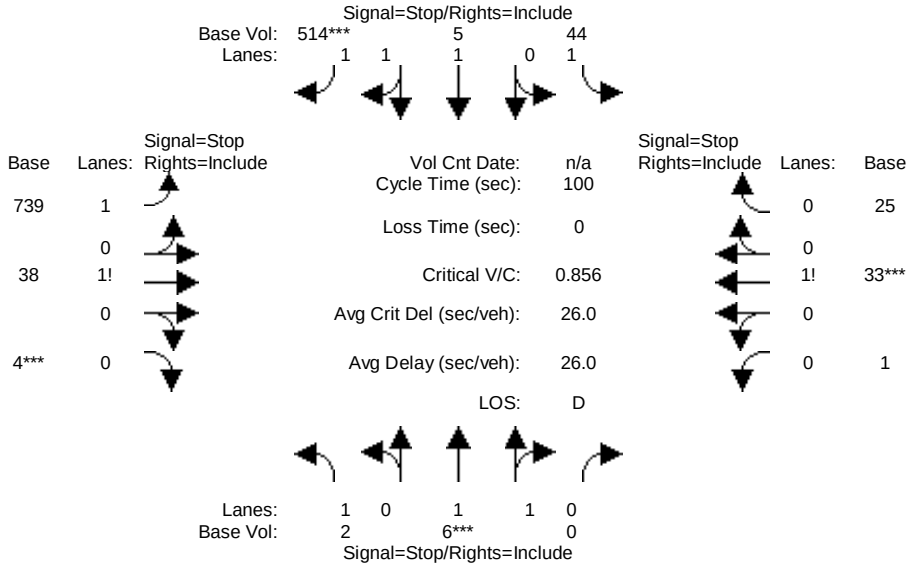
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	606	0	0	779	0	0	1879	1777	769	1777	1783	602
Stage 1	-	-	-	-	-	-	1151	1151	-	622	622	-
Stage 2	-	-	-	-	-	-	728	626	-	1155	1161	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	972	-	-	838	-	-	54	82	401	64	82	500
Stage 1	-	-	-	-	-	-	241	272	-	474	479	-
Stage 2	-	-	-	-	-	-	415	477	-	240	270	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	972	-	-	838	-	-	25	65	401	50	65	500
Mov Cap-2 Maneuver	-	-	-	-	-	-	25	65	-	50	65	-
Stage 1	-	-	-	-	-	-	194	218	-	381	473	-
Stage 2	-	-	-	-	-	-	237	471	-	186	217	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.2	187.9	24.9
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	37	972	-	-	838	-	-	50	408
HCM Lane V/C Ratio	0.557	0.196	-	-	0.012	-	-	0.124	0.523
HCM Control Delay (s)	187.9	9.6	-	-	9.3	-	-	86.9	23.1
HCM Lane LOS	F	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	1.9	0.7	-	-	0	-	-	0.4	2.9

Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)
5 Year plus Phase 1 PM

Intersection #1: Cameron Ave/Court St



Street Name:	Court St						Cameron Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	2	6	0	44	5	514	739	38	4	1	33	25
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:	2	6	0	44	5	514	739	38	4	1	33	25
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:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	2	7	0	48	5	559	803	41	4	1	36	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	7	0	48	5	559	803	41	4	1	36	27
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:	2	7	0	48	5	559	803	41	4	1	36	27
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	2.00	0.00	1.00	1.00	2.00	1.89	0.10	0.01	0.02	0.56	0.42
Final Sat.:	373	788	0	460	491	1092	1465	-447	5	9	289	219
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	xxxx	0.10	0.01	0.51	0.55	-0.09	0.86	0.12	0.12	0.12
Crit Moves:		****				****			****		****	
Delay/Veh:	11.7	11.2	0.0	11.2	9.9	15.5	36.4	39.0	39.0	10.7	10.7	10.7
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:	11.7	11.2	0.0	11.2	9.9	15.5	36.4	39.0	39.0	10.7	10.7	10.7
LOS by Move:	B	B	*	B	A	C	E	E	E	B	B	B
ApproachDel:		11.4			15.1			35.2			10.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		11.4			15.1			35.2			10.7	
LOS by Appr:		B			C			E			B	
AllWayAvgQ:	0.0	0.0	0.0	0.1	0.0	1.0	4.0	4.0	4.0	0.1	0.1	0.1
Note: Queue reported is the number of cars per lane.												
Time Period: 0.25 hour												
HevVeh:		0%			0%			0%			0%	
Alpha Value: 0.01												
GroupType:		6			6			5			4B	

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P[C1]:	0.01	0.03	0.19	0.01
P[C2]:	0.02	0.00	0.03	0.21
P[C3]:	0.19	0.84	0.67	0.02
P[C4]:	0.69	0.13	0.11	0.74
P[C5]:	0.09	0.00	0.00	0.02
Padj[C1]:	0.028	0.021	0.017	0.026
Padj[C2]:	0.018	0.011	0.009	0.013
Padj[C3]:	0.003	-0.024	-0.019	0.007
Padj[C4]:	-0.041	-0.008	-0.006	-0.045
Padj[C5]:	-0.009	-0.000	-0.000	-0.002

Lanes:	L1	L2	L1	L2	L1	L2	L1	L2
LaneType:	LEFT	RTTHRU	LEFT	RITE	LEFT	LTR	LTR	NOLANE
HeadwayAdj:	0.500	0.000	0.500	-0.700	0.500	0.939	-0.251	xx.xxx
Volume:	2	3	48	279	424	424	64	xxxxxx
Capacity:	373	394	460	546	527	496	517	xxxxx
DegOfUtil:	0.01	0.01	0.10	0.50	0.80	0.85	0.12	x.xx
DepHeadway:	8.97	8.47	7.65	6.45	6.79	7.23	6.74	xx.xx
ServiceTime:	6.7	6.2	5.4	4.2	4.5	4.9	4.7	xx.x
Delay:	11.7	11.2	11.2	15.5	31.4	39.0	10.7	xxx.x
Queue:	0.0	0.0	0.1	1.0	3.2	4.0	0.1	xxx.x

Lanes:	L3	L4	L3	L4	L3	L4	L3	L4
LaneType:	THRU	NOLANE	RTTHRU	THRU	NOLANE	NOLANE	NOLANE	NOLANE
HeadwayAdj:	0.000	xx.xxx	-0.700	0.000	xx.xxx	xx.xxx	xx.xxx	xx.xxx
Volume:	3	xxxxxx	279	5	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Capacity:	394	xxxxx	546	491	xxxxx	xxxxx	xxxxx	xxxxx
DegOfUtil:	0.01	x.xx	0.50	0.01	x.xx	x.xx	x.xx	x.xx
DepHeadway:	8.47	xx.xx	6.45	7.15	xx.xx	xx.xx	xx.xx	xx.xx
ServiceTime:	6.2	xx.x	4.2	4.9	xx.x	xx.x	xx.x	xx.x
Delay:	11.2	xxx.x	15.5	9.9	xxx.x	xxx.x	xxx.x	xxx.x
Queue:	0.0	xxx.x	1.0	0.0	xxx.x	xxx.x	xxx.x	xxx.x

Approach:	North Bound	South Bound	East Bound	West Bound
ApproachDel:	11.4	15.1	35.2	10.7
Delay Adj:	1.00	1.00	1.00	1.00
ApprAdjDel:	11.4	15.1	35.2	10.7
LOS by Appr:	B	C	E	B

OverallDel: 26.0
OverallLOS: D

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #1 Cameron Ave/Court St

****

Base Volume Alternative: Peak Hour Warrant Met

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		
Lanes:	1 0	1 1	0	1 0	1 1	1	1 0	1! 0	0	0 0	1! 0	0
Initial Vol:	2	6	0	44	5	514	739	38	4	1	33	25

Major Street Volume: 840
Minor Approach Volume: 563
Minor Approach Volume Threshold: 449

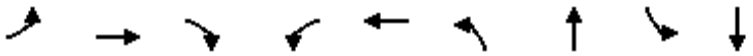
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	20	328	59	83	499	71	692	183	601
v/c Ratio	0.15	0.75	0.13	0.45	0.45	0.41	0.66	0.70	0.45
Control Delay	45.5	46.5	0.6	47.9	20.5	47.6	28.9	53.2	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.5	46.5	0.6	47.9	20.5	47.6	28.9	53.2	22.7
Queue Length 50th (ft)	11	176	0	45	76	39	170	99	133
Queue Length 95th (ft)	37	#377	0	99	163	88	246	#213	207
Internal Link Dist (ft)		776			1573		775		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	324	455	484	324	1149	324	1465	324	1499
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.72	0.12	0.26	0.43	0.22	0.47	0.56	0.40

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	312	56	79	285	189	67	506	151	174	518	53
Future Volume (veh/h)	19	312	56	79	285	189	67	506	151	174	518	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	20	328	59	83	300	199	71	533	159	183	545	56
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	413	351	120	539	347	113	793	236	225	1159	119
Arrive On Green	0.03	0.22	0.22	0.07	0.26	0.26	0.06	0.29	0.29	0.13	0.36	0.36
Sat Flow, veh/h	1774	1863	1583	1774	2054	1324	1774	2692	800	1774	3241	332
Grp Volume(v), veh/h	20	328	59	83	257	242	71	350	342	183	297	304
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	1609	1774	1770	1722	1774	1770	1804
Q Serve(g_s), s	0.8	11.9	2.1	3.3	8.9	9.3	2.8	12.4	12.5	7.2	9.2	9.3
Cycle Q Clear(g_c), s	0.8	11.9	2.1	3.3	8.9	9.3	2.8	12.4	12.5	7.2	9.2	9.3
Prop In Lane	1.00		1.00	1.00		0.82	1.00		0.46	1.00		0.18
Lane Grp Cap(c), veh/h	49	413	351	120	464	422	113	521	507	225	633	645
V/C Ratio(X)	0.41	0.79	0.17	0.69	0.55	0.57	0.63	0.67	0.68	0.81	0.47	0.47
Avail Cap(c_a), veh/h	373	523	444	373	497	451	373	857	833	373	857	873
HCM Platoon Ratio	1.00	1.00	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	34.1	26.2	22.4	32.5	22.7	22.8	32.6	22.1	22.1	30.3	17.7	17.7
Incr Delay (d2), s/veh	2.0	11.2	0.7	2.6	3.2	3.9	2.2	2.9	3.0	2.7	1.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	7.4	1.0	1.7	4.8	4.5	1.4	6.4	6.3	3.7	4.6	4.7
LnGrp Delay(d),s/veh	36.1	37.4	23.1	35.1	25.9	26.7	34.7	25.0	25.2	33.0	18.7	18.7
LnGrp LOS	D	D	C	D	C	C	C	C	C	C	B	B
Approach Vol, veh/h		407			582			763			784	
Approach Delay, s/veh		35.3			27.5			26.0			22.1	
Approach LOS		D			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	13.2	28.0	9.0	21.0	8.7	32.5	6.2	23.9
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 15	34.5	* 15	20.0	* 15	34.5	* 15	20.0
Max Q Clear Time (g_c+I1), s	9.2	14.5	5.3	13.9	4.8	11.3	2.8	11.3
Green Ext Time (p_c), s	0.1	6.5	0.1	2.0	0.0	6.0	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	26.6
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	553	4	6	565	45	2	0	1	48	1	40
Future Vol, veh/h	29	553	4	6	565	45	2	0	1	48	1	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	601	4	7	614	49	2	0	1	52	1	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	663	0	0	605	0	0	1342	1344	603	1321	1322	639
Stage 1	-	-	-	-	-	-	667	667	-	653	653	-
Stage 2	-	-	-	-	-	-	675	677	-	668	669	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	926	-	-	973	-	-	129	152	499	134	156	476
Stage 1	-	-	-	-	-	-	448	457	-	456	464	-
Stage 2	-	-	-	-	-	-	444	452	-	448	456	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	926	-	-	973	-	-	113	146	499	129	149	476
Mov Cap-2 Maneuver	-	-	-	-	-	-	113	146	-	129	149	-
Stage 1	-	-	-	-	-	-	432	441	-	440	461	-
Stage 2	-	-	-	-	-	-	400	449	-	432	440	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.1	29.2	41.4
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	152	926	-	-	973	-	-	192
HCM Lane V/C Ratio	0.021	0.034	-	-	0.007	-	-	0.504
HCM Control Delay (s)	29.2	9	-	-	8.7	-	-	41.4
HCM Lane LOS	D	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	2.5

Intersection	
Int Delay, s/veh	22.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	105	498	513	200	144	112
Future Vol, veh/h	105	498	513	200	144	112
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	541	558	217	157	122

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	775	0	-	0	1436	667
Stage 1	-	-	-	-	667	-
Stage 2	-	-	-	-	769	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	841	-	-	-	~ 147	459
Stage 1	-	-	-	-	510	-
Stage 2	-	-	-	-	457	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	841	-	-	-	~ 127	459
Mov Cap-2 Maneuver	-	-	-	-	~ 127	-
Stage 1	-	-	-	-	441	-
Stage 2	-	-	-	-	457	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	131.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	841	-	-	-	127	459
HCM Lane V/C Ratio	0.136	-	-	-	1.232	0.265
HCM Control Delay (s)	10	-	-	-	221.5	15.7
HCM Lane LOS	A	-	-	-	F	C
HCM 95th %tile Q(veh)	0.5	-	-	-	9.7	1.1

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

Intersection	
Int Delay, s/veh	563.8

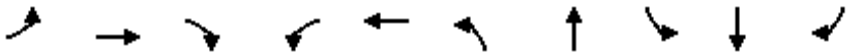
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	107	498	74	161	478	29	131	0	260	135	0	68
Future Vol, veh/h	107	498	74	161	478	29	131	0	260	135	0	68
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	116	541	80	175	520	32	142	0	283	147	0	74

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	553	0	0	621	0	0	1736	1716	581	1842	1740	537
Stage 1	-	-	-	-	-	-	813	813	-	887	887	-
Stage 2	-	-	-	-	-	-	923	903	-	955	853	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1017	-	-	960	-	-	~ 69	90	514	~ 58	87	544
Stage 1	-	-	-	-	-	-	372	392	-	339	362	-
Stage 2	-	-	-	-	-	-	323	356	-	310	376	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1016	-	-	960	-	-	~ 47	65	514	~ 21	63	543
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 47	65	-	~ 21	63	-
Stage 1	-	-	-	-	-	-	330	347	-	300	296	-
Stage 2	-	-	-	-	-	-	228	291	-	~ 124	333	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	2.3	$ 1233	$ 3003.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	119	1016	-	-	960	-	-	31
HCM Lane V/C Ratio	3.571	0.114	-	-	0.182	-	-	7.118
HCM Control Delay (s)	$ 1233	9	-	-	9.6	-	-	$ 3003.2
HCM Lane LOS	F	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	42	0.4	-	-	0.7	-	-	26.8

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	492	322	233	280	293	269	1103	144	1085	155
v/c Ratio	2.02	0.81	0.45	0.89	0.64	1.10	0.94	0.82	0.71	0.27
Control Delay	501.9	70.6	8.3	87.2	52.2	143.6	60.6	94.5	23.8	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	501.9	70.6	8.3	87.2	52.2	143.6	60.6	94.5	23.8	3.3
Queue Length 50th (ft)	~725	287	0	258	231	~288	525	~134	246	21
Queue Length 95th (ft)	#950	402	71	#388	327	#472	#672	m#286	m323	m11
Internal Link Dist (ft)		765			337		245		1110	
Turn Bay Length (ft)	180			175		205		290		210
Base Capacity (vph)	244	423	535	354	527	244	1173	175	1533	583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.02	0.76	0.44	0.79	0.56	1.10	0.94	0.82	0.71	0.27

Intersection Summary

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

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	458	299	217	260	212	60	250	786	240	134	1009	144
Future Volume (veh/h)	458	299	217	260	212	60	250	786	240	134	1009	144
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	492	322	233	280	228	65	269	845	258	144	1085	155
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	3	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	245	374	314	245	286	82	380	1116	340	122	1347	410
Arrive On Green	0.14	0.20	0.20	0.14	0.21	0.21	0.21	0.42	0.42	0.14	0.53	0.53
Sat Flow, veh/h	1774	1863	1563	1774	1390	396	1774	2671	815	1774	5085	1547
Grp Volume(v), veh/h	492	322	233	280	0	293	269	559	544	144	1085	155
Grp Sat Flow(s),veh/h/ln	1774	1863	1563	1774	0	1787	1774	1770	1717	1774	1695	1547
Q Serve(g_s), s	20.0	24.2	20.3	20.0	0.0	22.6	20.4	39.0	39.1	10.0	25.4	5.9
Cycle Q Clear(g_c), s	20.0	24.2	20.3	20.0	0.0	22.6	20.4	39.0	39.1	10.0	25.4	5.9
Prop In Lane	1.00		1.00	1.00		0.22	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	245	374	314	245	0	368	380	739	717	122	1347	410
V/C Ratio(X)	2.01	0.86	0.74	1.14	0.00	0.80	0.71	0.76	0.76	1.18	0.81	0.38
Avail Cap(c_a), veh/h	245	424	356	245	0	518	380	739	717	122	1347	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	62.5	56.0	54.4	62.5	0.0	54.7	52.8	36.0	36.0	62.5	31.0	13.1
Incr Delay (d2), s/veh	469.0	19.0	11.5	102.0	0.0	11.6	5.1	7.1	7.4	126.8	4.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	41.7	14.4	9.8	16.7	0.0	12.3	10.6	20.6	20.0	9.2	12.3	3.1
LnGrp Delay(d),s/veh	531.5	75.0	65.9	164.5	0.0	66.2	57.9	43.1	43.4	189.3	35.1	15.1
LnGrp LOS	F	E	E	F		E	E	D	D	F	D	B
Approach Vol, veh/h		1047			573			1372			1384	
Approach Delay, s/veh		287.5			114.3			46.1			48.9	
Approach LOS		F			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.7	67.3	26.4	35.6	37.8	45.2	25.7	36.3
Change Period (Y+Rc), s	* 5.7	6.8	6.4	* 6.4	6.8	* 6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 10	48.4	20.0	* 33	20.0	* 38	* 20	42.0
Max Q Clear Time (g_c+I1), s	12.0	41.1	22.0	26.2	22.4	27.4	22.0	24.6
Green Ext Time (p_c), s	0.0	6.0	0.0	2.9	0.0	9.0	0.0	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	113.7
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	352	20	5	0	0	279
Future Vol, veh/h	352	20	5	0	0	279
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	383	22	5	0	0	303

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	5	0	-	0	793	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	788	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1616	-	-	-	358	1078
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	448	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1616	-	-	-	273	1078
Mov Cap-2 Maneuver	-	-	-	-	273	-
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	448	-

Approach	EB	WB	SB
HCM Control Delay, s	7.5	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1616	-	-	-	1078
HCM Lane V/C Ratio	0.237	-	-	-	0.281
HCM Control Delay (s)	7.9	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.9	-	-	-	1.2



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	49	10	240	7	1394	62	1266	82
v/c Ratio	0.18	0.02	0.63	0.04	0.92	0.30	0.69	0.09
Control Delay	21.1	0.1	20.3	33.7	33.0	33.5	17.2	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	0.1	20.3	33.7	33.0	33.5	17.2	2.0
Queue Length 50th (ft)	16	0	45	2	252	22	128	0
Queue Length 95th (ft)	41	0	110	17	#694	71	#546	15
Internal Link Dist (ft)	1563		335		1230		640	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	682	966	827	448	1514	448	1846	864
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.01	0.29	0.02	0.92	0.14	0.69	0.09

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	3	10	127	0	106	7	1293	59	60	1228	80
Future Volume (veh/h)	45	3	10	127	0	106	7	1293	59	60	1228	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	46	3	10	131	0	109	7	1333	61	62	1266	82
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	19	332	232	17	132	19	1390	63	113	1615	707
Arrive On Green	0.21	0.21	0.21	0.21	0.00	0.21	0.01	0.40	0.40	0.06	0.46	0.46
Sat Flow, veh/h	1105	91	1583	676	80	629	1774	3443	157	1774	3539	1549
Grp Volume(v), veh/h	49	0	10	240	0	0	7	684	710	62	1266	82
Grp Sat Flow(s),veh/h/ln	1196	0	1583	1384	0	0	1774	1770	1831	1774	1770	1549
Q Serve(g_s), s	0.0	0.0	0.3	8.4	0.0	0.0	0.2	23.3	23.4	2.1	18.8	1.9
Cycle Q Clear(g_c), s	2.1	0.0	0.3	10.5	0.0	0.0	0.2	23.3	23.4	2.1	18.8	1.9
Prop In Lane	0.94		1.00	0.55		0.45	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	364	0	332	380	0	0	19	714	739	113	1615	707
V/C Ratio(X)	0.13	0.00	0.03	0.63	0.00	0.00	0.36	0.96	0.96	0.55	0.78	0.12
Avail Cap(c_a), veh/h	511	0	511	856	0	0	430	714	739	430	1615	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	0.0	19.5	23.7	0.0	0.0	30.4	17.9	18.0	28.1	14.3	9.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.6	0.0	0.0	4.1	24.7	24.7	1.6	3.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.1	4.0	0.0	0.0	0.1	16.1	16.7	1.1	9.8	0.9
LnGrp Delay(d),s/veh	20.2	0.0	19.5	24.4	0.0	0.0	34.5	42.6	42.7	29.7	17.9	9.9
LnGrp LOS	C		B	C			C	D	D	C	B	A
Approach Vol, veh/h		59			240			1401			1410	
Approach Delay, s/veh		20.1			24.4			42.6			17.9	
Approach LOS		C			C			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.6	31.8		20.5	6.4	35.1		20.5
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 15	25.0		* 20	* 15	25.0		33.0
Max Q Clear Time (g_c+I1), s	4.1	25.4		4.1	2.2	20.8		12.5
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	3.8		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	29.6
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	123.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	4	28	2	3	34	143	1338	60	27	1376	61
Future Vol, veh/h	37	4	28	2	3	34	143	1338	60	27	1376	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	4	29	2	3	36	151	1408	63	28	1448	64

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2544	3309	756	2524	3310	736	1512	0	0	1471	0	0
Stage 1	1536	1536	-	1742	1742	-	-	-	-	-	-	-
Stage 2	1008	1773	-	782	1568	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 13	8	351	14	8	361	438	-	-	454	-	-
Stage 1	121	176	-	90	139	-	-	-	-	-	-	-
Stage 2	258	134	-	353	170	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 4	5	351	3	5	361	438	-	-	454	-	-
Mov Cap-2 Maneuver	~ 4	5	-	3	5	-	-	-	-	-	-	-
Stage 1	79	165	-	59	91	-	-	-	-	-	-	-
Stage 2	147	88	-	296	159	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 5246.4	$ 519	1.6	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	438	-	-	7	29	454	-	-
HCM Lane V/C Ratio	0.344	-	-	10.376	1.416	0.063	-	-
HCM Control Delay (s)	17.5	-	-	$ 5246.4	$ 519	13.5	-	-
HCM Lane LOS	C	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	1.5	-	-	10.7	4.7	0.2	-	-

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

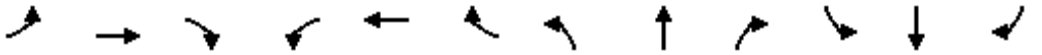


Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	252	31	127	1419	64	1430
v/c Ratio	0.69	0.08	0.51	0.91	0.33	1.08
Control Delay	32.8	13.1	37.6	32.8	36.5	75.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.8	13.1	37.6	32.8	36.5	75.2
Queue Length 50th (ft)	88	4	54	~368	27	~406
Queue Length 95th (ft)	176	24	109	#573	66	#632
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	476	503	396	1558	396	1326
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.06	0.32	0.91	0.16	1.08

Intersection Summary

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	1	79	9	1	18	117	1293	13	59	1305	11
Future Volume (veh/h)	152	1	79	9	1	18	117	1293	13	59	1305	11
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		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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	165	1	86	10	1	20	127	1405	14	64	1418	12
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	292	12	110	156	44	231	163	1498	15	113	1399	12
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.09	0.42	0.42	0.06	0.39	0.39
Sat Flow, veh/h	913	53	501	377	203	1054	1774	3589	36	1774	3596	30
Grp Volume(v), veh/h	252	0	0	31	0	0	127	692	727	64	697	733
Grp Sat Flow(s),veh/h/ln	1467	0	0	1634	0	0	1774	1770	1855	1774	1770	1857
Q Serve(g_s), s	9.4	0.0	0.0	0.0	0.0	0.0	4.5	24.1	24.1	2.3	25.0	25.0
Cycle Q Clear(g_c), s	10.3	0.0	0.0	0.9	0.0	0.0	4.5	24.1	24.1	2.3	25.0	25.0
Prop In Lane	0.65		0.34	0.32		0.65	1.00		0.02	1.00		0.02
Lane Grp Cap(c), veh/h	414	0	0	431	0	0	163	738	774	113	689	723
V/C Ratio(X)	0.61	0.00	0.00	0.07	0.00	0.00	0.78	0.94	0.94	0.57	1.01	1.01
Avail Cap(c_a), veh/h	592	0	0	615	0	0	414	738	774	414	689	723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	0.0	0.0	20.0	0.0	0.0	28.5	17.9	17.9	29.2	19.6	19.6
Incr Delay (d2), s/veh	2.5	0.0	0.0	0.1	0.0	0.0	3.0	20.8	20.3	1.7	37.6	36.9
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	4.5	0.0	0.0	0.5	0.0	0.0	2.3	15.8	16.5	1.2	19.2	20.1
LnGrp Delay(d),s/veh	26.0	0.0	0.0	20.1	0.0	0.0	31.6	38.8	38.2	30.9	57.2	56.6
LnGrp LOS	C			C			C	D	D	C	F	F
Approach Vol, veh/h		252			31			1546			1494	
Approach Delay, s/veh		26.0			20.1			37.9			55.8	
Approach LOS		C			C			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.8	34.7		19.8	11.6	32.9		19.8
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 15	25.0		* 22	* 15	25.0		* 22
Max Q Clear Time (g_c+I1), s	4.3	26.1		12.3	6.5	27.0		2.9
Green Ext Time (p_c), s	0.0	0.0		1.5	0.1	0.0		0.1

Intersection Summary		
HCM 2010 Ctrl Delay		44.9
HCM 2010 LOS		D

Notes

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	582	91	0	532	0	23
Future Vol, veh/h	582	91	0	532	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	606	95	0	554	0	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	654
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	467
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	467
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	467	-	-	-
HCM Lane V/C Ratio	0.051	-	-	-
HCM Control Delay (s)	13.1	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

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	19	520	66	68	507	23	0	0	23	0	0	46
Future Vol, veh/h	19	520	66	68	507	23	0	0	23	0	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	92	92	96	96	92	92	92	96	92	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	542	72	74	528	24	0	0	25	0	0	48

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	552	0	0	614	0	0	-	-	578	-	-	540
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	-	6.22	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	-	3.318	-	-	3.318
Pot Cap-1 Maneuver	1018	-	-	965	-	-	0	0	516	0	0	542
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1018	-	-	965	-	-	-	-	516	-	-	542
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.1	12.3	12.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	516	1018	-	-	965	-	-	542
HCM Lane V/C Ratio	0.048	0.019	-	-	0.077	-	-	0.088
HCM Control Delay (s)	12.3	8.6	-	-	9	-	-	12.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.2	-	-	0.3

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	564	0	0	546	0	22
Future Vol, veh/h	564	0	0	546	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	613	0	0	593	0	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	613
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	492
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	492
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	492	-	-	-
HCM Lane V/C Ratio	0.049	-	-	-
HCM Control Delay (s)	12.7	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	246	340	281	3	4	265
Future Vol, veh/h	246	340	281	3	4	265
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	265	366	302	3	4	285

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	305	0	-	0	1200	304
Stage 1	-	-	-	-	304	-
Stage 2	-	-	-	-	896	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1256	-	-	-	204	736
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	399	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1256	-	-	-	150	736
Mov Cap-2 Maneuver	-	-	-	-	150	-
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	399	-

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1256	-	-	-	150	736
HCM Lane V/C Ratio	0.211	-	-	-	0.029	0.387
HCM Control Delay (s)	8.6	0	-	-	29.7	12.9
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.1	1.8

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	93	0	0	93	0	1170	34	0	1340	166
Future Vol, veh/h	0	0	93	0	0	93	0	1170	34	0	1340	166
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	101	0	0	101	0	1272	37	0	1457	180

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	729	-	-	655	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	365	0	0	409	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	365	-	-	409	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.6	16.7	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	365	409	-	-
HCM Lane V/C Ratio	-	-	0.277	0.247	-	-
HCM Control Delay (s)	-	-	18.6	16.7	-	-
HCM Lane LOS	-	-	C	C	-	-
HCM 95th %tile Q(veh)	-	-	1.1	1	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	122	0	0	81	229	1123	33	56	1261	123
Future Vol, veh/h	0	0	122	0	0	81	229	1123	33	56	1261	123
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	133	0	0	88	249	1221	36	61	1371	134

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	686	-	-	629	1505	0	0	1257	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	390	0	0	425	441	-	-	549	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	390	-	-	425	441	-	-	549	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.9	15.7	3.8	0.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	441	-	-	390	425	549	-	-
HCM Lane V/C Ratio	0.564	-	-	0.34	0.207	0.111	-	-
HCM Control Delay (s)	23.2	-	-	18.9	15.7	12.4	-	-
HCM Lane LOS	C	-	-	C	C	B	-	-
HCM 95th %tile Q(veh)	3.4	-	-	1.5	0.8	0.4	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	51	71	147	0	0	86
Future Vol, veh/h	51	71	147	0	0	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	77	160	0	0	93

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	160	0	-	0	347	160
Stage 1	-	-	-	-	160	-
Stage 2	-	-	-	-	187	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1419	-	-	-	650	885
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	845	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1419	-	-	-	624	885
Mov Cap-2 Maneuver	-	-	-	-	624	-
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	845	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1419	-	-	-	885
HCM Lane V/C Ratio	0.039	-	-	-	0.106
HCM Control Delay (s)	7.6	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	32	81	0	0	66
Future Vol, veh/h	39	32	81	0	0	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	35	88	0	0	72

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	88	0	-	0	207	88
Stage 1	-	-	-	-	88	-
Stage 2	-	-	-	-	119	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1508	-	-	-	781	970
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	906	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1508	-	-	-	759	970
Mov Cap-2 Maneuver	-	-	-	-	759	-
Stage 1	-	-	-	-	909	-
Stage 2	-	-	-	-	906	-

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1508	-	-	-	970
HCM Lane V/C Ratio	0.028	-	-	-	0.074
HCM Control Delay (s)	7.5	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	16	44	0	0	37
Future Vol, veh/h	16	16	44	0	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	17	48	0	0	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	48	0	-	0	99	48
Stage 1	-	-	-	-	48	-
Stage 2	-	-	-	-	51	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1559	-	-	-	900	1021
Stage 1	-	-	-	-	974	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1559	-	-	-	890	1021
Mov Cap-2 Maneuver	-	-	-	-	890	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	971	-

Approach	EB	WB	SB
HCM Control Delay, s	3.7	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1559	-	-	-	1021
HCM Lane V/C Ratio	0.011	-	-	-	0.039
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	21	0	0	23
Future Vol, veh/h	0	16	21	0	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	23	0	0	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	40	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	972	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	972	1054
Mov Cap-2 Maneuver	-	-	-	-	972	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1006	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	1054
HCM Lane V/C Ratio	-	-	-	-	0.024
HCM Control Delay (s)	0	-	-	-	8.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	8.4

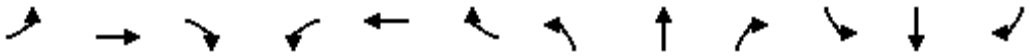
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	23	0	0	0	0
Future Vol, veh/h	22	23	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	25	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	1053	-	-
HCM Lane V/C Ratio	-	-	0.046	-	-
HCM Control Delay (s)	0	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Appendix I – 10-Year Cumulative Conditions Level of Service and Queuing Work Sheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	104	215	121	159	259	62	85	568	122	65	505	45
v/c Ratio	0.42	0.38	0.30	0.56	0.44	0.15	0.52	0.21	0.14	0.37	0.19	0.05
Control Delay	60.1	47.1	2.4	63.1	47.3	0.8	69.7	18.4	4.3	63.3	18.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	47.1	2.4	63.1	47.3	0.8	69.7	18.4	4.3	63.3	18.6	0.1
Queue Length 50th (ft)	42	87	0	64	104	0	35	82	0	26	71	0
Queue Length 95th (ft)	71	94	6	101	111	0	62	161	39	51	143	0
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	250	1330	702	282	1350	708	164	2705	891	177	2630	870
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.16	0.17	0.56	0.19	0.09	0.52	0.21	0.14	0.37	0.19	0.05

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	198	111	146	238	57	78	523	112	60	465	41
Future Volume (veh/h)	96	198	111	146	238	57	78	523	112	60	465	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	104	215	121	159	259	62	85	568	122	65	505	45
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	513	228	187	504	223	941	2869	882	148	1668	517
Arrive On Green	0.06	0.14	0.14	0.05	0.14	0.14	0.27	0.56	0.56	0.04	0.33	0.33
Sat Flow, veh/h	3442	3539	1573	3442	3539	1567	3442	5085	1563	3442	5085	1578
Grp Volume(v), veh/h	104	215	121	159	259	62	85	568	122	65	505	45
Grp Sat Flow(s),veh/h/ln	1721	1770	1573	1721	1770	1567	1721	1695	1563	1721	1695	1578
Q Serve(g_s), s	3.7	6.9	8.9	5.7	8.5	3.7	2.3	6.9	3.0	2.3	9.3	2.5
Cycle Q Clear(g_c), s	3.7	6.9	8.9	5.7	8.5	3.7	2.3	6.9	3.0	2.3	9.3	2.5
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	195	513	228	187	504	223	941	2869	882	148	1668	517
V/C Ratio(X)	0.53	0.42	0.53	0.85	0.51	0.28	0.09	0.20	0.14	0.44	0.30	0.09
Avail Cap(c_a), veh/h	195	1331	592	187	1351	598	941	2869	882	165	1668	517
HCM Platoon Ratio	1.00	1.00	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	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.3	48.7	49.5	58.6	49.6	33.5	33.8	13.4	5.5	58.3	31.3	29.1
Incr Delay (d2), s/veh	1.5	1.1	3.7	27.8	1.6	1.3	0.0	0.2	0.3	0.8	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.5	4.1	3.4	4.2	1.9	1.1	3.2	1.9	1.1	4.4	1.1
LnGrp Delay(d),s/veh	58.8	49.7	53.2	86.4	51.2	34.8	33.8	13.5	5.8	59.1	31.8	29.4
LnGrp LOS	E	D	D	F	D	C	C	B	A	E	C	C
Approach Vol, veh/h		440			480			775			615	
Approach Delay, s/veh		52.8			60.7			14.5			34.5	
Approach LOS		D			E			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	76.9	12.5	24.5	40.6	47.4	12.8	24.2
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6	41.0	6.8	* 47	6.0	* 41	6.1	* 48
Max Q Clear Time (g_c+I1), s	4.3	8.9	7.7	10.9	4.3	11.3	5.7	10.5
Green Ext Time (p_c), s	0.0	8.2	0.0	3.4	0.0	6.5	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	36.7
HCM 2010 LOS	D

Notes



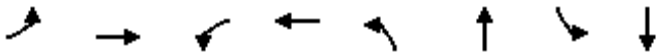
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	91	154	8	243	99	49	74	12	130
v/c Ratio	0.23	0.16	0.02	0.32	0.14	0.10	0.18	0.02	0.23
Control Delay	19.7	7.8	20.7	13.5	5.1	15.0	16.7	15.5	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	7.8	20.7	13.5	5.1	15.0	16.7	15.5	5.4
Queue Length 50th (ft)	20	15	2	46	2	9	15	2	0
Queue Length 95th (ft)	63	63	13	112	28	34	49	13	34
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	556	1414	385	1338	1162	1092	928	1280	1128
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.11	0.02	0.18	0.09	0.04	0.08	0.01	0.12

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	129	13	7	224	91	19	22	4	68	11	120
Future Volume (veh/h)	84	129	13	7	224	91	19	22	4	68	11	120
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	91	140	14	8	243	99	21	24	4	74	12	130
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	612	61	23	520	442	244	222	28	512	398	338
Arrive On Green	0.10	0.37	0.37	0.01	0.28	0.28	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	1667	167	1774	1863	1583	444	1041	132	1377	1863	1583
Grp Volume(v), veh/h	91	0	154	8	243	99	49	0	0	74	12	130
Grp Sat Flow(s),veh/h/ln	1774	0	1833	1774	1863	1583	1617	0	0	1377	1863	1583
Q Serve(g_s), s	1.7	0.0	2.0	0.2	3.7	1.7	0.0	0.0	0.0	0.6	0.2	2.4
Cycle Q Clear(g_c), s	1.7	0.0	2.0	0.2	3.7	1.7	0.7	0.0	0.0	1.3	0.2	2.4
Prop In Lane	1.00		0.09	1.00		1.00	0.43		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	180	0	674	23	520	442	495	0	0	512	398	338
V/C Ratio(X)	0.51	0.00	0.23	0.35	0.47	0.22	0.10	0.00	0.00	0.14	0.03	0.38
Avail Cap(c_a), veh/h	484	0	1569	334	1437	1221	1270	0	0	1215	1351	1148
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	7.5	16.9	10.3	9.6	11.0	0.0	0.0	11.1	10.7	11.6
Incr Delay (d2), s/veh	0.8	0.0	0.3	3.4	1.1	0.4	0.1	0.0	0.0	0.2	0.1	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	0.8	0.0	1.0	0.1	2.1	0.8	0.4	0.0	0.0	0.6	0.1	1.2
LnGrp Delay(d),s/veh	15.5	0.0	7.8	20.3	11.4	10.0	11.1	0.0	0.0	11.4	10.8	12.8
LnGrp LOS	B		A	C	B	A	B			B	B	B
Approach Vol, veh/h		245			350			49			216	
Approach Delay, s/veh		10.7			11.2			11.1			12.2	
Approach LOS		B			B			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	4.4	17.7		12.4	7.5	14.6		12.4
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	6.5	29.5		25.0	9.4	26.6		25.0
Max Q Clear Time (g_c+I1), s	2.2	4.0		2.7	3.7	5.7		4.4
Green Ext Time (p_c), s	0.0	1.3		0.3	0.0	2.7		1.2

Intersection Summary		
HCM 2010 Ctrl Delay		11.3
HCM 2010 LOS		B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	15	2	34	42	723	93	694
v/c Ratio	0.18	0.02	0.01	0.06	0.16	0.24	0.32	0.19
Control Delay	34.0	0.1	36.5	0.2	33.7	15.7	32.3	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	0.1	36.5	0.2	33.7	15.7	32.3	13.0
Queue Length 50th (ft)	8	0	0	0	7	28	16	0
Queue Length 95th (ft)	66	0	9	0	61	194	#116	177
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	263	1317	251	1290	276	3038	389	3349
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.01	0.01	0.03	0.15	0.24	0.24	0.21

Intersection Summary

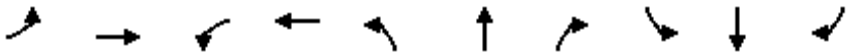
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	0	14	2	0	32	40	684	3	88	605	54
Future Volume (veh/h)	44	0	14	2	0	32	40	684	3	88	605	54
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		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	46	0	15	2	0	34	42	720	3	93	637	57
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	0	235	6	0	151	94	1493	6	155	1521	135
Arrive On Green	0.06	0.00	0.15	0.00	0.00	0.10	0.05	0.29	0.29	0.09	0.32	0.32
Sat Flow, veh/h	1774	0	1577	1774	0	1580	1774	5227	22	1774	4755	422
Grp Volume(v), veh/h	46	0	15	2	0	34	42	467	256	93	453	241
Grp Sat Flow(s),veh/h/ln	1774	0	1577	1774	0	1580	1774	1695	1858	1774	1695	1787
Q Serve(g_s), s	1.2	0.0	0.4	0.1	0.0	1.0	1.1	5.7	5.7	2.5	5.2	5.3
Cycle Q Clear(g_c), s	1.2	0.0	0.4	0.1	0.0	1.0	1.1	5.7	5.7	2.5	5.2	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.24
Lane Grp Cap(c), veh/h	101	0	235	6	0	151	94	968	531	155	1084	571
V/C Ratio(X)	0.46	0.00	0.06	0.34	0.00	0.22	0.45	0.48	0.48	0.60	0.42	0.42
Avail Cap(c_a), veh/h	226	0	1220	215	0	1212	236	1567	859	333	1752	923
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	0.0	18.1	24.6	0.0	20.7	22.7	14.7	14.7	21.8	13.2	13.2
Incr Delay (d2), s/veh	1.2	0.0	0.1	12.4	0.0	0.6	1.2	0.7	1.3	1.4	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.2	0.0	0.0	0.4	0.6	2.7	3.0	1.3	2.5	2.7
LnGrp Delay(d),s/veh	23.8	0.0	18.2	37.0	0.0	21.2	24.0	15.4	16.0	23.1	13.7	14.2
LnGrp LOS	C		B	D		C	C	B	B	C	B	B
Approach Vol, veh/h		61			36			765			787	
Approach Delay, s/veh		22.4			22.1			16.1			15.0	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	20.5	5.9	13.1	8.3	22.2	8.5	10.4
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	* 5.7	6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 9.3	22.9	* 6	* 38	* 6.6	25.6	* 6.3	* 38
Max Q Clear Time (g_c+I1), s	4.5	7.7	2.1	2.4	3.1	7.3	3.2	3.0
Green Ext Time (p_c), s	0.0	6.3	0.0	0.0	0.0	6.7	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	15.9
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	3	1	19	24	11	702	28	66	562	5
v/c Ratio	0.02	0.00	0.21	0.04	0.05	0.19	0.02	0.53	0.14	0.00
Control Delay	45.3	0.0	66.5	0.1	55.7	11.4	0.0	74.9	10.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.3	0.0	66.5	0.1	55.7	11.4	0.0	74.9	10.8	0.0
Queue Length 50th (ft)	3	0	16	0	4	61	0	57	23	0
Queue Length 95th (ft)	10	0	43	0	14	206	0	105	167	0
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	246	813	170	840	381	3727	1156	196	3949	1240
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.00	0.11	0.03	0.03	0.19	0.02	0.34	0.14	0.00

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	1	18	0	23	10	667	27	63	534	5
Future Volume (veh/h)	3	0	1	18	0	23	10	667	27	63	534	5
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		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	3	0	1	19	0	24	11	702	28	66	562	5
Adj No. of Lanes	1	1	0	1	1	0	2	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	0	75	40	0	91	1521	3580	1112	84	1548	482
Arrive On Green	0.01	0.00	0.05	0.02	0.00	0.06	0.44	0.70	0.70	0.05	0.30	0.30
Sat Flow, veh/h	1774	0	1543	1774	0	1583	3442	5085	1579	1774	5085	1582
Grp Volume(v), veh/h	3	0	1	19	0	24	11	702	28	66	562	5
Grp Sat Flow(s),veh/h/ln	1774	0	1543	1774	0	1583	1721	1695	1579	1774	1695	1582
Q Serve(g_s), s	0.2	0.0	0.1	1.4	0.0	2.0	0.2	6.4	0.4	5.0	11.7	0.3
Cycle Q Clear(g_c), s	0.2	0.0	0.1	1.4	0.0	2.0	0.2	6.4	0.4	5.0	11.7	0.3
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	24	0	75	40	0	91	1521	3580	1112	84	1548	482
V/C Ratio(X)	0.12	0.00	0.01	0.47	0.00	0.26	0.01	0.20	0.03	0.78	0.36	0.01
Avail Cap(c_a), veh/h	171	0	480	171	0	493	1521	3580	1112	197	1548	482
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.97	0.97	0.97	0.99	0.99	0.99
Uniform Delay (d), s/veh	65.8	0.0	61.1	65.2	0.0	60.9	21.1	6.9	2.3	63.6	36.7	32.8
Incr Delay (d2), s/veh	0.8	0.0	0.0	3.2	0.0	1.1	0.0	0.1	0.0	5.8	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.7	0.0	0.9	0.1	3.0	0.3	2.6	5.6	0.1
LnGrp Delay(d),s/veh	66.6	0.0	61.1	68.4	0.0	62.0	21.1	7.0	2.4	69.4	37.4	32.8
LnGrp LOS	E		E	E		E	C	A	A	E	D	C
Approach Vol, veh/h		4			43			741			633	
Approach Delay, s/veh		65.3			64.8			7.0			40.7	
Approach LOS		E			E			A			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	12.1	101.4	8.8	12.7	66.1	47.5	7.5	13.9
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 15	41.1	13.0	* 42	15.0	* 41	13.0	* 42
Max Q Clear Time (g_c+I1), s	7.0	8.4	3.4	2.1	2.2	13.7	2.2	4.0
Green Ext Time (p_c), s	0.0	10.1	0.0	0.0	0.0	6.7	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	23.9
HCM 2010 LOS	C

Notes

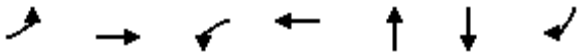
Intersection	
Int Delay, s/veh	13.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	691	81	59	683	34	57	0	95	10	0	21
Future Vol, veh/h	40	691	81	59	683	34	57	0	95	10	0	21
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	776	91	66	767	38	64	0	107	11	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	810	0	0	867	0	0	1428	1854	434	1401	1880	408
Stage 1	-	-	-	-	-	-	912	912	-	923	923	-
Stage 2	-	-	-	-	-	-	516	942	-	478	957	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	812	-	-	772	-	-	95	73	570	100	70	593
Stage 1	-	-	-	-	-	-	295	351	-	290	347	-
Stage 2	-	-	-	-	-	-	510	340	-	537	334	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	808	-	-	772	-	-	74	55	570	65	52	590
Mov Cap-2 Maneuver	-	-	-	-	-	-	74	55	-	65	52	-
Stage 1	-	-	-	-	-	-	263	312	-	257	291	-
Stage 2	-	-	-	-	-	-	413	286	-	388	297	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	1.4	142.8	32.8
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	162	808	-	-	772	-	-	164
HCM Lane V/C Ratio	1.054	0.056	-	-	0.086	-	-	0.212
HCM Control Delay (s)	142.8	9.7	0.5	-	10.1	0.7	-	32.8
HCM Lane LOS	F	A	A	-	B	A	-	D
HCM 95th %tile Q(veh)	8.6	0.2	-	-	0.3	-	-	0.8



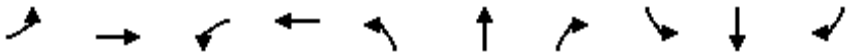
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	28	642	18	565	61	5	2
v/c Ratio	0.07	0.19	0.05	0.17	0.15	0.01	0.00
Control Delay	19.0	6.8	19.2	6.8	11.5	19.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	6.8	19.2	6.8	11.5	19.8	0.0
Queue Length 50th (ft)	4	20	3	17	3	1	0
Queue Length 95th (ft)	31	90	23	80	37	11	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	430	4154	430	4163	1504	1587	1430
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.15	0.04	0.14	0.04	0.00	0.00

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	577	14	17	513	6	19	1	36	5	0	2
Future Volume (veh/h)	26	577	14	17	513	6	19	1	36	5	0	2
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	28	627	15	18	558	7	21	1	39	5	0	2
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	1816	43	49	1772	22	43	2	79	20	0	18
Arrive On Green	0.04	0.36	0.36	0.03	0.34	0.34	0.08	0.08	0.08	0.01	0.00	0.01
Sat Flow, veh/h	1774	5109	122	1774	5175	65	567	27	1054	1774	0	1583
Grp Volume(v), veh/h	28	416	226	18	365	200	61	0	0	5	0	2
Grp Sat Flow(s),veh/h/ln	1774	1695	1841	1774	1695	1850	1648	0	0	1774	0	1583
Q Serve(g_s), s	0.6	3.4	3.4	0.4	3.0	3.0	1.3	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.6	3.4	3.4	0.4	3.0	3.0	1.3	0.0	0.0	0.1	0.0	0.0
Prop In Lane	1.00		0.07	1.00		0.04	0.34		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	72	1205	654	49	1161	633	124	0	0	20	0	18
V/C Ratio(X)	0.39	0.34	0.35	0.37	0.31	0.32	0.49	0.00	0.00	0.25	0.00	0.11
Avail Cap(c_a), veh/h	306	2474	1344	306	2474	1350	1444	0	0	1554	0	1387
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.6	8.9	8.9	18.0	9.1	9.1	16.7	0.0	0.0	18.5	0.0	18.4
Incr Delay (d2), s/veh	1.3	0.5	0.9	1.7	0.4	0.8	2.2	0.0	0.0	4.8	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.6	1.9	0.2	1.4	1.6	0.7	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	18.9	9.4	9.8	19.8	9.6	9.9	19.0	0.0	0.0	23.2	0.0	20.5
LnGrp LOS	B	A	A	B	A	A	B			C		C
Approach Vol, veh/h		670			583			61			7	
Approach Delay, s/veh		9.9			10.0			19.0			22.4	
Approach LOS		A			A			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	19.4		5.4	5.5	18.9		7.8
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	6.5	27.5		33.0	6.5	27.5		33.0
Max Q Clear Time (g_c+I1), s	2.4	5.4		2.1	2.6	5.0		3.3
Green Ext Time (p_c), s	0.0	7.9		0.0	0.0	7.0		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	160	478	114	495	99	542	97	65	476	81
v/c Ratio	0.59	0.52	0.39	0.53	0.60	0.21	0.11	0.38	0.19	0.10
Control Delay	66.3	44.4	59.9	46.2	75.8	19.9	2.6	66.2	20.2	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.3	44.4	59.9	46.2	75.8	19.9	2.6	66.2	20.2	1.1
Queue Length 50th (ft)	68	126	47	136	42	86	0	27	73	0
Queue Length 95th (ft)	103	129	77	139	#74	158	23	53	139	7
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	285	1833	293	1813	166	2628	866	172	2546	845
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.26	0.39	0.27	0.60	0.21	0.11	0.38	0.19	0.10

Intersection Summary

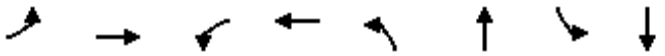
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	370	85	108	406	65	94	515	92	62	452	77
Future Volume (veh/h)	152	370	85	108	406	65	94	515	92	62	452	77
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	160	389	89	114	427	68	99	542	97	65	476	81
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	685	152	220	742	116	853	2765	860	144	1690	524
Arrive On Green	0.06	0.16	0.16	0.06	0.17	0.17	0.25	0.54	0.54	0.04	0.33	0.33
Sat Flow, veh/h	3442	4164	921	3442	4437	691	3442	5085	1582	3442	5085	1578
Grp Volume(v), veh/h	160	314	164	114	324	171	99	542	97	65	476	81
Grp Sat Flow(s),veh/h/ln	1721	1695	1694	1721	1695	1738	1721	1695	1582	1721	1695	1578
Q Serve(g_s), s	6.0	11.1	11.6	4.2	11.4	11.8	2.9	7.1	2.5	2.4	9.0	4.7
Cycle Q Clear(g_c), s	6.0	11.1	11.6	4.2	11.4	11.8	2.9	7.1	2.5	2.4	9.0	4.7
Prop In Lane	1.00		0.54	1.00		0.40	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	558	279	220	567	291	853	2765	860	144	1690	524
V/C Ratio(X)	0.76	0.56	0.59	0.52	0.57	0.59	0.12	0.20	0.11	0.45	0.28	0.15
Avail Cap(c_a), veh/h	246	1241	620	230	1226	628	853	2765	860	159	1690	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	0.98	0.98	0.98	0.98	0.98	0.98	0.99	0.99	0.99
Uniform Delay (d), s/veh	60.1	50.0	50.2	58.9	49.8	50.0	37.9	15.2	6.2	60.8	32.0	30.5
Incr Delay (d2), s/veh	8.8	1.7	3.7	0.7	1.7	3.6	0.0	0.2	0.3	0.8	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	5.3	5.7	2.0	5.5	6.0	1.4	3.4	1.6	1.2	4.3	2.1
LnGrp Delay(d),s/veh	68.8	51.7	54.0	59.6	51.6	53.6	37.9	15.3	6.5	61.7	32.4	31.2
LnGrp LOS	E	D	D	E	D	D	D	B	A	E	C	C
Approach Vol, veh/h		638			609			738			622	
Approach Delay, s/veh		56.6			53.7			17.2			35.3	
Approach LOS		E			D			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	11.1	77.1	14.0	27.8	38.6	49.6	13.7	28.1
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6	43.5	8.7	* 48	6.3	* 43	9.3	* 47
Max Q Clear Time (g_c+I1), s	4.4	9.1	6.2	13.6	4.9	11.0	8.0	13.8
Green Ext Time (p_c), s	0.0	8.6	0.0	5.7	0.0	7.3	0.0	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	39.7
HCM 2010 LOS	D

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	63	481	91	667	27	61	43	35
v/c Ratio	0.18	0.17	0.26	0.23	0.04	0.09	0.07	0.05
Control Delay	29.5	14.5	31.3	13.9	11.3	8.3	12.1	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.5	14.5	31.3	13.9	11.3	8.3	12.1	7.4
Queue Length 50th (ft)	17	32	25	44	6	3	11	1
Queue Length 95th (ft)	72	109	#120	144	18	27	24	19
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	374	2915	374	2883	626	1196	585	1176
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.17	0.24	0.23	0.04	0.05	0.07	0.03

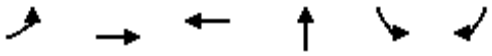
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	400	42	84	495	119	25	12	44	40	5	28
Future Volume (veh/h)	58	400	42	84	495	119	25	12	44	40	5	28
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	63	435	46	91	538	129	27	13	48	43	5	30
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	1310	136	167	1228	287	424	47	172	408	35	208
Arrive On Green	0.07	0.28	0.28	0.09	0.30	0.30	0.04	0.13	0.13	0.06	0.15	0.15
Sat Flow, veh/h	1774	4678	487	1774	4101	958	1774	348	1283	1774	228	1370
Grp Volume(v), veh/h	63	313	168	91	442	225	27	0	61	43	0	35
Grp Sat Flow(s),veh/h/ln	1774	1695	1775	1774	1695	1669	1774	0	1631	1774	0	1598
Q Serve(g_s), s	1.4	3.0	3.1	2.0	4.3	4.5	0.5	0.0	1.4	0.8	0.0	0.8
Cycle Q Clear(g_c), s	1.4	3.0	3.1	2.0	4.3	4.5	0.5	0.0	1.4	0.8	0.0	0.8
Prop In Lane	1.00		0.27	1.00		0.57	1.00		0.79	1.00		0.86
Lane Grp Cap(c), veh/h	133	949	497	167	1015	500	424	0	219	408	0	243
V/C Ratio(X)	0.48	0.33	0.34	0.55	0.44	0.45	0.06	0.00	0.28	0.11	0.00	0.14
Avail Cap(c_a), veh/h	279	1558	816	279	1558	767	677	0	1341	629	0	1314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.4	11.8	11.8	17.9	11.7	11.7	14.4	0.0	16.1	13.9	0.0	15.2
Incr Delay (d2), s/veh	1.0	0.6	1.1	1.0	0.8	1.7	0.1	0.0	1.9	0.2	0.0	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	0.7	1.5	1.6	1.0	2.1	2.3	0.3	0.0	0.7	0.4	0.0	0.4
LnGrp Delay(d),s/veh	19.3	12.4	12.9	18.9	12.5	13.5	14.5	0.0	18.0	14.1	0.0	15.9
LnGrp LOS	B	B	B	B	B	B	B		B	B		B
Approach Vol, veh/h		544			758			88			78	
Approach Delay, s/veh		13.3			13.6			16.9			15.0	
Approach LOS		B			B			B			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	7.9	17.6	5.3	10.5	7.1	18.4	4.6	11.3
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	6.5	19.0	7.5	34.0	6.5	19.0	7.5	34.0
Max Q Clear Time (g_c+I1), s	4.0	5.1	2.8	3.4	3.4	6.5	2.5	2.8
Green Ext Time (p_c), s	0.0	4.5	0.0	0.7	0.0	5.9	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	13.8
HCM 2010 LOS	B



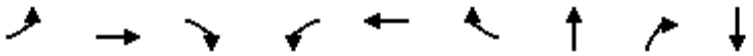
Lane Group	EBL	EBT	WBT	NBT	SBL	SBR
Lane Group Flow (vph)	25	528	852	3	66	58
v/c Ratio	0.09	0.23	0.40	0.01	0.17	0.09
Control Delay	23.7	5.5	8.3	18.3	19.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	5.5	8.3	18.3	19.3	0.3
Queue Length 50th (ft)	6	34	61	1	13	0
Queue Length 95th (ft)	29	61	165	7	52	0
Internal Link Dist (ft)		1064	2594	260		
Turn Bay Length (ft)	235					200
Base Capacity (vph)	312	2537	2405	1070	1068	1257
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.21	0.35	0.00	0.06	0.05

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	482	4	0	759	25	3	0	0	61	0	53
Future Volume (veh/h)	23	482	4	0	759	25	3	0	0	61	0	53
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	25	524	4	0	825	27	3	0	0	66	0	58
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	2076	16	4	1578	52	399	0	0	411	331	281
Arrive On Green	0.04	0.58	0.58	0.00	0.45	0.45	0.18	0.00	0.00	0.18	0.00	0.18
Sat Flow, veh/h	1774	3600	27	1774	3497	114	1340	0	0	1406	1863	1583
Grp Volume(v), veh/h	25	258	270	0	417	435	3	0	0	66	0	58
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1842	1340	0	0	1406	1863	1583
Q Serve(g_s), s	0.6	3.2	3.2	0.0	7.6	7.6	0.1	0.0	0.0	1.7	0.0	1.4
Cycle Q Clear(g_c), s	0.6	3.2	3.2	0.0	7.6	7.6	0.1	0.0	0.0	1.8	0.0	1.4
Prop In Lane	1.00		0.01	1.00		0.06	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	64	1020	1071	4	799	831	399	0	0	411	331	281
V/C Ratio(X)	0.39	0.25	0.25	0.00	0.52	0.52	0.01	0.00	0.00	0.16	0.00	0.21
Avail Cap(c_a), veh/h	262	1167	1226	258	1163	1211	1179	0	0	1230	1416	1204
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.1	4.7	4.7	0.0	8.8	8.8	15.2	0.0	0.0	15.9	0.0	15.7
Incr Delay (d2), s/veh	1.5	0.5	0.4	0.0	1.9	1.8	0.0	0.0	0.0	0.4	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.7	1.8	0.0	4.0	4.2	0.0	0.0	0.0	0.7	0.0	0.7
LnGrp Delay(d),s/veh	22.6	5.2	5.1	0.0	10.7	10.7	15.2	0.0	0.0	16.2	0.0	16.5
LnGrp LOS	C	A	A		B	B	B			B		B
Approach Vol, veh/h		553			852			3			124	
Approach Delay, s/veh		5.9			10.7			15.2			16.4	
Approach LOS		A			B			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	0.0	31.8		12.9	5.6	26.2		12.9
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	6.5	29.5		34.0	6.6	29.4		34.0
Max Q Clear Time (g_c+I1), s	0.0	5.2		2.1	2.6	9.6		3.8
Green Ext Time (p_c), s	0.0	7.3		0.0	0.0	10.5		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	9.4
HCM 2010 LOS	A



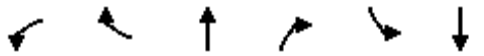
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	57	555	28	50	751	47	139	30	202
v/c Ratio	0.26	0.37	0.04	0.23	0.50	0.07	0.34	0.06	0.48
Control Delay	31.2	12.9	0.1	30.8	14.2	1.9	22.7	0.2	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	12.9	0.1	30.8	14.2	1.9	22.7	0.2	21.9
Queue Length 50th (ft)	20	72	0	18	105	0	43	0	56
Queue Length 95th (ft)	58	125	1	52	175	10	94	0	121
Internal Link Dist (ft)		2594			1245		332		320
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	242	2042	946	242	2042	946	1036	1056	1039
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.27	0.03	0.21	0.37	0.05	0.13	0.03	0.19

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	511	26	46	691	43	43	85	28	45	88	52
Future Volume (veh/h)	52	511	26	46	691	43	43	85	28	45	88	52
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	57	555	28	50	751	47	47	92	30	49	96	57
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	1477	661	108	1457	652	177	267	313	145	178	90
Arrive On Green	0.07	0.42	0.42	0.06	0.41	0.41	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	385	1352	1583	261	902	457
Grp Volume(v), veh/h	57	555	28	50	751	47	139	0	30	202	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1737	0	1583	1620	0	0
Q Serve(g_s), s	1.5	5.2	0.5	1.3	7.6	0.9	0.0	0.0	0.7	2.3	0.0	0.0
Cycle Q Clear(g_c), s	1.5	5.2	0.5	1.3	7.6	0.9	3.1	0.0	0.7	5.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.34		1.00	0.24		0.28
Lane Grp Cap(c), veh/h	118	1477	661	108	1457	652	444	0	313	414	0	0
V/C Ratio(X)	0.48	0.38	0.04	0.46	0.52	0.07	0.31	0.00	0.10	0.49	0.00	0.00
Avail Cap(c_a), veh/h	260	2183	977	260	2183	977	1225	0	1093	1201	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.5	9.6	8.3	21.7	10.5	8.5	16.6	0.0	15.7	17.5	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.6	0.1	1.1	1.0	0.2	0.9	0.0	0.3	1.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.6	0.2	0.7	3.9	0.4	1.7	0.0	0.3	2.6	0.0	0.0
LnGrp Delay(d),s/veh	22.7	10.2	8.4	22.8	11.5	8.7	17.5	0.0	16.0	19.4	0.0	0.0
LnGrp LOS	C	B	A	C	B	A	B		B	B		
Approach Vol, veh/h		640			848			169			202	
Approach Delay, s/veh		11.2			12.0			17.2			19.4	
Approach LOS		B			B			B			B	

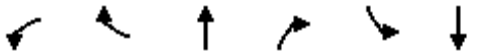
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.9	26.5		14.4	7.2	26.2		14.4
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	7.0	29.5		33.0	7.0	29.5		33.0
Max Q Clear Time (g_c+I1), s	3.3	7.2		5.1	3.5	9.6		7.4
Green Ext Time (p_c), s	0.0	7.9		1.7	0.0	10.1		2.1

Intersection Summary	
HCM 2010 Ctrl Delay	13.0
HCM 2010 LOS	B



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	54	158	137	23	229	196
v/c Ratio	0.14	0.34	0.13	0.03	0.32	0.18
Control Delay	10.3	4.7	5.1	2.6	6.7	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.3	4.7	5.1	2.6	6.7	5.3
Queue Length 50th (ft)	6	0	10	0	18	14
Queue Length 95th (ft)	23	25	28	6	53	39
Internal Link Dist (ft)	1226		772			355
Turn Bay Length (ft)		100		160	145	
Base Capacity (vph)	1085	1010	1263	1055	842	1263
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.16	0.11	0.02	0.27	0.16

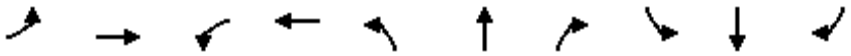
Intersection Summary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	50	145	126	21	211	180
Future Volume (veh/h)	50	145	126	21	211	180
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	54	158	137	23	229	196
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	305	272	713	604	763	713
Arrive On Green	0.17	0.17	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	1583	1863	1577	1218	1863
Grp Volume(v), veh/h	54	158	137	23	229	196
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1577	1218	1863
Q Serve(g_s), s	0.5	1.9	1.0	0.2	3.1	1.5
Cycle Q Clear(g_c), s	0.5	1.9	1.0	0.2	4.1	1.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	305	272	713	604	763	713
V/C Ratio(X)	0.18	0.58	0.19	0.04	0.30	0.27
Avail Cap(c_a), veh/h	1579	1409	1658	1404	1380	1658
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	7.1	7.7	4.2	3.9	5.5	4.3
Incr Delay (d2), s/veh	0.3	2.0	0.1	0.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.9	0.5	0.1	1.1	0.7
LnGrp Delay(d),s/veh	7.4	9.7	4.3	3.9	5.7	4.5
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	212		160			425
Approach Delay, s/veh	9.1		4.2			5.2
Approach LOS	A		A			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		12.2				12.2		8.0
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		18.0				18.0		18.0
Max Q Clear Time (g_c+I1), s		3.0				6.1		3.9
Green Ext Time (p_c), s		0.6				1.5		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	6.0
HCM 2010 LOS	A



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	72	179	104	280	9	584	101	86	427	35
v/c Ratio	0.47	0.45	0.59	0.49	0.05	0.22	0.11	0.46	0.14	0.04
Control Delay	57.4	46.2	59.9	31.2	50.0	15.2	1.0	58.7	11.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	46.2	59.9	31.2	50.0	15.2	1.0	58.7	11.4	0.1
Queue Length 50th (ft)	49	59	71	64	3	79	0	30	42	0
Queue Length 95th (ft)	94	92	123	102	11	120	9	57	88	0
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	172	1403	194	1404	187	2715	905	187	3040	990
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.13	0.54	0.20	0.05	0.22	0.11	0.46	0.14	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	157	14	100	177	92	9	561	97	83	410	34
Future Volume (veh/h)	69	157	14	100	177	92	9	561	97	83	410	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	72	164	15	104	184	96	9	584	101	86	427	35
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	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	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	272	25	175	295	147	45	1179	367	1240	2977	926
Arrive On Green	0.05	0.08	0.08	0.10	0.13	0.13	0.01	0.23	0.23	0.36	0.59	0.59
Sat Flow, veh/h	1774	3283	297	1774	2279	1134	3442	5085	1581	3442	5085	1581
Grp Volume(v), veh/h	72	88	91	104	141	139	9	584	101	86	427	35
Grp Sat Flow(s),veh/h/ln	1774	1770	1810	1774	1770	1644	1721	1695	1581	1721	1695	1581
Q Serve(g_s), s	4.4	5.3	5.4	6.2	8.3	8.9	0.3	11.0	5.8	1.8	4.2	0.6
Cycle Q Clear(g_c), s	4.4	5.3	5.4	6.2	8.3	8.9	0.3	11.0	5.8	1.8	4.2	0.6
Prop In Lane	1.00		0.16	1.00		0.69	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	147	150	175	229	213	45	1179	367	1240	2977	926
V/C Ratio(X)	0.78	0.60	0.61	0.60	0.61	0.65	0.20	0.50	0.28	0.07	0.14	0.04
Avail Cap(c_a), veh/h	161	708	724	175	713	662	188	1179	367	1240	2977	926
HCM Platoon Ratio	1.00	1.00	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	0.76	0.76	0.76	0.98	0.98	0.98
Uniform Delay (d), s/veh	51.5	48.7	48.7	47.5	45.3	45.5	53.7	36.7	34.7	23.1	10.3	3.6
Incr Delay (d2), s/veh	5.3	7.1	7.2	3.8	6.2	7.8	0.6	1.1	1.4	0.0	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	2.3	2.9	3.0	3.2	4.4	4.5	0.1	5.3	2.7	0.9	2.0	0.4
LnGrp Delay(d),s/veh	56.8	55.7	55.9	51.3	51.5	53.3	54.3	37.8	36.1	23.1	10.4	3.7
LnGrp LOS	E	E	E	D	D	D	D	D	D	C	B	A
Approach Vol, veh/h		251			384			694			548	
Approach Delay, s/veh		56.1			52.1			37.8			12.0	
Approach LOS		E			D			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	46.0	31.9	16.5	15.5	7.1	70.8	11.4	20.6
Change Period (Y+Rc), s	6.4	* 6.4	5.7	* 6.4	* 5.7	6.4	5.7	* 6.4
Max Green Setting (Gmax), s	6.0	* 26	10.3	* 44	* 6	25.5	10.0	* 44
Max Q Clear Time (g_c+I1), s	3.8	13.0	8.2	7.4	2.3	6.2	6.4	10.9
Green Ext Time (p_c), s	0.0	7.3	0.0	1.8	0.0	7.0	0.0	3.4

Intersection Summary	
HCM 2010 Ctrl Delay	35.6
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	274	5	321	414	6	188
Future Vol, veh/h	274	5	321	414	6	188
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	298	5	349	450	7	204

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	303	0	1449	301
Stage 1	-	-	-	-	301	-
Stage 2	-	-	-	-	1148	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1258	-	144	739
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	302	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1258	-	91	739
Mov Cap-2 Maneuver	-	-	-	-	162	-
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	190	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.9	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	162	739	-	-	1258	-
HCM Lane V/C Ratio	0.04	0.277	-	-	0.277	-
HCM Control Delay (s)	28.2	11.7	-	-	9	0
HCM Lane LOS	D	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	1.1	-	-	1.1	-

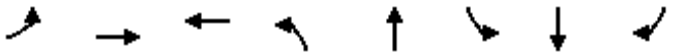
Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	316	9	0	326	5	25	6	8	3	3	11
Future Vol, veh/h	56	316	9	0	326	5	25	6	8	3	3	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	343	10	0	354	5	27	7	9	3	3	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	359	0	0	353	0	0	834	829	349	836	832	357
Stage 1	-	-	-	-	-	-	470	470	-	357	357	-
Stage 2	-	-	-	-	-	-	364	359	-	479	475	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1200	-	-	1206	-	-	288	306	694	287	305	687
Stage 1	-	-	-	-	-	-	574	560	-	661	628	-
Stage 2	-	-	-	-	-	-	655	627	-	568	557	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1200	-	-	1206	-	-	270	290	693	267	289	687
Mov Cap-2 Maneuver	-	-	-	-	-	-	270	290	-	267	289	-
Stage 1	-	-	-	-	-	-	545	531	-	627	628	-
Stage 2	-	-	-	-	-	-	640	627	-	525	529	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0	18.3	13.2
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	312	1200	-	-	1206	-	-	267	530
HCM Lane V/C Ratio	0.136	0.051	-	-	-	-	-	0.012	0.029
HCM Control Delay (s)	18.3	8.2	-	-	0	-	-	18.7	12
HCM Lane LOS	C	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0	-	-	0	0.1



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	250	250	99	1	4	52	241	240
v/c Ratio	0.53	0.56	0.14	0.00	0.00	0.12	0.15	0.21
Control Delay	11.5	12.2	3.4	9.0	9.0	9.8	0.2	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.5	12.2	3.4	9.0	9.0	9.8	0.2	0.4
Queue Length 50th (ft)	24	24	3	0	0	5	0	0
Queue Length 95th (ft)	75	76	19	2	2	24	0	0
Internal Link Dist (ft)		563	789		604		1556	
Turn Bay Length (ft)	260			225		195		200
Base Capacity (vph)	760	728	1079	688	2194	871	2159	1264
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.34	0.09	0.00	0.00	0.06	0.11	0.19

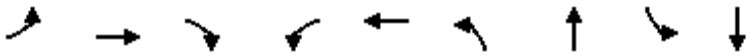
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	451	9	0	0	32	59	1	4	0	48	1	442
Future Volume (veh/h)	451	9	0	0	32	59	1	4	0	48	1	442
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	497	0	0	0	35	64	1	4	0	52	1	480
Adj No. of Lanes	2	1	0	0	1	0	1	2	0	1	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1380	643	0	0	204	373	555	1001	0	694	527	895
Arrive On Green	0.35	0.00	0.00	0.00	0.35	0.35	0.28	0.28	0.00	0.28	0.28	0.28
Sat Flow, veh/h	2582	1863	0	0	591	1081	910	3632	0	1407	1863	3167
Grp Volume(v), veh/h	497	0	0	0	0	99	1	4	0	52	1	480
Grp Sat Flow(s),veh/h/ln	1291	1863	0	0	0	1672	910	1770	0	1407	1863	1583
Q Serve(g_s), s	4.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.7	0.0	3.1
Cycle Q Clear(g_c), s	5.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.7	0.0	3.1
Prop In Lane	1.00		0.00	0.00		0.65	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1380	643	0	0	0	577	555	1001	0	694	527	895
V/C Ratio(X)	0.36	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.07	0.00	0.54
Avail Cap(c_a), veh/h	2410	1386	0	0	0	1244	974	2633	0	1343	1386	2356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.3	0.0	0.0	0.0	0.0	5.5	6.2	6.2	0.0	6.5	6.2	7.3
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.3	0.0	1.4
LnGrp Delay(d),s/veh	7.4	0.0	0.0	0.0	0.0	5.7	6.2	6.2	0.0	6.5	6.2	7.8
LnGrp LOS	A					A	A	A		A	A	A
Approach Vol, veh/h		497			99			5			533	
Approach Delay, s/veh		7.4			5.7			6.2			7.7	
Approach LOS		A			A			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		11.3		12.9		11.3		12.9
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s		2.0		7.0		5.1		3.0
Green Ext Time (p_c), s		0.0		1.5		1.7		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	7.4
HCM 2010 LOS	A

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	318	86	71	326	65	652	103	530
v/c Ratio	0.29	0.59	0.16	0.40	0.28	0.36	0.60	0.49	0.46
Control Delay	49.3	33.5	2.7	50.2	21.4	48.6	29.1	49.8	25.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	33.5	2.7	50.2	21.4	48.6	29.1	49.8	25.3
Queue Length 50th (ft)	24	151	0	37	63	34	160	54	118
Queue Length 95th (ft)	71	278	16	97	115	90	260	127	199
Internal Link Dist (ft)		776			1573		775		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	174	876	800	215	1706	235	1679	289	1784
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.36	0.11	0.33	0.19	0.28	0.39	0.36	0.30

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	293	79	65	228	72	60	537	63	95	429	59
Future Volume (veh/h)	42	293	79	65	228	72	60	537	63	95	429	59
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		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	46	318	86	71	248	78	65	584	68	103	466	64
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	477	405	118	722	222	112	914	106	137	940	128
Arrive On Green	0.05	0.26	0.26	0.07	0.27	0.27	0.06	0.29	0.29	0.08	0.30	0.30
Sat Flow, veh/h	1774	1863	1581	1774	2668	820	1774	3187	370	1774	3123	427
Grp Volume(v), veh/h	46	318	86	71	163	163	65	324	328	103	263	267
Grp Sat Flow(s),veh/h/ln	1774	1863	1581	1774	1770	1718	1774	1770	1787	1774	1770	1780
Q Serve(g_s), s	1.7	10.1	2.8	2.6	4.9	5.0	2.3	10.5	10.6	3.7	8.0	8.1
Cycle Q Clear(g_c), s	1.7	10.1	2.8	2.6	4.9	5.0	2.3	10.5	10.6	3.7	8.0	8.1
Prop In Lane	1.00		1.00	1.00		0.48	1.00		0.21	1.00		0.24
Lane Grp Cap(c), veh/h	92	477	405	118	479	465	112	508	513	137	532	536
V/C Ratio(X)	0.50	0.67	0.21	0.60	0.34	0.35	0.58	0.64	0.64	0.75	0.49	0.50
Avail Cap(c_a), veh/h	192	963	818	237	961	933	259	936	946	318	996	1002
HCM Platoon Ratio	1.00	1.00	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	30.3	21.9	19.2	29.9	19.3	19.3	29.9	20.5	20.5	29.7	18.9	18.9
Incr Delay (d2), s/veh	1.6	4.9	0.8	1.9	1.3	1.4	1.7	2.6	2.6	3.1	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	5.8	1.3	1.3	2.5	2.5	1.2	5.5	5.6	1.9	4.1	4.1
LnGrp Delay(d),s/veh	31.9	26.8	20.0	31.7	20.5	20.7	31.7	23.0	23.1	32.8	20.3	20.3
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		450			397			717			633	
Approach Delay, s/veh		26.0			22.6			23.8			22.3	
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	9.3	25.9	8.6	22.0	8.4	26.8	7.6	23.0
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 12	34.8	* 8.8	34.0	* 9.6	37.0	* 7.1	35.7
Max Q Clear Time (g_c+I1), s	5.7	12.6	4.6	12.1	4.3	10.1	3.7	7.0
Green Ext Time (p_c), s	0.0	6.3	0.0	4.6	0.0	5.5	0.0	4.2

Intersection Summary	
HCM 2010 Ctrl Delay	23.6
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	162	272	3	1	266	97	5	0	3	42	0	126
Future Vol, veh/h	162	272	3	1	266	97	5	0	3	42	0	126
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	176	296	3	1	289	105	5	0	3	46	0	137

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	394	0	0	299	0	0	1062	1046	298	995	995	342
Stage 1	-	-	-	-	-	-	650	650	-	344	344	-
Stage 2	-	-	-	-	-	-	412	396	-	651	651	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1165	-	-	1262	-	-	201	228	741	224	245	701
Stage 1	-	-	-	-	-	-	458	465	-	671	637	-
Stage 2	-	-	-	-	-	-	617	604	-	457	465	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1165	-	-	1262	-	-	143	193	741	197	208	701
Mov Cap-2 Maneuver	-	-	-	-	-	-	143	193	-	197	208	-
Stage 1	-	-	-	-	-	-	389	395	-	570	636	-
Stage 2	-	-	-	-	-	-	496	603	-	386	395	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0	23.3	19.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	205	1165	-	-	1262	-	-	428
HCM Lane V/C Ratio	0.042	0.151	-	-	0.001	-	-	0.427
HCM Control Delay (s)	23.3	8.6	-	-	7.9	-	-	19.5
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0	-	-	2.1

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	87	287	345	56	69	155
Future Vol, veh/h	87	287	345	56	69	155
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	95	312	375	61	75	168

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	436	0	-	0	908	406
Stage 1	-	-	-	-	406	-
Stage 2	-	-	-	-	502	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1124	-	-	-	306	645
Stage 1	-	-	-	-	673	-
Stage 2	-	-	-	-	608	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1124	-	-	-	280	645
Mov Cap-2 Maneuver	-	-	-	-	280	-
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	608	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1124	-	-	-	280	645
HCM Lane V/C Ratio	0.084	-	-	-	0.268	0.261
HCM Control Delay (s)	8.5	-	-	-	22.5	12.5
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1.1	1

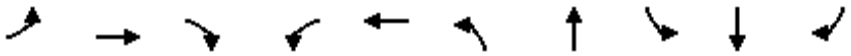
Intersection	
Int Delay, s/veh	19.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	303	62	119	303	14	90	0	244	7	0	15
Future Vol, veh/h	37	303	62	119	303	14	90	0	244	7	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	329	67	129	329	15	98	0	265	8	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	344	0	0	396	0	0	1047	1045	363	1170	1071	338
Stage 1	-	-	-	-	-	-	443	443	-	595	595	-
Stage 2	-	-	-	-	-	-	604	602	-	575	476	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1215	-	-	1163	-	-	206	229	682	170	221	704
Stage 1	-	-	-	-	-	-	594	576	-	491	492	-
Stage 2	-	-	-	-	-	-	485	489	-	503	557	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1215	-	-	1163	-	-	179	197	682	93	190	703
Mov Cap-2 Maneuver	-	-	-	-	-	-	179	197	-	93	190	-
Stage 1	-	-	-	-	-	-	574	557	-	475	437	-
Stage 2	-	-	-	-	-	-	421	435	-	297	539	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	2.3	64	22.6
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	388	1215	-	-	1163	-	-	228
HCM Lane V/C Ratio	0.936	0.033	-	-	0.111	-	-	0.105
HCM Control Delay (s)	64	8.1	-	-	8.5	-	-	22.6
HCM Lane LOS	F	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	10.2	0.1	-	-	0.4	-	-	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	62	134	124	217	203	91	770	12	449	47
v/c Ratio	0.44	0.38	0.26	0.68	0.33	0.63	0.62	0.08	0.40	0.09
Control Delay	49.5	32.1	1.3	42.3	21.9	60.1	26.0	41.2	28.1	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.5	32.1	1.3	42.3	21.9	60.1	26.0	41.2	28.1	0.3
Queue Length 50th (ft)	28	55	0	95	74	42	141	5	64	0
Queue Length 95th (ft)	#97	121	0	200	135	#151	#381	26	122	0
Internal Link Dist (ft)		765			339		252		1110	
Turn Bay Length (ft)	180			175		205		290		210
Base Capacity (vph)	142	623	681	521	1014	144	1234	142	1518	629
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.22	0.18	0.42	0.20	0.63	0.62	0.08	0.30	0.07

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	123	114	200	176	11	84	612	97	11	413	43
Future Volume (veh/h)	57	123	114	200	176	11	84	612	97	11	413	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		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	62	134	124	217	191	12	91	665	105	12	449	47
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	264	224	266	397	25	133	936	148	32	1262	393
Arrive On Green	0.06	0.14	0.14	0.15	0.23	0.23	0.08	0.31	0.31	0.02	0.25	0.25
Sat Flow, veh/h	1774	1863	1583	1774	1734	109	1774	3063	483	1774	5085	1583
Grp Volume(v), veh/h	62	134	124	217	0	203	91	384	386	12	449	47
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1843	1774	1770	1777	1774	1695	1583
Q Serve(g_s), s	2.2	4.3	4.7	7.6	0.0	6.1	3.2	12.3	12.3	0.4	4.7	1.5
Cycle Q Clear(g_c), s	2.2	4.3	4.7	7.6	0.0	6.1	3.2	12.3	12.3	0.4	4.7	1.5
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	111	264	224	266	0	422	133	541	543	32	1262	393
V/C Ratio(X)	0.56	0.51	0.55	0.82	0.00	0.48	0.68	0.71	0.71	0.38	0.36	0.12
Avail Cap(c_a), veh/h	167	729	620	611	0	1183	169	620	623	167	1775	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	25.4	25.5	26.3	0.0	21.3	28.8	19.7	19.7	31.0	19.8	18.6
Incr Delay (d2), s/veh	1.6	4.6	6.4	2.3	0.0	2.5	4.2	7.3	7.4	2.7	0.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.5	2.4	3.8	0.0	3.4	1.7	7.1	7.1	0.2	2.2	0.7
LnGrp Delay(d),s/veh	30.7	30.0	32.0	28.6	0.0	23.8	33.0	27.0	27.0	33.7	20.5	19.2
LnGrp LOS	C	C	C	C		C	C	C	C	C	C	B
Approach Vol, veh/h		320			420			861			508	
Approach Delay, s/veh		30.9			26.3			27.7			20.7	
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	6.9	26.3	15.3	15.4	10.5	22.7	9.7	21.0
Change Period (Y+Rc), s	* 5.7	6.8	* 5.7	6.4	* 5.7	6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 6	22.4	* 22	25.0	* 6.1	22.3	* 6	41.0
Max Q Clear Time (g_c+I1), s	2.4	14.3	9.6	6.7	5.2	6.7	4.2	8.1
Green Ext Time (p_c), s	0.0	5.2	0.2	2.4	0.0	5.7	0.0	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	26.2
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	227	6	20	0	0	362
Future Vol, veh/h	227	6	20	0	0	362
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	247	7	22	0	0	393

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	22	0	-	0	523	22
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	501	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1593	-	-	-	514	1055
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	609	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1593	-	-	-	434	1055
Mov Cap-2 Maneuver	-	-	-	-	434	-
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	609	-

Approach	EB	WB	SB
HCM Control Delay, s	7.5	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1593	-	-	-	1055
HCM Lane V/C Ratio	0.155	-	-	-	0.373
HCM Control Delay (s)	7.7	-	-	-	10.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1.7



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	40	14	21	8	828	8	743	34
v/c Ratio	0.15	0.04	0.06	0.03	0.33	0.03	0.29	0.03
Control Delay	21.3	0.2	0.3	22.9	7.0	22.9	6.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	0.2	0.3	22.9	7.0	22.9	6.8	0.0
Queue Length 50th (ft)	12	0	0	3	64	3	56	0
Queue Length 95th (ft)	37	0	0	14	158	14	138	0
Internal Link Dist (ft)	1563		335		1230		630	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	1034	1212	1094	230	2532	230	2534	1146
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.01	0.02	0.03	0.33	0.03	0.29	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	0	13	6	0	13	7	759	3	7	684	31
Future Volume (veh/h)	37	0	13	6	0	13	7	759	3	7	684	31
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	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	40	0	14	7	0	14	8	825	3	8	743	34
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	318	0	172	140	25	114	23	1552	6	23	1519	679
Arrive On Green	0.11	0.00	0.11	0.11	0.00	0.11	0.01	0.43	0.43	0.01	0.43	0.43
Sat Flow, veh/h	1434	0	1583	294	232	1052	1774	3617	13	1774	3539	1581
Grp Volume(v), veh/h	40	0	14	21	0	0	8	404	424	8	743	34
Grp Sat Flow(s),veh/h/ln	1434	0	1583	1578	0	0	1774	1770	1860	1774	1770	1581
Q Serve(g_s), s	0.5	0.0	0.4	0.0	0.0	0.0	0.2	7.5	7.5	0.2	6.7	0.6
Cycle Q Clear(g_c), s	1.0	0.0	0.4	0.5	0.0	0.0	0.2	7.5	7.5	0.2	6.7	0.6
Prop In Lane	1.00		1.00	0.33		0.67	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	318	0	172	279	0	0	23	759	798	23	1519	679
V/C Ratio(X)	0.13	0.00	0.08	0.08	0.00	0.00	0.36	0.53	0.53	0.36	0.49	0.05
Avail Cap(c_a), veh/h	1244	0	1224	1238	0	0	239	1034	1087	239	2068	924
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	17.8	17.9	0.0	0.0	21.8	9.4	9.4	21.8	9.2	7.4
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.0	0.0	3.5	2.5	2.4	3.5	0.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.2	0.2	0.0	0.0	0.1	4.1	4.3	0.1	3.4	0.3
LnGrp Delay(d),s/veh	18.2	0.0	17.9	17.9	0.0	0.0	25.3	11.9	11.8	25.3	10.1	7.5
LnGrp LOS	B		B	B			C	B	B	C	B	A
Approach Vol, veh/h		54			21			836			785	
Approach Delay, s/veh		18.1			17.9			11.9			10.2	
Approach LOS		B			B			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	6.3	25.9		12.3	6.3	25.9		12.3
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 6	26.0		* 34	* 6	26.0		33.0
Max Q Clear Time (g_c+I1), s	2.2	9.5		3.0	2.2	8.7		2.5
Green Ext Time (p_c), s	0.0	9.6		0.1	0.0	9.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.4
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	8	157	32	20	10	53	814	24	3	635	19
Future Vol, veh/h	12	8	157	32	20	10	53	814	24	3	635	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	9	171	35	22	11	58	885	26	3	690	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1277	1734	356	1370	1731	456	711	0	0	911	0	0
Stage 1	707	707	-	1014	1014	-	-	-	-	-	-	-
Stage 2	570	1027	-	356	717	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	123	87	640	105	87	551	884	-	-	743	-	-
Stage 1	392	436	-	256	314	-	-	-	-	-	-	-
Stage 2	474	310	-	634	432	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	91	81	640	67	81	551	884	-	-	743	-	-
Mov Cap-2 Maneuver	91	81	-	67	81	-	-	-	-	-	-	-
Stage 1	366	434	-	239	293	-	-	-	-	-	-	-
Stage 2	402	290	-	454	430	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.6	138.9	0.6	0
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	884	-	-	372	83	743	-	-
HCM Lane V/C Ratio	0.065	-	-	0.517	0.812	0.004	-	-
HCM Control Delay (s)	9.4	-	-	24.6	138.9	9.9	-	-
HCM Lane LOS	A	-	-	C	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	2.9	4.1	0	-	-



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	53	80	777	45	758
v/c Ratio	0.13	0.17	0.32	0.32	0.19	0.35
Control Delay	17.8	14.7	29.7	11.0	28.8	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	14.7	29.7	11.0	28.8	12.7
Queue Length 50th (ft)	8	8	27	56	15	97
Queue Length 95th (ft)	29	33	75	220	49	212
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	618	662	327	2393	320	2192
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.08	0.24	0.32	0.14	0.35

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	1	10	23	2	26	76	724	14	43	642	78
Future Volume (veh/h)	23	1	10	23	2	26	76	724	14	43	642	78
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		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	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	24	1	11	24	2	27	80	762	15	45	676	82
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	29	58	169	39	101	147	1441	28	101	1205	146
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.08	0.41	0.41	0.06	0.38	0.38
Sat Flow, veh/h	818	233	462	458	309	796	1774	3550	70	1774	3170	384
Grp Volume(v), veh/h	36	0	0	53	0	0	80	380	397	45	377	381
Grp Sat Flow(s),veh/h/ln	1513	0	0	1563	0	0	1774	1770	1850	1774	1770	1785
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	2.0	7.6	7.6	1.2	7.9	7.9
Cycle Q Clear(g_c), s	0.9	0.0	0.0	1.3	0.0	0.0	2.0	7.6	7.6	1.2	7.9	7.9
Prop In Lane	0.67		0.31	0.45		0.51	1.00		0.04	1.00		0.22
Lane Grp Cap(c), veh/h	319	0	0	309	0	0	147	718	751	101	672	678
V/C Ratio(X)	0.11	0.00	0.00	0.17	0.00	0.00	0.54	0.53	0.53	0.45	0.56	0.56
Avail Cap(c_a), veh/h	814	0	0	824	0	0	344	931	973	336	923	931
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	0.0	0.0	18.5	0.0	0.0	20.7	10.5	10.5	21.4	11.5	11.5
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.4	0.0	0.0	1.2	2.6	2.5	1.2	3.1	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.7	0.0	0.0	1.0	4.2	4.4	0.6	4.4	4.4
LnGrp Delay(d),s/veh	18.6	0.0	0.0	18.9	0.0	0.0	21.9	13.1	13.0	22.6	14.6	14.6
LnGrp LOS	B			B			C	B	B	C	B	B
Approach Vol, veh/h		36			53			857			803	
Approach Delay, s/veh		18.6			18.9			13.9			15.1	
Approach LOS		B			B			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	8.4	27.0		11.6	9.6	25.7		11.6
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 8.9	24.7		* 22	* 9.1	24.5		* 22
Max Q Clear Time (g_c+I1), s	3.2	9.6		2.9	4.0	9.9		3.3
Green Ext Time (p_c), s	0.0	8.3		0.2	0.0	7.9		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	231	0	0	387	0	0
Future Vol, veh/h	231	0	0	387	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	251	0	0	421	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	251
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	788
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	788
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	221	372	7	3	15
Future Vol, veh/h	10	221	372	7	3	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	240	404	8	3	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	412	0	-	0	670	408
Stage 1	-	-	-	-	408	-
Stage 2	-	-	-	-	262	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1147	-	-	-	422	643
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	782	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1147	-	-	-	417	643
Mov Cap-2 Maneuver	-	-	-	-	417	-
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	782	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1147	-	-	-	590
HCM Lane V/C Ratio	0.009	-	-	-	0.033
HCM Control Delay (s)	8.2	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	224	0	0	417	0	0
Future Vol, veh/h	224	0	0	417	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	243	0	0	453	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	243
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	796
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	796
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	105	359	3	0	58
Future Vol, veh/h	119	105	359	3	0	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	114	390	3	0	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	393	0	-	0	764	392
Stage 1	-	-	-	-	392	-
Stage 2	-	-	-	-	372	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1166	-	-	-	372	657
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	697	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1166	-	-	-	328	657
Mov Cap-2 Maneuver	-	-	-	-	328	-
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	697	-

Approach	EB	WB	SB
HCM Control Delay, s	4.5	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1166	-	-	-	-	657
HCM Lane V/C Ratio	0.111	-	-	-	-	0.096
HCM Control Delay (s)	8.5	0	-	-	0	11.1
HCM Lane LOS	A	A	-	-	A	B
HCM 95th %tile Q(veh)	0.4	-	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	66	0	733	601	126
Future Vol, veh/h	0	66	0	733	601	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	72	0	797	653	137

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	327	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	669	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	669	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	669	-	-
HCM Lane V/C Ratio	-	0.107	-	-
HCM Control Delay (s)	-	11	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	87	171	666	569	98
Future Vol, veh/h	0	87	171	666	569	98
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	150	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	95	186	724	618	107

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	309	725	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	687	874	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	687	874	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	2.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	874	-	687	-	-
HCM Lane V/C Ratio	0.213	-	0.138	-	-
HCM Control Delay (s)	10.2	-	11.1	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.8	-	0.5	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	19	0	0	0
Future Vol, veh/h	0	10	19	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	21	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	21	0	-	0	32	21
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1595	-	-	-	982	1056
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1595	-	-	-	982	1056
Mov Cap-2 Maneuver	-	-	-	-	982	-
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1595	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	19	0	0	0
Future Vol, veh/h	0	10	19	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	21	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	21	0	-	0	32	21
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1595	-	-	-	982	1056
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1595	-	-	-	982	1056
Mov Cap-2 Maneuver	-	-	-	-	982	-
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1595	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	19	0	0	0
Future Vol, veh/h	0	10	19	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	21	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	21	0	-	0	32	21
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1595	-	-	-	982	1056
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1595	-	-	-	982	1056
Mov Cap-2 Maneuver	-	-	-	-	982	-
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1595	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	19	0	0	0
Future Vol, veh/h	0	10	19	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	21	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	21	0	-	0	32	21
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1595	-	-	-	982	1056
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1595	-	-	-	982	1056
Mov Cap-2 Maneuver	-	-	-	-	982	-
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1595	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

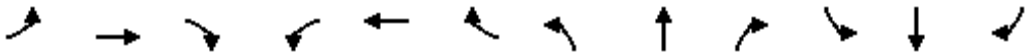
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	95	239	173	192	227	65	206	1011	192	113	1127	82
v/c Ratio	0.25	0.41	0.42	0.54	0.40	0.16	1.19	0.42	0.24	0.54	0.46	0.10
Control Delay	53.4	47.0	7.1	59.7	47.5	0.9	178.9	23.7	8.3	66.8	23.5	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	47.0	7.1	59.7	47.5	0.9	178.9	23.7	8.3	66.8	23.5	0.9
Queue Length 50th (ft)	36	96	0	76	92	0	~103	182	22	46	200	0
Queue Length 95th (ft)	66	103	42	#120	98	0	#185	297	88	#89	339	6
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	375	1330	701	356	1339	706	173	2421	816	209	2475	826
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.18	0.25	0.54	0.17	0.09	1.19	0.42	0.24	0.54	0.46	0.10

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	232	168	186	220	63	200	981	186	110	1093	80
Future Volume (veh/h)	92	232	168	186	220	63	200	981	186	110	1093	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	95	239	173	192	227	65	206	1011	192	113	1127	82
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	339	588	258	173	418	186	876	2758	848	163	1676	519
Arrive On Green	0.10	0.17	0.17	0.05	0.12	0.12	0.25	0.54	0.54	0.05	0.33	0.33
Sat Flow, veh/h	3442	3539	1554	3442	3539	1579	3442	5085	1564	3442	5085	1575
Grp Volume(v), veh/h	95	239	173	192	227	65	206	1011	192	113	1127	82
Grp Sat Flow(s),veh/h/ln	1721	1770	1554	1721	1770	1579	1721	1695	1564	1721	1695	1575
Q Serve(g_s), s	3.2	7.5	13.1	6.3	7.6	4.0	5.9	14.2	5.4	4.0	23.9	4.6
Cycle Q Clear(g_c), s	3.2	7.5	13.1	6.3	7.6	4.0	5.9	14.2	5.4	4.0	23.9	4.6
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	339	588	258	173	418	186	876	2758	848	163	1676	519
V/C Ratio(X)	0.28	0.41	0.67	1.11	0.54	0.35	0.24	0.37	0.23	0.69	0.67	0.16
Avail Cap(c_a), veh/h	339	1331	584	173	1339	598	876	2758	848	165	1676	519
HCM Platoon Ratio	1.00	1.00	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	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	46.6	48.9	59.4	51.9	35.5	36.9	16.3	6.9	58.6	36.1	29.6
Incr Delay (d2), s/veh	0.2	0.9	5.7	99.9	2.1	2.2	0.0	0.3	0.5	9.7	2.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.8	6.0	5.4	3.8	2.1	2.8	6.7	3.1	2.2	11.5	2.1
LnGrp Delay(d),s/veh	52.4	47.5	54.6	159.2	54.1	37.6	37.0	16.7	7.4	68.4	38.3	30.3
LnGrp LOS	D	D	D	F	D	D	D	B	A	E	D	C
Approach Vol, veh/h		507			484			1409			1322	
Approach Delay, s/veh		50.8			93.6			18.4			40.3	
Approach LOS		D			F			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	11.6	74.2	12.0	27.2	38.2	47.6	18.0	21.2
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6	41.5	6.3	* 47	6.3	* 41	6.0	* 47
Max Q Clear Time (g_c+I1), s	6.0	16.2	8.3	15.1	7.9	25.9	5.2	9.6
Green Ext Time (p_c), s	0.0	13.8	0.0	4.1	0.0	10.1	0.0	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	40.4
HCM 2010 LOS	D

Notes



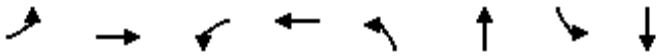
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	127	225	1	178	99	23	114	16	184
v/c Ratio	0.28	0.21	0.00	0.24	0.14	0.04	0.24	0.02	0.27
Control Delay	20.4	9.0	22.0	15.9	2.1	13.8	16.5	14.3	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.4	9.0	22.0	15.9	2.1	13.8	16.5	14.3	4.5
Queue Length 50th (ft)	28	25	0	36	0	4	23	3	0
Queue Length 95th (ft)	82	100	4	95	15	19	67	16	38
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	689	1309	407	1174	1051	1052	871	1174	1066
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.17	0.00	0.15	0.09	0.02	0.13	0.01	0.17

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	196	11	1	164	91	7	12	2	105	15	169
Future Volume (veh/h)	117	196	11	1	164	91	7	12	2	105	15	169
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	127	213	12	1	178	99	8	13	2	114	16	184
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	670	38	5	493	419	208	258	31	512	406	345
Arrive On Green	0.12	0.38	0.38	0.00	0.26	0.26	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	1747	98	1774	1863	1583	323	1183	143	1393	1863	1583
Grp Volume(v), veh/h	127	0	225	1	178	99	23	0	0	114	16	184
Grp Sat Flow(s),veh/h/ln	1774	0	1845	1774	1863	1583	1649	0	0	1393	1863	1583
Q Serve(g_s), s	2.4	0.0	3.0	0.0	2.7	1.7	0.0	0.0	0.0	2.0	0.2	3.6
Cycle Q Clear(g_c), s	2.4	0.0	3.0	0.0	2.7	1.7	0.4	0.0	0.0	2.4	0.2	3.6
Prop In Lane	1.00		0.05	1.00		1.00	0.35		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	215	0	708	5	493	419	497	0	0	512	406	345
V/C Ratio(X)	0.59	0.00	0.32	0.20	0.36	0.24	0.05	0.00	0.00	0.22	0.04	0.53
Avail Cap(c_a), veh/h	552	0	1541	326	1318	1121	1246	0	0	1193	1318	1121
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	7.6	17.6	10.6	10.2	10.9	0.0	0.0	11.7	10.9	12.2
Incr Delay (d2), s/veh	1.0	0.0	0.4	7.0	0.8	0.5	0.1	0.0	0.0	0.4	0.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.6	0.0	1.5	0.8	0.2	0.0	0.0	1.0	0.1	1.8
LnGrp Delay(d),s/veh	15.7	0.0	8.1	24.6	11.3	10.7	11.0	0.0	0.0	12.1	11.0	14.4
LnGrp LOS	B		A	C	B	B	B			B	B	B
Approach Vol, veh/h		352			278			23			314	
Approach Delay, s/veh		10.8			11.1			11.0			13.4	
Approach LOS		B			B			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	4.1	18.6		12.7	8.3	14.3		12.7
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	6.5	29.5		25.0	11.0	25.0		25.0
Max Q Clear Time (g_c+I1), s	2.0	5.0		2.4	4.4	4.7		5.6
Green Ext Time (p_c), s	0.0	2.0		0.1	0.1	2.0		1.8

Intersection Summary		
HCM 2010 Ctrl Delay		11.7
HCM 2010 LOS		B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	124	58	5	128	63	1239	78	1503
v/c Ratio	0.48	0.14	0.03	0.51	0.59	0.53	0.47	0.60
Control Delay	46.1	13.2	39.0	15.8	69.3	21.4	51.7	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	13.2	39.0	15.8	69.3	21.4	51.7	20.0
Queue Length 50th (ft)	74	2	3	1	40	204	48	246
Queue Length 95th (ft)	130	41	13	55	#99	287	92	326
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	257	648	148	681	106	2354	165	2508
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.09	0.03	0.19	0.59	0.53	0.47	0.60

Intersection Summary

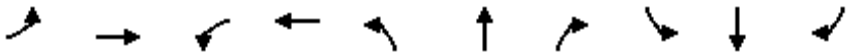
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	5	49	5	2	117	59	1145	7	73	1328	70
Future Volume (veh/h)	115	5	49	5	2	117	59	1145	7	73	1328	70
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		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	124	5	53	5	2	126	63	1231	8	78	1428	75
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	11	117	156	3	164	582	2821	18	100	1293	68
Arrive On Green	0.06	0.08	0.08	0.09	0.10	0.10	0.33	0.54	0.54	0.06	0.26	0.26
Sat Flow, veh/h	1774	138	1466	1774	25	1562	1774	5212	34	1774	4936	259
Grp Volume(v), veh/h	124	0	58	5	0	128	63	801	438	78	981	522
Grp Sat Flow(s),veh/h/ln	1774	0	1604	1774	0	1587	1774	1695	1856	1774	1695	1805
Q Serve(g_s), s	6.3	0.0	3.5	0.3	0.0	7.9	2.5	14.2	14.2	4.3	26.2	26.2
Cycle Q Clear(g_c), s	6.3	0.0	3.5	0.3	0.0	7.9	2.5	14.2	14.2	4.3	26.2	26.2
Prop In Lane	1.00		0.91	1.00		0.98	1.00		0.02	1.00		0.14
Lane Grp Cap(c), veh/h	112	0	128	156	0	166	582	1835	1004	100	888	473
V/C Ratio(X)	1.11	0.00	0.45	0.03	0.00	0.77	0.11	0.44	0.44	0.78	1.10	1.10
Avail Cap(c_a), veh/h	112	0	614	156	0	603	582	1835	1004	108	888	473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.88	0.88	0.88	0.88	0.88	0.88
Uniform Delay (d), s/veh	46.8	0.0	43.9	41.7	0.0	43.6	23.4	13.8	13.8	46.6	36.9	36.9
Incr Delay (d2), s/veh	117.6	0.0	1.8	0.0	0.0	5.5	0.0	0.7	1.2	22.8	61.4	70.6
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	6.7	0.0	1.6	0.1	0.0	3.7	1.2	6.7	7.5	2.8	19.8	22.3
LnGrp Delay(d),s/veh	164.5	0.0	45.8	41.8	0.0	49.1	23.4	14.4	15.0	69.4	98.3	107.5
LnGrp LOS	F		D	D		D	C	B	B	E	F	F
Approach Vol, veh/h		182			133			1302			1581	
Approach Delay, s/veh		126.6			48.9			15.1			99.9	
Approach LOS		F			D			B			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	60.5	14.5	13.7	39.2	32.6	12.0	16.2
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	6.4	* 6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 6.1	26.1	* 6	* 38	6.0	* 26	* 6.3	* 38
Max Q Clear Time (g_c+I1), s	6.3	16.2	2.3	5.5	4.5	28.2	8.3	9.9
Green Ext Time (p_c), s	0.0	7.3	0.0	0.3	0.0	0.0	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	64.8
HCM 2010 LOS	E

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	20	41	66	91	71	1079	54	176	1303	40
v/c Ratio	0.17	0.16	0.50	0.27	0.36	0.48	0.07	0.52	0.42	0.04
Control Delay	49.8	11.1	60.8	10.2	53.1	24.3	0.2	48.1	17.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	11.1	60.8	10.2	53.1	24.3	0.2	48.1	17.9	0.1
Queue Length 50th (ft)	13	1	43	5	24	191	0	107	181	0
Queue Length 95th (ft)	38	22	#112	35	47	305	0	#314	#426	0
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	115	651	132	685	196	2237	762	341	3102	1010
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.06	0.50	0.13	0.36	0.48	0.07	0.52	0.42	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	2	37	62	9	76	67	1014	51	165	1225	38
Future Volume (veh/h)	19	2	37	62	9	76	67	1014	51	165	1225	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		0.98	1.00		0.99	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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	20	2	39	66	10	81	71	1079	54	176	1303	40
Adj No. of Lanes	1	1	0	1	1	0	2	3	1	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	9	173	87	21	167	1180	2799	851	101	1312	406
Arrive On Green	0.05	0.12	0.12	0.05	0.12	0.12	0.34	0.55	0.55	0.06	0.26	0.26
Sat Flow, veh/h	1774	77	1495	1774	176	1423	3442	5085	1546	1774	5085	1574
Grp Volume(v), veh/h	20	0	41	66	0	91	71	1079	54	176	1303	40
Grp Sat Flow(s),veh/h/ln	1774	0	1571	1774	0	1599	1721	1695	1546	1774	1695	1574
Q Serve(g_s), s	1.1	0.0	2.5	3.9	0.0	5.6	1.5	12.7	1.1	6.0	26.8	2.0
Cycle Q Clear(g_c), s	1.1	0.0	2.5	3.9	0.0	5.6	1.5	12.7	1.1	6.0	26.8	2.0
Prop In Lane	1.00		0.95	1.00		0.89	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	85	0	182	87	0	187	1180	2799	851	101	1312	406
V/C Ratio(X)	0.24	0.00	0.22	0.76	0.00	0.49	0.06	0.39	0.06	1.74	0.99	0.10
Avail Cap(c_a), veh/h	101	0	629	101	0	639	1180	2799	851	101	1312	406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.87	0.87	0.87	0.77	0.77	0.77
Uniform Delay (d), s/veh	48.2	0.0	42.1	49.3	0.0	43.4	23.2	13.5	4.4	49.5	38.9	29.7
Incr Delay (d2), s/veh	0.5	0.0	0.2	20.1	0.0	1.4	0.0	0.3	0.1	360.9	20.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.1	2.4	0.0	2.6	0.7	6.0	0.7	13.1	15.0	0.9
LnGrp Delay(d),s/veh	48.7	0.0	42.4	69.4	0.0	44.8	23.2	13.8	4.6	410.4	59.0	30.0
LnGrp LOS	D		D	E		D	C	B	A	F	E	C
Approach Vol, veh/h		61			157			1204			1519	
Approach Delay, s/veh		44.4			55.2			14.0			99.0	
Approach LOS		D			E			B			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	64.2	10.8	18.3	42.4	33.5	10.7	18.4
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 6	27.1	6.0	* 42	6.0	* 27	6.0	* 42
Max Q Clear Time (g_c+I1), s	8.0	14.7	5.9	4.5	3.5	28.8	3.1	7.6
Green Ext Time (p_c), s	0.0	8.6	0.0	0.1	0.0	0.0	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	60.7
HCM 2010 LOS	E

Notes

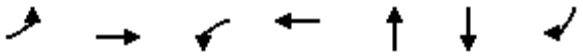
Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	1108	51	41	875	24	21	0	39	22	0	42
Future Vol, veh/h	29	1108	51	41	875	24	21	0	39	22	0	42
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	1154	53	43	911	25	22	0	41	23	0	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	941	0	0	1207	0	0	1783	2268	604	1652	2282	473
Stage 1	-	-	-	-	-	-	1241	1241	-	1015	1015	-
Stage 2	-	-	-	-	-	-	542	1027	-	637	1267	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	724	-	-	574	-	-	52	40	441	65	39	538
Stage 1	-	-	-	-	-	-	185	245	-	255	314	-
Stage 2	-	-	-	-	-	-	492	310	-	432	238	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	721	-	-	574	-	-	38	29	441	47	29	535
Mov Cap-2 Maneuver	-	-	-	-	-	-	38	29	-	47	29	-
Stage 1	-	-	-	-	-	-	161	213	-	221	263	-
Stage 2	-	-	-	-	-	-	381	260	-	342	207	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1.3	98.8	70.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	94	721	-	-	574	-	-	117
HCM Lane V/C Ratio	0.665	0.042	-	-	0.074	-	-	0.57
HCM Control Delay (s)	98.8	10.2	0.6	-	11.8	0.8	-	70.3
HCM Lane LOS	F	B	A	-	B	A	-	F
HCM 95th %tile Q(veh)	3.3	0.1	-	-	0.2	-	-	2.8



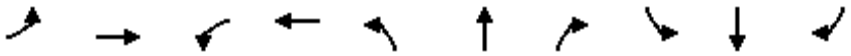
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	59	868	79	755	79	18	11
v/c Ratio	0.22	0.34	0.28	0.27	0.24	0.05	0.03
Control Delay	33.9	15.9	32.8	13.7	6.5	23.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.9	15.9	32.8	13.7	6.5	23.1	0.1
Queue Length 50th (ft)	17	59	22	49	0	5	0
Queue Length 95th (ft)	74	210	92	175	25	22	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	284	2713	368	2891	1116	1138	1038
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.32	0.21	0.26	0.07	0.02	0.01

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	794	22	74	696	14	32	0	42	16	1	10
Future Volume (veh/h)	55	794	22	74	696	14	32	0	42	16	1	10
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	59	845	23	79	740	15	34	0	45	17	1	11
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	1870	51	145	1954	40	59	0	78	75	4	69
Arrive On Green	0.07	0.37	0.37	0.08	0.38	0.38	0.08	0.00	0.08	0.04	0.04	0.04
Sat Flow, veh/h	1774	5086	138	1774	5127	104	714	0	946	1680	99	1558
Grp Volume(v), veh/h	59	563	305	79	489	266	79	0	0	18	0	11
Grp Sat Flow(s),veh/h/ln	1774	1695	1834	1774	1695	1841	1660	0	0	1779	0	1558
Q Serve(g_s), s	1.5	5.9	6.0	2.0	4.9	4.9	2.2	0.0	0.0	0.5	0.0	0.3
Cycle Q Clear(g_c), s	1.5	5.9	6.0	2.0	4.9	4.9	2.2	0.0	0.0	0.5	0.0	0.3
Prop In Lane	1.00		0.08	1.00		0.06	0.43		0.57	0.94		1.00
Lane Grp Cap(c), veh/h	121	1246	674	145	1292	702	136	0	0	79	0	69
V/C Ratio(X)	0.49	0.45	0.45	0.54	0.38	0.38	0.58	0.00	0.00	0.23	0.00	0.16
Avail Cap(c_a), veh/h	256	1810	979	331	1954	1061	1161	0	0	1244	0	1089
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.2	11.3	11.3	20.8	10.6	10.6	20.9	0.0	0.0	21.8	0.0	21.7
Incr Delay (d2), s/veh	1.1	0.7	1.3	1.2	0.5	0.9	2.9	0.0	0.0	1.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.9	3.2	1.0	2.4	2.7	1.1	0.0	0.0	0.2	0.0	0.2
LnGrp Delay(d),s/veh	22.3	12.0	12.6	22.0	11.1	11.5	23.8	0.0	0.0	22.8	0.0	22.5
LnGrp LOS	C	B	B	C	B	B	C			C		C
Approach Vol, veh/h		927			834			79			29	
Approach Delay, s/veh		12.9			12.2			23.8			22.7	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.9	23.4		7.1	7.2	24.0		8.9
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	8.8	25.2		33.0	6.8	27.2		33.0
Max Q Clear Time (g_c+I1), s	4.0	8.0		2.5	3.5	6.9		4.2
Green Ext Time (p_c), s	0.0	9.2		0.1	0.0	8.9		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	13.2
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	286	690	229	527	261	907	120	184	1138	114
v/c Ratio	0.51	0.61	0.51	0.54	1.36	0.48	0.18	0.57	0.55	0.16
Control Delay	54.4	41.8	58.1	43.2	236.4	32.7	5.3	64.0	31.3	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	41.8	58.1	43.2	236.4	32.7	5.3	64.0	31.3	4.0
Queue Length 50th (ft)	114	175	94	135	~148	208	0	77	254	0
Queue Length 95th (ft)	#204	183	143	139	#238	269	41	#169	354	32
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	558	1883	448	1812	192	1882	655	321	2073	709
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.37	0.51	0.29	1.36	0.48	0.18	0.57	0.55	0.16

Intersection Summary

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

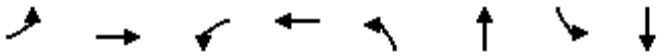
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	272	484	172	218	393	107	248	862	114	175	1081	108
Future Volume (veh/h)	272	484	172	218	393	107	248	862	114	175	1081	108
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	286	509	181	229	414	113	261	907	120	184	1138	114
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	302	845	291	167	750	198	692	2494	775	167	1690	516
Arrive On Green	0.09	0.23	0.23	0.05	0.19	0.19	0.20	0.49	0.49	0.05	0.33	0.33
Sat Flow, veh/h	3442	3729	1283	3442	4007	1055	3442	5085	1580	3442	5085	1553
Grp Volume(v), veh/h	286	461	229	229	348	179	261	907	120	184	1138	114
Grp Sat Flow(s),veh/h/ln	1721	1695	1622	1721	1695	1673	1721	1695	1580	1721	1695	1553
Q Serve(g_s), s	10.7	15.8	16.5	6.3	12.1	12.7	8.5	14.4	3.9	6.3	25.0	6.9
Cycle Q Clear(g_c), s	10.7	15.8	16.5	6.3	12.1	12.7	8.5	14.4	3.9	6.3	25.0	6.9
Prop In Lane	1.00		0.79	1.00		0.63	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	302	768	368	167	635	313	692	2494	775	167	1690	516
V/C Ratio(X)	0.95	0.60	0.62	1.37	0.55	0.57	0.38	0.36	0.15	1.10	0.67	0.22
Avail Cap(c_a), veh/h	302	1278	611	167	1226	605	692	2494	775	167	1690	516
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	0.86	0.86	0.86	0.77	0.77	0.77	0.91	0.91	0.91
Uniform Delay (d), s/veh	59.0	45.0	45.3	61.8	47.8	48.1	44.9	20.5	9.5	61.8	37.3	31.3
Incr Delay (d2), s/veh	36.1	1.4	3.2	197.0	1.2	2.7	0.1	0.3	0.3	96.8	2.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	7.6	7.7	7.6	5.8	6.1	4.1	6.8	2.2	5.2	12.0	3.1
LnGrp Delay(d),s/veh	95.1	46.4	48.4	258.8	49.1	50.8	45.0	20.9	9.9	158.6	39.3	32.2
LnGrp LOS	F	D	D	F	D	D	D	C	A	F	D	C
Approach Vol, veh/h		976			756			1288			1436	
Approach Delay, s/veh		61.1			113.0			24.7			54.0	
Approach LOS		E			F			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	12.0	70.1	12.0	35.9	32.5	49.6	17.1	30.7
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6.3	44.2	6.3	* 49	7.3	* 43	8.3	* 47
Max Q Clear Time (g_c+I1), s	8.3	16.4	8.3	18.5	10.5	27.0	12.7	14.7
Green Ext Time (p_c), s	0.0	13.6	0.0	8.5	0.0	11.4	0.0	6.3

Intersection Summary	
HCM 2010 Ctrl Delay	57.1
HCM 2010 LOS	E

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	123	833	179	777	97	213	185	103
v/c Ratio	0.69	0.58	1.01	0.54	0.19	0.43	0.47	0.25
Control Delay	53.6	22.4	104.9	21.4	12.5	7.6	17.2	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.6	22.4	104.9	21.4	12.5	7.6	17.2	9.4
Queue Length 50th (ft)	45	88	67	79	23	9	47	9
Queue Length 95th (ft)	#169	192	#250	175	46	51	81	39
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	178	1487	178	1489	522	943	393	902
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.56	1.01	0.52	0.19	0.23	0.47	0.11

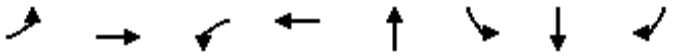
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	697	94	170	621	117	92	27	176	176	27	71
Future Volume (veh/h)	117	697	94	170	621	117	92	27	176	176	27	71
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	123	734	99	179	654	123	97	28	185	185	28	75
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	1226	164	198	1267	235	491	42	278	407	100	268
Arrive On Green	0.09	0.27	0.27	0.11	0.29	0.29	0.08	0.20	0.20	0.11	0.23	0.23
Sat Flow, veh/h	1774	4521	604	1774	4310	800	1774	212	1403	1774	443	1185
Grp Volume(v), veh/h	123	549	284	179	513	264	97	0	213	185	0	103
Grp Sat Flow(s),veh/h/ln	1774	1695	1735	1774	1695	1720	1774	0	1615	1774	0	1628
Q Serve(g_s), s	4.0	8.2	8.3	5.8	7.3	7.5	2.4	0.0	7.1	4.6	0.0	3.0
Cycle Q Clear(g_c), s	4.0	8.2	8.3	5.8	7.3	7.5	2.4	0.0	7.1	4.6	0.0	3.0
Prop In Lane	1.00		0.35	1.00		0.47	1.00		0.87	1.00		0.73
Lane Grp Cap(c), veh/h	158	919	471	198	996	505	491	0	321	407	0	368
V/C Ratio(X)	0.78	0.60	0.60	0.90	0.51	0.52	0.20	0.00	0.66	0.45	0.00	0.28
Avail Cap(c_a), veh/h	198	1107	566	198	1107	561	575	0	943	441	0	951
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.0	18.4	18.5	25.5	17.1	17.1	16.0	0.0	21.5	15.7	0.0	18.6
Incr Delay (d2), s/veh	11.0	1.7	3.4	37.6	1.1	2.3	0.4	0.0	6.4	1.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.0	4.4	4.9	3.6	3.9	1.2	0.0	3.7	2.4	0.0	1.5
LnGrp Delay(d),s/veh	36.9	20.2	21.9	63.1	18.2	19.5	16.4	0.0	27.9	17.4	0.0	19.7
LnGrp LOS	D	C	C	E	B	B	B		C	B		B
Approach Vol, veh/h		956			956			310			288	
Approach Delay, s/veh		22.8			27.0			24.3			18.2	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.5	21.8	9.4	16.6	9.2	23.1	7.7	18.2
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	6.5	19.0	7.5	34.0	6.5	19.0	7.5	34.0
Max Q Clear Time (g_c+I1), s	7.8	10.3	6.6	9.1	6.0	9.5	4.4	5.0
Green Ext Time (p_c), s	0.0	5.4	0.1	2.8	0.0	5.5	0.1	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	24.1
HCM 2010 LOS	C



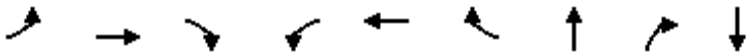
Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	64	1217	1	1021	19	38	1	38
v/c Ratio	0.27	0.45	0.00	0.42	0.07	0.12	0.00	0.09
Control Delay	28.0	6.9	25.0	9.3	21.8	22.7	21.0	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	6.9	25.0	9.3	21.8	22.7	21.0	1.3
Queue Length 50th (ft)	22	102	0	134	6	12	0	0
Queue Length 95th (ft)	56	245	5	195	22	35	4	4
Internal Link Dist (ft)		1064		2598	260		519	
Turn Bay Length (ft)	235		300					200
Base Capacity (vph)	246	2683	242	2418	989	1024	1333	1158
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.45	0.00	0.42	0.02	0.04	0.00	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	1112	7	1	903	36	16	1	1	35	1	35
Future Volume (veh/h)	59	1112	7	1	903	36	16	1	1	35	1	35
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	64	1209	8	1	982	39	17	1	1	38	1	38
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	126	1967	13	4	1652	66	317	19	11	359	276	235
Arrive On Green	0.07	0.55	0.55	0.00	0.48	0.48	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1774	3604	24	1774	3467	138	1205	127	74	1409	1863	1583
Grp Volume(v), veh/h	64	594	623	1	501	520	19	0	0	38	1	38
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1835	1406	0	0	1409	1863	1583
Q Serve(g_s), s	1.7	11.3	11.3	0.0	10.2	10.2	0.3	0.0	0.0	0.5	0.0	1.0
Cycle Q Clear(g_c), s	1.7	11.3	11.3	0.0	10.2	10.2	0.5	0.0	0.0	1.0	0.0	1.0
Prop In Lane	1.00		0.01	1.00		0.08	0.89		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	126	966	1014	4	843	874	347	0	0	359	276	235
V/C Ratio(X)	0.51	0.61	0.61	0.28	0.59	0.59	0.05	0.00	0.00	0.11	0.00	0.16
Avail Cap(c_a), veh/h	237	1058	1111	234	1055	1094	1100	0	0	1121	1284	1091
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	7.7	7.7	24.6	9.4	9.4	18.1	0.0	0.0	18.3	17.9	18.3
Incr Delay (d2), s/veh	1.2	2.4	2.3	14.8	2.4	2.3	0.1	0.0	0.0	0.3	0.0	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	0.9	6.1	6.4	0.0	5.4	5.6	0.2	0.0	0.0	0.5	0.0	0.5
LnGrp Delay(d),s/veh	23.3	10.0	9.9	39.4	11.9	11.8	18.2	0.0	0.0	18.6	17.9	19.0
LnGrp LOS	C	B	A	D	B	B	B			B	B	B
Approach Vol, veh/h		1281			1022			19			77	
Approach Delay, s/veh		10.6			11.8			18.2			18.8	
Approach LOS		B			B			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	4.1	32.9		12.3	7.5	29.5		12.3
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	6.5	29.5		34.0	6.6	29.4		34.0
Max Q Clear Time (g_c+I1), s	2.0	13.3		2.5	3.7	12.2		3.0
Green Ext Time (p_c), s	0.0	12.6		0.1	0.0	11.3		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	11.5
HCM 2010 LOS	B



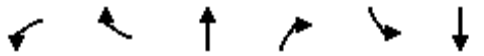
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	135	784	58	100	737	58	180	26	216
v/c Ratio	0.52	0.54	0.08	0.45	0.53	0.09	0.45	0.06	0.51
Control Delay	34.8	15.9	2.9	35.0	16.9	3.2	25.7	0.2	21.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.8	15.9	2.9	35.0	16.9	3.2	25.7	0.2	21.4
Queue Length 50th (ft)	50	115	0	37	112	0	62	0	57
Queue Length 95th (ft)	109	190	15	88	186	16	118	0	118
Internal Link Dist (ft)		2598			1241		400		320
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	313	1786	837	250	1661	783	979	965	974
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.44	0.07	0.40	0.44	0.07	0.18	0.03	0.22

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	721	53	92	678	53	37	129	24	29	85	85
Future Volume (veh/h)	124	721	53	92	678	53	37	129	24	29	85	85
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	135	784	58	100	737	58	40	140	26	32	92	92
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1425	637	158	1385	620	136	312	323	110	163	142
Arrive On Green	0.10	0.40	0.40	0.09	0.39	0.39	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	244	1530	1583	139	798	695
Grp Volume(v), veh/h	135	784	58	100	737	58	180	0	26	216	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1583	1633	0	0
Q Serve(g_s), s	3.8	8.7	1.2	2.8	8.2	1.2	0.0	0.0	0.7	1.8	0.0	0.0
Cycle Q Clear(g_c), s	3.8	8.7	1.2	2.8	8.2	1.2	4.3	0.0	0.7	6.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.22		1.00	0.15		0.43
Lane Grp Cap(c), veh/h	178	1425	637	158	1385	620	448	0	323	414	0	0
V/C Ratio(X)	0.76	0.55	0.09	0.63	0.53	0.09	0.40	0.00	0.08	0.52	0.00	0.00
Avail Cap(c_a), veh/h	348	1980	886	279	1841	824	1184	0	1026	1131	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.3	11.7	9.4	22.4	11.9	9.8	17.9	0.0	16.4	18.5	0.0	0.0
Incr Delay (d2), s/veh	2.5	1.2	0.2	1.6	1.2	0.2	1.2	0.0	0.2	2.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	4.4	0.5	1.4	4.1	0.6	2.4	0.0	0.3	3.0	0.0	0.0
LnGrp Delay(d),s/veh	24.8	12.9	9.7	23.9	13.1	10.0	19.1	0.0	16.6	20.7	0.0	0.0
LnGrp LOS	C	B	A	C	B	B	B		B	C		
Approach Vol, veh/h		977			895			206			216	
Approach Delay, s/veh		14.3			14.1			18.8			20.7	
Approach LOS		B			B			B			C	

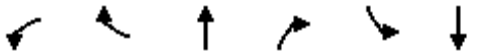
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.5	27.0		15.4	9.1	26.4		15.4
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	8.0	28.5		33.0	10.0	26.5		33.0
Max Q Clear Time (g_c+I1), s	4.8	10.7		6.3	5.8	10.2		8.1
Green Ext Time (p_c), s	0.0	9.8		2.2	0.1	8.8		2.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	67	359	214	35	370	131
v/c Ratio	0.17	0.57	0.23	0.04	0.64	0.14
Control Delay	13.2	6.3	5.8	2.3	12.7	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.2	6.3	5.8	2.3	12.7	5.3
Queue Length 50th (ft)	8	0	16	0	37	10
Queue Length 95th (ft)	39	50	53	8	129	34
Internal Link Dist (ft)	1226		772			355
Turn Bay Length (ft)		100		160	145	
Base Capacity (vph)	990	1024	1581	1322	986	1581
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.35	0.14	0.03	0.38	0.08

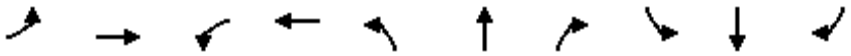
Intersection Summary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	62	334	199	33	344	122
Future Volume (veh/h)	62	334	199	33	344	122
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	67	359	214	35	370	131
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	508	454	872	726	646	872
Arrive On Green	0.29	0.29	0.47	0.47	0.47	0.47
Sat Flow, veh/h	1774	1583	1863	1550	1126	1863
Grp Volume(v), veh/h	67	359	214	35	370	131
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1550	1126	1863
Q Serve(g_s), s	1.0	7.7	2.5	0.5	10.8	1.5
Cycle Q Clear(g_c), s	1.0	7.7	2.5	0.5	13.3	1.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	508	454	872	726	646	872
V/C Ratio(X)	0.13	0.79	0.25	0.05	0.57	0.15
Avail Cap(c_a), veh/h	876	782	1418	1180	976	1418
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	9.7	12.1	5.9	5.3	9.9	5.6
Incr Delay (d2), s/veh	0.1	3.2	0.1	0.0	0.8	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	0.5	3.7	1.3	0.2	3.4	0.7
LnGrp Delay(d),s/veh	9.8	15.2	6.0	5.3	10.7	5.7
LnGrp LOS	A	B	A	A	B	A
Approach Vol, veh/h	426		249			501
Approach Delay, s/veh	14.4		5.9			9.4
Approach LOS	B		A			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		21.6				21.6		15.0
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		27.9				27.9		18.1
Max Q Clear Time (g_c+I1), s		4.5				15.3		9.7
Green Ext Time (p_c), s		1.2				1.8		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	198	333	147	399	66	800	133	316	928	160
v/c Ratio	0.57	0.31	1.26	0.53	0.35	0.60	0.24	0.62	0.49	0.22
Control Delay	49.9	27.9	210.1	18.1	69.8	49.5	13.0	51.4	28.8	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	27.9	210.1	18.1	69.8	49.5	13.0	51.4	28.8	2.1
Queue Length 50th (ft)	127	94	~130	58	19	167	14	107	175	0
Queue Length 95th (ft)	#339	107	#260	72	m30	m233	m42	#243	271	18
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	350	1427	117	1420	187	1324	561	507	1906	720
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.23	1.26	0.28	0.35	0.60	0.24	0.62	0.49	0.22

Intersection Summary

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

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	282	44	144	168	223	65	784	130	310	909	157
Future Volume (veh/h)	194	282	44	144	168	223	65	784	130	310	909	157
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	198	288	45	147	171	228	66	800	133	316	928	160
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	680	105	118	364	325	813	2167	673	228	1271	395
Arrive On Green	0.08	0.22	0.22	0.07	0.21	0.21	0.47	0.85	0.85	0.07	0.25	0.25
Sat Flow, veh/h	1774	3073	475	1774	1770	1579	3442	5085	1580	3442	5085	1580
Grp Volume(v), veh/h	198	164	169	147	171	228	66	800	133	316	928	160
Grp Sat Flow(s),veh/h/ln	1774	1770	1778	1774	1770	1579	1721	1695	1580	1721	1695	1580
Q Serve(g_s), s	8.3	8.8	9.0	7.3	9.3	14.7	1.2	3.7	1.6	7.3	18.4	9.3
Cycle Q Clear(g_c), s	8.3	8.8	9.0	7.3	9.3	14.7	1.2	3.7	1.6	7.3	18.4	9.3
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	391	393	118	364	325	813	2167	673	228	1271	395
V/C Ratio(X)	1.48	0.42	0.43	1.25	0.47	0.70	0.08	0.37	0.20	1.38	0.73	0.41
Avail Cap(c_a), veh/h	134	724	727	118	708	631	813	2167	673	228	1271	395
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.50	0.50	0.50	0.82	0.82	0.82
Uniform Delay (d), s/veh	50.8	36.8	36.9	51.3	38.4	40.6	22.5	4.9	4.8	51.4	37.8	34.4
Incr Delay (d2), s/veh	251.2	1.3	1.4	164.2	2.2	6.4	0.0	0.2	0.3	193.5	3.1	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.4	4.4	4.6	8.9	4.8	7.0	0.5	1.7	0.7	9.6	9.0	4.3
LnGrp Delay(d),s/veh	302.1	38.1	38.2	215.5	40.6	46.9	22.5	5.2	5.1	244.8	40.9	37.0
LnGrp LOS	F	D	D	F	D	D	C	A	A	F	D	D
Approach Vol, veh/h		531			546			999			1404	
Approach Delay, s/veh		136.6			90.3			6.3			86.4	
Approach LOS		F			F			A			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	53.3	13.0	30.7	32.4	33.9	14.7	29.0
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	6.4	6.4	* 6.4	6.4	* 6.4
Max Green Setting (Gmax), s	* 7.3	26.2	* 7.3	45.0	6.0	* 28	8.3	* 44
Max Q Clear Time (g_c+I1), s	9.3	5.7	9.3	11.0	3.2	20.4	10.3	16.7
Green Ext Time (p_c), s	0.0	13.4	0.0	3.5	0.0	5.9	0.0	4.9

Intersection Summary	
HCM 2010 Ctrl Delay	71.7
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	6.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	682	13	194	601	7	296
Future Vol, veh/h	682	13	194	601	7	296
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	703	13	200	620	7	305

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	716	0	1730	710
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	1020	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	885	-	97	434
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	348	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	885	-	64	434
Mov Cap-2 Maneuver	-	-	-	-	166	-
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	228	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	30.6
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	166	434	-	-	885	-
HCM Lane V/C Ratio	0.043	0.703	-	-	0.226	-
HCM Control Delay (s)	27.7	30.7	-	-	10.3	0
HCM Lane LOS	D	D	-	-	B	A
HCM 95th %tile Q(veh)	0.1	5.3	-	-	0.9	-

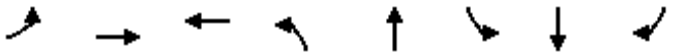
Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	126	647	18	9	495	9	8	6	2	6	7	141
Future Vol, veh/h	126	647	18	9	495	9	8	6	2	6	7	141
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	130	667	19	9	510	9	8	6	2	6	7	145

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	519	0	0	686	0	0	1546	1474	677	1474	1479	515
Stage 1	-	-	-	-	-	-	937	937	-	533	533	-
Stage 2	-	-	-	-	-	-	609	537	-	941	946	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1047	-	-	908	-	-	93	127	453	105	126	560
Stage 1	-	-	-	-	-	-	318	343	-	531	525	-
Stage 2	-	-	-	-	-	-	482	523	-	316	340	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1047	-	-	908	-	-	59	110	453	90	109	560
Mov Cap-2 Maneuver	-	-	-	-	-	-	59	110	-	90	109	-
Stage 1	-	-	-	-	-	-	279	300	-	465	520	-
Stage 2	-	-	-	-	-	-	348	518	-	270	298	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.2	59.6	17.6
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	82	1047	-	-	908	-	-	90	468
HCM Lane V/C Ratio	0.201	0.124	-	-	0.01	-	-	0.069	0.326
HCM Control Delay (s)	59.6	8.9	-	-	9	-	-	47.9	16.4
HCM Lane LOS	F	A	-	-	A	-	-	E	C
HCM 95th %tile Q(veh)	0.7	0.4	-	-	0	-	-	0.2	1.4



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	496	500	67	3	8	58	336	329
v/c Ratio	0.73	0.75	0.07	0.01	0.01	0.18	0.36	0.56
Control Delay	16.3	17.8	3.7	14.7	14.4	16.3	3.8	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.3	17.8	3.7	14.7	14.4	16.3	3.8	6.5
Queue Length 50th (ft)	73	75	3	1	1	11	1	0
Queue Length 95th (ft)	#297	#309	20	6	5	37	25	52
Internal Link Dist (ft)		563	789		604		1556	
Turn Bay Length (ft)	260			225		195		200
Base Capacity (vph)	957	933	1317	494	1733	686	1584	873
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.54	0.05	0.01	0.00	0.08	0.21	0.38

Intersection Summary

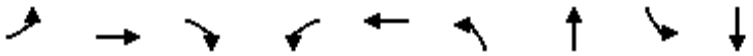
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	878	35	4	1	29	31	3	7	0	53	6	605
Future Volume (veh/h)	878	35	4	1	29	31	3	7	0	53	6	605
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	985	0	0	1	32	34	3	8	0	58	7	658
Adj No. of Lanes	2	1	0	0	1	0	1	2	0	1	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1632	860	0	99	387	400	419	1056	0	608	556	945
Arrive On Green	0.46	0.00	0.00	0.46	0.46	0.46	0.30	0.30	0.00	0.30	0.30	0.30
Sat Flow, veh/h	2660	1863	0	4	837	867	768	3632	0	1402	1863	3167
Grp Volume(v), veh/h	985	0	0	67	0	0	3	8	0	58	7	658
Grp Sat Flow(s),veh/h/ln	1330	1863	0	1708	0	0	768	1770	0	1402	1863	1583
Q Serve(g_s), s	10.6	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	1.1	0.1	6.9
Cycle Q Clear(g_c), s	11.4	0.0	0.0	0.8	0.0	0.0	0.2	0.1	0.0	1.2	0.1	6.9
Prop In Lane	1.00		0.00	0.01		0.51	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1632	860	0	886	0	0	419	1056	0	608	556	945
V/C Ratio(X)	0.60	0.00	0.00	0.08	0.00	0.00	0.01	0.01	0.00	0.10	0.01	0.70
Avail Cap(c_a), veh/h	2638	1564	0	1530	0	0	589	1840	0	918	968	1646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.4	0.0	0.0	5.7	0.0	0.0	9.3	9.3	0.0	9.7	9.3	11.7
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.1	3.1
LnGrp Delay(d),s/veh	8.8	0.0	0.0	5.7	0.0	0.0	9.3	9.3	0.0	9.7	9.3	12.6
LnGrp LOS	A			A			A	A		A	A	B
Approach Vol, veh/h		985			67			11			723	
Approach Delay, s/veh		8.8			5.7			9.3			12.3	
Approach LOS		A			A			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		15.7		21.8		15.7		21.8
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		19.5		31.5		19.5		31.5
Max Q Clear Time (g_c+I1), s		2.2		13.4		8.9		2.8
Green Ext Time (p_c), s		0.0		3.9		2.3		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	10.1
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	252	55	103	382	63	662	122	601
v/c Ratio	0.14	0.57	0.12	0.57	0.31	0.39	0.65	0.60	0.49
Control Delay	45.4	35.0	0.5	53.5	17.3	47.8	28.7	52.5	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.4	35.0	0.5	53.5	17.3	47.8	28.7	52.5	24.6
Queue Length 50th (ft)	9	119	0	52	51	32	154	61	132
Queue Length 95th (ft)	35	220	0	#142	116	84	244	#158	218
Internal Link Dist (ft)		776			1573		775		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	137	783	736	207	1588	207	1498	240	1575
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.32	0.07	0.50	0.24	0.30	0.44	0.51	0.38

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	239	52	98	237	126	60	506	123	116	519	52
Future Volume (veh/h)	17	239	52	98	237	126	60	506	123	116	519	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	18	252	55	103	249	133	63	533	129	122	546	55
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	391	333	140	593	306	113	843	203	156	1048	105
Arrive On Green	0.03	0.21	0.21	0.08	0.26	0.26	0.06	0.30	0.30	0.09	0.32	0.32
Sat Flow, veh/h	1774	1863	1583	1774	2250	1160	1774	2830	682	1774	3248	326
Grp Volume(v), veh/h	18	252	55	103	194	188	63	332	330	122	297	304
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	1640	1774	1770	1742	1774	1770	1805
Q Serve(g_s), s	0.6	7.8	1.8	3.6	5.7	6.0	2.2	10.3	10.4	4.3	8.7	8.7
Cycle Q Clear(g_c), s	0.6	7.8	1.8	3.6	5.7	6.0	2.2	10.3	10.4	4.3	8.7	8.7
Prop In Lane	1.00		1.00	1.00		0.71	1.00		0.39	1.00		0.18
Lane Grp Cap(c), veh/h	46	391	333	140	466	432	113	527	519	156	571	582
V/C Ratio(X)	0.39	0.64	0.17	0.73	0.42	0.43	0.56	0.63	0.63	0.78	0.52	0.52
Avail Cap(c_a), veh/h	176	999	849	266	1038	962	266	974	959	308	1016	1036
HCM Platoon Ratio	1.00	1.00	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	30.4	22.9	20.5	28.5	19.3	19.4	28.8	19.3	19.3	28.3	17.5	17.5
Incr Delay (d2), s/veh	2.0	5.4	0.7	2.8	1.8	2.1	1.6	2.4	2.5	3.2	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.6	0.8	1.9	3.0	3.0	1.1	5.3	5.3	2.2	4.4	4.5
LnGrp Delay(d),s/veh	32.5	28.2	21.2	31.3	21.1	21.5	30.5	21.7	21.8	31.5	18.9	18.9
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		325			485			725			723	
Approach Delay, s/veh		27.3			23.5			22.5			21.0	
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	9.8	25.9	9.2	18.5	8.2	27.5	5.8	21.9
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 11	34.9	* 9.5	34.0	* 9.5	36.4	* 6.3	37.2
Max Q Clear Time (g_c+I1), s	6.3	12.4	5.6	9.8	4.2	10.7	2.6	8.0
Green Ext Time (p_c), s	0.1	6.5	0.0	3.5	0.0	6.2	0.0	5.1

Intersection Summary	
HCM 2010 Ctrl Delay	22.9
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	400	4	5	424	17	2	0	1	20	1	41
Future Vol, veh/h	29	400	4	5	424	17	2	0	1	20	1	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	435	4	5	461	18	2	0	1	22	1	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	479	0	0	439	0	0	1004	990	437	982	983	470
Stage 1	-	-	-	-	-	-	501	501	-	480	480	-
Stage 2	-	-	-	-	-	-	503	489	-	502	503	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1083	-	-	1121	-	-	220	246	620	228	249	594
Stage 1	-	-	-	-	-	-	552	543	-	567	554	-
Stage 2	-	-	-	-	-	-	551	549	-	552	541	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1083	-	-	1121	-	-	198	238	620	222	241	594
Mov Cap-2 Maneuver	-	-	-	-	-	-	198	238	-	222	241	-
Stage 1	-	-	-	-	-	-	535	527	-	550	552	-
Stage 2	-	-	-	-	-	-	506	547	-	535	525	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	19.2	16.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	256	1083	-	-	1121	-	-	380
HCM Lane V/C Ratio	0.013	0.029	-	-	0.005	-	-	0.177
HCM Control Delay (s)	19.2	8.4	-	-	8.2	-	-	16.5
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.6

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	98	386	416	127	72	106
Future Vol, veh/h	98	386	416	127	72	106
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	107	420	452	138	78	115

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	590	0	-	0	1155	521
Stage 1	-	-	-	-	521	-
Stage 2	-	-	-	-	634	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	985	-	-	-	218	555
Stage 1	-	-	-	-	596	-
Stage 2	-	-	-	-	529	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	985	-	-	-	194	555
Mov Cap-2 Maneuver	-	-	-	-	194	-
Stage 1	-	-	-	-	531	-
Stage 2	-	-	-	-	529	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	22.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	985	-	-	-	194	555
HCM Lane V/C Ratio	0.108	-	-	-	0.403	0.208
HCM Control Delay (s)	9.1	-	-	-	35.6	13.2
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	1.8	0.8

Intersection	
Int Delay, s/veh	284

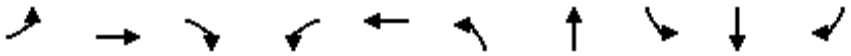
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	354	74	161	390	30	131	0	260	135	0	68
Future Vol, veh/h	75	354	74	161	390	30	131	0	260	135	0	68
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	82	385	80	175	424	33	142	0	283	147	0	74

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	458	0	0	465	0	0	1417	1397	425	1523	1421	442
Stage 1	-	-	-	-	-	-	589	589	-	792	792	-
Stage 2	-	-	-	-	-	-	828	808	-	731	629	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1103	-	-	1096	-	-	~ 115	141	629	~ 97	136	615
Stage 1	-	-	-	-	-	-	494	495	-	382	401	-
Stage 2	-	-	-	-	-	-	365	394	-	413	475	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1102	-	-	1096	-	-	~ 84	110	629	~ 44	106	614
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 84	110	-	~ 44	106	-
Stage 1	-	-	-	-	-	-	457	458	-	353	336	-
Stage 2	-	-	-	-	-	-	270	331	-	211	440	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	2.5	$ 571.1	$ 1236.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	198	1102	-	-	1096	-	-	64
HCM Lane V/C Ratio	2.146	0.074	-	-	0.16	-	-	3.448
HCM Control Delay (s)	$ 571.1	8.5	-	-	8.9	-	-	$ 1236.9
HCM Lane LOS	F	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	33.2	0.2	-	-	0.6	-	-	23.2

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	125	195	153	274	276	131	992	51	814	61
v/c Ratio	0.96	0.58	0.33	0.83	0.51	0.71	0.78	0.47	0.53	0.10
Control Delay	121.3	47.6	2.7	63.8	32.6	69.0	37.6	86.6	26.3	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	47.6	2.7	63.8	32.6	69.0	37.6	86.6	26.3	1.7
Queue Length 50th (ft)	90	127	0	185	149	91	334	38	69	0
Queue Length 95th (ft)	#209	187	9	#302	208	#180	#518	m73	m178	m13
Internal Link Dist (ft)		765			337		251		1110	
Turn Bay Length (ft)	180			175		205		290		210
Base Capacity (vph)	130	464	558	362	678	185	1273	110	1548	624
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.42	0.27	0.76	0.41	0.71	0.78	0.46	0.53	0.10

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	181	142	255	198	59	122	698	224	47	757	57
Future Volume (veh/h)	116	181	142	255	198	59	122	698	224	47	757	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	125	195	153	274	213	63	131	751	241	51	814	61
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	3	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	271	227	303	343	101	388	1083	347	76	1147	349
Arrive On Green	0.07	0.15	0.15	0.17	0.25	0.25	0.22	0.41	0.41	0.06	0.30	0.30
Sat Flow, veh/h	1774	1863	1562	1774	1377	407	1774	2635	846	1774	5085	1546
Grp Volume(v), veh/h	125	195	153	274	0	276	131	504	488	51	814	61
Grp Sat Flow(s),veh/h/ln	1774	1863	1562	1774	0	1785	1774	1770	1711	1774	1695	1546
Q Serve(g_s), s	7.7	11.0	10.2	16.7	0.0	15.1	6.9	25.8	25.8	3.1	15.7	2.4
Cycle Q Clear(g_c), s	7.7	11.0	10.2	16.7	0.0	15.1	6.9	25.8	25.8	3.1	15.7	2.4
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h	131	271	227	303	0	444	388	727	703	76	1147	349
V/C Ratio(X)	0.96	0.72	0.67	0.90	0.00	0.62	0.34	0.69	0.69	0.67	0.71	0.17
Avail Cap(c_a), veh/h	131	464	389	350	0	665	388	727	703	98	1147	349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.78	0.78	0.78
Uniform Delay (d), s/veh	50.8	44.9	44.5	44.7	0.0	36.7	36.3	26.7	26.7	51.1	35.3	17.8
Incr Delay (d2), s/veh	64.8	10.5	10.2	22.2	0.0	4.1	0.2	5.4	5.6	4.1	2.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	6.4	5.1	10.0	0.0	7.9	3.4	13.7	13.3	1.6	7.6	1.4
LnGrp Delay(d),s/veh	115.6	55.4	54.7	67.0	0.0	40.8	36.5	32.1	32.3	55.2	38.2	18.6
LnGrp LOS	F	E	D	E		D	D	C	C	E	D	B
Approach Vol, veh/h		473			550			1123			926	
Approach Delay, s/veh		71.1			53.8			32.7			37.9	
Approach LOS		E			D			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	10.4	52.0	25.2	22.4	30.8	31.6	13.8	33.8
Change Period (Y+Rc), s	* 5.7	6.8	6.4	* 6.4	6.8	* 6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 6.1	30.2	21.7	* 27	11.5	* 25	* 8.1	41.0
Max Q Clear Time (g_c+I1), s	5.1	27.8	18.7	13.0	8.9	17.7	9.7	17.1
Green Ext Time (p_c), s	0.0	2.0	0.1	3.0	0.0	5.1	0.0	3.4

Intersection Summary	
HCM 2010 Ctrl Delay	43.9
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	321	20	5	1	0	242
Future Vol, veh/h	321	20	5	1	0	242
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	349	22	5	1	0	263

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	6	0	-	0	726	6
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	720	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1615	-	-	-	391	1077
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	482	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1615	-	-	-	307	1077
Mov Cap-2 Maneuver	-	-	-	-	307	-
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	482	-

Approach	EB	WB	SB
HCM Control Delay, s	7.4	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1615	-	-	-	1077
HCM Lane V/C Ratio	0.216	-	-	-	0.244
HCM Control Delay (s)	7.8	-	-	-	9.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.8	-	-	-	1



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	40	11	23	7	1079	10	1076	76
v/c Ratio	0.14	0.02	0.06	0.04	0.44	0.05	0.44	0.07
Control Delay	18.2	0.1	0.3	29.6	12.7	29.6	12.7	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	0.1	0.3	29.6	12.7	29.6	12.7	1.1
Queue Length 50th (ft)	12	0	0	2	92	3	92	0
Queue Length 95th (ft)	32	0	0	17	#442	21	#440	8
Internal Link Dist (ft)	1563		335		1230		635	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	848	1039	956	193	2449	193	2452	1113
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.01	0.02	0.04	0.44	0.05	0.44	0.07

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	3	11	5	0	17	7	1043	4	10	1044	74
Future Volume (veh/h)	36	3	11	5	0	17	7	1043	4	10	1044	74
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		0.98
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	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	37	3	11	5	0	18	7	1075	4	10	1076	76
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	281	17	170	108	18	133	20	1694	6	28	1674	733
Arrive On Green	0.11	0.11	0.11	0.11	0.00	0.11	0.01	0.47	0.47	0.02	0.47	0.47
Sat Flow, veh/h	1296	162	1583	176	168	1238	1774	3616	13	1774	3539	1549
Grp Volume(v), veh/h	40	0	11	23	0	0	7	526	553	10	1076	76
Grp Sat Flow(s),veh/h/ln	1458	0	1583	1582	0	0	1774	1770	1860	1774	1770	1549
Q Serve(g_s), s	0.5	0.0	0.3	0.0	0.0	0.0	0.2	11.0	11.0	0.3	11.3	1.3
Cycle Q Clear(g_c), s	1.1	0.0	0.3	0.6	0.0	0.0	0.2	11.0	11.0	0.3	11.3	1.3
Prop In Lane	0.92		1.00	0.22		0.78	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	298	0	170	260	0	0	20	829	871	28	1674	733
V/C Ratio(X)	0.13	0.00	0.06	0.09	0.00	0.00	0.35	0.63	0.63	0.36	0.64	0.10
Avail Cap(c_a), veh/h	1139	0	1112	1129	0	0	217	940	988	217	1879	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	19.6	19.8	0.0	0.0	24.0	9.8	9.8	23.9	9.8	7.2
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.1	0.0	0.0	4.0	3.5	3.3	2.9	1.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.1	0.3	0.0	0.0	0.1	6.1	6.3	0.2	5.8	0.6
LnGrp Delay(d),s/veh	20.0	0.0	19.7	19.8	0.0	0.0	28.0	13.3	13.2	26.8	11.4	7.4
LnGrp LOS	C		B	B			C	B	B	C	B	A
Approach Vol, veh/h		51			23			1086			1162	
Approach Delay, s/veh		20.0			19.8			13.3			11.3	
Approach LOS		B			B			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	6.5	29.7		12.8	6.2	30.0		12.8
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 6	26.0		* 34	* 6	26.0		33.0
Max Q Clear Time (g_c+I1), s	2.3	13.0		3.1	2.2	13.3		2.6
Green Ext Time (p_c), s	0.0	9.8		0.1	0.0	9.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.5
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	4	30	2	3	26	150	1096	63	19	1135	35
Future Vol, veh/h	10	4	30	2	3	26	150	1096	63	19	1135	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	4	32	2	3	27	158	1154	66	20	1195	37

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2149	2790	616	2143	2775	610	1232	0	0	1220	0	0
Stage 1	1254	1254	-	1503	1503	-	-	-	-	-	-	-
Stage 2	895	1536	-	640	1272	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	27	18	433	27	19	437	561	-	-	567	-	-
Stage 1	182	242	-	127	183	-	-	-	-	-	-	-
Stage 2	302	176	-	430	237	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	16	12	433	14	13	437	561	-	-	567	-	-
Mov Cap-2 Maneuver	16	12	-	14	13	-	-	-	-	-	-	-
Stage 1	131	234	-	91	131	-	-	-	-	-	-	-
Stage 2	198	126	-	378	229	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 308.3	91.1	1.6	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	561	-	-	43	72	567	-	-
HCM Lane V/C Ratio	0.281	-	-	1.077	0.453	0.035	-	-
HCM Control Delay (s)	13.9	-	-	$ 308.3	91.1	11.6	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	1.1	-	-	4.4	1.8	0.1	-	-

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



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	258	32	129	1100	66	1110
v/c Ratio	0.71	0.08	0.75	0.69	0.36	0.82
Control Delay	32.2	11.9	61.2	22.2	36.4	26.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	11.9	61.2	22.2	36.4	26.9
Queue Length 50th (ft)	88	4	56	223	28	225
Queue Length 95th (ft)	164	22	#149	#387	65	#369
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	458	486	174	1588	222	1354
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.07	0.74	0.69	0.30	0.82

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	1	80	9	1	19	119	998	14	61	1010	11
Future Volume (veh/h)	156	1	80	9	1	19	119	998	14	61	1010	11
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		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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	170	1	87	10	1	21	129	1085	15	66	1098	12
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	297	11	110	153	44	238	163	1493	21	114	1398	15
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.09	0.42	0.42	0.06	0.39	0.39
Sat Flow, veh/h	924	48	494	363	199	1073	1774	3573	49	1774	3586	39
Grp Volume(v), veh/h	258	0	0	32	0	0	129	537	563	66	542	568
Grp Sat Flow(s),veh/h/ln	1466	0	0	1635	0	0	1774	1770	1853	1774	1770	1856
Q Serve(g_s), s	9.8	0.0	0.0	0.0	0.0	0.0	4.6	16.6	16.6	2.4	17.6	17.6
Cycle Q Clear(g_c), s	10.8	0.0	0.0	1.0	0.0	0.0	4.6	16.6	16.6	2.4	17.6	17.6
Prop In Lane	0.66		0.34	0.31		0.66	1.00		0.03	1.00		0.02
Lane Grp Cap(c), veh/h	417	0	0	435	0	0	163	739	774	114	690	724
V/C Ratio(X)	0.62	0.00	0.00	0.07	0.00	0.00	0.79	0.73	0.73	0.58	0.79	0.79
Avail Cap(c_a), veh/h	584	0	0	607	0	0	188	739	774	239	727	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	0.0	20.1	0.0	0.0	29.0	15.9	15.9	29.7	17.5	17.5
Incr Delay (d2), s/veh	2.6	0.0	0.0	0.1	0.0	0.0	15.1	5.9	5.7	1.7	8.5	8.1
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	4.7	0.0	0.0	0.5	0.0	0.0	2.9	9.3	9.7	1.2	10.1	10.5
LnGrp Delay(d),s/veh	26.4	0.0	0.0	20.2	0.0	0.0	44.1	21.8	21.6	31.4	25.9	25.6
LnGrp LOS	C			C			D	C	C	C	C	C
Approach Vol, veh/h		258			32			1229			1176	
Approach Delay, s/veh		26.4			20.2			24.0			26.1	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.9	35.1		20.2	11.7	33.3		20.2
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 8.8	24.9		* 22	* 6.9	26.8		* 22
Max Q Clear Time (g_c+I1), s	4.4	18.6		12.8	6.6	19.6		3.0
Green Ext Time (p_c), s	0.0	5.2		1.5	0.0	5.9		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	25.1
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	452	0	0	512	0	0
Future Vol, veh/h	452	0	0	512	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	471	0	0	533	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	471
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	593
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	593
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	433	487	23	21	25
Future Vol, veh/h	19	433	487	23	21	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	451	507	24	22	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	531	0	-	0	1010	519
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	491	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1036	-	-	-	266	557
Stage 1	-	-	-	-	597	-
Stage 2	-	-	-	-	615	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1036	-	-	-	259	557
Mov Cap-2 Maneuver	-	-	-	-	259	-
Stage 1	-	-	-	-	581	-
Stage 2	-	-	-	-	615	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	16.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1036	-	-	-	365
HCM Lane V/C Ratio	0.019	-	-	-	0.131
HCM Control Delay (s)	8.5	0	-	-	16.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	454	0	0	510	0	0
Future Vol, veh/h	454	0	0	510	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	493	0	0	554	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	493
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	576
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	576
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	246	208	239	3	4	265
Future Vol, veh/h	246	208	239	3	4	265
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	265	224	257	3	4	285

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	260	0	-	0	1013	259
Stage 1	-	-	-	-	259	-
Stage 2	-	-	-	-	754	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1304	-	-	-	265	780
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	465	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1304	-	-	-	204	780
Mov Cap-2 Maneuver	-	-	-	-	204	-
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	465	-

Approach	EB	WB	SB
HCM Control Delay, s	4.6	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1304	-	-	-	204	780
HCM Lane V/C Ratio	0.203	-	-	-	0.021	0.365
HCM Control Delay (s)	8.5	0	-	-	23	12.2
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.1	1.7

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	93	0	867	988	166
Future Vol, veh/h	0	93	0	867	988	166
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	101	0	942	1074	180

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	537	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	488	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	488	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	488	-	-
HCM Lane V/C Ratio	-	0.207	-	-
HCM Control Delay (s)	-	14.3	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.8	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	122	229	867	958	123
Future Vol, veh/h	0	122	229	867	958	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	150	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	133	249	942	1041	134

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	521	1175	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	500	590	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	500	590	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.8	3.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	590	-	500	-	-
HCM Lane V/C Ratio	0.422	-	0.265	-	-
HCM Control Delay (s)	15.5	-	14.8	-	-
HCM Lane LOS	C	-	B	-	-
HCM 95th %tile Q(veh)	2.1	-	1.1	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	17	22	0	0	0
Future Vol, veh/h	0	17	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	24	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	24	0	-	0	42	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	18	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1591	-	-	-	969	1052
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1005	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1591	-	-	-	969	1052
Mov Cap-2 Maneuver	-	-	-	-	969	-
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1005	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1591	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	17	22	0	0	0
Future Vol, veh/h	0	17	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	24	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	24	0	-	0	42	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	18	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1591	-	-	-	969	1052
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1005	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1591	-	-	-	969	1052
Mov Cap-2 Maneuver	-	-	-	-	969	-
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1005	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1591	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	17	22	0	0	0
Future Vol, veh/h	0	17	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	24	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	24	0	-	0	42	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	18	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1591	-	-	-	969	1052
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1005	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1591	-	-	-	969	1052
Mov Cap-2 Maneuver	-	-	-	-	969	-
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1005	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1591	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	17	22	0	0	0
Future Vol, veh/h	0	17	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	24	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	24	0	-	0	42	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	18	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1591	-	-	-	969	1052
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1005	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1591	-	-	-	969	1052
Mov Cap-2 Maneuver	-	-	-	-	969	-
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1005	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1591	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

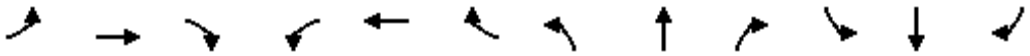
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Appendix J – 10-Year Cumulative Plus Project Conditions Level of Service and Queuing Work Sheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	104	215	143	190	259	62	104	608	149	65	550	45
v/c Ratio	0.34	0.38	0.35	0.56	0.44	0.15	0.63	0.23	0.17	0.37	0.22	0.05
Control Delay	56.7	47.1	4.0	60.8	47.3	0.8	76.0	19.4	4.5	63.3	19.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	47.1	4.0	60.8	47.3	0.8	76.0	19.4	4.5	63.3	19.6	0.1
Queue Length 50th (ft)	41	87	0	76	104	0	43	92	0	26	81	0
Queue Length 95th (ft)	71	94	21	118	111	0	#80	172	47	51	156	0
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	307	1330	702	338	1350	708	164	2622	877	177	2546	847
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.16	0.20	0.56	0.19	0.09	0.63	0.23	0.17	0.37	0.22	0.05

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	198	132	175	238	57	96	559	137	60	506	41
Future Volume (veh/h)	96	198	132	175	238	57	96	559	137	60	506	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	104	215	143	190	259	62	104	608	149	65	550	45
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	556	247	187	504	223	899	2806	862	148	1668	517
Arrive On Green	0.07	0.16	0.16	0.05	0.14	0.14	0.26	0.55	0.55	0.04	0.33	0.33
Sat Flow, veh/h	3442	3539	1574	3442	3539	1567	3442	5085	1563	3442	5085	1578
Grp Volume(v), veh/h	104	215	143	190	259	62	104	608	149	65	550	45
Grp Sat Flow(s),veh/h/ln	1721	1770	1574	1721	1770	1567	1721	1695	1563	1721	1695	1578
Q Serve(g_s), s	3.6	6.8	10.5	6.8	8.5	3.7	2.9	7.6	3.9	2.3	10.2	2.5
Cycle Q Clear(g_c), s	3.6	6.8	10.5	6.8	8.5	3.7	2.9	7.6	3.9	2.3	10.2	2.5
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	238	556	247	187	504	223	899	2806	862	148	1668	517
V/C Ratio(X)	0.44	0.39	0.58	1.01	0.51	0.28	0.12	0.22	0.17	0.44	0.33	0.09
Avail Cap(c_a), veh/h	238	1331	592	187	1351	598	899	2806	862	165	1668	517
HCM Platoon Ratio	1.00	1.00	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	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	47.3	48.8	59.1	49.6	33.5	35.2	14.3	6.1	58.3	31.6	29.1
Incr Delay (d2), s/veh	0.5	0.9	4.1	69.7	1.6	1.3	0.0	0.2	0.4	0.8	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	3.4	4.9	5.0	4.2	1.9	1.4	3.6	2.4	1.1	4.9	1.1
LnGrp Delay(d),s/veh	56.3	48.1	52.9	128.9	51.2	34.8	35.2	14.4	6.5	59.1	32.2	29.4
LnGrp LOS	E	D	D	F	D	C	D	B	A	E	C	C
Approach Vol, veh/h		462			511			861			660	
Approach Delay, s/veh		51.5			78.1			15.6			34.6	
Approach LOS		D			E			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	75.4	12.5	26.0	39.1	47.4	14.3	24.2
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6	41.0	6.8	* 47	6.0	* 41	6.1	* 48
Max Q Clear Time (g_c+I1), s	4.3	9.6	8.8	12.5	4.9	12.2	5.6	10.5
Green Ext Time (p_c), s	0.0	9.0	0.0	3.6	0.0	7.0	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	40.1
HCM 2010 LOS	D

Notes



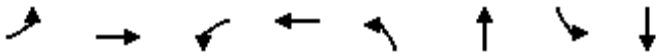
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	99	174	8	266	99	49	74	12	139
v/c Ratio	0.24	0.17	0.02	0.33	0.13	0.10	0.17	0.02	0.23
Control Delay	20.1	7.7	21.4	13.4	5.0	15.4	17.0	15.9	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	7.7	21.4	13.4	5.0	15.4	17.0	15.9	5.3
Queue Length 50th (ft)	22	17	2	52	2	9	15	2	0
Queue Length 95th (ft)	68	71	13	122	28	35	50	14	35
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	589	1400	407	1316	1144	1074	912	1260	1115
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.12	0.02	0.20	0.09	0.05	0.08	0.01	0.12

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	147	13	7	245	91	19	22	4	68	11	128
Future Volume (veh/h)	91	147	13	7	245	91	19	22	4	68	11	128
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	99	160	14	8	266	99	21	24	4	74	12	139
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	628	55	23	519	441	242	221	28	509	398	338
Arrive On Green	0.11	0.37	0.37	0.01	0.28	0.28	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	1689	148	1774	1863	1583	444	1037	132	1377	1863	1583
Grp Volume(v), veh/h	99	0	174	8	266	99	49	0	0	74	12	139
Grp Sat Flow(s),veh/h/ln	1774	0	1837	1774	1863	1583	1612	0	0	1377	1863	1583
Q Serve(g_s), s	1.8	0.0	2.3	0.2	4.2	1.7	0.0	0.0	0.0	0.6	0.2	2.6
Cycle Q Clear(g_c), s	1.8	0.0	2.3	0.2	4.2	1.7	0.8	0.0	0.0	1.3	0.2	2.6
Prop In Lane	1.00		0.08	1.00		1.00	0.43		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	188	0	683	23	519	441	492	0	0	509	398	338
V/C Ratio(X)	0.53	0.00	0.25	0.35	0.51	0.22	0.10	0.00	0.00	0.15	0.03	0.41
Avail Cap(c_a), veh/h	479	0	1555	331	1422	1209	1252	0	0	1203	1337	1136
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	7.6	17.1	10.6	9.7	11.1	0.0	0.0	11.3	10.8	11.8
Incr Delay (d2), s/veh	0.8	0.0	0.3	3.4	1.3	0.4	0.2	0.0	0.0	0.2	0.1	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.2	0.1	2.3	0.8	0.4	0.0	0.0	0.6	0.1	1.3
LnGrp Delay(d),s/veh	15.6	0.0	7.9	20.5	11.9	10.1	11.2	0.0	0.0	11.5	10.9	13.2
LnGrp LOS	B		A	C	B	B	B			B	B	B
Approach Vol, veh/h		273			373			49			225	
Approach Delay, s/veh		10.7			11.6			11.2			12.5	
Approach LOS		B			B			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	4.4	18.0		12.4	7.7	14.7		12.4
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	6.5	29.5		25.0	9.4	26.6		25.0
Max Q Clear Time (g_c+I1), s	2.2	4.3		2.8	3.8	6.2		4.6
Green Ext Time (p_c), s	0.0	1.5		0.3	0.0	2.9		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	11.5
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	15	11	34	42	814	93	790
v/c Ratio	0.19	0.02	0.05	0.06	0.17	0.26	0.33	0.22
Control Delay	34.5	0.1	35.6	0.2	34.2	15.8	32.9	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.5	0.1	35.6	0.2	34.2	15.8	32.9	13.2
Queue Length 50th (ft)	9	0	2	0	8	32	17	0
Queue Length 95th (ft)	66	0	25	0	61	220	#116	203
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	256	1302	243	1281	268	3193	378	3499
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.01	0.05	0.03	0.16	0.25	0.25	0.23

Intersection Summary

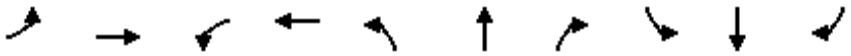
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	0	14	10	0	32	40	763	10	88	696	54
Future Volume (veh/h)	44	0	14	10	0	32	40	763	10	88	696	54
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		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	46	0	15	11	0	34	42	803	11	93	733	57
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	99	0	225	30	0	163	93	1557	21	152	1609	124
Arrive On Green	0.06	0.00	0.14	0.02	0.00	0.10	0.05	0.30	0.30	0.09	0.33	0.33
Sat Flow, veh/h	1774	0	1577	1774	0	1580	1774	5167	71	1774	4814	372
Grp Volume(v), veh/h	46	0	15	11	0	34	42	527	287	93	515	275
Grp Sat Flow(s),veh/h/ln	1774	0	1577	1774	0	1580	1774	1695	1848	1774	1695	1796
Q Serve(g_s), s	1.3	0.0	0.4	0.3	0.0	1.0	1.2	6.7	6.7	2.6	6.2	6.2
Cycle Q Clear(g_c), s	1.3	0.0	0.4	0.3	0.0	1.0	1.2	6.7	6.7	2.6	6.2	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.21
Lane Grp Cap(c), veh/h	99	0	225	30	0	163	93	1021	557	152	1133	600
V/C Ratio(X)	0.46	0.00	0.07	0.37	0.00	0.21	0.45	0.52	0.52	0.61	0.45	0.46
Avail Cap(c_a), veh/h	216	0	1167	206	0	1160	226	1499	817	319	1676	888
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	19.2	25.2	0.0	21.3	23.8	15.0	15.0	22.9	13.5	13.6
Incr Delay (d2), s/veh	1.2	0.0	0.1	2.7	0.0	0.5	1.3	0.8	1.4	1.5	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.2	0.2	0.0	0.5	0.6	3.2	3.6	1.3	2.9	3.2
LnGrp Delay(d),s/veh	24.9	0.0	19.3	27.9	0.0	21.7	25.1	15.8	16.4	24.4	14.1	14.6
LnGrp LOS	C		B	C		C	C	B	B	C	B	B
Approach Vol, veh/h		61			45			856			883	
Approach Delay, s/veh		23.5			23.2			16.4			15.3	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	22.0	6.6	13.1	8.4	23.7	8.6	11.1
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	* 5.7	6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 9.3	22.9	* 6	* 38	* 6.6	25.6	* 6.3	* 38
Max Q Clear Time (g_c+I1), s	4.6	8.7	2.3	2.4	3.2	8.2	3.3	3.0
Green Ext Time (p_c), s	0.0	6.7	0.0	0.0	0.0	7.4	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.3
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	3	1	19	24	11	793	28	66	666	5
v/c Ratio	0.02	0.00	0.21	0.04	0.05	0.21	0.02	0.53	0.17	0.00
Control Delay	45.3	0.0	66.5	0.1	55.7	11.6	0.0	74.9	10.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.3	0.0	66.5	0.1	55.7	11.6	0.0	74.9	10.9	0.0
Queue Length 50th (ft)	3	0	16	0	4	70	0	57	28	0
Queue Length 95th (ft)	10	0	43	0	14	235	0	105	199	0
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	246	800	170	834	381	3727	1156	196	3949	1240
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.00	0.11	0.03	0.03	0.21	0.02	0.34	0.17	0.00

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	1	18	0	23	10	753	27	63	633	5
Future Volume (veh/h)	3	0	1	18	0	23	10	753	27	63	633	5
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		0.97	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	3	0	1	19	0	24	11	793	28	66	666	5
Adj No. of Lanes	1	1	0	1	1	0	2	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	0	75	40	0	91	1521	3580	1112	84	1548	482
Arrive On Green	0.01	0.00	0.05	0.02	0.00	0.06	0.44	0.70	0.70	0.05	0.30	0.30
Sat Flow, veh/h	1774	0	1543	1774	0	1583	3442	5085	1579	1774	5085	1582
Grp Volume(v), veh/h	3	0	1	19	0	24	11	793	28	66	666	5
Grp Sat Flow(s),veh/h/ln	1774	0	1543	1774	0	1583	1721	1695	1579	1774	1695	1582
Q Serve(g_s), s	0.2	0.0	0.1	1.4	0.0	2.0	0.2	7.4	0.4	5.0	14.2	0.3
Cycle Q Clear(g_c), s	0.2	0.0	0.1	1.4	0.0	2.0	0.2	7.4	0.4	5.0	14.2	0.3
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	24	0	75	40	0	91	1521	3580	1112	84	1548	482
V/C Ratio(X)	0.12	0.00	0.01	0.47	0.00	0.26	0.01	0.22	0.03	0.78	0.43	0.01
Avail Cap(c_a), veh/h	171	0	480	171	0	493	1521	3580	1112	197	1548	482
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.96	0.96	0.96	0.99	0.99	0.99
Uniform Delay (d), s/veh	65.8	0.0	61.1	65.2	0.0	60.9	21.1	7.0	2.3	63.6	37.6	32.8
Incr Delay (d2), s/veh	0.8	0.0	0.0	3.2	0.0	1.1	0.0	0.1	0.0	5.8	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.7	0.0	0.9	0.1	3.5	0.3	2.6	6.7	0.1
LnGrp Delay(d),s/veh	66.6	0.0	61.1	68.4	0.0	62.0	21.1	7.1	2.4	69.4	38.4	32.8
LnGrp LOS	E		E	E		E	C	A	A	E	D	C
Approach Vol, veh/h		4			43			832			737	
Approach Delay, s/veh		65.3			64.8			7.2			41.2	
Approach LOS		E			E			A			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	12.1	101.4	8.8	12.7	66.1	47.5	7.5	13.9
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 15	41.1	13.0	* 42	15.0	* 41	13.0	* 42
Max Q Clear Time (g_c+I1), s	7.0	9.4	3.4	2.1	2.2	16.2	2.2	4.0
Green Ext Time (p_c), s	0.0	11.5	0.0	0.0	0.0	7.8	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	24.4
HCM 2010 LOS	C

Notes

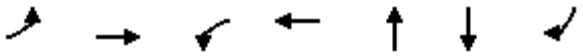
Intersection	
Int Delay, s/veh	17.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	732	81	59	719	34	57	0	95	10	0	21
Future Vol, veh/h	40	732	81	59	719	34	57	0	95	10	0	21
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	822	91	66	808	38	64	0	107	11	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	851	0	0	913	0	0	1494	1941	457	1465	1967	428
Stage 1	-	-	-	-	-	-	958	958	-	964	964	-
Stage 2	-	-	-	-	-	-	536	983	-	501	1003	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	783	-	-	742	-	-	85	64	551	89	62	575
Stage 1	-	-	-	-	-	-	276	334	-	274	332	-
Stage 2	-	-	-	-	-	-	496	325	-	521	318	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	779	-	-	742	-	-	65	47	551	57	45	572
Mov Cap-2 Maneuver	-	-	-	-	-	-	65	47	-	57	45	-
Stage 1	-	-	-	-	-	-	243	294	-	240	275	-
Stage 2	-	-	-	-	-	-	395	269	-	370	280	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	1.4	191.3	37.2
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	145	779	-	-	742	-	-	146
HCM Lane V/C Ratio	1.178	0.058	-	-	0.089	-	-	0.239
HCM Control Delay (s)	191.3	9.9	0.5	-	10.3	0.7	-	37.2
HCM Lane LOS	F	A	A	-	B	A	-	E
HCM 95th %tile Q(veh)	9.8	0.2	-	-	0.3	-	-	0.9



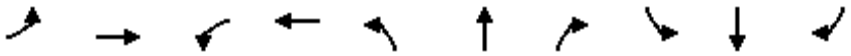
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	28	687	18	604	61	5	2
v/c Ratio	0.07	0.20	0.05	0.18	0.15	0.01	0.00
Control Delay	19.7	6.7	19.9	6.7	11.9	20.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	6.7	19.9	6.7	11.9	20.4	0.0
Queue Length 50th (ft)	4	22	3	19	3	1	0
Queue Length 95th (ft)	32	96	24	85	38	11	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	424	4107	424	4112	1488	1569	1415
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.17	0.04	0.15	0.04	0.00	0.00

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	618	14	17	549	6	19	1	36	5	0	2
Future Volume (veh/h)	26	618	14	17	549	6	19	1	36	5	0	2
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	28	672	15	18	597	7	21	1	39	5	0	2
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	1885	42	48	1840	22	42	2	79	20	0	18
Arrive On Green	0.04	0.37	0.37	0.03	0.36	0.36	0.07	0.07	0.07	0.01	0.00	0.01
Sat Flow, veh/h	1774	5118	114	1774	5180	61	567	27	1054	1774	0	1583
Grp Volume(v), veh/h	28	445	242	18	390	214	61	0	0	5	0	2
Grp Sat Flow(s),veh/h/ln	1774	1695	1842	1774	1695	1851	1648	0	0	1774	0	1583
Q Serve(g_s), s	0.6	3.7	3.7	0.4	3.2	3.2	1.4	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.6	3.7	3.7	0.4	3.2	3.2	1.4	0.0	0.0	0.1	0.0	0.0
Prop In Lane	1.00		0.06	1.00		0.03	0.34		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	72	1249	678	48	1204	657	123	0	0	20	0	18
V/C Ratio(X)	0.39	0.36	0.36	0.37	0.32	0.32	0.50	0.00	0.00	0.25	0.00	0.11
Avail Cap(c_a), veh/h	299	2417	1314	299	2417	1319	1410	0	0	1518	0	1355
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.0	8.9	8.9	18.4	9.1	9.1	17.1	0.0	0.0	18.9	0.0	18.9
Incr Delay (d2), s/veh	1.3	0.5	0.9	1.8	0.4	0.8	2.3	0.0	0.0	4.8	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.7	2.0	0.2	1.6	1.8	0.7	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	19.3	9.3	9.7	20.2	9.5	9.8	19.4	0.0	0.0	23.7	0.0	20.9
LnGrp LOS	B	A	A	C	A	A	B			C		C
Approach Vol, veh/h		715			622			61			7	
Approach Delay, s/veh		9.9			9.9			19.4			22.9	
Approach LOS		A			A			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	20.2		5.4	5.6	19.7		7.9
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	6.5	27.5		33.0	6.5	27.5		33.0
Max Q Clear Time (g_c+I1), s	2.4	5.7		2.1	2.6	5.2		3.4
Green Ext Time (p_c), s	0.0	8.4		0.0	0.0	7.4		0.3

Intersection Summary		
HCM 2010 Ctrl Delay		10.4
HCM 2010 LOS		B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	160	522	122	495	137	633	104	65	580	81
v/c Ratio	0.59	0.54	0.45	0.53	0.83	0.24	0.12	0.38	0.23	0.10
Control Delay	66.3	41.9	61.8	46.2	96.6	20.3	3.4	66.2	20.6	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.3	41.9	61.8	46.2	96.6	20.3	3.4	66.2	20.6	1.1
Queue Length 50th (ft)	68	129	51	136	60	102	0	27	91	0
Queue Length 95th (ft)	103	134	82	139	#118	184	28	53	169	7
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	285	1832	279	1813	166	2628	866	172	2546	845
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.28	0.44	0.27	0.83	0.24	0.12	0.38	0.23	0.10

Intersection Summary

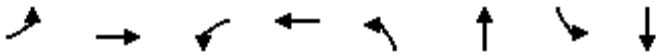
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	370	126	116	406	65	130	601	99	62	551	77
Future Volume (veh/h)	152	370	126	116	406	65	130	601	99	62	551	77
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	160	389	133	122	427	68	137	633	104	65	580	81
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	673	220	175	742	116	853	2765	860	144	1690	524
Arrive On Green	0.06	0.18	0.18	0.05	0.17	0.17	0.25	0.54	0.54	0.04	0.33	0.33
Sat Flow, veh/h	3442	3789	1238	3442	4437	691	3442	5085	1582	3442	5085	1578
Grp Volume(v), veh/h	160	346	176	122	324	171	137	633	104	65	580	81
Grp Sat Flow(s),veh/h/ln	1721	1695	1637	1721	1695	1738	1721	1695	1582	1721	1695	1578
Q Serve(g_s), s	6.0	12.2	12.9	4.5	11.4	11.8	4.1	8.4	2.9	2.4	11.2	4.7
Cycle Q Clear(g_c), s	6.0	12.2	12.9	4.5	11.4	11.8	4.1	8.4	2.9	2.4	11.2	4.7
Prop In Lane	1.00		0.76	1.00		0.40	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	602	291	175	567	291	853	2765	860	144	1690	524
V/C Ratio(X)	0.76	0.58	0.61	0.70	0.57	0.59	0.16	0.23	0.12	0.45	0.34	0.15
Avail Cap(c_a), veh/h	246	1241	599	230	1226	628	853	2765	860	159	1690	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	0.98	0.98	0.98	0.97	0.97	0.97	0.99	0.99	0.99
Uniform Delay (d), s/veh	60.1	49.0	49.3	60.7	49.8	50.0	38.3	15.5	6.8	60.8	32.7	30.5
Incr Delay (d2), s/veh	8.8	1.7	3.9	3.1	1.7	3.6	0.0	0.2	0.3	0.8	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	5.9	6.1	2.2	5.5	6.0	1.9	4.0	1.7	1.2	5.3	2.1
LnGrp Delay(d),s/veh	68.8	50.6	53.1	63.8	51.6	53.6	38.3	15.6	7.1	61.7	33.3	31.2
LnGrp LOS	E	D	D	E	D	D	D	B	A	E	C	C
Approach Vol, veh/h		682			617			874			726	
Approach Delay, s/veh		55.5			54.6			18.2			35.6	
Approach LOS		E			D			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	11.1	77.1	12.3	29.5	38.6	49.6	13.7	28.1
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6	43.5	8.7	* 48	6.3	* 43	9.3	* 47
Max Q Clear Time (g_c+I1), s	4.4	10.4	6.5	14.9	6.1	13.2	8.0	13.8
Green Ext Time (p_c), s	0.0	10.1	0.0	6.3	0.0	8.7	0.0	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	39.1
HCM 2010 LOS	D

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	63	488	91	676	27	61	43	35
v/c Ratio	0.18	0.17	0.26	0.23	0.04	0.09	0.07	0.05
Control Delay	29.5	14.5	31.3	14.0	11.4	8.4	12.1	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.5	14.5	31.3	14.0	11.4	8.4	12.1	7.4
Queue Length 50th (ft)	17	33	25	45	6	3	11	1
Queue Length 95th (ft)	72	110	#120	146	18	27	24	19
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	374	2915	374	2881	626	1195	585	1175
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.17	0.24	0.23	0.04	0.05	0.07	0.03

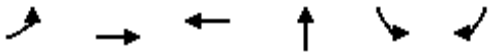
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	407	42	84	503	119	25	12	44	40	5	28
Future Volume (veh/h)	58	407	42	84	503	119	25	12	44	40	5	28
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	63	442	46	91	547	129	27	13	48	43	5	30
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	1321	135	167	1239	285	423	47	172	407	35	208
Arrive On Green	0.07	0.28	0.28	0.09	0.30	0.30	0.04	0.13	0.13	0.06	0.15	0.15
Sat Flow, veh/h	1774	4686	480	1774	4115	947	1774	348	1283	1774	228	1370
Grp Volume(v), veh/h	63	318	170	91	448	228	27	0	61	43	0	35
Grp Sat Flow(s),veh/h/ln	1774	1695	1776	1774	1695	1672	1774	0	1631	1774	0	1598
Q Serve(g_s), s	1.4	3.1	3.2	2.0	4.4	4.6	0.5	0.0	1.4	0.8	0.0	0.8
Cycle Q Clear(g_c), s	1.4	3.1	3.2	2.0	4.4	4.6	0.5	0.0	1.4	0.8	0.0	0.8
Prop In Lane	1.00		0.27	1.00		0.57	1.00		0.79	1.00		0.86
Lane Grp Cap(c), veh/h	132	956	501	167	1021	503	423	0	218	407	0	242
V/C Ratio(X)	0.48	0.33	0.34	0.55	0.44	0.45	0.06	0.00	0.28	0.11	0.00	0.14
Avail Cap(c_a), veh/h	278	1552	813	278	1552	765	675	0	1336	627	0	1309
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.4	11.8	11.8	18.0	11.7	11.7	14.4	0.0	16.2	14.0	0.0	15.3
Incr Delay (d2), s/veh	1.0	0.6	1.1	1.0	0.8	1.8	0.1	0.0	1.9	0.2	0.0	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	0.7	1.5	1.7	1.0	2.2	2.3	0.3	0.0	0.7	0.4	0.0	0.4
LnGrp Delay(d),s/veh	19.4	12.4	12.9	19.0	12.5	13.5	14.6	0.0	18.1	14.2	0.0	16.0
LnGrp LOS	B	B	B	B	B	B	B		B	B		B
Approach Vol, veh/h		551			767			88			78	
Approach Delay, s/veh		13.3			13.6			17.0			15.0	
Approach LOS		B			B			B			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	7.9	17.7	5.3	10.6	7.1	18.5	4.6	11.3
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	6.5	19.0	7.5	34.0	6.5	19.0	7.5	34.0
Max Q Clear Time (g_c+I1), s	4.0	5.2	2.8	3.4	3.4	6.6	2.5	2.8
Green Ext Time (p_c), s	0.0	4.6	0.0	0.7	0.0	5.9	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	13.8
HCM 2010 LOS	B



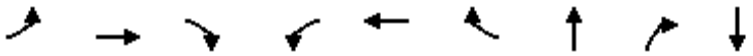
Lane Group	EBL	EBT	WBT	NBT	SBL	SBR
Lane Group Flow (vph)	33	528	852	3	66	66
v/c Ratio	0.12	0.23	0.41	0.01	0.17	0.11
Control Delay	25.7	5.2	9.5	20.0	21.2	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.7	5.2	9.5	20.0	21.2	0.4
Queue Length 50th (ft)	8	34	61	1	15	0
Queue Length 95th (ft)	36	61	165	7	52	0
Internal Link Dist (ft)		1064	2594	260		
Turn Bay Length (ft)	235					200
Base Capacity (vph)	301	2553	2307	1024	1023	1214
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.21	0.37	0.00	0.06	0.05

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	482	4	0	759	25	3	0	0	61	0	61
Future Volume (veh/h)	30	482	4	0	759	25	3	0	0	61	0	61
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	33	524	4	0	825	27	3	0	0	66	0	66
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	2084	16	4	1560	51	397	0	0	411	335	285
Arrive On Green	0.04	0.58	0.58	0.00	0.45	0.45	0.18	0.00	0.00	0.18	0.00	0.18
Sat Flow, veh/h	1774	3600	27	1774	3497	114	1330	0	0	1406	1863	1583
Grp Volume(v), veh/h	33	258	270	0	417	435	3	0	0	66	0	66
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1842	1330	0	0	1406	1863	1583
Q Serve(g_s), s	0.8	3.3	3.3	0.0	7.8	7.8	0.1	0.0	0.0	1.7	0.0	1.6
Cycle Q Clear(g_c), s	0.8	3.3	3.3	0.0	7.8	7.8	0.1	0.0	0.0	1.8	0.0	1.6
Prop In Lane	1.00		0.01	1.00		0.06	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	80	1024	1075	4	789	822	397	0	0	411	335	285
V/C Ratio(X)	0.41	0.25	0.25	0.00	0.53	0.53	0.01	0.00	0.00	0.16	0.00	0.23
Avail Cap(c_a), veh/h	257	1146	1203	253	1142	1189	1151	0	0	1208	1390	1182
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.2	4.7	4.7	0.0	9.1	9.1	15.4	0.0	0.0	16.1	0.0	16.0
Incr Delay (d2), s/veh	1.3	0.5	0.4	0.0	2.0	1.9	0.0	0.0	0.0	0.4	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.7	1.8	0.0	4.1	4.3	0.0	0.0	0.0	0.8	0.0	0.8
LnGrp Delay(d),s/veh	22.4	5.2	5.2	0.0	11.1	11.1	15.4	0.0	0.0	16.5	0.0	16.9
LnGrp LOS	C	A	A		B	B	B			B		B
Approach Vol, veh/h		561			852			3			132	
Approach Delay, s/veh		6.2			11.1			15.4			16.7	
Approach LOS		A			B			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	0.0	32.4		13.2	6.0	26.3		13.2
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	6.5	29.5		34.0	6.6	29.4		34.0
Max Q Clear Time (g_c+I1), s	0.0	5.3		2.1	2.8	9.8		3.8
Green Ext Time (p_c), s	0.0	7.3		0.0	0.0	10.4		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	9.8
HCM 2010 LOS	A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	57	555	28	66	751	47	167	42	233
v/c Ratio	0.27	0.38	0.04	0.31	0.51	0.07	0.38	0.08	0.51
Control Delay	32.3	13.8	0.1	32.8	15.1	1.9	22.6	0.7	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	13.8	0.1	32.8	15.1	1.9	22.6	0.7	22.8
Queue Length 50th (ft)	21	76	0	24	110	0	54	0	70
Queue Length 95th (ft)	59	132	1	66	184	10	110	3	142
Internal Link Dist (ft)		2594			1245		332		320
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	235	1987	922	235	1987	922	1021	1030	1025
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.28	0.03	0.28	0.38	0.05	0.16	0.04	0.23

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	511	26	61	691	43	43	110	39	45	117	52
Future Volume (veh/h)	52	511	26	61	691	43	43	110	39	45	117	52
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	57	555	28	66	751	47	47	120	42	49	127	57
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	1402	627	128	1425	637	162	315	347	136	221	87
Arrive On Green	0.07	0.40	0.40	0.07	0.40	0.40	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	315	1438	1583	220	1011	399
Grp Volume(v), veh/h	57	555	28	66	751	47	167	0	42	233	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1753	0	1583	1630	0	0
Q Serve(g_s), s	1.5	5.6	0.5	1.8	8.0	0.9	0.0	0.0	1.1	2.6	0.0	0.0
Cycle Q Clear(g_c), s	1.5	5.6	0.5	1.8	8.0	0.9	3.8	0.0	1.1	6.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.28		1.00	0.21		0.24
Lane Grp Cap(c), veh/h	117	1402	627	128	1425	637	477	0	347	445	0	0
V/C Ratio(X)	0.49	0.40	0.04	0.51	0.53	0.07	0.35	0.00	0.12	0.52	0.00	0.00
Avail Cap(c_a), veh/h	251	2107	942	251	2107	942	1196	0	1054	1166	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.3	10.7	9.2	22.2	11.2	9.1	16.6	0.0	15.5	17.5	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.7	0.1	1.2	1.1	0.2	0.9	0.0	0.3	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	0.8	2.8	0.3	0.9	4.1	0.4	2.1	0.0	0.5	3.2	0.0	0.0
LnGrp Delay(d),s/veh	23.5	11.4	9.3	23.3	12.3	9.3	17.5	0.0	15.9	19.6	0.0	0.0
LnGrp LOS	C	B	A	C	B	A	B		B	B		
Approach Vol, veh/h		640			864			209			233	
Approach Delay, s/veh		12.4			13.0			17.2			19.6	
Approach LOS		B			B			B			B	

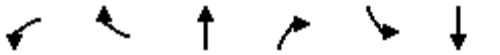
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.6	26.1		15.8	7.3	26.5		15.8
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	7.0	29.5		33.0	7.0	29.5		33.0
Max Q Clear Time (g_c+I1), s	3.8	7.6		5.8	3.5	10.0		8.4
Green Ext Time (p_c), s	0.0	7.8		2.2	0.0	10.0		2.5

Intersection Summary	
HCM 2010 Ctrl Delay	14.0
HCM 2010 LOS	B



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	54	158	164	23	229	227
v/c Ratio	0.14	0.34	0.15	0.03	0.32	0.21
Control Delay	10.4	4.8	5.2	2.6	6.8	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.4	4.8	5.2	2.6	6.8	5.4
Queue Length 50th (ft)	6	0	12	0	18	17
Queue Length 95th (ft)	24	26	33	6	53	44
Internal Link Dist (ft)	1226		772			355
Turn Bay Length (ft)		100		160	145	
Base Capacity (vph)	1080	1006	1258	1051	819	1258
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.16	0.13	0.02	0.28	0.18

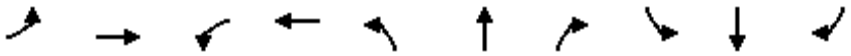
Intersection Summary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	50	145	151	21	211	209
Future Volume (veh/h)	50	145	151	21	211	209
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	54	158	164	23	229	227
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	301	269	741	627	749	741
Arrive On Green	0.17	0.17	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1774	1583	1863	1577	1188	1863
Grp Volume(v), veh/h	54	158	164	23	229	227
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1577	1188	1863
Q Serve(g_s), s	0.5	1.9	1.2	0.2	3.3	1.7
Cycle Q Clear(g_c), s	0.5	1.9	1.2	0.2	4.5	1.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	301	269	741	627	749	741
V/C Ratio(X)	0.18	0.59	0.22	0.04	0.31	0.31
Avail Cap(c_a), veh/h	1535	1370	1612	1365	1305	1612
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	7.4	8.0	4.1	3.8	5.6	4.3
Incr Delay (d2), s/veh	0.3	2.0	0.1	0.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.0	0.6	0.1	1.1	0.9
LnGrp Delay(d),s/veh	7.7	10.0	4.3	3.9	5.9	4.5
LnGrp LOS	A	B	A	A	A	A
Approach Vol, veh/h	212		187			456
Approach Delay, s/veh	9.4		4.2			5.2
Approach LOS	A		A			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		12.8				12.8		8.0
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		18.0				18.0		18.0
Max Q Clear Time (g_c+I1), s		3.2				6.5		3.9
Green Ext Time (p_c), s		0.7				1.6		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	6.0
HCM 2010 LOS	A



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	72	179	104	280	9	719	101	86	581	35
v/c Ratio	0.47	0.45	0.59	0.49	0.05	0.26	0.11	0.46	0.19	0.04
Control Delay	57.4	46.2	59.9	31.2	50.0	15.7	1.0	58.7	11.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	46.2	59.9	31.2	50.0	15.7	1.0	58.7	11.7	0.1
Queue Length 50th (ft)	49	59	71	64	3	101	0	30	59	0
Queue Length 95th (ft)	94	92	123	102	11	149	9	57	119	0
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	172	1403	194	1404	187	2715	905	187	3040	990
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.13	0.54	0.20	0.05	0.26	0.11	0.46	0.19	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	157	14	100	177	92	9	690	97	83	558	34
Future Volume (veh/h)	69	157	14	100	177	92	9	690	97	83	558	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	72	164	15	104	184	96	9	719	101	86	581	35
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	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	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	272	25	175	295	147	45	1179	367	1240	2977	926
Arrive On Green	0.05	0.08	0.08	0.10	0.13	0.13	0.01	0.23	0.23	0.36	0.59	0.59
Sat Flow, veh/h	1774	3283	297	1774	2279	1134	3442	5085	1581	3442	5085	1581
Grp Volume(v), veh/h	72	88	91	104	141	139	9	719	101	86	581	35
Grp Sat Flow(s),veh/h/ln	1774	1770	1810	1774	1770	1644	1721	1695	1581	1721	1695	1581
Q Serve(g_s), s	4.4	5.3	5.4	6.2	8.3	8.9	0.3	13.9	5.8	1.8	5.9	0.6
Cycle Q Clear(g_c), s	4.4	5.3	5.4	6.2	8.3	8.9	0.3	13.9	5.8	1.8	5.9	0.6
Prop In Lane	1.00		0.16	1.00		0.69	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	147	150	175	229	213	45	1179	367	1240	2977	926
V/C Ratio(X)	0.78	0.60	0.61	0.60	0.61	0.65	0.20	0.61	0.28	0.07	0.20	0.04
Avail Cap(c_a), veh/h	161	708	724	175	713	662	188	1179	367	1240	2977	926
HCM Platoon Ratio	1.00	1.00	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	0.20	0.20	0.20	0.97	0.97	0.97
Uniform Delay (d), s/veh	51.5	48.7	48.7	47.5	45.3	45.5	53.7	37.8	34.7	23.1	10.7	3.6
Incr Delay (d2), s/veh	5.3	7.1	7.2	3.8	6.2	7.8	0.2	0.5	0.4	0.0	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	2.3	2.9	3.0	3.2	4.4	4.5	0.1	6.6	2.5	0.9	2.8	0.4
LnGrp Delay(d),s/veh	56.8	55.7	55.9	51.3	51.5	53.3	53.9	38.3	35.0	23.1	10.8	3.7
LnGrp LOS	E	E	E	D	D	D	D	D	D	C	B	A
Approach Vol, veh/h		251			384			829			702	
Approach Delay, s/veh		56.1			52.1			38.1			12.0	
Approach LOS		E			D			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	46.0	31.9	16.5	15.5	7.1	70.8	11.4	20.6
Change Period (Y+Rc), s	6.4	* 6.4	5.7	* 6.4	* 5.7	6.4	5.7	* 6.4
Max Green Setting (Gmax), s	6.0	* 26	10.3	* 44	* 6	25.5	10.0	* 44
Max Q Clear Time (g_c+I1), s	3.8	15.9	8.2	7.4	2.3	7.9	6.4	10.9
Green Ext Time (p_c), s	0.0	6.7	0.0	1.8	0.0	8.7	0.0	3.4

Intersection Summary	
HCM 2010 Ctrl Delay	34.2
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	5.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	274	5	383	414	6	241
Future Vol, veh/h	274	5	383	414	6	241
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	298	5	416	450	7	262

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	303	0	1583	301
Stage 1	-	-	-	-	301	-
Stage 2	-	-	-	-	1282	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1258	-	120	739
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	260	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1258	-	67	739
Mov Cap-2 Maneuver	-	-	-	-	125	-
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	145	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.5	13.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	125	739	-	-	1258	-
HCM Lane V/C Ratio	0.052	0.354	-	-	0.331	-
HCM Control Delay (s)	35.4	12.5	-	-	9.3	0
HCM Lane LOS	E	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	1.6	-	-	1.5	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	92	333	9	0	344	5	25	6	8	3	3	55
Future Vol, veh/h	92	333	9	0	344	5	25	6	8	3	3	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	100	362	10	0	374	5	27	7	9	3	3	60

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	379	0	0	372	0	0	975	946	368	953	949	377
Stage 1	-	-	-	-	-	-	567	567	-	377	377	-
Stage 2	-	-	-	-	-	-	408	379	-	576	572	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1179	-	-	1186	-	-	231	262	677	239	260	670
Stage 1	-	-	-	-	-	-	508	507	-	644	616	-
Stage 2	-	-	-	-	-	-	620	615	-	503	504	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1179	-	-	1186	-	-	195	240	676	216	238	670
Mov Cap-2 Maneuver	-	-	-	-	-	-	195	240	-	216	238	-
Stage 1	-	-	-	-	-	-	465	464	-	589	616	-
Stage 2	-	-	-	-	-	-	562	615	-	448	461	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0	23.6	12.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	236	1179	-	-	1186	-	-	216	612
HCM Lane V/C Ratio	0.18	0.085	-	-	-	-	-	0.015	0.103
HCM Control Delay (s)	23.6	8.3	-	-	0	-	-	21.9	11.6
HCM Lane LOS	C	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.6	0.3	-	-	0	-	-	0	0.3



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	261	257	107	1	4	52	247	245
v/c Ratio	0.56	0.57	0.15	0.00	0.00	0.12	0.16	0.22
Control Delay	12.1	12.6	3.7	9.0	9.0	9.9	0.2	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	12.6	3.7	9.0	9.0	9.9	0.2	0.5
Queue Length 50th (ft)	25	25	3	0	0	5	0	0
Queue Length 95th (ft)	80	80	20	2	2	24	0	0
Internal Link Dist (ft)		563	789		604		1556	
Turn Bay Length (ft)	260			225		195		200
Base Capacity (vph)	754	727	1085	683	2192	871	2149	1254
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.35	0.10	0.00	0.00	0.06	0.11	0.20

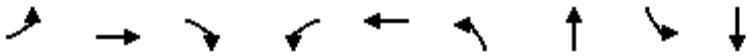
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	461	16	0	0	40	59	1	4	0	48	1	452
Future Volume (veh/h)	461	16	0	0	40	59	1	4	0	48	1	452
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	513	0	0	0	43	64	1	4	0	52	1	491
Adj No. of Lanes	2	1	0	0	1	0	1	2	0	1	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1375	660	0	0	240	357	545	1003	0	688	528	898
Arrive On Green	0.35	0.00	0.00	0.00	0.35	0.35	0.28	0.28	0.00	0.28	0.28	0.28
Sat Flow, veh/h	2563	1863	0	0	677	1008	901	3632	0	1407	1863	3167
Grp Volume(v), veh/h	513	0	0	0	0	107	1	4	0	52	1	491
Grp Sat Flow(s),veh/h/ln	1281	1863	0	0	0	1685	901	1770	0	1407	1863	1583
Q Serve(g_s), s	4.3	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.7	0.0	3.3
Cycle Q Clear(g_c), s	5.4	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.7	0.0	3.3
Prop In Lane	1.00		0.00	0.00		0.60	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1375	660	0	0	0	597	545	1003	0	688	528	898
V/C Ratio(X)	0.37	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.08	0.00	0.55
Avail Cap(c_a), veh/h	2325	1350	0	0	0	1221	943	2565	0	1308	1350	2295
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.4	0.0	0.0	0.0	0.0	5.5	6.4	6.4	0.0	6.6	6.4	7.5
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.3	0.0	1.4
LnGrp Delay(d),s/veh	7.6	0.0	0.0	0.0	0.0	5.7	6.4	6.4	0.0	6.7	6.4	8.1
LnGrp LOS	A					A	A	A		A	A	A
Approach Vol, veh/h		513			107			5			544	
Approach Delay, s/veh		7.6			5.7			6.4			7.9	
Approach LOS		A			A			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		11.5		13.3		11.5		13.3
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s		2.0		7.4		5.3		3.1
Green Ext Time (p_c), s		0.0		1.5		1.8		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	7.6
HCM 2010 LOS	A

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	341	86	71	365	65	652	126	530
v/c Ratio	0.32	0.65	0.16	0.44	0.33	0.39	0.64	0.61	0.43
Control Delay	51.2	35.7	2.7	52.7	21.5	50.7	30.8	55.1	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.2	35.7	2.7	52.7	21.5	50.7	30.8	55.1	24.9
Queue Length 50th (ft)	25	172	0	39	73	36	169	69	122
Queue Length 95th (ft)	71	301	16	97	127	90	260	#168	199
Internal Link Dist (ft)		776			1573		775		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	156	790	733	194	1542	211	1515	260	1610
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.43	0.12	0.37	0.24	0.31	0.43	0.48	0.33

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	314	79	65	246	90	60	537	63	116	429	59
Future Volume (veh/h)	42	314	79	65	246	90	60	537	63	116	429	59
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		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	46	341	86	71	267	98	65	584	68	126	466	64
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	494	420	115	713	256	110	896	104	160	967	132
Arrive On Green	0.05	0.27	0.27	0.06	0.28	0.28	0.06	0.28	0.28	0.09	0.31	0.31
Sat Flow, veh/h	1774	1863	1582	1774	2555	916	1774	3187	370	1774	3123	427
Grp Volume(v), veh/h	46	341	86	71	183	182	65	324	328	126	263	267
Grp Sat Flow(s),veh/h/ln	1774	1863	1582	1774	1770	1701	1774	1770	1787	1774	1770	1780
Q Serve(g_s), s	1.7	11.4	2.9	2.7	5.7	6.0	2.5	11.1	11.2	4.8	8.3	8.4
Cycle Q Clear(g_c), s	1.7	11.4	2.9	2.7	5.7	6.0	2.5	11.1	11.2	4.8	8.3	8.4
Prop In Lane	1.00		1.00	1.00		0.54	1.00		0.21	1.00		0.24
Lane Grp Cap(c), veh/h	90	494	420	115	494	475	110	497	502	160	548	551
V/C Ratio(X)	0.51	0.69	0.20	0.62	0.37	0.38	0.59	0.65	0.65	0.79	0.48	0.48
Avail Cap(c_a), veh/h	182	917	779	226	915	879	247	892	901	303	948	954
HCM Platoon Ratio	1.00	1.00	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	31.9	22.8	19.7	31.5	20.0	20.1	31.5	21.8	21.9	30.7	19.3	19.4
Incr Delay (d2), s/veh	1.6	5.2	0.7	2.0	1.4	1.6	1.9	2.8	2.8	3.2	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	6.5	1.3	1.4	3.0	3.0	1.3	5.8	5.9	2.5	4.2	4.3
LnGrp Delay(d),s/veh	33.6	28.0	20.4	33.5	21.4	21.6	33.4	24.6	24.7	33.9	20.6	20.6
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		473			436			717			656	
Approach Delay, s/veh		27.2			23.5			25.4			23.2	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	26.4	8.7	23.5	8.5	28.4	7.7	24.5
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 12	34.8	* 8.8	34.0	* 9.6	37.0	* 7.1	35.7
Max Q Clear Time (g_c+I1), s	6.8	13.2	4.7	13.4	4.5	10.4	3.7	8.0
Green Ext Time (p_c), s	0.1	6.2	0.0	4.8	0.0	5.4	0.0	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	24.8
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	162	314	3	1	302	115	5	0	3	63	0	126
Future Vol, veh/h	162	314	3	1	302	115	5	0	3	63	0	126
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	176	341	3	1	328	125	5	0	3	68	0	137

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	453	0	0	344	0	0	1156	1150	343	1089	1089	391
Stage 1	-	-	-	-	-	-	695	695	-	393	393	-
Stage 2	-	-	-	-	-	-	461	455	-	696	696	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1108	-	-	1215	-	-	174	198	700	193	215	658
Stage 1	-	-	-	-	-	-	433	444	-	632	606	-
Stage 2	-	-	-	-	-	-	581	569	-	432	443	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1108	-	-	1215	-	-	121	166	700	168	181	658
Mov Cap-2 Maneuver	-	-	-	-	-	-	121	166	-	168	181	-
Stage 1	-	-	-	-	-	-	364	373	-	532	605	-
Stage 2	-	-	-	-	-	-	460	568	-	362	373	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3	0	26.6	31.6
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	175	1108	-	-	1215	-	-	334
HCM Lane V/C Ratio	0.05	0.159	-	-	0.001	-	-	0.615
HCM Control Delay (s)	26.6	8.9	-	-	8	-	-	31.6
HCM Lane LOS	D	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.2	0.6	-	-	0	-	-	3.9

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	87	350	399	81	98	155
Future Vol, veh/h	87	350	399	81	98	155
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	95	380	434	88	107	168

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	522	0	-	0	1048	478
Stage 1	-	-	-	-	478	-
Stage 2	-	-	-	-	570	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1044	-	-	-	252	587
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	566	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1044	-	-	-	229	587
Mov Cap-2 Maneuver	-	-	-	-	229	-
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	566	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	21.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1044	-	-	-	229	587
HCM Lane V/C Ratio	0.091	-	-	-	0.465	0.287
HCM Control Delay (s)	8.8	-	-	-	33.7	13.6
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.3	-	-	-	2.3	1.2

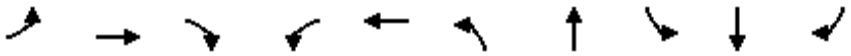
Intersection	
Int Delay, s/veh	37.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	395	62	119	382	14	90	0	244	7	0	15
Future Vol, veh/h	37	395	62	119	382	14	90	0	244	7	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	429	67	129	415	15	98	0	265	8	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	430	0	0	496	0	0	1233	1231	463	1356	1257	424
Stage 1	-	-	-	-	-	-	543	543	-	681	681	-
Stage 2	-	-	-	-	-	-	690	688	-	675	576	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1129	-	-	1068	-	-	154	177	599	126	171	630
Stage 1	-	-	-	-	-	-	524	520	-	440	450	-
Stage 2	-	-	-	-	-	-	435	447	-	444	502	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1129	-	-	1068	-	-	132	150	599	62	145	629
Mov Cap-2 Maneuver	-	-	-	-	-	-	132	150	-	62	145	-
Stage 1	-	-	-	-	-	-	506	502	-	425	396	-
Stage 2	-	-	-	-	-	-	372	393	-	239	484	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	2	146.8	31.2
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	307	1129	-	-	1068	-	-	161
HCM Lane V/C Ratio	1.183	0.036	-	-	0.121	-	-	0.149
HCM Control Delay (s)	146.8	8.3	-	-	8.8	-	-	31.2
HCM Lane LOS	F	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	15.7	0.1	-	-	0.4	-	-	0.5



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	62	201	157	217	203	177	910	99	523	47
v/c Ratio	0.50	0.53	0.31	0.72	0.33	1.39	0.98	0.79	0.39	0.08
Control Delay	56.5	36.4	2.5	47.9	22.6	253.9	59.7	83.7	28.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.5	36.4	2.5	47.9	22.6	253.9	59.7	83.7	28.6	0.3
Queue Length 50th (ft)	33	97	0	111	82	~129	254	54	84	0
Queue Length 95th (ft)	#97	176	12	200	135	#298	#487	#165	141	0
Internal Link Dist (ft)		765			339		252		1110	
Turn Bay Length (ft)	180			175		205		290		210
Base Capacity (vph)	125	548	626	458	893	127	925	125	1335	581
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.37	0.25	0.47	0.23	1.39	0.98	0.79	0.39	0.08

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	185	144	200	176	11	163	741	97	91	481	43
Future Volume (veh/h)	57	185	144	200	176	11	163	741	97	91	481	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		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	62	201	157	217	191	12	177	805	105	99	523	47
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	315	267	260	447	28	142	912	119	126	1427	444
Arrive On Green	0.06	0.17	0.17	0.15	0.26	0.26	0.08	0.29	0.29	0.07	0.28	0.28
Sat Flow, veh/h	1774	1863	1583	1774	1734	109	1774	3148	411	1774	5085	1583
Grp Volume(v), veh/h	62	201	157	217	0	203	177	452	458	99	523	47
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1843	1774	1770	1789	1774	1695	1583
Q Serve(g_s), s	2.6	7.6	7.0	9.0	0.0	7.0	6.1	18.5	18.5	4.2	6.3	1.7
Cycle Q Clear(g_c), s	2.6	7.6	7.0	9.0	0.0	7.0	6.1	18.5	18.5	4.2	6.3	1.7
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	102	315	267	260	0	475	142	513	518	126	1427	444
V/C Ratio(X)	0.61	0.64	0.59	0.83	0.00	0.43	1.24	0.88	0.88	0.78	0.37	0.11
Avail Cap(c_a), veh/h	140	613	521	513	0	994	142	521	527	140	1492	464
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	29.4	29.1	31.5	0.0	23.5	35.0	25.8	25.8	34.7	21.9	20.3
Incr Delay (d2), s/veh	2.2	6.5	6.2	2.7	0.0	1.8	155.1	19.0	18.9	19.8	0.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.5	3.5	4.6	0.0	3.8	9.1	11.8	11.9	2.7	3.0	0.8
LnGrp Delay(d),s/veh	37.1	35.9	35.3	34.2	0.0	25.3	190.1	44.8	44.6	54.6	22.6	20.7
LnGrp LOS	D	D	D	C		C	F	D	D	D	C	C
Approach Vol, veh/h		420			420			1087			669	
Approach Delay, s/veh		35.9			29.9			68.4			27.2	
Approach LOS		D			C			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	28.8	16.8	19.2	11.8	28.1	10.1	26.0
Change Period (Y+Rc), s	* 5.7	6.8	* 5.7	6.4	* 5.7	6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 6	22.4	* 22	25.0	* 6.1	22.3	* 6	41.0
Max Q Clear Time (g_c+I1), s	6.2	20.5	11.0	9.6	8.1	8.3	4.6	9.0
Green Ext Time (p_c), s	0.0	1.5	0.2	3.2	0.0	6.1	0.0	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	46.3
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	9.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	280	6	20	0	0	424
Future Vol, veh/h	280	6	20	0	0	424
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	304	7	22	0	0	461

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	22	0	-	0	637	22
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	615	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1593	-	-	-	441	1055
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	539	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1593	-	-	-	357	1055
Mov Cap-2 Maneuver	-	-	-	-	357	-
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	539	-

Approach	EB	WB	SB
HCM Control Delay, s	7.6	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1593	-	-	-	1055
HCM Lane V/C Ratio	0.191	-	-	-	0.437
HCM Control Delay (s)	7.8	-	-	-	11
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.7	-	-	-	2.3



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	40	14	200	8	949	51	743	34
v/c Ratio	0.17	0.04	0.61	0.04	0.57	0.27	0.38	0.04
Control Delay	23.0	0.2	19.1	26.7	14.0	30.2	9.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	0.2	19.1	26.7	14.0	30.2	9.2	0.1
Queue Length 50th (ft)	13	0	26	3	132	18	56	0
Queue Length 95th (ft)	36	0	83	15	217	49	161	0
Internal Link Dist (ft)	1563		335		1230		630	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	754	1004	868	186	1677	186	1961	917
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.01	0.23	0.04	0.57	0.27	0.38	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	0	13	102	0	82	7	820	53	47	684	31
Future Volume (veh/h)	37	0	13	102	0	82	7	820	53	47	684	31
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	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	40	0	14	111	0	89	8	891	58	51	743	34
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	354	0	280	223	16	111	22	1361	89	104	1591	711
Arrive On Green	0.18	0.00	0.18	0.18	0.00	0.18	0.01	0.40	0.40	0.06	0.45	0.45
Sat Flow, veh/h	1270	0	1583	692	92	629	1774	3374	220	1774	3539	1582
Grp Volume(v), veh/h	40	0	14	200	0	0	8	467	482	51	743	34
Grp Sat Flow(s),veh/h/ln	1270	0	1583	1413	0	0	1774	1770	1824	1774	1770	1582
Q Serve(g_s), s	0.0	0.0	0.4	6.1	0.0	0.0	0.2	11.9	11.9	1.5	8.1	0.7
Cycle Q Clear(g_c), s	1.5	0.0	0.4	7.6	0.0	0.0	0.2	11.9	11.9	1.5	8.1	0.7
Prop In Lane	1.00		1.00	0.55		0.44	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	354	0	280	351	0	0	22	714	736	104	1591	711
V/C Ratio(X)	0.11	0.00	0.05	0.57	0.00	0.00	0.36	0.65	0.65	0.49	0.47	0.05
Avail Cap(c_a), veh/h	933	0	983	968	0	0	192	831	856	192	1661	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	0.0	18.9	22.0	0.0	0.0	27.1	13.4	13.4	25.3	10.6	8.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.5	0.0	0.0	3.6	4.4	4.3	1.3	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.2	2.9	0.0	0.0	0.1	6.6	6.8	0.8	4.1	0.3
LnGrp Delay(d),s/veh	19.4	0.0	19.0	22.6	0.0	0.0	30.7	17.8	17.7	26.6	11.4	8.7
LnGrp LOS	B		B	C			C	B	B	C	B	A
Approach Vol, veh/h		54			200			957			828	
Approach Delay, s/veh		19.3			22.6			17.8			12.3	
Approach LOS		B			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	9.0	29.1		17.3	6.4	31.7		17.3
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 6	26.0		* 34	* 6	26.0		33.0
Max Q Clear Time (g_c+I1), s	3.5	13.9		3.5	2.2	10.1		9.6
Green Ext Time (p_c), s	0.0	8.5		0.1	0.0	8.8		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.1
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	20.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	8	157	32	20	18	53	896	24	10	706	37
Future Vol, veh/h	33	8	157	32	20	18	53	896	24	10	706	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	9	171	35	22	20	58	974	26	11	767	40

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1423	1925	404	1513	1932	500	807	0	0	1000	0	0
Stage 1	809	809	-	1103	1103	-	-	-	-	-	-	-
Stage 2	614	1116	-	410	829	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	96	66	596	82	65	516	814	-	-	688	-	-
Stage 1	340	392	-	225	285	-	-	-	-	-	-	-
Stage 2	446	281	-	589	383	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	62	60	596	49	59	516	814	-	-	688	-	-
Mov Cap-2 Maneuver	62	60	-	49	59	-	-	-	-	-	-	-
Stage 1	316	386	-	209	265	-	-	-	-	-	-	-
Stage 2	366	261	-	404	377	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	111.9	250.1	0.5	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	814	-	-	213	68	688	-	-
HCM Lane V/C Ratio	0.071	-	-	1.01	1.119	0.016	-	-
HCM Control Delay (s)	9.8	-	-	111.9	250.1	10.3	-	-
HCM Lane LOS	A	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	9.1	5.9	0	-	-



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	53	80	863	45	833
v/c Ratio	0.13	0.17	0.33	0.36	0.20	0.38
Control Delay	17.9	14.8	29.9	11.3	28.9	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	14.8	29.9	11.3	28.9	13.1
Queue Length 50th (ft)	8	8	27	64	15	110
Queue Length 95th (ft)	29	33	75	249	49	238
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	605	648	320	2392	312	2194
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.08	0.25	0.36	0.14	0.38

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	1	10	23	2	26	76	806	14	43	713	78
Future Volume (veh/h)	23	1	10	23	2	26	76	806	14	43	713	78
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		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	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	24	1	11	24	2	27	80	848	15	45	751	82
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	29	58	165	38	99	145	1496	26	100	1268	138
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.08	0.42	0.42	0.06	0.40	0.40
Sat Flow, veh/h	821	230	463	458	309	796	1774	3558	63	1774	3211	350
Grp Volume(v), veh/h	36	0	0	53	0	0	80	422	441	45	414	419
Grp Sat Flow(s),veh/h/ln	1514	0	0	1563	0	0	1774	1770	1852	1774	1770	1792
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	2.1	8.8	8.8	1.2	8.9	8.9
Cycle Q Clear(g_c), s	0.9	0.0	0.0	1.4	0.0	0.0	2.1	8.8	8.8	1.2	8.9	8.9
Prop In Lane	0.67		0.31	0.45		0.51	1.00		0.03	1.00		0.20
Lane Grp Cap(c), veh/h	312	0	0	303	0	0	145	744	778	100	699	708
V/C Ratio(X)	0.12	0.00	0.00	0.18	0.00	0.00	0.55	0.57	0.57	0.45	0.59	0.59
Avail Cap(c_a), veh/h	790	0	0	799	0	0	334	903	945	326	896	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	0.0	19.1	0.0	0.0	21.4	10.7	10.7	22.1	11.6	11.6
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.5	0.0	0.0	1.2	2.9	2.8	1.2	3.4	3.4
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	0.5	0.0	0.0	0.7	0.0	0.0	1.1	4.8	5.0	0.6	4.9	5.0
LnGrp Delay(d),s/veh	19.2	0.0	0.0	19.6	0.0	0.0	22.6	13.6	13.5	23.3	15.0	14.9
LnGrp LOS	B			B			C	B	B	C	B	B
Approach Vol, veh/h		36			53			943			878	
Approach Delay, s/veh		19.2			19.6			14.3			15.4	
Approach LOS		B			B			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	8.4	28.2		11.7	9.7	27.0		11.7
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 8.9	24.7		* 22	* 9.1	24.5		* 22
Max Q Clear Time (g_c+I1), s	3.2	10.8		2.9	4.1	10.9		3.4
Green Ext Time (p_c), s	0.0	8.6		0.2	0.0	8.2		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.0
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	292	81	0	387	0	12
Future Vol, veh/h	292	81	0	387	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	317	88	0	421	0	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	361
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	684
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	684
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	684	-	-	-
HCM Lane V/C Ratio	0.019	-	-	-
HCM Control Delay (s)	10.4	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	233	61	62	372	7	0	0	12	0	0	18
Future Vol, veh/h	10	233	61	62	372	7	0	0	12	0	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	253	66	67	404	8	0	0	13	0	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	412	0	0	319	0	0	-	-	286	-	-	408
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	-	6.22	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	-	3.318	-	-	3.318
Pot Cap-1 Maneuver	1147	-	-	1241	-	-	0	0	753	0	0	643
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1147	-	-	1241	-	-	-	-	753	-	-	643
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.1	9.9	10.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	753	1147	-	-	1241	-	-	643
HCM Lane V/C Ratio	0.017	0.009	-	-	0.054	-	-	0.03
HCM Control Delay (s)	9.9	8.2	-	-	8.1	-	-	10.8
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.2	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	248	0	0	479	0	29
Future Vol, veh/h	248	0	0	479	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	270	0	0	521	0	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	270
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	769
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	769
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	769	-	-	-
HCM Lane V/C Ratio	0.041	-	-	-
HCM Control Delay (s)	9.9	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	158	421	3	0	58
Future Vol, veh/h	119	158	421	3	0	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	172	458	3	0	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	461	0	-	0	890	460
Stage 1	-	-	-	-	460	-
Stage 2	-	-	-	-	430	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1100	-	-	-	313	601
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	656	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1100	-	-	-	272	601
Mov Cap-2 Maneuver	-	-	-	-	272	-
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	656	-

Approach	EB	WB	SB
HCM Control Delay, s	3.7	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1100	-	-	-	-	601
HCM Lane V/C Ratio	0.118	-	-	-	-	0.105
HCM Control Delay (s)	8.7	0	-	-	0	11.7
HCM Lane LOS	A	A	-	-	A	B
HCM 95th %tile Q(veh)	0.4	-	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	66	0	0	76	0	865	30	0	699	126
Future Vol, veh/h	0	0	66	0	0	76	0	865	30	0	699	126
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	72	0	0	83	0	940	33	0	760	137

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	380	-	-	487	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	618	0	0	526	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	618	-	-	526	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	13.1	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	618	526	-	-
HCM Lane V/C Ratio	-	-	0.116	0.157	-	-
HCM Control Delay (s)	-	-	11.6	13.1	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	87	0	0	63	171	765	31	58	609	98
Future Vol, veh/h	0	0	87	0	0	63	171	765	31	58	609	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	95	0	0	68	186	832	34	63	662	107

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	331	-	-	433	769	0	0	866	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	665	0	0	571	841	-	-	773	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	665	-	-	571	841	-	-	773	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	12.2	1.9	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	841	-	-	665	571	773	-	-
HCM Lane V/C Ratio	0.221	-	-	0.142	0.12	0.082	-	-
HCM Control Delay (s)	10.5	-	-	11.3	12.2	10.1	-	-
HCM Lane LOS	B	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	0.8	-	-	0.5	0.4	0.3	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	43	57	117	0	0	67
Future Vol, veh/h	43	57	117	0	0	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	62	127	0	0	73

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	127	0	-	0	283	127
Stage 1	-	-	-	-	127	-
Stage 2	-	-	-	-	156	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1459	-	-	-	707	923
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	872	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1459	-	-	-	684	923
Mov Cap-2 Maneuver	-	-	-	-	684	-
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	872	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1459	-	-	-	923
HCM Lane V/C Ratio	0.032	-	-	-	0.079
HCM Control Delay (s)	7.5	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	24	66	0	0	51
Future Vol, veh/h	33	24	66	0	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	26	72	0	0	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	72	0	-	0	170	72
Stage 1	-	-	-	-	72	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1528	-	-	-	820	990
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	926	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1528	-	-	-	800	990
Mov Cap-2 Maneuver	-	-	-	-	800	-
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	926	-

Approach	EB	WB	SB
HCM Control Delay, s	4.3	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1528	-	-	-	990
HCM Lane V/C Ratio	0.023	-	-	-	0.056
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	10	37	0	0	29
Future Vol, veh/h	14	10	37	0	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	11	40	0	0	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	40	0	-	0	81	40
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1570	-	-	-	921	1031
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	981	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1570	-	-	-	912	1031
Mov Cap-2 Maneuver	-	-	-	-	912	-
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	981	-

Approach	EB	WB	SB
HCM Control Delay, s	4.3	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1570	-	-	-	1031
HCM Lane V/C Ratio	0.01	-	-	-	0.031
HCM Control Delay (s)	7.3	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	19	0	0	18
Future Vol, veh/h	0	10	19	0	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	21	0	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	21	0	-	0	32	21
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1595	-	-	-	982	1056
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1595	-	-	-	982	1056
Mov Cap-2 Maneuver	-	-	-	-	982	-
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1595	-	-	-	1056
HCM Lane V/C Ratio	-	-	-	-	0.019
HCM Control Delay (s)	0	-	-	-	8.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

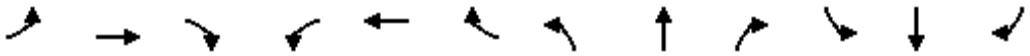
Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	18	0	0	0	0
Future Vol, veh/h	29	18	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	20	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	1045	-	-
HCM Lane V/C Ratio	-	-	0.049	-	-
HCM Control Delay (s)	0	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	95	239	204	235	227	65	238	1074	236	113	1190	82
v/c Ratio	0.20	0.41	0.49	0.52	0.40	0.16	1.38	0.47	0.30	0.54	0.51	0.10
Control Delay	50.7	46.8	11.1	56.4	47.5	0.9	244.3	26.2	9.5	66.8	26.1	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	46.8	11.1	56.4	47.5	0.9	244.3	26.2	9.5	66.8	26.1	0.9
Queue Length 50th (ft)	35	96	14	92	92	0	~131	206	33	46	225	0
Queue Length 95th (ft)	66	103	64	#165	98	0	#217	318	111	#89	362	6
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	472	1330	701	448	1339	706	173	2278	789	209	2332	786
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.18	0.29	0.52	0.17	0.09	1.38	0.47	0.30	0.54	0.51	0.10

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	232	198	228	220	63	231	1042	229	110	1154	80
Future Volume (veh/h)	92	232	198	228	220	63	231	1042	229	110	1154	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	95	239	204	235	227	65	238	1074	236	113	1190	82
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	404	655	288	173	418	186	811	2662	819	163	1676	519
Arrive On Green	0.12	0.19	0.19	0.05	0.12	0.12	0.24	0.52	0.52	0.05	0.33	0.33
Sat Flow, veh/h	3442	3539	1555	3442	3539	1579	3442	5085	1564	3442	5085	1575
Grp Volume(v), veh/h	95	239	204	235	227	65	238	1074	236	113	1190	82
Grp Sat Flow(s),veh/h/ln	1721	1770	1555	1721	1770	1579	1721	1695	1564	1721	1695	1575
Q Serve(g_s), s	3.1	7.4	15.4	6.3	7.6	4.0	7.1	15.9	7.3	4.0	25.6	4.6
Cycle Q Clear(g_c), s	3.1	7.4	15.4	6.3	7.6	4.0	7.1	15.9	7.3	4.0	25.6	4.6
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	404	655	288	173	418	186	811	2662	819	163	1676	519
V/C Ratio(X)	0.24	0.36	0.71	1.35	0.54	0.35	0.29	0.40	0.29	0.69	0.71	0.16
Avail Cap(c_a), veh/h	404	1331	585	173	1339	598	811	2662	819	165	1676	519
HCM Platoon Ratio	1.00	1.00	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	0.78	0.78	0.78	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	44.5	47.8	59.4	51.9	35.5	39.2	18.0	8.0	58.6	36.7	29.6
Incr Delay (d2), s/veh	0.1	0.7	6.1	192.5	2.1	2.2	0.1	0.4	0.7	9.7	2.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.7	7.1	7.6	3.8	2.1	3.4	7.5	4.0	2.2	12.4	2.1
LnGrp Delay(d),s/veh	50.2	45.2	53.9	251.9	54.1	37.6	39.3	18.3	8.7	68.4	39.2	30.3
LnGrp LOS	D	D	D	F	D	D	D	B	A	E	D	C
Approach Vol, veh/h		538			527			1548			1385	
Approach Delay, s/veh		49.4			140.3			20.1			41.1	
Approach LOS		D			F			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	11.6	71.8	12.0	29.5	35.9	47.6	20.4	21.2
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6	41.5	6.3	* 47	6.3	* 41	6.0	* 47
Max Q Clear Time (g_c+I1), s	6.0	17.9	8.3	17.4	9.1	27.6	5.1	9.6
Green Ext Time (p_c), s	0.0	14.2	0.0	4.3	0.0	9.6	0.0	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	47.1
HCM 2010 LOS	D

Notes



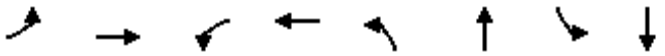
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	140	259	1	211	99	23	114	16	197
v/c Ratio	0.23	0.23	0.00	0.27	0.13	0.04	0.23	0.02	0.28
Control Delay	20.5	8.9	23.0	16.0	2.0	14.5	17.1	14.9	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	8.9	23.0	16.0	2.0	14.5	17.1	14.9	4.5
Queue Length 50th (ft)	32	30	0	44	0	4	24	3	0
Queue Length 95th (ft)	93	116	4	111	15	20	69	16	40
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	679	1283	422	1151	1033	1032	854	1151	1053
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.20	0.00	0.18	0.10	0.02	0.13	0.01	0.19

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	227	11	1	194	91	7	12	2	105	15	181
Future Volume (veh/h)	129	227	11	1	194	91	7	12	2	105	15	181
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	140	247	12	1	211	99	8	13	2	114	16	197
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	689	33	5	496	422	205	255	31	506	403	343
Arrive On Green	0.13	0.39	0.39	0.00	0.27	0.27	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	1762	86	1774	1863	1583	322	1179	143	1393	1863	1583
Grp Volume(v), veh/h	140	0	259	1	211	99	23	0	0	114	16	197
Grp Sat Flow(s),veh/h/ln	1774	0	1848	1774	1863	1583	1644	0	0	1393	1863	1583
Q Serve(g_s), s	2.7	0.0	3.6	0.0	3.4	1.8	0.0	0.0	0.0	2.0	0.2	4.0
Cycle Q Clear(g_c), s	2.7	0.0	3.6	0.0	3.4	1.8	0.4	0.0	0.0	2.4	0.2	4.0
Prop In Lane	1.00		0.05	1.00		1.00	0.35		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	223	0	722	5	496	422	492	0	0	506	403	343
V/C Ratio(X)	0.63	0.00	0.36	0.20	0.43	0.23	0.05	0.00	0.00	0.23	0.04	0.57
Avail Cap(c_a), veh/h	545	0	1522	322	1301	1106	1224	0	0	1177	1301	1106
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	7.7	17.8	10.9	10.3	11.1	0.0	0.0	11.9	11.1	12.5
Incr Delay (d2), s/veh	1.1	0.0	0.5	7.2	1.0	0.5	0.1	0.0	0.0	0.4	0.1	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	1.9	0.0	1.8	0.8	0.2	0.0	0.0	1.0	0.1	1.9
LnGrp Delay(d),s/veh	15.9	0.0	8.2	25.1	11.9	10.8	11.2	0.0	0.0	12.3	11.2	15.1
LnGrp LOS	B		A	C	B	B	B			B	B	B
Approach Vol, veh/h		399			311			23			327	
Approach Delay, s/veh		10.9			11.5			11.2			13.9	
Approach LOS		B			B			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	4.1	19.0		12.8	8.5	14.5		12.8
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	6.5	29.5		25.0	11.0	25.0		25.0
Max Q Clear Time (g_c+I1), s	2.0	5.6		2.4	4.7	5.4		6.0
Green Ext Time (p_c), s	0.0	2.3		0.1	0.1	2.3		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	124	58	18	128	63	1396	78	1646
v/c Ratio	0.48	0.16	0.10	0.51	0.59	0.59	0.47	0.66
Control Delay	46.1	15.2	38.7	15.8	69.3	22.5	51.7	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	15.2	38.7	15.8	69.3	22.5	51.7	21.1
Queue Length 50th (ft)	74	2	11	1	40	239	48	281
Queue Length 95th (ft)	130	41	29	55	#99	334	92	370
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	257	648	178	681	106	2351	165	2508
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.09	0.10	0.19	0.59	0.59	0.47	0.66

Intersection Summary

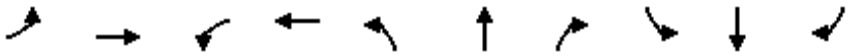
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	5	49	17	2	117	59	1280	19	73	1461	70
Future Volume (veh/h)	115	5	49	17	2	117	59	1280	19	73	1461	70
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		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	124	5	53	18	2	126	63	1376	20	78	1571	75
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	11	117	156	3	164	582	2793	41	100	1300	62
Arrive On Green	0.06	0.08	0.08	0.09	0.10	0.10	0.33	0.54	0.54	0.06	0.26	0.26
Sat Flow, veh/h	1774	138	1466	1774	25	1562	1774	5162	75	1774	4963	237
Grp Volume(v), veh/h	124	0	58	18	0	128	63	904	492	78	1073	573
Grp Sat Flow(s),veh/h/ln	1774	0	1604	1774	0	1587	1774	1695	1847	1774	1695	1810
Q Serve(g_s), s	6.3	0.0	3.5	0.9	0.0	7.9	2.5	16.7	16.7	4.3	26.2	26.2
Cycle Q Clear(g_c), s	6.3	0.0	3.5	0.9	0.0	7.9	2.5	16.7	16.7	4.3	26.2	26.2
Prop In Lane	1.00		0.91	1.00		0.98	1.00		0.04	1.00		0.13
Lane Grp Cap(c), veh/h	112	0	128	156	0	166	582	1834	999	100	888	474
V/C Ratio(X)	1.11	0.00	0.45	0.12	0.00	0.77	0.11	0.49	0.49	0.78	1.21	1.21
Avail Cap(c_a), veh/h	112	0	614	156	0	603	582	1834	999	108	888	474
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.82	0.82	0.82	0.85	0.85	0.85
Uniform Delay (d), s/veh	46.8	0.0	43.9	42.0	0.0	43.6	23.4	14.4	14.4	46.6	36.9	36.9
Incr Delay (d2), s/veh	117.6	0.0	1.8	0.1	0.0	5.5	0.0	0.8	1.4	22.0	102.7	109.8
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	6.7	0.0	1.6	0.5	0.0	3.7	1.2	8.0	8.9	2.7	24.9	27.5
LnGrp Delay(d),s/veh	164.5	0.0	45.8	42.1	0.0	49.1	23.4	15.1	15.8	68.6	139.6	146.7
LnGrp LOS	F		D	D		D	C	B	B	E	F	F
Approach Vol, veh/h		182			146			1459			1724	
Approach Delay, s/veh		126.6			48.2			15.7			138.7	
Approach LOS		F			D			B			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	60.5	14.5	13.7	39.2	32.6	12.0	16.2
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	6.4	* 6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 6.1	26.1	* 6	* 38	6.0	* 26	* 6.3	* 38
Max Q Clear Time (g_c+I1), s	6.3	18.7	2.9	5.5	4.5	28.2	8.3	9.9
Green Ext Time (p_c), s	0.0	6.0	0.0	0.3	0.0	0.0	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	83.2
HCM 2010 LOS	F

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	20	41	66	91	71	1235	54	176	1457	40
v/c Ratio	0.17	0.16	0.50	0.27	0.36	0.55	0.07	0.52	0.47	0.04
Control Delay	49.8	11.1	60.8	10.2	53.1	25.6	0.2	48.1	18.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	11.1	60.8	10.2	53.1	25.6	0.2	48.1	18.6	0.1
Queue Length 50th (ft)	13	1	43	5	24	227	0	107	210	0
Queue Length 95th (ft)	38	22	#112	35	47	#390	0	#314	#507	0
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	115	651	132	685	196	2237	762	341	3102	1010
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.06	0.50	0.13	0.36	0.55	0.07	0.52	0.47	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	2	37	62	9	76	67	1161	51	165	1370	38
Future Volume (veh/h)	19	2	37	62	9	76	67	1161	51	165	1370	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		0.98	1.00		0.99	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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	20	2	39	66	10	81	71	1235	54	176	1457	40
Adj No. of Lanes	1	1	0	1	1	0	2	3	1	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	9	173	87	21	167	1180	2799	851	101	1312	406
Arrive On Green	0.05	0.12	0.12	0.05	0.12	0.12	0.34	0.55	0.55	0.06	0.26	0.26
Sat Flow, veh/h	1774	77	1495	1774	176	1423	3442	5085	1546	1774	5085	1574
Grp Volume(v), veh/h	20	0	41	66	0	91	71	1235	54	176	1457	40
Grp Sat Flow(s),veh/h/ln	1774	0	1571	1774	0	1599	1721	1695	1546	1774	1695	1574
Q Serve(g_s), s	1.1	0.0	2.5	3.9	0.0	5.6	1.5	15.1	1.1	6.0	27.1	2.0
Cycle Q Clear(g_c), s	1.1	0.0	2.5	3.9	0.0	5.6	1.5	15.1	1.1	6.0	27.1	2.0
Prop In Lane	1.00		0.95	1.00		0.89	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	85	0	182	87	0	187	1180	2799	851	101	1312	406
V/C Ratio(X)	0.24	0.00	0.22	0.76	0.00	0.49	0.06	0.44	0.06	1.74	1.11	0.10
Avail Cap(c_a), veh/h	101	0	629	101	0	639	1180	2799	851	101	1312	406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.80	0.80	0.80	0.71	0.71	0.71
Uniform Delay (d), s/veh	48.2	0.0	42.1	49.3	0.0	43.4	23.2	14.0	4.4	49.5	38.9	29.7
Incr Delay (d2), s/veh	0.5	0.0	0.2	20.1	0.0	1.4	0.0	0.4	0.1	358.8	58.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.1	2.4	0.0	2.6	0.7	7.2	0.7	13.0	19.7	0.9
LnGrp Delay(d),s/veh	48.7	0.0	42.4	69.4	0.0	44.8	23.2	14.4	4.5	408.3	96.9	30.0
LnGrp LOS	D		D	E		D	C	B	A	F	F	C
Approach Vol, veh/h		61			157			1360			1673	
Approach Delay, s/veh		44.4			55.2			14.5			128.1	
Approach LOS		D			E			B			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	64.2	10.8	18.3	42.4	33.5	10.7	18.4
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 6	27.1	6.0	* 42	6.0	* 27	6.0	* 42
Max Q Clear Time (g_c+I1), s	8.0	17.1	5.9	4.5	3.5	29.1	3.1	7.6
Green Ext Time (p_c), s	0.0	7.8	0.0	0.1	0.0	0.0	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	75.5
HCM 2010 LOS	E

Notes

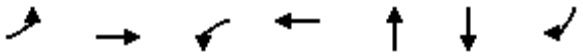
Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	1169	51	41	936	24	21	0	39	22	0	42
Future Vol, veh/h	29	1169	51	41	936	24	21	0	39	22	0	42
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	1218	53	43	975	25	22	0	41	23	0	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1005	0	0	1271	0	0	1879	2396	636	1748	2410	505
Stage 1	-	-	-	-	-	-	1305	1305	-	1079	1079	-
Stage 2	-	-	-	-	-	-	574	1091	-	669	1331	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	685	-	-	542	-	-	44	33	421	55	32	512
Stage 1	-	-	-	-	-	-	169	228	-	233	293	-
Stage 2	-	-	-	-	-	-	471	289	-	413	222	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	682	-	-	542	-	-	31	23	421	38	22	510
Mov Cap-2 Maneuver	-	-	-	-	-	-	31	23	-	38	22	-
Stage 1	-	-	-	-	-	-	143	193	-	196	239	-
Stage 2	-	-	-	-	-	-	353	236	-	316	188	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	1.4	143	99.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	78	682	-	-	542	-	-	97
HCM Lane V/C Ratio	0.801	0.044	-	-	0.079	-	-	0.687
HCM Control Delay (s)	143	10.5	0.8	-	12.2	1	-	99.9
HCM Lane LOS	F	B	A	-	B	A	-	F
HCM 95th %tile Q(veh)	4	0.1	-	-	0.3	-	-	3.5



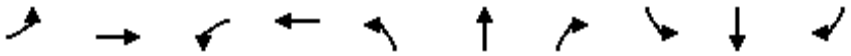
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	59	933	79	820	79	18	11
v/c Ratio	0.23	0.36	0.28	0.29	0.24	0.05	0.03
Control Delay	34.2	16.0	33.2	13.8	6.5	23.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	16.0	33.2	13.8	6.5	23.2	0.1
Queue Length 50th (ft)	17	65	23	54	0	5	0
Queue Length 95th (ft)	74	228	92	191	25	22	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	276	2668	357	2903	1097	1117	1021
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.35	0.22	0.28	0.07	0.02	0.01

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	855	22	74	757	14	32	0	42	16	1	10
Future Volume (veh/h)	55	855	22	74	757	14	32	0	42	16	1	10
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	59	910	23	79	805	15	34	0	45	17	1	11
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	1931	49	144	2014	37	58	0	77	75	4	69
Arrive On Green	0.07	0.38	0.38	0.08	0.39	0.39	0.08	0.00	0.08	0.04	0.04	0.04
Sat Flow, veh/h	1774	5097	129	1774	5137	96	714	0	946	1680	99	1558
Grp Volume(v), veh/h	59	605	328	79	531	289	79	0	0	18	0	11
Grp Sat Flow(s),veh/h/ln	1774	1695	1836	1774	1695	1843	1660	0	0	1779	0	1558
Q Serve(g_s), s	1.5	6.5	6.5	2.1	5.4	5.5	2.2	0.0	0.0	0.5	0.0	0.3
Cycle Q Clear(g_c), s	1.5	6.5	6.5	2.1	5.4	5.5	2.2	0.0	0.0	0.5	0.0	0.3
Prop In Lane	1.00		0.07	1.00		0.05	0.43		0.57	0.94		1.00
Lane Grp Cap(c), veh/h	121	1284	695	144	1329	723	135	0	0	79	0	69
V/C Ratio(X)	0.49	0.47	0.47	0.55	0.40	0.40	0.59	0.00	0.00	0.23	0.00	0.16
Avail Cap(c_a), veh/h	250	1770	958	323	1910	1038	1135	0	0	1216	0	1065
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	11.3	11.3	21.3	10.6	10.6	21.4	0.0	0.0	22.3	0.0	22.2
Incr Delay (d2), s/veh	1.1	0.7	1.4	1.2	0.5	1.0	3.0	0.0	0.0	1.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.2	3.5	1.1	2.6	2.9	1.1	0.0	0.0	0.3	0.0	0.2
LnGrp Delay(d),s/veh	22.8	12.1	12.7	22.5	11.1	11.6	24.4	0.0	0.0	23.3	0.0	23.0
LnGrp LOS	C	B	B	C	B	B	C			C		C
Approach Vol, veh/h		992			899			79			29	
Approach Delay, s/veh		12.9			12.3			24.4			23.2	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.9	24.3		7.1	7.3	24.9		8.9
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	8.8	25.2		33.0	6.8	27.2		33.0
Max Q Clear Time (g_c+I1), s	4.1	8.5		2.5	3.5	7.5		4.2
Green Ext Time (p_c), s	0.0	9.6		0.1	0.0	9.5		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	13.2
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	286	754	242	527	325	1062	133	184	1291	114
v/c Ratio	0.46	0.63	0.51	0.54	1.69	0.59	0.21	0.57	0.65	0.17
Control Delay	51.6	40.1	57.2	43.2	369.1	36.4	6.9	64.1	35.0	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.6	40.1	57.2	43.2	369.1	36.4	6.9	64.1	35.0	4.0
Queue Length 50th (ft)	111	184	99	135	~206	263	5	77	313	0
Queue Length 95th (ft)	#204	196	#159	139	#303	322	50	#169	413	32
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	624	1879	476	1812	192	1785	628	321	1975	682
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.40	0.51	0.29	1.69	0.59	0.21	0.57	0.65	0.17

Intersection Summary

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

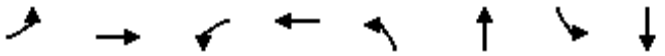
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	272	484	233	230	393	107	309	1009	126	175	1226	108
Future Volume (veh/h)	272	484	233	230	393	107	309	1009	126	175	1226	108
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	286	509	245	242	414	113	325	1062	133	184	1291	114
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	358	823	381	167	750	198	637	2412	749	167	1690	516
Arrive On Green	0.10	0.24	0.24	0.05	0.19	0.19	0.18	0.47	0.47	0.05	0.33	0.33
Sat Flow, veh/h	3442	3390	1570	3442	4007	1055	3442	5085	1580	3442	5085	1553
Grp Volume(v), veh/h	286	509	245	242	348	179	325	1062	133	184	1291	114
Grp Sat Flow(s),veh/h/ln	1721	1695	1570	1721	1695	1673	1721	1695	1580	1721	1695	1553
Q Serve(g_s), s	10.6	17.4	18.2	6.3	12.1	12.7	11.0	18.0	4.6	6.3	29.5	6.9
Cycle Q Clear(g_c), s	10.6	17.4	18.2	6.3	12.1	12.7	11.0	18.0	4.6	6.3	29.5	6.9
Prop In Lane	1.00		1.00	1.00		0.63	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	358	823	381	167	635	313	637	2412	749	167	1690	516
V/C Ratio(X)	0.80	0.62	0.64	1.45	0.55	0.57	0.51	0.44	0.18	1.10	0.76	0.22
Avail Cap(c_a), veh/h	358	1278	592	167	1226	605	637	2412	749	167	1690	516
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	0.85	0.85	0.85	0.59	0.59	0.59	0.88	0.88	0.88
Uniform Delay (d), s/veh	56.9	43.9	44.2	61.8	47.8	48.1	47.7	22.7	10.5	61.8	38.8	31.3
Incr Delay (d2), s/veh	10.7	1.4	3.3	229.2	1.2	2.7	0.2	0.3	0.3	95.7	2.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	8.3	8.2	8.3	5.8	6.1	5.3	8.5	2.5	5.2	14.2	3.1
LnGrp Delay(d),s/veh	67.6	45.3	47.5	291.1	49.1	50.8	47.9	23.1	10.8	157.5	41.8	32.1
LnGrp LOS	E	D	D	F	D	D	D	C	B	F	D	C
Approach Vol, veh/h		1040			769			1520			1589	
Approach Delay, s/veh		51.9			125.6			27.3			54.5	
Approach LOS		D			F			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	12.0	68.0	12.0	38.0	30.4	49.6	19.2	30.7
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6.3	44.2	6.3	* 49	7.3	* 43	8.3	* 47
Max Q Clear Time (g_c+I1), s	8.3	20.0	8.3	20.2	13.0	31.5	12.6	14.7
Green Ext Time (p_c), s	0.0	14.6	0.0	9.3	0.0	9.4	0.0	6.3

Intersection Summary	
HCM 2010 Ctrl Delay	56.7
HCM 2010 LOS	E

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	123	845	179	789	97	213	185	103
v/c Ratio	0.69	0.58	1.01	0.54	0.19	0.43	0.47	0.25
Control Delay	53.6	22.5	104.9	21.5	12.5	7.6	17.2	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.6	22.5	104.9	21.5	12.5	7.6	17.2	9.4
Queue Length 50th (ft)	45	90	67	80	23	9	47	9
Queue Length 95th (ft)	#169	195	#250	178	46	51	81	39
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	178	1487	178	1489	522	943	392	902
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.57	1.01	0.53	0.19	0.23	0.47	0.11

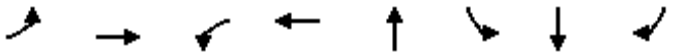
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	709	94	170	633	117	92	27	176	176	27	71
Future Volume (veh/h)	117	709	94	170	633	117	92	27	176	176	27	71
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	123	746	99	179	666	123	97	28	185	185	28	75
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	1235	162	198	1276	233	491	42	278	406	100	268
Arrive On Green	0.09	0.27	0.27	0.11	0.30	0.30	0.08	0.20	0.20	0.11	0.23	0.23
Sat Flow, veh/h	1774	4531	596	1774	4324	789	1774	212	1403	1774	443	1185
Grp Volume(v), veh/h	123	556	289	179	520	269	97	0	213	185	0	103
Grp Sat Flow(s),veh/h/ln	1774	1695	1737	1774	1695	1722	1774	0	1615	1774	0	1628
Q Serve(g_s), s	4.0	8.3	8.5	5.8	7.5	7.6	2.4	0.0	7.1	4.6	0.0	3.1
Cycle Q Clear(g_c), s	4.0	8.3	8.5	5.8	7.5	7.6	2.4	0.0	7.1	4.6	0.0	3.1
Prop In Lane	1.00		0.34	1.00		0.46	1.00		0.87	1.00		0.73
Lane Grp Cap(c), veh/h	158	924	473	198	1001	508	491	0	320	406	0	368
V/C Ratio(X)	0.78	0.60	0.61	0.91	0.52	0.53	0.20	0.00	0.67	0.46	0.00	0.28
Avail Cap(c_a), veh/h	198	1103	565	198	1103	560	574	0	941	440	0	948
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.0	18.5	18.5	25.6	17.1	17.2	16.0	0.0	21.6	15.7	0.0	18.7
Incr Delay (d2), s/veh	11.2	1.8	3.5	38.2	1.2	2.3	0.4	0.0	6.4	1.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.1	4.5	4.9	3.6	3.9	1.2	0.0	3.7	2.4	0.0	1.5
LnGrp Delay(d),s/veh	37.2	20.2	22.0	63.8	18.3	19.5	16.5	0.0	28.0	17.4	0.0	19.8
LnGrp LOS	D	C	C	E	B	B	B		C	B		B
Approach Vol, veh/h		968			968			310			288	
Approach Delay, s/veh		22.9			27.1			24.4			18.3	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.5	21.9	9.4	16.6	9.2	23.2	7.8	18.2
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	6.5	19.0	7.5	34.0	6.5	19.0	7.5	34.0
Max Q Clear Time (g_c+I1), s	7.8	10.5	6.6	9.1	6.0	9.6	4.4	5.1
Green Ext Time (p_c), s	0.0	5.3	0.1	2.8	0.0	5.5	0.1	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	24.2
HCM 2010 LOS	C



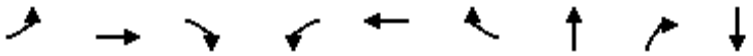
Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	77	1217	1	1021	19	38	1	51
v/c Ratio	0.33	0.45	0.00	0.42	0.07	0.12	0.00	0.12
Control Delay	29.0	6.9	25.0	9.3	21.8	22.7	21.0	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.0	6.9	25.0	9.3	21.8	22.7	21.0	3.1
Queue Length 50th (ft)	27	102	0	134	6	12	0	0
Queue Length 95th (ft)	64	245	5	195	22	35	4	12
Internal Link Dist (ft)		1064		2598	260		519	
Turn Bay Length (ft)	235		300					200
Base Capacity (vph)	246	2683	242	2418	989	1024	1333	1158
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.45	0.00	0.42	0.02	0.04	0.00	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	1112	7	1	903	36	16	1	1	35	1	47
Future Volume (veh/h)	71	1112	7	1	903	36	16	1	1	35	1	47
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	77	1209	8	1	982	39	17	1	1	38	1	51
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	1968	13	4	1627	65	320	19	11	365	289	246
Arrive On Green	0.08	0.55	0.55	0.00	0.47	0.47	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1774	3604	24	1774	3467	138	1195	123	73	1409	1863	1583
Grp Volume(v), veh/h	77	594	623	1	501	520	19	0	0	38	1	51
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1835	1391	0	0	1409	1863	1583
Q Serve(g_s), s	2.1	11.6	11.6	0.0	10.6	10.6	0.3	0.0	0.0	0.5	0.0	1.4
Cycle Q Clear(g_c), s	2.1	11.6	11.6	0.0	10.6	10.6	0.5	0.0	0.0	1.0	0.0	1.4
Prop In Lane	1.00		0.01	1.00		0.08	0.89		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	139	966	1015	4	831	861	351	0	0	365	289	246
V/C Ratio(X)	0.55	0.61	0.61	0.28	0.60	0.60	0.05	0.00	0.00	0.10	0.00	0.21
Avail Cap(c_a), veh/h	232	1034	1085	228	1030	1068	1065	0	0	1095	1254	1066
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	7.8	7.8	25.2	9.9	9.9	18.2	0.0	0.0	18.4	18.0	18.6
Incr Delay (d2), s/veh	1.3	2.4	2.3	15.6	2.6	2.5	0.1	0.0	0.0	0.3	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	6.2	6.5	0.0	5.6	5.8	0.2	0.0	0.0	0.5	0.0	0.7
LnGrp Delay(d),s/veh	23.7	10.2	10.1	40.8	12.5	12.4	18.4	0.0	0.0	18.7	18.0	19.5
LnGrp LOS	C	B	B	D	B	B	B			B	B	B
Approach Vol, veh/h		1294			1022			19			90	
Approach Delay, s/veh		11.0			12.5			18.4			19.2	
Approach LOS		B			B			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	4.1	33.6		12.8	8.0	29.7		12.8
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	6.5	29.5		34.0	6.6	29.4		34.0
Max Q Clear Time (g_c+I1), s	2.0	13.6		2.5	4.1	12.6		3.4
Green Ext Time (p_c), s	0.0	12.4		0.1	0.0	11.1		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	12.0
HCM 2010 LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	135	784	58	122	737	58	227	46	262
v/c Ratio	0.57	0.57	0.09	0.59	0.51	0.08	0.54	0.10	0.59
Control Delay	38.9	18.2	3.1	43.5	17.8	3.3	26.9	1.2	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.9	18.2	3.1	43.5	17.8	3.3	26.9	1.2	24.6
Queue Length 50th (ft)	52	123	0	49	120	0	83	0	82
Queue Length 95th (ft)	#119	207	16	#128	203	16	146	5	151
Internal Link Dist (ft)		2598			1241		400		320
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	278	1587	752	222	1497	714	868	868	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.49	0.08	0.55	0.49	0.08	0.26	0.05	0.30

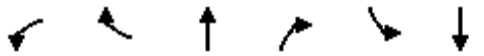
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	721	53	112	678	53	37	172	42	29	127	85
Future Volume (veh/h)	124	721	53	112	678	53	37	172	42	29	127	85
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	135	784	58	122	737	58	40	187	46	32	138	92
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	1370	613	165	1354	606	122	375	371	100	223	134
Arrive On Green	0.10	0.39	0.39	0.09	0.38	0.38	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	189	1600	1583	109	952	574
Grp Volume(v), veh/h	135	784	58	122	737	58	227	0	46	262	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1789	0	1583	1635	0	0
Q Serve(g_s), s	4.0	9.5	1.3	3.6	8.8	1.3	0.0	0.0	1.2	2.2	0.0	0.0
Cycle Q Clear(g_c), s	4.0	9.5	1.3	3.6	8.8	1.3	5.8	0.0	1.2	7.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.18		1.00	0.12		0.35
Lane Grp Cap(c), veh/h	173	1370	613	165	1354	606	497	0	371	457	0	0
V/C Ratio(X)	0.78	0.57	0.09	0.74	0.54	0.10	0.46	0.00	0.12	0.57	0.00	0.00
Avail Cap(c_a), veh/h	327	1859	832	262	1728	773	1125	0	963	1069	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.9	13.1	10.6	24.0	13.1	10.7	18.1	0.0	16.4	18.8	0.0	0.0
Incr Delay (d2), s/veh	2.9	1.4	0.2	2.4	1.2	0.2	1.4	0.0	0.3	2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	4.8	0.6	1.9	4.5	0.6	3.2	0.0	0.6	3.9	0.0	0.0
LnGrp Delay(d),s/veh	26.8	14.5	10.8	26.4	14.3	11.0	19.5	0.0	16.7	21.2	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	B		B	C		
Approach Vol, veh/h		977			917			273			262	
Approach Delay, s/veh		16.0			15.7			19.0			21.2	
Approach LOS		B			B			B			C	

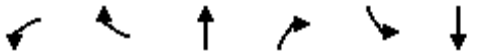
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	27.5		17.7	9.3	27.3		17.7
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	8.0	28.5		33.0	10.0	26.5		33.0
Max Q Clear Time (g_c+I1), s	5.6	11.5		7.8	6.0	10.8		9.9
Green Ext Time (p_c), s	0.0	9.5		2.9	0.1	8.5		2.8

Intersection Summary	
HCM 2010 Ctrl Delay	16.8
HCM 2010 LOS	B



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	67	359	260	35	370	176
v/c Ratio	0.17	0.58	0.28	0.04	0.66	0.19
Control Delay	13.6	6.4	6.0	2.3	13.2	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	6.4	6.0	2.3	13.2	5.4
Queue Length 50th (ft)	9	0	20	0	37	13
Queue Length 95th (ft)	39	50	65	8	134	45
Internal Link Dist (ft)	1226		772			355
Turn Bay Length (ft)		100		160	145	
Base Capacity (vph)	966	1009	1552	1297	929	1552
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.36	0.17	0.03	0.40	0.11

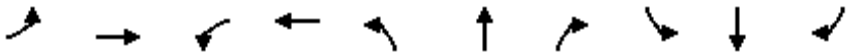
Intersection Summary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	62	334	242	33	344	164
Future Volume (veh/h)	62	334	242	33	344	164
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	67	359	260	35	370	176
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	500	446	914	761	623	914
Arrive On Green	0.28	0.28	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1774	1583	1863	1550	1080	1863
Grp Volume(v), veh/h	67	359	260	35	370	176
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1550	1080	1863
Q Serve(g_s), s	1.1	8.3	3.3	0.5	12.2	2.1
Cycle Q Clear(g_c), s	1.1	8.3	3.3	0.5	15.5	2.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	500	446	914	761	623	914
V/C Ratio(X)	0.13	0.80	0.28	0.05	0.59	0.19
Avail Cap(c_a), veh/h	811	724	1313	1093	854	1313
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	10.6	13.2	6.0	5.2	10.5	5.7
Incr Delay (d2), s/veh	0.1	3.5	0.2	0.0	0.9	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	0.6	4.0	1.7	0.2	3.8	1.1
LnGrp Delay(d),s/veh	10.7	16.7	6.1	5.3	11.5	5.8
LnGrp LOS	B	B	A	A	B	A
Approach Vol, veh/h	426		295			546
Approach Delay, s/veh	15.7		6.0			9.6
Approach LOS	B		A			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		23.9				23.9		15.7
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		27.9				27.9		18.1
Max Q Clear Time (g_c+I1), s		5.3				17.5		10.3
Green Ext Time (p_c), s		1.5				2.0		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	198	333	147	399	66	1024	133	316	1150	160
v/c Ratio	0.57	0.31	1.26	0.53	0.35	0.77	0.24	0.62	0.60	0.22
Control Delay	49.9	27.9	210.1	18.1	74.0	62.6	14.8	51.4	30.9	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	27.9	210.1	18.1	74.0	62.6	14.8	51.4	30.9	2.1
Queue Length 50th (ft)	127	94	~130	58	22	250	28	107	230	0
Queue Length 95th (ft)	#339	107	#260	72	m20	m212	m20	#243	#370	18
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	350	1427	117	1420	187	1324	561	507	1906	720
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.23	1.26	0.28	0.35	0.77	0.24	0.62	0.60	0.22

Intersection Summary

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

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	282	44	144	168	223	65	1004	130	310	1127	157
Future Volume (veh/h)	194	282	44	144	168	223	65	1004	130	310	1127	157
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	198	288	45	147	171	228	66	1024	133	316	1150	160
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	680	105	118	364	325	813	2167	673	228	1271	395
Arrive On Green	0.08	0.22	0.22	0.07	0.21	0.21	0.47	0.85	0.85	0.07	0.25	0.25
Sat Flow, veh/h	1774	3073	475	1774	1770	1579	3442	5085	1580	3442	5085	1580
Grp Volume(v), veh/h	198	164	169	147	171	228	66	1024	133	316	1150	160
Grp Sat Flow(s),veh/h/ln	1774	1770	1778	1774	1770	1579	1721	1695	1580	1721	1695	1580
Q Serve(g_s), s	8.3	8.8	9.0	7.3	9.3	14.7	1.2	5.5	1.6	7.3	24.1	9.3
Cycle Q Clear(g_c), s	8.3	8.8	9.0	7.3	9.3	14.7	1.2	5.5	1.6	7.3	24.1	9.3
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	391	393	118	364	325	813	2167	673	228	1271	395
V/C Ratio(X)	1.48	0.42	0.43	1.25	0.47	0.70	0.08	0.47	0.20	1.38	0.90	0.41
Avail Cap(c_a), veh/h	134	724	727	118	708	631	813	2167	673	228	1271	395
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.74	0.74	0.74
Uniform Delay (d), s/veh	50.8	36.8	36.9	51.3	38.4	40.6	22.5	5.1	4.8	51.4	40.0	34.4
Incr Delay (d2), s/veh	251.2	1.3	1.4	164.2	2.2	6.4	0.0	0.1	0.1	191.4	8.3	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.4	4.4	4.6	8.9	4.8	7.0	0.5	2.5	0.7	9.5	12.3	4.3
LnGrp Delay(d),s/veh	302.1	38.1	38.2	215.5	40.6	46.9	22.5	5.1	4.8	242.8	48.3	36.7
LnGrp LOS	F	D	D	F	D	D	C	A	A	F	D	D
Approach Vol, veh/h		531			546			1223			1626	
Approach Delay, s/veh		136.6			90.3			6.0			84.9	
Approach LOS		F			F			A			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	53.3	13.0	30.7	32.4	33.9	14.7	29.0
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	6.4	6.4	* 6.4	6.4	* 6.4
Max Green Setting (Gmax), s	* 7.3	26.2	* 7.3	45.0	6.0	* 28	8.3	* 44
Max Q Clear Time (g_c+I1), s	9.3	7.5	9.3	11.0	3.2	26.1	10.3	16.7
Green Ext Time (p_c), s	0.0	14.6	0.0	3.5	0.0	1.3	0.0	4.9

Intersection Summary	
HCM 2010 Ctrl Delay	68.1
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	12.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	682	13	284	601	7	388
Future Vol, veh/h	682	13	284	601	7	388
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	145	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	703	13	293	620	7	400

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	716	0	1916	710
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	1206	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	885	-	74	434
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	283	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	885	-	37	434
Mov Cap-2 Maneuver	-	-	-	-	110	-
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	140	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.6	56.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	110	434	-	-	885	-
HCM Lane V/C Ratio	0.066	0.922	-	-	0.331	-
HCM Control Delay (s)	40	56.9	-	-	11.1	0
HCM Lane LOS	E	F	-	-	B	A
HCM 95th %tile Q(veh)	0.2	10.3	-	-	1.5	-

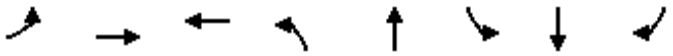
Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	187	678	18	9	523	9	8	6	2	6	7	203
Future Vol, veh/h	187	678	18	9	523	9	8	6	2	6	7	203
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	193	699	19	9	539	9	8	6	2	6	7	209

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	548	0	0	718	0	0	1765	1661	709	1661	1666	544
Stage 1	-	-	-	-	-	-	1095	1095	-	562	562	-
Stage 2	-	-	-	-	-	-	670	566	-	1099	1104	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1021	-	-	883	-	-	65	97	434	77	97	539
Stage 1	-	-	-	-	-	-	259	290	-	512	510	-
Stage 2	-	-	-	-	-	-	446	507	-	258	287	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1021	-	-	883	-	-	31	78	434	61	78	539
Mov Cap-2 Maneuver	-	-	-	-	-	-	31	78	-	61	78	-
Stage 1	-	-	-	-	-	-	210	235	-	415	505	-
Stage 2	-	-	-	-	-	-	266	502	-	203	233	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	0.2	118.4	21.6
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	47	1021	-	-	883	-	-	61	450
HCM Lane V/C Ratio	0.351	0.189	-	-	0.011	-	-	0.101	0.481
HCM Control Delay (s)	118.4	9.3	-	-	9.1	-	-	70.6	20.2
HCM Lane LOS	F	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	1.2	0.7	-	-	0	-	-	0.3	2.6



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	517	513	80	3	8	58	345	337
v/c Ratio	0.76	0.77	0.08	0.01	0.01	0.18	0.37	0.57
Control Delay	18.0	18.6	3.9	14.7	14.6	16.5	3.8	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	18.6	3.9	14.7	14.6	16.5	3.8	6.6
Queue Length 50th (ft)	80	78	4	1	1	12	1	0
Queue Length 95th (ft)	#321	#325	24	6	5	37	26	53
Internal Link Dist (ft)		563	789		604		1556	
Turn Bay Length (ft)	260			225		195		200
Base Capacity (vph)	935	916	1320	480	1701	673	1565	867
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.56	0.06	0.01	0.00	0.09	0.22	0.39

Intersection Summary

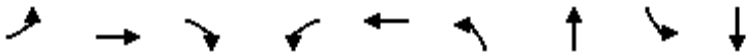
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	897	47	4	1	41	31	3	7	0	53	6	621
Future Volume (veh/h)	897	47	4	1	41	31	3	7	0	53	6	621
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	1015	0	0	1	45	34	3	8	0	58	7	675
Adj No. of Lanes	2	1	0	0	1	0	1	2	0	1	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1630	878	0	95	468	347	408	1059	0	601	557	947
Arrive On Green	0.47	0.00	0.00	0.47	0.47	0.47	0.30	0.30	0.00	0.30	0.30	0.30
Sat Flow, veh/h	2629	1863	0	3	992	736	756	3632	0	1402	1863	3167
Grp Volume(v), veh/h	1015	0	0	80	0	0	3	8	0	58	7	675
Grp Sat Flow(s),veh/h/ln	1314	1863	0	1732	0	0	756	1770	0	1402	1863	1583
Q Serve(g_s), s	11.5	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	1.2	0.1	7.4
Cycle Q Clear(g_c), s	12.5	0.0	0.0	1.0	0.0	0.0	0.2	0.1	0.0	1.3	0.1	7.4
Prop In Lane	1.00		0.00	0.01		0.42	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1630	878	0	909	0	0	408	1059	0	601	557	947
V/C Ratio(X)	0.62	0.00	0.00	0.09	0.00	0.00	0.01	0.01	0.00	0.10	0.01	0.71
Avail Cap(c_a), veh/h	2502	1496	0	1482	0	0	557	1759	0	878	926	1574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.6	0.0	0.0	5.7	0.0	0.0	9.7	9.7	0.0	10.1	9.7	12.2
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.1	3.3
LnGrp Delay(d),s/veh	9.0	0.0	0.0	5.8	0.0	0.0	9.8	9.7	0.0	10.2	9.7	13.3
LnGrp LOS	A			A			A	A		B	A	B
Approach Vol, veh/h		1015			80			11			740	
Approach Delay, s/veh		9.0			5.8			9.7			13.0	
Approach LOS		A			A			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		16.2		23.0		16.2		23.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		19.5		31.5		19.5		31.5
Max Q Clear Time (g_c+I1), s		2.2		14.5		9.4		3.0
Green Ext Time (p_c), s		0.0		4.0		2.3		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.5
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	283	55	103	447	63	662	154	601
v/c Ratio	0.14	0.61	0.11	0.59	0.36	0.40	0.66	0.71	0.49
Control Delay	46.9	36.2	0.5	56.3	17.4	49.8	30.2	58.9	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.9	36.2	0.5	56.3	17.4	49.8	30.2	58.9	25.2
Queue Length 50th (ft)	9	138	0	54	61	33	160	81	136
Queue Length 95th (ft)	36	247	0	#146	134	86	252	#224	226
Internal Link Dist (ft)		776			1573		775		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	132	749	710	199	1531	199	1436	230	1509
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.38	0.08	0.52	0.29	0.32	0.46	0.67	0.40

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	269	52	98	268	157	60	506	123	146	519	52
Future Volume (veh/h)	17	269	52	98	268	157	60	506	123	146	519	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	18	283	55	103	282	165	63	533	129	154	546	55
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	45	419	356	134	596	338	109	818	197	193	1092	110
Arrive On Green	0.03	0.22	0.22	0.08	0.27	0.27	0.06	0.29	0.29	0.11	0.34	0.34
Sat Flow, veh/h	1774	1863	1583	1774	2167	1230	1774	2830	682	1774	3248	326
Grp Volume(v), veh/h	18	283	55	103	229	218	63	332	330	154	297	304
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	1627	1774	1770	1742	1774	1770	1805
Q Serve(g_s), s	0.7	9.5	1.9	3.9	7.3	7.7	2.4	11.2	11.3	5.8	9.1	9.2
Cycle Q Clear(g_c), s	0.7	9.5	1.9	3.9	7.3	7.7	2.4	11.2	11.3	5.8	9.1	9.2
Prop In Lane	1.00		1.00	1.00		0.76	1.00		0.39	1.00		0.18
Lane Grp Cap(c), veh/h	45	419	356	134	486	447	109	511	503	193	595	607
V/C Ratio(X)	0.40	0.68	0.15	0.77	0.47	0.49	0.58	0.65	0.65	0.80	0.50	0.50
Avail Cap(c_a), veh/h	164	929	790	247	966	888	247	906	892	286	945	964
HCM Platoon Ratio	1.00	1.00	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	32.7	24.2	21.2	30.9	20.6	20.7	31.1	21.2	21.3	29.7	18.0	18.1
Incr Delay (d2), s/veh	2.1	5.7	0.6	3.5	2.2	2.5	1.8	2.7	2.8	5.3	1.3	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	0.4	5.5	0.9	2.0	3.8	3.8	1.2	5.8	5.8	3.1	4.7	4.8
LnGrp Delay(d),s/veh	34.8	29.9	21.8	34.4	22.8	23.2	32.9	23.9	24.1	34.9	19.3	19.3
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		356			550			725			755	
Approach Delay, s/veh		28.9			25.1			24.8			22.5	
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	11.6	26.7	9.3	20.5	8.4	29.9	5.9	23.9
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 11	34.9	* 9.5	34.0	* 9.5	36.4	* 6.3	37.2
Max Q Clear Time (g_c+I1), s	7.8	13.3	5.9	11.5	4.4	11.2	2.7	9.7
Green Ext Time (p_c), s	0.1	6.4	0.0	3.9	0.0	6.2	0.0	6.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.7
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	460	4	5	486	48	2	0	1	50	1	41
Future Vol, veh/h	29	460	4	5	486	48	2	0	1	50	1	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	500	4	5	528	52	2	0	1	54	1	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	580	0	0	504	0	0	1153	1156	502	1131	1132	554
Stage 1	-	-	-	-	-	-	566	566	-	564	564	-
Stage 2	-	-	-	-	-	-	587	590	-	567	568	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	994	-	-	1061	-	-	174	197	569	181	203	532
Stage 1	-	-	-	-	-	-	509	507	-	510	508	-
Stage 2	-	-	-	-	-	-	496	495	-	508	506	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	994	-	-	1061	-	-	154	190	569	176	195	532
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	190	-	176	195	-
Stage 1	-	-	-	-	-	-	493	491	-	494	505	-
Stage 2	-	-	-	-	-	-	451	493	-	491	490	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	23	28.5
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	203	994	-	-	1061	-	-	251
HCM Lane V/C Ratio	0.016	0.032	-	-	0.005	-	-	0.398
HCM Control Delay (s)	23	8.7	-	-	8.4	-	-	28.5
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	1.8

Intersection	
Int Delay, s/veh	10.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	98	476	509	170	114	106
Future Vol, veh/h	98	476	509	170	114	106
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	107	517	553	185	124	115

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	738	0	-	0	1377	646
Stage 1	-	-	-	-	646	-
Stage 2	-	-	-	-	731	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	868	-	-	-	160	472
Stage 1	-	-	-	-	522	-
Stage 2	-	-	-	-	476	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	868	-	-	-	140	472
Mov Cap-2 Maneuver	-	-	-	-	140	-
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	476	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	63.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	868	-	-	-	140	472
HCM Lane V/C Ratio	0.123	-	-	-	0.885	0.244
HCM Control Delay (s)	9.7	-	-	-	109.3	15.1
HCM Lane LOS	A	-	-	-	F	C
HCM 95th %tile Q(veh)	0.4	-	-	-	5.9	0.9

Intersection	
Int Delay, s/veh	535

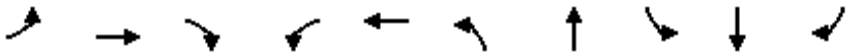
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	486	74	161	526	30	131	0	260	135	0	68
Future Vol, veh/h	75	486	74	161	526	30	131	0	260	135	0	68
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	82	528	80	175	572	33	142	0	283	147	0	74

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	606	0	0	608	0	0	1708	1688	568	1814	1712	590
Stage 1	-	-	-	-	-	-	732	732	-	940	940	-
Stage 2	-	-	-	-	-	-	976	956	-	874	772	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	972	-	-	970	-	-	~ 72	94	522	~ 60	90	508
Stage 1	-	-	-	-	-	-	413	427	-	316	342	-
Stage 2	-	-	-	-	-	-	302	336	-	344	409	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	971	-	-	970	-	-	~ 50	71	522	~ 22	68	508
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 50	71	-	~ 22	68	-
Stage 1	-	-	-	-	-	-	378	391	-	289	280	-
Stage 2	-	-	-	-	-	-	212	275	-	~ 144	375	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	2.1	$ 1153.2	$ 2896.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	125	971	-	-	970	-	-	32
HCM Lane V/C Ratio	3.4	0.084	-	-	0.18	-	-	6.895
HCM Control Delay (s)	$ 1153.2	9	-	-	9.5	-	-	$ 2896.1
HCM Lane LOS	F	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	41.4	0.3	-	-	0.7	-	-	26.7

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	125	289	200	274	276	277	1228	180	919	61
v/c Ratio	0.96	0.71	0.39	0.86	0.46	1.50	1.28	0.99	0.66	0.10
Control Delay	121.3	49.2	5.3	69.2	29.4	285.4	168.7	120.0	28.7	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	49.2	5.3	69.2	29.4	285.4	168.7	120.0	28.7	1.9
Queue Length 50th (ft)	90	185	0	185	137	~272	~576	~168	72	0
Queue Length 95th (ft)	#209	275	42	#313	208	#440	#713	m#324	m205	m10
Internal Link Dist (ft)		765			337		251		1110	
Turn Bay Length (ft)	180			175		205		290		210
Base Capacity (vph)	130	464	558	350	678	185	958	181	1385	581
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.62	0.36	0.78	0.41	1.50	1.28	0.99	0.66	0.10

Intersection Summary

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

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	269	186	255	198	59	258	918	224	167	855	57
Future Volume (veh/h)	116	269	186	255	198	59	258	918	224	167	855	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	125	289	200	274	213	63	277	987	241	180	919	61
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	3	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	364	305	303	412	122	298	983	239	98	1147	349
Arrive On Green	0.07	0.20	0.20	0.17	0.30	0.30	0.17	0.35	0.35	0.04	0.15	0.15
Sat Flow, veh/h	1774	1863	1563	1774	1377	407	1774	2822	687	1774	5085	1546
Grp Volume(v), veh/h	125	289	200	274	0	276	277	618	610	180	919	61
Grp Sat Flow(s),veh/h/ln	1774	1863	1563	1774	0	1785	1774	1770	1739	1774	1695	1546
Q Serve(g_s), s	7.7	16.3	13.0	16.7	0.0	14.1	16.9	38.3	38.3	6.1	19.2	2.9
Cycle Q Clear(g_c), s	7.7	16.3	13.0	16.7	0.0	14.1	16.9	38.3	38.3	6.1	19.2	2.9
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	131	364	305	303	0	534	298	616	606	98	1147	349
V/C Ratio(X)	0.96	0.79	0.65	0.90	0.00	0.52	0.93	1.00	1.01	1.83	0.80	0.17
Avail Cap(c_a), veh/h	131	464	389	350	0	665	298	616	606	98	1147	349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.68	0.68	0.68
Uniform Delay (d), s/veh	50.8	42.1	40.8	44.7	0.0	32.0	45.1	35.8	35.8	53.0	44.3	21.7
Incr Delay (d2), s/veh	64.8	12.5	7.2	22.2	0.0	2.3	33.3	36.9	38.4	399.0	4.1	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	6.1	9.6	6.2	10.0	0.0	7.3	11.1	25.0	24.8	13.9	9.5	1.6
LnGrp Delay(d),s/veh	115.6	54.6	48.0	67.0	0.0	34.2	78.4	72.8	74.2	452.0	48.4	22.5
LnGrp LOS	F	D	D	E		C	E	F	F	F	D	C
Approach Vol, veh/h		614			550			1505			1160	
Approach Delay, s/veh		64.9			50.5			74.4			109.7	
Approach LOS		E			D			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	11.8	45.1	25.2	27.9	25.3	31.6	13.8	39.3
Change Period (Y+Rc), s	* 5.7	6.8	6.4	* 6.4	6.8	* 6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 6.1	30.2	21.7	* 27	11.5	* 25	* 8.1	41.0
Max Q Clear Time (g_c+I1), s	8.1	40.3	18.7	18.3	18.9	21.2	9.7	16.1
Green Ext Time (p_c), s	0.0	0.0	0.1	3.3	0.0	2.9	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	80.1
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	413	20	5	1	0	332
Future Vol, veh/h	413	20	5	1	0	332
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	449	22	5	1	0	361

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	6	0	-	0	926	6
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	920	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1615	-	-	-	298	1077
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	388	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1615	-	-	-	215	1077
Mov Cap-2 Maneuver	-	-	-	-	215	-
Stage 1	-	-	-	-	734	-
Stage 2	-	-	-	-	388	-

Approach	EB	WB	SB
HCM Control Delay, s	7.7	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1615	-	-	-	1077
HCM Lane V/C Ratio	0.278	-	-	-	0.335
HCM Control Delay (s)	8.1	-	-	-	10
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	1.1	-	-	-	1.5



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	40	11	318	7	1247	76	1076	76
v/c Ratio	0.13	0.02	0.76	0.04	0.87	0.46	0.59	0.09
Control Delay	19.3	0.1	26.3	33.7	29.6	43.3	16.6	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.3	0.1	26.3	33.7	29.6	43.3	16.6	1.2
Queue Length 50th (ft)	13	0	74	3	233	29	121	0
Queue Length 95th (ft)	33	0	152	17	#551	#101	#440	8
Internal Link Dist (ft)	1563		335		1230		635	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	636	910	785	166	1433	166	1825	861
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.01	0.41	0.04	0.87	0.46	0.59	0.09

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	3	11	170	0	139	7	1134	76	74	1044	74
Future Volume (veh/h)	36	3	11	170	0	139	7	1134	76	74	1044	74
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		0.98
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	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	37	3	11	175	0	143	7	1169	78	76	1076	76
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	369	26	410	271	12	164	19	1278	85	119	1544	676
Arrive On Green	0.26	0.26	0.26	0.26	0.00	0.26	0.01	0.38	0.38	0.07	0.44	0.44
Sat Flow, veh/h	1033	101	1583	728	45	632	1774	3363	224	1774	3539	1549
Grp Volume(v), veh/h	40	0	11	318	0	0	7	615	632	76	1076	76
Grp Sat Flow(s),veh/h/ln	1133	0	1583	1405	0	0	1774	1770	1817	1774	1770	1549
Q Serve(g_s), s	0.0	0.0	0.4	13.1	0.0	0.0	0.3	22.5	22.5	2.8	16.8	2.0
Cycle Q Clear(g_c), s	1.8	0.0	0.4	14.9	0.0	0.0	0.3	22.5	22.5	2.8	16.8	2.0
Prop In Lane	0.92		1.00	0.55		0.45	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	395	0	410	446	0	0	19	673	691	119	1544	676
V/C Ratio(X)	0.10	0.00	0.03	0.71	0.00	0.00	0.36	0.91	0.92	0.64	0.70	0.11
Avail Cap(c_a), veh/h	709	0	800	778	0	0	156	676	694	156	1544	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.3	0.0	18.8	24.5	0.0	0.0	33.4	20.0	20.1	30.9	15.5	11.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	0.0	4.2	18.9	18.7	2.1	2.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.2	5.8	0.0	0.0	0.2	14.4	14.8	1.5	8.6	0.9
LnGrp Delay(d),s/veh	19.4	0.0	18.8	25.3	0.0	0.0	37.6	38.9	38.8	33.0	17.9	11.7
LnGrp LOS	B		B	C			D	D	D	C	B	B
Approach Vol, veh/h		51			318			1254			1228	
Approach Delay, s/veh		19.2			25.3			38.8			18.5	
Approach LOS		B			C			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.3	32.7		25.1	6.4	36.5		25.1
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 6	26.0		* 34	* 6	26.0		33.0
Max Q Clear Time (g_c+I1), s	4.8	24.5		3.8	2.3	18.8		16.9
Green Ext Time (p_c), s	0.0	1.4		0.1	0.0	6.0		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	28.2
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	75.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	4	30	2	3	38	150	1217	63	31	1257	66
Future Vol, veh/h	40	4	30	2	3	38	150	1217	63	31	1257	66
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	4	32	2	3	40	158	1281	66	33	1323	69

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2382	3087	696	2360	3088	674	1392	0	0	1347	0	0
Stage 1	1424	1424	-	1630	1630	-	-	-	-	-	-	-
Stage 2	958	1663	-	730	1458	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 18	12	384	19	12	397	487	-	-	507	-	-
Stage 1	143	200	-	106	158	-	-	-	-	-	-	-
Stage 2	276	152	-	380	192	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 8	8	384	8	8	397	487	-	-	507	-	-
Mov Cap-2 Maneuver	~ 8	8	-	8	8	-	-	-	-	-	-	-
Stage 1	97	187	-	72	107	-	-	-	-	-	-	-
Stage 2	163	103	-	319	180	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	2822.2	162.8	1.7	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	487	-	-	13	60	507	-	-
HCM Lane V/C Ratio	0.324	-	-	5.992	0.754	0.064	-	-
HCM Control Delay (s)	15.9	-	-	$ 2822.2	162.8	12.6	-	-
HCM Lane LOS	C	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	1.4	-	-	10.8	3.3	0.2	-	-

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



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	258	32	129	1231	66	1242
v/c Ratio	0.71	0.08	0.75	0.78	0.36	0.92
Control Delay	32.2	11.9	61.2	25.2	36.4	34.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	11.9	61.2	25.2	36.4	34.5
Queue Length 50th (ft)	88	4	56	264	28	267
Queue Length 95th (ft)	164	22	#149	#461	65	#443
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	458	486	174	1588	222	1354
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.07	0.74	0.78	0.30	0.92

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	1	80	9	1	19	119	1119	14	61	1132	11
Future Volume (veh/h)	156	1	80	9	1	19	119	1119	14	61	1132	11
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		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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	170	1	87	10	1	21	129	1216	15	66	1230	12
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	10	109	152	44	237	163	1521	19	113	1424	14
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.09	0.43	0.43	0.06	0.40	0.40
Sat Flow, veh/h	926	46	494	364	197	1072	1774	3579	44	1774	3591	35
Grp Volume(v), veh/h	258	0	0	32	0	0	129	601	630	66	606	636
Grp Sat Flow(s),veh/h/ln	1466	0	0	1633	0	0	1774	1770	1854	1774	1770	1856
Q Serve(g_s), s	10.0	0.0	0.0	0.0	0.0	0.0	4.7	19.6	19.7	2.4	20.9	20.9
Cycle Q Clear(g_c), s	11.0	0.0	0.0	1.0	0.0	0.0	4.7	19.6	19.7	2.4	20.9	20.9
Prop In Lane	0.66		0.34	0.31		0.66	1.00		0.02	1.00		0.02
Lane Grp Cap(c), veh/h	414	0	0	432	0	0	163	752	788	113	702	736
V/C Ratio(X)	0.62	0.00	0.00	0.07	0.00	0.00	0.79	0.80	0.80	0.58	0.86	0.86
Avail Cap(c_a), veh/h	573	0	0	596	0	0	184	752	788	235	714	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.3	0.0	0.0	20.6	0.0	0.0	29.5	16.6	16.6	30.3	18.4	18.4
Incr Delay (d2), s/veh	2.6	0.0	0.0	0.1	0.0	0.0	16.0	8.5	8.1	1.8	13.1	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	4.7	0.0	0.0	0.5	0.0	0.0	3.1	11.3	11.8	1.2	12.7	13.2
LnGrp Delay(d),s/veh	27.0	0.0	0.0	20.7	0.0	0.0	45.5	25.1	24.8	32.0	31.5	31.0
LnGrp LOS	C			C			D	C	C	C	C	C
Approach Vol, veh/h		258			32			1360			1308	
Approach Delay, s/veh		27.0			20.7			26.9			31.3	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.9	36.1		20.4	11.8	34.3		20.4
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 8.8	24.9		* 22	* 6.9	26.8		* 22
Max Q Clear Time (g_c+I1), s	4.4	21.7		13.0	6.7	22.9		3.0
Green Ext Time (p_c), s	0.0	2.9		1.5	0.0	3.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	28.8
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	536	124	0	512	0	25
Future Vol, veh/h	536	124	0	512	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	558	129	0	533	0	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	623
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	486
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	486
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	486	-	-	-
HCM Lane V/C Ratio	0.054	-	-	-
HCM Control Delay (s)	12.8	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	458	84	90	487	23	0	0	25	0	0	46
Future Vol, veh/h	19	458	84	90	487	23	0	0	25	0	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	92	92	96	96	92	92	92	96	92	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	477	91	98	507	24	0	0	27	0	0	48

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	531	0	0	568	0	0	-	-	523	-	-	519
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	-	6.22	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	-	3.318	-	-	3.318
Pot Cap-1 Maneuver	1036	-	-	1004	-	-	0	0	554	0	0	557
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1036	-	-	1004	-	-	-	-	554	-	-	557
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.4	11.8	12.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	554	1036	-	-	1004	-	-	557
HCM Lane V/C Ratio	0.049	0.019	-	-	0.097	-	-	0.086
HCM Control Delay (s)	11.8	8.5	-	-	9	-	-	12.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.3	-	-	0.3

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	504	0	0	600	0	42
Future Vol, veh/h	504	0	0	600	0	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	548	0	0	652	0	46

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	548
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	536
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	536
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	536	-	-	-
HCM Lane V/C Ratio	0.085	-	-	-
HCM Control Delay (s)	12.3	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	246	300	329	3	4	265
Future Vol, veh/h	246	300	329	3	4	265
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	265	323	354	3	4	285

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	357	0	-	0	1209	356
Stage 1	-	-	-	-	356	-
Stage 2	-	-	-	-	853	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1202	-	-	-	202	688
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	418	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1202	-	-	-	148	688
Mov Cap-2 Maneuver	-	-	-	-	148	-
Stage 1	-	-	-	-	518	-
Stage 2	-	-	-	-	418	-

Approach	EB	WB	SB
HCM Control Delay, s	4	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1202	-	-	-	148	688
HCM Lane V/C Ratio	0.22	-	-	-	0.029	0.414
HCM Control Delay (s)	8.8	0	-	-	30.1	13.9
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.1	2

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	0	0	93	0	0	128	0	1095	46	0	1130	166
Future Vol, veh/h	0	0	93	0	0	128	0	1095	46	0	1130	166
Conflicting Peds, #/hr	3	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	101	0	0	139	0	1190	50	0	1228	180

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	614	-	-	620	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	435	0	0	431	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	435	-	-	431	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.8	17.3	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	435	431	-	-
HCM Lane V/C Ratio	-	-	0.232	0.323	-	-
HCM Control Delay (s)	-	-	15.8	17.3	-	-
HCM Lane LOS	-	-	C	C	-	-
HCM 95th %tile Q(veh)	-	-	0.9	1.4	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	122	0	0	106	229	1035	45	78	1022	123
Future Vol, veh/h	0	0	122	0	0	106	229	1035	45	78	1022	123
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	133	0	0	115	249	1125	49	85	1111	134

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	556	-	-	587	1245	0	0	1174	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	475	0	0	453	555	-	-	591	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	475	-	-	453	555	-	-	591	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.5	15.6	2.9	0.8
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	555	-	-	475	453	591	-	-
HCM Lane V/C Ratio	0.448	-	-	0.279	0.254	0.143	-	-
HCM Control Delay (s)	16.7	-	-	15.5	15.6	12.1	-	-
HCM Lane LOS	C	-	-	C	C	B	-	-
HCM 95th %tile Q(veh)	2.3	-	-	1.1	1	0.5	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	65	88	191	0	0	118
Future Vol, veh/h	65	88	191	0	0	118
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	96	208	0	0	128

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	208	0	-	0	446	208
Stage 1	-	-	-	-	208	-
Stage 2	-	-	-	-	238	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1363	-	-	-	570	832
Stage 1	-	-	-	-	827	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1363	-	-	-	539	832
Mov Cap-2 Maneuver	-	-	-	-	539	-
Stage 1	-	-	-	-	782	-
Stage 2	-	-	-	-	802	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1363	-	-	-	832
HCM Lane V/C Ratio	0.052	-	-	-	0.154
HCM Control Delay (s)	7.8	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	51	37	104	0	0	87
Future Vol, veh/h	51	37	104	0	0	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	40	113	0	0	95

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	113	0	-	0	263	113
Stage 1	-	-	-	-	113	-
Stage 2	-	-	-	-	150	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1476	-	-	-	726	940
Stage 1	-	-	-	-	912	-
Stage 2	-	-	-	-	878	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1476	-	-	-	698	940
Mov Cap-2 Maneuver	-	-	-	-	698	-
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	878	-

Approach	EB	WB	SB
HCM Control Delay, s	4.4	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1476	-	-	-	940
HCM Lane V/C Ratio	0.038	-	-	-	0.101
HCM Control Delay (s)	7.5	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	17	53	0	0	51
Future Vol, veh/h	20	17	53	0	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	18	58	0	0	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	58	0	-	0	120	58
Stage 1	-	-	-	-	58	-
Stage 2	-	-	-	-	62	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1546	-	-	-	876	1008
Stage 1	-	-	-	-	965	-
Stage 2	-	-	-	-	961	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1546	-	-	-	864	1008
Mov Cap-2 Maneuver	-	-	-	-	864	-
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	961	-

Approach	EB	WB	SB
HCM Control Delay, s	4	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1546	-	-	-	1008
HCM Lane V/C Ratio	0.014	-	-	-	0.055
HCM Control Delay (s)	7.4	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	17	22	0	0	31
Future Vol, veh/h	0	17	22	0	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	24	0	0	34

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	24	0	-	0	42	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	18	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1591	-	-	-	969	1052
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1005	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1591	-	-	-	969	1052
Mov Cap-2 Maneuver	-	-	-	-	969	-
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1005	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1591	-	-	-	1052
HCM Lane V/C Ratio	-	-	-	-	0.032
HCM Control Delay (s)	0	-	-	-	8.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	8.6

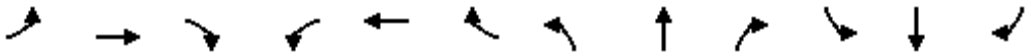
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	31	0	0	0	0
Future Vol, veh/h	42	31	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	34	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	1047	-	-
HCM Lane V/C Ratio	-	-	0.076	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Appendix K – 20-Year Cumulative Conditions Level of Service Work Sheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	108	221	124	163	266	63	88	585	125	66	521	46
v/c Ratio	0.43	0.39	0.31	0.57	0.44	0.15	0.54	0.22	0.14	0.37	0.20	0.05
Control Delay	60.3	47.2	2.7	63.0	47.3	0.8	70.5	18.6	4.5	63.5	18.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	47.2	2.7	63.0	47.3	0.8	70.5	18.6	4.5	63.5	18.8	0.1
Queue Length 50th (ft)	43	89	0	65	107	0	36	86	0	27	74	0
Queue Length 95th (ft)	73	96	8	103	114	0	64	166	42	52	147	0
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	253	1330	702	287	1344	706	164	2693	888	177	2618	867
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.17	0.18	0.57	0.20	0.09	0.54	0.22	0.14	0.37	0.20	0.05

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	203	114	150	245	58	81	538	115	61	479	42
Future Volume (veh/h)	99	203	114	150	245	58	81	538	115	61	479	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	108	221	124	163	266	63	88	585	125	66	521	46
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	520	231	187	512	227	934	2857	878	148	1668	517
Arrive On Green	0.06	0.15	0.15	0.05	0.14	0.14	0.27	0.56	0.56	0.04	0.33	0.33
Sat Flow, veh/h	3442	3539	1574	3442	3539	1567	3442	5085	1563	3442	5085	1578
Grp Volume(v), veh/h	108	221	124	163	266	63	88	585	125	66	521	46
Grp Sat Flow(s),veh/h/ln	1721	1770	1574	1721	1770	1567	1721	1695	1563	1721	1695	1578
Q Serve(g_s), s	3.8	7.1	9.1	5.9	8.7	3.7	2.4	7.1	3.1	2.3	9.6	2.5
Cycle Q Clear(g_c), s	3.8	7.1	9.1	5.9	8.7	3.7	2.4	7.1	3.1	2.3	9.6	2.5
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	195	520	231	187	512	227	934	2857	878	148	1668	517
V/C Ratio(X)	0.55	0.42	0.54	0.87	0.52	0.28	0.09	0.20	0.14	0.44	0.31	0.09
Avail Cap(c_a), veh/h	195	1331	592	187	1345	595	934	2857	878	165	1668	517
HCM Platoon Ratio	1.00	1.00	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	0.97	0.97	0.97	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.4	48.5	49.4	58.7	49.4	33.3	34.1	13.6	5.6	58.3	31.4	29.1
Incr Delay (d2), s/veh	2.0	1.1	3.7	31.9	1.6	1.3	0.0	0.2	0.3	0.8	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.5	4.2	3.6	4.4	1.9	1.1	3.3	1.9	1.1	4.6	1.1
LnGrp Delay(d),s/veh	59.4	49.6	53.1	90.5	51.0	34.6	34.1	13.7	5.9	59.1	31.9	29.4
LnGrp LOS	E	D	D	F	D	C	C	B	A	E	C	C
Approach Vol, veh/h		453			492			798			633	
Approach Delay, s/veh		52.9			62.0			14.7			34.6	
Approach LOS		D			E			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	76.6	12.5	24.8	40.3	47.4	12.8	24.5
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6	41.0	6.8	* 47	6.0	* 41	6.3	* 48
Max Q Clear Time (g_c+I1), s	4.3	9.1	7.9	11.1	4.4	11.6	5.8	10.7
Green Ext Time (p_c), s	0.0	8.4	0.0	3.5	0.0	6.7	0.0	3.6

Intersection Summary	
HCM 2010 Ctrl Delay	37.1
HCM 2010 LOS	D

Notes



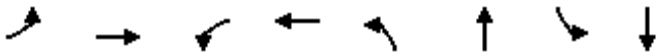
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	98	165	9	260	105	54	79	12	139
v/c Ratio	0.23	0.17	0.02	0.33	0.15	0.11	0.18	0.02	0.23
Control Delay	20.2	7.8	21.8	13.7	5.5	15.3	17.1	15.9	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	7.8	21.8	13.7	5.5	15.3	17.1	15.9	5.3
Queue Length 50th (ft)	22	16	2	51	3	10	16	2	0
Queue Length 95th (ft)	68	68	14	123	31	37	53	14	35
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	616	1393	401	1291	1124	1071	906	1256	1112
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.12	0.02	0.20	0.09	0.05	0.09	0.01	0.13

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	138	14	8	239	97	21	24	5	73	11	128
Future Volume (veh/h)	90	138	14	8	239	97	21	24	5	73	11	128
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	98	150	15	9	260	105	23	26	5	79	12	139
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	616	62	25	519	441	242	219	32	511	400	340
Arrive On Green	0.11	0.37	0.37	0.01	0.28	0.28	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	1667	167	1774	1863	1583	440	1021	149	1373	1863	1583
Grp Volume(v), veh/h	98	0	165	9	260	105	54	0	0	79	12	139
Grp Sat Flow(s),veh/h/ln	1774	0	1833	1774	1863	1583	1611	0	0	1373	1863	1583
Q Serve(g_s), s	1.8	0.0	2.2	0.2	4.1	1.8	0.0	0.0	0.0	0.6	0.2	2.6
Cycle Q Clear(g_c), s	1.8	0.0	2.2	0.2	4.1	1.8	0.8	0.0	0.0	1.4	0.2	2.6
Prop In Lane	1.00		0.09	1.00		1.00	0.43		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	187	0	677	25	519	441	493	0	0	511	400	340
V/C Ratio(X)	0.52	0.00	0.24	0.35	0.50	0.24	0.11	0.00	0.00	0.15	0.03	0.41
Avail Cap(c_a), veh/h	509	0	1551	331	1389	1180	1250	0	0	1200	1335	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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	7.6	17.0	10.6	9.7	11.1	0.0	0.0	11.3	10.8	11.8
Incr Delay (d2), s/veh	0.8	0.0	0.3	3.1	1.3	0.5	0.2	0.0	0.0	0.2	0.1	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.2	0.1	2.3	0.8	0.4	0.0	0.0	0.6	0.1	1.3
LnGrp Delay(d),s/veh	15.6	0.0	7.9	20.1	11.8	10.2	11.2	0.0	0.0	11.5	10.9	13.1
LnGrp LOS	B		A	C	B	B	B			B	B	B
Approach Vol, veh/h		263			374			54			230	
Approach Delay, s/veh		10.8			11.6			11.2			12.5	
Approach LOS		B			B			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	4.5	17.9		12.5	7.7	14.7		12.5
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	6.5	29.5		25.0	10.0	26.0		25.0
Max Q Clear Time (g_c+I1), s	2.2	4.2		2.8	3.8	6.1		4.6
Green Ext Time (p_c), s	0.0	1.4		0.3	0.0	2.8		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	47	15	2	36	43	751	97	721
v/c Ratio	0.19	0.02	0.01	0.06	0.17	0.30	0.34	0.20
Control Delay	34.4	0.1	36.5	0.2	34.0	16.9	33.0	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	0.1	36.5	0.2	34.0	16.9	33.0	13.1
Queue Length 50th (ft)	9	0	0	0	8	30	17	0
Queue Length 95th (ft)	67	0	9	0	62	202	#124	184
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	254	1315	242	1289	270	2938	375	3242
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.01	0.01	0.03	0.16	0.26	0.26	0.22

Intersection Summary

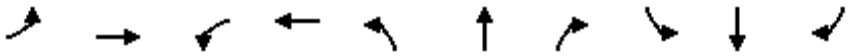
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	0	14	2	0	34	41	711	3	92	629	56
Future Volume (veh/h)	45	0	14	2	0	34	41	711	3	92	629	56
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		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	47	0	15	2	0	36	43	748	3	97	662	59
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	0	239	6	0	154	96	1517	6	157	1545	137
Arrive On Green	0.06	0.00	0.15	0.00	0.00	0.10	0.05	0.29	0.29	0.09	0.32	0.32
Sat Flow, veh/h	1774	0	1577	1774	0	1580	1774	5228	21	1774	4756	421
Grp Volume(v), veh/h	47	0	15	2	0	36	43	485	266	97	470	251
Grp Sat Flow(s),veh/h/ln	1774	0	1577	1774	0	1580	1774	1695	1858	1774	1695	1787
Q Serve(g_s), s	1.3	0.0	0.4	0.1	0.0	1.1	1.2	6.0	6.0	2.7	5.5	5.5
Cycle Q Clear(g_c), s	1.3	0.0	0.4	0.1	0.0	1.1	1.2	6.0	6.0	2.7	5.5	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.24
Lane Grp Cap(c), veh/h	102	0	239	6	0	154	96	984	539	157	1101	580
V/C Ratio(X)	0.46	0.00	0.06	0.34	0.00	0.23	0.45	0.49	0.49	0.62	0.43	0.43
Avail Cap(c_a), veh/h	222	0	1200	211	0	1192	236	1542	845	328	1717	905
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	0.0	18.3	25.0	0.0	21.0	23.1	14.8	14.8	22.1	13.3	13.4
Incr Delay (d2), s/veh	1.2	0.0	0.1	12.4	0.0	0.6	1.2	0.7	1.4	1.5	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.2	0.0	0.0	0.5	0.6	2.9	3.2	1.4	2.6	2.9
LnGrp Delay(d),s/veh	24.2	0.0	18.4	37.5	0.0	21.6	24.3	15.6	16.2	23.6	13.8	14.3
LnGrp LOS	C		B	D		C	C	B	B	C	B	B
Approach Vol, veh/h		62			38			794			818	
Approach Delay, s/veh		22.8			22.4			16.2			15.2	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	21.0	5.9	13.3	8.4	22.8	8.6	10.6
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	* 5.7	6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 9.3	22.9	* 6	* 38	* 6.7	25.5	* 6.3	* 38
Max Q Clear Time (g_c+I1), s	4.7	8.0	2.1	2.4	3.2	7.5	3.3	3.1
Green Ext Time (p_c), s	0.0	6.4	0.0	0.0	0.0	6.9	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.1
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	3	1	20	25	12	734	29	69	587	5
v/c Ratio	0.01	0.00	0.18	0.05	0.06	0.21	0.03	0.53	0.15	0.00
Control Delay	31.3	0.0	50.7	0.2	47.6	12.6	0.0	62.5	10.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.3	0.0	50.7	0.2	47.6	12.6	0.0	62.5	10.0	0.0
Queue Length 50th (ft)	2	0	13	0	4	63	0	45	24	0
Queue Length 95th (ft)	8	0	38	0	13	198	0	#117	157	0
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	216	827	109	873	196	3447	1092	130	3933	1244
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.00	0.18	0.03	0.06	0.21	0.03	0.53	0.15	0.00

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	1	19	0	24	11	697	28	66	558	5
Future Volume (veh/h)	3	0	1	19	0	24	11	697	28	66	558	5
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		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	3	0	1	20	0	25	12	734	29	69	587	5
Adj No. of Lanes	1	1	0	1	1	0	2	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	23	0	83	45	0	105	1474	3272	1016	88	1312	408
Arrive On Green	0.01	0.00	0.05	0.03	0.00	0.07	0.43	0.64	0.64	0.05	0.26	0.26
Sat Flow, veh/h	1774	0	1548	1774	0	1583	3442	5085	1578	1774	5085	1581
Grp Volume(v), veh/h	3	0	1	20	0	25	12	734	29	69	587	5
Grp Sat Flow(s),veh/h/ln	1774	0	1548	1774	0	1583	1721	1695	1578	1774	1695	1581
Q Serve(g_s), s	0.2	0.0	0.1	1.2	0.0	1.6	0.2	6.3	0.4	4.0	10.2	0.2
Cycle Q Clear(g_c), s	0.2	0.0	0.1	1.2	0.0	1.6	0.2	6.3	0.4	4.0	10.2	0.2
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	23	0	83	45	0	105	1474	3272	1016	88	1312	408
V/C Ratio(X)	0.13	0.00	0.01	0.45	0.00	0.24	0.01	0.22	0.03	0.78	0.45	0.01
Avail Cap(c_a), veh/h	101	0	619	101	0	633	1474	3272	1016	101	1312	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.96	0.96	0.96	0.99	0.99	0.99
Uniform Delay (d), s/veh	51.2	0.0	47.0	50.5	0.0	46.5	17.2	7.8	2.5	49.3	32.7	29.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	2.6	0.0	0.9	0.0	0.2	0.0	23.8	1.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.6	0.0	0.7	0.1	3.0	0.3	2.6	4.9	0.1
LnGrp Delay(d),s/veh	52.2	0.0	47.0	53.0	0.0	47.4	17.2	8.0	2.5	73.1	33.8	29.0
LnGrp LOS	D		D	D		D	B	A	A	E	C	C
Approach Vol, veh/h		4			45			775			661	
Approach Delay, s/veh		50.9			49.9			7.9			37.8	
Approach LOS		D			D			A			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	10.9	74.0	8.4	11.8	51.4	33.5	7.0	13.1
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 6	27.1	6.0	* 42	6.0	* 27	6.0	* 42
Max Q Clear Time (g_c+I1), s	6.0	8.3	3.2	2.1	2.2	12.2	2.2	3.6
Green Ext Time (p_c), s	0.0	8.1	0.0	0.0	0.0	5.3	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	22.6
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	53.4

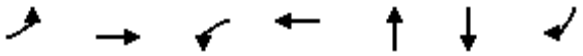
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑			↑↑↑			↑↑↑	
Traffic Vol, veh/h	49	839	99	72	829	41	69	0	115	12	0	25
Future Vol, veh/h	49	839	99	72	829	41	69	0	115	12	0	25
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	912	108	78	901	45	75	0	125	13	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	951	0	0	1020	0	0	1679	2179	510	1647	2211	478
Stage 1	-	-	-	-	-	-	1072	1072	-	1085	1085	-
Stage 2	-	-	-	-	-	-	607	1107	-	562	1126	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	718	-	-	676	-	-	~ 62	46	509	65	44	534
Stage 1	-	-	-	-	-	-	235	295	-	231	291	-
Stage 2	-	-	-	-	-	-	450	284	-	479	278	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	715	-	-	676	-	-	~ 41	28	509	34	27	531
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 41	28	-	34	27	-
Stage 1	-	-	-	-	-	-	194	243	-	189	218	-
Stage 2	-	-	-	-	-	-	322	213	-	298	229	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	1.9	$ 593.8	71.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	96	715	-	-	676	-	-	92
HCM Lane V/C Ratio	2.083	0.074	-	-	0.116	-	-	0.437
HCM Control Delay (s)	$ 593.8	10.4	0.8	-	11	1.2	-	71.6
HCM Lane LOS	F	B	A	-	B	A	-	F
HCM 95th %tile Q(veh)	17.3	0.2	-	-	0.4	-	-	1.8

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



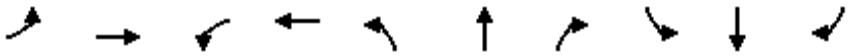
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	32	726	21	637	70	5	3
v/c Ratio	0.08	0.21	0.06	0.18	0.17	0.01	0.01
Control Delay	20.5	6.6	20.7	6.5	12.1	21.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	6.6	20.7	6.5	12.1	21.2	0.0
Queue Length 50th (ft)	5	23	3	20	4	1	0
Queue Length 95th (ft)	36	102	27	90	42	11	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	410	4027	410	4032	1466	1546	1396
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.18	0.05	0.16	0.05	0.00	0.00

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	653	15	19	580	6	22	1	41	5	0	3
Future Volume (veh/h)	29	653	15	19	580	6	22	1	41	5	0	3
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	32	710	16	21	630	7	24	1	45	5	0	3
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	1917	43	55	1871	21	46	2	86	23	0	20
Arrive On Green	0.04	0.37	0.37	0.03	0.36	0.36	0.08	0.08	0.08	0.01	0.00	0.01
Sat Flow, veh/h	1774	5117	115	1774	5184	58	565	24	1059	1774	0	1583
Grp Volume(v), veh/h	32	470	256	21	412	225	70	0	0	5	0	3
Grp Sat Flow(s),veh/h/ln	1774	1695	1842	1774	1695	1851	1648	0	0	1774	0	1583
Q Serve(g_s), s	0.7	4.0	4.0	0.5	3.5	3.5	1.6	0.0	0.0	0.1	0.0	0.1
Cycle Q Clear(g_c), s	0.7	4.0	4.0	0.5	3.5	3.5	1.6	0.0	0.0	0.1	0.0	0.1
Prop In Lane	1.00		0.06	1.00		0.03	0.34		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	80	1270	690	55	1223	668	134	0	0	23	0	20
V/C Ratio(X)	0.40	0.37	0.37	0.38	0.34	0.34	0.52	0.00	0.00	0.22	0.00	0.15
Avail Cap(c_a), veh/h	289	2333	1267	289	2333	1274	1360	0	0	1465	0	1307
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.6	9.1	9.1	19.0	9.3	9.3	17.6	0.0	0.0	19.5	0.0	19.5
Incr Delay (d2), s/veh	1.2	0.5	0.9	1.6	0.4	0.8	2.3	0.0	0.0	3.6	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.9	2.2	0.3	1.7	2.0	0.8	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	19.8	9.6	10.0	20.6	9.7	10.1	20.0	0.0	0.0	23.1	0.0	22.0
LnGrp LOS	B	A	A	C	A	B	B			C		C
Approach Vol, veh/h		758			658			70			8	
Approach Delay, s/veh		10.1			10.2			20.0			22.7	
Approach LOS		B			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	21.0		5.5	5.8	20.4		8.2
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	6.5	27.5		33.0	6.5	27.5		33.0
Max Q Clear Time (g_c+I1), s	2.5	6.0		2.1	2.7	5.5		3.6
Green Ext Time (p_c), s	0.0	8.9		0.0	0.0	7.8		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	10.7
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	174	518	123	536	107	586	104	71	514	87
v/c Ratio	0.61	0.54	0.40	0.55	0.64	0.23	0.12	0.41	0.21	0.11
Control Delay	66.4	44.4	59.6	46.1	78.7	20.9	3.4	66.8	21.1	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.4	44.4	59.6	46.1	78.7	20.9	3.4	66.8	21.1	1.6
Queue Length 50th (ft)	74	136	51	147	46	98	0	30	84	0
Queue Length 95th (ft)	110	141	82	150	#84	170	28	57	150	12
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	295	1822	306	1813	166	2562	848	175	2485	828
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.28	0.40	0.30	0.64	0.23	0.12	0.41	0.21	0.11

Intersection Summary

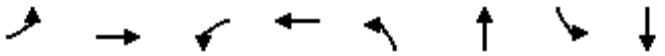
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	400	92	117	439	70	102	557	99	67	488	83
Future Volume (veh/h)	165	400	92	117	439	70	102	557	99	67	488	83
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	174	421	97	123	462	74	107	586	104	71	514	87
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	725	162	234	786	123	804	2689	836	147	1690	524
Arrive On Green	0.07	0.17	0.17	0.07	0.18	0.18	0.23	0.53	0.53	0.04	0.33	0.33
Sat Flow, veh/h	3442	4156	928	3442	4432	695	3442	5085	1582	3442	5085	1578
Grp Volume(v), veh/h	174	341	177	123	351	185	107	586	104	71	514	87
Grp Sat Flow(s),veh/h/ln	1721	1695	1693	1721	1695	1737	1721	1695	1582	1721	1695	1578
Q Serve(g_s), s	6.5	12.0	12.5	4.5	12.4	12.7	3.2	8.0	2.8	2.6	9.8	5.1
Cycle Q Clear(g_c), s	6.5	12.0	12.5	4.5	12.4	12.7	3.2	8.0	2.8	2.6	9.8	5.1
Prop In Lane	1.00		0.55	1.00		0.40	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	225	591	295	234	601	308	804	2689	836	147	1690	524
V/C Ratio(X)	0.78	0.58	0.60	0.53	0.58	0.60	0.13	0.22	0.12	0.48	0.30	0.17
Avail Cap(c_a), veh/h	246	1234	616	238	1226	628	804	2689	836	159	1690	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	0.97	0.97	0.97	0.97	0.97	0.97	0.99	0.99	0.99
Uniform Delay (d), s/veh	59.8	49.3	49.5	58.6	49.1	49.2	39.4	16.3	6.7	60.8	32.2	30.7
Incr Delay (d2), s/veh	11.3	1.7	3.7	0.9	1.7	3.5	0.0	0.2	0.3	0.9	0.5	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	3.4	5.8	6.2	2.2	5.9	6.4	1.5	3.8	1.8	1.3	4.6	2.3
LnGrp Delay(d),s/veh	71.1	51.0	53.2	59.5	50.8	52.8	39.4	16.5	7.0	61.8	32.7	31.3
LnGrp LOS	E	D	D	E	D	D	D	B	A	E	C	C
Approach Vol, veh/h		692			659			797			672	
Approach Delay, s/veh		56.6			53.0			18.3			35.6	
Approach LOS		E			D			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	11.2	75.1	14.5	29.1	36.8	49.6	14.2	29.4
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6	43.5	9.0	* 47	6.3	* 43	9.3	* 47
Max Q Clear Time (g_c+I1), s	4.6	10.0	6.5	14.5	5.2	11.8	8.5	14.7
Green Ext Time (p_c), s	0.0	9.3	0.0	6.2	0.0	7.8	0.0	6.4

Intersection Summary	
HCM 2010 Ctrl Delay	39.9
HCM 2010 LOS	D

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	74	567	108	786	32	70	51	43
v/c Ratio	0.25	0.25	0.35	0.28	0.05	0.12	0.10	0.08
Control Delay	32.3	16.5	34.9	15.4	11.0	8.5	13.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	16.5	34.9	15.4	11.0	8.5	13.7	8.7
Queue Length 50th (ft)	26	56	39	78	7	5	17	2
Queue Length 95th (ft)	#92	128	#146	173	20	29	28	22
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	318	2526	318	2825	589	1159	507	1142
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.22	0.34	0.28	0.05	0.06	0.10	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	472	50	99	583	140	29	14	51	47	6	33
Future Volume (veh/h)	68	472	50	99	583	140	29	14	51	47	6	33
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	74	513	54	108	634	152	32	15	55	51	7	36
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	1381	144	176	1284	302	425	49	181	408	42	215
Arrive On Green	0.08	0.30	0.30	0.10	0.31	0.31	0.04	0.14	0.14	0.06	0.16	0.16
Sat Flow, veh/h	1774	4679	486	1774	4095	964	1774	349	1281	1774	261	1342
Grp Volume(v), veh/h	74	370	197	108	523	263	32	0	70	51	0	43
Grp Sat Flow(s),veh/h/ln	1774	1695	1775	1774	1695	1668	1774	0	1631	1774	0	1603
Q Serve(g_s), s	1.8	3.9	3.9	2.6	5.6	5.8	0.7	0.0	1.7	1.1	0.0	1.0
Cycle Q Clear(g_c), s	1.8	3.9	3.9	2.6	5.6	5.8	0.7	0.0	1.7	1.1	0.0	1.0
Prop In Lane	1.00		0.27	1.00		0.58	1.00		0.79	1.00		0.84
Lane Grp Cap(c), veh/h	143	1001	524	176	1063	523	425	0	231	408	0	257
V/C Ratio(X)	0.52	0.37	0.38	0.62	0.49	0.50	0.08	0.00	0.30	0.12	0.00	0.17
Avail Cap(c_a), veh/h	257	1436	752	257	1436	707	643	0	1236	593	0	1215
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	12.5	12.5	19.4	12.5	12.5	15.1	0.0	17.3	14.6	0.0	16.2
Incr Delay (d2), s/veh	1.1	0.6	1.2	1.3	1.0	2.1	0.2	0.0	2.0	0.3	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.9	2.1	1.4	2.8	2.9	0.3	0.0	0.9	0.5	0.0	0.5
LnGrp Delay(d),s/veh	20.9	13.1	13.8	20.7	13.5	14.6	15.3	0.0	19.3	14.9	0.0	17.1
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		641			894			102			94	
Approach Delay, s/veh		14.2			14.7			18.0			15.9	
Approach LOS		B			B			B			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	8.4	19.2	5.8	11.4	7.6	20.1	5.0	12.2
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	6.5	19.0	7.5	34.0	6.5	19.0	7.5	34.0
Max Q Clear Time (g_c+I1), s	4.6	5.9	3.1	3.7	3.8	7.8	2.7	3.0
Green Ext Time (p_c), s	0.0	5.1	0.1	0.8	0.0	6.3	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	14.8
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	26	576	224	746	52	90	70	12	58
v/c Ratio	0.11	0.42	0.88	0.34	0.17	0.21	0.22	0.03	0.13
Control Delay	25.0	12.2	64.6	7.7	20.2	7.5	21.0	18.7	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.0	12.2	64.6	7.7	20.2	7.5	21.0	18.7	3.4
Queue Length 50th (ft)	7	62	66	51	13	1	17	3	0
Queue Length 95th (ft)	30	105	#235	144	43	33	55	16	15
Internal Link Dist (ft)		1064		2600		1465		519	
Turn Bay Length (ft)	235		300						200
Base Capacity (vph)	258	2241	254	2278	993	1160	926	1325	1151
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.26	0.88	0.33	0.05	0.08	0.08	0.01	0.05

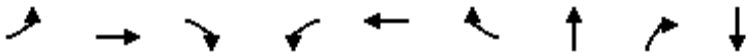
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	471	59	206	656	30	48	4	79	64	11	53
Future Volume (veh/h)	24	471	59	206	656	30	48	4	79	64	11	53
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	26	512	64	224	713	33	52	4	86	70	12	58
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	1064	133	245	1507	70	421	15	315	361	386	328
Arrive On Green	0.04	0.34	0.34	0.14	0.44	0.44	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	3167	394	1774	3445	159	1325	71	1523	1301	1863	1583
Grp Volume(v), veh/h	26	285	291	224	366	380	52	0	90	70	12	58
Grp Sat Flow(s),veh/h/ln	1774	1770	1792	1774	1770	1834	1325	0	1594	1301	1863	1583
Q Serve(g_s), s	0.7	6.0	6.1	5.9	6.9	6.9	1.5	0.0	2.2	2.2	0.2	1.4
Cycle Q Clear(g_c), s	0.7	6.0	6.1	5.9	6.9	6.9	1.8	0.0	2.2	4.5	0.2	1.4
Prop In Lane	1.00		0.22	1.00		0.09	1.00		0.96	1.00		1.00
Lane Grp Cap(c), veh/h	65	595	602	245	774	802	421	0	330	361	386	328
V/C Ratio(X)	0.40	0.48	0.48	0.91	0.47	0.47	0.12	0.00	0.27	0.19	0.03	0.18
Avail Cap(c_a), veh/h	249	1109	1123	245	1105	1146	1103	0	1151	1031	1346	1144
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	12.4	12.4	20.0	9.4	9.4	15.6	0.0	15.7	17.6	14.9	15.4
Incr Delay (d2), s/veh	1.5	2.2	2.2	34.7	1.6	1.6	0.3	0.0	0.9	0.6	0.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.3	3.4	5.2	3.7	3.8	0.6	0.0	1.1	0.9	0.1	0.7
LnGrp Delay(d),s/veh	23.6	14.5	14.6	54.7	11.0	11.0	15.9	0.0	16.6	18.1	15.0	15.9
LnGrp LOS	C	B	B	D	B	B	B		B	B	B	B
Approach Vol, veh/h		602			970			142			140	
Approach Delay, s/veh		14.9			21.1			16.3			16.9	
Approach LOS		B			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	10.5	21.8		14.7	5.7	26.6		14.7
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	6.5	29.5		34.0	6.6	29.4		34.0
Max Q Clear Time (g_c+I1), s	7.9	8.1		4.2	2.7	8.9		6.5
Green Ext Time (p_c), s	0.0	7.6		1.4	0.0	9.4		1.0

Intersection Summary		
HCM 2010 Ctrl Delay		18.4
HCM 2010 LOS		B



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	66	645	33	59	872	54	161	35	235
v/c Ratio	0.31	0.42	0.04	0.29	0.57	0.07	0.39	0.07	0.54
Control Delay	33.0	14.0	0.6	33.4	16.2	2.7	23.7	0.3	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	14.0	0.6	33.4	16.2	2.7	23.7	0.3	23.8
Queue Length 50th (ft)	26	92	0	23	135	0	56	0	75
Queue Length 95th (ft)	65	157	3	61	228	13	107	0	142
Internal Link Dist (ft)		2600			1239		366		344
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	252	1858	867	224	1801	843	914	972	940
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.35	0.04	0.26	0.48	0.06	0.18	0.04	0.25

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	593	30	54	802	50	50	98	32	53	102	61
Future Volume (veh/h)	61	593	30	54	802	50	50	98	32	53	102	61
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	66	645	33	59	872	54	54	107	35	58	111	66
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	1494	668	116	1478	661	178	298	351	142	192	98
Arrive On Green	0.07	0.42	0.42	0.07	0.42	0.42	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	396	1348	1583	261	868	441
Grp Volume(v), veh/h	66	645	33	59	872	54	161	0	35	235	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1744	0	1583	1571	0	0
Q Serve(g_s), s	1.9	6.9	0.7	1.7	10.1	1.1	0.0	0.0	0.9	3.4	0.0	0.0
Cycle Q Clear(g_c), s	1.9	6.9	0.7	1.7	10.1	1.1	3.9	0.0	0.9	7.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.34		1.00	0.25		0.28
Lane Grp Cap(c), veh/h	125	1494	668	116	1478	661	476	0	351	432	0	0
V/C Ratio(X)	0.53	0.43	0.05	0.51	0.59	0.08	0.34	0.00	0.10	0.54	0.00	0.00
Avail Cap(c_a), veh/h	266	1953	874	236	1893	847	1102	0	981	1064	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.9	10.9	9.1	24.1	12.0	9.4	17.7	0.0	16.5	18.9	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.7	0.1	1.3	1.4	0.2	0.9	0.0	0.3	2.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.5	0.3	0.9	5.1	0.5	2.1	0.0	0.4	3.4	0.0	0.0
LnGrp Delay(d),s/veh	25.2	11.6	9.2	25.3	13.4	9.6	18.6	0.0	16.8	21.2	0.0	0.0
LnGrp LOS	C	B	A	C	B	A	B		B	C		
Approach Vol, veh/h		744			985			196			235	
Approach Delay, s/veh		12.7			13.9			18.2			21.2	
Approach LOS		B			B			B			C	

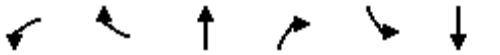
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.5	29.0		16.8	7.7	28.7		16.8
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	7.1	29.4		33.0	8.0	28.5		33.0
Max Q Clear Time (g_c+I1), s	3.7	8.9		5.9	3.9	12.1		9.4
Green Ext Time (p_c), s	0.0	8.8		2.0	0.0	10.1		2.5

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	64	186	162	27	272	233
v/c Ratio	0.16	0.37	0.15	0.03	0.39	0.22
Control Delay	10.7	4.8	5.3	2.5	7.6	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	4.8	5.3	2.5	7.6	5.6
Queue Length 50th (ft)	6	0	12	0	23	18
Queue Length 95th (ft)	27	28	34	6	67	47
Internal Link Dist (ft)	1226		772			355
Turn Bay Length (ft)		100		160	145	
Base Capacity (vph)	1087	1022	1253	1049	817	1253
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.18	0.13	0.03	0.33	0.19

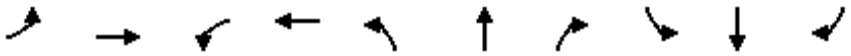
Intersection Summary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	59	171	149	25	250	214
Future Volume (veh/h)	59	171	149	25	250	214
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	64	186	162	27	272	233
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	317	283	780	660	753	780
Arrive On Green	0.18	0.18	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1774	1583	1863	1578	1186	1863
Grp Volume(v), veh/h	64	186	162	27	272	233
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1578	1186	1863
Q Serve(g_s), s	0.7	2.4	1.2	0.2	4.2	1.9
Cycle Q Clear(g_c), s	0.7	2.4	1.2	0.2	5.5	1.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	317	283	780	660	753	780
V/C Ratio(X)	0.20	0.66	0.21	0.04	0.36	0.30
Avail Cap(c_a), veh/h	1430	1276	1502	1272	1213	1502
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	7.8	8.5	4.1	3.8	5.9	4.3
Incr Delay (d2), s/veh	0.3	2.6	0.1	0.0	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	0.4	1.2	0.7	0.1	1.4	1.0
LnGrp Delay(d),s/veh	8.1	11.1	4.3	3.9	6.2	4.5
LnGrp LOS	A	B	A	A	A	A
Approach Vol, veh/h	250		189			505
Approach Delay, s/veh	10.4		4.2			5.4
Approach LOS	B		A			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		13.8				13.8		8.5
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		18.0				18.0		18.0
Max Q Clear Time (g_c+I1), s		3.2				7.5		4.4
Green Ext Time (p_c), s		0.7				1.7		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	6.5
HCM 2010 LOS	A



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	78	193	113	303	9	632	109	94	463	38
v/c Ratio	0.49	0.47	0.60	0.50	0.05	0.24	0.12	0.50	0.16	0.04
Control Delay	57.2	46.3	59.3	31.2	50.0	16.1	1.4	60.3	12.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	46.3	59.3	31.2	50.0	16.1	1.4	60.3	12.0	0.1
Queue Length 50th (ft)	53	64	77	69	3	89	0	34	47	0
Queue Length 95th (ft)	100	98	131	109	11	133	13	61	98	0
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	168	1404	201	1455	187	2661	890	187	2986	975
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.14	0.56	0.21	0.05	0.24	0.12	0.50	0.16	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	170	15	108	192	99	9	607	105	90	444	36
Future Volume (veh/h)	75	170	15	108	192	99	9	607	105	90	444	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	78	177	16	112	200	103	9	632	109	94	462	38
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	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	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	99	289	26	189	317	156	45	1179	367	1195	2910	905
Arrive On Green	0.06	0.09	0.09	0.11	0.14	0.14	0.01	0.23	0.23	0.35	0.57	0.57
Sat Flow, veh/h	1774	3286	294	1774	2287	1128	3442	5085	1581	3442	5085	1581
Grp Volume(v), veh/h	78	95	98	112	153	150	9	632	109	94	462	38
Grp Sat Flow(s),veh/h/ln	1774	1770	1811	1774	1770	1645	1721	1695	1581	1721	1695	1581
Q Serve(g_s), s	4.8	5.7	5.8	6.6	8.9	9.5	0.3	12.0	6.3	2.0	4.7	0.7
Cycle Q Clear(g_c), s	4.8	5.7	5.8	6.6	8.9	9.5	0.3	12.0	6.3	2.0	4.7	0.7
Prop In Lane	1.00		0.16	1.00		0.69	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	99	156	159	189	245	228	45	1179	367	1195	2910	905
V/C Ratio(X)	0.79	0.61	0.62	0.59	0.62	0.66	0.20	0.54	0.30	0.08	0.16	0.04
Avail Cap(c_a), veh/h	135	708	724	189	738	687	188	1179	367	1195	2910	905
HCM Platoon Ratio	1.00	1.00	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	0.72	0.72	0.72	0.98	0.98	0.98
Uniform Delay (d), s/veh	51.3	48.3	48.4	46.9	44.7	44.9	53.7	37.1	34.9	24.1	11.1	3.9
Incr Delay (d2), s/veh	12.8	6.9	7.1	3.4	6.0	7.4	0.6	1.3	1.5	0.0	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	2.7	3.1	3.2	3.4	4.8	4.8	0.1	5.8	2.9	1.0	2.2	0.5
LnGrp Delay(d),s/veh	64.1	55.2	55.4	50.2	50.6	52.3	54.3	38.3	36.4	24.1	11.2	3.9
LnGrp LOS	E	E	E	D	D	D	D	D	D	C	B	A
Approach Vol, veh/h		271			415			750			594	
Approach Delay, s/veh		57.9			51.1			38.2			12.8	
Approach LOS		E			D			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	44.6	31.9	17.4	16.1	7.1	69.3	11.9	21.7
Change Period (Y+Rc), s	6.4	* 6.4	5.7	* 6.4	* 5.7	6.4	5.7	* 6.4
Max Green Setting (Gmax), s	6.0	* 26	10.3	* 44	* 6	25.5	8.4	* 46
Max Q Clear Time (g_c+I1), s	4.0	14.0	8.6	7.8	2.3	6.7	6.8	11.5
Green Ext Time (p_c), s	0.0	7.2	0.0	1.9	0.0	7.4	0.0	3.7

Intersection Summary	
HCM 2010 Ctrl Delay	36.0
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	316	22	326	422	23	54	82	221	22	107	96
Future Vol, veh/h	33	316	22	326	422	23	54	82	221	22	107	96
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	145	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	343	24	354	459	25	59	89	240	24	116	104

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	484	0	0	367	0	0	1717	1619	355	1772	1619	472
Stage 1	-	-	-	-	-	-	427	427	-	1180	1180	-
Stage 2	-	-	-	-	-	-	1290	1192	-	592	439	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1079	-	-	1192	-	-	71	103	689	65	~ 103	592
Stage 1	-	-	-	-	-	-	606	585	-	232	264	-
Stage 2	-	-	-	-	-	-	201	261	-	493	578	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1079	-	-	1192	-	-	-	~ 70	689	-	~ 70	592
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 70	-	-	~ 70	-
Stage 1	-	-	-	-	-	-	586	566	-	224	186	-
Stage 2	-	-	-	-	-	-	~ 44	183	-	262	559	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	3.9		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	-	70	289	1079	-	-	1192	-	-	-	70	161
HCM Lane V/C Ratio	-	0.637	0.985	0.033	-	-	0.297	-	-	-	0.831	1.009
HCM Control Delay (s)	-	121	88.6	8.5	-	-	9.3	-	-	-	162.1	130.3
HCM Lane LOS	-	F	F	A	-	-	A	-	-	-	F	F
HCM 95th %tile Q(veh)	-	2.8	10.1	0.1	-	-	1.3	-	-	-	4	7.9

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

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	375	9	0	442	5	26	6	8	3	3	139
Future Vol, veh/h	56	375	9	0	442	5	26	6	8	3	3	139
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	408	10	0	480	5	28	7	9	3	3	151

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	485	0	0	418	0	0	1095	1020	414	1027	1023	483
Stage 1	-	-	-	-	-	-	535	535	-	483	483	-
Stage 2	-	-	-	-	-	-	560	485	-	544	540	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1078	-	-	1141	-	-	191	237	638	213	236	584
Stage 1	-	-	-	-	-	-	529	524	-	565	553	-
Stage 2	-	-	-	-	-	-	513	552	-	523	521	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1078	-	-	1141	-	-	134	223	637	196	223	584
Mov Cap-2 Maneuver	-	-	-	-	-	-	134	223	-	196	223	-
Stage 1	-	-	-	-	-	-	499	494	-	533	553	-
Stage 2	-	-	-	-	-	-	378	552	-	480	491	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0	33.1	13.9
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	171	1078	-	-	1141	-	-	196	565
HCM Lane V/C Ratio	0.254	0.056	-	-	-	-	-	0.017	0.273
HCM Control Delay (s)	33.1	8.5	-	-	0	-	-	23.7	13.7
HCM Lane LOS	D	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	1	0.2	-	-	0	-	-	0.1	1.1



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	177	178	144	2	7	77	219	216
v/c Ratio	0.43	0.45	0.22	0.00	0.00	0.13	0.12	0.19
Control Delay	10.5	10.9	4.0	8.0	7.7	8.6	0.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.5	10.9	4.0	8.0	7.7	8.6	0.1	0.4
Queue Length 50th (ft)	14	14	4	0	0	7	0	0
Queue Length 95th (ft)	55	55	25	3	3	29	0	0
Internal Link Dist (ft)		563	789		604		1556	
Turn Bay Length (ft)	260			225		195		200
Base Capacity (vph)	1093	1057	1587	876	2734	1084	2446	1330
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.17	0.09	0.00	0.00	0.07	0.09	0.16

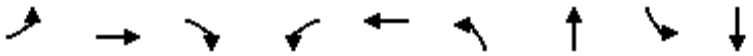
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	314	13	0	0	47	86	2	6	0	71	2	398
Future Volume (veh/h)	314	13	0	0	47	86	2	6	0	71	2	398
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	351	0	0	0	51	93	2	7	0	77	2	433
Adj No. of Lanes	2	1	0	0	1	0	1	2	0	1	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1274	595	0	0	189	345	586	990	0	711	521	886
Arrive On Green	0.32	0.00	0.00	0.00	0.32	0.32	0.28	0.28	0.00	0.28	0.28	0.28
Sat Flow, veh/h	2478	1863	0	0	592	1080	950	3632	0	1403	1863	3167
Grp Volume(v), veh/h	351	0	0	0	0	144	2	7	0	77	2	433
Grp Sat Flow(s),veh/h/ln	1239	1863	0	0	0	1672	950	1770	0	1403	1863	1583
Q Serve(g_s), s	2.8	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.9	0.0	2.6
Cycle Q Clear(g_c), s	4.2	0.0	0.0	0.0	0.0	1.4	0.1	0.0	0.0	1.0	0.0	2.6
Prop In Lane	1.00		0.00	0.00		0.65	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1274	595	0	0	0	534	586	990	0	711	521	886
V/C Ratio(X)	0.28	0.00	0.00	0.00	0.00	0.27	0.00	0.01	0.00	0.11	0.00	0.49
Avail Cap(c_a), veh/h	3407	2198	0	0	0	1973	1145	3074	0	1537	1618	2750
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.3	0.0	0.0	0.0	0.0	5.7	5.8	5.8	0.0	6.2	5.8	6.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.1	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	0.9	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.4	0.0	1.1
LnGrp Delay(d),s/veh	7.4	0.0	0.0	0.0	0.0	6.0	5.9	5.8	0.0	6.3	5.8	7.2
LnGrp LOS	A					A	A	A		A	A	A
Approach Vol, veh/h		351			144			9			512	
Approach Delay, s/veh		7.4			6.0			5.8			7.0	
Approach LOS		A			A			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		10.8		11.7		10.8		11.7
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		19.5		26.5		19.5		26.5
Max Q Clear Time (g_c+I1), s		2.1		6.2		4.6		3.4
Green Ext Time (p_c), s		0.0		1.3		1.7		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	7.0
HCM 2010 LOS	A

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	48	339	91	75	348	70	695	110	565
v/c Ratio	0.30	0.62	0.17	0.44	0.30	0.39	0.63	0.53	0.49
Control Delay	50.2	34.8	3.0	52.6	22.3	50.1	30.1	52.7	26.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.2	34.8	3.0	52.6	22.3	50.1	30.1	52.7	26.4
Queue Length 50th (ft)	27	175	0	42	73	39	182	62	135
Queue Length 95th (ft)	72	298	20	100	125	94	280	135	216
Internal Link Dist (ft)		776			1573		2053		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	188	843	774	207	1602	245	1617	277	1679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.40	0.12	0.36	0.22	0.29	0.43	0.40	0.34

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	312	84	69	243	77	64	572	67	101	458	62
Future Volume (veh/h)	44	312	84	69	243	77	64	572	67	101	458	62
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		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	48	339	91	75	264	84	70	622	73	110	498	67
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	492	417	117	739	230	113	940	110	141	973	130
Arrive On Green	0.05	0.26	0.26	0.07	0.28	0.28	0.06	0.29	0.29	0.08	0.31	0.31
Sat Flow, veh/h	1774	1863	1582	1774	2659	828	1774	3187	373	1774	3132	420
Grp Volume(v), veh/h	48	339	91	75	174	174	70	345	350	110	280	285
Grp Sat Flow(s),veh/h/ln	1774	1863	1582	1774	1770	1717	1774	1770	1791	1774	1770	1782
Q Serve(g_s), s	1.8	11.4	3.1	2.9	5.5	5.7	2.7	11.9	11.9	4.2	9.0	9.1
Cycle Q Clear(g_c), s	1.8	11.4	3.1	2.9	5.5	5.7	2.7	11.9	11.9	4.2	9.0	9.1
Prop In Lane	1.00		1.00	1.00		0.48	1.00		0.21	1.00		0.24
Lane Grp Cap(c), veh/h	92	492	417	117	492	477	113	522	528	141	549	553
V/C Ratio(X)	0.52	0.69	0.22	0.64	0.35	0.37	0.62	0.66	0.66	0.78	0.51	0.51
Avail Cap(c_a), veh/h	204	909	772	224	884	857	265	884	895	300	919	926
HCM Platoon Ratio	1.00	1.00	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	32.2	23.1	20.0	31.7	20.1	20.2	31.8	21.5	21.5	31.5	19.7	19.7
Incr Delay (d2), s/veh	1.7	5.2	0.8	2.2	1.3	1.4	2.0	2.8	2.8	3.5	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	6.6	1.5	1.5	2.8	2.9	1.4	6.2	6.2	2.2	4.6	4.7
LnGrp Delay(d),s/veh	33.8	28.3	20.8	33.9	21.5	21.7	33.8	24.3	24.3	35.0	21.1	21.2
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		478			423			765			675	
Approach Delay, s/veh		27.4			23.8			25.2			23.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	27.5	8.8	23.6	8.7	28.6	7.8	24.6
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 12	34.8	* 8.8	34.0	* 10	36.2	* 8	34.8
Max Q Clear Time (g_c+I1), s	6.2	13.9	4.9	13.4	4.7	11.1	3.8	7.7
Green Ext Time (p_c), s	0.1	6.6	0.0	4.8	0.0	5.7	0.0	4.4

Intersection Summary	
HCM 2010 Ctrl Delay	24.9
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	182	304	3	1	299	109	6	0	3	47	0	141
Future Vol, veh/h	182	304	3	1	299	109	6	0	3	47	0	141
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	198	330	3	1	325	118	7	0	3	51	0	153

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	443	0	0	333	0	0	893	1173	167	947	1115	222
Stage 1	-	-	-	-	-	-	728	728	-	386	386	-
Stage 2	-	-	-	-	-	-	165	445	-	561	729	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1113	-	-	1223	-	-	236	191	848	216	207	782
Stage 1	-	-	-	-	-	-	381	427	-	609	609	-
Stage 2	-	-	-	-	-	-	821	573	-	480	426	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1113	-	-	1223	-	-	164	157	848	186	170	782
Mov Cap-2 Maneuver	-	-	-	-	-	-	164	157	-	186	170	-
Stage 1	-	-	-	-	-	-	313	351	-	501	608	-
Stage 2	-	-	-	-	-	-	660	572	-	393	350	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0	21.8	20.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	224	1113	-	-	1223	-	-	434
HCM Lane V/C Ratio	0.044	0.178	-	-	0.001	-	-	0.471
HCM Control Delay (s)	21.8	8.9	-	-	7.9	-	-	20.5
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.6	-	-	0	-	-	2.5

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	100	332	398	64	80	179
Future Vol, veh/h	100	332	398	64	80	179
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	361	433	70	87	195

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	503	0	-	0	867	252
Stage 1	-	-	-	-	468	-
Stage 2	-	-	-	-	399	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1058	-	-	-	292	748
Stage 1	-	-	-	-	597	-
Stage 2	-	-	-	-	647	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1058	-	-	-	262	748
Mov Cap-2 Maneuver	-	-	-	-	262	-
Stage 1	-	-	-	-	536	-
Stage 2	-	-	-	-	647	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	15.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1058	-	-	-	262	748
HCM Lane V/C Ratio	0.103	-	-	-	0.332	0.26
HCM Control Delay (s)	8.8	-	-	-	25.4	11.5
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1.4	1

Intersection	
Int Delay, s/veh	12

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	317	62	119	317	14	90	0	244	7	0	15
Future Vol, veh/h	38	317	62	119	317	14	90	0	244	7	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	345	67	129	345	15	98	0	265	8	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	360	0	0	412	0	0	893	1079	206	866	1105	181
Stage 1	-	-	-	-	-	-	461	461	-	611	611	-
Stage 2	-	-	-	-	-	-	432	618	-	255	494	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1195	-	-	1143	-	-	236	217	800	247	209	831
Stage 1	-	-	-	-	-	-	550	564	-	448	482	-
Stage 2	-	-	-	-	-	-	572	479	-	727	545	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1195	-	-	1143	-	-	206	186	800	147	179	830
Mov Cap-2 Maneuver	-	-	-	-	-	-	206	186	-	147	179	-
Stage 1	-	-	-	-	-	-	531	545	-	433	428	-
Stage 2	-	-	-	-	-	-	497	425	-	469	526	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	2.3	38.8	16.6
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	450	1195	-	-	1143	-	-	335
HCM Lane V/C Ratio	0.807	0.035	-	-	0.113	-	-	0.071
HCM Control Delay (s)	38.8	8.1	-	-	8.6	-	-	16.6
HCM Lane LOS	E	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	7.4	0.1	-	-	0.4	-	-	0.2



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	67	279	235	221	99	834	13	486	51
v/c Ratio	0.47	0.42	0.70	0.20	0.70	0.66	0.09	0.41	0.09
Control Delay	51.2	17.7	41.8	19.8	66.4	26.3	41.2	27.5	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.2	17.7	41.8	19.8	66.4	26.3	41.2	27.5	0.3
Queue Length 50th (ft)	30	31	102	40	46	152	6	69	0
Queue Length 95th (ft)	#107	74	211	68	#165	#429	28	131	0
Internal Link Dist (ft)		765		339		253		1110	
Turn Bay Length (ft)	180		175		205		290		210
Base Capacity (vph)	142	1116	561	1927	142	1272	142	1524	631
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.25	0.42	0.11	0.70	0.66	0.09	0.32	0.08

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	133	123	216	191	12	91	662	105	12	447	47
Future Volume (veh/h)	62	133	123	216	191	12	91	662	105	12	447	47
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	67	145	134	235	208	13	99	720	114	13	486	51
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	274	235	283	838	52	133	936	148	34	1271	396
Arrive On Green	0.06	0.15	0.15	0.16	0.25	0.25	0.07	0.31	0.31	0.02	0.25	0.25
Sat Flow, veh/h	1774	1809	1550	1774	3384	210	1774	3062	485	1774	5085	1583
Grp Volume(v), veh/h	67	142	137	235	108	113	99	416	418	13	486	51
Grp Sat Flow(s),veh/h/ln	1774	1770	1589	1774	1770	1825	1774	1770	1777	1774	1695	1583
Q Serve(g_s), s	2.5	5.0	5.4	8.7	3.3	3.4	3.7	14.4	14.4	0.5	5.4	1.7
Cycle Q Clear(g_c), s	2.5	5.0	5.4	8.7	3.3	3.4	3.7	14.4	14.4	0.5	5.4	1.7
Prop In Lane	1.00		0.98	1.00		0.12	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	113	268	241	283	438	452	133	541	543	34	1271	396
V/C Ratio(X)	0.59	0.53	0.57	0.83	0.25	0.25	0.74	0.77	0.77	0.38	0.38	0.13
Avail Cap(c_a), veh/h	157	610	548	622	1074	1107	157	587	589	157	1685	525
HCM Platoon Ratio	1.00	1.00	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	30.8	26.5	26.6	27.5	20.4	20.4	30.6	21.3	21.3	32.7	21.0	19.6
Incr Delay (d2), s/veh	1.9	4.9	6.4	2.4	0.8	0.8	11.4	9.7	9.7	2.6	0.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.8	2.8	4.4	1.7	1.8	2.2	8.5	8.6	0.3	2.6	0.8
LnGrp Delay(d),s/veh	32.7	31.3	33.1	29.9	21.2	21.2	42.0	31.0	31.0	35.3	21.8	20.3
LnGrp LOS	C	C	C	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		346			456			933			550	
Approach Delay, s/veh		32.3			25.7			32.2			22.0	
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	7.0	27.5	16.5	16.6	10.8	23.7	10.0	23.1
Change Period (Y+Rc), s	* 5.7	6.8	* 5.7	6.4	* 5.7	6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 6	22.4	* 24	23.3	* 6	22.4	* 6	41.0
Max Q Clear Time (g_c+I1), s	2.5	16.4	10.7	7.4	5.7	7.4	4.5	5.4
Green Ext Time (p_c), s	0.0	4.2	0.3	2.8	0.0	6.0	0.0	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	28.5
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	141	69	50	18	68	226
Future Vol, veh/h	141	69	50	18	68	226
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	153	75	54	20	74	246

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	74	0	-	0	408	37
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	344	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1524	-	-	-	571	1027
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	689	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1524	-	-	-	514	1027
Mov Cap-2 Maneuver	-	-	-	-	514	-
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	689	-

Approach	EB	WB	SB
HCM Control Delay, s	5.1	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1524	-	-	-	514	1027
HCM Lane V/C Ratio	0.101	-	-	-	0.144	0.239
HCM Control Delay (s)	7.6	-	-	-	13.2	9.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0.5	0.9



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	43	15	23	9	887	9	797	36
v/c Ratio	0.17	0.04	0.07	0.04	0.35	0.04	0.31	0.03
Control Delay	21.5	0.2	0.4	22.9	7.2	22.9	6.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	0.2	0.4	22.9	7.2	22.9	6.9	0.1
Queue Length 50th (ft)	13	0	0	3	70	3	61	0
Queue Length 95th (ft)	39	0	0	14	172	14	151	0
Internal Link Dist (ft)	1563		335		1230		631	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	1011	1191	1070	225	2530	225	2532	1145
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.01	0.02	0.04	0.35	0.04	0.31	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	0	14	7	0	14	8	813	3	8	733	33
Future Volume (veh/h)	40	0	14	7	0	14	8	813	3	8	733	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	43	0	15	8	0	15	9	884	3	9	797	36
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	318	0	178	139	28	116	25	1586	5	25	1551	693
Arrive On Green	0.11	0.00	0.11	0.11	0.00	0.11	0.01	0.44	0.44	0.01	0.44	0.44
Sat Flow, veh/h	1435	0	1583	301	248	1030	1774	3618	12	1774	3539	1582
Grp Volume(v), veh/h	43	0	15	23	0	0	9	432	455	9	797	36
Grp Sat Flow(s),veh/h/ln	1435	0	1583	1579	0	0	1774	1770	1861	1774	1770	1582
Q Serve(g_s), s	0.6	0.0	0.4	0.0	0.0	0.0	0.2	8.3	8.3	0.2	7.5	0.6
Cycle Q Clear(g_c), s	1.1	0.0	0.4	0.6	0.0	0.0	0.2	8.3	8.3	0.2	7.5	0.6
Prop In Lane	1.00		1.00	0.35		0.65	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	318	0	178	283	0	0	25	776	816	25	1551	693
V/C Ratio(X)	0.14	0.00	0.08	0.08	0.00	0.00	0.36	0.56	0.56	0.36	0.51	0.05
Avail Cap(c_a), veh/h	1204	0	1185	1199	0	0	232	1001	1053	232	2003	895
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	0.0	18.3	18.4	0.0	0.0	22.4	9.6	9.6	22.4	9.4	7.4
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.0	0.0	3.2	2.7	2.6	3.2	1.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.2	0.3	0.0	0.0	0.1	4.5	4.7	0.1	3.9	0.3
LnGrp Delay(d),s/veh	18.7	0.0	18.4	18.4	0.0	0.0	25.6	12.3	12.1	25.6	10.4	7.5
LnGrp LOS	B		B	B			C	B	B	C	B	A
Approach Vol, veh/h		58			23			896			842	
Approach Delay, s/veh		18.6			18.4			12.3			10.4	
Approach LOS		B			B			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	6.4	26.9		12.7	6.4	26.9		12.7
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 6	26.0		* 34	* 6	26.0		33.0
Max Q Clear Time (g_c+I1), s	2.2	10.3		3.1	2.2	9.5		2.6
Green Ext Time (p_c), s	0.0	9.8		0.1	0.0	9.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.7
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	13.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	8	172	35	22	11	58	893	26	4	697	20
Future Vol, veh/h	13	8	172	35	22	11	58	893	26	4	697	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	9	187	38	24	12	63	971	28	4	758	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1401	1902	390	1503	1899	500	780	0	0	999	0	0
Stage 1	777	777	-	1111	1111	-	-	-	-	-	-	-
Stage 2	624	1125	-	392	788	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	100	68	609	84	69	516	833	-	-	689	-	-
Stage 1	356	405	-	223	283	-	-	-	-	-	-	-
Stage 2	440	278	-	604	400	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	65	62	609	49	63	516	833	-	-	689	-	-
Mov Cap-2 Maneuver	65	62	-	49	63	-	-	-	-	-	-	-
Stage 1	329	403	-	206	261	-	-	-	-	-	-	-
Stage 2	361	257	-	407	398	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	36.3	279.1	0.6	0.1
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	833	-	-	316	63	689	-	-
HCM Lane V/C Ratio	0.076	-	-	0.664	1.173	0.006	-	-
HCM Control Delay (s)	9.7	-	-	36.3	279.1	10.3	-	-
HCM Lane LOS	A	-	-	E	F	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	4.4	6	0	-	-



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	38	55	84	811	47	792
v/c Ratio	0.13	0.18	0.34	0.36	0.20	0.36
Control Delay	17.9	14.9	30.7	12.6	29.1	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	14.9	30.7	12.6	29.1	12.6
Queue Length 50th (ft)	8	9	29	104	16	103
Queue Length 95th (ft)	30	34	79	232	50	220
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	610	653	294	2262	315	2209
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.08	0.29	0.36	0.15	0.36

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1	11	24	2	27	80	756	14	45	671	82
Future Volume (veh/h)	24	1	11	24	2	27	80	756	14	45	671	82
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		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	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	25	1	12	25	2	28	84	796	15	47	706	86
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	29	61	167	39	101	149	1476	28	103	1234	150
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.08	0.42	0.42	0.06	0.39	0.39
Sat Flow, veh/h	808	229	478	460	307	795	1774	3554	67	1774	3168	386
Grp Volume(v), veh/h	38	0	0	55	0	0	84	396	415	47	394	398
Grp Sat Flow(s),veh/h/ln	1515	0	0	1562	0	0	1774	1770	1851	1774	1770	1785
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	2.2	8.2	8.2	1.2	8.5	8.5
Cycle Q Clear(g_c), s	0.9	0.0	0.0	1.4	0.0	0.0	2.2	8.2	8.2	1.2	8.5	8.5
Prop In Lane	0.66		0.32	0.45		0.51	1.00		0.04	1.00		0.22
Lane Grp Cap(c), veh/h	316	0	0	307	0	0	149	735	769	103	689	695
V/C Ratio(X)	0.12	0.00	0.00	0.18	0.00	0.00	0.56	0.54	0.54	0.46	0.57	0.57
Avail Cap(c_a), veh/h	791	0	0	800	0	0	305	904	946	327	926	934
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	0.0	0.0	19.0	0.0	0.0	21.3	10.6	10.6	22.0	11.6	11.6
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.5	0.0	0.0	1.2	2.6	2.5	1.2	3.2	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.7	0.0	0.0	1.1	4.5	4.7	0.6	4.7	4.7
LnGrp Delay(d),s/veh	19.1	0.0	0.0	19.5	0.0	0.0	22.5	13.3	13.2	23.2	14.8	14.8
LnGrp LOS	B			B			C	B	B	C	B	B
Approach Vol, veh/h		38			55			895			839	
Approach Delay, s/veh		19.1			19.5			14.1			15.2	
Approach LOS		B			B			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	8.5	28.0		11.8	9.8	26.7		11.8
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 8.9	24.7		* 22	* 8.3	25.3		* 22
Max Q Clear Time (g_c+I1), s	3.2	10.2		2.9	4.2	10.5		3.4
Green Ext Time (p_c), s	0.0	8.4		0.2	0.0	8.4		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	14.9
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	329	0	0	324	0	0
Future Vol, veh/h	329	0	0	324	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	358	0	0	352	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	179
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	833
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	833
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	319	324	7	15	3
Future Vol, veh/h	10	319	324	7	15	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	347	352	8	16	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	360	0	-	0	552	180
Stage 1	-	-	-	-	356	-
Stage 2	-	-	-	-	196	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1195	-	-	-	464	832
Stage 1	-	-	-	-	680	-
Stage 2	-	-	-	-	818	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1195	-	-	-	459	832
Mov Cap-2 Maneuver	-	-	-	-	459	-
Stage 1	-	-	-	-	673	-
Stage 2	-	-	-	-	818	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1195	-	-	-	496
HCM Lane V/C Ratio	0.009	-	-	-	0.039
HCM Control Delay (s)	8	0	-	-	12.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	329	0	0	331	0	0
Future Vol, veh/h	329	0	0	331	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	358	0	0	360	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	179
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	833
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	833
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	210	273	3	0	58
Future Vol, veh/h	119	210	273	3	0	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	228	297	3	0	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	300	0	-	0	671	150
Stage 1	-	-	-	-	299	-
Stage 2	-	-	-	-	372	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1258	-	-	-	390	870
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	667	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1258	-	-	-	344	870
Mov Cap-2 Maneuver	-	-	-	-	344	-
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	667	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1258	-	-	-	-	870
HCM Lane V/C Ratio	0.103	-	-	-	-	0.072
HCM Control Delay (s)	8.2	0.2	-	-	0	9.5
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	66	0	746	660	126
Future Vol, veh/h	0	66	0	746	660	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	72	0	811	717	137

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	359	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	638	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	638	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	638	-	-
HCM Lane V/C Ratio	-	0.112	-	-
HCM Control Delay (s)	-	11.4	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	87	171	746	628	98
Future Vol, veh/h	0	87	171	746	628	98
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	150	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	95	186	811	683	107

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	342	790	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	654	826	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	654	826	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	826	-	654	-	-
HCM Lane V/C Ratio	0.225	-	0.145	-	-
HCM Control Delay (s)	10.6	-	11.4	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.9	-	0.5	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	11	21	0	0	0
Future Vol, veh/h	0	11	21	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	23	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	35	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	12	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	978	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1011	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	978	1054
Mov Cap-2 Maneuver	-	-	-	-	978	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1011	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	11	21	0	0	0
Future Vol, veh/h	0	11	21	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	23	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	35	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	12	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	978	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1011	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	978	1054
Mov Cap-2 Maneuver	-	-	-	-	978	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1011	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	11	21	0	0	0
Future Vol, veh/h	0	11	21	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	23	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	35	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	12	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	978	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1011	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	978	1054
Mov Cap-2 Maneuver	-	-	-	-	978	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1011	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	11	21	0	0	0
Future Vol, veh/h	0	11	21	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	23	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	35	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	12	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	978	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1011	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	978	1054
Mov Cap-2 Maneuver	-	-	-	-	978	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1011	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

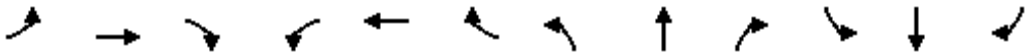
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	97	245	178	198	234	67	211	1040	198	116	1160	86
v/c Ratio	0.25	0.42	0.43	0.54	0.41	0.16	1.22	0.43	0.25	0.55	0.47	0.11
Control Delay	53.1	47.0	7.6	59.1	47.5	0.9	188.4	24.3	8.8	66.9	24.1	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.1	47.0	7.6	59.1	47.5	0.9	188.4	24.3	8.8	66.9	24.1	1.2
Queue Length 50th (ft)	37	98	0	79	94	0	~107	191	25	47	210	0
Queue Length 95th (ft)	68	106	45	#128	101	0	#189	307	93	#93	350	9
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	387	1330	701	369	1339	706	173	2391	808	212	2449	819
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.18	0.25	0.54	0.17	0.09	1.22	0.43	0.25	0.55	0.47	0.11

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	238	173	192	227	65	205	1009	192	113	1125	83
Future Volume (veh/h)	94	238	173	192	227	65	205	1009	192	113	1125	83
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		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	97	245	178	198	234	67	211	1040	198	116	1160	86
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	601	264	173	426	190	864	2737	842	165	1676	519
Arrive On Green	0.10	0.17	0.17	0.05	0.12	0.12	0.25	0.54	0.54	0.05	0.33	0.33
Sat Flow, veh/h	3442	3539	1554	3442	3539	1579	3442	5085	1564	3442	5085	1575
Grp Volume(v), veh/h	97	245	178	198	234	67	211	1040	198	116	1160	86
Grp Sat Flow(s),veh/h/ln	1721	1770	1554	1721	1770	1579	1721	1695	1564	1721	1695	1575
Q Serve(g_s), s	3.3	7.7	13.4	6.3	7.8	4.1	6.1	14.8	5.7	4.2	24.8	4.8
Cycle Q Clear(g_c), s	3.3	7.7	13.4	6.3	7.8	4.1	6.1	14.8	5.7	4.2	24.8	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	343	601	264	173	426	190	864	2737	842	165	1676	519
V/C Ratio(X)	0.28	0.41	0.67	1.14	0.55	0.35	0.24	0.38	0.24	0.70	0.69	0.17
Avail Cap(c_a), veh/h	343	1331	584	173	1339	598	864	2737	842	165	1676	519
HCM Platoon Ratio	1.00	1.00	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	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.1	46.3	48.7	59.4	51.8	35.2	37.4	16.8	7.1	58.6	36.4	29.7
Incr Delay (d2), s/veh	0.2	0.9	5.7	111.5	2.1	2.1	0.0	0.3	0.6	10.8	2.4	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	1.6	3.8	6.2	5.7	3.9	2.1	2.9	7.0	3.2	2.2	12.0	2.2
LnGrp Delay(d),s/veh	52.3	47.1	54.4	170.8	53.9	37.4	37.4	17.1	7.6	69.4	38.8	30.4
LnGrp LOS	D	D	D	F	D	D	D	B	A	E	D	C
Approach Vol, veh/h		520			499			1449			1362	
Approach Delay, s/veh		50.6			98.1			18.8			40.8	
Approach LOS		D			F			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	11.7	73.7	12.0	27.6	37.8	47.6	18.2	21.5
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6	41.5	6.3	* 47	6.3	* 41	6.0	* 47
Max Q Clear Time (g_c+I1), s	6.2	16.8	8.3	15.4	8.1	26.8	5.3	9.8
Green Ext Time (p_c), s	0.0	13.9	0.0	4.2	0.0	9.9	0.0	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	41.3
HCM 2010 LOS	D

Notes



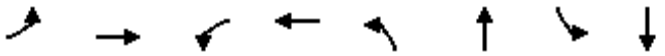
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	136	240	1	190	105	25	122	17	196
v/c Ratio	0.22	0.22	0.00	0.25	0.14	0.04	0.24	0.02	0.28
Control Delay	20.2	9.1	23.0	16.1	2.4	14.1	16.8	14.5	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	9.1	23.0	16.1	2.4	14.1	16.8	14.5	4.3
Queue Length 50th (ft)	31	28	0	39	0	4	25	3	0
Queue Length 95th (ft)	90	109	4	102	18	21	72	16	39
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	682	1290	424	1158	1039	1035	858	1158	1058
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.19	0.00	0.16	0.10	0.02	0.14	0.01	0.19

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	210	11	1	175	97	8	13	2	112	16	180
Future Volume (veh/h)	125	210	11	1	175	97	8	13	2	112	16	180
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	136	228	12	1	190	105	9	14	2	122	17	196
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	681	36	5	494	420	211	254	29	509	406	345
Arrive On Green	0.12	0.39	0.39	0.00	0.27	0.27	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	1754	92	1774	1863	1583	340	1165	131	1392	1863	1583
Grp Volume(v), veh/h	136	0	240	1	190	105	25	0	0	122	17	196
Grp Sat Flow(s),veh/h/ln	1774	0	1846	1774	1863	1583	1636	0	0	1392	1863	1583
Q Serve(g_s), s	2.6	0.0	3.3	0.0	3.0	1.9	0.0	0.0	0.0	2.2	0.3	3.9
Cycle Q Clear(g_c), s	2.6	0.0	3.3	0.0	3.0	1.9	0.4	0.0	0.0	2.6	0.3	3.9
Prop In Lane	1.00		0.05	1.00		1.00	0.36		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	221	0	717	5	494	420	494	0	0	509	406	345
V/C Ratio(X)	0.62	0.00	0.33	0.20	0.38	0.25	0.05	0.00	0.00	0.24	0.04	0.57
Avail Cap(c_a), veh/h	547	0	1527	323	1305	1109	1225	0	0	1181	1305	1109
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	7.7	17.8	10.7	10.3	11.1	0.0	0.0	11.9	11.0	12.5
Incr Delay (d2), s/veh	1.0	0.0	0.5	7.2	0.8	0.5	0.1	0.0	0.0	0.4	0.1	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	1.8	0.0	1.6	0.9	0.2	0.0	0.0	1.1	0.1	1.9
LnGrp Delay(d),s/veh	15.9	0.0	8.1	24.9	11.6	10.8	11.1	0.0	0.0	12.3	11.1	15.0
LnGrp LOS	B		A	C	B	B	B			B	B	B
Approach Vol, veh/h		376			296			25			335	
Approach Delay, s/veh		10.9			11.4			11.1			13.8	
Approach LOS		B			B			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	4.1	18.8		12.8	8.4	14.5		12.8
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	6.5	29.5		25.0	11.0	25.0		25.0
Max Q Clear Time (g_c+I1), s	2.0	5.3		2.4	4.6	5.0		5.9
Green Ext Time (p_c), s	0.0	2.1		0.1	0.1	2.2		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	12.0
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	129	60	5	133	67	1289	82	1561
v/c Ratio	0.58	0.16	0.04	0.54	0.67	0.52	0.51	0.57
Control Delay	55.8	14.1	43.4	17.3	82.2	21.0	58.2	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	14.1	43.4	17.3	82.2	21.0	58.2	18.5
Queue Length 50th (ft)	87	3	3	1	47	218	56	262
Queue Length 95th (ft)	145	45	14	59	#117	311	103	353
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	221	631	139	633	101	2494	163	2757
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.10	0.04	0.21	0.66	0.52	0.50	0.57

Intersection Summary

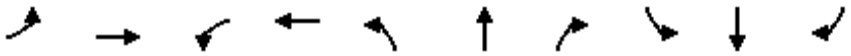
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	5	51	5	2	122	62	1190	8	76	1380	72
Future Volume (veh/h)	120	5	51	5	2	122	62	1190	8	76	1380	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		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	129	5	55	5	2	131	67	1280	9	82	1484	77
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	10	107	203	3	166	515	2817	20	104	1496	78
Arrive On Green	0.08	0.07	0.07	0.11	0.11	0.11	0.29	0.54	0.54	0.06	0.30	0.30
Sat Flow, veh/h	1774	134	1470	1774	24	1563	1774	5209	37	1774	4940	256
Grp Volume(v), veh/h	129	0	60	5	0	133	67	833	456	82	1018	543
Grp Sat Flow(s),veh/h/ln	1774	0	1603	1774	0	1587	1774	1695	1855	1774	1695	1807
Q Serve(g_s), s	7.9	0.0	4.0	0.3	0.0	9.0	3.1	16.5	16.5	5.0	32.9	32.9
Cycle Q Clear(g_c), s	7.9	0.0	4.0	0.3	0.0	9.0	3.1	16.5	16.5	5.0	32.9	32.9
Prop In Lane	1.00		0.92	1.00		0.98	1.00		0.02	1.00		0.14
Lane Grp Cap(c), veh/h	144	0	117	203	0	168	515	1834	1003	104	1026	547
V/C Ratio(X)	0.90	0.00	0.51	0.02	0.00	0.79	0.13	0.45	0.45	0.79	0.99	0.99
Avail Cap(c_a), veh/h	144	0	596	203	0	548	515	1834	1003	111	1026	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.85	0.85	0.85	0.87	0.87	0.87
Uniform Delay (d), s/veh	50.1	0.0	49.1	43.3	0.0	48.0	28.8	15.4	15.4	51.1	38.2	38.2
Incr Delay (d2), s/veh	45.4	0.0	2.6	0.0	0.0	6.1	0.0	0.7	1.3	23.4	24.5	34.2
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	5.7	0.0	1.9	0.1	0.0	4.2	1.5	7.8	8.7	3.1	18.9	21.6
LnGrp Delay(d),s/veh	95.5	0.0	51.7	43.3	0.0	54.1	28.8	16.1	16.6	74.5	62.7	72.4
LnGrp LOS	F		D	D		D	C	B	B	E	E	E
Approach Vol, veh/h		189			138			1356			1643	
Approach Delay, s/veh		81.6			53.7			16.9			66.5	
Approach LOS		F			D			B			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	12.1	65.9	18.3	13.7	38.3	39.7	14.6	17.4
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	6.4	* 6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 6.9	32.7	* 6	* 41	6.3	* 33	* 8.9	* 38
Max Q Clear Time (g_c+I1), s	7.0	18.5	2.3	6.0	5.1	34.9	9.9	11.0
Green Ext Time (p_c), s	0.0	10.0	0.0	0.3	0.0	0.0	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	46.6
HCM 2010 LOS	D

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	42	68	96	74	1127	57	184	1362	41
v/c Ratio	0.18	0.16	0.51	0.28	0.38	0.52	0.08	0.51	0.44	0.04
Control Delay	50.0	11.0	61.3	10.3	53.5	25.3	0.2	47.3	18.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	11.0	61.3	10.3	53.5	25.3	0.2	47.3	18.2	0.1
Queue Length 50th (ft)	14	1	44	6	25	205	0	111	192	0
Queue Length 95th (ft)	39	22	#114	36	48	321	0	#328	#456	0
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	115	652	133	689	196	2186	748	358	3099	1009
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.06	0.51	0.14	0.38	0.52	0.08	0.51	0.44	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2	38	64	10	80	70	1059	54	173	1280	39
Future Volume (veh/h)	20	2	38	64	10	80	70	1059	54	173	1280	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		0.98	1.00		0.99	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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	21	2	40	68	11	85	74	1127	57	184	1362	41
Adj No. of Lanes	1	1	0	1	1	0	2	3	1	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	9	174	87	22	170	1178	2796	850	101	1312	406
Arrive On Green	0.05	0.12	0.12	0.05	0.12	0.12	0.34	0.55	0.55	0.06	0.26	0.26
Sat Flow, veh/h	1774	75	1496	1774	183	1417	3442	5085	1546	1774	5085	1574
Grp Volume(v), veh/h	21	0	42	68	0	96	74	1127	57	184	1362	41
Grp Sat Flow(s),veh/h/ln	1774	0	1571	1774	0	1600	1721	1695	1546	1774	1695	1574
Q Serve(g_s), s	1.2	0.0	2.5	4.0	0.0	5.9	1.5	13.5	1.1	6.0	27.1	2.1
Cycle Q Clear(g_c), s	1.2	0.0	2.5	4.0	0.0	5.9	1.5	13.5	1.1	6.0	27.1	2.1
Prop In Lane	1.00		0.95	1.00		0.89	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	81	0	182	87	0	192	1178	2796	850	101	1312	406
V/C Ratio(X)	0.26	0.00	0.23	0.78	0.00	0.50	0.06	0.40	0.07	1.82	1.04	0.10
Avail Cap(c_a), veh/h	101	0	628	101	0	640	1178	2796	850	101	1312	406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.82	0.82	0.82	0.80	0.80	0.80
Uniform Delay (d), s/veh	48.4	0.0	42.1	49.3	0.0	43.3	23.2	13.7	4.4	49.5	38.9	29.7
Incr Delay (d2), s/veh	0.6	0.0	0.2	23.1	0.0	1.5	0.0	0.4	0.1	396.2	32.7	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	0.6	0.0	1.1	2.5	0.0	2.7	0.7	6.4	0.8	14.1	16.6	1.0
LnGrp Delay(d),s/veh	49.0	0.0	42.4	72.4	0.0	44.8	23.2	14.0	4.6	445.7	71.7	30.1
LnGrp LOS	D		D	E		D	C	B	A	F	F	C
Approach Vol, veh/h		63			164			1258			1587	
Approach Delay, s/veh		44.6			56.2			14.1			113.9	
Approach LOS		D			E			B			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	64.1	10.9	18.3	42.3	33.5	10.5	18.7
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 6	27.1	6.0	* 42	6.0	* 27	6.0	* 42
Max Q Clear Time (g_c+I1), s	8.0	15.5	6.0	4.5	3.5	29.1	3.2	7.9
Green Ext Time (p_c), s	0.0	8.4	0.0	0.1	0.0	0.0	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	68.6
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	35.5

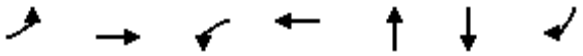
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	1344	62	50	1061	29	25	0	47	26	0	52
Future Vol, veh/h	35	1344	62	50	1061	29	25	0	47	26	0	52
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	1400	65	52	1105	30	26	0	49	27	0	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1140	0	0	1465	0	0	2162	2749	733	2001	2766	573
Stage 1	-	-	-	-	-	-	1505	1505	-	1229	1229	-
Stage 2	-	-	-	-	-	-	657	1244	-	772	1537	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	609	-	-	457	-	-	27	20	363	35	19	463
Stage 1	-	-	-	-	-	-	127	182	-	188	248	-
Stage 2	-	-	-	-	-	-	420	244	-	358	176	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	606	-	-	457	-	-	~ 14	9	363	~ 17	9	461
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 14	9	-	~ 17	9	-
Stage 1	-	-	-	-	-	-	85	122	-	125	170	-
Stage 2	-	-	-	-	-	-	255	167	-	207	118	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	2.5	$ 682.3	$ 539.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	38	606	-	-	457	-	-	47
HCM Lane V/C Ratio	1.974	0.06	-	-	0.114	-	-	1.729
HCM Control Delay (s)	$ 682.3	11.3	1.8	-	13.9	2	-	$ 539.6
HCM Lane LOS	F	B	A	-	B	A	-	F
HCM 95th %tile Q(veh)	8.1	0.2	-	-	0.4	-	-	8.1

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



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	67	982	88	854	88	20	13
v/c Ratio	0.32	0.46	0.38	0.32	0.30	0.07	0.04
Control Delay	37.0	16.4	37.9	14.8	8.9	23.7	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	16.4	37.9	14.8	8.9	23.7	0.2
Queue Length 50th (ft)	21	68	27	56	0	6	0
Queue Length 95th (ft)	#92	238	#124	202	33	24	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	219	2554	235	2787	1083	1101	1007
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.38	0.37	0.31	0.08	0.02	0.01

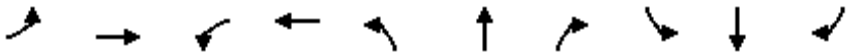
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	899	24	83	788	15	36	0	47	18	1	12
Future Volume (veh/h)	63	899	24	83	788	15	36	0	47	18	1	12
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	67	956	26	88	838	16	38	0	50	19	1	13
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	1982	54	149	2061	39	60	0	79	82	4	75
Arrive On Green	0.07	0.39	0.39	0.08	0.40	0.40	0.08	0.00	0.08	0.05	0.05	0.05
Sat Flow, veh/h	1774	5086	138	1774	5135	98	717	0	943	1689	89	1557
Grp Volume(v), veh/h	67	637	345	88	553	301	88	0	0	20	0	13
Grp Sat Flow(s),veh/h/ln	1774	1695	1834	1774	1695	1842	1660	0	0	1778	0	1557
Q Serve(g_s), s	1.8	7.2	7.2	2.4	5.9	5.9	2.6	0.0	0.0	0.5	0.0	0.4
Cycle Q Clear(g_c), s	1.8	7.2	7.2	2.4	5.9	5.9	2.6	0.0	0.0	0.5	0.0	0.4
Prop In Lane	1.00		0.08	1.00		0.05	0.43		0.57	0.95		1.00
Lane Grp Cap(c), veh/h	128	1321	715	149	1361	739	140	0	0	86	0	75
V/C Ratio(X)	0.52	0.48	0.48	0.59	0.41	0.41	0.63	0.00	0.00	0.23	0.00	0.17
Avail Cap(c_a), veh/h	231	1797	972	248	1830	994	1079	0	0	1156	0	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	11.6	11.6	22.4	10.9	10.9	22.5	0.0	0.0	23.2	0.0	23.2
Incr Delay (d2), s/veh	1.2	0.8	1.4	1.4	0.5	1.0	3.5	0.0	0.0	1.0	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.4	3.8	1.2	2.9	3.2	1.3	0.0	0.0	0.3	0.0	0.2
LnGrp Delay(d),s/veh	23.9	12.4	13.0	23.8	11.4	11.9	25.9	0.0	0.0	24.3	0.0	24.0
LnGrp LOS	C	B	B	C	B	B	C			C		C
Approach Vol, veh/h		1049			942			88			33	
Approach Delay, s/veh		13.3			12.7			25.9			24.2	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.3	25.8		7.5	7.7	26.4		9.3
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	7.1	26.9		33.0	6.6	27.4		33.0
Max Q Clear Time (g_c+I1), s	4.4	9.2		2.5	3.8	7.9		4.6
Green Ext Time (p_c), s	0.0	10.5		0.1	0.0	9.8		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	13.8
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	309	747	248	569	282	980	131	199	1229	123
v/c Ratio	0.51	0.63	0.51	0.56	1.47	0.56	0.21	0.61	0.63	0.18
Control Delay	52.8	41.5	56.8	43.2	278.5	36.2	6.7	64.9	34.9	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.8	41.5	56.8	43.2	278.5	36.2	6.7	64.9	34.9	4.9
Queue Length 50th (ft)	122	189	102	147	~167	243	4	82	295	0
Queue Length 95th (ft)	#227	201	#165	152	#259	293	49	#185	389	39
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	610	1882	488	1812	192	1746	617	326	1945	673
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.40	0.51	0.31	1.47	0.56	0.21	0.61	0.63	0.18

Intersection Summary

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

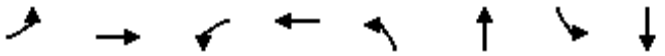
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	294	523	186	236	425	116	268	931	124	189	1168	117
Future Volume (veh/h)	294	523	186	236	425	116	268	931	124	189	1168	117
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	309	551	196	248	447	122	282	980	131	199	1229	123
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	312	891	308	167	788	208	649	2430	755	167	1690	516
Arrive On Green	0.09	0.24	0.24	0.05	0.20	0.20	0.19	0.48	0.48	0.05	0.33	0.33
Sat Flow, veh/h	3442	3725	1288	3442	4005	1058	3442	5085	1580	3442	5085	1553
Grp Volume(v), veh/h	309	500	247	248	376	193	282	980	131	199	1229	123
Grp Sat Flow(s),veh/h/ln	1721	1695	1622	1721	1695	1672	1721	1695	1580	1721	1695	1553
Q Serve(g_s), s	11.7	17.1	17.8	6.3	13.0	13.6	9.4	16.2	4.5	6.3	27.7	7.5
Cycle Q Clear(g_c), s	11.7	17.1	17.8	6.3	13.0	13.6	9.4	16.2	4.5	6.3	27.7	7.5
Prop In Lane	1.00		0.79	1.00		0.63	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	312	811	388	167	667	329	649	2430	755	167	1690	516
V/C Ratio(X)	0.99	0.62	0.64	1.49	0.56	0.59	0.43	0.40	0.17	1.19	0.73	0.24
Avail Cap(c_a), veh/h	312	1278	611	167	1226	605	649	2430	755	167	1690	516
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	0.79	0.79	0.79	0.80	0.80	0.80	0.90	0.90	0.90
Uniform Delay (d), s/veh	59.0	44.1	44.4	61.8	47.2	47.4	46.6	22.0	10.3	61.8	38.2	31.5
Incr Delay (d2), s/veh	44.8	1.3	3.0	242.7	1.2	2.6	0.1	0.4	0.4	127.6	2.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	8.1	8.3	8.6	6.2	6.5	4.5	7.6	2.5	5.9	13.4	3.3
LnGrp Delay(d),s/veh	103.8	45.5	47.4	304.5	48.3	50.0	46.8	22.4	10.7	189.5	40.7	32.4
LnGrp LOS	F	D	D	F	D	D	D	C	B	F	D	C
Approach Vol, veh/h		1056			817			1393			1551	
Approach Delay, s/veh		63.0			126.5			26.2			59.1	
Approach LOS		E			F			C			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	68.5	12.0	37.5	30.9	49.6	17.5	32.0
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6.3	44.2	6.3	* 49	7.3	* 43	8.3	* 47
Max Q Clear Time (g_c+I1), s	8.3	18.2	8.3	19.8	11.4	29.7	13.7	15.6
Green Ext Time (p_c), s	0.0	14.2	0.0	9.2	0.0	10.4	0.0	6.8

Intersection Summary	
HCM 2010 Ctrl Delay	61.9
HCM 2010 LOS	E

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	144	981	211	913	114	252	218	121
v/c Ratio	0.82	0.67	1.20	0.62	0.22	0.48	0.60	0.28
Control Delay	67.8	24.4	163.6	22.9	12.8	7.8	20.9	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	24.4	163.6	22.9	12.8	7.8	20.9	9.3
Queue Length 50th (ft)	53	108	~92	97	28	11	56	11
Queue Length 95th (ft)	#200	#250	#295	210	52	56	94	43
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	176	1468	176	1470	517	950	365	898
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.67	1.20	0.62	0.22	0.27	0.60	0.13

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	821	111	200	731	137	108	32	207	207	32	83
Future Volume (veh/h)	137	821	111	200	731	137	108	32	207	207	32	83
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	144	864	117	211	769	144	114	34	218	218	34	87
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	1236	166	181	1179	219	511	49	314	413	119	306
Arrive On Green	0.10	0.27	0.27	0.10	0.27	0.27	0.08	0.22	0.22	0.12	0.26	0.26
Sat Flow, veh/h	1774	4516	608	1774	4310	800	1774	218	1398	1774	458	1173
Grp Volume(v), veh/h	144	647	334	211	604	309	114	0	252	218	0	121
Grp Sat Flow(s),veh/h/ln	1774	1695	1734	1774	1695	1720	1774	0	1616	1774	0	1631
Q Serve(g_s), s	5.1	10.9	11.0	6.5	10.0	10.2	3.0	0.0	9.1	5.7	0.0	3.8
Cycle Q Clear(g_c), s	5.1	10.9	11.0	6.5	10.0	10.2	3.0	0.0	9.1	5.7	0.0	3.8
Prop In Lane	1.00		0.35	1.00		0.47	1.00		0.87	1.00		0.72
Lane Grp Cap(c), veh/h	181	928	475	181	928	471	511	0	363	413	0	425
V/C Ratio(X)	0.80	0.70	0.70	1.17	0.65	0.66	0.22	0.00	0.69	0.53	0.00	0.28
Avail Cap(c_a), veh/h	181	1010	517	181	1010	513	575	0	862	413	0	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.0	20.8	20.8	28.6	20.5	20.5	16.4	0.0	22.7	15.8	0.0	18.8
Incr Delay (d2), s/veh	20.0	3.1	6.1	118.9	2.4	4.8	0.5	0.0	6.4	2.4	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	5.5	6.1	9.1	5.0	5.4	1.5	0.0	4.7	3.0	0.0	1.8
LnGrp Delay(d),s/veh	47.9	23.9	27.0	147.5	22.9	25.4	16.9	0.0	29.2	18.2	0.0	19.8
LnGrp LOS	D	C	C	F	C	C	B		C	B		B
Approach Vol, veh/h		1125			1124			366			339	
Approach Delay, s/veh		27.9			47.0			25.3			18.8	
Approach LOS		C			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.5	23.4	10.5	19.3	10.5	23.4	8.2	21.6
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	6.5	19.0	7.5	34.0	6.5	19.0	7.5	34.0
Max Q Clear Time (g_c+I1), s	8.5	13.0	7.7	11.1	7.1	12.2	5.0	5.8
Green Ext Time (p_c), s	0.0	4.4	0.0	3.3	0.0	4.7	0.1	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	33.8
HCM 2010 LOS	C



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	64	1279	162	962	70	257	51	28	40
v/c Ratio	0.41	0.70	1.03	0.50	0.28	0.60	0.41	0.08	0.11
Control Delay	41.9	16.1	120.2	12.3	28.9	15.7	37.1	25.1	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	16.1	120.2	12.3	28.9	15.7	37.1	25.1	2.2
Queue Length 50th (ft)	28	203	~78	133	28	32	21	11	0
Queue Length 95th (ft)	70	344	#216	231	62	98	53	31	7
Internal Link Dist (ft)		1064		2595		1465		519	
Turn Bay Length (ft)	235		300						200
Base Capacity (vph)	164	1880	157	1935	638	822	317	864	777
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.68	1.03	0.50	0.11	0.31	0.16	0.03	0.05

Intersection Summary

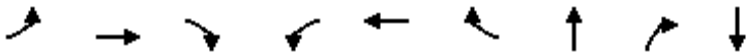
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	1054	122	149	787	98	64	5	232	47	26	37
Future Volume (veh/h)	59	1054	122	149	787	98	64	5	232	47	26	37
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	64	1146	133	162	855	107	70	5	252	51	28	40
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	1543	179	153	1617	202	387	7	355	185	430	366
Arrive On Green	0.06	0.48	0.48	0.09	0.51	0.51	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1774	3188	369	1774	3161	396	1328	31	1537	1118	1863	1583
Grp Volume(v), veh/h	64	635	644	162	479	483	70	0	257	51	28	40
Grp Sat Flow(s),veh/h/ln	1774	1770	1787	1774	1770	1787	1328	0	1568	1118	1863	1583
Q Serve(g_s), s	2.7	21.8	21.9	6.5	13.7	13.7	3.3	0.0	11.4	3.3	0.9	1.5
Cycle Q Clear(g_c), s	2.7	21.8	21.9	6.5	13.7	13.7	4.2	0.0	11.4	14.7	0.9	1.5
Prop In Lane	1.00		0.21	1.00		0.22	1.00		0.98	1.00		1.00
Lane Grp Cap(c), veh/h	104	857	865	153	905	914	387	0	362	185	430	366
V/C Ratio(X)	0.61	0.74	0.74	1.06	0.53	0.53	0.18	0.00	0.71	0.28	0.07	0.11
Avail Cap(c_a), veh/h	160	926	935	153	919	928	678	0	706	430	839	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	15.7	15.7	34.5	12.3	12.3	24.3	0.0	26.7	33.5	22.7	22.9
Incr Delay (d2), s/veh	2.2	5.0	5.0	89.9	1.8	1.7	0.5	0.0	5.4	1.7	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	11.8	11.9	7.0	7.1	7.2	1.3	0.0	5.5	1.1	0.5	0.7
LnGrp Delay(d),s/veh	36.9	20.7	20.7	124.4	14.1	14.1	24.8	0.0	32.1	35.2	22.8	23.2
LnGrp LOS	D	C	C	F	B	B	C		C	D	C	C
Approach Vol, veh/h		1343			1124			327			119	
Approach Delay, s/veh		21.5			30.0			30.5			28.2	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	42.6		22.4	8.4	44.6		22.4
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	6.5	39.5		34.0	6.8	39.2		34.0
Max Q Clear Time (g_c+I1), s	8.5	23.9		13.4	4.7	15.7		16.7
Green Ext Time (p_c), s	0.0	12.6		3.5	0.0	13.4		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	26.1
HCM 2010 LOS	C



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	157	910	67	115	855	67	210	30	251
v/c Ratio	0.63	0.59	0.09	0.54	0.64	0.10	0.55	0.07	0.59
Control Delay	41.7	17.7	3.9	39.9	20.0	4.2	28.2	0.3	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.7	17.7	3.9	39.9	20.0	4.2	28.2	0.3	23.8
Queue Length 50th (ft)	61	150	0	45	143	0	77	0	73
Queue Length 95th (ft)	#150	248	20	#110	237	21	137	0	139
Internal Link Dist (ft)		2595			1244		367		412
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	274	1558	739	236	1455	696	815	857	854
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.58	0.09	0.49	0.59	0.10	0.26	0.04	0.29

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	837	62	106	787	62	43	150	28	34	98	98
Future Volume (veh/h)	144	837	62	106	787	62	43	150	28	34	98	98
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	157	910	67	115	855	67	47	163	30	37	107	107
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	1446	647	157	1363	610	137	347	362	104	177	154
Arrive On Green	0.11	0.41	0.41	0.09	0.39	0.39	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	256	1517	1583	135	775	676
Grp Volume(v), veh/h	157	910	67	115	855	67	210	0	30	251	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1773	0	1583	1586	0	0
Q Serve(g_s), s	4.9	11.6	1.5	3.6	11.1	1.5	0.0	0.0	0.8	2.7	0.0	0.0
Cycle Q Clear(g_c), s	4.9	11.6	1.5	3.6	11.1	1.5	5.6	0.0	0.8	8.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.22		1.00	0.15		0.43
Lane Grp Cap(c), veh/h	199	1446	647	157	1363	610	483	0	362	435	0	0
V/C Ratio(X)	0.79	0.63	0.10	0.73	0.63	0.11	0.43	0.00	0.08	0.58	0.00	0.00
Avail Cap(c_a), veh/h	314	1748	782	270	1660	743	1067	0	925	1007	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.4	13.3	10.3	25.1	14.1	11.2	19.0	0.0	17.1	19.9	0.0	0.0
Incr Delay (d2), s/veh	2.6	1.7	0.3	2.4	1.7	0.3	1.3	0.0	0.2	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	5.9	0.7	1.9	5.7	0.7	3.0	0.0	0.4	3.9	0.0	0.0
LnGrp Delay(d),s/veh	27.1	15.0	10.6	27.5	15.8	11.4	20.3	0.0	17.3	22.4	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	C		B	C		
Approach Vol, veh/h		1134			1037			240			251	
Approach Delay, s/veh		16.4			16.8			19.9			22.4	
Approach LOS		B			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	29.6		17.9	10.3	28.3		17.9
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	8.6	27.9		33.0	10.0	26.5		33.0
Max Q Clear Time (g_c+I1), s	5.6	13.6		7.6	6.9	13.1		10.3
Green Ext Time (p_c), s	0.0	9.5		2.6	0.1	8.6		2.6

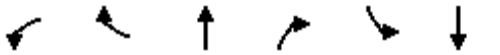
Intersection Summary	
HCM 2010 Ctrl Delay	17.5
HCM 2010 LOS	B



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	78	426	254	42	439	156
v/c Ratio	0.20	0.63	0.26	0.05	0.74	0.16
Control Delay	15.7	7.0	5.9	2.2	16.7	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	7.0	5.9	2.2	16.7	5.3
Queue Length 50th (ft)	13	0	21	0	51	12
Queue Length 95th (ft)	48	57	72	10	#205	45
Internal Link Dist (ft)	1226		772			355
Turn Bay Length (ft)		100		160	145	
Base Capacity (vph)	889	990	1579	1321	950	1579
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.43	0.16	0.03	0.46	0.10

Intersection Summary

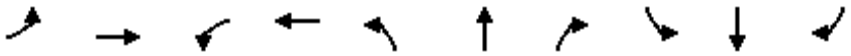
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	73	396	236	39	408	145
Future Volume (veh/h)	73	396	236	39	408	145
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	78	426	254	42	439	156
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	539	481	977	813	622	977
Arrive On Green	0.30	0.30	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1774	1583	1863	1551	1079	1863
Grp Volume(v), veh/h	78	426	254	42	439	156
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1551	1079	1863
Q Serve(g_s), s	1.7	13.4	3.9	0.7	19.8	2.3
Cycle Q Clear(g_c), s	1.7	13.4	3.9	0.7	23.7	2.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	539	481	977	813	622	977
V/C Ratio(X)	0.14	0.89	0.26	0.05	0.71	0.16
Avail Cap(c_a), veh/h	609	544	1173	976	736	1173
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	13.3	17.4	6.9	6.1	13.4	6.5
Incr Delay (d2), s/veh	0.1	14.8	0.1	0.0	2.5	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	0.8	7.8	2.0	0.3	6.3	1.2
LnGrp Delay(d),s/veh	13.4	32.2	7.0	6.1	15.9	6.5
LnGrp LOS	B	C	A	A	B	A
Approach Vol, veh/h	504		296			595
Approach Delay, s/veh	29.3		6.9			13.5
Approach LOS	C		A			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		32.0				32.0		20.4
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		33.0				33.0		18.0
Max Q Clear Time (g_c+I1), s		5.9				25.7		15.4
Green Ext Time (p_c), s		1.5				1.7		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	17.8
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	213	360	159	431	71	865	143	343	1003	173
v/c Ratio	0.72	0.43	0.91	0.58	0.42	0.53	0.23	0.71	0.46	0.22
Control Delay	62.8	37.1	102.2	20.5	62.9	36.3	2.6	58.5	27.6	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.8	37.1	102.2	20.5	62.9	36.3	2.6	58.5	27.6	3.6
Queue Length 50th (ft)	155	123	124	70	27	197	0	130	197	0
Queue Length 95th (ft)	#330	131	#255	89	53	285	21	#241	315	38
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	294	1349	175	1332	171	1636	632	482	2195	786
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.27	0.91	0.32	0.42	0.53	0.23	0.71	0.46	0.22

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	305	48	156	181	241	70	848	140	336	983	170
Future Volume (veh/h)	209	305	48	156	181	241	70	848	140	336	983	170
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	213	311	49	159	185	246	71	865	143	343	1003	173
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	732	114	176	376	336	662	1843	572	338	1335	415
Arrive On Green	0.12	0.24	0.24	0.10	0.21	0.21	0.19	0.36	0.36	0.10	0.26	0.26
Sat Flow, veh/h	1774	3069	478	1774	1770	1579	3442	5085	1579	3442	5085	1580
Grp Volume(v), veh/h	213	178	182	159	185	246	71	865	143	343	1003	173
Grp Sat Flow(s),veh/h/ln	1774	1770	1778	1774	1770	1579	1721	1695	1579	1721	1695	1580
Q Serve(g_s), s	14.3	10.2	10.4	10.6	11.0	17.4	2.0	15.7	7.6	11.8	21.7	10.9
Cycle Q Clear(g_c), s	14.3	10.2	10.4	10.6	11.0	17.4	2.0	15.7	7.6	11.8	21.7	10.9
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	422	424	176	376	336	662	1843	572	338	1335	415
V/C Ratio(X)	1.01	0.42	0.43	0.90	0.49	0.73	0.11	0.47	0.25	1.01	0.75	0.42
Avail Cap(c_a), veh/h	211	684	687	176	649	579	662	1843	572	338	1335	415
HCM Platoon Ratio	1.00	1.00	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	0.43	0.43	0.43	0.76	0.76	0.76
Uniform Delay (d), s/veh	52.8	38.7	38.8	53.5	41.5	44.1	40.0	29.4	26.8	54.1	40.7	36.6
Incr Delay (d2), s/veh	63.9	1.2	1.3	40.7	2.3	7.1	0.0	0.4	0.4	46.0	3.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	5.1	5.3	7.2	5.6	8.2	1.0	7.4	3.4	7.8	10.5	5.0
LnGrp Delay(d),s/veh	116.7	39.9	40.1	94.2	43.9	51.2	40.0	29.8	27.3	100.2	43.7	39.0
LnGrp LOS	F	D	D	F	D	D	D	C	C	F	D	D
Approach Vol, veh/h		573			590			1079			1519	
Approach Delay, s/veh		68.5			60.5			30.1			55.9	
Approach LOS		E			E			C			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	17.5	49.9	17.6	35.0	29.5	37.9	20.7	31.9
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	6.4	6.4	* 6.4	6.4	* 6.4
Max Green Setting (Gmax), s	* 12	25.7	* 12	46.4	6.0	* 32	14.3	* 44
Max Q Clear Time (g_c+I1), s	13.8	17.7	12.6	12.4	4.0	23.7	16.3	19.4
Green Ext Time (p_c), s	0.0	6.4	0.0	3.8	0.0	6.7	0.0	5.1

Intersection Summary	
HCM 2010 Ctrl Delay	51.1
HCM 2010 LOS	D

Notes

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	95	699	52	233	541	82	94	99	313	53	165	75
Future Vol, veh/h	95	699	52	233	541	82	94	99	313	53	165	75
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	145	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	721	54	240	558	85	97	102	323	55	170	77

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	643	0	0	775	0	0	2148	2067	748	2238	2052	601
Stage 1	-	-	-	-	-	-	944	944	-	1081	1081	-
Stage 2	-	-	-	-	-	-	1204	1123	-	1157	971	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	942	-	-	841	-	-	~ 35	~ 54	412	~ 30	~ 56	500
Stage 1	-	-	-	-	-	-	315	341	-	264	294	-
Stage 2	-	-	-	-	-	-	225	281	-	239	331	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	942	-	-	841	-	-	-	~ 35	412	-	~ 36	500
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 35	-	-	~ 36	-
Stage 1	-	-	-	-	-	-	282	306	-	237	210	-
Stage 2	-	-	-	-	-	-	~ 26	201	-	~ 31	297	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	3		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	-	35	167	942	-	-	841	-	-	-	36	65
HCM Lane V/C Ratio	-	1.458	2.238	0.104	-	-	0.286	-	-	-	2.363	2.498
HCM Control Delay (s)	-$	490.4	$ 620.1	9.3	-	-	11	-	-	-$	859.1	$ 816.8
HCM Lane LOS	-	F	F	A	-	-	B	-	-	-	F	F
HCM 95th %tile Q(veh)	-	5.5	30.4	0.3	-	-	1.2	-	-	-	9.5	16

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

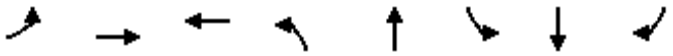
Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	131	670	18	10	512	10	9	6	2	6	8	146
Future Vol, veh/h	131	670	18	10	512	10	9	6	2	6	8	146
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	135	691	19	10	528	10	9	6	2	6	8	151

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	538	0	0	710	0	0	1604	1529	701	1528	1533	533
Stage 1	-	-	-	-	-	-	971	971	-	553	553	-
Stage 2	-	-	-	-	-	-	633	558	-	975	980	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1030	-	-	889	-	-	85	117	439	96	116	547
Stage 1	-	-	-	-	-	-	304	331	-	517	514	-
Stage 2	-	-	-	-	-	-	468	512	-	303	328	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1030	-	-	889	-	-	52	101	439	81	100	547
Mov Cap-2 Maneuver	-	-	-	-	-	-	52	101	-	81	100	-
Stage 1	-	-	-	-	-	-	264	288	-	449	508	-
Stage 2	-	-	-	-	-	-	330	506	-	256	285	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.2	70.4	18.9
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	72	1030	-	-	889	-	-	81	444
HCM Lane V/C Ratio	0.243	0.131	-	-	0.012	-	-	0.076	0.358
HCM Control Delay (s)	70.4	9	-	-	9.1	-	-	53.1	17.6
HCM Lane LOS	F	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	0.9	0.5	-	-	0	-	-	0.2	1.6



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	364	374	98	4	12	85	274	263
v/c Ratio	0.61	0.63	0.11	0.02	0.01	0.25	0.30	0.47
Control Delay	12.0	12.4	3.4	13.5	13.0	15.1	3.8	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	12.4	3.4	13.5	13.0	15.1	3.8	5.9
Queue Length 50th (ft)	43	45	4	1	1	12	1	0
Queue Length 95th (ft)	128	133	21	7	6	51	25	49
Internal Link Dist (ft)		563	789		604		1556	
Turn Bay Length (ft)	260			225		195		200
Base Capacity (vph)	1228	1228	1724	656	2165	853	1876	983
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.30	0.06	0.01	0.01	0.10	0.15	0.27

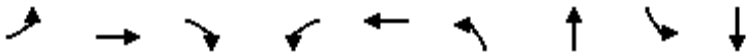
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	620	52	6	2	43	45	4	11	0	78	9	485
Future Volume (veh/h)	620	52	6	2	43	45	4	11	0	78	9	485
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	721	0	0	2	47	49	4	12	0	85	10	527
Adj No. of Lanes	2	1	0	0	1	0	1	2	0	1	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1563	734	0	133	333	337	500	1021	0	654	537	913
Arrive On Green	0.39	0.00	0.00	0.39	0.39	0.39	0.29	0.29	0.00	0.29	0.29	0.29
Sat Flow, veh/h	2589	1863	0	8	846	855	864	3632	0	1397	1863	3167
Grp Volume(v), veh/h	721	0	0	98	0	0	4	12	0	85	10	527
Grp Sat Flow(s),veh/h/ln	1294	1863	0	1709	0	0	864	1770	0	1397	1863	1583
Q Serve(g_s), s	5.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	1.3	0.1	4.0
Cycle Q Clear(g_c), s	6.1	0.0	0.0	1.0	0.0	0.0	0.2	0.1	0.0	1.4	0.1	4.0
Prop In Lane	1.00		0.00	0.02		0.50	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1563	734	0	803	0	0	500	1021	0	654	537	913
V/C Ratio(X)	0.46	0.00	0.00	0.12	0.00	0.00	0.01	0.01	0.00	0.13	0.02	0.58
Avail Cap(c_a), veh/h	6073	3979	0	3767	0	0	876	2562	0	1262	1348	2292
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.9	0.0	0.0	5.5	0.0	0.0	7.3	7.2	0.0	7.7	7.2	8.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.1	1.8
LnGrp Delay(d),s/veh	7.1	0.0	0.0	5.6	0.0	0.0	7.3	7.2	0.0	7.8	7.2	9.2
LnGrp LOS	A			A			A	A		A	A	A
Approach Vol, veh/h		721			98			16			622	
Approach Delay, s/veh		7.1			5.6			7.2			9.0	
Approach LOS		A			A			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		12.7		15.7		12.7		15.7
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		20.5		60.5		20.5		60.5
Max Q Clear Time (g_c+I1), s		2.2		8.1		6.0		3.0
Green Ext Time (p_c), s		0.0		3.1		2.1		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	7.8
HCM 2010 LOS	A

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	19	267	59	109	406	67	705	131	641
v/c Ratio	0.15	0.60	0.12	0.63	0.33	0.42	0.67	0.65	0.51
Control Delay	46.8	36.1	0.5	59.0	18.4	49.6	29.2	56.4	25.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.8	36.1	0.5	59.0	18.4	49.6	29.2	56.4	25.1
Queue Length 50th (ft)	10	130	0	58	59	35	168	68	145
Queue Length 95th (ft)	37	233	0	#164	128	89	263	#180	236
Internal Link Dist (ft)		776			1573		775		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	133	756	715	185	1509	204	1485	228	1543
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.35	0.08	0.59	0.27	0.33	0.47	0.57	0.42

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	254	56	104	252	134	64	539	131	124	553	56
Future Volume (veh/h)	18	254	56	104	252	134	64	539	131	124	553	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	19	267	59	109	265	141	67	567	138	131	582	59
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	402	341	140	602	310	113	867	210	166	1094	111
Arrive On Green	0.03	0.22	0.22	0.08	0.27	0.27	0.06	0.31	0.31	0.09	0.34	0.34
Sat Flow, veh/h	1774	1863	1583	1774	2251	1159	1774	2826	686	1774	3246	328
Grp Volume(v), veh/h	19	267	59	109	206	200	67	354	351	131	317	324
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	1640	1774	1770	1742	1774	1770	1805
Q Serve(g_s), s	0.7	8.9	2.1	4.1	6.5	6.8	2.5	11.7	11.8	4.9	9.8	9.8
Cycle Q Clear(g_c), s	0.7	8.9	2.1	4.1	6.5	6.8	2.5	11.7	11.8	4.9	9.8	9.8
Prop In Lane	1.00		1.00	1.00		0.71	1.00		0.39	1.00		0.18
Lane Grp Cap(c), veh/h	47	402	341	140	474	439	113	543	534	166	597	608
V/C Ratio(X)	0.40	0.66	0.17	0.78	0.44	0.45	0.59	0.65	0.66	0.79	0.53	0.53
Avail Cap(c_a), veh/h	165	938	797	231	956	887	255	938	923	284	967	986
HCM Platoon Ratio	1.00	1.00	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	32.3	24.3	21.6	30.5	20.5	20.6	30.8	20.3	20.3	29.9	18.1	18.1
Incr Delay (d2), s/veh	2.0	5.7	0.7	3.6	1.9	2.2	1.9	2.6	2.7	3.1	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.2	1.0	2.1	3.4	3.4	1.3	6.1	6.0	2.5	5.0	5.1
LnGrp Delay(d),s/veh	34.4	29.9	22.3	34.1	22.4	22.9	32.6	22.9	23.0	33.0	19.5	19.5
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		345			515			772			772	
Approach Delay, s/veh		28.9			25.1			23.8			21.8	
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	10.5	27.7	9.5	19.8	8.5	29.8	6.0	23.3
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 11	35.8	* 8.8	34.0	* 9.7	36.9	* 6.3	36.5
Max Q Clear Time (g_c+I1), s	6.9	13.8	6.1	10.9	4.5	11.8	2.7	8.8
Green Ext Time (p_c), s	0.0	6.9	0.0	3.7	0.0	6.6	0.0	5.4

Intersection Summary	
HCM 2010 Ctrl Delay	24.1
HCM 2010 LOS	C

Notes

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	30	406	4	5	429	17	2	0	1	21	1	41
Future Vol, veh/h	30	406	4	5	429	17	2	0	1	21	1	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	441	4	5	466	18	2	0	1	23	1	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	484	0	0	445	0	0	753	1003	223	772	996	242
Stage 1	-	-	-	-	-	-	509	509	-	485	485	-
Stage 2	-	-	-	-	-	-	244	494	-	287	511	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1075	-	-	1112	-	-	298	241	780	289	243	759
Stage 1	-	-	-	-	-	-	515	536	-	532	550	-
Stage 2	-	-	-	-	-	-	738	545	-	696	535	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1075	-	-	1112	-	-	272	233	780	281	234	759
Mov Cap-2 Maneuver	-	-	-	-	-	-	272	233	-	281	234	-
Stage 1	-	-	-	-	-	-	499	519	-	516	548	-
Stage 2	-	-	-	-	-	-	690	543	-	674	518	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	15.5	13.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	347	1075	-	-	1112	-	-	474
HCM Lane V/C Ratio	0.009	0.03	-	-	0.005	-	-	0.144
HCM Control Delay (s)	15.5	8.5	-	-	8.3	-	-	13.9
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	114	447	481	147	83	123
Future Vol, veh/h	114	447	481	147	83	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	124	486	523	160	90	134

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	683	0	-	0	1094	342
Stage 1	-	-	-	-	603	-
Stage 2	-	-	-	-	491	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	906	-	-	-	208	654
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	581	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	906	-	-	-	180	654
Mov Cap-2 Maneuver	-	-	-	-	180	-
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	581	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	24.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	906	-	-	-	180	654
HCM Lane V/C Ratio	0.137	-	-	-	0.501	0.204
HCM Control Delay (s)	9.6	-	-	-	43.6	11.9
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.5	-	-	-	2.5	0.8

Intersection	
Int Delay, s/veh	153.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	79	371	74	161	408	32	131	0	260	135	0	68
Future Vol, veh/h	79	371	74	161	408	32	131	0	260	135	0	68
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	403	80	175	443	35	142	0	283	147	0	74

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	479	0	0	483	0	0	1187	1444	242	1186	1467	240
Stage 1	-	-	-	-	-	-	615	615	-	812	812	-
Stage 2	-	-	-	-	-	-	572	829	-	374	655	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1080	-	-	1076	-	-	144	131	759	~ 144	127	761
Stage 1	-	-	-	-	-	-	445	480	-	339	390	-
Stage 2	-	-	-	-	-	-	472	383	-	619	461	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1079	-	-	1076	-	-	~ 107	101	759	~ 74	98	760
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 107	101	-	~ 74	98	-
Stage 1	-	-	-	-	-	-	409	442	-	312	326	-
Stage 2	-	-	-	-	-	-	357	320	-	358	424	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	2.4	$ 366.2	$ 584.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	250	1079	-	-	1076	-	-	106
HCM Lane V/C Ratio	1.7	0.08	-	-	0.163	-	-	2.082
HCM Control Delay (s)	$ 366.2	8.6	-	-	9	-	-	$ 584.1
HCM Lane LOS	F	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	27.6	0.3	-	-	0.6	-	-	18.7

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



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	134	375	297	299	142	1071	54	881	67
v/c Ratio	1.15	0.63	0.82	0.30	0.76	0.80	0.47	0.54	0.10
Control Delay	174.1	30.0	59.5	26.0	72.9	37.5	63.5	33.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	174.1	30.0	59.5	26.0	72.9	37.5	63.5	33.6	0.3
Queue Length 50th (ft)	~111	75	201	73	99	361	37	189	0
Queue Length 95th (ft)	#236	122	280	97	#199	#571	#92	262	0
Internal Link Dist (ft)		765		337		252		1110	
Turn Bay Length (ft)	180		175		205		290		210
Base Capacity (vph)	117	699	469	1294	188	1334	115	1643	654
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.15	0.54	0.63	0.23	0.76	0.80	0.47	0.54	0.10

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	195	153	276	214	64	132	754	242	50	819	62
Future Volume (veh/h)	125	195	153	276	214	64	132	754	242	50	819	62
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	134	210	165	297	230	69	142	811	260	54	881	67
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	3	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	278	207	328	725	212	355	1046	335	78	1174	361
Arrive On Green	0.07	0.14	0.14	0.18	0.27	0.27	0.20	0.40	0.40	0.04	0.23	0.23
Sat Flow, veh/h	1774	1923	1433	1774	2694	788	1774	2637	845	1774	5085	1561
Grp Volume(v), veh/h	134	192	183	297	149	150	142	544	527	54	881	67
Grp Sat Flow(s),veh/h/ln	1774	1770	1587	1774	1770	1712	1774	1770	1712	1774	1695	1561
Q Serve(g_s), s	7.3	11.5	12.2	18.0	7.4	7.7	7.7	29.5	29.5	3.3	17.7	2.9
Cycle Q Clear(g_c), s	7.3	11.5	12.2	18.0	7.4	7.7	7.7	29.5	29.5	3.3	17.7	2.9
Prop In Lane	1.00		0.90	1.00		0.46	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h	118	256	229	328	476	461	355	702	679	78	1174	361
V/C Ratio(X)	1.14	0.75	0.80	0.91	0.31	0.33	0.40	0.78	0.78	0.69	0.75	0.19
Avail Cap(c_a), veh/h	118	307	276	471	660	638	355	702	679	97	1174	361
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	51.3	45.2	45.5	43.9	32.1	32.2	38.3	28.9	28.9	51.8	39.3	19.9
Incr Delay (d2), s/veh	124.9	14.2	19.7	13.0	1.1	1.2	0.3	8.2	8.5	7.7	3.8	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	6.6	6.6	10.0	3.7	3.8	3.8	16.0	15.5	1.8	8.7	1.6
LnGrp Delay(d),s/veh	176.2	59.4	65.2	56.9	33.2	33.4	38.5	37.1	37.4	59.5	43.1	20.9
LnGrp LOS	F	E	E	E	C	C	D	D	D	E	D	C
Approach Vol, veh/h		509			596			1213			1002	
Approach Delay, s/veh		92.2			45.0			37.4			42.5	
Approach LOS		F			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	10.5	50.4	26.7	22.3	28.8	32.2	13.0	36.0
Change Period (Y+Rc), s	* 5.7	6.8	6.4	* 6.4	6.8	* 6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 6	31.1	29.2	* 19	11.7	* 25	* 7.3	41.0
Max Q Clear Time (g_c+I1), s	5.3	31.5	20.0	14.2	9.7	19.7	9.3	9.7
Green Ext Time (p_c), s	0.0	0.0	0.3	1.6	0.0	4.3	0.0	3.9

Intersection Summary	
HCM 2010 Ctrl Delay	48.7
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	9.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	194	219	56	33	184	255
Future Vol, veh/h	194	219	56	33	184	255
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	238	61	36	200	277

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	97	0	-	0	620	49
Stage 1	-	-	-	-	79	-
Stage 2	-	-	-	-	541	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1494	-	-	-	420	1009
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	548	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1494	-	-	-	361	1009
Mov Cap-2 Maneuver	-	-	-	-	361	-
Stage 1	-	-	-	-	803	-
Stage 2	-	-	-	-	548	-

Approach	EB	WB	SB
HCM Control Delay, s	3.7	0	16.9
HCM LOS			C

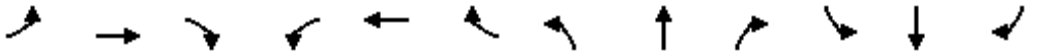
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1494	-	-	-	361	1009
HCM Lane V/C Ratio	0.141	-	-	-	0.554	0.275
HCM Control Delay (s)	7.8	-	-	-	26.7	9.9
HCM Lane LOS	A	-	-	-	D	A
HCM 95th %tile Q(veh)	0.5	-	-	-	3.2	1.1



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	43	11	25	8	1157	10	1153	81
v/c Ratio	0.15	0.02	0.06	0.04	0.47	0.05	0.47	0.07
Control Delay	18.2	0.1	0.3	29.5	13.2	29.5	13.2	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	0.1	0.3	29.5	13.2	29.5	13.2	1.4
Queue Length 50th (ft)	13	0	0	3	102	3	101	0
Queue Length 95th (ft)	34	0	0	18	#494	21	#487	11
Internal Link Dist (ft)	1563		335		1230		639	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	851	1045	954	194	2442	194	2444	1109
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.01	0.03	0.04	0.47	0.05	0.47	0.07

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	3	11	6	0	18	8	1117	5	10	1118	79
Future Volume (veh/h)	39	3	11	6	0	18	8	1117	5	10	1118	79
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		0.98
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	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	40	3	11	6	0	19	8	1152	5	10	1153	81
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	16	175	110	21	133	22	1716	7	28	1691	740
Arrive On Green	0.11	0.11	0.11	0.11	0.00	0.11	0.01	0.47	0.47	0.02	0.48	0.48
Sat Flow, veh/h	1309	149	1583	194	186	1203	1774	3613	16	1774	3539	1549
Grp Volume(v), veh/h	43	0	11	25	0	0	8	564	593	10	1153	81
Grp Sat Flow(s),veh/h/ln	1458	0	1583	1583	0	0	1774	1770	1860	1774	1770	1549
Q Serve(g_s), s	0.5	0.0	0.3	0.0	0.0	0.0	0.2	12.3	12.3	0.3	12.6	1.4
Cycle Q Clear(g_c), s	1.2	0.0	0.3	0.7	0.0	0.0	0.2	12.3	12.3	0.3	12.6	1.4
Prop In Lane	0.93		1.00	0.24		0.76	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	300	0	175	264	0	0	22	840	883	28	1691	740
V/C Ratio(X)	0.14	0.00	0.06	0.09	0.00	0.00	0.36	0.67	0.67	0.36	0.68	0.11
Avail Cap(c_a), veh/h	1112	0	1087	1103	0	0	212	918	965	212	1836	804
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	20.0	20.1	0.0	0.0	24.5	10.1	10.1	24.4	10.1	7.2
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.1	0.0	0.0	3.5	4.0	3.8	2.9	2.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.1	0.3	0.0	0.0	0.1	6.9	7.2	0.2	6.5	0.7
LnGrp Delay(d),s/veh	20.4	0.0	20.0	20.2	0.0	0.0	28.1	14.2	14.0	27.4	12.1	7.5
LnGrp LOS	C		C	C			C	B	B	C	B	A
Approach Vol, veh/h		54			25			1165			1244	
Approach Delay, s/veh		20.3			20.2			14.2			11.9	
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	6.5	30.6		13.0	6.3	30.7		13.0
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 6	26.0		* 34	* 6	26.0		33.0
Max Q Clear Time (g_c+I1), s	2.3	14.3		3.2	2.2	14.6		2.7
Green Ext Time (p_c), s	0.0	9.4		0.1	0.0	9.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	13.2
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	20

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	5	32	2	4	29	165	1202	69	20	1245	39
Future Vol, veh/h	11	5	32	2	4	29	165	1202	69	20	1245	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	5	34	2	4	31	174	1265	73	21	1311	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2357	3060	676	2350	3044	669	1352	0	0	1338	0	0
Stage 1	1374	1374	-	1650	1650	-	-	-	-	-	-	-
Stage 2	983	1686	-	700	1394	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	19	12	396	19	12	400	505	-	-	511	-	-
Stage 1	153	211	-	103	155	-	-	-	-	-	-	-
Stage 2	267	149	-	396	207	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 8	8	396	6	8	400	505	-	-	511	-	-
Mov Cap-2 Maneuver	~ 8	8	-	6	8	-	-	-	-	-	-	-
Stage 1	100	202	-	67	102	-	-	-	-	-	-	-
Stage 2	155	98	-	338	199	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 907.5	283.3	1.8	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	505	-	-	23	39	511	-	-
HCM Lane V/C Ratio	0.344	-	-	2.197	0.945	0.041	-	-
HCM Control Delay (s)	15.8	-	-	$ 907.5	283.3	12.3	-	-
HCM Lane LOS	C	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	1.5	-	-	6.4	3.6	0.1	-	-

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



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	269	34	135	1149	68	1160
v/c Ratio	0.76	0.09	0.73	0.73	0.40	0.82
Control Delay	38.0	13.0	59.1	23.6	40.3	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	13.0	59.1	23.6	40.3	27.3
Queue Length 50th (ft)	105	4	64	252	32	261
Queue Length 95th (ft)	#189	25	#153	#397	70	#396
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	426	455	194	1564	208	1416
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.07	0.70	0.73	0.33	0.82

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	1	84	10	1	20	124	1043	14	63	1055	12
Future Volume (veh/h)	163	1	84	10	1	20	124	1043	14	63	1055	12
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		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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	177	1	91	11	1	22	135	1134	15	68	1147	13
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	8	111	154	41	235	170	1573	21	111	1458	17
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.10	0.44	0.44	0.06	0.41	0.41
Sat Flow, veh/h	935	36	496	387	184	1047	1774	3575	47	1774	3584	41
Grp Volume(v), veh/h	269	0	0	34	0	0	135	561	588	68	566	594
Grp Sat Flow(s),veh/h/ln	1467	0	0	1618	0	0	1774	1770	1853	1774	1770	1855
Q Serve(g_s), s	11.1	0.0	0.0	0.0	0.0	0.0	5.3	18.4	18.4	2.6	19.7	19.7
Cycle Q Clear(g_c), s	12.2	0.0	0.0	1.1	0.0	0.0	5.3	18.4	18.4	2.6	19.7	19.7
Prop In Lane	0.66		0.34	0.32		0.65	1.00		0.03	1.00		0.02
Lane Grp Cap(c), veh/h	414	0	0	430	0	0	170	779	815	111	720	755
V/C Ratio(X)	0.65	0.00	0.00	0.08	0.00	0.00	0.79	0.72	0.72	0.61	0.79	0.79
Avail Cap(c_a), veh/h	541	0	0	561	0	0	208	779	815	223	759	796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	0.0	21.7	0.0	0.0	31.3	16.2	16.2	32.3	18.3	18.3
Incr Delay (d2), s/veh	2.9	0.0	0.0	0.1	0.0	0.0	12.7	5.5	5.3	2.0	8.2	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	0.0	0.5	0.0	0.0	3.2	10.1	10.5	1.3	11.2	11.7
LnGrp Delay(d),s/veh	28.8	0.0	0.0	21.8	0.0	0.0	44.0	21.7	21.5	34.3	26.5	26.1
LnGrp LOS	C			C			D	C	C	C	C	C
Approach Vol, veh/h		269			34			1284			1228	
Approach Delay, s/veh		28.8			21.8			24.0			26.7	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.1	39.0		21.5	12.5	36.6		21.5
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 8.9	29.7		* 22	* 8.3	30.3		* 22
Max Q Clear Time (g_c+I1), s	4.6	20.4		14.2	7.3	21.7		3.1
Green Ext Time (p_c), s	0.0	7.5		1.4	0.0	7.0		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	25.6
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	487	0	0	554	0	0
Future Vol, veh/h	487	0	0	554	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	507	0	0	577	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	254
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	745
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	745
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	634	550	23	21	25
Future Vol, veh/h	19	634	550	23	21	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	660	573	24	22	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	597	0	-	0	955	299
Stage 1	-	-	-	-	585	-
Stage 2	-	-	-	-	370	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	976	-	-	-	256	697
Stage 1	-	-	-	-	520	-
Stage 2	-	-	-	-	669	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	976	-	-	-	248	697
Mov Cap-2 Maneuver	-	-	-	-	248	-
Stage 1	-	-	-	-	503	-
Stage 2	-	-	-	-	669	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	15.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	976	-	-	-	382
HCM Lane V/C Ratio	0.02	-	-	-	0.125
HCM Control Delay (s)	8.8	0.1	-	-	15.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	655	0	0	573	0	0
Future Vol, veh/h	655	0	0	573	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	712	0	0	623	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	356
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	640
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	640
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	246	409	308	3	4	265
Future Vol, veh/h	246	409	308	3	4	265
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	265	440	331	3	4	285

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	334	0	-	0	1083	167
Stage 1	-	-	-	-	333	-
Stage 2	-	-	-	-	750	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1222	-	-	-	212	848
Stage 1	-	-	-	-	698	-
Stage 2	-	-	-	-	427	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1222	-	-	-	151	848
Mov Cap-2 Maneuver	-	-	-	-	151	-
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	427	-

Approach	EB	WB	SB
HCM Control Delay, s	3.7	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1222	-	-	-	151	848
HCM Lane V/C Ratio	0.216	-	-	-	0.028	0.336
HCM Control Delay (s)	8.8	0.6	-	-	29.5	11.4
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.1	1.5

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	93	0	945	1082	166
Future Vol, veh/h	0	93	0	945	1082	166
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	101	0	1027	1176	180

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	588	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	452	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	452	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	452	-	-
HCM Lane V/C Ratio	-	0.224	-	-
HCM Control Delay (s)	-	15.2	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.8	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	122	229	945	1052	123
Future Vol, veh/h	0	122	229	945	1052	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	150	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	133	249	1027	1143	134

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	572	1277	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	463	540	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	463	540	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.9	3.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	540	-	463	-	-
HCM Lane V/C Ratio	0.461	-	0.286	-	-
HCM Control Delay (s)	17.2	-	15.9	-	-
HCM Lane LOS	C	-	C	-	-
HCM 95th %tile Q(veh)	2.4	-	1.2	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	24	0	0	0
Future Vol, veh/h	0	18	24	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	26	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	26	0	-	0	46	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1588	-	-	-	964	1050
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1588	-	-	-	964	1050
Mov Cap-2 Maneuver	-	-	-	-	964	-
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	1003	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1588	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	24	0	0	0
Future Vol, veh/h	0	18	24	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	26	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	26	0	-	0	46	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1588	-	-	-	964	1050
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1588	-	-	-	964	1050
Mov Cap-2 Maneuver	-	-	-	-	964	-
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	1003	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1588	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	24	0	0	0
Future Vol, veh/h	0	18	24	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	26	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	26	0	-	0	46	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1588	-	-	-	964	1050
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1588	-	-	-	964	1050
Mov Cap-2 Maneuver	-	-	-	-	964	-
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	1003	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1588	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	24	0	0	0
Future Vol, veh/h	0	18	24	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	26	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	26	0	-	0	46	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1588	-	-	-	964	1050
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1588	-	-	-	964	1050
Mov Cap-2 Maneuver	-	-	-	-	964	-
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	1003	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1588	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

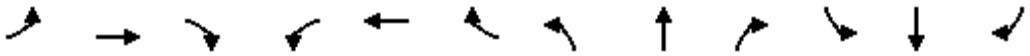
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Appendix L – 20-Year Cumulative Plus Project Conditions Level of Service Work Sheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	108	221	147	195	266	63	108	624	152	66	565	46
v/c Ratio	0.34	0.39	0.36	0.56	0.44	0.15	0.66	0.24	0.17	0.37	0.22	0.05
Control Delay	56.5	47.2	4.2	60.3	47.3	0.8	77.6	19.7	4.5	63.5	19.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.5	47.2	4.2	60.3	47.3	0.8	77.6	19.7	4.5	63.5	19.9	0.1
Queue Length 50th (ft)	42	89	0	78	107	0	45	96	0	27	84	0
Queue Length 95th (ft)	73	96	24	120	114	0	#84	177	48	52	160	0
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	316	1330	702	350	1344	706	164	2601	873	177	2525	841
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.17	0.21	0.56	0.20	0.09	0.66	0.24	0.17	0.37	0.22	0.05

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	203	135	179	245	58	99	574	140	61	520	42
Future Volume (veh/h)	99	203	135	179	245	58	99	574	140	61	520	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	108	221	147	195	266	63	108	624	152	66	565	46
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	566	252	187	512	227	890	2791	858	148	1668	517
Arrive On Green	0.07	0.16	0.16	0.05	0.14	0.14	0.26	0.55	0.55	0.04	0.33	0.33
Sat Flow, veh/h	3442	3539	1574	3442	3539	1567	3442	5085	1563	3442	5085	1578
Grp Volume(v), veh/h	108	221	147	195	266	63	108	624	152	66	565	46
Grp Sat Flow(s),veh/h/ln	1721	1770	1574	1721	1770	1567	1721	1695	1563	1721	1695	1578
Q Serve(g_s), s	3.8	7.0	10.8	6.8	8.7	3.7	3.0	7.9	4.0	2.3	10.5	2.5
Cycle Q Clear(g_c), s	3.8	7.0	10.8	6.8	8.7	3.7	3.0	7.9	4.0	2.3	10.5	2.5
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	240	566	252	187	512	227	890	2791	858	148	1668	517
V/C Ratio(X)	0.45	0.39	0.58	1.04	0.52	0.28	0.12	0.22	0.18	0.44	0.34	0.09
Avail Cap(c_a), veh/h	240	1331	592	187	1345	595	890	2791	858	165	1668	517
HCM Platoon Ratio	1.00	1.00	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	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	47.0	48.7	59.1	49.4	33.3	35.5	14.5	6.2	58.3	31.8	29.1
Incr Delay (d2), s/veh	0.5	0.9	4.1	77.1	1.6	1.3	0.0	0.2	0.4	0.8	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.5	5.0	5.2	4.4	1.9	1.4	3.7	2.4	1.1	5.0	1.1
LnGrp Delay(d),s/veh	56.3	47.9	52.8	136.3	51.0	34.6	35.5	14.7	6.7	59.1	32.3	29.4
LnGrp LOS	E	D	D	F	D	C	D	B	A	E	C	C
Approach Vol, veh/h		476			524			884			677	
Approach Delay, s/veh		51.3			80.8			15.8			34.7	
Approach LOS		D			F			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	75.0	12.5	26.4	38.7	47.4	14.4	24.5
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6	41.0	6.8	* 47	6.0	* 41	6.3	* 48
Max Q Clear Time (g_c+I1), s	4.3	9.9	8.8	12.8	5.0	12.5	5.8	10.7
Green Ext Time (p_c), s	0.0	9.2	0.0	3.7	0.0	7.2	0.0	3.6

Intersection Summary	
HCM 2010 Ctrl Delay	40.7
HCM 2010 LOS	D

Notes



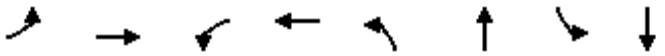
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	105	185	9	283	105	54	79	12	148
v/c Ratio	0.25	0.17	0.02	0.35	0.14	0.10	0.18	0.02	0.24
Control Delay	21.2	7.5	22.2	14.5	5.4	15.9	18.0	16.4	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	7.5	22.2	14.5	5.4	15.9	18.0	16.4	5.3
Queue Length 50th (ft)	24	19	2	57	3	10	17	2	0
Queue Length 95th (ft)	74	76	14	134	31	38	54	14	37
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	623	1287	405	1191	1043	983	837	1159	1041
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.14	0.02	0.24	0.10	0.05	0.09	0.01	0.14

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	156	14	8	260	97	21	24	5	73	11	136
Future Volume (veh/h)	97	156	14	8	260	97	21	24	5	73	11	136
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	105	170	15	9	283	105	23	26	5	79	12	148
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	630	56	25	518	440	240	218	32	509	400	340
Arrive On Green	0.11	0.37	0.37	0.01	0.28	0.28	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	1688	149	1774	1863	1583	439	1018	149	1373	1863	1583
Grp Volume(v), veh/h	105	0	185	9	283	105	54	0	0	79	12	148
Grp Sat Flow(s),veh/h/ln	1774	0	1836	1774	1863	1583	1606	0	0	1373	1863	1583
Q Serve(g_s), s	2.0	0.0	2.5	0.2	4.5	1.8	0.0	0.0	0.0	0.6	0.2	2.8
Cycle Q Clear(g_c), s	2.0	0.0	2.5	0.2	4.5	1.8	0.8	0.0	0.0	1.4	0.2	2.8
Prop In Lane	1.00		0.08	1.00		1.00	0.43		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	194	0	685	25	518	440	490	0	0	509	400	340
V/C Ratio(X)	0.54	0.00	0.27	0.35	0.55	0.24	0.11	0.00	0.00	0.16	0.03	0.44
Avail Cap(c_a), veh/h	504	0	1541	328	1377	1171	1236	0	0	1190	1324	1126
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	7.7	17.2	10.8	9.8	11.2	0.0	0.0	11.4	10.9	12.0
Incr Delay (d2), s/veh	0.9	0.0	0.4	3.1	1.5	0.5	0.2	0.0	0.0	0.2	0.1	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	1.3	0.1	2.5	0.8	0.4	0.0	0.0	0.7	0.1	1.4
LnGrp Delay(d),s/veh	15.7	0.0	8.0	20.2	12.4	10.3	11.3	0.0	0.0	11.6	11.0	13.5
LnGrp LOS	B		A	C	B	B	B			B	B	B
Approach Vol, veh/h		290			397			54			239	
Approach Delay, s/veh		10.8			12.0			11.3			12.7	
Approach LOS		B			B			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	4.5	18.1		12.5	7.8	14.8		12.5
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	6.5	29.5		25.0	10.0	26.0		25.0
Max Q Clear Time (g_c+I1), s	2.2	4.5		2.8	4.0	6.5		4.8
Green Ext Time (p_c), s	0.0	1.6		0.3	0.1	3.0		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	11.8
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	47	15	11	36	43	843	97	817
v/c Ratio	0.20	0.02	0.05	0.06	0.18	0.33	0.35	0.22
Control Delay	34.8	0.1	35.7	0.2	34.5	17.0	33.6	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.8	0.1	35.7	0.2	34.5	17.0	33.6	13.3
Queue Length 50th (ft)	9	0	2	0	8	35	18	0
Queue Length 95th (ft)	67	0	25	0	62	229	#124	211
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	247	1299	235	1277	263	2867	365	3637
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.01	0.05	0.03	0.16	0.29	0.27	0.22

Intersection Summary

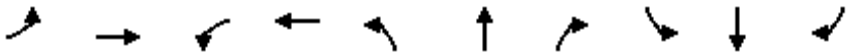
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	0	14	10	0	34	41	790	10	92	720	56
Future Volume (veh/h)	45	0	14	10	0	34	41	790	10	92	720	56
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		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	47	0	15	11	0	36	43	832	11	97	758	59
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	0	228	30	0	165	94	1579	21	153	1629	126
Arrive On Green	0.06	0.00	0.14	0.02	0.00	0.10	0.05	0.31	0.31	0.09	0.34	0.34
Sat Flow, veh/h	1774	0	1577	1774	0	1580	1774	5170	68	1774	4813	373
Grp Volume(v), veh/h	47	0	15	11	0	36	43	545	298	97	533	284
Grp Sat Flow(s),veh/h/ln	1774	0	1577	1774	0	1580	1774	1695	1848	1774	1695	1796
Q Serve(g_s), s	1.3	0.0	0.4	0.3	0.0	1.1	1.2	7.0	7.0	2.8	6.5	6.5
Cycle Q Clear(g_c), s	1.3	0.0	0.4	0.3	0.0	1.1	1.2	7.0	7.0	2.8	6.5	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.21
Lane Grp Cap(c), veh/h	101	0	228	30	0	165	94	1035	564	153	1148	608
V/C Ratio(X)	0.47	0.00	0.07	0.37	0.00	0.22	0.46	0.53	0.53	0.63	0.46	0.47
Avail Cap(c_a), veh/h	213	0	1149	202	0	1142	226	1477	805	314	1644	871
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	0.0	19.4	25.6	0.0	21.6	24.1	15.1	15.1	23.2	13.6	13.7
Incr Delay (d2), s/veh	1.3	0.0	0.1	2.7	0.0	0.5	1.3	0.8	1.5	1.6	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.2	0.2	0.0	0.5	0.6	3.4	3.8	1.4	3.1	3.4
LnGrp Delay(d),s/veh	25.3	0.0	19.5	28.3	0.0	22.1	25.4	15.9	16.6	24.8	14.2	14.8
LnGrp LOS	C		B	C		C	C	B	B	C	B	B
Approach Vol, veh/h		62			47			886			914	
Approach Delay, s/veh		23.9			23.5			16.6			15.5	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	22.5	6.6	13.3	8.5	24.2	8.7	11.2
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	* 5.7	6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 9.3	22.9	* 6	* 38	* 6.7	25.5	* 6.3	* 38
Max Q Clear Time (g_c+I1), s	4.8	9.0	2.3	2.4	3.2	8.5	3.3	3.1
Green Ext Time (p_c), s	0.0	6.9	0.0	0.0	0.0	7.6	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	3	1	20	25	12	824	29	69	692	5
v/c Ratio	0.01	0.00	0.18	0.05	0.06	0.24	0.03	0.53	0.18	0.00
Control Delay	31.3	0.0	50.7	0.2	47.6	12.8	0.0	62.5	10.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.3	0.0	50.7	0.2	47.6	12.8	0.0	62.5	10.1	0.0
Queue Length 50th (ft)	2	0	13	0	4	72	0	45	29	0
Queue Length 95th (ft)	8	0	38	0	13	224	0	#117	186	0
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	216	818	109	870	196	3447	1092	130	3933	1244
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.00	0.18	0.03	0.06	0.24	0.03	0.53	0.18	0.00

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	1	19	0	24	11	783	28	66	657	5
Future Volume (veh/h)	3	0	1	19	0	24	11	783	28	66	657	5
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		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	3	0	1	20	0	25	12	824	29	69	692	5
Adj No. of Lanes	1	1	0	1	1	0	2	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	23	0	83	45	0	105	1474	3272	1016	88	1312	408
Arrive On Green	0.01	0.00	0.05	0.03	0.00	0.07	0.43	0.64	0.64	0.05	0.26	0.26
Sat Flow, veh/h	1774	0	1548	1774	0	1583	3442	5085	1578	1774	5085	1581
Grp Volume(v), veh/h	3	0	1	20	0	25	12	824	29	69	692	5
Grp Sat Flow(s),veh/h/ln	1774	0	1548	1774	0	1583	1721	1695	1578	1774	1695	1581
Q Serve(g_s), s	0.2	0.0	0.1	1.2	0.0	1.6	0.2	7.2	0.4	4.0	12.3	0.2
Cycle Q Clear(g_c), s	0.2	0.0	0.1	1.2	0.0	1.6	0.2	7.2	0.4	4.0	12.3	0.2
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	23	0	83	45	0	105	1474	3272	1016	88	1312	408
V/C Ratio(X)	0.13	0.00	0.01	0.45	0.00	0.24	0.01	0.25	0.03	0.78	0.53	0.01
Avail Cap(c_a), veh/h	101	0	619	101	0	633	1474	3272	1016	101	1312	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.95	0.95	0.95	0.98	0.98	0.98
Uniform Delay (d), s/veh	51.2	0.0	47.0	50.5	0.0	46.5	17.2	8.0	2.5	49.3	33.4	29.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	2.6	0.0	0.9	0.0	0.2	0.0	23.7	1.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.6	0.0	0.7	0.1	3.4	0.3	2.6	5.9	0.1
LnGrp Delay(d),s/veh	52.2	0.0	47.0	53.0	0.0	47.4	17.2	8.1	2.5	73.1	34.9	29.0
LnGrp LOS	D		D	D		D	B	A	A	E	C	C
Approach Vol, veh/h		4			45			865			766	
Approach Delay, s/veh		50.9			49.9			8.1			38.3	
Approach LOS		D			D			A			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	10.9	74.0	8.4	11.8	51.4	33.5	7.0	13.1
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 6	27.1	6.0	* 42	6.0	* 27	6.0	* 42
Max Q Clear Time (g_c+I1), s	6.0	9.2	3.2	2.1	2.2	14.3	2.2	3.6
Green Ext Time (p_c), s	0.0	8.8	0.0	0.0	0.0	5.6	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	23.1
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	64.8

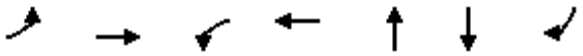
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	880	99	72	865	41	69	0	115	12	0	25
Future Vol, veh/h	49	880	99	72	865	41	69	0	115	12	0	25
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	957	108	78	940	45	75	0	125	13	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	990	0	0	1065	0	0	1743	2263	533	1709	2295	498
Stage 1	-	-	-	-	-	-	1117	1117	-	1124	1124	-
Stage 2	-	-	-	-	-	-	626	1146	-	585	1171	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	694	-	-	650	-	-	~ 55	40	491	59	38	518
Stage 1	-	-	-	-	-	-	221	281	-	219	279	-
Stage 2	-	-	-	-	-	-	439	272	-	464	265	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	691	-	-	650	-	-	~ 35	24	491	30	22	516
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 35	24	-	30	22	-
Stage 1	-	-	-	-	-	-	178	227	-	176	203	-
Stage 2	-	-	-	-	-	-	304	198	-	279	214	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	2	$ 749.8	83.8
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	83	691	-	-	650	-	-	83
HCM Lane V/C Ratio	2.41	0.077	-	-	0.12	-	-	0.485
HCM Control Delay (s)	$ 749.8	10.6	0.9	-	11.3	1.3	-	83.8
HCM Lane LOS	F	B	A	-	B	A	-	F
HCM 95th %tile Q(veh)	18.6	0.2	-	-	0.4	-	-	2

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



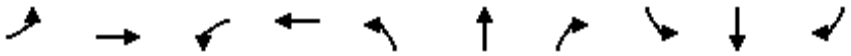
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	32	770	21	677	70	5	3
v/c Ratio	0.09	0.22	0.06	0.19	0.18	0.01	0.01
Control Delay	21.2	6.5	21.4	6.4	12.5	22.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	6.5	21.4	6.4	12.5	22.0	0.0
Queue Length 50th (ft)	5	25	3	21	4	1	0
Queue Length 95th (ft)	37	109	28	95	43	12	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	397	3982	397	3987	1449	1527	1381
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.19	0.05	0.17	0.05	0.00	0.00

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	694	15	19	616	6	22	1	41	5	0	3
Future Volume (veh/h)	29	694	15	19	616	6	22	1	41	5	0	3
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	32	754	16	21	670	7	24	1	45	5	0	3
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	1976	42	55	1930	20	45	2	85	23	0	20
Arrive On Green	0.04	0.39	0.39	0.03	0.37	0.37	0.08	0.08	0.08	0.01	0.00	0.01
Sat Flow, veh/h	1774	5125	109	1774	5188	54	565	24	1059	1774	0	1583
Grp Volume(v), veh/h	32	498	272	21	438	239	70	0	0	5	0	3
Grp Sat Flow(s),veh/h/ln	1774	1695	1843	1774	1695	1852	1648	0	0	1774	0	1583
Q Serve(g_s), s	0.7	4.3	4.3	0.5	3.8	3.8	1.7	0.0	0.0	0.1	0.0	0.1
Cycle Q Clear(g_c), s	0.7	4.3	4.3	0.5	3.8	3.8	1.7	0.0	0.0	0.1	0.0	0.1
Prop In Lane	1.00		0.06	1.00		0.03	0.34		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	79	1307	711	55	1261	689	133	0	0	23	0	20
V/C Ratio(X)	0.40	0.38	0.38	0.38	0.35	0.35	0.53	0.00	0.00	0.22	0.00	0.15
Avail Cap(c_a), veh/h	283	2284	1242	283	2284	1248	1332	0	0	1434	0	1280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.0	9.0	9.0	19.4	9.2	9.2	18.0	0.0	0.0	19.9	0.0	19.9
Incr Delay (d2), s/veh	1.2	0.5	0.9	1.6	0.5	0.8	2.4	0.0	0.0	3.6	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.1	2.4	0.3	1.8	2.1	0.8	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	20.2	9.5	10.0	21.0	9.7	10.1	20.4	0.0	0.0	23.5	0.0	22.4
LnGrp LOS	C	A	A	C	A	B	C			C		C
Approach Vol, veh/h		802			698			70			8	
Approach Delay, s/veh		10.1			10.2			20.4			23.1	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	21.7		5.5	5.8	21.2		8.3
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	6.5	27.5		33.0	6.5	27.5		33.0
Max Q Clear Time (g_c+I1), s	2.5	6.3		2.1	2.7	5.8		3.7
Green Ext Time (p_c), s	0.0	9.3		0.0	0.0	8.3		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	10.7
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	174	561	132	536	145	677	112	71	618	87
v/c Ratio	0.61	0.56	0.47	0.55	0.87	0.26	0.13	0.41	0.25	0.11
Control Delay	66.4	42.1	61.9	46.1	104.0	21.3	4.0	66.8	21.5	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.4	42.1	61.9	46.1	104.0	21.3	4.0	66.8	21.5	1.6
Queue Length 50th (ft)	74	141	55	147	63	116	0	30	103	0
Queue Length 95th (ft)	110	146	87	150	#127	198	35	57	180	12
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	295	1821	292	1813	166	2562	848	175	2485	828
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.31	0.45	0.30	0.87	0.26	0.13	0.41	0.25	0.11

Intersection Summary

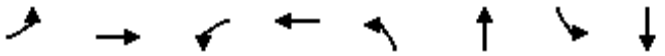
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	400	133	125	439	70	138	643	106	67	587	83
Future Volume (veh/h)	165	400	133	125	439	70	138	643	106	67	587	83
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	174	421	140	132	462	74	145	677	112	71	618	87
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	713	228	191	786	123	804	2689	836	147	1690	524
Arrive On Green	0.07	0.19	0.19	0.06	0.18	0.18	0.23	0.53	0.53	0.04	0.33	0.33
Sat Flow, veh/h	3442	3814	1217	3442	4432	695	3442	5085	1582	3442	5085	1578
Grp Volume(v), veh/h	174	372	189	132	351	185	145	677	112	71	618	87
Grp Sat Flow(s),veh/h/ln	1721	1695	1641	1721	1695	1737	1721	1695	1582	1721	1695	1578
Q Serve(g_s), s	6.5	13.0	13.7	4.9	12.4	12.7	4.4	9.4	3.2	2.6	12.0	5.1
Cycle Q Clear(g_c), s	6.5	13.0	13.7	4.9	12.4	12.7	4.4	9.4	3.2	2.6	12.0	5.1
Prop In Lane	1.00		0.74	1.00		0.40	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	225	634	307	191	601	308	804	2689	836	147	1690	524
V/C Ratio(X)	0.78	0.59	0.62	0.69	0.58	0.60	0.18	0.25	0.13	0.48	0.37	0.17
Avail Cap(c_a), veh/h	246	1234	597	238	1226	628	804	2689	836	159	1690	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.97	0.97	0.97	0.96	0.96	0.96	0.99	0.99	0.99
Uniform Delay (d), s/veh	59.8	48.3	48.6	60.3	49.1	49.2	39.8	16.6	7.3	60.8	33.0	30.7
Incr Delay (d2), s/veh	11.3	1.7	3.8	3.6	1.7	3.5	0.0	0.2	0.3	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	3.4	6.2	6.6	2.4	5.9	6.4	2.1	4.4	1.9	1.3	5.7	2.3
LnGrp Delay(d),s/veh	71.1	49.9	52.4	63.8	50.8	52.8	39.9	16.9	7.6	61.7	33.6	31.3
LnGrp LOS	E	D	D	E	D	D	D	B	A	E	C	C
Approach Vol, veh/h		735			668			934			776	
Approach Delay, s/veh		55.6			53.9			19.3			35.9	
Approach LOS		E			D			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	11.2	75.1	12.9	30.7	36.8	49.6	14.2	29.4
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6	43.5	9.0	* 47	6.3	* 43	9.3	* 47
Max Q Clear Time (g_c+I1), s	4.6	11.4	6.9	15.7	6.4	14.0	8.5	14.7
Green Ext Time (p_c), s	0.0	10.8	0.0	6.8	0.0	9.2	0.0	6.4

Intersection Summary	
HCM 2010 Ctrl Delay	39.4
HCM 2010 LOS	D

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	74	575	108	794	32	70	51	43
v/c Ratio	0.25	0.25	0.35	0.28	0.05	0.12	0.10	0.08
Control Delay	32.3	16.6	34.9	15.5	11.0	8.5	13.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	16.6	34.9	15.5	11.0	8.5	13.7	8.7
Queue Length 50th (ft)	26	57	39	79	7	5	17	2
Queue Length 95th (ft)	#92	130	#146	175	20	29	28	22
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	318	2526	318	2825	589	1159	507	1142
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.23	0.34	0.28	0.05	0.06	0.10	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	479	50	99	591	140	29	14	51	47	6	33
Future Volume (veh/h)	68	479	50	99	591	140	29	14	51	47	6	33
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	74	521	54	108	642	152	32	15	55	51	7	36
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	1389	142	175	1292	301	424	49	181	407	42	215
Arrive On Green	0.08	0.30	0.30	0.10	0.31	0.31	0.04	0.14	0.14	0.06	0.16	0.16
Sat Flow, veh/h	1774	4687	480	1774	4105	955	1774	349	1281	1774	261	1342
Grp Volume(v), veh/h	74	375	200	108	528	266	32	0	70	51	0	43
Grp Sat Flow(s),veh/h/ln	1774	1695	1776	1774	1695	1670	1774	0	1631	1774	0	1603
Q Serve(g_s), s	1.8	3.9	4.0	2.6	5.7	5.8	0.7	0.0	1.7	1.1	0.0	1.0
Cycle Q Clear(g_c), s	1.8	3.9	4.0	2.6	5.7	5.8	0.7	0.0	1.7	1.1	0.0	1.0
Prop In Lane	1.00		0.27	1.00		0.57	1.00		0.79	1.00		0.84
Lane Grp Cap(c), veh/h	143	1005	527	175	1067	526	424	0	231	407	0	257
V/C Ratio(X)	0.52	0.37	0.38	0.62	0.49	0.51	0.08	0.00	0.30	0.13	0.00	0.17
Avail Cap(c_a), veh/h	256	1433	751	256	1433	706	642	0	1233	592	0	1212
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	12.5	12.5	19.4	12.5	12.6	15.2	0.0	17.3	14.7	0.0	16.3
Incr Delay (d2), s/veh	1.1	0.6	1.2	1.3	1.0	2.1	0.2	0.0	2.0	0.3	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.9	2.1	1.4	2.8	3.0	0.3	0.0	0.9	0.5	0.0	0.5
LnGrp Delay(d),s/veh	20.9	13.1	13.8	20.8	13.5	14.6	15.3	0.0	19.3	15.0	0.0	17.1
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		649			902			102			94	
Approach Delay, s/veh		14.2			14.7			18.1			16.0	
Approach LOS		B			B			B			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	8.4	19.3	5.8	11.4	7.6	20.2	5.0	12.2
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	6.5	19.0	7.5	34.0	6.5	19.0	7.5	34.0
Max Q Clear Time (g_c+I1), s	4.6	6.0	3.1	3.7	3.8	7.8	2.7	3.0
Green Ext Time (p_c), s	0.0	5.2	0.1	0.8	0.0	6.3	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	14.8
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	34	576	224	746	52	90	70	12	66
v/c Ratio	0.14	0.41	0.90	0.35	0.17	0.21	0.23	0.03	0.15
Control Delay	26.2	11.9	68.7	9.1	21.1	7.7	22.0	19.6	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.2	11.9	68.7	9.1	21.1	7.7	22.0	19.6	4.5
Queue Length 50th (ft)	9	63	67	52	13	1	17	3	0
Queue Length 95th (ft)	37	105	#235	144	43	33	55	16	19
Internal Link Dist (ft)		1064		2600		1465		519	
Turn Bay Length (ft)	235		300						200
Base Capacity (vph)	254	2201	250	2215	974	1139	908	1299	1131
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.26	0.90	0.34	0.05	0.08	0.08	0.01	0.06

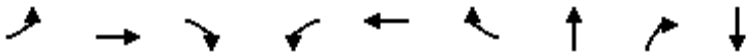
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	471	59	206	656	30	48	4	79	64	11	61
Future Volume (veh/h)	31	471	59	206	656	30	48	4	79	64	11	61
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	34	512	64	224	713	33	52	4	86	70	12	66
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1064	133	245	1475	68	419	15	316	361	387	329
Arrive On Green	0.05	0.34	0.34	0.14	0.43	0.43	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	3167	394	1774	3445	159	1316	71	1523	1301	1863	1583
Grp Volume(v), veh/h	34	285	291	224	366	380	52	0	90	70	12	66
Grp Sat Flow(s),veh/h/ln	1774	1770	1792	1774	1770	1834	1316	0	1594	1301	1863	1583
Q Serve(g_s), s	0.9	6.0	6.1	5.9	7.0	7.0	1.5	0.0	2.2	2.2	0.2	1.6
Cycle Q Clear(g_c), s	0.9	6.0	6.1	5.9	7.0	7.0	1.8	0.0	2.2	4.5	0.2	1.6
Prop In Lane	1.00		0.22	1.00		0.09	1.00		0.96	1.00		1.00
Lane Grp Cap(c), veh/h	81	595	602	245	758	786	419	0	331	361	387	329
V/C Ratio(X)	0.42	0.48	0.48	0.91	0.48	0.48	0.12	0.00	0.27	0.19	0.03	0.20
Avail Cap(c_a), veh/h	249	1108	1122	245	1105	1145	1096	0	1151	1031	1345	1143
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	12.4	12.4	20.0	9.7	9.7	15.6	0.0	15.7	17.6	14.9	15.4
Incr Delay (d2), s/veh	1.3	2.2	2.2	34.9	1.7	1.7	0.3	0.0	0.9	0.6	0.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.3	3.4	5.2	3.7	3.8	0.6	0.0	1.1	0.9	0.1	0.8
LnGrp Delay(d),s/veh	23.1	14.6	14.6	54.9	11.4	11.4	15.9	0.0	16.6	18.1	15.0	16.1
LnGrp LOS	C	B	B	D	B	B	B		B	B	B	B
Approach Vol, veh/h		610			970			142			148	
Approach Delay, s/veh		15.0			21.5			16.3			16.9	
Approach LOS		B			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	10.5	21.8		14.8	6.2	26.2		14.8
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	6.5	29.5		34.0	6.6	29.4		34.0
Max Q Clear Time (g_c+I1), s	7.9	8.1		4.2	2.9	9.0		6.5
Green Ext Time (p_c), s	0.0	7.6		1.4	0.0	9.4		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	18.6
HCM 2010 LOS	B



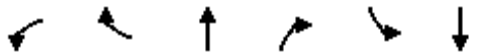
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	66	645	33	75	872	54	188	47	266
v/c Ratio	0.32	0.46	0.05	0.38	0.57	0.07	0.43	0.09	0.58
Control Delay	34.7	16.4	0.6	36.7	17.2	2.8	23.8	1.2	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	16.4	0.6	36.7	17.2	2.8	23.8	1.2	24.8
Queue Length 50th (ft)	26	97	0	30	142	0	67	0	90
Queue Length 95th (ft)	68	168	3	76	245	14	123	5	162
Internal Link Dist (ft)		2600			1239		366		344
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	242	1781	835	215	1731	813	884	936	914
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.36	0.04	0.35	0.50	0.07	0.21	0.05	0.29

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	593	30	69	802	50	50	123	43	53	131	61
Future Volume (veh/h)	61	593	30	69	802	50	50	123	43	53	131	61
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	66	645	33	75	872	54	54	134	47	58	142	66
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	1425	638	132	1443	646	164	341	384	134	232	95
Arrive On Green	0.07	0.40	0.40	0.07	0.41	0.41	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	330	1403	1583	226	956	390
Grp Volume(v), veh/h	66	645	33	75	872	54	188	0	47	266	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1733	0	1583	1572	0	0
Q Serve(g_s), s	2.0	7.4	0.7	2.3	10.7	1.2	0.0	0.0	1.3	3.9	0.0	0.0
Cycle Q Clear(g_c), s	2.0	7.4	0.7	2.3	10.7	1.2	4.7	0.0	1.3	8.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.29		1.00	0.22		0.25
Lane Grp Cap(c), veh/h	123	1425	638	132	1443	646	504	0	384	461	0	0
V/C Ratio(X)	0.54	0.45	0.05	0.57	0.60	0.08	0.37	0.00	0.12	0.58	0.00	0.00
Avail Cap(c_a), veh/h	257	1882	842	228	1824	816	1068	0	945	1027	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.9	12.1	10.1	24.7	12.9	10.0	17.6	0.0	16.3	19.0	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.8	0.1	1.4	1.5	0.2	1.0	0.0	0.3	2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.7	0.3	1.2	5.5	0.5	2.5	0.0	0.6	4.0	0.0	0.0
LnGrp Delay(d),s/veh	26.2	12.9	10.2	26.2	14.3	10.2	18.6	0.0	16.6	21.4	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	B		B	C		
Approach Vol, veh/h		744			1001			235			266	
Approach Delay, s/veh		13.9			15.0			18.2			21.4	
Approach LOS		B			B			B			C	

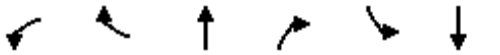
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.1	28.8		18.4	7.8	29.0		18.4
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	7.1	29.4		33.0	8.0	28.5		33.0
Max Q Clear Time (g_c+I1), s	4.3	9.4		6.7	4.0	12.7		10.6
Green Ext Time (p_c), s	0.0	8.7		2.5	0.0	9.8		2.8

Intersection Summary	
HCM 2010 Ctrl Delay	15.8
HCM 2010 LOS	B



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	64	186	189	27	272	264
v/c Ratio	0.16	0.38	0.17	0.03	0.39	0.24
Control Delay	10.8	4.9	5.3	2.5	7.7	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.8	4.9	5.3	2.5	7.7	5.6
Queue Length 50th (ft)	7	0	14	0	23	20
Queue Length 95th (ft)	27	28	39	6	68	53
Internal Link Dist (ft)	1226		772			355
Turn Bay Length (ft)		100		160	145	
Base Capacity (vph)	1072	1011	1239	1037	789	1239
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.18	0.15	0.03	0.34	0.21

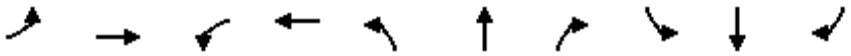
Intersection Summary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	59	171	174	25	250	243
Future Volume (veh/h)	59	171	174	25	250	243
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	64	186	189	27	272	264
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	316	282	804	681	738	804
Arrive On Green	0.18	0.18	0.43	0.43	0.43	0.43
Sat Flow, veh/h	1774	1583	1863	1578	1158	1863
Grp Volume(v), veh/h	64	186	189	27	272	264
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1578	1158	1863
Q Serve(g_s), s	0.7	2.5	1.5	0.2	4.5	2.2
Cycle Q Clear(g_c), s	0.7	2.5	1.5	0.2	6.0	2.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	316	282	804	681	738	804
V/C Ratio(X)	0.20	0.66	0.23	0.04	0.37	0.33
Avail Cap(c_a), veh/h	1385	1236	1454	1232	1142	1454
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	8.1	8.8	4.1	3.8	6.0	4.3
Incr Delay (d2), s/veh	0.3	2.6	0.1	0.0	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	0.4	1.3	0.8	0.1	1.4	1.2
LnGrp Delay(d),s/veh	8.4	11.5	4.3	3.8	6.3	4.6
LnGrp LOS	A	B	A	A	A	A
Approach Vol, veh/h	250		216			536
Approach Delay, s/veh	10.7		4.2			5.5
Approach LOS	B		A			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		14.5				14.5		8.6
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		18.0				18.0		18.0
Max Q Clear Time (g_c+I1), s		3.5				8.0		4.5
Green Ext Time (p_c), s		0.8				1.8		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	6.5
HCM 2010 LOS	A



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	78	193	113	303	9	767	109	94	617	38
v/c Ratio	0.49	0.47	0.60	0.50	0.05	0.29	0.12	0.50	0.21	0.04
Control Delay	57.2	46.3	59.3	31.2	50.0	16.6	1.4	60.3	12.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	46.3	59.3	31.2	50.0	16.6	1.4	60.3	12.4	0.1
Queue Length 50th (ft)	53	64	77	69	3	112	0	34	66	0
Queue Length 95th (ft)	100	98	131	109	11	163	13	61	130	0
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	168	1404	201	1455	187	2661	890	187	2986	975
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.14	0.56	0.21	0.05	0.29	0.12	0.50	0.21	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	170	15	108	192	99	9	736	105	90	592	36
Future Volume (veh/h)	75	170	15	108	192	99	9	736	105	90	592	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	78	177	16	112	200	103	9	767	109	94	617	38
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	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	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	99	289	26	189	317	156	45	1179	367	1195	2910	905
Arrive On Green	0.06	0.09	0.09	0.11	0.14	0.14	0.01	0.23	0.23	0.35	0.57	0.57
Sat Flow, veh/h	1774	3286	294	1774	2287	1128	3442	5085	1581	3442	5085	1581
Grp Volume(v), veh/h	78	95	98	112	153	150	9	767	109	94	617	38
Grp Sat Flow(s),veh/h/ln	1774	1770	1811	1774	1770	1645	1721	1695	1581	1721	1695	1581
Q Serve(g_s), s	4.8	5.7	5.8	6.6	8.9	9.5	0.3	15.0	6.3	2.0	6.5	0.7
Cycle Q Clear(g_c), s	4.8	5.7	5.8	6.6	8.9	9.5	0.3	15.0	6.3	2.0	6.5	0.7
Prop In Lane	1.00		0.16	1.00		0.69	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	99	156	159	189	245	228	45	1179	367	1195	2910	905
V/C Ratio(X)	0.79	0.61	0.62	0.59	0.62	0.66	0.20	0.65	0.30	0.08	0.21	0.04
Avail Cap(c_a), veh/h	135	708	724	189	738	687	188	1179	367	1195	2910	905
HCM Platoon Ratio	1.00	1.00	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	0.10	0.10	0.10	0.97	0.97	0.97
Uniform Delay (d), s/veh	51.3	48.3	48.4	46.9	44.7	44.9	53.7	38.2	34.9	24.1	11.5	3.9
Incr Delay (d2), s/veh	12.8	6.9	7.1	3.4	6.0	7.4	0.1	0.3	0.2	0.0	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	3.1	3.2	3.4	4.8	4.8	0.1	7.1	2.8	1.0	3.1	0.5
LnGrp Delay(d),s/veh	64.1	55.2	55.4	50.2	50.6	52.3	53.8	38.5	35.1	24.1	11.6	3.9
LnGrp LOS	E	E	E	D	D	D	D	D	D	C	B	A
Approach Vol, veh/h		271			415			885			749	
Approach Delay, s/veh		57.9			51.1			38.2			12.8	
Approach LOS		E			D			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	44.6	31.9	17.4	16.1	7.1	69.3	11.9	21.7
Change Period (Y+Rc), s	6.4	* 6.4	5.7	* 6.4	* 5.7	6.4	5.7	* 6.4
Max Green Setting (Gmax), s	6.0	* 26	10.3	* 44	* 6	25.5	8.4	* 46
Max Q Clear Time (g_c+I1), s	4.0	17.0	8.6	7.8	2.3	8.5	6.8	11.5
Green Ext Time (p_c), s	0.0	6.3	0.0	1.9	0.0	8.9	0.0	3.7

Intersection Summary	
HCM 2010 Ctrl Delay	34.6
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	316	22	388	422	23	54	82	274	22	107	96
Future Vol, veh/h	33	316	22	388	422	23	54	82	274	22	107	96
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	145	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	343	24	422	459	25	59	89	298	24	116	104

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	484	0	0	367	0	0	1853	1755	355	1937	1755	472
Stage 1	-	-	-	-	-	-	427	427	-	1316	1316	-
Stage 2	-	-	-	-	-	-	1426	1328	-	621	439	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1079	-	-	1192	-	-	~ 57	~ 85	689	49	~ 85	592
Stage 1	-	-	-	-	-	-	606	585	-	194	227	-
Stage 2	-	-	-	-	-	-	168	224	-	475	578	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1079	-	-	1192	-	-	-	~ 53	689	-	~ 53	592
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 53	-	-	~ 53	-
Stage 1	-	-	-	-	-	-	586	566	-	188	147	-
Stage 2	-	-	-	-	-	-	~ 19	145	-	220	559	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	4.5		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	-	53	269	1079	-	-	1192	-	-	-	53	128
HCM Lane V/C Ratio	-	0.841	1.273	0.033	-	-	0.354	-	-	-	1.097	1.27
HCM Control Delay (s)	-	201.4	186.7	8.5	-	-	9.7	-	-	-	279.2	234.3
HCM Lane LOS	-	F	F	A	-	-	A	-	-	-	F	F
HCM 95th %tile Q(veh)	-	3.6	16.8	0.1	-	-	1.6	-	-	-	5	10.3

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

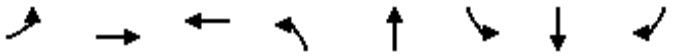
Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	92	392	9	0	460	5	26	6	8	3	3	183
Future Vol, veh/h	92	392	9	0	460	5	26	6	8	3	3	183
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	100	426	10	0	500	5	28	7	9	3	3	199

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	505	0	0	436	0	0	1235	1136	432	1143	1139	503
Stage 1	-	-	-	-	-	-	631	631	-	503	503	-
Stage 2	-	-	-	-	-	-	604	505	-	640	636	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1060	-	-	1124	-	-	153	202	624	177	201	569
Stage 1	-	-	-	-	-	-	469	474	-	551	541	-
Stage 2	-	-	-	-	-	-	485	540	-	464	472	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1060	-	-	1124	-	-	91	183	623	157	182	569
Mov Cap-2 Maneuver	-	-	-	-	-	-	91	183	-	157	182	-
Stage 1	-	-	-	-	-	-	425	429	-	499	541	-
Stage 2	-	-	-	-	-	-	314	540	-	408	428	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0	50.6	15.5
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	121	1060	-	-	1124	-	-	157	550
HCM Lane V/C Ratio	0.359	0.094	-	-	-	-	-	0.021	0.368
HCM Control Delay (s)	50.6	8.8	-	-	0	-	-	28.4	15.3
HCM Lane LOS	F	A	-	-	A	-	-	D	C
HCM 95th %tile Q(veh)	1.5	0.3	-	-	0	-	-	0.1	1.7



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	187	187	153	2	7	77	224	221
v/c Ratio	0.45	0.46	0.23	0.00	0.00	0.13	0.13	0.19
Control Delay	10.7	11.0	4.1	8.0	7.8	8.8	0.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	11.0	4.1	8.0	7.8	8.8	0.1	0.4
Queue Length 50th (ft)	15	15	4	0	0	7	0	0
Queue Length 95th (ft)	58	60	27	3	3	30	0	0
Internal Link Dist (ft)		563	789		604		1556	
Turn Bay Length (ft)	260			225		195		200
Base Capacity (vph)	1079	1058	1587	865	2711	1074	2428	1322
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.18	0.10	0.00	0.00	0.07	0.09	0.17

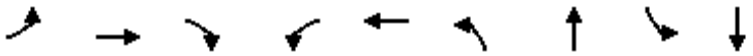
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	20	0	0	55	86	2	6	0	71	2	408
Future Volume (veh/h)	324	20	0	0	55	86	2	6	0	71	2	408
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	368	0	0	0	60	93	2	7	0	77	2	443
Adj No. of Lanes	2	1	0	0	1	0	1	2	0	1	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1273	617	0	0	219	339	574	989	0	701	521	885
Arrive On Green	0.33	0.00	0.00	0.00	0.33	0.33	0.28	0.28	0.00	0.28	0.28	0.28
Sat Flow, veh/h	2458	1863	0	0	660	1023	941	3632	0	1403	1863	3167
Grp Volume(v), veh/h	368	0	0	0	0	153	2	7	0	77	2	443
Grp Sat Flow(s),veh/h/ln	1229	1863	0	0	0	1682	941	1770	0	1403	1863	1583
Q Serve(g_s), s	3.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	1.0	0.0	2.7
Cycle Q Clear(g_c), s	4.5	0.0	0.0	0.0	0.0	1.5	0.1	0.0	0.0	1.0	0.0	2.7
Prop In Lane	1.00		0.00	0.00		0.61	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1273	617	0	0	0	557	574	989	0	701	521	885
V/C Ratio(X)	0.29	0.00	0.00	0.00	0.00	0.27	0.00	0.01	0.00	0.11	0.00	0.50
Avail Cap(c_a), veh/h	3275	2134	0	0	0	1928	1104	2984	0	1492	1571	2670
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.4	0.0	0.0	0.0	0.0	5.7	6.0	6.0	0.0	6.4	6.0	7.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.4	0.0	1.2
LnGrp Delay(d),s/veh	7.5	0.0	0.0	0.0	0.0	6.0	6.0	6.0	0.0	6.4	6.0	7.4
LnGrp LOS	A					A	A	A		A	A	A
Approach Vol, veh/h		368			153			9			522	
Approach Delay, s/veh		7.5			6.0			6.0			7.3	
Approach LOS		A			A			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		11.0		12.2		11.0		12.2
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		19.5		26.5		19.5		26.5
Max Q Clear Time (g_c+I1), s		2.1		6.5		4.7		3.5
Green Ext Time (p_c), s		0.0		1.4		1.8		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	7.1
HCM 2010 LOS	A

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	48	362	91	75	387	70	695	133	565
v/c Ratio	0.33	0.68	0.17	0.47	0.35	0.42	0.67	0.65	0.45
Control Delay	52.2	37.2	3.1	55.6	22.7	52.4	32.0	58.5	26.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.2	37.2	3.1	55.6	22.7	52.4	32.0	58.5	26.0
Queue Length 50th (ft)	28	196	0	44	84	41	192	78	139
Queue Length 95th (ft)	72	320	20	100	137	94	280	#181	216
Internal Link Dist (ft)		776			1573		2053		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	169	759	710	186	1447	221	1459	250	1515
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.48	0.13	0.40	0.27	0.32	0.48	0.53	0.37

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	333	84	69	261	95	64	572	67	122	458	62
Future Volume (veh/h)	44	333	84	69	261	95	64	572	67	122	458	62
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		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	48	362	91	75	284	103	70	622	73	133	498	67
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	507	431	114	731	259	110	920	108	168	1006	135
Arrive On Green	0.05	0.27	0.27	0.06	0.29	0.29	0.06	0.29	0.29	0.09	0.32	0.32
Sat Flow, veh/h	1774	1863	1582	1774	2563	909	1774	3187	373	1774	3132	420
Grp Volume(v), veh/h	48	362	91	75	194	193	70	345	350	133	280	285
Grp Sat Flow(s),veh/h/ln	1774	1863	1582	1774	1770	1702	1774	1770	1791	1774	1770	1782
Q Serve(g_s), s	1.9	12.9	3.3	3.0	6.5	6.7	2.8	12.6	12.7	5.4	9.4	9.5
Cycle Q Clear(g_c), s	1.9	12.9	3.3	3.0	6.5	6.7	2.8	12.6	12.7	5.4	9.4	9.5
Prop In Lane	1.00		1.00	1.00		0.53	1.00		0.21	1.00		0.24
Lane Grp Cap(c), veh/h	90	507	431	114	505	486	110	511	517	168	568	572
V/C Ratio(X)	0.53	0.71	0.21	0.66	0.38	0.40	0.64	0.68	0.68	0.79	0.49	0.50
Avail Cap(c_a), veh/h	193	862	732	213	838	807	251	838	849	285	872	878
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.0	24.1	20.6	33.6	21.1	21.2	33.6	23.1	23.1	32.5	20.1	20.1
Incr Delay (d2), s/veh	1.8	5.6	0.7	2.4	1.5	1.6	2.3	3.0	3.0	3.2	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	7.4	1.5	1.6	3.3	3.4	1.4	6.6	6.7	2.8	4.8	4.9
LnGrp Delay(d),s/veh	35.8	29.8	21.4	36.0	22.5	22.8	35.9	26.1	26.1	35.7	21.4	21.4
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		501			462			765			698	
Approach Delay, s/veh		28.8			24.8			27.0			24.2	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	28.2	8.9	25.2	8.8	30.6	7.9	26.2
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 12	34.8	* 8.8	34.0	* 10	36.2	* 8	34.8
Max Q Clear Time (g_c+I1), s	7.4	14.7	5.0	14.9	4.8	11.5	3.9	8.7
Green Ext Time (p_c), s	0.1	6.5	0.0	5.0	0.0	5.7	0.0	5.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.1
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	182	346	3	1	335	127	6	0	3	68	0	141
Future Vol, veh/h	182	346	3	1	335	127	6	0	3	68	0	141
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	198	376	3	1	364	138	7	0	3	74	0	153

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	502	0	0	379	0	0	958	1278	190	1019	1210	251
Stage 1	-	-	-	-	-	-	774	774	-	435	435	-
Stage 2	-	-	-	-	-	-	184	504	-	584	775	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1059	-	-	1176	-	-	212	165	820	191	181	749
Stage 1	-	-	-	-	-	-	357	406	-	570	579	-
Stage 2	-	-	-	-	-	-	800	539	-	465	406	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1059	-	-	1176	-	-	144	134	820	163	147	749
Mov Cap-2 Maneuver	-	-	-	-	-	-	144	134	-	163	147	-
Stage 1	-	-	-	-	-	-	290	330	-	463	578	-
Stage 2	-	-	-	-	-	-	636	538	-	377	330	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.1	0	24	33.4
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	199	1059	-	-	1176	-	-	345
HCM Lane V/C Ratio	0.049	0.187	-	-	0.001	-	-	0.658
HCM Control Delay (s)	24	9.2	-	-	8.1	-	-	33.4
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.2	0.7	-	-	0	-	-	4.4

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	100	395	452	89	109	179
Future Vol, veh/h	100	395	452	89	109	179
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	429	491	97	118	195

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	588	0	-	0	973	294
Stage 1	-	-	-	-	540	-
Stage 2	-	-	-	-	433	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	983	-	-	-	250	702
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	621	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	983	-	-	-	222	702
Mov Cap-2 Maneuver	-	-	-	-	222	-
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	621	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	22.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	222	702
HCM Lane V/C Ratio	0.111	-	-	-	0.534	0.277
HCM Control Delay (s)	9.1	-	-	-	38.4	12.1
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	2.8	1.1

Intersection	
Int Delay, s/veh	18.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	409	62	119	396	14	90	0	244	7	0	15
Future Vol, veh/h	38	409	62	119	396	14	90	0	244	7	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	445	67	129	430	15	98	0	265	8	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	445	0	0	512	0	0	1035	1264	256	1001	1290	224
Stage 1	-	-	-	-	-	-	561	561	-	696	696	-
Stage 2	-	-	-	-	-	-	474	703	-	305	594	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1112	-	-	1050	-	-	186	168	743	197	162	779
Stage 1	-	-	-	-	-	-	480	508	-	398	441	-
Stage 2	-	-	-	-	-	-	540	438	-	680	491	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1112	-	-	1050	-	-	160	142	743	112	137	778
Mov Cap-2 Maneuver	-	-	-	-	-	-	160	142	-	112	137	-
Stage 1	-	-	-	-	-	-	462	489	-	383	387	-
Stage 2	-	-	-	-	-	-	463	384	-	421	473	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	2	72.5	19.7
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	375	1112	-	-	1050	-	-	269
HCM Lane V/C Ratio	0.968	0.037	-	-	0.123	-	-	0.089
HCM Control Delay (s)	72.5	8.4	-	-	8.9	-	-	19.7
HCM Lane LOS	F	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	10.9	0.1	-	-	0.4	-	-	0.3



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	67	378	235	221	185	974	100	560	51
v/c Ratio	0.52	0.53	0.73	0.20	1.45	1.03	0.78	0.41	0.09
Control Delay	56.8	20.1	46.2	20.5	271.3	68.7	80.3	27.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.8	20.1	46.2	20.5	271.3	68.7	80.3	27.7	0.3
Queue Length 50th (ft)	34	51	116	44	~132	~274	52	86	0
Queue Length 95th (ft)	#107	102	211	68	#312	#535	#168	151	0
Internal Link Dist (ft)		765		339		253		1110	
Turn Bay Length (ft)	180		175		205		290		210
Base Capacity (vph)	128	1050	507	1741	128	949	128	1377	592
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.36	0.46	0.13	1.45	1.03	0.78	0.41	0.09

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	195	153	216	191	12	170	791	105	92	515	47
Future Volume (veh/h)	62	195	153	216	191	12	170	791	105	92	515	47
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	67	212	166	235	208	13	185	860	114	100	560	51
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	341	254	277	928	58	135	892	118	127	1422	443
Arrive On Green	0.06	0.18	0.18	0.16	0.27	0.27	0.08	0.28	0.28	0.07	0.28	0.28
Sat Flow, veh/h	1774	1934	1444	1774	3385	210	1774	3142	416	1774	5085	1583
Grp Volume(v), veh/h	67	193	185	235	108	113	185	484	490	100	560	51
Grp Sat Flow(s),veh/h/ln	1774	1770	1608	1774	1770	1825	1774	1770	1789	1774	1695	1583
Q Serve(g_s), s	2.9	8.0	8.4	10.2	3.7	3.8	6.0	21.3	21.3	4.4	7.0	1.9
Cycle Q Clear(g_c), s	2.9	8.0	8.4	10.2	3.7	3.8	6.0	21.3	21.3	4.4	7.0	1.9
Prop In Lane	1.00		0.90	1.00		0.12	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	104	312	283	277	485	500	135	502	508	127	1422	443
V/C Ratio(X)	0.65	0.62	0.65	0.85	0.22	0.23	1.37	0.96	0.96	0.79	0.39	0.12
Avail Cap(c_a), veh/h	135	523	475	533	919	948	135	502	508	135	1444	449
HCM Platoon Ratio	1.00	1.00	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	30.1	30.3	32.4	22.1	22.2	36.5	27.9	27.9	36.0	23.0	21.2
Incr Delay (d2), s/veh	2.5	6.0	7.6	2.8	0.7	0.7	206.9	32.1	31.9	22.1	0.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.4	4.3	5.2	1.9	2.0	10.7	14.8	15.0	2.9	3.4	0.9
LnGrp Delay(d),s/veh	38.8	36.1	37.8	35.1	22.8	22.8	243.4	60.0	59.8	58.1	23.8	21.6
LnGrp LOS	D	D	D	D	C	C	F	E	E	E	C	C
Approach Vol, veh/h		445			456			1159			711	
Approach Delay, s/veh		37.2			29.2			89.2			28.4	
Approach LOS		D			C			F			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	29.2	18.0	20.3	11.7	28.9	10.3	28.0
Change Period (Y+Rc), s	* 5.7	6.8	* 5.7	6.4	* 5.7	6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 6	22.4	* 24	23.3	* 6	22.4	* 6	41.0
Max Q Clear Time (g_c+I1), s	6.4	23.3	12.2	10.4	8.0	9.0	4.9	5.8
Green Ext Time (p_c), s	0.0	0.0	0.2	3.5	0.0	6.3	0.0	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	55.4
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	194	69	50	18	68	288
Future Vol, veh/h	194	69	50	18	68	288
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	75	54	20	74	313

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	74	0	-	0	524	37
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	460	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1524	-	-	-	483	1027
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	602	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1524	-	-	-	416	1027
Mov Cap-2 Maneuver	-	-	-	-	416	-
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	602	-

Approach	EB	WB	SB
HCM Control Delay, s	5.7	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1524	-	-	-	416	1027
HCM Lane V/C Ratio	0.138	-	-	-	0.178	0.305
HCM Control Delay (s)	7.7	-	-	-	15.5	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.6	1.3



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	43	15	202	9	1008	52	797	36
v/c Ratio	0.19	0.04	0.62	0.05	0.60	0.28	0.40	0.04
Control Delay	23.2	0.2	19.5	26.9	14.5	30.5	9.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	0.2	19.5	26.9	14.5	30.5	9.4	0.1
Queue Length 50th (ft)	14	0	27	3	143	18	61	0
Queue Length 95th (ft)	38	0	84	16	236	50	176	0
Internal Link Dist (ft)	1563		335		1230		631	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	739	992	857	183	1687	183	1971	920
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.02	0.24	0.05	0.60	0.28	0.40	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	0	14	103	0	83	8	874	53	48	733	33
Future Volume (veh/h)	40	0	14	103	0	83	8	874	53	48	733	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	43	0	15	112	0	90	9	950	58	52	797	36
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	352	0	285	221	17	112	25	1384	85	105	1606	718
Arrive On Green	0.18	0.00	0.18	0.18	0.00	0.18	0.01	0.41	0.41	0.06	0.45	0.45
Sat Flow, veh/h	1251	0	1583	682	92	622	1774	3389	207	1774	3539	1582
Grp Volume(v), veh/h	43	0	15	202	0	0	9	496	512	52	797	36
Grp Sat Flow(s),veh/h/ln	1251	0	1583	1396	0	0	1774	1770	1826	1774	1770	1582
Q Serve(g_s), s	0.0	0.0	0.4	6.3	0.0	0.0	0.3	13.1	13.1	1.6	9.0	0.7
Cycle Q Clear(g_c), s	1.7	0.0	0.4	8.0	0.0	0.0	0.3	13.1	13.1	1.6	9.0	0.7
Prop In Lane	1.00		1.00	0.55		0.45	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	352	0	285	350	0	0	25	723	746	105	1606	718
V/C Ratio(X)	0.12	0.00	0.05	0.58	0.00	0.00	0.36	0.69	0.69	0.50	0.50	0.05
Avail Cap(c_a), veh/h	907	0	960	941	0	0	188	811	837	188	1622	725
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	19.3	22.5	0.0	0.0	27.7	13.8	13.8	25.9	10.9	8.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.6	0.0	0.0	3.3	5.0	4.8	1.3	0.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.2	3.1	0.0	0.0	0.2	7.3	7.5	0.8	4.5	0.3
LnGrp Delay(d),s/veh	19.8	0.0	19.3	23.1	0.0	0.0	31.0	18.8	18.6	27.2	11.8	8.8
LnGrp LOS	B		B	C			C	B	B	C	B	A
Approach Vol, veh/h		58			202			1017			885	
Approach Delay, s/veh		19.7			23.1			18.8			12.6	
Approach LOS		B			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	9.1	30.0		17.7	6.5	32.5		17.7
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 6	26.0		* 34	* 6	26.0		33.0
Max Q Clear Time (g_c+I1), s	3.6	15.1		3.7	2.3	11.0		10.0
Green Ext Time (p_c), s	0.0	8.1		0.1	0.0	8.9		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	44.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	8	172	35	22	19	58	975	26	11	768	38
Future Vol, veh/h	34	8	172	35	22	19	58	975	26	11	768	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	9	187	38	24	21	63	1060	28	12	835	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1548	2094	438	1646	2100	544	876	0	0	1088	0	0
Stage 1	880	880	-	1200	1200	-	-	-	-	-	-	-
Stage 2	668	1214	-	446	900	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	78	52	567	65	51	483	766	-	-	637	-	-
Stage 1	308	363	-	196	256	-	-	-	-	-	-	-
Stage 2	414	253	-	561	355	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	41	47	567	~ 35	46	483	766	-	-	637	-	-
Mov Cap-2 Maneuver	41	47	-	~ 35	46	-	-	-	-	-	-	-
Stage 1	283	356	-	180	235	-	-	-	-	-	-	-
Stage 2	327	232	-	360	348	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	272.3	$ 497.7	0.6	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	766	-	-	164	50	637	-	-
HCM Lane V/C Ratio	0.082	-	-	1.418	1.652	0.019	-	-
HCM Control Delay (s)	10.1	-	-	272.3	$ 497.7	10.8	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	14.6	8	0.1	-	-

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



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	38	55	84	897	47	867
v/c Ratio	0.14	0.18	0.35	0.40	0.21	0.39
Control Delay	17.9	15.0	30.9	13.0	29.2	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	15.0	30.9	13.0	29.2	13.0
Queue Length 50th (ft)	8	9	29	120	16	117
Queue Length 95th (ft)	30	34	79	263	50	246
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	597	639	288	2262	309	2211
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.09	0.29	0.40	0.15	0.39

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1	11	24	2	27	80	838	14	45	742	82
Future Volume (veh/h)	24	1	11	24	2	27	80	838	14	45	742	82
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		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	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	25	1	12	25	2	28	84	882	15	47	781	86
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	28	60	163	39	100	147	1528	26	102	1296	143
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.08	0.43	0.43	0.06	0.40	0.40
Sat Flow, veh/h	811	226	479	460	307	795	1774	3561	61	1774	3208	353
Grp Volume(v), veh/h	38	0	0	55	0	0	84	438	459	47	431	436
Grp Sat Flow(s),veh/h/ln	1516	0	0	1562	0	0	1774	1770	1852	1774	1770	1791
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	2.3	9.4	9.4	1.3	9.5	9.5
Cycle Q Clear(g_c), s	1.0	0.0	0.0	1.5	0.0	0.0	2.3	9.4	9.4	1.3	9.5	9.5
Prop In Lane	0.66		0.32	0.45		0.51	1.00		0.03	1.00		0.20
Lane Grp Cap(c), veh/h	310	0	0	301	0	0	147	759	795	102	715	723
V/C Ratio(X)	0.12	0.00	0.00	0.18	0.00	0.00	0.57	0.58	0.58	0.46	0.60	0.60
Avail Cap(c_a), veh/h	769	0	0	777	0	0	296	878	919	317	900	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	0.0	19.7	0.0	0.0	22.0	10.8	10.8	22.7	11.7	11.7
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.5	0.0	0.0	1.3	3.0	2.8	1.2	3.5	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.7	0.0	0.0	1.1	5.1	5.3	0.7	5.2	5.3
LnGrp Delay(d),s/veh	19.8	0.0	0.0	20.2	0.0	0.0	23.3	13.7	13.6	23.9	15.2	15.1
LnGrp LOS	B			C			C	B	B	C	B	B
Approach Vol, veh/h		38			55			981			914	
Approach Delay, s/veh		19.8			20.2			14.5			15.6	
Approach LOS		B			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	8.6	29.3		11.9	9.8	28.0		11.9
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 8.9	24.7		* 22	* 8.3	25.3		* 22
Max Q Clear Time (g_c+I1), s	3.3	11.4		3.0	4.3	11.5		3.5
Green Ext Time (p_c), s	0.0	8.6		0.2	0.0	8.5		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.3
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	390	81	0	324	0	12
Future Vol, veh/h	390	81	0	324	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	424	88	0	352	0	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	256
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	743
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	743
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	743	-	-	-
HCM Lane V/C Ratio	0.018	-	-	-
HCM Control Delay (s)	9.9	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	331	61	62	324	7	0	0	12	0	0	18
Future Vol, veh/h	10	331	61	62	324	7	0	0	12	0	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	360	66	67	352	8	0	0	13	0	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	360	0	0	426	0	0	-	-	213	-	-	180
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	1195	-	-	1130	-	-	0	0	792	0	0	832
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1195	-	-	1130	-	-	-	-	792	-	-	832
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.3	9.6	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	792	1195	-	-	1130	-	-	832
HCM Lane V/C Ratio	0.016	0.009	-	-	0.06	-	-	0.024
HCM Control Delay (s)	9.6	8	-	-	8.4	-	-	9.4
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.2	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	353	0	0	393	0	29
Future Vol, veh/h	353	0	0	393	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	384	0	0	427	0	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	192
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	817
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	817
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	817	-	-	-
HCM Lane V/C Ratio	0.039	-	-	-
HCM Control Delay (s)	9.6	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	263	335	3	0	58
Future Vol, veh/h	119	263	335	3	0	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	286	364	3	0	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	367	0	-	0	767	184
Stage 1	-	-	-	-	366	-
Stage 2	-	-	-	-	401	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1188	-	-	-	339	827
Stage 1	-	-	-	-	672	-
Stage 2	-	-	-	-	645	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1188	-	-	-	295	827
Mov Cap-2 Maneuver	-	-	-	-	295	-
Stage 1	-	-	-	-	585	-
Stage 2	-	-	-	-	645	-

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1188	-	-	-	-	827
HCM Lane V/C Ratio	0.109	-	-	-	-	0.076
HCM Control Delay (s)	8.4	0.3	-	-	0	9.7
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	66	0	0	76	0	878	30	0	758	126
Future Vol, veh/h	0	0	66	0	0	76	0	878	30	0	758	126
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	72	0	0	83	0	954	33	0	824	137

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	412	-	-	494	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	589	0	0	521	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	589	-	-	521	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	13.2	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	589	521	-	-
HCM Lane V/C Ratio	-	-	0.122	0.159	-	-
HCM Control Delay (s)	-	-	12	13.2	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	87	0	0	63	171	845	31	58	668	98
Future Vol, veh/h	0	0	87	0	0	63	171	845	31	58	668	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	95	0	0	68	186	918	34	63	726	107

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	363	-	-	476	833	0	0	952	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	634	0	0	535	796	-	-	717	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	634	-	-	535	796	-	-	717	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	12.7	1.8	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	796	-	-	634	535	717	-	-
HCM Lane V/C Ratio	0.234	-	-	0.149	0.128	0.088	-	-
HCM Control Delay (s)	10.9	-	-	11.7	12.7	10.5	-	-
HCM Lane LOS	B	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	0.9	-	-	0.5	0.4	0.3	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	87	0	0	139	171	815	61	58	668	98
Future Vol, veh/h	0	0	87	0	0	139	171	815	61	58	668	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	95	0	0	151	186	886	66	63	726	107

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	363	-	-	476	833	0	0	952	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	634	0	0	535	796	-	-	717	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	634	-	-	535	796	-	-	717	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	14.4	1.8	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	796	-	-	634	535	717	-	-
HCM Lane V/C Ratio	0.234	-	-	0.149	0.282	0.088	-	-
HCM Control Delay (s)	10.9	-	-	11.7	14.4	10.5	-	-
HCM Lane LOS	B	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	0.9	-	-	0.5	1.2	0.3	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	43	58	119	0	0	67
Future Vol, veh/h	43	58	119	0	0	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	63	129	0	0	73

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	129	0	-	0	286	129
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1457	-	-	-	704	921
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1457	-	-	-	681	921
Mov Cap-2 Maneuver	-	-	-	-	681	-
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1457	-	-	-	921
HCM Lane V/C Ratio	0.032	-	-	-	0.079
HCM Control Delay (s)	7.6	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	25	68	0	0	51
Future Vol, veh/h	33	25	68	0	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	27	74	0	0	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	74	0	-	0	173	74
Stage 1	-	-	-	-	74	-
Stage 2	-	-	-	-	99	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1526	-	-	-	817	988
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	925	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1526	-	-	-	797	988
Mov Cap-2 Maneuver	-	-	-	-	797	-
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	925	-

Approach	EB	WB	SB
HCM Control Delay, s	4.2	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1526	-	-	-	988
HCM Lane V/C Ratio	0.024	-	-	-	0.056
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	11	39	0	0	29
Future Vol, veh/h	14	11	39	0	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	12	42	0	0	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	42	0	-	0	84	42
Stage 1	-	-	-	-	42	-
Stage 2	-	-	-	-	42	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1567	-	-	-	918	1029
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	980	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1567	-	-	-	909	1029
Mov Cap-2 Maneuver	-	-	-	-	909	-
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	980	-

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1567	-	-	-	1029
HCM Lane V/C Ratio	0.01	-	-	-	0.031
HCM Control Delay (s)	7.3	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	11	21	0	0	18
Future Vol, veh/h	0	11	21	0	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	23	0	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	35	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	12	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	978	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1011	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	978	1054
Mov Cap-2 Maneuver	-	-	-	-	978	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1011	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	1054
HCM Lane V/C Ratio	-	-	-	-	0.019
HCM Control Delay (s)	0	-	-	-	8.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

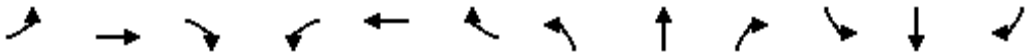
Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	18	0	0	0	0
Future Vol, veh/h	29	18	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	20	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	1045	-	-
HCM Lane V/C Ratio	-	-	0.049	-	-
HCM Control Delay (s)	0	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	97	245	209	241	234	67	243	1103	242	116	1223	86
v/c Ratio	0.20	0.41	0.50	0.52	0.41	0.16	1.40	0.49	0.31	0.55	0.53	0.11
Control Delay	50.5	46.8	11.8	56.0	47.5	0.9	255.3	26.8	10.1	66.9	26.8	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	46.8	11.8	56.0	47.5	0.9	255.3	26.8	10.1	66.9	26.8	1.3
Queue Length 50th (ft)	36	98	17	95	94	0	~135	215	36	47	236	0
Queue Length 95th (ft)	68	106	68	#172	101	0	#222	328	116	#93	374	9
Internal Link Dist (ft)		1104			403			770			1028	
Turn Bay Length (ft)	155		260	250		235	290		130	445		190
Base Capacity (vph)	483	1330	701	460	1339	706	173	2248	780	212	2307	779
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.18	0.30	0.52	0.17	0.09	1.40	0.49	0.31	0.55	0.53	0.11

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	238	203	234	227	65	236	1070	235	113	1186	83
Future Volume (veh/h)	94	238	203	234	227	65	236	1070	235	113	1186	83
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		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	97	245	209	241	234	67	243	1103	242	116	1223	86
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	667	293	173	426	190	799	2641	812	165	1676	519
Arrive On Green	0.12	0.19	0.19	0.05	0.12	0.12	0.23	0.52	0.52	0.05	0.33	0.33
Sat Flow, veh/h	3442	3539	1555	3442	3539	1579	3442	5085	1564	3442	5085	1575
Grp Volume(v), veh/h	97	245	209	241	234	67	243	1103	242	116	1223	86
Grp Sat Flow(s),veh/h/ln	1721	1770	1555	1721	1770	1579	1721	1695	1564	1721	1695	1575
Q Serve(g_s), s	3.2	7.5	15.7	6.3	7.8	4.1	7.3	16.6	7.6	4.2	26.5	4.8
Cycle Q Clear(g_c), s	3.2	7.5	15.7	6.3	7.8	4.1	7.3	16.6	7.6	4.2	26.5	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	408	667	293	173	426	190	799	2641	812	165	1676	519
V/C Ratio(X)	0.24	0.37	0.71	1.39	0.55	0.35	0.30	0.42	0.30	0.70	0.73	0.17
Avail Cap(c_a), veh/h	408	1331	585	173	1339	598	799	2641	812	165	1676	519
HCM Platoon Ratio	1.00	1.00	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	0.79	0.79	0.79	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	44.2	47.5	59.4	51.8	35.2	39.6	18.4	8.2	58.6	37.0	29.7
Incr Delay (d2), s/veh	0.1	0.7	6.1	206.6	2.1	2.1	0.1	0.4	0.7	10.8	2.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.7	7.3	8.0	3.9	2.1	3.5	7.9	4.1	2.2	12.9	2.2
LnGrp Delay(d),s/veh	50.1	44.9	53.7	266.0	53.9	37.4	39.7	18.8	9.0	69.4	39.8	30.4
LnGrp LOS	D	D	D	F	D	D	D	B	A	E	D	C
Approach Vol, veh/h		551			542			1588			1425	
Approach Delay, s/veh		49.1			146.2			20.5			41.7	
Approach LOS		D			F			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	11.7	71.3	12.0	30.0	35.4	47.6	20.5	21.5
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6	41.5	6.3	* 47	6.3	* 41	6.0	* 47
Max Q Clear Time (g_c+I1), s	6.2	18.6	8.3	17.7	9.3	28.5	5.2	9.8
Green Ext Time (p_c), s	0.0	14.3	0.0	4.4	0.0	9.2	0.0	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	48.3
HCM 2010 LOS	D

Notes



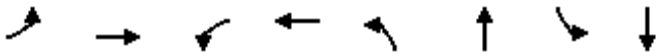
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	149	274	1	223	105	25	122	17	209
v/c Ratio	0.45	0.31	0.00	0.40	0.18	0.06	0.34	0.04	0.37
Control Delay	24.9	9.7	24.0	17.7	2.6	15.2	19.3	15.6	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.9	9.7	24.0	17.7	2.6	15.2	19.3	15.6	5.3
Queue Length 50th (ft)	35	33	0	48	0	5	27	3	0
Queue Length 95th (ft)	102	125	4	118	17	22	76	17	42
Internal Link Dist (ft)		1986		690		343		406	
Turn Bay Length (ft)	105		105		35		150		50
Base Capacity (vph)	454	1257	268	1087	983	992	805	1087	1010
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.22	0.00	0.21	0.11	0.03	0.15	0.02	0.21

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	241	11	1	205	97	8	13	2	112	16	192
Future Volume (veh/h)	137	241	11	1	205	97	8	13	2	112	16	192
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	149	262	12	1	223	105	9	14	2	122	17	209
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	691	32	5	493	419	211	257	29	512	415	353
Arrive On Green	0.13	0.39	0.39	0.00	0.26	0.26	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	1768	81	1774	1863	1583	343	1153	130	1392	1863	1583
Grp Volume(v), veh/h	149	0	274	1	223	105	25	0	0	122	17	209
Grp Sat Flow(s),veh/h/ln	1774	0	1848	1774	1863	1583	1627	0	0	1392	1863	1583
Q Serve(g_s), s	2.9	0.0	3.9	0.0	3.6	1.9	0.0	0.0	0.0	2.2	0.3	4.3
Cycle Q Clear(g_c), s	2.9	0.0	3.9	0.0	3.6	1.9	0.4	0.0	0.0	2.6	0.3	4.3
Prop In Lane	1.00		0.04	1.00		1.00	0.36		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	228	0	723	5	493	419	497	0	0	512	415	353
V/C Ratio(X)	0.65	0.00	0.38	0.21	0.45	0.25	0.05	0.00	0.00	0.24	0.04	0.59
Avail Cap(c_a), veh/h	536	0	1497	317	1279	1087	1195	0	0	1157	1279	1087
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.1	0.0	7.9	18.1	11.2	10.5	11.2	0.0	0.0	12.0	11.1	12.7
Incr Delay (d2), s/veh	1.2	0.0	0.6	7.5	1.1	0.5	0.1	0.0	0.0	0.4	0.1	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	2.0	0.0	2.0	0.9	0.2	0.0	0.0	1.1	0.1	2.1
LnGrp Delay(d),s/veh	16.3	0.0	8.5	25.6	12.3	11.1	11.2	0.0	0.0	12.4	11.2	15.4
LnGrp LOS	B		A	C	B	B	B			B	B	B
Approach Vol, veh/h		423			329			25			348	
Approach Delay, s/veh		11.2			12.0			11.2			14.1	
Approach LOS		B			B			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	4.1	19.2		13.1	8.7	14.6		13.1
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	6.5	29.5		25.0	11.0	25.0		25.0
Max Q Clear Time (g_c+I1), s	2.0	5.9		2.4	4.9	5.6		6.3
Green Ext Time (p_c), s	0.0	2.5		0.1	0.1	2.4		2.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	129	60	18	133	67	1447	82	1704
v/c Ratio	0.58	0.19	0.11	0.54	0.67	0.58	0.51	0.62
Control Delay	55.8	16.2	43.0	17.3	82.2	22.1	58.2	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	16.2	43.0	17.3	82.2	22.1	58.2	19.5
Queue Length 50th (ft)	87	3	12	1	47	256	56	299
Queue Length 95th (ft)	145	45	32	59	#117	361	103	400
Internal Link Dist (ft)		838		514		1073		770
Turn Bay Length (ft)	170		100		400		270	
Base Capacity (vph)	221	631	169	633	101	2491	163	2757
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.10	0.11	0.21	0.66	0.58	0.50	0.62

Intersection Summary

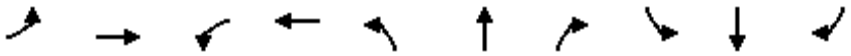
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	5	51	17	2	122	62	1325	20	76	1513	72
Future Volume (veh/h)	120	5	51	17	2	122	62	1325	20	76	1513	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		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	129	5	55	18	2	131	67	1425	22	82	1627	77
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	10	107	203	3	166	515	2789	43	104	1504	71
Arrive On Green	0.08	0.07	0.07	0.11	0.11	0.11	0.29	0.54	0.54	0.06	0.30	0.30
Sat Flow, veh/h	1774	134	1470	1774	24	1563	1774	5157	80	1774	4967	235
Grp Volume(v), veh/h	129	0	60	18	0	133	67	937	510	82	1110	594
Grp Sat Flow(s),veh/h/ln	1774	0	1603	1774	0	1587	1774	1695	1846	1774	1695	1811
Q Serve(g_s), s	7.9	0.0	4.0	1.0	0.0	9.0	3.1	19.3	19.3	5.0	33.3	33.3
Cycle Q Clear(g_c), s	7.9	0.0	4.0	1.0	0.0	9.0	3.1	19.3	19.3	5.0	33.3	33.3
Prop In Lane	1.00		0.92	1.00		0.98	1.00		0.04	1.00		0.13
Lane Grp Cap(c), veh/h	144	0	117	203	0	168	515	1833	998	104	1026	548
V/C Ratio(X)	0.90	0.00	0.51	0.09	0.00	0.79	0.13	0.51	0.51	0.79	1.08	1.08
Avail Cap(c_a), veh/h	144	0	596	203	0	548	515	1833	998	111	1026	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.79	0.79	0.79	0.84	0.84	0.84
Uniform Delay (d), s/veh	50.1	0.0	49.1	43.6	0.0	48.0	28.8	16.0	16.0	51.1	38.3	38.4
Incr Delay (d2), s/veh	45.4	0.0	2.6	0.1	0.0	6.1	0.0	0.8	1.5	22.6	50.9	59.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	1.9	0.5	0.0	4.2	1.5	9.2	10.2	3.1	22.8	25.7
LnGrp Delay(d),s/veh	95.5	0.0	51.7	43.7	0.0	54.1	28.8	16.8	17.5	73.7	89.2	98.0
LnGrp LOS	F		D	D		D	C	B	B	E	F	F
Approach Vol, veh/h		189			151			1514			1786	
Approach Delay, s/veh		81.6			52.8			17.6			91.4	
Approach LOS		F			D			B			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	12.1	65.9	18.3	13.7	38.3	39.7	14.6	17.4
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	6.4	* 6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 6.9	32.7	* 6	* 41	6.3	* 33	* 8.9	* 38
Max Q Clear Time (g_c+I1), s	7.0	21.3	3.0	6.0	5.1	35.3	9.9	11.0
Green Ext Time (p_c), s	0.0	9.0	0.0	0.3	0.0	0.0	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	58.6
HCM 2010 LOS	E

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	42	68	96	74	1283	57	184	1516	41
v/c Ratio	0.18	0.16	0.51	0.28	0.38	0.59	0.08	0.51	0.49	0.04
Control Delay	50.0	11.0	61.3	10.3	53.5	26.7	0.2	47.3	18.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	11.0	61.3	10.3	53.5	26.7	0.2	47.3	18.9	0.1
Queue Length 50th (ft)	14	1	44	6	25	243	0	111	223	0
Queue Length 95th (ft)	39	22	#114	36	48	#415	0	#328	#537	0
Internal Link Dist (ft)		301		578		581			1073	
Turn Bay Length (ft)			105		125		100	250		101
Base Capacity (vph)	115	652	133	689	196	2186	748	358	3099	1009
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.06	0.51	0.14	0.38	0.59	0.08	0.51	0.49	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2	38	64	10	80	70	1206	54	173	1425	39
Future Volume (veh/h)	20	2	38	64	10	80	70	1206	54	173	1425	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		0.98	1.00		0.99	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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	21	2	40	68	11	85	74	1283	57	184	1516	41
Adj No. of Lanes	1	1	0	1	1	0	2	3	1	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	9	174	87	22	170	1178	2796	850	101	1312	406
Arrive On Green	0.05	0.12	0.12	0.05	0.12	0.12	0.34	0.55	0.55	0.06	0.26	0.26
Sat Flow, veh/h	1774	75	1496	1774	183	1417	3442	5085	1546	1774	5085	1574
Grp Volume(v), veh/h	21	0	42	68	0	96	74	1283	57	184	1516	41
Grp Sat Flow(s),veh/h/ln	1774	0	1571	1774	0	1600	1721	1695	1546	1774	1695	1574
Q Serve(g_s), s	1.2	0.0	2.5	4.0	0.0	5.9	1.5	15.9	1.1	6.0	27.1	2.1
Cycle Q Clear(g_c), s	1.2	0.0	2.5	4.0	0.0	5.9	1.5	15.9	1.1	6.0	27.1	2.1
Prop In Lane	1.00		0.95	1.00		0.89	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	81	0	182	87	0	192	1178	2796	850	101	1312	406
V/C Ratio(X)	0.26	0.00	0.23	0.78	0.00	0.50	0.06	0.46	0.07	1.82	1.16	0.10
Avail Cap(c_a), veh/h	101	0	628	101	0	640	1178	2796	850	101	1312	406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.75	0.75	0.75	0.76	0.76	0.76
Uniform Delay (d), s/veh	48.4	0.0	42.1	49.3	0.0	43.3	23.2	14.2	4.4	49.5	38.9	29.7
Incr Delay (d2), s/veh	0.6	0.0	0.2	23.1	0.0	1.5	0.0	0.4	0.1	394.5	76.8	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	0.6	0.0	1.1	2.5	0.0	2.7	0.7	7.5	0.8	14.0	22.0	1.0
LnGrp Delay(d),s/veh	49.0	0.0	42.4	72.4	0.0	44.8	23.2	14.6	4.6	444.0	115.7	30.0
LnGrp LOS	D		D	E		D	C	B	A	F	F	C
Approach Vol, veh/h		63			164			1414			1741	
Approach Delay, s/veh		44.6			56.2			14.7			148.4	
Approach LOS		D			E			B			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	64.1	10.9	18.3	42.3	33.5	10.5	18.7
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 6	27.1	6.0	* 42	6.0	* 27	6.0	* 42
Max Q Clear Time (g_c+I1), s	8.0	17.9	6.0	4.5	3.5	29.1	3.2	7.9
Green Ext Time (p_c), s	0.0	7.4	0.0	0.1	0.0	0.0	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	86.1
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	57.7

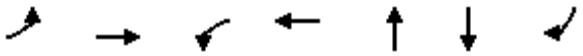
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	1405	62	50	1122	29	25	0	47	26	0	52
Future Vol, veh/h	35	1405	62	50	1122	29	25	0	47	26	0	52
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	1464	65	52	1169	30	26	0	49	27	0	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1204	0	0	1529	0	0	2258	2877	765	2097	2894	605
Stage 1	-	-	-	-	-	-	1569	1569	-	1293	1293	-
Stage 2	-	-	-	-	-	-	689	1308	-	804	1601	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	575	-	-	432	-	-	~ 22	16	346	30	16	441
Stage 1	-	-	-	-	-	-	116	170	-	172	231	-
Stage 2	-	-	-	-	-	-	402	228	-	343	164	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	572	-	-	432	-	-	~ 9	6	346	~ 12	6	439
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 9	6	-	~ 12	6	-
Stage 1	-	-	-	-	-	-	65	96	-	96	146	-
Stage 2	-	-	-	-	-	-	224	144	-	166	92	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	2.8	$ 1229	$ 883.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	25	572	-	-	432	-	-	34
HCM Lane V/C Ratio	3	0.064	-	-	0.121	-	-	2.39
HCM Control Delay (s)	$ 1229	11.7	2.4	-	14.5	2.4	-	$ 883.6
HCM Lane LOS	F	B	A	-	B	A	-	F
HCM 95th %tile Q(veh)	9.3	0.2	-	-	0.4	-	-	9.2

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



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	67	1047	88	919	88	20	13
v/c Ratio	0.33	0.47	0.40	0.34	0.31	0.07	0.04
Control Delay	37.4	16.5	38.4	14.9	9.0	23.7	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	16.5	38.4	14.9	9.0	23.7	0.2
Queue Length 50th (ft)	21	74	27	61	0	6	0
Queue Length 95th (ft)	#92	256	#124	219	33	24	0
Internal Link Dist (ft)		262		745	695	187	
Turn Bay Length (ft)	240		250				
Base Capacity (vph)	211	2470	227	2752	1050	1064	977
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.42	0.39	0.33	0.08	0.02	0.01

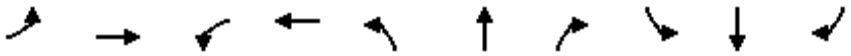
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	960	24	83	849	15	36	0	47	18	1	12
Future Volume (veh/h)	63	960	24	83	849	15	36	0	47	18	1	12
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	67	1021	26	88	903	16	38	0	50	19	1	13
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	2035	52	148	2113	37	60	0	78	81	4	75
Arrive On Green	0.07	0.40	0.40	0.08	0.41	0.41	0.08	0.00	0.08	0.05	0.05	0.05
Sat Flow, veh/h	1774	5096	130	1774	5143	91	717	0	943	1689	89	1557
Grp Volume(v), veh/h	67	679	368	88	595	324	88	0	0	20	0	13
Grp Sat Flow(s),veh/h/ln	1774	1695	1836	1774	1695	1844	1660	0	0	1778	0	1557
Q Serve(g_s), s	1.9	7.8	7.8	2.5	6.5	6.5	2.7	0.0	0.0	0.6	0.0	0.4
Cycle Q Clear(g_c), s	1.9	7.8	7.8	2.5	6.5	6.5	2.7	0.0	0.0	0.6	0.0	0.4
Prop In Lane	1.00		0.07	1.00		0.05	0.43		0.57	0.95		1.00
Lane Grp Cap(c), veh/h	127	1354	733	148	1393	757	138	0	0	86	0	75
V/C Ratio(X)	0.53	0.50	0.50	0.60	0.43	0.43	0.64	0.00	0.00	0.23	0.00	0.17
Avail Cap(c_a), veh/h	226	1761	954	243	1794	976	1058	0	0	1133	0	992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.2	11.7	11.7	22.9	10.9	10.9	23.0	0.0	0.0	23.7	0.0	23.7
Incr Delay (d2), s/veh	1.3	0.8	1.5	1.4	0.6	1.1	3.6	0.0	0.0	1.0	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.7	4.2	1.3	3.1	3.5	1.4	0.0	0.0	0.3	0.0	0.2
LnGrp Delay(d),s/veh	24.4	12.5	13.2	24.3	11.5	12.0	26.6	0.0	0.0	24.8	0.0	24.5
LnGrp LOS	C	B	B	C	B	B	C			C		C
Approach Vol, veh/h		1114			1007			88			33	
Approach Delay, s/veh		13.4			12.8			26.6			24.6	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.3	26.7		7.5	7.7	27.3		9.3
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	7.1	26.9		33.0	6.6	27.4		33.0
Max Q Clear Time (g_c+I1), s	4.5	9.8		2.6	3.9	8.5		4.7
Green Ext Time (p_c), s	0.0	10.8		0.1	0.0	10.3		0.4

Intersection Summary		
HCM 2010 Ctrl Delay		13.8
HCM 2010 LOS		B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	309	811	261	569	346	1135	143	199	1382	123
v/c Ratio	0.46	0.65	0.51	0.56	1.80	0.66	0.23	0.73	0.75	0.19
Control Delay	50.0	39.9	56.0	43.2	414.6	38.7	8.1	74.5	39.6	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	39.9	56.0	43.2	414.6	38.7	8.1	74.5	39.6	5.1
Queue Length 50th (ft)	118	199	106	147	~225	296	11	84	361	0
Queue Length 95th (ft)	#227	215	#179	152	#324	348	58	#185	451	39
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	678	1879	516	1812	192	1728	612	271	1846	646
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.43	0.51	0.31	1.80	0.66	0.23	0.73	0.75	0.19

Intersection Summary

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

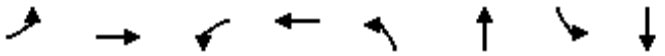
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	294	523	247	248	425	116	329	1078	136	189	1313	117
Future Volume (veh/h)	294	523	247	248	425	116	329	1078	136	189	1313	117
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	309	551	260	261	447	122	346	1135	143	199	1382	123
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	366	867	397	167	788	208	596	2351	731	167	1690	516
Arrive On Green	0.11	0.25	0.25	0.05	0.20	0.20	0.17	0.46	0.46	0.05	0.33	0.33
Sat Flow, veh/h	3442	3405	1558	3442	4005	1058	3442	5085	1580	3442	5085	1553
Grp Volume(v), veh/h	309	548	263	261	376	193	346	1135	143	199	1382	123
Grp Sat Flow(s),veh/h/ln	1721	1695	1573	1721	1695	1672	1721	1695	1580	1721	1695	1553
Q Serve(g_s), s	11.5	18.7	19.4	6.3	13.0	13.6	12.0	20.1	5.1	6.3	32.4	7.5
Cycle Q Clear(g_c), s	11.5	18.7	19.4	6.3	13.0	13.6	12.0	20.1	5.1	6.3	32.4	7.5
Prop In Lane	1.00		0.99	1.00		0.63	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	366	863	400	167	667	329	596	2351	731	167	1690	516
V/C Ratio(X)	0.84	0.64	0.66	1.56	0.56	0.59	0.58	0.48	0.20	1.19	0.82	0.24
Avail Cap(c_a), veh/h	366	1278	593	167	1226	605	596	2351	731	167	1690	516
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.78	0.78	0.78	0.68	0.68	0.68	0.87	0.87	0.87
Uniform Delay (d), s/veh	57.0	43.1	43.3	61.8	47.2	47.4	49.4	24.2	11.2	61.8	39.8	31.5
Incr Delay (d2), s/veh	14.0	1.3	3.1	275.8	1.1	2.5	0.7	0.5	0.4	126.5	3.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	8.9	8.8	9.4	6.2	6.5	5.8	9.5	2.8	5.9	15.7	3.3
LnGrp Delay(d),s/veh	71.0	44.4	46.5	337.6	48.3	49.9	50.1	24.7	11.6	188.4	43.7	32.4
LnGrp LOS	E	D	D	F	D	D	D	C	B	F	D	C
Approach Vol, veh/h		1120			830			1624			1704	
Approach Delay, s/veh		52.2			139.7			28.9			59.8	
Approach LOS		D			F			C			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	66.5	12.0	39.5	28.9	49.6	19.5	32.0
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6.3	44.2	6.3	* 49	7.3	* 43	8.3	* 47
Max Q Clear Time (g_c+I1), s	8.3	22.1	8.3	21.4	14.0	34.4	13.5	15.6
Green Ext Time (p_c), s	0.0	14.6	0.0	9.9	0.0	7.5	0.0	6.8

Intersection Summary	
HCM 2010 Ctrl Delay	61.3
HCM 2010 LOS	E

Notes



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	144	994	211	926	114	252	218	121
v/c Ratio	0.82	0.68	1.20	0.63	0.22	0.48	0.60	0.28
Control Delay	67.8	24.6	163.6	23.2	12.8	7.8	20.9	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	24.6	163.6	23.2	12.8	7.8	20.9	9.3
Queue Length 50th (ft)	53	110	~92	98	28	11	56	11
Queue Length 95th (ft)	#200	#257	#295	214	52	56	94	43
Internal Link Dist (ft)		794		417		405		363
Turn Bay Length (ft)	200		285		120		55	
Base Capacity (vph)	176	1468	176	1471	517	950	365	898
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.68	1.20	0.63	0.22	0.27	0.60	0.13

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	833	111	200	743	137	108	32	207	207	32	83
Future Volume (veh/h)	137	833	111	200	743	137	108	32	207	207	32	83
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	144	877	117	211	782	144	114	34	218	218	34	87
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	1243	165	181	1187	217	511	49	314	412	119	305
Arrive On Green	0.10	0.27	0.27	0.10	0.27	0.27	0.08	0.22	0.22	0.12	0.26	0.26
Sat Flow, veh/h	1774	4526	601	1774	4322	790	1774	218	1398	1774	458	1173
Grp Volume(v), veh/h	144	656	338	211	612	314	114	0	252	218	0	121
Grp Sat Flow(s),veh/h/ln	1774	1695	1736	1774	1695	1722	1774	0	1616	1774	0	1631
Q Serve(g_s), s	5.1	11.1	11.2	6.5	10.2	10.3	3.0	0.0	9.2	5.7	0.0	3.8
Cycle Q Clear(g_c), s	5.1	11.1	11.2	6.5	10.2	10.3	3.0	0.0	9.2	5.7	0.0	3.8
Prop In Lane	1.00		0.35	1.00		0.46	1.00		0.87	1.00		0.72
Lane Grp Cap(c), veh/h	181	931	477	181	931	473	511	0	363	412	0	425
V/C Ratio(X)	0.80	0.70	0.71	1.17	0.66	0.66	0.22	0.00	0.70	0.53	0.00	0.29
Avail Cap(c_a), veh/h	181	1009	516	181	1009	512	574	0	860	412	0	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.0	20.8	20.9	28.7	20.5	20.5	16.5	0.0	22.8	15.9	0.0	18.9
Incr Delay (d2), s/veh	20.2	3.2	6.3	119.7	2.5	5.0	0.5	0.0	6.5	2.4	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	5.6	6.2	9.1	5.1	5.5	1.5	0.0	4.7	3.0	0.0	1.8
LnGrp Delay(d),s/veh	48.2	24.1	27.2	148.4	23.0	25.6	16.9	0.0	29.2	18.3	0.0	19.9
LnGrp LOS	D	C	C	F	C	C	B		C	B		B
Approach Vol, veh/h		1138			1137			366			339	
Approach Delay, s/veh		28.1			47.0			25.4			18.8	
Approach LOS		C			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.5	23.5	10.5	19.3	10.5	23.5	8.2	21.6
Change Period (Y+Rc), s	4.0	6.0	3.0	5.0	4.0	6.0	3.0	5.0
Max Green Setting (Gmax), s	6.5	19.0	7.5	34.0	6.5	19.0	7.5	34.0
Max Q Clear Time (g_c+I1), s	8.5	13.2	7.7	11.2	7.1	12.3	5.0	5.8
Green Ext Time (p_c), s	0.0	4.3	0.0	3.3	0.0	4.6	0.1	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	33.9
HCM 2010 LOS	C



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	77	1279	162	962	70	257	51	28	53
v/c Ratio	0.49	0.70	1.03	0.50	0.28	0.60	0.41	0.08	0.15
Control Delay	44.8	16.1	120.2	12.4	28.9	15.7	37.1	25.1	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.8	16.1	120.2	12.4	28.9	15.7	37.1	25.1	3.9
Queue Length 50th (ft)	34	203	~78	133	28	32	21	11	0
Queue Length 95th (ft)	#89	344	#216	231	62	98	53	31	16
Internal Link Dist (ft)		1064		2595		1465		519	
Turn Bay Length (ft)	235		300						200
Base Capacity (vph)	164	1880	157	1929	638	822	317	864	777
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.68	1.03	0.50	0.11	0.31	0.16	0.03	0.07

Intersection Summary

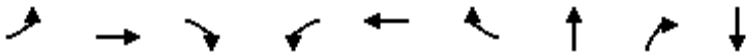
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	1054	122	149	787	98	64	5	232	47	26	49
Future Volume (veh/h)	71	1054	122	149	787	98	64	5	232	47	26	49
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	77	1146	133	162	855	107	70	5	252	51	28	53
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	1542	179	153	1599	200	384	7	357	186	432	367
Arrive On Green	0.06	0.48	0.48	0.09	0.51	0.51	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1774	3188	369	1774	3161	396	1312	31	1537	1118	1863	1583
Grp Volume(v), veh/h	77	635	644	162	479	483	70	0	257	51	28	53
Grp Sat Flow(s),veh/h/ln	1774	1770	1787	1774	1770	1787	1312	0	1568	1118	1863	1583
Q Serve(g_s), s	3.2	21.9	22.0	6.5	13.9	13.9	3.3	0.0	11.4	3.3	0.9	2.0
Cycle Q Clear(g_c), s	3.2	21.9	22.0	6.5	13.9	13.9	4.2	0.0	11.4	14.7	0.9	2.0
Prop In Lane	1.00		0.21	1.00		0.22	1.00		0.98	1.00		1.00
Lane Grp Cap(c), veh/h	113	856	864	153	895	904	384	0	364	186	432	367
V/C Ratio(X)	0.68	0.74	0.75	1.06	0.53	0.53	0.18	0.00	0.71	0.27	0.06	0.14
Avail Cap(c_a), veh/h	160	924	934	153	917	926	670	0	705	430	838	712
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	15.7	15.8	34.6	12.6	12.6	24.3	0.0	26.7	33.4	22.6	23.1
Incr Delay (d2), s/veh	2.7	5.0	5.1	90.4	1.8	1.8	0.5	0.0	5.3	1.7	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	11.8	11.9	7.0	7.1	7.2	1.3	0.0	5.5	1.1	0.5	0.9
LnGrp Delay(d),s/veh	37.4	20.7	20.8	125.0	14.5	14.5	24.8	0.0	32.0	35.1	22.8	23.5
LnGrp LOS	D	C	C	F	B	B	C		C	D	C	C
Approach Vol, veh/h		1356			1124			327			132	
Approach Delay, s/veh		21.7			30.4			30.4			27.8	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	42.6		22.5	8.8	44.3		22.5
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	6.5	39.5		34.0	6.8	39.2		34.0
Max Q Clear Time (g_c+I1), s	8.5	24.0		13.4	5.2	15.9		16.7
Green Ext Time (p_c), s	0.0	12.6		3.5	0.0	13.3		0.8

Intersection Summary		
HCM 2010 Ctrl Delay		26.3
HCM 2010 LOS		C



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	157	910	67	137	855	67	257	50	296
v/c Ratio	0.66	0.66	0.10	0.65	0.65	0.11	0.61	0.10	0.64
Control Delay	45.2	21.0	4.2	47.1	21.5	4.5	28.9	1.4	26.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.2	21.0	4.2	47.1	21.5	4.5	28.9	1.4	26.4
Queue Length 50th (ft)	64	160	0	57	153	0	98	0	98
Queue Length 95th (ft)	#159	266	21	#148	255	22	165	7	172
Internal Link Dist (ft)		2595			1244		367		412
Turn Bay Length (ft)	300		110	290		100		50	
Base Capacity (vph)	262	1464	700	225	1396	671	792	823	825
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.62	0.10	0.61	0.61	0.10	0.32	0.06	0.36

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	837	62	126	787	62	43	193	46	34	140	98
Future Volume (veh/h)	144	837	62	126	787	62	43	193	46	34	140	98
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	157	910	67	137	855	67	47	210	50	37	152	107
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	1375	615	174	1328	594	122	402	411	94	231	147
Arrive On Green	0.11	0.39	0.39	0.10	0.38	0.38	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	203	1550	1583	108	891	566
Grp Volume(v), veh/h	157	910	67	137	855	67	257	0	50	296	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1753	0	1583	1565	0	0
Q Serve(g_s), s	5.3	12.9	1.6	4.6	12.1	1.7	0.0	0.0	1.5	3.4	0.0	0.0
Cycle Q Clear(g_c), s	5.3	12.9	1.6	4.6	12.1	1.7	7.4	0.0	1.5	10.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.18		1.00	0.12		0.36
Lane Grp Cap(c), veh/h	198	1375	615	174	1328	594	524	0	411	472	0	0
V/C Ratio(X)	0.79	0.66	0.11	0.79	0.64	0.11	0.49	0.00	0.12	0.63	0.00	0.00
Avail Cap(c_a), veh/h	291	1618	724	250	1537	688	992	0	856	929	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.4	15.4	11.9	26.9	15.7	12.4	19.4	0.0	17.3	20.5	0.0	0.0
Incr Delay (d2), s/veh	5.1	2.1	0.3	6.1	2.0	0.3	1.5	0.0	0.3	2.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.6	0.8	2.5	6.3	0.8	3.9	0.0	0.7	4.9	0.0	0.0
LnGrp Delay(d),s/veh	31.5	17.4	12.2	33.0	17.7	12.7	20.9	0.0	17.6	23.4	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	C		B	C		
Approach Vol, veh/h		1134			1059			307			296	
Approach Delay, s/veh		19.1			19.3			20.4			23.4	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.0	30.2		20.8	10.8	29.4		20.8
Change Period (Y+Rc), s	4.0	6.5		5.0	4.0	6.5		5.0
Max Green Setting (Gmax), s	8.6	27.9		33.0	10.0	26.5		33.0
Max Q Clear Time (g_c+I1), s	6.6	14.9		9.4	7.3	14.1		12.8
Green Ext Time (p_c), s	0.0	8.8		3.3	0.0	8.1		3.1

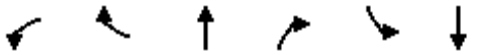
Intersection Summary	
HCM 2010 Ctrl Delay	19.8
HCM 2010 LOS	B



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	78	426	300	42	439	201
v/c Ratio	0.21	0.64	0.29	0.05	0.74	0.20
Control Delay	16.8	7.4	5.9	2.2	17.1	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.8	7.4	5.9	2.2	17.1	5.3
Queue Length 50th (ft)	14	0	26	0	53	16
Queue Length 95th (ft)	48	57	85	10	#254	57
Internal Link Dist (ft)	1226		772			355
Turn Bay Length (ft)		100		160	145	
Base Capacity (vph)	840	959	1532	1283	884	1532
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.44	0.20	0.03	0.50	0.13

Intersection Summary

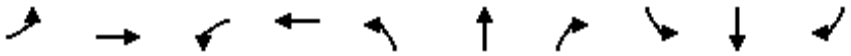
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	73	396	279	39	408	187
Future Volume (veh/h)	73	396	279	39	408	187
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	78	426	300	42	439	201
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	529	472	1012	842	598	1012
Arrive On Green	0.30	0.30	0.54	0.54	0.54	0.54
Sat Flow, veh/h	1774	1583	1863	1551	1034	1863
Grp Volume(v), veh/h	78	426	300	42	439	201
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1551	1034	1863
Q Serve(g_s), s	1.8	14.7	5.0	0.7	22.8	3.1
Cycle Q Clear(g_c), s	1.8	14.7	5.0	0.7	27.8	3.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	529	472	1012	842	598	1012
V/C Ratio(X)	0.15	0.90	0.30	0.05	0.73	0.20
Avail Cap(c_a), veh/h	562	502	1082	901	637	1082
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	14.6	19.1	7.1	6.1	14.6	6.6
Incr Delay (d2), s/veh	0.1	18.7	0.2	0.0	4.1	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	0.9	8.8	2.5	0.3	7.1	1.6
LnGrp Delay(d),s/veh	14.8	37.9	7.2	6.1	18.8	6.7
LnGrp LOS	B	D	A	A	B	A
Approach Vol, veh/h	504		342			640
Approach Delay, s/veh	34.3		7.1			15.0
Approach LOS	C		A			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		35.4				35.4		21.5
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		33.0				33.0		18.0
Max Q Clear Time (g_c+I1), s		7.0				29.8		16.7
Green Ext Time (p_c), s		1.8				1.1		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	19.7
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	213	360	159	431	71	1090	143	343	1226	173
v/c Ratio	0.72	0.43	0.91	0.58	0.42	0.67	0.23	0.71	0.56	0.22
Control Delay	62.8	37.1	102.2	20.5	62.9	39.0	2.6	58.5	29.4	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.8	37.1	102.2	20.5	62.9	39.0	2.6	58.5	29.4	3.6
Queue Length 50th (ft)	155	123	124	70	27	262	0	130	254	0
Queue Length 95th (ft)	#330	131	#255	89	53	#415	21	#241	#424	38
Internal Link Dist (ft)		395		1342		1110			1348	
Turn Bay Length (ft)	155		300		210		150	185		150
Base Capacity (vph)	294	1349	175	1332	171	1636	632	482	2195	786
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.27	0.91	0.32	0.42	0.67	0.23	0.71	0.56	0.22

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	305	48	156	181	241	70	1068	140	336	1201	170
Future Volume (veh/h)	209	305	48	156	181	241	70	1068	140	336	1201	170
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	213	311	49	159	185	246	71	1090	143	343	1226	173
Adj No. of Lanes	1	2	0	1	2	0	2	3	1	2	3	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	732	114	176	376	336	662	1843	572	338	1335	415
Arrive On Green	0.12	0.24	0.24	0.10	0.21	0.21	0.19	0.36	0.36	0.10	0.26	0.26
Sat Flow, veh/h	1774	3069	478	1774	1770	1579	3442	5085	1579	3442	5085	1580
Grp Volume(v), veh/h	213	178	182	159	185	246	71	1090	143	343	1226	173
Grp Sat Flow(s),veh/h/ln	1774	1770	1778	1774	1770	1579	1721	1695	1579	1721	1695	1580
Q Serve(g_s), s	14.3	10.2	10.4	10.6	11.0	17.4	2.0	20.9	7.6	11.8	28.1	10.9
Cycle Q Clear(g_c), s	14.3	10.2	10.4	10.6	11.0	17.4	2.0	20.9	7.6	11.8	28.1	10.9
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	422	424	176	376	336	662	1843	572	338	1335	415
V/C Ratio(X)	1.01	0.42	0.43	0.90	0.49	0.73	0.11	0.59	0.25	1.01	0.92	0.42
Avail Cap(c_a), veh/h	211	684	687	176	649	579	662	1843	572	338	1335	415
HCM Platoon Ratio	1.00	1.00	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	0.09	0.09	0.09	0.64	0.64	0.64
Uniform Delay (d), s/veh	52.8	38.7	38.8	53.5	41.5	44.1	40.0	31.0	26.8	54.1	43.0	36.6
Incr Delay (d2), s/veh	63.9	1.2	1.3	40.7	2.3	7.1	0.0	0.1	0.1	42.4	7.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	5.1	5.3	7.2	5.6	8.2	1.0	9.8	3.3	7.6	14.1	5.0
LnGrp Delay(d),s/veh	116.7	39.9	40.1	94.2	43.9	51.2	40.0	31.2	26.9	96.6	50.9	38.6
LnGrp LOS	F	D	D	F	D	D	D	C	C	F	D	D
Approach Vol, veh/h		573			590			1304			1742	
Approach Delay, s/veh		68.5			60.5			31.2			58.7	
Approach LOS		E			E			C			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	17.5	49.9	17.6	35.0	29.5	37.9	20.7	31.9
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	6.4	6.4	* 6.4	6.4	* 6.4
Max Green Setting (Gmax), s	* 12	25.7	* 12	46.4	6.0	* 32	14.3	* 44
Max Q Clear Time (g_c+I1), s	13.8	22.9	12.6	12.4	4.0	30.1	16.3	19.4
Green Ext Time (p_c), s	0.0	2.6	0.0	3.8	0.0	1.3	0.0	5.1

Intersection Summary	
HCM 2010 Ctrl Delay	51.8
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	95	699	52	323	541	82	94	99	405	53	165	75
Future Vol, veh/h	95	699	52	323	541	82	94	99	405	53	165	75
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	145	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	721	54	333	558	85	97	102	418	55	170	77

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	643	0	0	775	0	0	2334	2253	748	2471	2238	601
Stage 1	-	-	-	-	-	-	944	944	-	1267	1267	-
Stage 2	-	-	-	-	-	-	1390	1309	-	1204	971	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	942	-	-	841	-	-	~ 26	~ 41	~ 412	~ 20	~ 42	500
Stage 1	-	-	-	-	-	-	315	341	-	207	240	-
Stage 2	-	-	-	-	-	-	176	229	-	225	331	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	942	-	-	841	-	-	-	~ 22	~ 412	-	~ 23	500
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 22	-	-	~ 23	-
Stage 1	-	-	-	-	-	-	282	306	-	185	~ 145	-
Stage 2	-	-	-	-	-	-	-	138	-	-	297	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	4.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	-	22	141	942	-	-	841	-	-	-	23	42
HCM Lane V/C Ratio	-	2.32	3.323	0.104	-	-	0.396	-	-	-	3.698	3.866
HCM Control Delay (s)	-$	974.8	$ 1111.3	9.3	-	-	12.1	-	-	-	$ 1561.5	$ 1487.2
HCM Lane LOS	-	F	F	A	-	-	B	-	-	-	F	F
HCM 95th %tile Q(veh)	-	6.5	44.9	0.3	-	-	1.9	-	-	-	10.7	18.4

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

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	192	701	18	10	540	10	9	6	2	6	8	208
Future Vol, veh/h	192	701	18	10	540	10	9	6	2	6	8	208
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	90	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	198	723	19	10	557	10	9	6	2	6	8	214

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	567	0	0	742	0	0	1822	1716	733	1715	1720	562
Stage 1	-	-	-	-	-	-	1129	1129	-	582	582	-
Stage 2	-	-	-	-	-	-	693	587	-	1133	1138	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1005	-	-	865	-	-	60	90	421	71	89	526
Stage 1	-	-	-	-	-	-	248	279	-	499	499	-
Stage 2	-	-	-	-	-	-	434	497	-	247	276	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1005	-	-	865	-	-	27	71	421	56	71	526
Mov Cap-2 Maneuver	-	-	-	-	-	-	27	71	-	56	71	-
Stage 1	-	-	-	-	-	-	199	224	-	401	493	-
Stage 2	-	-	-	-	-	-	250	491	-	192	222	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	0.2	152.2	23.9
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	40	1005	-	-	865	-	-	56	425
HCM Lane V/C Ratio	0.438	0.197	-	-	0.012	-	-	0.11	0.524
HCM Control Delay (s)	152.2	9.5	-	-	9.2	-	-	77.1	22.4
HCM Lane LOS	F	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	1.5	0.7	-	-	0	-	-	0.4	3



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	382	390	111	4	12	85	283	272
v/c Ratio	0.64	0.64	0.13	0.02	0.01	0.25	0.31	0.49
Control Delay	12.6	12.6	3.6	14.0	13.6	15.8	4.0	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	12.6	3.6	14.0	13.6	15.8	4.0	6.1
Queue Length 50th (ft)	47	48	5	1	1	13	1	0
Queue Length 95th (ft)	140	143	24	7	6	53	26	51
Internal Link Dist (ft)		563	789		604		1556	
Turn Bay Length (ft)	260			225		195		200
Base Capacity (vph)	1212	1226	1740	636	2117	834	1844	971
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.32	0.06	0.01	0.01	0.10	0.15	0.28

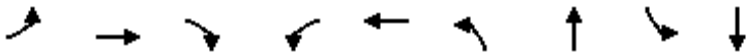
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	639	64	6	2	55	45	4	11	0	78	9	501
Future Volume (veh/h)	639	64	6	2	55	45	4	11	0	78	9	501
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	752	0	0	2	60	49	4	12	0	85	10	545
Adj No. of Lanes	2	1	0	0	1	0	1	2	0	1	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1564	754	0	127	387	309	487	1026	0	646	540	918
Arrive On Green	0.40	0.00	0.00	0.40	0.40	0.40	0.29	0.29	0.00	0.29	0.29	0.29
Sat Flow, veh/h	2558	1863	0	7	957	762	850	3632	0	1397	1863	3167
Grp Volume(v), veh/h	752	0	0	111	0	0	4	12	0	85	10	545
Grp Sat Flow(s),veh/h/ln	1279	1863	0	1726	0	0	850	1770	0	1397	1863	1583
Q Serve(g_s), s	5.4	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	1.4	0.1	4.4
Cycle Q Clear(g_c), s	6.6	0.0	0.0	1.2	0.0	0.0	0.2	0.1	0.0	1.4	0.1	4.4
Prop In Lane	1.00		0.00	0.02		0.44	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1564	754	0	823	0	0	487	1026	0	646	540	918
V/C Ratio(X)	0.48	0.00	0.00	0.13	0.00	0.00	0.01	0.01	0.00	0.13	0.02	0.59
Avail Cap(c_a), veh/h	5775	3820	0	3652	0	0	832	2460	0	1211	1294	2201
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.1	0.0	0.0	5.6	0.0	0.0	7.6	7.5	0.0	8.0	7.5	9.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.5	0.1	2.0
LnGrp Delay(d),s/veh	7.3	0.0	0.0	5.7	0.0	0.0	7.6	7.5	0.0	8.1	7.5	9.6
LnGrp LOS	A			A			A	A		A	A	A
Approach Vol, veh/h		752			111			16			640	
Approach Delay, s/veh		7.3			5.7			7.5			9.4	
Approach LOS		A			A			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		13.1		16.4		13.1		16.4
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		20.5		60.5		20.5		60.5
Max Q Clear Time (g_c+I1), s		2.2		8.6		6.4		3.2
Green Ext Time (p_c), s		0.0		3.3		2.2		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	8.0
HCM 2010 LOS	A

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	19	299	59	109	472	67	705	162	641
v/c Ratio	0.16	0.63	0.12	0.65	0.38	0.43	0.68	0.75	0.51
Control Delay	48.4	37.1	0.5	62.5	18.4	51.9	30.9	64.3	25.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.4	37.1	0.5	62.5	18.4	51.9	30.9	64.3	25.9
Queue Length 50th (ft)	10	151	0	61	70	37	176	91	153
Queue Length 95th (ft)	38	260	0	#170	146	91	273	#244	245
Internal Link Dist (ft)		776			1573		775		800
Turn Bay Length (ft)	145		245	180		300		305	
Base Capacity (vph)	127	722	689	177	1453	195	1421	217	1475
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.41	0.09	0.62	0.32	0.34	0.50	0.75	0.43

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	284	56	104	283	165	64	539	131	154	553	56
Future Volume (veh/h)	18	284	56	104	283	165	64	539	131	154	553	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	19	299	59	109	298	174	67	567	138	162	582	59
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	428	364	139	611	347	108	839	204	200	1132	115
Arrive On Green	0.03	0.23	0.23	0.08	0.28	0.28	0.06	0.30	0.30	0.11	0.35	0.35
Sat Flow, veh/h	1774	1863	1583	1774	2166	1230	1774	2826	686	1774	3246	328
Grp Volume(v), veh/h	19	299	59	109	242	230	67	354	351	162	317	324
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	1627	1774	1770	1742	1774	1770	1805
Q Serve(g_s), s	0.8	10.8	2.2	4.4	8.3	8.6	2.7	12.9	12.9	6.5	10.4	10.4
Cycle Q Clear(g_c), s	0.8	10.8	2.2	4.4	8.3	8.6	2.7	12.9	12.9	6.5	10.4	10.4
Prop In Lane	1.00		1.00	1.00		0.76	1.00		0.39	1.00		0.18
Lane Grp Cap(c), veh/h	47	428	364	139	499	459	108	526	517	200	617	630
V/C Ratio(X)	0.41	0.70	0.16	0.78	0.48	0.50	0.62	0.67	0.68	0.81	0.51	0.52
Avail Cap(c_a), veh/h	153	867	737	214	884	813	236	867	854	262	894	912
HCM Platoon Ratio	1.00	1.00	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	35.0	25.8	22.5	33.1	21.8	21.9	33.5	22.6	22.6	31.6	18.9	18.9
Incr Delay (d2), s/veh	2.1	6.2	0.6	4.4	2.2	2.6	2.1	2.9	3.0	10.2	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.2	1.0	2.3	4.3	4.2	1.4	6.7	6.7	3.8	5.2	5.4
LnGrp Delay(d),s/veh	37.1	32.0	23.1	37.5	24.1	24.5	35.6	25.5	25.6	41.8	20.2	20.2
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		377			581			772			803	
Approach Delay, s/veh		30.9			26.8			26.4			24.5	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	28.7	9.9	22.0	8.7	32.5	6.1	25.8
Change Period (Y+Rc), s	* 4.2	7.0	* 4.2	5.2	* 4.2	7.0	* 4.2	5.2
Max Green Setting (Gmax), s	* 11	35.8	* 8.8	34.0	* 9.7	36.9	* 6.3	36.5
Max Q Clear Time (g_c+I1), s	8.5	14.9	6.4	12.8	4.7	12.4	2.8	10.6
Green Ext Time (p_c), s	0.0	6.8	0.0	4.0	0.0	6.6	0.0	6.2

Intersection Summary	
HCM 2010 Ctrl Delay	26.6
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	466	4	5	491	48	2	0	1	51	1	41
Future Vol, veh/h	30	466	4	5	491	48	2	0	1	51	1	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	190	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	507	4	5	534	52	2	0	1	55	1	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	586	0	0	511	0	0	853	1171	256	890	1147	293
Stage 1	-	-	-	-	-	-	575	575	-	570	570	-
Stage 2	-	-	-	-	-	-	278	596	-	320	577	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	985	-	-	1050	-	-	253	191	743	237	198	703
Stage 1	-	-	-	-	-	-	470	501	-	474	504	-
Stage 2	-	-	-	-	-	-	705	490	-	666	500	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	985	-	-	1050	-	-	229	184	743	230	190	703
Mov Cap-2 Maneuver	-	-	-	-	-	-	229	184	-	230	190	-
Stage 1	-	-	-	-	-	-	454	484	-	458	501	-
Stage 2	-	-	-	-	-	-	656	488	-	643	483	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	17.2	20.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	298	985	-	-	1050	-	-	326
HCM Lane V/C Ratio	0.011	0.033	-	-	0.005	-	-	0.31
HCM Control Delay (s)	17.2	8.8	-	-	8.4	-	-	20.9
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	1.3

Intersection	
Int Delay, s/veh	12.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	114	537	574	190	125	123
Future Vol, veh/h	114	537	574	190	125	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	190	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	124	584	624	207	136	134

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	831	0	-	0	1268	416
Stage 1	-	-	-	-	728	-
Stage 2	-	-	-	-	540	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	797	-	-	-	160	585
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	548	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	797	-	-	-	~ 135	585
Mov Cap-2 Maneuver	-	-	-	-	~ 135	-
Stage 1	-	-	-	-	371	-
Stage 2	-	-	-	-	548	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	78.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	797	-	-	-	135	585
HCM Lane V/C Ratio	0.155	-	-	-	1.006	0.229
HCM Control Delay (s)	10.3	-	-	-	143	13
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	0.5	-	-	-	7.2	0.9

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

Intersection	
Int Delay, s/veh	256.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	79	503	74	161	544	32	131	0	260	135	0	68
Future Vol, veh/h	79	503	74	161	544	32	131	0	260	135	0	68
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	547	80	175	591	35	142	0	283	147	0	74

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	627	0	0	627	0	0	1405	1736	314	1406	1759	314
Stage 1	-	-	-	-	-	-	759	759	-	960	960	-
Stage 2	-	-	-	-	-	-	646	977	-	446	799	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	951	-	-	951	-	-	~ 99	87	682	~ 99	84	682
Stage 1	-	-	-	-	-	-	365	413	-	276	333	-
Stage 2	-	-	-	-	-	-	427	327	-	561	396	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	950	-	-	951	-	-	~ 71	64	682	~ 46	62	681
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 71	64	-	~ 46	62	-
Stage 1	-	-	-	-	-	-	332	375	-	251	271	-
Stage 2	-	-	-	-	-	-	311	267	-	299	360	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	2.1	$ 695.3	$ 1162.8
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	176	950	-	-	951	-	-	67
HCM Lane V/C Ratio	2.415	0.09	-	-	0.184	-	-	3.293
HCM Control Delay (s)	$ 695.3	9.2	-	-	9.6	-	-	$ 1162.8
HCM Lane LOS	F	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	35.6	0.3	-	-	0.7	-	-	22.8

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



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	134	516	297	299	288	1307	183	986	67
v/c Ratio	1.15	0.77	0.82	0.28	1.53	1.32	0.86	0.65	0.11
Control Delay	174.1	40.0	59.5	24.4	298.9	185.9	84.4	37.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	174.1	40.0	59.5	24.4	298.9	185.9	84.4	37.4	0.4
Queue Length 50th (ft)	~111	134	201	70	~286	~626	130	225	0
Queue Length 95th (ft)	#236	196	280	97	#455	#765	#340	298	0
Internal Link Dist (ft)		765		337		252		1110	
Turn Bay Length (ft)	180		175		205		290		210
Base Capacity (vph)	117	689	469	1294	188	987	213	1509	619
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.15	0.75	0.63	0.23	1.53	1.32	0.86	0.65	0.11

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	283	197	276	214	64	268	974	242	170	917	62
Future Volume (veh/h)	125	283	197	276	214	64	268	974	242	170	917	62
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	134	304	212	297	230	69	288	1047	260	183	986	67
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	3	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	346	235	328	800	234	305	1008	249	97	1174	361
Arrive On Green	0.07	0.17	0.17	0.18	0.30	0.30	0.17	0.36	0.36	0.05	0.23	0.23
Sat Flow, veh/h	1774	2008	1362	1774	2694	788	1774	2813	695	1774	5085	1561
Grp Volume(v), veh/h	134	267	249	297	149	150	288	657	650	183	986	67
Grp Sat Flow(s),veh/h/ln	1774	1770	1601	1774	1770	1712	1774	1770	1739	1774	1695	1561
Q Serve(g_s), s	7.3	16.2	16.8	18.0	7.1	7.4	17.7	39.4	39.4	6.0	20.3	2.9
Cycle Q Clear(g_c), s	7.3	16.2	16.8	18.0	7.1	7.4	17.7	39.4	39.4	6.0	20.3	2.9
Prop In Lane	1.00		0.85	1.00		0.46	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	118	305	276	328	526	509	305	634	623	97	1174	361
V/C Ratio(X)	1.14	0.88	0.90	0.91	0.28	0.29	0.94	1.04	1.04	1.89	0.84	0.19
Avail Cap(c_a), veh/h	118	307	278	471	660	638	305	634	623	97	1174	361
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	51.3	44.4	44.6	43.9	29.7	29.8	45.0	35.3	35.3	52.0	40.4	19.9
Incr Delay (d2), s/veh	124.9	25.9	32.5	13.0	0.9	0.9	36.4	45.2	47.9	429.4	5.7	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	7.6	10.1	9.9	10.0	3.6	3.6	11.7	27.2	27.2	14.5	10.1	1.6
LnGrp Delay(d),s/veh	176.2	70.2	77.1	56.9	30.5	30.7	81.4	80.5	83.2	481.4	46.1	20.8
LnGrp LOS	F	E	E	E	C	C	F	F	F	F	D	C
Approach Vol, veh/h		650			596			1595			1236	
Approach Delay, s/veh		94.7			43.7			81.8			109.2	
Approach LOS		F			D			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	46.2	26.7	25.4	25.7	32.2	13.0	39.1
Change Period (Y+Rc), s	* 5.7	6.8	6.4	* 6.4	6.8	* 6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 6	31.1	29.2	* 19	11.7	* 25	* 7.3	41.0
Max Q Clear Time (g_c+I1), s	8.0	41.4	20.0	18.8	19.7	22.3	9.3	9.4
Green Ext Time (p_c), s	0.0	0.0	0.3	0.2	0.0	2.5	0.0	3.9

Intersection Summary	
HCM 2010 Ctrl Delay	86.6
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	15.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	286	219	56	33	184	345
Future Vol, veh/h	286	219	56	33	184	345
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	311	238	61	36	200	375

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	97	0	-	0	820	49
Stage 1	-	-	-	-	79	-
Stage 2	-	-	-	-	741	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1494	-	-	-	313	1009
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	432	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1494	-	-	-	248	1009
Mov Cap-2 Maneuver	-	-	-	-	248	-
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	432	-

Approach	EB	WB	SB
HCM Control Delay, s	4.6	0	28.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1494	-	-	-	248	1009
HCM Lane V/C Ratio	0.208	-	-	-	0.806	0.372
HCM Control Delay (s)	8	-	-	-	60.6	10.7
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.8	-	-	-	6.2	1.7



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	43	11	320	8	1324	76	1153	81
v/c Ratio	0.15	0.02	0.76	0.05	0.92	0.46	0.63	0.09
Control Delay	19.5	0.1	26.6	33.9	34.7	43.4	17.5	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	0.1	26.6	33.9	34.7	43.4	17.5	1.5
Queue Length 50th (ft)	14	0	76	3	257	29	135	0
Queue Length 95th (ft)	35	0	154	18	#600	#101	#487	11
Internal Link Dist (ft)	1563		335		1230		639	
Turn Bay Length (ft)		25		475		465		140
Base Capacity (vph)	625	909	783	166	1432	166	1823	860
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.01	0.41	0.05	0.92	0.46	0.63	0.09

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	3	11	171	0	140	8	1208	77	74	1118	79
Future Volume (veh/h)	39	3	11	171	0	140	8	1208	77	74	1118	79
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		0.98
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	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	40	3	11	176	0	144	8	1245	79	76	1153	81
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	24	415	271	12	164	22	1280	81	119	1535	672
Arrive On Green	0.26	0.26	0.26	0.26	0.00	0.26	0.01	0.38	0.38	0.07	0.43	0.43
Sat Flow, veh/h	1033	93	1583	722	45	627	1774	3375	214	1774	3539	1549
Grp Volume(v), veh/h	43	0	11	320	0	0	8	652	672	76	1153	81
Grp Sat Flow(s),veh/h/ln	1127	0	1583	1394	0	0	1774	1770	1819	1774	1770	1549
Q Serve(g_s), s	0.0	0.0	0.4	13.3	0.0	0.0	0.3	24.8	24.9	2.9	18.8	2.1
Cycle Q Clear(g_c), s	2.0	0.0	0.4	15.3	0.0	0.0	0.3	24.8	24.9	2.9	18.8	2.1
Prop In Lane	0.93		1.00	0.55		0.45	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	397	0	415	447	0	0	22	671	690	119	1535	672
V/C Ratio(X)	0.11	0.00	0.03	0.72	0.00	0.00	0.36	0.97	0.97	0.64	0.75	0.12
Avail Cap(c_a), veh/h	700	0	794	769	0	0	155	671	690	155	1535	672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	0.0	18.8	24.7	0.0	0.0	33.6	20.9	21.0	31.2	16.3	11.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	0.0	3.7	28.3	28.5	2.1	3.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.2	5.9	0.0	0.0	0.2	17.2	17.8	1.5	9.8	1.0
LnGrp Delay(d),s/veh	19.4	0.0	18.8	25.5	0.0	0.0	37.3	49.3	49.4	33.3	19.5	11.9
LnGrp LOS	B		B	C			D	D	D	C	B	B
Approach Vol, veh/h		54			320			1332			1310	
Approach Delay, s/veh		19.3			25.5			49.3			19.8	
Approach LOS		B			C			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.3	32.8		25.5	6.5	36.5		25.5
Change Period (Y+Rc), s	* 5.7	6.8		* 7.5	* 5.7	6.8		7.5
Max Green Setting (Gmax), s	* 6	26.0		* 34	* 6	26.0		33.0
Max Q Clear Time (g_c+I1), s	4.9	26.9		4.0	2.3	20.8		17.3
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	4.6		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	33.4
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	5	32	2	4	41	165	1323	69	32	1367	70
Future Vol, veh/h	41	5	32	2	4	41	165	1323	69	32	1367	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	470	-	-	485	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	5	34	2	4	43	174	1393	73	34	1439	74

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2591	3358	757	2568	3359	733	1513	0	0	1466	0	0
Stage 1	1544	1544	-	1778	1778	-	-	-	-	-	-	-
Stage 2	1047	1814	-	790	1581	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 12	8	350	13	8	363	438	-	-	456	-	-
Stage 1	120	175	-	85	134	-	-	-	-	-	-	-
Stage 2	244	128	-	350	167	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 4	350	-	~ 4	363	438	-	-	456	-	-
Mov Cap-2 Maneuver	-	~ 4	-	-	~ 4	-	-	-	-	-	-	-
Stage 1	72	162	-	51	81	-	-	-	-	-	-	-
Stage 2	123	77	-	283	154	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			2	0.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	438	-	-	-	-	456	-	-
HCM Lane V/C Ratio	0.397	-	-	-	-	0.074	-	-
HCM Control Delay (s)	18.5	-	-	-	-	13.5	-	-
HCM Lane LOS	C	-	-	-	-	B	-	-
HCM 95th %tile Q(veh)	1.9	-	-	-	-	0.2	-	-

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



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	269	34	135	1280	68	1292
v/c Ratio	0.76	0.09	0.73	0.82	0.40	0.91
Control Delay	38.0	13.0	59.1	27.1	40.3	34.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	13.0	59.1	27.1	40.3	34.2
Queue Length 50th (ft)	105	4	64	297	32	308
Queue Length 95th (ft)	#189	25	#153	#476	70	#475
Internal Link Dist (ft)	298	1139		1140		2537
Turn Bay Length (ft)			470		475	
Base Capacity (vph)	426	455	194	1564	208	1415
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.07	0.70	0.82	0.33	0.91

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	1	84	10	1	20	124	1164	14	63	1177	12
Future Volume (veh/h)	163	1	84	10	1	20	124	1164	14	63	1177	12
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		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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	177	1	91	11	1	22	135	1265	15	68	1279	13
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	292	7	111	153	41	233	170	1601	19	110	1484	15
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.10	0.45	0.45	0.06	0.41	0.41
Sat Flow, veh/h	937	34	496	389	182	1046	1774	3581	42	1774	3589	36
Grp Volume(v), veh/h	269	0	0	34	0	0	135	625	655	68	630	662
Grp Sat Flow(s),veh/h/ln	1467	0	0	1617	0	0	1774	1770	1854	1774	1770	1856
Q Serve(g_s), s	11.3	0.0	0.0	0.0	0.0	0.0	5.4	21.7	21.8	2.7	23.4	23.4
Cycle Q Clear(g_c), s	12.5	0.0	0.0	1.2	0.0	0.0	5.4	21.7	21.8	2.7	23.4	23.4
Prop In Lane	0.66		0.34	0.32		0.65	1.00		0.02	1.00		0.02
Lane Grp Cap(c), veh/h	410	0	0	427	0	0	170	791	829	110	731	767
V/C Ratio(X)	0.66	0.00	0.00	0.08	0.00	0.00	0.80	0.79	0.79	0.62	0.86	0.86
Avail Cap(c_a), veh/h	531	0	0	551	0	0	204	791	829	219	744	781
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	0.0	0.0	22.2	0.0	0.0	31.9	17.0	17.0	33.0	19.3	19.3
Incr Delay (d2), s/veh	3.1	0.0	0.0	0.1	0.0	0.0	13.6	7.7	7.4	2.1	12.5	12.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	0.0	0.6	0.0	0.0	3.3	12.3	12.8	1.4	13.9	14.5
LnGrp Delay(d),s/veh	29.6	0.0	0.0	22.3	0.0	0.0	45.4	24.7	24.4	35.1	31.8	31.3
LnGrp LOS	C			C			D	C	C	D	C	C
Approach Vol, veh/h		269			34			1415			1360	
Approach Delay, s/veh		29.6			22.3			26.6			31.7	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.2	40.1		21.8	12.6	37.7		21.8
Change Period (Y+Rc), s	* 5.7	7.9		* 5.7	* 5.7	7.9		* 5.7
Max Green Setting (Gmax), s	* 8.9	29.7		* 22	* 8.3	30.3		* 22
Max Q Clear Time (g_c+I1), s	4.7	23.8		14.5	7.4	25.4		3.2
Green Ext Time (p_c), s	0.0	5.2		1.4	0.0	4.4		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	29.1
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	571	124	0	554	0	25
Future Vol, veh/h	571	124	0	554	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	595	129	0	577	0	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	362
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	635
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	635
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	635	-	-	-
HCM Lane V/C Ratio	0.041	-	-	-
HCM Control Delay (s)	10.9	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	659	84	90	550	23	0	0	25	0	0	46
Future Vol, veh/h	19	659	84	90	550	23	0	0	25	0	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	92	92	96	96	92	92	92	96	92	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	686	91	98	573	24	0	0	27	0	0	48

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	597	0	0	777	0	0	-	-	389	-	-	299
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	976	-	-	835	-	-	0	0	610	0	0	697
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	976	-	-	835	-	-	-	-	610	-	-	697
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.4	11.2	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	610	976	-	-	835	-	-	697
HCM Lane V/C Ratio	0.045	0.02	-	-	0.117	-	-	0.069
HCM Control Delay (s)	11.2	8.8	-	-	9.9	-	-	10.5
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.4	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	705	0	0	663	0	42
Future Vol, veh/h	705	0	0	663	0	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	766	0	0	721	0	46

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	383
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	615
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	615
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	615	-	-	-
HCM Lane V/C Ratio	0.074	-	-	-
HCM Control Delay (s)	11.3	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	246	501	398	3	4	265
Future Vol, veh/h	246	501	398	3	4	265
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	265	539	428	3	4	285

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	431	0	-	0	1230	216
Stage 1	-	-	-	-	430	-
Stage 2	-	-	-	-	800	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1125	-	-	-	170	789
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	403	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1125	-	-	-	113	789
Mov Cap-2 Maneuver	-	-	-	-	113	-
Stage 1	-	-	-	-	414	-
Stage 2	-	-	-	-	403	-

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1125	-	-	-	113	789
HCM Lane V/C Ratio	0.235	-	-	-	0.038	0.361
HCM Control Delay (s)	9.2	0.8	-	-	38.1	12.1
HCM Lane LOS	A	A	-	-	E	B
HCM 95th %tile Q(veh)	0.9	-	-	-	0.1	1.7

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	0	0	93	0	0	128	0	1173	46	0	1224	166
Future Vol, veh/h	0	0	93	0	0	128	0	1173	46	0	1224	166
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	101	0	0	139	0	1275	50	0	1330	180

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	665	-	-	663	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	403	0	0	404	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	403	-	-	404	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.9	18.5	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	403	404	-	-
HCM Lane V/C Ratio	-	-	0.251	0.344	-	-
HCM Control Delay (s)	-	-	16.9	18.5	-	-
HCM Lane LOS	-	-	C	C	-	-
HCM 95th %tile Q(veh)	-	-	1	1.5	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	122	0	0	106	229	1113	45	78	1116	123
Future Vol, veh/h	0	0	122	0	0	106	229	1113	45	78	1116	123
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	133	0	0	115	249	1210	49	85	1213	134

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	607	-	-	630	1347	0	0	1259	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	439	0	0	424	507	-	-	548	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	439	-	-	424	507	-	-	548	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.7	16.6	3.1	0.8
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	507	-	-	439	424	548	-	-
HCM Lane V/C Ratio	0.491	-	-	0.302	0.272	0.155	-	-
HCM Control Delay (s)	18.8	-	-	16.7	16.6	12.8	-	-
HCM Lane LOS	C	-	-	C	C	B	-	-
HCM 95th %tile Q(veh)	2.7	-	-	1.3	1.1	0.5	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	122	0	0	234	229	1067	91	78	1116	123
Future Vol, veh/h	0	0	122	0	0	234	229	1067	91	78	1116	123
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	133	0	0	254	249	1160	99	85	1213	134

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	607	-	-	630	1347	0	0	1259	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	439	0	0	424	507	-	-	548	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	439	-	-	424	507	-	-	548	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.7	25.4	3.1	0.8
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	507	-	-	439	424	548	-	-
HCM Lane V/C Ratio	0.491	-	-	0.302	0.6	0.155	-	-
HCM Control Delay (s)	18.8	-	-	16.7	25.4	12.8	-	-
HCM Lane LOS	C	-	-	C	D	B	-	-
HCM 95th %tile Q(veh)	2.7	-	-	1.3	3.8	0.5	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	65	89	193	0	0	118
Future Vol, veh/h	65	89	193	0	0	118
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	97	210	0	0	128

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	210	0	-	0	449	210
Stage 1	-	-	-	-	210	-
Stage 2	-	-	-	-	239	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1361	-	-	-	568	830
Stage 1	-	-	-	-	825	-
Stage 2	-	-	-	-	801	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1361	-	-	-	537	830
Mov Cap-2 Maneuver	-	-	-	-	537	-
Stage 1	-	-	-	-	780	-
Stage 2	-	-	-	-	801	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1361	-	-	-	830
HCM Lane V/C Ratio	0.052	-	-	-	0.155
HCM Control Delay (s)	7.8	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	51	38	106	0	0	87
Future Vol, veh/h	51	38	106	0	0	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	41	115	0	0	95

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	115	0	-	0	266	115
Stage 1	-	-	-	-	115	-
Stage 2	-	-	-	-	151	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1474	-	-	-	723	937
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	877	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1474	-	-	-	696	937
Mov Cap-2 Maneuver	-	-	-	-	696	-
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	877	-

Approach	EB	WB	SB
HCM Control Delay, s	4.3	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1474	-	-	-	937
HCM Lane V/C Ratio	0.038	-	-	-	0.101
HCM Control Delay (s)	7.5	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	18	55	0	0	51
Future Vol, veh/h	20	18	55	0	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	20	60	0	0	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	60	0	-	0	124	60
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	64	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1544	-	-	-	871	1005
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	959	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1544	-	-	-	859	1005
Mov Cap-2 Maneuver	-	-	-	-	859	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	959	-

Approach	EB	WB	SB
HCM Control Delay, s	3.9	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1544	-	-	-	1005
HCM Lane V/C Ratio	0.014	-	-	-	0.055
HCM Control Delay (s)	7.4	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	18	24	0	0	31
Future Vol, veh/h	0	18	24	0	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	26	0	0	34

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	26	0	-	0	46	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1588	-	-	-	964	1050
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1588	-	-	-	964	1050
Mov Cap-2 Maneuver	-	-	-	-	964	-
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	1003	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1588	-	-	-	1050
HCM Lane V/C Ratio	-	-	-	-	0.032
HCM Control Delay (s)	0	-	-	-	8.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	31	0	0	0	0
Future Vol, veh/h	42	31	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	34	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	1047	-	-
HCM Lane V/C Ratio	-	-	0.076	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Appendix M – Mitigated Conditions Level of Service Work Sheets

Existing plus Project Impacts and Mitigation Measures			
Location	***Impact***	***Mitigation Measure***	***Notes***
Intersection #5: Caldwell Avenue/Dans Street	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS E during the a.m. and p.m. peak hours.	The installation of a traffic signal will improve the LOS to acceptable levels during both the a.m. and p.m. peak hour. Traffic Signal warrants are satisfied in the a.m. peak hour. It has been previously recommended that the intersection remain in its current configuration due to the fact that the increase in delay is not expected to noticibly change. Should the City decide to install a traffic signal, the project will pay its fair share. It should be noted that the peak hour signal warrants are satisfied in the a.m. peak hour.	Project to provide contribution
Intersection #14: Cameron Ave/West Street	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operation at LOS F during the p.m. peak hour.	The installation of a traffic signal will improve the LOS to acceptable levels during the p.m. peak hour. Traffic Signal warrants are satisfied in the p.m. peak hour.	TIF-eligible project
Intersection # 17: Visalia Parkway/Dans Street	Addition of project traffic will cause the LOS to drop from LOS D to LOS F in the a.m. peak hour.	The installation of a traffic signal will improve the LOS to acceptable levels during the a.m. peak hour. Traffic Signal warrants are satisfied in the a.m. and p.m. peak hour.	Project to provide contribution
Intersection #18: Visalia Parkway/County Center Drive	Addition of project traffic will cause the LOS to drop from LOS D to LOS F in the p.m. peak hour.	The installation of a traffic signal will improve the LOS to acceptable levels during the p.m. peak hour.	Project to provide contribution
Intersection #20: Visalia Parkway/Mooney Boulevard	Addition of project traffic will cause the LOS to drop from LOS D to LOS E in the p.m. peak hour. Project traffic will also exacerbate the queues for NBL in the a.m. and p.m. peak hours, as well as the SBL during the p.m. peak hour.	The intersection should be widened to include the minimum: Eastbound: 2 left-turn lanes, 1 through lane, 1 right turn-lane Westbound: 2 left-turn lanes, 1 through lane, and 1 shared through-right lane Northbound: 2 left-turn lanes, 1 through lane, and 1 shared through-right lane Southbound: 1 left-turn lane, 3 through lanes, and 1 right-turn lane. Signal timings should also be optimized. *This mitigation requires Caltrans approval and coordination.*	Intersection included in City's CIP
Intersection #23: Mooney Boulevard/Avenue 272	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS F during the a.m. and p.m. peak hours.	The installation of a traffic signal will improve the LOS to acceptable levels during the p.m. peak hour. Traffic Signal warrants are satisfied in the a.m. peak hour. *Requires Caltrans approval and coordination* .	TIF-eligible project

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	611	67	49	599	28	47	0	78	8	0	17
Future Volume (veh/h)	33	611	67	49	599	28	47	0	78	8	0	17
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	37	687	75	55	673	31	53	0	88	9	0	19
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	614	1808	197	93	930	43	153	14	120	127	31	140
Arrive On Green	0.35	0.56	0.56	0.05	0.27	0.27	0.12	0.00	0.12	0.12	0.00	0.12
Sat Flow, veh/h	1774	3212	350	1774	3444	159	466	111	958	281	249	1119
Grp Volume(v), veh/h	37	378	384	55	346	358	141	0	0	28	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1792	1774	1770	1833	1534	0	0	1650	0	0
Q Serve(g_s), s	0.7	6.2	6.2	1.6	9.2	9.2	3.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	6.2	6.2	1.6	9.2	9.2	4.6	0.0	0.0	0.8	0.0	0.0
Prop In Lane	1.00		0.20	1.00		0.09	0.38		0.62	0.32		0.68
Lane Grp Cap(c), veh/h	614	996	1009	93	478	495	287	0	0	297	0	0
V/C Ratio(X)	0.06	0.38	0.38	0.59	0.72	0.72	0.49	0.00	0.00	0.09	0.00	0.00
Avail Cap(c_a), veh/h	614	1085	1098	222	694	718	622	0	0	628	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.4	6.3	6.3	24.1	17.2	17.2	21.9	0.0	0.0	20.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.2	0.2	5.8	2.1	2.0	1.3	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.0	3.1	0.9	4.8	5.0	2.1	0.0	0.0	0.4	0.0	0.0
LnGrp Delay(d),s/veh	11.6	6.6	6.6	29.9	19.3	19.3	23.2	0.0	0.0	20.4	0.0	0.0
LnGrp LOS	B	A	A	C	B	B	C			C		
Approach Vol, veh/h		799			759			141			28	
Approach Delay, s/veh		6.8			20.1			23.2			20.4	
Approach LOS		A			C			C			C	

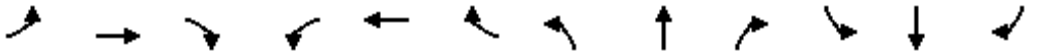
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.2	33.8		11.0	22.5	18.5		11.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.5	31.9		18.1	18.0	20.4		18.1
Max Q Clear Time (g_c+I1), s	3.6	8.2		6.6	2.7	11.2		2.8
Green Ext Time (p_c), s	0.0	4.4		0.6	0.0	2.7		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	14.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	322	9	0	333	5	24	6	8	3	3	55
Future Volume (veh/h)	90	322	9	0	333	5	24	6	8	3	3	55
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	110	393	11	0	406	6	29	7	10	4	4	67
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	1	1	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	1039	29	6	584	9	267	29	26	427	10	168
Arrive On Green	0.10	0.58	0.58	0.00	0.32	0.32	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1774	1802	50	1774	1831	27	569	263	231	1386	90	1503
Grp Volume(v), veh/h	110	0	404	0	0	412	46	0	0	4	0	71
Grp Sat Flow(s),veh/h/ln	1774	0	1853	1774	0	1858	1063	0	0	1386	0	1592
Q Serve(g_s), s	1.7	0.0	3.4	0.0	0.0	5.6	0.5	0.0	0.0	0.0	0.0	1.2
Cycle Q Clear(g_c), s	1.7	0.0	3.4	0.0	0.0	5.6	1.7	0.0	0.0	0.1	0.0	1.2
Prop In Lane	1.00		0.03	1.00		0.01	0.63		0.22	1.00		0.94
Lane Grp Cap(c), veh/h	180	0	1068	6	0	593	322	0	0	427	0	178
V/C Ratio(X)	0.61	0.00	0.38	0.00	0.00	0.69	0.14	0.00	0.00	0.01	0.00	0.40
Avail Cap(c_a), veh/h	307	0	1155	307	0	1158	1056	0	0	1136	0	993
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.4	0.0	3.3	0.0	0.0	8.6	12.2	0.0	0.0	11.4	0.0	11.9
Incr Delay (d2), s/veh	3.3	0.0	0.2	0.0	0.0	1.5	0.2	0.0	0.0	0.0	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	1.7	0.0	0.0	3.1	0.4	0.0	0.0	0.0	0.0	0.6
LnGrp Delay(d),s/veh	15.8	0.0	3.5	0.0	0.0	10.1	12.4	0.0	0.0	11.4	0.0	13.4
LnGrp LOS	B		A			B	B			B		B
Approach Vol, veh/h		514			412			46			75	
Approach Delay, s/veh		6.1			10.1			12.4			13.3	
Approach LOS		A			B			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	0.0	21.1		7.7	7.4	13.7		7.7
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0
Max Q Clear Time (g_c+I1), s	0.0	5.4		3.7	3.7	7.6		3.2
Green Ext Time (p_c), s	0.0	1.8		0.1	0.0	1.6		0.3

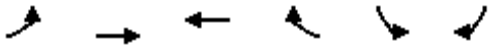
Intersection Summary	
HCM 2010 Ctrl Delay	8.5
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	310	3	1	299	114	5	0	3	62	0	124
Future Volume (veh/h)	160	310	3	1	299	114	5	0	3	62	0	124
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	203	392	4	1	378	144	6	0	4	78	0	157
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	926	9	4	461	176	278	30	121	185	22	205
Arrive On Green	0.15	0.50	0.50	0.00	0.36	0.36	0.20	0.00	0.20	0.20	0.00	0.20
Sat Flow, veh/h	1774	1841	19	1774	1286	490	765	153	612	401	113	1035
Grp Volume(v), veh/h	203	0	396	1	0	522	10	0	0	235	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1859	1774	0	1776	1529	0	0	1550	0	0
Q Serve(g_s), s	5.0	0.0	6.1	0.0	0.0	12.1	0.0	0.0	0.0	4.6	0.0	0.0
Cycle Q Clear(g_c), s	5.0	0.0	6.1	0.0	0.0	12.1	0.2	0.0	0.0	6.4	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.28	0.60		0.40	0.33		0.67
Lane Grp Cap(c), veh/h	259	0	935	4	0	636	430	0	0	413	0	0
V/C Ratio(X)	0.78	0.00	0.42	0.26	0.00	0.82	0.02	0.00	0.00	0.57	0.00	0.00
Avail Cap(c_a), veh/h	411	0	1169	196	0	901	698	0	0	715	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.7	0.0	7.1	22.6	0.0	13.2	14.7	0.0	0.0	17.1	0.0	0.0
Incr Delay (d2), s/veh	5.2	0.0	0.3	31.2	0.0	4.2	0.0	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	3.2	0.0	0.0	6.5	0.1	0.0	0.0	2.9	0.0	0.0
LnGrp Delay(d),s/veh	23.8	0.0	7.4	53.8	0.0	17.4	14.7	0.0	0.0	18.3	0.0	0.0
LnGrp LOS	C		A	D		B	B			B		
Approach Vol, veh/h		599			523			10			235	
Approach Delay, s/veh		13.0			17.5			14.7			18.3	
Approach LOS		B			B			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	4.6	27.3		13.5	11.1	20.7		13.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	28.5		18.0	10.5	23.0		18.0
Max Q Clear Time (g_c+I1), s	2.0	8.1		2.2	7.0	14.1		8.4
Green Ext Time (p_c), s	0.0	2.1		0.0	0.2	2.1		1.0

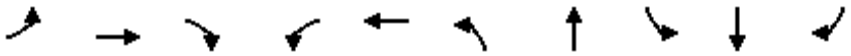
Intersection Summary	
HCM 2010 Ctrl Delay	15.6
HCM 2010 LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	75	311	352	73	89	134
Future Volume (veh/h)	75	311	352	73	89	134
Number	5	2	6	16	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	93	384	435	90	110	165
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	149	1096	567	117	285	254
Arrive On Green	0.08	0.59	0.38	0.38	0.16	0.16
Sat Flow, veh/h	1774	1863	1498	310	1774	1583
Grp Volume(v), veh/h	93	384	0	525	110	165
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1808	1774	1583
Q Serve(g_s), s	1.8	3.8	0.0	9.1	2.0	3.5
Cycle Q Clear(g_c), s	1.8	3.8	0.0	9.1	2.0	3.5
Prop In Lane	1.00			0.17	1.00	1.00
Lane Grp Cap(c), veh/h	149	1096	0	685	285	254
V/C Ratio(X)	0.62	0.35	0.00	0.77	0.39	0.65
Avail Cap(c_a), veh/h	292	1715	0	1140	891	795
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	3.8	0.0	9.8	13.5	14.1
Incr Delay (d2), s/veh	4.2	0.2	0.0	1.8	0.9	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.0	0.0	4.9	1.0	1.7
LnGrp Delay(d),s/veh	20.1	4.0	0.0	11.6	14.3	16.9
LnGrp LOS	C	A		B	B	B
Approach Vol, veh/h		477	525		275	
Approach Delay, s/veh		7.1	11.6		15.9	
Approach LOS		A	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		25.6			7.5	18.1		10.3
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		33.0			5.9	22.6		18.0
Max Q Clear Time (g_c+I1), s		5.8			3.8	11.1		5.5
Green Ext Time (p_c), s		2.2			0.0	2.5		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	62	205	157	215	202	183	913	105	523	47
v/c Ratio	0.24	0.47	0.32	0.56	0.19	0.68	0.94	0.80	0.38	0.09
Control Delay	41.7	30.3	5.3	42.0	20.8	53.4	48.5	81.2	26.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.7	30.3	5.3	42.0	20.8	53.4	48.5	81.2	26.6	0.3
Queue Length 50th (ft)	15	90	0	52	40	46	228	52	76	0
Queue Length 95th (ft)	39	144	32	101	60	#113	#454	#165	134	0
Internal Link Dist (ft)		765			339		250		1110	
Turn Bay Length (ft)	180		150	175		205		290		210
Base Capacity (vph)	255	824	792	480	1784	268	973	131	1392	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.25	0.20	0.45	0.11	0.68	0.94	0.80	0.38	0.09

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	176	135	185	163	10	157	695	90	90	450	40
Future Volume (veh/h)	53	176	135	185	163	10	157	695	90	90	450	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	62	205	157	215	190	12	183	808	105	105	523	47
Adj No. of Lanes	2	1	1	2	2	0	2	2	0	1	3	1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	348	296	309	734	46	281	957	124	134	1512	471
Arrive On Green	0.06	0.19	0.19	0.09	0.22	0.22	0.08	0.30	0.30	0.08	0.30	0.30
Sat Flow, veh/h	3442	1863	1583	3442	3382	212	3442	3150	409	1774	5085	1583
Grp Volume(v), veh/h	62	205	157	215	99	103	183	454	459	105	523	47
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1770	1825	1721	1770	1790	1774	1695	1583
Q Serve(g_s), s	1.2	7.2	6.4	4.3	3.3	3.4	3.7	17.2	17.2	4.2	5.8	1.5
Cycle Q Clear(g_c), s	1.2	7.2	6.4	4.3	3.3	3.4	3.7	17.2	17.2	4.2	5.8	1.5
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	205	348	296	309	384	396	281	537	544	134	1512	471
V/C Ratio(X)	0.30	0.59	0.53	0.70	0.26	0.26	0.65	0.84	0.84	0.78	0.35	0.10
Avail Cap(c_a), veh/h	289	931	791	544	1016	1047	304	555	561	149	1573	490
HCM Platoon Ratio	1.00	1.00	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	32.2	26.5	26.2	31.6	23.2	23.2	31.8	23.3	23.3	32.4	19.7	18.2
Incr Delay (d2), s/veh	0.3	4.8	4.5	1.1	1.0	1.0	3.1	14.7	14.5	18.7	0.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.2	3.2	2.1	1.7	1.8	1.9	10.5	10.6	2.7	2.7	0.7
LnGrp Delay(d),s/veh	32.5	31.4	30.7	32.6	24.2	24.2	34.9	37.9	37.8	51.2	20.2	18.6
LnGrp LOS	C	C	C	C	C	C	C	D	D	D	C	B
Approach Vol, veh/h		424			417			1096			675	
Approach Delay, s/veh		31.3			28.6			37.4			24.9	
Approach LOS		C			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	11.1	28.5	12.1	19.7	11.5	28.0	9.9	21.9
Change Period (Y+Rc), s	* 5.7	6.8	* 5.7	6.4	* 5.7	6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 6	22.4	* 11	35.7	* 6.3	22.1	* 6	41.0
Max Q Clear Time (g_c+I1), s	6.2	19.2	6.3	9.2	5.7	7.8	3.2	5.4
Green Ext Time (p_c), s	0.0	2.5	0.2	4.2	0.0	6.2	0.0	2.6

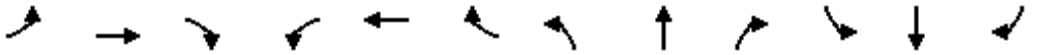
Intersection Summary	
HCM 2010 Ctrl Delay	31.8
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	7	143	29	18	17	48	824	22	10	650	35
Future Volume (veh/h)	32	7	143	29	18	17	48	824	22	10	650	35
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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	35	8	155	32	20	18	52	896	24	11	707	38
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	29	229	254	138	79	102	1343	36	26	1156	62
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.06	0.38	0.38	0.01	0.34	0.34
Sat Flow, veh/h	185	158	1235	490	748	429	1774	3521	94	1774	3416	184
Grp Volume(v), veh/h	198	0	0	70	0	0	52	450	470	11	366	379
Grp Sat Flow(s),veh/h/ln	1577	0	0	1667	0	0	1774	1770	1846	1774	1770	1830
Q Serve(g_s), s	1.8	0.0	0.0	0.0	0.0	0.0	0.9	6.8	6.8	0.2	5.6	5.6
Cycle Q Clear(g_c), s	3.7	0.0	0.0	1.1	0.0	0.0	0.9	6.8	6.8	0.2	5.6	5.6
Prop In Lane	0.18		0.78	0.46		0.26	1.00		0.05	1.00		0.10
Lane Grp Cap(c), veh/h	423	0	0	471	0	0	102	675	704	26	599	619
V/C Ratio(X)	0.47	0.00	0.00	0.15	0.00	0.00	0.51	0.67	0.67	0.43	0.61	0.61
Avail Cap(c_a), veh/h	1002	0	0	1012	0	0	281	1016	1060	275	1010	1045
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.2	0.0	0.0	11.1	0.0	0.0	14.7	8.3	8.3	15.7	8.9	8.9
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.1	0.0	0.0	3.8	1.1	1.1	10.7	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	0.5	0.0	0.0	0.6	3.5	3.6	0.2	2.8	2.9
LnGrp Delay(d),s/veh	13.0	0.0	0.0	11.3	0.0	0.0	18.6	9.4	9.4	26.5	9.9	9.9
LnGrp LOS	B			B			B	A	A	C	A	A
Approach Vol, veh/h		198			70			972			756	
Approach Delay, s/veh		13.0			11.3			9.9			10.1	
Approach LOS		B			B			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	16.8		10.5	6.4	15.4		10.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	18.5		18.0	5.1	18.4		18.0
Max Q Clear Time (g_c+I1), s	2.2	8.8		5.7	2.9	7.6		3.1
Green Ext Time (p_c), s	0.0	3.5		0.8	0.0	2.9		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	10.3
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	974	42	34	782	20	17	0	32	18	0	35
Future Volume (veh/h)	24	974	42	34	782	20	17	0	32	18	0	35
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	1015	44	35	815	21	18	0	33	19	0	36
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	55	1565	68	74	1632	42	195	6	97	193	6	98
Arrive On Green	0.03	0.45	0.45	0.04	0.46	0.46	0.09	0.00	0.09	0.09	0.00	0.09
Sat Flow, veh/h	1774	3456	150	1774	3523	91	492	67	1025	484	61	1034
Grp Volume(v), veh/h	25	520	539	35	409	427	51	0	0	55	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1836	1774	1770	1844	1585	0	0	1579	0	0
Q Serve(g_s), s	0.5	7.5	7.5	0.6	5.3	5.3	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.5	7.5	7.5	0.6	5.3	5.3	0.9	0.0	0.0	1.0	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.05	0.35		0.65	0.35		0.65
Lane Grp Cap(c), veh/h	55	801	831	74	820	854	298	0	0	297	0	0
V/C Ratio(X)	0.45	0.65	0.65	0.47	0.50	0.50	0.17	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	276	1256	1303	276	1256	1309	983	0	0	983	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.6	7.0	7.0	15.4	6.1	6.2	13.9	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	5.7	0.9	0.9	4.7	0.5	0.5	0.3	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.8	3.9	0.4	2.6	2.7	0.4	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	21.4	7.8	7.8	20.0	6.6	6.6	14.1	0.0	0.0	14.2	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		1084			871			51			55	
Approach Delay, s/veh		8.1			7.2			14.1			14.2	
Approach LOS		A			A			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	5.9	19.4		7.6	5.5	19.7		7.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	23.3		18.1	5.1	23.3		18.1
Max Q Clear Time (g_c+I1), s	2.6	9.5		2.9	2.5	7.3		3.0
Green Ext Time (p_c), s	0.0	5.3		0.2	0.0	4.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	8.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	656	17	9	506	9	8	6	2	6	7	198
Future Volume (veh/h)	183	656	17	9	506	9	8	6	2	6	7	198
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	189	676	18	9	522	9	8	6	2	6	7	204
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	874	23	21	654	11	169	101	20	434	10	279
Arrive On Green	0.14	0.48	0.48	0.01	0.36	0.36	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1774	1806	48	1774	1825	31	219	554	110	1402	53	1538
Grp Volume(v), veh/h	189	0	694	9	0	531	16	0	0	6	0	211
Grp Sat Flow(s),veh/h/ln	1774	0	1854	1774	0	1856	883	0	0	1402	0	1591
Q Serve(g_s), s	4.3	0.0	12.9	0.2	0.0	10.8	0.0	0.0	0.0	0.0	0.0	5.2
Cycle Q Clear(g_c), s	4.3	0.0	12.9	0.2	0.0	10.8	5.3	0.0	0.0	0.1	0.0	5.2
Prop In Lane	1.00		0.03	1.00		0.02	0.50		0.12	1.00		0.97
Lane Grp Cap(c), veh/h	244	0	898	21	0	665	289	0	0	434	0	289
V/C Ratio(X)	0.77	0.00	0.77	0.43	0.00	0.80	0.06	0.00	0.00	0.01	0.00	0.73
Avail Cap(c_a), veh/h	436	0	1262	212	0	1029	640	0	0	782	0	684
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.4	0.0	8.9	20.5	0.0	12.1	14.3	0.0	0.0	14.1	0.0	16.2
Incr Delay (d2), s/veh	5.2	0.0	2.0	13.1	0.0	2.5	0.1	0.0	0.0	0.0	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	6.9	0.2	0.0	5.9	0.2	0.0	0.0	0.1	0.0	2.6
LnGrp Delay(d),s/veh	22.6	0.0	10.9	33.7	0.0	14.6	14.4	0.0	0.0	14.1	0.0	19.7
LnGrp LOS	C		B	C		B	B			B		B
Approach Vol, veh/h		883			540			16			217	
Approach Delay, s/veh		13.4			14.9			14.4			19.6	
Approach LOS		B			B			B			B	

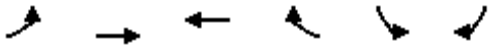
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	24.8		12.1	10.3	19.5		12.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	28.5		18.0	10.3	23.2		18.0
Max Q Clear Time (g_c+I1), s	2.2	14.9		7.3	6.3	12.8		7.2
Green Ext Time (p_c), s	0.0	3.6		0.0	0.2	2.2		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	455	4	5	480	48	2	0	1	50	1	40
Future Volume (veh/h)	29	455	4	5	480	48	2	0	1	50	1	40
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	33	511	4	6	539	54	2	0	1	56	1	45
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	857	7	14	719	72	269	30	53	257	1	63
Arrive On Green	0.04	0.46	0.46	0.01	0.43	0.43	0.10	0.00	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1774	1846	14	1774	1663	167	804	312	558	819	15	658
Grp Volume(v), veh/h	33	0	515	6	0	593	3	0	0	102	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1860	1774	0	1829	1675	0	0	1491	0	0
Q Serve(g_s), s	0.6	0.0	6.4	0.1	0.0	8.5	0.0	0.0	0.0	2.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	0.0	6.4	0.1	0.0	8.5	0.0	0.0	0.0	2.1	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.09	0.67		0.33	0.55		0.44
Lane Grp Cap(c), veh/h	71	0	864	14	0	791	352	0	0	321	0	0
V/C Ratio(X)	0.47	0.00	0.60	0.42	0.00	0.75	0.01	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	289	0	1386	289	0	1363	1040	0	0	1039	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.7	0.0	6.2	15.4	0.0	7.4	12.8	0.0	0.0	13.7	0.0	0.0
Incr Delay (d2), s/veh	4.7	0.0	0.7	18.0	0.0	1.4	0.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	3.3	0.1	0.0	4.4	0.0	0.0	0.0	0.9	0.0	0.0
LnGrp Delay(d),s/veh	19.4	0.0	6.9	33.5	0.0	8.9	12.8	0.0	0.0	14.3	0.0	0.0
LnGrp LOS	B		A	C		A	B			B		
Approach Vol, veh/h		548			599			3			102	
Approach Delay, s/veh		7.6			9.1			12.8			14.3	
Approach LOS		A			A			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	4.8	19.0		7.5	5.7	18.0		7.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	23.3		18.1	5.1	23.3		18.1
Max Q Clear Time (g_c+I1), s	2.1	8.4		2.0	2.6	10.5		4.1
Green Ext Time (p_c), s	0.0	2.6		0.0	0.0	3.0		0.4

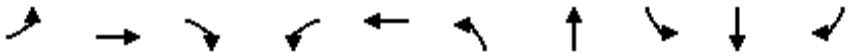
Intersection Summary	
HCM 2010 Ctrl Delay	8.9
HCM 2010 LOS	A



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	85	424	453	153	104	92
Future Volume (veh/h)	85	424	453	153	104	92
Number	5	2	6	16	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	96	476	509	172	117	103
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	145	1234	625	211	202	181
Arrive On Green	0.08	0.66	0.47	0.47	0.11	0.11
Sat Flow, veh/h	1774	1863	1333	450	1774	1583
Grp Volume(v), veh/h	96	476	0	681	117	103
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1783	1774	1583
Q Serve(g_s), s	2.1	4.7	0.0	13.2	2.5	2.5
Cycle Q Clear(g_c), s	2.1	4.7	0.0	13.2	2.5	2.5
Prop In Lane	1.00			0.25	1.00	1.00
Lane Grp Cap(c), veh/h	145	1234	0	836	202	181
V/C Ratio(X)	0.66	0.39	0.00	0.81	0.58	0.57
Avail Cap(c_a), veh/h	242	1754	0	1236	798	712
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.9	3.1	0.0	9.2	16.9	16.9
Incr Delay (d2), s/veh	5.1	0.2	0.0	2.7	2.6	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.3	0.0	7.1	1.4	1.2
LnGrp Delay(d),s/veh	23.0	3.3	0.0	11.9	19.5	19.7
LnGrp LOS	C	A		B	B	B
Approach Vol, veh/h		572	681		220	
Approach Delay, s/veh		6.6	11.9		19.6	
Approach LOS		A	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		31.2			7.8	23.4		9.1
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		37.9			5.5	27.9		18.1
Max Q Clear Time (g_c+I1), s		6.7			4.1	15.2		4.5
Green Ext Time (p_c), s		3.0			0.0	3.7		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	11.0
HCM 2010 LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	115	274	188	254	256	268	1153	175	858	57
v/c Ratio	0.67	0.67	0.38	0.70	0.27	0.41	0.98	0.74	0.60	0.10
Control Delay	75.5	51.0	5.7	62.3	28.6	44.8	61.9	70.4	41.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.5	51.0	5.7	62.3	28.6	44.8	61.9	70.4	41.0	0.3
Queue Length 50th (ft)	45	195	0	98	68	94	~515	129	213	0
Queue Length 95th (ft)	#87	272	45	142	96	137	#653	#293	283	0
Internal Link Dist (ft)		765			337		302		1110	
Turn Bay Length (ft)	180		150	175		205		290		210
Base Capacity (vph)	171	503	572	418	1186	655	1173	236	1425	583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.54	0.33	0.61	0.22	0.41	0.98	0.74	0.60	0.10

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	255	175	236	183	55	249	865	207	163	798	53
Future Volume (veh/h)	107	255	175	236	183	55	249	865	207	163	798	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	115	274	188	254	197	59	268	930	223	175	858	57
Adj No. of Lanes	2	1	1	2	2	0	2	2	0	1	3	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	168	354	297	312	640	186	988	1175	281	167	1081	332
Arrive On Green	0.05	0.19	0.19	0.09	0.24	0.24	0.29	0.41	0.41	0.09	0.21	0.21
Sat Flow, veh/h	3442	1863	1562	3442	2697	785	3442	2833	678	1774	5085	1561
Grp Volume(v), veh/h	115	274	188	254	127	129	268	580	573	175	858	57
Grp Sat Flow(s),veh/h/ln	1721	1863	1562	1721	1770	1712	1721	1770	1742	1774	1695	1561
Q Serve(g_s), s	3.9	16.8	13.3	8.7	7.1	7.4	7.2	34.3	34.4	11.3	19.2	2.9
Cycle Q Clear(g_c), s	3.9	16.8	13.3	8.7	7.1	7.4	7.2	34.3	34.4	11.3	19.2	2.9
Prop In Lane	1.00		1.00	1.00		0.46	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	168	354	297	312	420	406	988	734	722	167	1081	332
V/C Ratio(X)	0.68	0.78	0.63	0.81	0.30	0.32	0.27	0.79	0.79	1.05	0.79	0.17
Avail Cap(c_a), veh/h	172	503	422	419	605	585	988	734	722	167	1081	332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	56.1	46.2	44.8	53.6	37.6	37.7	33.1	30.6	30.6	54.3	44.8	25.1
Incr Delay (d2), s/veh	8.5	11.0	6.7	6.5	1.2	1.3	0.1	8.5	8.7	78.4	5.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	9.7	6.3	4.4	3.6	3.7	3.4	18.5	18.3	9.2	9.5	1.6
LnGrp Delay(d),s/veh	64.6	57.2	51.5	60.1	38.8	39.0	33.1	39.1	39.3	132.8	50.1	26.1
LnGrp LOS	E	E	D	E	D	D	C	D	D	F	D	C
Approach Vol, veh/h		577			510			1421			1090	
Approach Delay, s/veh		56.8			49.5			38.1			62.1	
Approach LOS		E			D			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	56.6	17.3	29.2	41.3	32.3	11.6	34.9
Change Period (Y+Rc), s	* 5.7	6.8	6.4	* 6.4	6.8	* 6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 11	37.1	14.6	* 32	22.9	* 26	* 6	41.0
Max Q Clear Time (g_c+I1), s	13.3	36.4	10.7	18.8	9.2	21.2	5.9	9.4
Green Ext Time (p_c), s	0.0	0.6	0.2	4.0	0.4	3.3	0.0	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	50.0
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	4	27	2	3	36	137	1120	57	29	1157	63
Future Volume (veh/h)	39	4	27	2	3	36	137	1120	57	29	1157	63
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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	41	4	28	2	3	38	144	1179	60	31	1218	66
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	217	11	54	99	13	130	434	1829	93	65	1605	87
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.53	0.53	0.04	0.47	0.47
Sat Flow, veh/h	835	124	596	48	141	1432	1774	3427	174	1774	3415	185
Grp Volume(v), veh/h	73	0	0	43	0	0	144	608	631	31	631	653
Grp Sat Flow(s),veh/h/ln	1555	0	0	1621	0	0	1774	1770	1832	1774	1770	1830
Q Serve(g_s), s	0.7	0.0	0.0	0.0	0.0	0.0	1.5	9.7	9.7	0.7	11.7	11.7
Cycle Q Clear(g_c), s	1.7	0.0	0.0	1.0	0.0	0.0	1.5	9.7	9.7	0.7	11.7	11.7
Prop In Lane	0.56		0.38	0.05		0.88	1.00		0.10	1.00		0.10
Lane Grp Cap(c), veh/h	282	0	0	242	0	0	434	944	978	65	832	860
V/C Ratio(X)	0.26	0.00	0.00	0.18	0.00	0.00	0.33	0.64	0.65	0.48	0.76	0.76
Avail Cap(c_a), veh/h	814	0	0	820	0	0	484	1036	1072	227	1036	1071
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	0.0	16.9	0.0	0.0	6.6	6.6	6.6	18.8	8.7	8.7
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.3	0.0	0.0	0.4	1.2	1.2	5.4	2.6	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	0.5	0.0	0.0	0.8	4.9	5.0	0.4	6.2	6.4
LnGrp Delay(d),s/veh	17.6	0.0	0.0	17.3	0.0	0.0	7.0	7.8	7.8	24.2	11.2	11.2
LnGrp LOS	B			B			A	A	A	C	B	B
Approach Vol, veh/h		73			43			1383			1315	
Approach Delay, s/veh		17.6			17.3			7.7			11.5	
Approach LOS		B			B			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.0	25.7		8.1	8.5	23.2		8.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	23.3		18.1	5.1	23.3		18.1
Max Q Clear Time (g_c+I1), s	2.7	11.7		3.7	3.5	13.7		3.0
Green Ext Time (p_c), s	0.0	5.4		0.2	0.0	5.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	9.9
HCM 2010 LOS	A

Five-Year plus Phase 1 Project Impacts and Mitigation Measures			
Location	**Impact**	**Mitigation Measure**	**Notes**
Intersection #5: Caldwell Avenue/Dans Street	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS E and F during the a.m. and p.m. peak hours.	Same as Existing plus Project Mitigation.	Project to provide contribution
Intersection #13: Cameron Avenue/Stonebrook Street	Addition of project traffic will cause the LOS to drop from LOS D to LOS E in the a.m. and p.m. peak hour.	The installation of a traffic signal will improve the LOS to acceptable levels during the a.m. and p.m. peak hour. Signal warrants are satisfied for the p.m. peak hour.	TIF-eligible project
Intersection #14: Cameron Ave/West Street	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS F during the p.m. peak hour.	Same as Existing plus Project Mitigation.	TIF-eligible project
Intersection # 17: Visalia Parkway/Dans Street	Addition of project traffic will cause the LOS to drop from LOS D to LOS E in the a.m. and p.m. peak hour.	Same as Existing plus Project Mitigation.	Project to provide contribution
Intersection #18: Visalia Parkway/County Center Drive	Addition of project traffic will cause the LOS to drop from LOS D to LOS E in the a.m. peak hour, and the delay will increase by more than 5.0 seconds during the p.m. peak hour when the intersecion already operates at LOS F.	Same as Existing plus Project Mitigation. Signal warrants are satisfied for the p.m. peak hour.	Project to provide contribution
Intersection #19: Visalia Parkway/Main Site Access-Target Driveway	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS F during the a.m. and p.m. peak hour.	The installation of a traffic signal will improve the LOS to acceptable levels during the a.m. and p.m. peak hour. The project can pay for its fair share of the improvement.	Project to provide contribution
Intersection #20: Visalia Parkway/Mooney Boulevard	Addition of project traffic will increase the queue of the northbound left-turn in the a.m. and p.m. peak hour.	Same as Existing plus Project Mitigation.	Intersection included in City's CIP
Intersection #23: Mooney Boulevard/Avenue 272	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS F during the a.m. and p.m. peak hours.	Same as Existing plus Project Mitigation.	TIF-eligible project

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	679	67	49	660	28	47	0	78	8	0	17
Future Volume (veh/h)	33	679	67	49	660	28	47	0	78	8	0	17
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	36	738	73	53	717	30	51	0	85	9	0	18
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	1200	119	105	1336	56	229	7	121	205	23	140
Arrive On Green	0.04	0.37	0.37	0.06	0.39	0.39	0.13	0.00	0.13	0.13	0.00	0.13
Sat Flow, veh/h	1774	3247	321	1774	3461	145	521	52	955	374	180	1108
Grp Volume(v), veh/h	36	402	409	53	366	381	136	0	0	27	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1798	1774	1770	1836	1529	0	0	1661	0	0
Q Serve(g_s), s	0.6	5.6	5.6	0.9	4.9	4.9	2.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	5.6	5.6	0.9	4.9	4.9	2.6	0.0	0.0	0.4	0.0	0.0
Prop In Lane	1.00		0.18	1.00		0.08	0.37		0.62	0.33		0.67
Lane Grp Cap(c), veh/h	76	654	665	105	683	709	357	0	0	368	0	0
V/C Ratio(X)	0.47	0.61	0.62	0.50	0.54	0.54	0.38	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	298	1072	1089	298	1072	1112	1057	0	0	1057	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.2	7.8	7.8	13.9	7.2	7.2	12.7	0.0	0.0	11.8	0.0	0.0
Incr Delay (d2), s/veh	4.4	0.9	0.9	3.7	0.7	0.6	0.7	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.9	2.9	0.5	2.5	2.6	1.2	0.0	0.0	0.2	0.0	0.0
LnGrp Delay(d),s/veh	18.6	8.8	8.7	17.5	7.9	7.9	13.4	0.0	0.0	11.9	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B			B		
Approach Vol, veh/h		847			800			136			27	
Approach Delay, s/veh		9.2			8.5			13.4			11.9	
Approach LOS		A			A			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	6.3	15.7		8.3	5.8	16.2		8.3
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	18.4		18.0	5.1	18.4		18.0
Max Q Clear Time (g_c+I1), s	2.9	7.6		4.6	2.6	6.9		2.4
Green Ext Time (p_c), s	0.0	3.4		0.6	0.0	3.2		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	9.2
HCM 2010 LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	274	12	352	407	33	236
Future Volume (veh/h)	274	12	352	407	33	236
Number	2	12	1	6	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	298	13	383	442	36	257
Adj No. of Lanes	1	0	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	402	18	459	1095	369	329
Arrive On Green	0.23	0.23	0.26	0.59	0.21	0.21
Sat Flow, veh/h	1772	77	1774	1863	1774	1583
Grp Volume(v), veh/h	0	311	383	442	36	257
Grp Sat Flow(s),veh/h/ln	0	1849	1774	1863	1774	1583
Q Serve(g_s), s	0.0	6.9	9.0	5.6	0.7	6.8
Cycle Q Clear(g_c), s	0.0	6.9	9.0	5.6	0.7	6.8
Prop In Lane		0.04	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	419	459	1095	369	329
V/C Ratio(X)	0.00	0.74	0.83	0.40	0.10	0.78
Avail Cap(c_a), veh/h	0	756	624	1608	725	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	15.8	15.4	4.9	14.1	16.5
Incr Delay (d2), s/veh	0.0	2.6	7.1	0.2	0.1	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.8	5.3	2.9	0.4	3.3
LnGrp Delay(d),s/veh	0.0	18.4	22.5	5.1	14.2	20.5
LnGrp LOS		B	C	A	B	C
Approach Vol, veh/h	311			825	293	
Approach Delay, s/veh	18.4			13.2	19.7	
Approach LOS	B			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	15.9	14.5		13.7		30.4		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	15.5	18.0		18.0		38.0		
Max Q Clear Time (g_c+I1), s	11.0	8.9		8.8		7.6		
Green Ext Time (p_c), s	0.5	1.1		0.7		2.6		

Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	376	11	0	403	6	27	7	8	3	3	35
Future Volume (veh/h)	104	376	11	0	403	6	27	7	8	3	3	35
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	113	409	12	0	438	7	29	8	9	3	3	38
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	1079	32	6	628	10	264	18	20	395	11	138
Arrive On Green	0.10	0.60	0.60	0.00	0.34	0.34	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1774	1799	53	1774	1828	29	686	189	213	1385	117	1480
Grp Volume(v), veh/h	113	0	421	0	0	445	46	0	0	3	0	41
Grp Sat Flow(s),veh/h/ln	1774	0	1852	1774	0	1858	1088	0	0	1385	0	1597
Q Serve(g_s), s	1.8	0.0	3.4	0.0	0.0	6.1	0.9	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s	1.8	0.0	3.4	0.0	0.0	6.1	1.6	0.0	0.0	0.0	0.0	0.7
Prop In Lane	1.00		0.03	1.00		0.02	0.63		0.20	1.00		0.93
Lane Grp Cap(c), veh/h	182	0	1111	6	0	638	302	0	0	395	0	148
V/C Ratio(X)	0.62	0.00	0.38	0.00	0.00	0.70	0.15	0.00	0.00	0.01	0.00	0.28
Avail Cap(c_a), veh/h	454	0	1486	303	0	1332	1065	0	0	1118	0	981
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	0.0	3.0	0.0	0.0	8.3	13.1	0.0	0.0	12.1	0.0	12.4
Incr Delay (d2), s/veh	3.4	0.0	0.2	0.0	0.0	1.4	0.2	0.0	0.0	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	1.7	0.0	0.0	3.3	0.4	0.0	0.0	0.0	0.0	0.3
LnGrp Delay(d),s/veh	16.0	0.0	3.2	0.0	0.0	9.7	13.3	0.0	0.0	12.1	0.0	13.4
LnGrp LOS	B		A			A	B			B		B
Approach Vol, veh/h		534			445			46			44	
Approach Delay, s/veh		6.0			9.7			13.3			13.3	
Approach LOS		A			A			B			B	

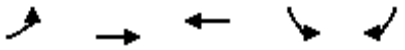
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	0.0	22.1		7.2	7.5	14.6		7.2
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	23.5		18.0	7.5	21.0		18.0
Max Q Clear Time (g_c+I1), s	0.0	5.4		3.6	3.8	8.1		2.7
Green Ext Time (p_c), s	0.0	2.2		0.1	0.1	2.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	8.1
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	379	3	2	375	114	5	0	4	62	0	124
Future Volume (veh/h)	160	379	3	2	375	114	5	0	4	62	0	124
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	174	412	3	2	408	124	5	0	4	67	0	135
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	905	7	5	504	153	264	36	129	188	20	181
Arrive On Green	0.13	0.49	0.49	0.00	0.37	0.37	0.18	0.00	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	1847	13	1774	1372	417	721	204	739	401	113	1036
Grp Volume(v), veh/h	174	0	415	2	0	532	9	0	0	202	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1860	1774	0	1789	1664	0	0	1550	0	0
Q Serve(g_s), s	3.9	0.0	6.0	0.0	0.0	10.9	0.0	0.0	0.0	3.5	0.0	0.0
Cycle Q Clear(g_c), s	3.9	0.0	6.0	0.0	0.0	10.9	0.2	0.0	0.0	5.0	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.23	0.56		0.44	0.33		0.67
Lane Grp Cap(c), veh/h	223	0	912	5	0	657	429	0	0	389	0	0
V/C Ratio(X)	0.78	0.00	0.46	0.41	0.00	0.81	0.02	0.00	0.00	0.52	0.00	0.00
Avail Cap(c_a), veh/h	327	0	1075	218	0	924	798	0	0	796	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.2	0.0	6.8	20.2	0.0	11.6	13.9	0.0	0.0	15.8	0.0	0.0
Incr Delay (d2), s/veh	7.2	0.0	0.4	47.2	0.0	3.7	0.0	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	3.1	0.1	0.0	6.0	0.1	0.0	0.0	2.2	0.0	0.0
LnGrp Delay(d),s/veh	24.4	0.0	7.2	67.4	0.0	15.3	13.9	0.0	0.0	16.9	0.0	0.0
LnGrp LOS	C		A	E		B	B			B		
Approach Vol, veh/h		589			534			9			202	
Approach Delay, s/veh		12.2			15.5			13.9			16.9	
Approach LOS		B			B			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	4.6	24.4		11.6	9.6	19.4		11.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	23.5		18.0	7.5	21.0		18.0
Max Q Clear Time (g_c+I1), s	2.0	8.0		2.2	5.9	12.9		7.0
Green Ext Time (p_c), s	0.0	2.0		0.0	0.1	2.0		0.9

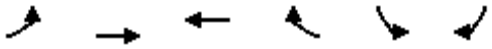
Intersection Summary	
HCM 2010 Ctrl Delay	14.3
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	98	397	561	126	163
v/c Ratio	0.31	0.31	0.57	0.29	0.32
Control Delay	26.4	5.2	14.2	19.7	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	5.2	14.2	19.7	5.9
Queue Length 50th (ft)	27	42	117	32	0
Queue Length 95th (ft)	#83	94	#243	72	38
Internal Link Dist (ft)		936	1674	772	
Turn Bay Length (ft)	200			190	
Base Capacity (vph)	315	1379	1055	875	865
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.31	0.29	0.53	0.14	0.19

Intersection Summary

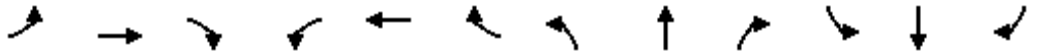
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	90	365	413	103	116	150
Future Volume (veh/h)	90	365	413	103	116	150
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	98	397	449	112	126	163
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	151	1119	570	142	283	253
Arrive On Green	0.09	0.60	0.40	0.40	0.16	0.16
Sat Flow, veh/h	1774	1863	1440	359	1774	1583
Grp Volume(v), veh/h	98	397	0	561	126	163
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1799	1774	1583
Q Serve(g_s), s	2.0	4.1	0.0	10.3	2.4	3.6
Cycle Q Clear(g_c), s	2.0	4.1	0.0	10.3	2.4	3.6
Prop In Lane	1.00			0.20	1.00	1.00
Lane Grp Cap(c), veh/h	151	1119	0	712	283	253
V/C Ratio(X)	0.65	0.35	0.00	0.79	0.44	0.64
Avail Cap(c_a), veh/h	260	1636	0	1101	850	759
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	3.8	0.0	10.0	14.3	14.8
Incr Delay (d2), s/veh	4.6	0.2	0.0	2.1	1.1	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.0	0.0	5.4	1.2	3.3
LnGrp Delay(d),s/veh	21.2	4.0	0.0	12.1	15.4	17.5
LnGrp LOS	C	A		B	B	B
Approach Vol, veh/h		495	561		289	
Approach Delay, s/veh		7.4	12.1		16.6	
Approach LOS		A	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		27.1		10.5	7.7	19.4		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		33.0		18.0	5.5	23.0		
Max Q Clear Time (g_c+I1), s		6.1		5.6	4.0	12.3		
Green Ext Time (p_c), s		2.3		0.7	0.0	2.6		

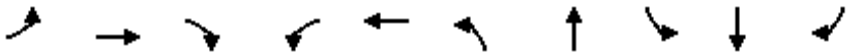
Intersection Summary	
HCM 2010 Ctrl Delay	11.3
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	376	62	119	370	13	90	0	244	7	0	15
Future Volume (veh/h)	67	376	62	119	370	13	90	0	244	7	0	15
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	73	409	67	129	402	14	98	0	265	8	0	16
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	739	120	187	954	33	560	0	383	213	54	242
Arrive On Green	0.07	0.24	0.24	0.11	0.27	0.27	0.24	0.00	0.24	0.24	0.00	0.24
Sat Flow, veh/h	1774	3049	496	1774	3490	121	1407	0	1583	276	223	999
Grp Volume(v), veh/h	73	236	240	129	203	213	98	0	265	24	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1775	1774	1770	1841	1407	0	1583	1498	0	0
Q Serve(g_s), s	1.3	3.8	3.9	2.3	3.1	3.1	1.4	0.0	5.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.3	3.8	3.9	2.3	3.1	3.1	1.8	0.0	5.0	0.4	0.0	0.0
Prop In Lane	1.00		0.28	1.00		0.07	1.00		1.00	0.33		0.67
Lane Grp Cap(c), veh/h	131	429	430	187	484	504	560	0	383	508	0	0
V/C Ratio(X)	0.56	0.55	0.56	0.69	0.42	0.42	0.18	0.00	0.69	0.05	0.00	0.00
Avail Cap(c_a), veh/h	270	969	972	297	995	1036	984	0	867	931	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.7	10.9	10.9	14.2	9.8	9.8	10.1	0.0	11.3	9.6	0.0	0.0
Incr Delay (d2), s/veh	3.6	1.1	1.1	4.5	0.6	0.6	0.1	0.0	2.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.0	2.0	1.3	1.5	1.6	0.7	0.0	2.4	0.2	0.0	0.0
LnGrp Delay(d),s/veh	18.3	12.0	12.1	18.7	10.4	10.4	10.2	0.0	13.6	9.6	0.0	0.0
LnGrp LOS	B	B	B	B	B	B	B		B	A		
Approach Vol, veh/h		549			545			363			24	
Approach Delay, s/veh		12.9			12.4			12.7			9.6	
Approach LOS		B			B			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	12.5		12.5	6.9	13.5		12.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.5	18.0		18.0	5.0	18.5		18.0
Max Q Clear Time (g_c+I1), s	4.3	5.9		7.0	3.3	5.1		2.4
Green Ext Time (p_c), s	0.0	2.1		1.1	0.0	1.8		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	313	221	177	253	238	186	843	86	657	113
v/c Ratio	1.19	0.50	0.32	0.61	0.24	0.74	0.89	0.67	0.48	0.19
Control Delay	153.9	31.2	2.9	42.5	21.8	59.3	44.0	66.8	28.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	153.9	31.2	2.9	42.5	21.8	59.3	44.0	66.8	28.4	0.7
Queue Length 50th (ft)	~99	99	0	63	47	48	211	43	101	0
Queue Length 95th (ft)	#227	166	21	120	73	#127	#440	#143	178	0
Internal Link Dist (ft)		765			339		249		1110	
Turn Bay Length (ft)	180			175		205		290		210
Base Capacity (vph)	263	785	799	531	1756	250	943	129	1369	590
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.19	0.28	0.22	0.48	0.14	0.74	0.89	0.67	0.48	0.19

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	288	203	163	233	207	12	171	669	107	79	604	104
Future Volume (veh/h)	288	203	163	233	207	12	171	669	107	79	604	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	313	221	177	253	225	13	186	727	116	86	657	113
Adj No. of Lanes	2	1	1	2	2	0	2	2	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	301	369	314	349	722	41	279	890	142	121	1415	441
Arrive On Green	0.09	0.20	0.20	0.10	0.21	0.21	0.08	0.29	0.29	0.07	0.28	0.28
Sat Flow, veh/h	3442	1863	1583	3442	3402	195	3442	3058	488	1774	5085	1583
Grp Volume(v), veh/h	313	221	177	253	116	122	186	421	422	86	657	113
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1770	1828	1721	1770	1776	1774	1695	1583
Q Serve(g_s), s	6.3	7.8	7.3	5.1	4.0	4.0	3.8	15.9	16.0	3.4	7.7	4.0
Cycle Q Clear(g_c), s	6.3	7.8	7.3	5.1	4.0	4.0	3.8	15.9	16.0	3.4	7.7	4.0
Prop In Lane	1.00		1.00	1.00		0.11	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	301	369	314	349	376	388	279	515	517	121	1415	441
V/C Ratio(X)	1.04	0.60	0.56	0.72	0.31	0.31	0.67	0.82	0.82	0.71	0.46	0.26
Avail Cap(c_a), veh/h	301	893	759	606	1006	1039	286	542	544	148	1558	485
HCM Platoon Ratio	1.00	1.00	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	32.9	26.3	26.1	31.4	24.0	24.0	32.2	23.8	23.8	32.9	21.6	20.2
Incr Delay (d2), s/veh	63.2	4.7	4.8	1.1	1.4	1.3	4.4	13.0	13.0	8.0	1.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	4.5	3.6	2.5	2.1	2.2	2.0	9.6	9.6	1.9	3.7	1.9
LnGrp Delay(d),s/veh	96.1	31.1	31.0	32.5	25.3	25.3	36.6	36.8	36.8	40.9	22.6	21.5
LnGrp LOS	F	C	C	C	C	C	D	D	D	D	C	C
Approach Vol, veh/h		711			491			1029			856	
Approach Delay, s/veh		59.7			29.0			36.8			24.3	
Approach LOS		E			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	10.6	27.8	13.0	20.7	11.6	26.9	12.0	21.7
Change Period (Y+Rc), s	* 5.7	6.8	* 5.7	6.4	* 5.7	6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 6	22.1	* 13	34.6	* 6	22.1	* 6.3	41.0
Max Q Clear Time (g_c+I1), s	5.4	18.0	7.1	9.8	5.8	9.7	8.3	6.0
Green Ext Time (p_c), s	0.0	3.0	0.2	4.5	0.0	7.2	0.0	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	37.3
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	7	149	30	19	16	50	1004	23	9	801	36
Future Volume (veh/h)	33	7	149	30	19	16	50	1004	23	9	801	36
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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	36	8	162	33	21	17	54	1091	25	10	871	39
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	147	30	231	242	138	75	102	1546	35	23	1355	61
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.06	0.44	0.44	0.01	0.39	0.39
Sat Flow, veh/h	178	159	1241	535	741	402	1774	3537	81	1774	3451	154
Grp Volume(v), veh/h	206	0	0	71	0	0	54	546	570	10	447	463
Grp Sat Flow(s),veh/h/ln	1579	0	0	1677	0	0	1774	1770	1848	1774	1770	1835
Q Serve(g_s), s	2.1	0.0	0.0	0.0	0.0	0.0	1.1	9.3	9.3	0.2	7.6	7.6
Cycle Q Clear(g_c), s	4.5	0.0	0.0	1.3	0.0	0.0	1.1	9.3	9.3	0.2	7.6	7.6
Prop In Lane	0.17		0.79	0.46		0.24	1.00		0.04	1.00		0.08
Lane Grp Cap(c), veh/h	408	0	0	454	0	0	102	773	808	23	695	721
V/C Ratio(X)	0.51	0.00	0.00	0.16	0.00	0.00	0.53	0.71	0.71	0.43	0.64	0.64
Avail Cap(c_a), veh/h	874	0	0	888	0	0	244	1110	1160	244	1110	1152
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.1	0.0	0.0	12.8	0.0	0.0	17.0	8.5	8.5	18.2	9.2	9.2
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.2	0.0	0.0	4.2	1.2	1.1	11.8	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	0.6	0.0	0.0	0.7	4.7	4.9	0.2	3.8	3.9
LnGrp Delay(d),s/veh	15.1	0.0	0.0	13.0	0.0	0.0	21.2	9.7	9.7	30.0	10.2	10.1
LnGrp LOS	B			B			C	A	A	C	B	B
Approach Vol, veh/h		206			71			1170			920	
Approach Delay, s/veh		15.1			13.0			10.2			10.4	
Approach LOS		B			B			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	5.0	20.7		11.4	6.6	19.1		11.4
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	23.3		18.1	5.1	23.3		18.1
Max Q Clear Time (g_c+I1), s	2.2	11.3		6.5	3.1	9.6		3.3
Green Ext Time (p_c), s	0.0	4.9		0.9	0.0	4.2		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1069	42	34	869	20	17	0	32	18	0	35
Future Volume (veh/h)	24	1069	42	34	869	20	17	0	32	18	0	35
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	1114	44	35	905	21	18	0	33	19	0	36
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	55	1641	65	73	1707	40	187	7	95	185	6	96
Arrive On Green	0.03	0.47	0.47	0.04	0.48	0.48	0.09	0.00	0.09	0.09	0.00	0.09
Sat Flow, veh/h	1774	3471	137	1774	3533	82	486	73	1026	478	67	1034
Grp Volume(v), veh/h	25	568	590	35	453	473	51	0	0	55	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1839	1774	1770	1846	1585	0	0	1580	0	0
Q Serve(g_s), s	0.5	8.6	8.6	0.7	6.1	6.1	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.5	8.6	8.6	0.7	6.1	6.1	0.9	0.0	0.0	1.0	0.0	0.0
Prop In Lane	1.00		0.07	1.00		0.04	0.35		0.65	0.35		0.65
Lane Grp Cap(c), veh/h	55	837	869	73	855	892	289	0	0	287	0	0
V/C Ratio(X)	0.46	0.68	0.68	0.48	0.53	0.53	0.18	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	264	1201	1248	264	1201	1253	940	0	0	940	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.4	7.0	7.0	16.1	6.2	6.2	14.6	0.0	0.0	14.6	0.0	0.0
Incr Delay (d2), s/veh	5.8	1.0	0.9	4.7	0.5	0.5	0.3	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.3	4.5	0.4	3.0	3.1	0.5	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	22.2	8.0	8.0	20.8	6.7	6.7	14.9	0.0	0.0	14.9	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		1183			961			51			55	
Approach Delay, s/veh		8.3			7.2			14.9			14.9	
Approach LOS		A			A			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	5.9	20.7		7.7	5.6	21.1		7.7
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	23.3		18.1	5.1	23.3		18.1
Max Q Clear Time (g_c+I1), s	2.7	10.6		2.9	2.5	8.1		3.0
Green Ext Time (p_c), s	0.0	5.6		0.2	0.0	4.7		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	8.1
HCM 2010 LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	649	39	274	577	12	353
Future Volume (veh/h)	649	39	274	577	12	353
Number	2	12	1	6	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	669	40	282	595	12	364
Adj No. of Lanes	1	0	1	1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	739	44	323	1235	399	356
Arrive On Green	0.42	0.42	0.18	0.66	0.23	0.23
Sat Flow, veh/h	1740	104	1774	1863	1774	1583
Grp Volume(v), veh/h	0	709	282	595	12	364
Grp Sat Flow(s),veh/h/ln	0	1844	1774	1863	1774	1583
Q Serve(g_s), s	0.0	28.9	12.4	12.7	0.4	18.1
Cycle Q Clear(g_c), s	0.0	28.9	12.4	12.7	0.4	18.1
Prop In Lane		0.06	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	784	323	1235	399	356
V/C Ratio(X)	0.00	0.90	0.87	0.48	0.03	1.02
Avail Cap(c_a), veh/h	0	938	386	1457	399	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.6	32.0	6.7	24.3	31.2
Incr Delay (d2), s/veh	0.0	10.8	17.0	0.3	0.0	53.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	16.9	7.6	6.5	0.2	13.1
LnGrp Delay(d),s/veh	0.0	32.4	49.0	7.0	24.3	84.5
LnGrp LOS		C	D	A	C	F
Approach Vol, veh/h	709			877	376	
Approach Delay, s/veh	32.4			20.5	82.5	
Approach LOS	C			C	F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	19.2	38.7		22.6		57.8		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	17.5	40.9		18.1		62.9		
Max Q Clear Time (g_c+I1), s	14.4	30.9		20.1		14.7		
Green Ext Time (p_c), s	0.2	3.3		0.0		4.0		

Intersection Summary	
HCM 2010 Ctrl Delay	36.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	735	20	10	579	9	11	6	3	6	7	200
Future Volume (veh/h)	185	735	20	10	579	9	11	6	3	6	7	200
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	191	758	21	10	597	9	11	6	3	6	7	206
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	941	26	23	728	11	158	73	20	402	9	276
Arrive On Green	0.14	0.52	0.52	0.01	0.40	0.40	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1774	1804	50	1774	1830	28	222	409	111	1400	52	1539
Grp Volume(v), veh/h	191	0	779	10	0	606	20	0	0	6	0	213
Grp Sat Flow(s),veh/h/ln	1774	0	1854	1774	0	1857	742	0	0	1400	0	1591
Q Serve(g_s), s	4.9	0.0	16.4	0.3	0.0	13.8	0.1	0.0	0.0	0.0	0.0	6.0
Cycle Q Clear(g_c), s	4.9	0.0	16.4	0.3	0.0	13.8	6.1	0.0	0.0	0.2	0.0	6.0
Prop In Lane	1.00		0.03	1.00		0.01	0.55		0.15	1.00		0.97
Lane Grp Cap(c), veh/h	243	0	967	23	0	738	251	0	0	402	0	286
V/C Ratio(X)	0.79	0.00	0.81	0.43	0.00	0.82	0.08	0.00	0.00	0.01	0.00	0.75
Avail Cap(c_a), veh/h	357	0	1311	188	0	1137	531	0	0	687	0	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.7	0.0	9.3	23.1	0.0	12.7	16.3	0.0	0.0	16.0	0.0	18.3
Incr Delay (d2), s/veh	6.9	0.0	2.7	12.3	0.0	2.9	0.1	0.0	0.0	0.0	0.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	9.0	0.2	0.0	7.5	0.2	0.0	0.0	0.1	0.0	2.9
LnGrp Delay(d),s/veh	26.6	0.0	12.0	35.4	0.0	15.6	16.4	0.0	0.0	16.0	0.0	22.2
LnGrp LOS	C		B	D		B	B			B		C
Approach Vol, veh/h		970			616			20			219	
Approach Delay, s/veh		14.9			15.9			16.4			22.0	
Approach LOS		B			B			B			C	

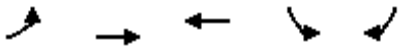
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	29.1		13.0	11.0	23.3		13.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	33.4		18.1	9.5	28.9		18.1
Max Q Clear Time (g_c+I1), s	2.3	18.4		8.1	6.9	15.8		8.0
Green Ext Time (p_c), s	0.0	4.5		0.0	0.1	3.0		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	16.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	553	4	6	565	45	2	0	1	48	1	40
Future Volume (veh/h)	29	553	4	6	565	45	2	0	1	48	1	40
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	32	601	4	7	614	49	2	0	1	52	1	43
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	909	6	17	786	63	255	28	50	241	1	60
Arrive On Green	0.04	0.49	0.49	0.01	0.46	0.46	0.09	0.00	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1774	1848	12	1774	1700	136	808	308	558	808	16	669
Grp Volume(v), veh/h	32	0	605	7	0	663	3	0	0	96	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1861	1774	0	1835	1674	0	0	1493	0	0
Q Serve(g_s), s	0.6	0.0	8.1	0.1	0.0	10.0	0.0	0.0	0.0	2.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	0.0	8.1	0.1	0.0	10.0	0.1	0.0	0.0	2.1	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.07	0.67		0.33	0.54		0.45
Lane Grp Cap(c), veh/h	68	0	915	17	0	849	333	0	0	303	0	0
V/C Ratio(X)	0.47	0.00	0.66	0.42	0.00	0.78	0.01	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	274	0	1312	274	0	1294	984	0	0	983	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.6	0.0	6.3	16.3	0.0	7.5	13.7	0.0	0.0	14.6	0.0	0.0
Incr Delay (d2), s/veh	4.9	0.0	0.8	15.8	0.0	1.7	0.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	4.2	0.1	0.0	5.4	0.0	0.0	0.0	0.9	0.0	0.0
LnGrp Delay(d),s/veh	20.5	0.0	7.2	32.1	0.0	9.2	13.7	0.0	0.0	15.2	0.0	0.0
LnGrp LOS	C		A	C		A	B			B		
Approach Vol, veh/h		637			670			3			96	
Approach Delay, s/veh		7.8			9.5			13.7			15.2	
Approach LOS		A			A			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	4.8	20.8		7.5	5.8	19.8		7.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	23.3		18.1	5.1	23.3		18.1
Max Q Clear Time (g_c+I1), s	2.1	10.1		2.1	2.6	12.0		4.1
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	3.2		0.4

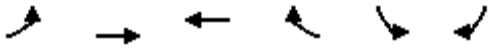
Intersection Summary	
HCM 2010 Ctrl Delay	9.1
HCM 2010 LOS	A



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	114	541	775	157	122
v/c Ratio	0.55	0.45	0.82	0.48	0.31
Control Delay	43.2	6.5	22.1	29.8	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	6.5	22.1	29.8	7.8
Queue Length 50th (ft)	45	75	225	58	0
Queue Length 95th (ft)	#128	158	#495	114	39
Internal Link Dist (ft)		936	1674	772	
Turn Bay Length (ft)	200			190	
Base Capacity (vph)	207	1464	1180	577	598
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.37	0.66	0.27	0.20

Intersection Summary

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	498	513	200	144	112
Future Volume (veh/h)	105	498	513	200	144	112
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	114	541	558	217	157	122
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	146	1279	657	256	237	212
Arrive On Green	0.08	0.69	0.51	0.51	0.13	0.13
Sat Flow, veh/h	1774	1863	1278	497	1774	1583
Grp Volume(v), veh/h	114	541	0	775	157	122
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1775	1774	1583
Q Serve(g_s), s	3.2	6.4	0.0	18.9	4.2	3.6
Cycle Q Clear(g_c), s	3.2	6.4	0.0	18.9	4.2	3.6
Prop In Lane	1.00			0.28	1.00	1.00
Lane Grp Cap(c), veh/h	146	1279	0	913	237	212
V/C Ratio(X)	0.78	0.42	0.00	0.85	0.66	0.58
Avail Cap(c_a), veh/h	230	1781	0	1307	641	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	3.5	0.0	10.5	20.6	20.4
Incr Delay (d2), s/veh	8.7	0.2	0.0	3.8	3.1	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.2	0.0	10.0	2.3	3.3
LnGrp Delay(d),s/veh	31.2	3.7	0.0	14.3	23.8	22.8
LnGrp LOS	C	A		B	C	C
Approach Vol, veh/h		655	775		279	
Approach Delay, s/veh		8.5	14.3		23.3	
Approach LOS		A	B		C	

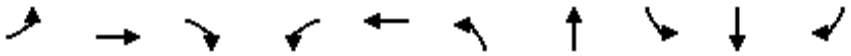
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		38.9		11.2	8.6	30.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		47.9		18.1	6.5	36.9		
Max Q Clear Time (g_c+I1), s		8.4		6.2	5.2	20.9		
Green Ext Time (p_c), s		3.6		0.6	0.0	4.9		

Intersection Summary	
HCM 2010 Ctrl Delay	13.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	498	74	161	478	29	131	0	260	135	0	68
Future Volume (veh/h)	107	498	74	161	478	29	131	0	260	135	0	68
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	116	541	80	175	520	32	142	0	283	147	0	74
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	816	120	227	1028	63	550	0	454	305	28	96
Arrive On Green	0.09	0.26	0.26	0.13	0.30	0.30	0.29	0.00	0.29	0.29	0.00	0.29
Sat Flow, veh/h	1774	3096	456	1774	3387	208	1318	0	1583	567	98	335
Grp Volume(v), veh/h	116	309	312	175	271	281	142	0	283	221	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1782	1774	1770	1826	1318	0	1583	999	0	0
Q Serve(g_s), s	2.7	6.5	6.6	4.0	5.3	5.3	0.0	0.0	6.5	5.7	0.0	0.0
Cycle Q Clear(g_c), s	2.7	6.5	6.6	4.0	5.3	5.3	3.6	0.0	6.5	9.3	0.0	0.0
Prop In Lane	1.00		0.26	1.00		0.11	1.00		1.00	0.67		0.33
Lane Grp Cap(c), veh/h	157	466	470	227	537	554	550	0	454	429	0	0
V/C Ratio(X)	0.74	0.66	0.67	0.77	0.51	0.51	0.26	0.00	0.62	0.51	0.00	0.00
Avail Cap(c_a), veh/h	401	759	764	444	801	826	737	0	679	602	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.7	13.8	13.8	17.7	12.0	12.0	12.0	0.0	13.0	14.5	0.0	0.0
Incr Delay (d2), s/veh	6.7	1.6	1.6	5.5	0.7	0.7	0.2	0.0	1.4	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.4	3.4	2.3	2.7	2.8	1.3	0.0	3.0	2.5	0.0	0.0
LnGrp Delay(d),s/veh	25.4	15.4	15.4	23.2	12.8	12.8	12.2	0.0	14.4	15.5	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	B		B	B		
Approach Vol, veh/h		737			727			425			221	
Approach Delay, s/veh		17.0			15.3			13.7			15.5	
Approach LOS		B			B			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	9.9	15.6		16.5	8.2	17.2		16.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.5	18.0		18.0	9.5	19.0		18.0
Max Q Clear Time (g_c+I1), s	6.0	8.6		8.5	4.7	7.3		11.3
Green Ext Time (p_c), s	0.2	2.5		1.3	0.1	2.4		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	15.6
HCM 2010 LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	492	322	233	280	293	269	1103	144	1085	155
v/c Ratio	0.96	0.73	0.43	0.76	0.43	0.65	0.83	0.76	0.58	0.23
Control Delay	94.7	62.3	7.1	78.5	48.8	70.8	48.3	89.1	40.8	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.7	62.3	7.1	78.5	48.8	70.8	48.3	89.1	40.8	5.5
Queue Length 50th (ft)	250	292	0	139	121	131	522	136	313	0
Queue Length 95th (ft)	#364	376	64	187	154	181	#707	#281	406	49
Internal Link Dist (ft)		765			337		245		1110	
Turn Bay Length (ft)	180			175		205		290		210
Base Capacity (vph)	510	548	624	437	950	416	1327	189	1884	680
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.59	0.37	0.64	0.31	0.65	0.83	0.76	0.58	0.23

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	458	299	217	260	212	60	250	786	240	134	1009	144
Future Volume (veh/h)	458	299	217	260	212	60	250	786	240	134	1009	144
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	492	322	233	280	228	65	269	845	258	144	1085	155
Adj No. of Lanes	2	1	1	2	2	0	2	2	0	1	3	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	512	400	336	327	453	126	761	1156	353	157	1488	457
Arrive On Green	0.15	0.21	0.21	0.10	0.17	0.17	0.22	0.43	0.43	0.09	0.29	0.29
Sat Flow, veh/h	3442	1863	1563	3442	2728	758	3442	2672	815	1774	5085	1562
Grp Volume(v), veh/h	492	322	233	280	146	147	269	559	544	144	1085	155
Grp Sat Flow(s),veh/h/ln	1721	1863	1563	1721	1770	1717	1721	1770	1718	1774	1695	1562
Q Serve(g_s), s	21.3	24.6	20.6	12.0	11.2	11.7	9.9	39.3	39.4	12.1	28.8	7.9
Cycle Q Clear(g_c), s	21.3	24.6	20.6	12.0	11.2	11.7	9.9	39.3	39.4	12.1	28.8	7.9
Prop In Lane	1.00		1.00	1.00		0.44	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	512	400	336	327	294	285	761	765	743	157	1488	457
V/C Ratio(X)	0.96	0.80	0.69	0.86	0.50	0.52	0.35	0.73	0.73	0.92	0.73	0.34
Avail Cap(c_a), veh/h	512	549	460	438	484	469	761	765	743	157	1488	457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	63.4	55.9	54.3	66.9	56.8	57.0	49.3	35.3	35.3	67.8	47.7	18.8
Incr Delay (d2), s/veh	26.5	9.8	6.4	9.5	3.7	4.2	0.1	6.1	6.3	39.4	2.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	13.8	9.5	6.1	5.8	5.9	4.7	20.6	20.0	7.6	13.8	4.7
LnGrp Delay(d),s/veh	89.9	65.7	60.7	76.4	60.6	61.2	49.4	41.4	41.6	107.2	50.1	20.4
LnGrp LOS	F	E	E	E	E	E	D	D	D	F	D	C
Approach Vol, veh/h		1047			573			1372			1384	
Approach Delay, s/veh		76.0			68.5			43.1			52.7	
Approach LOS		E			E			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	19.0	71.7	20.7	38.6	40.0	50.7	28.0	31.3
Change Period (Y+Rc), s	* 5.7	6.8	6.4	* 6.4	6.8	* 6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 13	48.8	19.1	* 44	18.2	* 44	* 22	41.0
Max Q Clear Time (g_c+I1), s	14.1	41.4	14.0	26.6	11.9	30.8	23.3	13.7
Green Ext Time (p_c), s	0.0	6.1	0.2	5.6	0.3	10.5	0.0	3.7

Intersection Summary	
HCM 2010 Ctrl Delay	57.3
HCM 2010 LOS	E

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	4	28	2	3	34	143	1338	60	27	1376	61
Future Volume (veh/h)	37	4	28	2	3	34	143	1338	60	27	1376	61
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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	39	4	29	2	3	36	151	1408	63	28	1448	64
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	11	49	77	12	112	194	2164	97	57	1899	84
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.11	0.63	0.63	0.03	0.55	0.55
Sat Flow, veh/h	801	136	632	47	152	1433	1774	3451	154	1774	3453	152
Grp Volume(v), veh/h	72	0	0	41	0	0	151	721	750	28	740	772
Grp Sat Flow(s),veh/h/ln	1570	0	0	1632	0	0	1774	1770	1836	1774	1770	1836
Q Serve(g_s), s	0.9	0.0	0.0	0.0	0.0	0.0	4.3	13.2	13.2	0.8	16.6	16.8
Cycle Q Clear(g_c), s	2.1	0.0	0.0	1.2	0.0	0.0	4.3	13.2	13.2	0.8	16.6	16.8
Prop In Lane	0.54		0.40	0.05		0.88	1.00		0.08	1.00		0.08
Lane Grp Cap(c), veh/h	230	0	0	201	0	0	194	1110	1151	57	973	1009
V/C Ratio(X)	0.31	0.00	0.00	0.20	0.00	0.00	0.78	0.65	0.65	0.49	0.76	0.76
Avail Cap(c_a), veh/h	633	0	0	637	0	0	328	1492	1547	176	1340	1390
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.8	0.0	0.0	22.4	0.0	0.0	22.3	6.0	6.0	24.4	8.9	9.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.5	0.0	0.0	6.6	0.6	0.6	6.4	1.7	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.6	0.0	0.0	2.4	6.4	6.7	0.5	8.5	8.8
LnGrp Delay(d),s/veh	23.5	0.0	0.0	22.9	0.0	0.0	28.9	6.7	6.7	30.9	10.7	10.7
LnGrp LOS	C			C			C	A	A	C	B	B
Approach Vol, veh/h		72			41			1622			1540	
Approach Delay, s/veh		23.5			22.9			8.7			11.1	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.1	36.7		8.5	10.1	32.7		8.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	43.3		18.1	9.5	38.9		18.1
Max Q Clear Time (g_c+I1), s	2.8	15.2		4.1	6.3	18.8		3.2
Green Ext Time (p_c), s	0.0	10.6		0.2	0.1	9.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.3
HCM 2010 LOS	B

Ten-Year plus Project Impacts and Mitigation Measures			
Location	***Impact***	***Mitigation Measure***	***Notes***
Intersection #3: Mooney Boulevard/Sunnyside Avenue	Addition of project traffic will exacerbate the delay by more than 5.0 as the intersection is already operating at LOS E during the p.m. peak hour.	Optimization of signal timings will improve the LOS to acceptable levels during the p.m. peak hour. *Requires Caltrans approval and coordination.*	Project to provide contribution
Intersection #4: Mooney Boulevard/Orchard Avenue	Addition of project traffic will exacerbate the delay by more than 5.0 as the intersection is already operating at LOS E during the p.m. peak hour.	Optimization of signal timings will improve the LOS to acceptable levels during the p.m. peak hour. *Requires Caltrans approval and coordination.*	Project to provide contribution
Intersection #5: Caldwell Avenue/Dans Street	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS F during the a.m. and p.m. peak hours.	Same as Existing plus Project Mitigation.	Project to provide contribution
Intersection #7: Mooney Boulevard/Caldwell Avenue	Addition of project traffic will increase the queue of the northbound left-turn in the p.m. peak hour.	Optimization of signal timings will mitigate the queue lengths during the p.m. peak hour. *Requires Caltrans approval and coordination.*	Project to provide contribution
Intersection #13: Cameron Avenue/Stonebrook Street	Addition of project traffic will cause the LOS to drop from LOS D to LOS E in the a.m. peak hour and LOS F in the p.m. peak hour.	Same as Five-Year plus Phase 1 Mitigation.	TIF-eligible project
Intersection #14: Cameron Ave/West Street	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS F during the p.m. peak hour.	Same as Existing plus Project Mitigation.	TIF-eligible project
Intersection #18: Visalia Parkway/County Center Drive	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS E during the p.m. peak hour.	Same as Existing plus Project Mitigation.	Project to provide contribution
Intersection #19: Visalia Parkway/Main Site Access-Target Driveway	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS F during the a.m. and p.m. peak hour.	Same as Five-Year plus Phase 1 Mitigation.	Project to provide contribution
Intersection #20: Visalia Parkway/Mooney Boulevard	Addition of project traffic will cause the LOS to drop from LOS D to LOS F in the p.m. peak hour. The NBL and SBL queues are also expected to exceed storage lengths.	Same as Existing plus Project Mitigation.	Intersection included in City's CIP
Intersection #23: Mooney Boulevard/Avenue 272	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS F during the a.m. and p.m. peak hours.	Same as Existing plus Project Mitigation.	TIF-eligible project

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	0	14	10	0	32	40	763	10	88	696	54
Future Volume (veh/h)	44	0	14	10	0	32	40	763	10	88	696	54
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		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	46	0	15	11	0	34	42	803	11	93	733	57
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	99	0	225	30	0	163	93	1557	21	152	1609	124
Arrive On Green	0.06	0.00	0.14	0.02	0.00	0.10	0.05	0.30	0.30	0.09	0.33	0.33
Sat Flow, veh/h	1774	0	1577	1774	0	1580	1774	5167	71	1774	4814	372
Grp Volume(v), veh/h	46	0	15	11	0	34	42	527	287	93	515	275
Grp Sat Flow(s),veh/h/ln	1774	0	1577	1774	0	1580	1774	1695	1848	1774	1695	1796
Q Serve(g_s), s	1.3	0.0	0.4	0.3	0.0	1.0	1.2	6.7	6.7	2.6	6.2	6.2
Cycle Q Clear(g_c), s	1.3	0.0	0.4	0.3	0.0	1.0	1.2	6.7	6.7	2.6	6.2	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.21
Lane Grp Cap(c), veh/h	99	0	225	30	0	163	93	1021	557	152	1133	600
V/C Ratio(X)	0.46	0.00	0.07	0.37	0.00	0.21	0.45	0.52	0.52	0.61	0.45	0.46
Avail Cap(c_a), veh/h	216	0	1167	206	0	1160	226	1499	817	319	1676	888
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	19.2	25.2	0.0	21.3	23.8	15.0	15.0	22.9	13.5	13.6
Incr Delay (d2), s/veh	1.2	0.0	0.1	2.7	0.0	0.5	1.3	0.8	1.4	1.5	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.2	0.2	0.0	0.5	0.6	3.2	3.6	1.3	2.9	3.2
LnGrp Delay(d),s/veh	24.9	0.0	19.3	27.9	0.0	21.7	25.1	15.8	16.4	24.4	14.1	14.6
LnGrp LOS	C		B	C		C	C	B	B	C	B	B
Approach Vol, veh/h		61			45			856			883	
Approach Delay, s/veh		23.5			23.2			16.4			15.3	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	22.0	6.6	13.1	8.4	23.7	8.6	11.1
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	* 5.7	6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 9.3	22.9	* 6	* 38	* 6.6	25.6	* 6.3	* 38
Max Q Clear Time (g_c+I1), s	4.6	8.7	2.3	2.4	3.2	8.2	3.3	3.0
Green Ext Time (p_c), s	0.0	6.7	0.0	0.0	0.0	7.4	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.3
HCM 2010 LOS	B

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	1	18	0	23	10	753	27	63	633	5
Future Volume (veh/h)	3	0	1	18	0	23	10	753	27	63	633	5
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		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	3	0	1	19	0	24	11	793	28	66	666	5
Adj No. of Lanes	1	1	0	1	1	0	2	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	0	82	43	0	103	1481	3286	1020	87	1312	408
Arrive On Green	0.01	0.00	0.05	0.02	0.00	0.07	0.43	0.65	0.65	0.05	0.26	0.26
Sat Flow, veh/h	1774	0	1548	1774	0	1583	3442	5085	1578	1774	5085	1581
Grp Volume(v), veh/h	3	0	1	19	0	24	11	793	28	66	666	5
Grp Sat Flow(s),veh/h/ln	1774	0	1548	1774	0	1583	1721	1695	1578	1774	1695	1581
Q Serve(g_s), s	0.2	0.0	0.1	1.1	0.0	1.5	0.2	6.9	0.4	3.9	11.7	0.2
Cycle Q Clear(g_c), s	0.2	0.0	0.1	1.1	0.0	1.5	0.2	6.9	0.4	3.9	11.7	0.2
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	22	0	82	43	0	103	1481	3286	1020	87	1312	408
V/C Ratio(X)	0.14	0.00	0.01	0.44	0.00	0.23	0.01	0.24	0.03	0.76	0.51	0.01
Avail Cap(c_a), veh/h	101	0	619	101	0	633	1481	3286	1020	101	1312	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.96	0.96	0.96	0.99	0.99	0.99
Uniform Delay (d), s/veh	51.3	0.0	47.1	50.5	0.0	46.6	17.1	7.8	2.5	49.3	33.3	29.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	2.6	0.0	0.8	0.0	0.2	0.0	19.8	1.4	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	0.1	0.0	0.0	0.6	0.0	0.7	0.1	3.2	0.3	2.4	5.7	0.1
LnGrp Delay(d),s/veh	52.4	0.0	47.1	53.1	0.0	47.4	17.1	8.0	2.5	69.2	34.6	29.0
LnGrp LOS	D		D	D		D	B	A	A	E	C	C
Approach Vol, veh/h		4			43			832			737	
Approach Delay, s/veh		51.1			49.9			7.9			37.7	
Approach LOS		D			D			A			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	10.8	74.3	8.3	11.7	51.6	33.5	7.0	12.9
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 6	27.1	6.0	* 42	6.0	* 27	6.0	* 42
Max Q Clear Time (g_c+I1), s	5.9	8.9	3.1	2.1	2.2	13.7	2.2	3.5
Green Ext Time (p_c), s	0.0	8.6	0.0	0.0	0.0	5.6	0.0	0.1

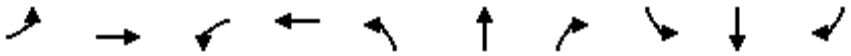
Intersection Summary	
HCM 2010 Ctrl Delay	22.7
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	732	81	59	719	34	57	0	95	10	0	21
Future Volume (veh/h)	40	732	81	59	719	34	57	0	95	10	0	21
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	45	822	91	66	808	38	64	0	107	11	0	24
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	1263	140	120	1414	66	213	17	152	177	37	177
Arrive On Green	0.05	0.39	0.39	0.07	0.41	0.41	0.16	0.00	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3206	355	1774	3441	162	467	106	958	277	236	1121
Grp Volume(v), veh/h	45	454	459	66	415	431	171	0	0	35	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1791	1774	1770	1833	1531	0	0	1634	0	0
Q Serve(g_s), s	0.9	7.4	7.4	1.3	6.4	6.4	2.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.9	7.4	7.4	1.3	6.4	6.4	3.7	0.0	0.0	0.6	0.0	0.0
Prop In Lane	1.00		0.20	1.00		0.09	0.37		0.63	0.31		0.69
Lane Grp Cap(c), veh/h	90	697	706	120	727	753	382	0	0	392	0	0
V/C Ratio(X)	0.50	0.65	0.65	0.55	0.57	0.57	0.45	0.00	0.00	0.09	0.00	0.00
Avail Cap(c_a), veh/h	285	1142	1156	275	1132	1173	910	0	0	911	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.4	8.8	8.8	16.0	8.0	8.0	14.1	0.0	0.0	12.8	0.0	0.0
Incr Delay (d2), s/veh	4.3	1.0	1.0	3.9	0.7	0.7	0.8	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.7	3.8	0.8	3.3	3.4	1.7	0.0	0.0	0.3	0.0	0.0
LnGrp Delay(d),s/veh	20.7	9.8	9.8	20.0	8.8	8.7	14.9	0.0	0.0	12.9	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	B			B		
Approach Vol, veh/h		958			912			171			35	
Approach Delay, s/veh		10.3			9.6			14.9			12.9	
Approach LOS		B			A			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	6.9	18.5		10.1	6.3	19.1		10.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.5	22.9		18.1	5.7	22.7		18.1
Max Q Clear Time (g_c+I1), s	3.3	9.4		5.7	2.9	8.4		2.6
Green Ext Time (p_c), s	0.0	4.5		0.7	0.0	4.2		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	160	522	122	495	137	633	104	65	580	81
v/c Ratio	0.59	0.54	0.45	0.53	0.69	0.24	0.12	0.38	0.23	0.10
Control Delay	66.4	41.8	61.9	46.2	77.7	20.2	3.3	66.2	21.3	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.4	41.8	61.9	46.2	77.7	20.2	3.3	66.2	21.3	1.1
Queue Length 50th (ft)	68	129	51	136	59	103	0	27	94	0
Queue Length 95th (ft)	103	134	82	139	#102	183	28	53	170	7
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	279	1873	274	1813	200	2627	866	172	2494	830
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.28	0.45	0.27	0.69	0.24	0.12	0.38	0.23	0.10

Intersection Summary

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	274	5	383	414	6	241
Future Volume (veh/h)	274	5	383	414	6	241
Number	2	12	1	6	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	298	5	416	450	7	262
Adj No. of Lanes	1	0	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	399	7	498	1113	367	327
Arrive On Green	0.22	0.22	0.28	0.60	0.21	0.21
Sat Flow, veh/h	1827	31	1774	1863	1774	1583
Grp Volume(v), veh/h	0	303	416	450	7	262
Grp Sat Flow(s),veh/h/ln	0	1857	1774	1863	1774	1583
Q Serve(g_s), s	0.0	7.0	10.1	5.9	0.1	7.2
Cycle Q Clear(g_c), s	0.0	7.0	10.1	5.9	0.1	7.2
Prop In Lane		0.02	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	406	498	1113	367	327
V/C Ratio(X)	0.00	0.75	0.83	0.40	0.02	0.80
Avail Cap(c_a), veh/h	0	727	791	1743	695	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	16.8	15.5	4.9	14.5	17.3
Incr Delay (d2), s/veh	0.0	2.7	4.4	0.2	0.0	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.8	5.5	3.1	0.1	3.5
LnGrp Delay(d),s/veh	0.0	19.5	19.9	5.1	14.5	21.9
LnGrp LOS		B	B	A	B	C
Approach Vol, veh/h	303			866	269	
Approach Delay, s/veh	19.5			12.3	21.7	
Approach LOS	B			B	C	

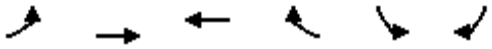
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	17.4	14.5		14.0		32.0		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	20.5	18.0		18.0		43.0		
Max Q Clear Time (g_c+I1), s	12.1	9.0		9.2		7.9		
Green Ext Time (p_c), s	0.9	1.0		0.6		2.7		

Intersection Summary	
HCM 2010 Ctrl Delay	15.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	333	9	0	344	5	25	6	8	3	3	55
Future Volume (veh/h)	92	333	9	0	344	5	25	6	8	3	3	55
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	100	362	10	0	374	5	27	7	9	3	3	60
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	1025	28	6	568	8	275	24	23	430	8	162
Arrive On Green	0.10	0.57	0.57	0.00	0.31	0.31	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1774	1803	50	1774	1834	25	594	225	217	1387	76	1515
Grp Volume(v), veh/h	100	0	372	0	0	379	43	0	0	3	0	63
Grp Sat Flow(s),veh/h/ln	1774	0	1853	1774	0	1858	1036	0	0	1387	0	1590
Q Serve(g_s), s	1.5	0.0	3.0	0.0	0.0	4.9	0.6	0.0	0.0	0.0	0.0	1.0
Cycle Q Clear(g_c), s	1.5	0.0	3.0	0.0	0.0	4.9	1.6	0.0	0.0	0.0	0.0	1.0
Prop In Lane	1.00		0.03	1.00		0.01	0.63		0.21	1.00		0.95
Lane Grp Cap(c), veh/h	172	0	1054	6	0	576	322	0	0	430	0	170
V/C Ratio(X)	0.58	0.00	0.35	0.00	0.00	0.66	0.13	0.00	0.00	0.01	0.00	0.37
Avail Cap(c_a), veh/h	480	0	1570	320	0	1407	1105	0	0	1182	0	1032
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.0	0.0	3.2	0.0	0.0	8.3	12.0	0.0	0.0	11.1	0.0	11.5
Incr Delay (d2), s/veh	3.1	0.0	0.2	0.0	0.0	1.3	0.2	0.0	0.0	0.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.5	0.0	0.0	2.6	0.3	0.0	0.0	0.0	0.0	0.5
LnGrp Delay(d),s/veh	15.1	0.0	3.4	0.0	0.0	9.6	12.2	0.0	0.0	11.1	0.0	12.9
LnGrp LOS	B		A			A	B			B		B
Approach Vol, veh/h		472			379			43			66	
Approach Delay, s/veh		5.9			9.6			12.2			12.8	
Approach LOS		A			A			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	0.0	20.3		7.5	7.2	13.1		7.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	23.5		18.0	7.5	21.0		18.0
Max Q Clear Time (g_c+I1), s	0.0	5.0		3.6	3.5	6.9		3.0
Green Ext Time (p_c), s	0.0	1.9		0.1	0.1	1.7		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	8.1
HCM 2010 LOS	A



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	87	350	399	81	98	155
Future Volume (veh/h)	87	350	399	81	98	155
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	95	380	434	88	107	168
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	151	1094	566	115	288	257
Arrive On Green	0.09	0.59	0.38	0.38	0.16	0.16
Sat Flow, veh/h	1774	1863	1504	305	1774	1583
Grp Volume(v), veh/h	95	380	0	522	107	168
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1809	1774	1583
Q Serve(g_s), s	1.9	3.8	0.0	9.1	1.9	3.6
Cycle Q Clear(g_c), s	1.9	3.8	0.0	9.1	1.9	3.6
Prop In Lane	1.00			0.17	1.00	1.00
Lane Grp Cap(c), veh/h	151	1094	0	681	288	257
V/C Ratio(X)	0.63	0.35	0.00	0.77	0.37	0.65
Avail Cap(c_a), veh/h	302	1713	0	1129	890	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	3.8	0.0	9.8	13.4	14.1
Incr Delay (d2), s/veh	4.2	0.2	0.0	1.8	0.8	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.0	0.0	4.8	1.0	3.2
LnGrp Delay(d),s/veh	20.1	4.0	0.0	11.7	14.2	16.9
LnGrp LOS	C	A		B	B	B
Approach Vol, veh/h		475	522		275	
Approach Delay, s/veh		7.2	11.7		15.9	
Approach LOS		A	B		B	

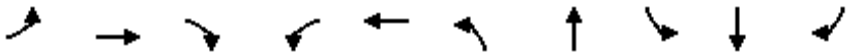
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		25.6		10.3	7.6	18.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		33.0		18.0	6.1	22.4		
Max Q Clear Time (g_c+I1), s		5.8		5.6	3.9	11.1		
Green Ext Time (p_c), s		2.2		0.6	0.0	2.4		

Intersection Summary	
HCM 2010 Ctrl Delay	10.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	395	62	119	382	14	90	0	244	7	0	15
Future Volume (veh/h)	37	395	62	119	382	14	90	0	244	7	0	15
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	40	429	67	129	415	15	98	0	265	8	0	16
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	762	118	186	1067	38	556	0	382	211	54	241
Arrive On Green	0.05	0.25	0.25	0.10	0.31	0.31	0.24	0.00	0.24	0.24	0.00	0.24
Sat Flow, veh/h	1774	3072	477	1774	3484	126	1407	0	1583	277	222	998
Grp Volume(v), veh/h	40	246	250	129	210	220	98	0	265	24	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1779	1774	1770	1841	1407	0	1583	1497	0	0
Q Serve(g_s), s	0.7	4.0	4.1	2.3	3.1	3.1	1.4	0.0	5.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	4.0	4.1	2.3	3.1	3.1	1.8	0.0	5.1	0.4	0.0	0.0
Prop In Lane	1.00		0.27	1.00		0.07	1.00		1.00	0.33		0.67
Lane Grp Cap(c), veh/h	82	439	441	186	542	564	556	0	382	506	0	0
V/C Ratio(X)	0.49	0.56	0.57	0.69	0.39	0.39	0.18	0.00	0.69	0.05	0.00	0.00
Avail Cap(c_a), veh/h	267	958	963	267	958	996	973	0	857	921	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.5	10.9	10.9	14.4	9.1	9.1	10.2	0.0	11.5	9.7	0.0	0.0
Incr Delay (d2), s/veh	4.4	1.1	1.1	4.6	0.5	0.4	0.1	0.0	2.3	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	0.5	2.1	2.2	1.4	1.6	1.7	0.8	0.0	2.4	0.2	0.0	0.0
LnGrp Delay(d),s/veh	19.8	12.0	12.1	19.0	9.5	9.5	10.4	0.0	13.8	9.7	0.0	0.0
LnGrp LOS	B	B	B	B	A	A	B		B	A		
Approach Vol, veh/h		536			559			363			24	
Approach Delay, s/veh		12.6			11.7			12.8			9.7	
Approach LOS		B			B			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	12.7		12.5	6.0	14.7		12.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	18.0		18.0	5.0	18.0		18.0
Max Q Clear Time (g_c+I1), s	4.3	6.1		7.1	2.7	5.1		2.4
Green Ext Time (p_c), s	0.0	2.2		1.1	0.0	1.9		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	62	201	157	217	203	177	910	99	523	47
v/c Ratio	0.24	0.47	0.32	0.57	0.19	0.69	0.93	0.76	0.37	0.08
Control Delay	41.6	30.3	5.3	42.0	20.9	54.9	47.8	74.9	26.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	30.3	5.3	42.0	20.9	54.9	47.8	74.9	26.3	0.3
Queue Length 50th (ft)	15	88	0	53	40	44	226	49	75	0
Queue Length 95th (ft)	41	149	37	106	64	#119	#487	#165	141	0
Internal Link Dist (ft)		765			339		252		1110	
Turn Bay Length (ft)	180			175		205		290		210
Base Capacity (vph)	255	825	793	481	1786	255	974	131	1413	556
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.24	0.20	0.45	0.11	0.69	0.93	0.76	0.37	0.08

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	185	144	200	176	11	163	741	97	91	481	43
Future Volume (veh/h)	57	185	144	200	176	11	163	741	97	91	481	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		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	62	201	157	217	191	12	177	805	105	99	523	47
Adj No. of Lanes	2	1	1	2	2	0	2	2	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	344	292	312	729	46	282	961	125	129	1503	468
Arrive On Green	0.06	0.18	0.18	0.09	0.22	0.22	0.08	0.31	0.31	0.07	0.30	0.30
Sat Flow, veh/h	3442	1863	1583	3442	3383	211	3442	3149	411	1774	5085	1583
Grp Volume(v), veh/h	62	201	157	217	99	104	177	452	458	99	523	47
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1770	1825	1721	1770	1790	1774	1695	1583
Q Serve(g_s), s	1.2	7.0	6.4	4.3	3.3	3.4	3.5	16.9	16.9	3.9	5.7	1.5
Cycle Q Clear(g_c), s	1.2	7.0	6.4	4.3	3.3	3.4	3.5	16.9	16.9	3.9	5.7	1.5
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	205	344	292	312	381	393	282	540	546	129	1503	468
V/C Ratio(X)	0.30	0.58	0.54	0.70	0.26	0.26	0.63	0.84	0.84	0.77	0.35	0.10
Avail Cap(c_a), veh/h	291	938	797	549	1024	1055	291	559	566	150	1607	500
HCM Platoon Ratio	1.00	1.00	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	31.9	26.4	26.2	31.3	23.1	23.1	31.5	23.0	23.0	32.3	19.6	18.1
Incr Delay (d2), s/veh	0.3	4.8	4.6	1.1	1.0	1.0	2.9	14.1	13.9	15.1	0.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.0	3.2	2.1	1.7	1.8	1.8	10.3	10.4	2.4	2.7	0.7
LnGrp Delay(d),s/veh	32.2	31.2	30.8	32.3	24.1	24.2	34.4	37.1	36.9	47.4	20.2	18.5
LnGrp LOS	C	C	C	C	C	C	C	D	D	D	C	B
Approach Vol, veh/h		420			420			1087			669	
Approach Delay, s/veh		31.2			28.4			36.6			24.1	
Approach LOS		C			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	10.8	28.4	12.1	19.5	11.5	27.8	9.9	21.7
Change Period (Y+Rc), s	* 5.7	6.8	* 5.7	6.4	* 5.7	6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 6	22.4	* 11	35.7	* 6	22.4	* 6	41.0
Max Q Clear Time (g_c+I1), s	5.9	18.9	6.3	9.0	5.5	7.7	3.2	5.4
Green Ext Time (p_c), s	0.0	2.7	0.2	4.1	0.0	6.3	0.0	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	31.2
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	8	157	32	20	18	53	896	24	10	706	37
Future Volume (veh/h)	33	8	157	32	20	18	53	896	24	10	706	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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	36	9	171	35	22	20	58	974	26	11	767	40
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	32	245	248	142	85	109	1444	39	26	1243	65
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.06	0.41	0.41	0.01	0.36	0.36
Sat Flow, veh/h	168	162	1251	515	722	434	1774	3522	94	1774	3422	178
Grp Volume(v), veh/h	216	0	0	77	0	0	58	489	511	11	396	411
Grp Sat Flow(s),veh/h/ln	1580	0	0	1671	0	0	1774	1770	1846	1774	1770	1831
Q Serve(g_s), s	2.0	0.0	0.0	0.0	0.0	0.0	1.1	8.0	8.0	0.2	6.5	6.5
Cycle Q Clear(g_c), s	4.5	0.0	0.0	1.3	0.0	0.0	1.1	8.0	8.0	0.2	6.5	6.5
Prop In Lane	0.17		0.79	0.45		0.26	1.00		0.05	1.00		0.10
Lane Grp Cap(c), veh/h	428	0	0	475	0	0	109	726	757	26	643	665
V/C Ratio(X)	0.50	0.00	0.00	0.16	0.00	0.00	0.53	0.67	0.67	0.43	0.62	0.62
Avail Cap(c_a), veh/h	912	0	0	924	0	0	314	1159	1209	254	1099	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.3	0.0	0.0	12.0	0.0	0.0	16.2	8.6	8.6	17.4	9.3	9.3
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.2	0.0	0.0	4.0	1.1	1.1	10.9	1.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	0.6	0.0	0.0	0.7	4.0	4.2	0.2	3.3	3.4
LnGrp Delay(d),s/veh	14.2	0.0	0.0	12.2	0.0	0.0	20.2	9.7	9.6	28.3	10.3	10.2
LnGrp LOS	B			B			C	A	A	C	B	B
Approach Vol, veh/h		216			77			1058			818	
Approach Delay, s/veh		14.2			12.2			10.2			10.5	
Approach LOS		B			B			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	5.0	19.1		11.5	6.7	17.4		11.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	23.3		18.1	6.3	22.1		18.1
Max Q Clear Time (g_c+I1), s	2.2	10.0		6.5	3.1	8.5		3.3
Green Ext Time (p_c), s	0.0	4.6		0.9	0.0	3.6		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	5	49	17	2	117	59	1280	19	73	1461	70
Future Volume (veh/h)	115	5	49	17	2	117	59	1280	19	73	1461	70
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		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	124	5	53	18	2	126	63	1376	20	78	1571	75
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	10	107	187	3	160	518	2851	41	99	1539	73
Arrive On Green	0.08	0.07	0.07	0.11	0.10	0.10	0.29	0.55	0.55	0.06	0.31	0.31
Sat Flow, veh/h	1774	138	1466	1774	25	1562	1774	5162	75	1774	4964	237
Grp Volume(v), veh/h	124	0	58	18	0	128	63	904	492	78	1073	573
Grp Sat Flow(s),veh/h/ln	1774	0	1604	1774	0	1587	1774	1695	1847	1774	1695	1811
Q Serve(g_s), s	7.6	0.0	3.8	1.0	0.0	8.7	2.9	17.9	17.9	4.8	34.1	34.1
Cycle Q Clear(g_c), s	7.6	0.0	3.8	1.0	0.0	8.7	2.9	17.9	17.9	4.8	34.1	34.1
Prop In Lane	1.00		0.91	1.00		0.98	1.00		0.04	1.00		0.13
Lane Grp Cap(c), veh/h	134	0	117	187	0	163	518	1872	1020	99	1051	561
V/C Ratio(X)	0.93	0.00	0.50	0.10	0.00	0.79	0.12	0.48	0.48	0.79	1.02	1.02
Avail Cap(c_a), veh/h	134	0	588	187	0	548	518	1872	1020	102	1051	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.82	0.82	0.82	0.85	0.85	0.85
Uniform Delay (d), s/veh	50.5	0.0	49.1	44.5	0.0	48.2	28.6	15.0	15.0	51.3	38.0	38.0
Incr Delay (d2), s/veh	55.0	0.0	2.4	0.1	0.0	6.1	0.0	0.7	1.3	25.7	30.9	40.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.0	1.8	0.5	0.0	4.1	1.4	8.5	9.4	3.0	20.4	23.3
LnGrp Delay(d),s/veh	105.5	0.0	51.5	44.5	0.0	54.3	28.6	15.8	16.4	76.9	68.9	78.4
LnGrp LOS	F		D	D		D	C	B	B	E	F	F
Approach Vol, veh/h		182			146			1459			1724	
Approach Delay, s/veh		88.3			53.1			16.5			72.4	
Approach LOS		F			D			B			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	11.9	67.2	17.3	13.7	38.5	40.5	14.0	17.0
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	6.4	* 6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 6.3	33.9	* 6	* 40	6.1	* 34	* 8.3	* 38
Max Q Clear Time (g_c+I1), s	6.8	19.9	3.0	5.8	4.9	36.1	9.6	10.7
Green Ext Time (p_c), s	0.0	10.5	0.0	0.3	0.0	0.0	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	49.2
HCM 2010 LOS	D

Notes

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

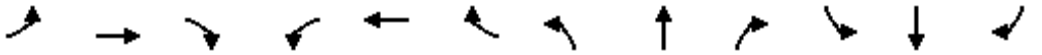
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	2	37	62	9	76	67	1161	51	165	1370	38
Future Volume (veh/h)	19	2	37	62	9	76	67	1161	51	165	1370	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	20	2	39	66	10	81	71	1235	54	176	1457	40
Adj No. of Lanes	1	1	0	1	1	0	2	3	1	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	8	159	84	20	161	1007	2709	824	202	1771	549
Arrive On Green	0.04	0.11	0.11	0.05	0.11	0.11	0.29	0.53	0.53	0.11	0.35	0.35
Sat Flow, veh/h	1774	77	1493	1774	176	1423	3442	5085	1546	1774	5085	1577
Grp Volume(v), veh/h	20	0	41	66	0	91	71	1235	54	176	1457	40
Grp Sat Flow(s),veh/h/ln	1774	0	1569	1774	0	1598	1721	1695	1546	1774	1695	1577
Q Serve(g_s), s	1.3	0.0	2.9	4.4	0.0	6.4	1.8	18.0	1.4	11.7	31.4	2.0
Cycle Q Clear(g_c), s	1.3	0.0	2.9	4.4	0.0	6.4	1.8	18.0	1.4	11.7	31.4	2.0
Prop In Lane	1.00		0.95	1.00		0.89	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	73	0	167	84	0	181	1007	2709	824	202	1771	549
V/C Ratio(X)	0.28	0.00	0.25	0.78	0.00	0.50	0.07	0.46	0.07	0.87	0.82	0.07
Avail Cap(c_a), veh/h	89	0	549	93	0	563	1007	2709	824	211	1771	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.80	0.80	0.80	0.78	0.78	0.78
Uniform Delay (d), s/veh	55.8	0.0	49.2	56.5	0.0	50.0	30.7	17.3	6.3	52.3	35.7	26.1
Incr Delay (d2), s/veh	0.8	0.0	0.3	27.8	0.0	1.6	0.0	0.4	0.1	23.0	3.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.3	2.8	0.0	2.9	0.8	8.5	0.9	7.1	15.3	0.9
LnGrp Delay(d),s/veh	56.6	0.0	49.5	84.3	0.0	51.6	30.7	17.7	6.4	75.3	39.2	26.3
LnGrp LOS	E		D	F		D	C	B	A	E	D	C
Approach Vol, veh/h		61			157			1360			1673	
Approach Delay, s/veh		51.8			65.4			18.0			42.7	
Approach LOS		D			E			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	19.4	70.3	11.4	18.9	41.5	48.2	10.6	19.7
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 14	33.5	6.3	* 42	6.0	* 42	6.0	* 42
Max Q Clear Time (g_c+I1), s	13.7	20.0	6.4	4.9	3.8	33.4	3.3	8.4
Green Ext Time (p_c), s	0.0	10.1	0.0	0.1	0.0	7.0	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	33.6
HCM 2010 LOS	C

Notes

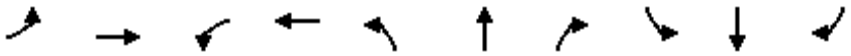
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	1169	51	41	936	24	21	0	39	22	0	42
Future Volume (veh/h)	29	1169	51	41	936	24	21	0	39	22	0	42
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	30	1218	53	43	975	25	22	0	41	23	0	44
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	1683	73	86	1760	45	177	10	103	176	9	104
Arrive On Green	0.04	0.49	0.49	0.05	0.50	0.50	0.10	0.00	0.10	0.10	0.00	0.10
Sat Flow, veh/h	1774	3456	150	1774	3523	90	456	100	1035	450	94	1041
Grp Volume(v), veh/h	30	623	648	43	490	510	63	0	0	67	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1836	1774	1770	1844	1590	0	0	1585	0	0
Q Serve(g_s), s	0.6	10.3	10.3	0.9	7.1	7.1	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.6	10.3	10.3	0.9	7.1	7.1	1.2	0.0	0.0	1.3	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.05	0.35		0.65	0.34		0.66
Lane Grp Cap(c), veh/h	64	862	895	86	884	921	290	0	0	289	0	0
V/C Ratio(X)	0.47	0.72	0.72	0.50	0.55	0.55	0.22	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	245	1115	1157	245	1115	1161	873	0	0	873	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.5	7.5	7.5	17.2	6.4	6.4	15.6	0.0	0.0	15.6	0.0	0.0
Incr Delay (d2), s/veh	5.3	1.7	1.6	4.5	0.5	0.5	0.4	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.2	5.4	0.5	3.5	3.7	0.6	0.0	0.0	0.7	0.0	0.0
LnGrp Delay(d),s/veh	22.8	9.2	9.1	21.7	6.9	6.9	15.9	0.0	0.0	16.0	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		1301			1043			63			67	
Approach Delay, s/veh		9.5			7.5			15.9			16.0	
Approach LOS		A			A			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	6.3	22.5		8.2	5.8	23.0		8.2
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	23.3		18.1	5.1	23.3		18.1
Max Q Clear Time (g_c+I1), s	2.9	12.3		3.2	2.6	9.1		3.3
Green Ext Time (p_c), s	0.0	5.7		0.2	0.0	5.0		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	9.0
HCM 2010 LOS	A



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	286	754	242	527	325	1062	133	184	1291	114
v/c Ratio	0.56	0.66	0.67	0.57	0.97	0.50	0.19	0.66	0.63	0.16
Control Delay	60.3	45.2	69.9	48.4	104.5	32.7	8.2	74.0	36.8	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	45.2	69.9	48.4	104.5	32.7	8.2	74.0	36.8	5.4
Queue Length 50th (ft)	124	204	110	149	154	258	10	85	340	0
Queue Length 95th (ft)	181	222	156	157	#253	361	61	125	462	41
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	507	1720	359	1682	335	2124	718	318	2038	694
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.44	0.67	0.31	0.97	0.50	0.19	0.58	0.63	0.16

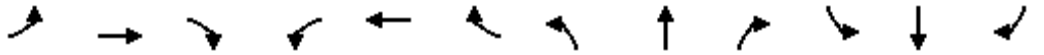
Intersection Summary

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	682	13	284	601	7	388
Future Volume (veh/h)	682	13	284	601	7	388
Number	2	12	1	6	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	703	13	293	620	7	400
Adj No. of Lanes	1	0	1	1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	770	14	334	1240	397	355
Arrive On Green	0.42	0.42	0.19	0.67	0.22	0.22
Sat Flow, veh/h	1823	34	1774	1863	1774	1583
Grp Volume(v), veh/h	0	716	293	620	7	400
Grp Sat Flow(s),veh/h/ln	0	1857	1774	1863	1774	1583
Q Serve(g_s), s	0.0	29.6	13.1	13.6	0.3	18.3
Cycle Q Clear(g_c), s	0.0	29.6	13.1	13.6	0.3	18.3
Prop In Lane		0.02	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	784	334	1240	397	355
V/C Ratio(X)	0.00	0.91	0.88	0.50	0.02	1.13
Avail Cap(c_a), veh/h	0	902	402	1430	397	355
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	22.2	32.2	6.8	24.7	31.7
Incr Delay (d2), s/veh	0.0	12.4	16.9	0.3	0.0	87.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.8	8.0	7.0	0.1	16.5
LnGrp Delay(d),s/veh	0.0	34.5	49.2	7.2	24.7	118.7
LnGrp LOS		C	D	A	C	F
Approach Vol, veh/h	716			913	407	
Approach Delay, s/veh	34.5			20.6	117.1	
Approach LOS	C			C	F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	19.9	39.0		22.8		58.9		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	18.5	39.7		18.3		62.7		
Max Q Clear Time (g_c+I1), s	15.1	31.6		20.3		15.6		
Green Ext Time (p_c), s	0.3	2.9		0.0		4.2		

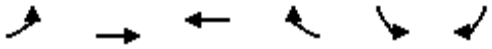
Intersection Summary	
HCM 2010 Ctrl Delay	44.8
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	678	18	9	523	9	8	6	2	6	7	203
Future Volume (veh/h)	187	678	18	9	523	9	8	6	2	6	7	203
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	193	699	19	9	539	9	8	6	2	6	7	209
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	892	24	21	671	11	163	98	20	424	9	283
Arrive On Green	0.14	0.49	0.49	0.01	0.37	0.37	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1774	1805	49	1774	1826	30	214	533	107	1402	52	1540
Grp Volume(v), veh/h	193	0	718	9	0	548	16	0	0	6	0	216
Grp Sat Flow(s),veh/h/ln	1774	0	1854	1774	0	1857	854	0	0	1402	0	1591
Q Serve(g_s), s	4.6	0.0	13.9	0.2	0.0	11.5	0.0	0.0	0.0	0.0	0.0	5.6
Cycle Q Clear(g_c), s	4.6	0.0	13.9	0.2	0.0	11.5	5.6	0.0	0.0	0.2	0.0	5.6
Prop In Lane	1.00		0.03	1.00		0.02	0.50		0.12	1.00		0.97
Lane Grp Cap(c), veh/h	246	0	916	21	0	682	281	0	0	424	0	293
V/C Ratio(X)	0.79	0.00	0.78	0.43	0.00	0.80	0.06	0.00	0.00	0.01	0.00	0.74
Avail Cap(c_a), veh/h	346	0	1214	204	0	1066	604	0	0	746	0	658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	9.1	21.4	0.0	12.4	14.8	0.0	0.0	14.6	0.0	16.8
Incr Delay (d2), s/veh	7.6	0.0	2.5	13.2	0.0	2.5	0.1	0.0	0.0	0.0	0.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	7.6	0.2	0.0	6.3	0.2	0.0	0.0	0.1	0.0	2.8
LnGrp Delay(d),s/veh	25.8	0.0	11.6	34.6	0.0	14.9	14.9	0.0	0.0	14.6	0.0	20.4
LnGrp LOS	C		B	C		B	B			B		C
Approach Vol, veh/h		911			557			16			222	
Approach Delay, s/veh		14.6			15.2			14.9			20.2	
Approach LOS		B			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	26.0		12.5	10.5	20.5		12.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	28.5		18.0	8.5	25.0		18.0
Max Q Clear Time (g_c+I1), s	2.2	15.9		7.6	6.6	13.5		7.6
Green Ext Time (p_c), s	0.0	3.7		0.0	0.1	2.5		0.9

Intersection Summary		
HCM 2010 Ctrl Delay		15.5
HCM 2010 LOS		B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	98	476	509	170	114	106
Future Volume (veh/h)	98	476	509	170	114	106
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	107	517	553	185	124	115
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	146	1267	665	223	212	189
Arrive On Green	0.08	0.68	0.50	0.50	0.12	0.12
Sat Flow, veh/h	1774	1863	1337	447	1774	1583
Grp Volume(v), veh/h	107	517	0	738	124	115
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1784	1774	1583
Q Serve(g_s), s	2.6	5.5	0.0	15.9	3.0	3.1
Cycle Q Clear(g_c), s	2.6	5.5	0.0	15.9	3.0	3.1
Prop In Lane	1.00			0.25	1.00	1.00
Lane Grp Cap(c), veh/h	146	1267	0	888	212	189
V/C Ratio(X)	0.73	0.41	0.00	0.83	0.59	0.61
Avail Cap(c_a), veh/h	217	1781	0	1308	716	639
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	3.2	0.0	9.7	18.7	18.8
Incr Delay (d2), s/veh	7.0	0.2	0.0	3.0	2.6	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.8	0.0	8.3	1.6	2.8
LnGrp Delay(d),s/veh	27.1	3.4	0.0	12.7	21.3	21.9
LnGrp LOS	C	A		B	C	C
Approach Vol, veh/h		624	738		239	
Approach Delay, s/veh		7.5	12.7		21.6	
Approach LOS		A	B		C	

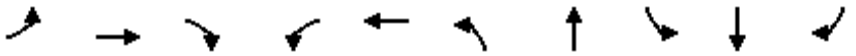
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		35.0		9.9	8.2	26.8		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		42.9		18.1	5.5	32.9		
Max Q Clear Time (g_c+I1), s		7.5		5.1	4.6	17.9		
Green Ext Time (p_c), s		3.4		0.5	0.0	4.4		

Intersection Summary	
HCM 2010 Ctrl Delay	12.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	486	74	161	526	30	131	0	260	135	0	68
Future Volume (veh/h)	75	486	74	161	526	30	131	0	260	135	0	68
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	82	528	80	175	572	33	142	0	283	147	0	74
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	804	121	227	1072	62	552	0	454	307	28	96
Arrive On Green	0.07	0.26	0.26	0.13	0.32	0.32	0.29	0.00	0.29	0.29	0.00	0.29
Sat Flow, veh/h	1774	3084	466	1774	3401	196	1320	0	1583	568	98	335
Grp Volume(v), veh/h	82	302	306	175	297	308	142	0	283	221	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1781	1774	1770	1828	1320	0	1583	1002	0	0
Q Serve(g_s), s	1.9	6.3	6.4	4.0	5.8	5.8	0.0	0.0	6.5	5.6	0.0	0.0
Cycle Q Clear(g_c), s	1.9	6.3	6.4	4.0	5.8	5.8	3.6	0.0	6.5	9.2	0.0	0.0
Prop In Lane	1.00		0.26	1.00		0.11	1.00		1.00	0.67		0.33
Lane Grp Cap(c), veh/h	131	461	464	227	558	576	552	0	454	431	0	0
V/C Ratio(X)	0.63	0.66	0.66	0.77	0.53	0.53	0.26	0.00	0.62	0.51	0.00	0.00
Avail Cap(c_a), veh/h	298	765	770	447	914	944	744	0	685	609	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.7	13.7	13.7	17.6	11.7	11.7	11.9	0.0	12.9	14.4	0.0	0.0
Incr Delay (d2), s/veh	4.9	1.6	1.6	5.4	0.8	0.8	0.2	0.0	1.4	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.2	3.3	2.3	2.9	3.0	1.3	0.0	3.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	23.6	15.3	15.3	23.0	12.5	12.5	12.1	0.0	14.3	15.3	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	B		B	B		
Approach Vol, veh/h		690			780			425			221	
Approach Delay, s/veh		16.3			14.9			13.6			15.3	
Approach LOS		B			B			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	9.8	15.4		16.4	7.6	17.6		16.4
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.5	18.0		18.0	7.0	21.5		18.0
Max Q Clear Time (g_c+I1), s	6.0	8.4		8.5	3.9	7.8		11.2
Green Ext Time (p_c), s	0.2	2.4		1.3	0.0	2.9		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	15.1
HCM 2010 LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	125	289	200	274	276	277	1228	180	919	61
v/c Ratio	0.75	0.71	0.40	0.78	0.29	0.62	0.95	0.85	0.50	0.09
Control Delay	87.8	56.8	7.5	72.5	32.8	60.3	56.3	88.7	34.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.8	56.8	7.5	72.5	32.8	60.3	56.3	88.7	34.6	0.3
Queue Length 50th (ft)	54	225	0	116	83	115	~582	149	227	0
Queue Length 95th (ft)	#105	312	60	#175	117	163	#723	#298	283	0
Internal Link Dist (ft)		765			337		251		1110	
Turn Bay Length (ft)	180			175		205		290		210
Base Capacity (vph)	166	481	552	370	1096	446	1286	212	1834	682
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.60	0.36	0.74	0.25	0.62	0.95	0.85	0.50	0.09

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	269	186	255	198	59	258	918	224	167	855	57
Future Volume (veh/h)	116	269	186	255	198	59	258	918	224	167	855	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	125	289	200	274	213	63	277	987	241	180	919	61
Adj No. of Lanes	2	1	1	2	2	0	2	2	0	1	3	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	362	303	325	664	191	659	1153	281	192	1612	495
Arrive On Green	0.05	0.19	0.19	0.09	0.25	0.25	0.19	0.41	0.41	0.11	0.32	0.32
Sat Flow, veh/h	3442	1863	1563	3442	2705	778	3442	2823	687	1774	5085	1562
Grp Volume(v), veh/h	125	289	200	274	137	139	277	618	610	180	919	61
Grp Sat Flow(s),veh/h/ln	1721	1863	1563	1721	1770	1713	1721	1770	1740	1774	1695	1562
Q Serve(g_s), s	4.7	19.2	15.4	10.2	8.3	8.6	9.2	41.2	41.5	13.1	19.6	2.8
Cycle Q Clear(g_c), s	4.7	19.2	15.4	10.2	8.3	8.6	9.2	41.2	41.5	13.1	19.6	2.8
Prop In Lane	1.00		1.00	1.00		0.45	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	167	362	303	325	434	421	659	723	711	192	1612	495
V/C Ratio(X)	0.75	0.80	0.66	0.84	0.32	0.33	0.42	0.85	0.86	0.94	0.57	0.12
Avail Cap(c_a), veh/h	167	481	404	363	558	540	659	723	711	192	1612	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	1.00	1.00	1.00	1.00	0.68	0.68	0.68
Uniform Delay (d), s/veh	61.1	50.0	48.4	57.9	40.1	40.3	46.2	35.0	35.0	57.5	37.0	19.6
Incr Delay (d2), s/veh	12.9	10.7	6.1	13.7	1.2	1.3	0.2	12.3	12.8	36.2	1.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	10.9	7.2	5.5	4.2	4.2	4.4	22.6	22.5	8.3	9.3	1.5
LnGrp Delay(d),s/veh	73.9	60.6	54.5	71.7	41.3	41.6	46.4	47.3	47.9	93.7	38.0	20.0
LnGrp LOS	E	E	D	E	D	D	D	D	D	F	D	B
Approach Vol, veh/h		614			550			1505			1160	
Approach Delay, s/veh		61.3			56.5			47.3			45.7	
Approach LOS		E			E			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	19.8	59.9	18.7	31.6	31.7	48.0	12.0	38.3
Change Period (Y+Rc), s	* 5.7	6.8	6.4	* 6.4	6.8	* 6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 14	44.0	13.7	* 34	16.9	* 41	* 6.3	41.0
Max Q Clear Time (g_c+I1), s	15.1	43.5	12.2	21.2	11.2	21.6	6.7	10.6
Green Ext Time (p_c), s	0.0	0.4	0.1	4.0	0.3	12.5	0.0	3.6

Intersection Summary	
HCM 2010 Ctrl Delay	50.4
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)	40	4	30	2	3	38	150	1217	63	31	1257	66
Future Volume (veh/h)	40	4	30	2	3	38	150	1217	63	31	1257	66
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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	42	4	32	2	3	40	158	1281	66	33	1323	69
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	11	54	83	12	123	204	2030	104	66	1763	92
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.11	0.59	0.59	0.04	0.52	0.52
Sat Flow, veh/h	794	131	643	43	138	1448	1774	3425	176	1774	3423	178
Grp Volume(v), veh/h	78	0	0	45	0	0	158	661	686	33	683	709
Grp Sat Flow(s),veh/h/ln	1568	0	0	1628	0	0	1774	1770	1832	1774	1770	1831
Q Serve(g_s), s	0.9	0.0	0.0	0.0	0.0	0.0	4.1	11.5	11.5	0.9	14.4	14.5
Cycle Q Clear(g_c), s	2.1	0.0	0.0	1.2	0.0	0.0	4.1	11.5	11.5	0.9	14.4	14.5
Prop In Lane	0.54		0.41	0.04		0.89	1.00		0.10	1.00		0.10
Lane Grp Cap(c), veh/h	250	0	0	217	0	0	204	1049	1086	66	912	943
V/C Ratio(X)	0.31	0.00	0.00	0.21	0.00	0.00	0.78	0.63	0.63	0.50	0.75	0.75
Avail Cap(c_a), veh/h	686	0	0	690	0	0	356	1433	1483	191	1268	1312
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.7	0.0	0.0	20.4	0.0	0.0	20.3	6.3	6.3	22.3	9.1	9.1
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.5	0.0	0.0	6.2	0.6	0.6	5.8	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.6	0.0	0.0	2.3	5.7	5.9	0.5	7.2	7.5
LnGrp Delay(d),s/veh	21.5	0.0	0.0	20.9	0.0	0.0	26.6	6.9	6.9	28.1	10.7	10.7
LnGrp LOS	C			C			C	A	A	C	B	B
Approach Vol, veh/h		78			45			1505			1425	
Approach Delay, s/veh		21.5			20.9			9.0			11.1	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.3	32.5		8.5	9.9	28.9		8.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	38.3		18.1	9.5	33.9		18.1
Max Q Clear Time (g_c+I1), s	2.9	13.5		4.1	6.1	16.5		3.2
Green Ext Time (p_c), s	0.0	8.8		0.2	0.1	7.9		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

Twenty-Year plus Project Impacts and Mitigation Measures			
Location	***Impact***	***Mitigation Measure***	***Notes***
Intersection #3: Mooney Boulevard/Sunnyside Avenue	Addition of project traffic will cause the LOS to drop from LOS D to LOS E in the p.m. peak hour.	Same as Ten-Year plus Project Mitigation.	Project to provide contribution
Intersection #4: Mooney Boulevard/Orchard Avenue	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS E during the a.m. and p.m. peak hours.	Same as Ten-Year plus Project Mitigation.	Project to provide contribution
Intersection #5: Caldwell Avenue/Dans Street	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS F during the a.m. and p.m. peak hours.	Same as Existing plus Project Mitigation.	Project to provide contribution
Intersection #7: Mooney Boulevard/Caldwell Avenue	Addition of project traffic will increase the queue of the northbound left-turn in the p.m. peak hour.	Same as Ten-Year plus Project Mitigation.	Project to provide contribution
Intersection #11: Cameron Avenue/County Center Drive	Addition of project traffic will exceed the storage length for the SBL in the p.m. peak hour.	Optimization of signal timings will mitigate the queue lengths during the p.m. peak hour.	Project to provide contribution
Intersection #13: Cameron Avenue/Stonebrook Street	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS F during the a.m. and p.m. peak hours. The queue is also expected to exceed the storage length for the NBL in the p.m. peak hour.	Same as Five-Year plus Phase 1 Mitigation. Additionally, the NBL storage length should be increased.	TIF-eligible project
Intersection #14: Cameron Ave/West Street	Addition of project traffic will cause the LOS to drop from LOS D to LOS F in the a.m. peak hour, and in the p.m. peak hour, the project will exacerbate the delay by more than 5.0 seconds as the intersection is already operation at LOS F during the p.m. peak hour.	Same as Existing plus Project Mitigation.	TIF-eligible project
Intersection #18: Visalia Parkway/County Center Drive	Addition of project traffic will cause the LOS to drop from LOS D to LOS E in the a.m. peak hour, and in the p.m. peak hour, the the project will exacerbate the delay by more than 5.0 seconds as the intersection is already operation at LOS E during the p.m. peak hour.	Same as Existing plus Project Mitigation.	Project to provide contribution
Intersection #19: Visalia Parkway/Main Site Access-Target Driveway	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS E and F during the a.m. and p.m. peak hours.	Same as Five-Year plus Phase 1 Mitigation.	Project to provide contribution

Intersection #20: Visalia Parkway/Mooney Boulevard	Addition of project traffic will cause the LOS to drop from acceptable levels to unacceptable levels in the a.m. and p.m. peak hour.	Same as Existing plus Project Mitigation.	Intersection included in City's CIP
Intersection #21: Visalia Parkway/Stonebrook Street	Addition of project traffic will cause the LOS to drop from LOS D to LOS F in the p.m. peak hour.	The installation of a traffic signal will improve the LOS to acceptable levels during the p.m. peak hour.	Project to provide contribution
Intersection #23: Mooney Boulevard/Avenue 272	Addition of project traffic will exacerbate the delay by more than 5.0 seconds as the intersection is already operating at LOS F during the a.m. and p.m. peak hours.	Same as Existing plus Project Mitigation.	TIF-eligible project
Intersection #29: Visalia Parkway/Costco Driveway	Addition of project traffic will cause the LOS to drop from LOS D to LOS E in the p.m. peak hour.	Design planned raised median to provide refuge lane for southbound left turn movement.	NA

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	0	14	10	0	34	41	790	10	92	720	56
Future Volume (veh/h)	45	0	14	10	0	34	41	790	10	92	720	56
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		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	47	0	15	11	0	36	43	832	11	97	758	59
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	0	228	30	0	165	94	1583	21	153	1633	126
Arrive On Green	0.06	0.00	0.14	0.02	0.00	0.10	0.05	0.31	0.31	0.09	0.34	0.34
Sat Flow, veh/h	1774	0	1577	1774	0	1580	1774	5170	68	1774	4813	373
Grp Volume(v), veh/h	47	0	15	11	0	36	43	545	298	97	533	284
Grp Sat Flow(s),veh/h/ln	1774	0	1577	1774	0	1580	1774	1695	1848	1774	1695	1796
Q Serve(g_s), s	1.4	0.0	0.4	0.3	0.0	1.1	1.2	7.0	7.0	2.8	6.5	6.5
Cycle Q Clear(g_c), s	1.4	0.0	0.4	0.3	0.0	1.1	1.2	7.0	7.0	2.8	6.5	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.21
Lane Grp Cap(c), veh/h	100	0	228	30	0	165	94	1038	566	153	1150	609
V/C Ratio(X)	0.47	0.00	0.07	0.37	0.00	0.22	0.46	0.53	0.53	0.63	0.46	0.47
Avail Cap(c_a), veh/h	206	0	1141	202	0	1140	226	1487	811	313	1655	876
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.1	0.0	19.5	25.6	0.0	21.6	24.2	15.1	15.1	23.2	13.6	13.7
Incr Delay (d2), s/veh	1.3	0.0	0.1	2.8	0.0	0.5	1.3	0.8	1.5	1.6	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.2	0.2	0.0	0.5	0.6	3.4	3.8	1.4	3.1	3.4
LnGrp Delay(d),s/veh	25.3	0.0	19.6	28.4	0.0	22.1	25.5	15.9	16.6	24.9	14.2	14.7
LnGrp LOS	C		B	C		C	C	B	B	C	B	B
Approach Vol, veh/h		62			47			886			914	
Approach Delay, s/veh		23.9			23.6			16.6			15.5	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	22.5	6.6	13.3	8.5	24.3	8.7	11.2
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	* 5.7	6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 9.3	23.1	* 6	* 38	* 6.7	25.7	* 6.1	* 38
Max Q Clear Time (g_c+I1), s	4.8	9.0	2.3	2.4	3.2	8.5	3.4	3.1
Green Ext Time (p_c), s	0.0	6.9	0.0	0.0	0.0	7.6	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	1	19	0	24	11	783	28	66	657	5
Future Volume (veh/h)	3	0	1	19	0	24	11	783	28	66	657	5
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		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	3	0	1	20	0	25	12	824	29	69	692	5
Adj No. of Lanes	1	1	0	1	1	0	2	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	23	0	83	45	0	105	1474	3272	1016	88	1312	408
Arrive On Green	0.01	0.00	0.05	0.03	0.00	0.07	0.43	0.64	0.64	0.05	0.26	0.26
Sat Flow, veh/h	1774	0	1548	1774	0	1583	3442	5085	1578	1774	5085	1581
Grp Volume(v), veh/h	3	0	1	20	0	25	12	824	29	69	692	5
Grp Sat Flow(s),veh/h/ln	1774	0	1548	1774	0	1583	1721	1695	1578	1774	1695	1581
Q Serve(g_s), s	0.2	0.0	0.1	1.2	0.0	1.6	0.2	7.2	0.4	4.0	12.3	0.2
Cycle Q Clear(g_c), s	0.2	0.0	0.1	1.2	0.0	1.6	0.2	7.2	0.4	4.0	12.3	0.2
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	23	0	83	45	0	105	1474	3272	1016	88	1312	408
V/C Ratio(X)	0.13	0.00	0.01	0.45	0.00	0.24	0.01	0.25	0.03	0.78	0.53	0.01
Avail Cap(c_a), veh/h	101	0	619	101	0	633	1474	3272	1016	101	1312	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.95	0.95	0.95	0.98	0.98	0.98
Uniform Delay (d), s/veh	51.2	0.0	47.0	50.5	0.0	46.5	17.2	8.0	2.5	49.3	33.4	29.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	2.6	0.0	0.9	0.0	0.2	0.0	23.7	1.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.6	0.0	0.7	0.1	3.4	0.3	2.6	5.9	0.1
LnGrp Delay(d),s/veh	52.2	0.0	47.0	53.0	0.0	47.4	17.2	8.1	2.5	73.1	34.9	29.0
LnGrp LOS	D		D	D		D	B	A	A	E	C	C
Approach Vol, veh/h		4			45			865			766	
Approach Delay, s/veh		50.9			49.9			8.1			38.3	
Approach LOS		D			D			A			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	10.9	74.0	8.4	11.8	51.4	33.5	7.0	13.1
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 6	27.1	6.0	* 42	6.0	* 27	6.0	* 42
Max Q Clear Time (g_c+I1), s	6.0	9.2	3.2	2.1	2.2	14.3	2.2	3.6
Green Ext Time (p_c), s	0.0	8.8	0.0	0.0	0.0	5.6	0.0	0.1

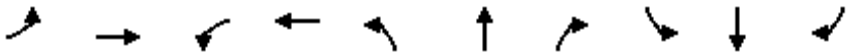
Intersection Summary	
HCM 2010 Ctrl Delay	23.1
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	880	99	72	865	41	69	0	115	12	0	25
Future Volume (veh/h)	49	880	99	72	865	41	69	0	115	12	0	25
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	53	957	108	78	940	45	75	0	125	13	0	27
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	1328	150	128	1485	71	204	21	172	171	42	199
Arrive On Green	0.06	0.42	0.42	0.07	0.43	0.43	0.18	0.00	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3199	361	1774	3438	165	457	117	958	298	235	1107
Grp Volume(v), veh/h	53	529	536	78	484	501	200	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1790	1774	1770	1833	1533	0	0	1640	0	0
Q Serve(g_s), s	1.2	10.1	10.1	1.7	8.7	8.7	3.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.2	10.1	10.1	1.7	8.7	8.7	4.9	0.0	0.0	0.8	0.0	0.0
Prop In Lane	1.00		0.20	1.00		0.09	0.37		0.62	0.32		0.67
Lane Grp Cap(c), veh/h	98	735	743	128	764	792	397	0	0	412	0	0
V/C Ratio(X)	0.54	0.72	0.72	0.61	0.63	0.63	0.50	0.00	0.00	0.10	0.00	0.00
Avail Cap(c_a), veh/h	223	1000	1012	241	1018	1054	798	0	0	803	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.6	9.9	9.9	18.2	9.0	9.0	15.6	0.0	0.0	14.0	0.0	0.0
Incr Delay (d2), s/veh	4.5	1.6	1.6	4.6	0.9	0.8	1.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.2	5.2	1.0	4.4	4.5	2.2	0.0	0.0	0.4	0.0	0.0
LnGrp Delay(d),s/veh	23.2	11.5	11.5	22.9	9.9	9.8	16.6	0.0	0.0	14.1	0.0	0.0
LnGrp LOS	C	B	B	C	A	A	B			B		
Approach Vol, veh/h		1118			1063			200			40	
Approach Delay, s/veh		12.1			10.8			16.6			14.1	
Approach LOS		B			B			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	21.3		11.8	6.7	22.0		11.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.5	22.9		18.1	5.1	23.3		18.1
Max Q Clear Time (g_c+I1), s	3.7	12.1		6.9	3.2	10.7		2.8
Green Ext Time (p_c), s	0.0	4.7		0.9	0.0	4.7		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	11.9
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	174	561	132	536	145	677	112	71	618	87
v/c Ratio	0.61	0.56	0.47	0.55	0.76	0.26	0.13	0.40	0.25	0.11
Control Delay	66.4	42.1	62.1	46.1	84.4	21.3	4.0	66.4	22.1	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.4	42.1	62.1	46.1	84.4	21.3	4.0	66.4	22.1	1.6
Queue Length 50th (ft)	73	141	55	147	63	117	0	30	105	0
Queue Length 95th (ft)	111	146	88	150	#114	196	35	56	180	12
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	289	1843	283	1813	192	2558	846	182	2445	816
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.30	0.47	0.30	0.76	0.26	0.13	0.39	0.25	0.11

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	400	133	125	439	70	138	643	106	67	587	83
Future Volume (veh/h)	165	400	133	125	439	70	138	643	106	67	587	83
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	174	421	140	132	462	74	145	677	112	71	618	87
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	714	228	186	786	123	809	2696	838	147	1690	524
Arrive On Green	0.06	0.19	0.19	0.05	0.18	0.18	0.24	0.53	0.53	0.04	0.33	0.33
Sat Flow, veh/h	3442	3814	1217	3442	4432	695	3442	5085	1582	3442	5085	1578
Grp Volume(v), veh/h	174	372	189	132	351	185	145	677	112	71	618	87
Grp Sat Flow(s),veh/h/ln	1721	1695	1641	1721	1695	1737	1721	1695	1582	1721	1695	1578
Q Serve(g_s), s	6.5	13.0	13.7	4.9	12.4	12.7	4.4	9.4	3.2	2.6	12.0	5.1
Cycle Q Clear(g_c), s	6.5	13.0	13.7	4.9	12.4	12.7	4.4	9.4	3.2	2.6	12.0	5.1
Prop In Lane	1.00		0.74	1.00		0.40	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	220	634	307	186	601	308	809	2696	838	147	1690	524
V/C Ratio(X)	0.79	0.59	0.61	0.71	0.58	0.60	0.18	0.25	0.13	0.48	0.37	0.17
Avail Cap(c_a), veh/h	220	1249	605	196	1226	628	809	2696	838	172	1690	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.97	0.97	0.97	0.96	0.96	0.96	0.99	0.99	0.99
Uniform Delay (d), s/veh	60.0	48.3	48.5	60.5	49.1	49.2	39.7	16.6	7.3	60.8	33.0	30.7
Incr Delay (d2), s/veh	16.1	1.7	3.8	8.7	1.7	3.5	0.0	0.2	0.3	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	3.6	6.2	6.6	2.6	5.9	6.4	2.1	4.4	1.9	1.3	5.7	2.3
LnGrp Delay(d),s/veh	76.1	49.9	52.3	69.2	50.8	52.8	39.7	16.8	7.6	61.7	33.6	31.3
LnGrp LOS	E	D	D	E	D	D	D	B	A	E	C	C
Approach Vol, veh/h		735			668			934			776	
Approach Delay, s/veh		56.7			55.0			19.2			35.9	
Approach LOS		E			D			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	11.2	75.3	12.7	30.7	37.0	49.6	14.0	29.4
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 6.5	44.0	7.4	* 48	7.3	* 43	8.3	* 47
Max Q Clear Time (g_c+I1), s	4.6	11.4	6.9	15.7	6.4	14.0	8.5	14.7
Green Ext Time (p_c), s	0.0	10.8	0.0	6.8	0.0	9.2	0.0	6.4

Intersection Summary	
HCM 2010 Ctrl Delay	39.9
HCM 2010 LOS	D

Notes



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	64	186	189	27	272	264
v/c Ratio	0.16	0.38	0.17	0.03	0.39	0.24
Control Delay	10.8	4.9	5.3	2.5	7.7	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.8	4.9	5.3	2.5	7.7	5.6
Queue Length 50th (ft)	7	0	14	0	23	20
Queue Length 95th (ft)	27	28	39	6	68	53
Internal Link Dist (ft)	1226		772			355
Turn Bay Length (ft)		100		160	145	
Base Capacity (vph)	1072	1011	1239	1037	789	1239
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.18	0.15	0.03	0.34	0.21

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	36	367	422	484	59	238	149	24	220
v/c Ratio	0.22	0.75	0.77	0.44	0.42	0.39	0.38	0.17	0.43
Control Delay	34.1	34.6	34.2	12.1	41.5	13.1	4.7	34.4	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.1	34.6	34.2	12.1	41.5	13.1	4.7	34.4	18.0
Queue Length 50th (ft)	15	143	165	92	25	15	0	10	24
Queue Length 95th (ft)	43	#290	#332	247	#70	51	24	33	54
Internal Link Dist (ft)		978		1708		903			1465
Turn Bay Length (ft)	100		100		200		200	150	
Base Capacity (vph)	168	537	583	1090	142	1019	573	142	1051
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.68	0.72	0.44	0.42	0.23	0.26	0.17	0.21

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	316	22	388	422	23	54	82	274	22	107	96
Future Volume (veh/h)	33	316	22	388	422	23	54	82	274	22	107	96
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	36	343	24	422	459	25	59	89	298	24	116	104
Adj No. of Lanes	1	1	0	1	1	0	1	1	2	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	413	29	484	831	45	94	272	463	49	223	183
Arrive On Green	0.04	0.24	0.24	0.27	0.47	0.47	0.05	0.15	0.15	0.03	0.12	0.12
Sat Flow, veh/h	1774	1721	120	1774	1751	95	1774	1863	3167	1774	1846	1518
Grp Volume(v), veh/h	36	0	367	422	0	484	59	89	298	24	111	109
Grp Sat Flow(s),veh/h/ln	1774	0	1841	1774	0	1846	1774	1863	1583	1774	1770	1595
Q Serve(g_s), s	1.1	0.0	10.9	13.0	0.0	10.7	1.9	2.5	5.1	0.8	3.4	3.7
Cycle Q Clear(g_c), s	1.1	0.0	10.9	13.0	0.0	10.7	1.9	2.5	5.1	0.8	3.4	3.7
Prop In Lane	1.00		0.07	1.00		0.05	1.00		1.00	1.00		0.95
Lane Grp Cap(c), veh/h	67	0	442	484	0	877	94	272	463	49	214	193
V/C Ratio(X)	0.53	0.00	0.83	0.87	0.00	0.55	0.63	0.33	0.64	0.49	0.52	0.57
Avail Cap(c_a), veh/h	182	0	577	633	0	1047	154	600	1020	154	570	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	0.0	20.7	19.9	0.0	10.7	26.6	22.0	23.1	27.5	23.7	23.8
Incr Delay (d2), s/veh	6.4	0.0	7.8	10.2	0.0	0.5	6.7	0.7	1.5	7.3	1.9	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	0.7	0.0	6.5	7.7	0.0	5.5	1.1	1.3	2.3	0.5	1.7	1.8
LnGrp Delay(d),s/veh	33.5	0.0	28.5	30.1	0.0	11.3	33.3	22.7	24.6	34.9	25.6	26.5
LnGrp LOS	C		C	C		B	C	C	C	C	C	C
Approach Vol, veh/h		403			906			446			244	
Approach Delay, s/veh		29.0			20.1			25.4			26.9	
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	6.1	12.9	20.2	18.3	7.5	11.4	6.7	31.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.5	20.5	18.0	5.0	18.5	5.9	32.6
Max Q Clear Time (g_c+I1), s	2.8	7.1	15.0	12.9	3.9	5.7	3.1	12.7
Green Ext Time (p_c), s	0.0	1.3	0.7	0.9	0.0	1.0	0.0	2.7

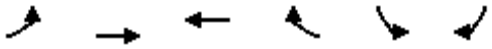
Intersection Summary	
HCM 2010 Ctrl Delay	23.9
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	392	9	0	460	5	26	6	8	3	3	183
Future Volume (veh/h)	92	392	9	0	460	5	26	6	8	3	3	183
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	100	426	10	0	500	5	28	7	9	3	3	199
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	1027	24	5	655	7	218	57	29	489	4	290
Arrive On Green	0.09	0.57	0.57	0.00	0.36	0.36	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1774	1812	43	1774	1841	18	302	309	157	1389	24	1559
Grp Volume(v), veh/h	100	0	436	0	0	505	44	0	0	3	0	202
Grp Sat Flow(s),veh/h/ln	1774	0	1854	1774	0	1859	768	0	0	1389	0	1583
Q Serve(g_s), s	2.0	0.0	4.8	0.0	0.0	8.7	0.1	0.0	0.0	0.0	0.0	4.3
Cycle Q Clear(g_c), s	2.0	0.0	4.8	0.0	0.0	8.7	4.4	0.0	0.0	0.1	0.0	4.3
Prop In Lane	1.00		0.02	1.00		0.01	0.64		0.20	1.00		0.99
Lane Grp Cap(c), veh/h	155	0	1051	5	0	661	305	0	0	489	0	294
V/C Ratio(X)	0.64	0.00	0.41	0.00	0.00	0.76	0.14	0.00	0.00	0.01	0.00	0.69
Avail Cap(c_a), veh/h	317	0	1198	244	0	1125	713	0	0	918	0	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	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.1	0.0	4.5	0.0	0.0	10.4	12.5	0.0	0.0	12.1	0.0	13.8
Incr Delay (d2), s/veh	4.4	0.0	0.3	0.0	0.0	1.9	0.2	0.0	0.0	0.0	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	2.5	0.0	0.0	4.7	0.4	0.0	0.0	0.0	0.0	2.1
LnGrp Delay(d),s/veh	20.5	0.0	4.7	0.0	0.0	12.2	12.7	0.0	0.0	12.1	0.0	16.7
LnGrp LOS	C		A			B	B			B		B
Approach Vol, veh/h		536			505			44			205	
Approach Delay, s/veh		7.7			12.2			12.7			16.6	
Approach LOS		A			B			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	0.0	25.1		11.3	7.7	17.4		11.3
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	23.5		18.0	6.5	22.0		18.0
Max Q Clear Time (g_c+I1), s	0.0	6.8		6.4	4.0	10.7		6.3
Green Ext Time (p_c), s	0.0	2.2		0.1	0.0	2.2		0.9

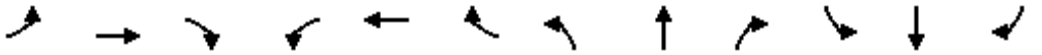
Intersection Summary	
HCM 2010 Ctrl Delay	11.0
HCM 2010 LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	100	395	452	89	109	179
Future Volume (veh/h)	100	395	452	89	109	179
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	109	429	491	97	118	195
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	173	1866	849	167	334	298
Arrive On Green	0.10	0.53	0.29	0.29	0.19	0.19
Sat Flow, veh/h	1774	3632	3043	580	1774	1583
Grp Volume(v), veh/h	109	429	293	295	118	195
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1760	1774	1583
Q Serve(g_s), s	1.9	2.1	4.5	4.5	1.8	3.6
Cycle Q Clear(g_c), s	1.9	2.1	4.5	4.5	1.8	3.6
Prop In Lane	1.00			0.33	1.00	1.00
Lane Grp Cap(c), veh/h	173	1866	509	507	334	298
V/C Ratio(X)	0.63	0.23	0.58	0.58	0.35	0.65
Avail Cap(c_a), veh/h	308	3130	1006	1001	1009	900
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	13.7	4.0	9.6	9.6	11.2	11.9
Incr Delay (d2), s/veh	3.8	0.1	1.0	1.1	0.6	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.0	2.3	2.3	0.9	3.3
LnGrp Delay(d),s/veh	17.5	4.1	10.7	10.7	11.8	14.3
LnGrp LOS	B	A	B	B	B	B
Approach Vol, veh/h		538	588		313	
Approach Delay, s/veh		6.8	10.7		13.4	
Approach LOS		A	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		21.2		10.5	7.6	13.6		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		28.0		18.0	5.5	18.0		
Max Q Clear Time (g_c+I1), s		4.1		5.6	3.9	6.5		
Green Ext Time (p_c), s		2.7		0.8	0.0	2.6		

Intersection Summary	
HCM 2010 Ctrl Delay	9.8
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	409	62	119	396	14	90	0	244	7	0	15
Future Volume (veh/h)	38	409	62	119	396	14	90	0	244	7	0	15
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	41	445	67	129	430	15	98	0	265	8	0	16
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	780	117	185	1080	38	554	0	381	210	53	240
Arrive On Green	0.05	0.25	0.25	0.10	0.31	0.31	0.24	0.00	0.24	0.24	0.00	0.24
Sat Flow, veh/h	1774	3088	462	1774	3489	122	1407	0	1583	278	221	998
Grp Volume(v), veh/h	41	254	258	129	218	227	98	0	265	24	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1781	1774	1770	1841	1407	0	1583	1497	0	0
Q Serve(g_s), s	0.8	4.2	4.2	2.4	3.2	3.3	1.4	0.0	5.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	4.2	4.2	2.4	3.2	3.3	1.8	0.0	5.1	0.4	0.0	0.0
Prop In Lane	1.00		0.26	1.00		0.07	1.00		1.00	0.33		0.67
Lane Grp Cap(c), veh/h	84	447	450	185	548	570	554	0	381	503	0	0
V/C Ratio(X)	0.49	0.57	0.57	0.70	0.40	0.40	0.18	0.00	0.70	0.05	0.00	0.00
Avail Cap(c_a), veh/h	291	950	956	291	950	988	965	0	850	913	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.6	10.9	11.0	14.5	9.1	9.1	10.3	0.0	11.6	9.8	0.0	0.0
Incr Delay (d2), s/veh	4.3	1.1	1.2	4.7	0.5	0.5	0.2	0.0	2.3	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	0.5	2.2	2.2	1.4	1.6	1.7	0.8	0.0	2.4	0.2	0.0	0.0
LnGrp Delay(d),s/veh	19.9	12.1	12.1	19.2	9.6	9.6	10.5	0.0	13.9	9.8	0.0	0.0
LnGrp LOS	B	B	B	B	A	A	B		B	A		
Approach Vol, veh/h		553			574			363			24	
Approach Delay, s/veh		12.7			11.7			13.0			9.8	
Approach LOS		B			B			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	13.0		12.6	6.1	14.9		12.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.5	18.0		18.0	5.5	18.0		18.0
Max Q Clear Time (g_c+I1), s	4.4	6.2		7.1	2.8	5.3		2.4
Green Ext Time (p_c), s	0.0	2.2		1.1	0.0	1.9		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	67	378	235	221	185	974	100	560	51
v/c Ratio	0.29	0.51	0.61	0.24	0.55	0.80	0.69	0.33	0.08
Control Delay	46.9	20.0	46.9	26.4	47.0	34.4	69.0	25.7	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.9	20.0	46.9	26.4	47.0	34.4	69.0	25.7	0.2
Queue Length 50th (ft)	18	55	64	52	51	248	55	84	0
Queue Length 95th (ft)	47	97	123	80	102	#500	#171	160	0
Internal Link Dist (ft)		765		339		253		1110	
Turn Bay Length (ft)	180		175		205		290		210
Base Capacity (vph)	234	1365	494	1608	425	1210	144	1675	657
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.28	0.48	0.14	0.44	0.80	0.69	0.33	0.08

Intersection Summary

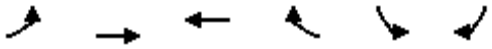
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	195	153	216	191	12	170	791	105	92	515	47
Future Volume (veh/h)	62	195	153	216	191	12	170	791	105	92	515	47
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	67	212	166	235	208	13	185	860	114	100	560	51
Adj No. of Lanes	2	2	0	2	2	0	2	2	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	364	271	319	757	47	265	1097	145	127	1748	544
Arrive On Green	0.06	0.19	0.19	0.09	0.22	0.22	0.08	0.35	0.35	0.07	0.34	0.34
Sat Flow, veh/h	3442	1934	1444	3442	3384	210	3442	3142	416	1774	5085	1583
Grp Volume(v), veh/h	67	193	185	235	108	113	185	484	490	100	560	51
Grp Sat Flow(s),veh/h/ln	1721	1770	1608	1721	1770	1825	1721	1770	1789	1774	1695	1583
Q Serve(g_s), s	1.5	8.2	8.7	5.5	4.2	4.2	4.3	20.2	20.2	4.6	6.7	1.8
Cycle Q Clear(g_c), s	1.5	8.2	8.7	5.5	4.2	4.2	4.3	20.2	20.2	4.6	6.7	1.8
Prop In Lane	1.00		0.90	1.00		0.12	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	196	333	302	319	396	408	265	618	625	127	1748	544
V/C Ratio(X)	0.34	0.58	0.61	0.74	0.27	0.28	0.70	0.78	0.78	0.79	0.32	0.09
Avail Cap(c_a), veh/h	255	734	667	539	880	908	463	665	673	157	1748	544
HCM Platoon Ratio	1.00	1.00	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	37.4	30.5	30.7	36.4	26.5	26.5	37.1	24.0	24.0	37.6	20.0	18.3
Incr Delay (d2), s/veh	0.4	4.9	6.0	1.2	1.1	1.1	1.2	9.3	9.2	14.9	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.5	4.4	2.7	2.2	2.3	2.1	11.4	11.5	2.8	3.2	0.8
LnGrp Delay(d),s/veh	37.8	35.4	36.7	37.7	27.5	27.5	38.3	33.3	33.2	52.6	20.4	18.7
LnGrp LOS	D	D	D	D	C	C	D	C	C	D	C	B
Approach Vol, veh/h		445			456			1159			711	
Approach Delay, s/veh		36.3			32.8			34.1			24.8	
Approach LOS		D			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	11.6	35.6	13.3	21.9	12.1	35.1	10.4	24.8
Change Period (Y+Rc), s	* 5.7	6.8	* 5.7	6.4	* 5.7	6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 7.3	31.0	* 13	34.2	* 11	27.2	* 6.1	41.0
Max Q Clear Time (g_c+I1), s	6.6	22.2	7.5	10.7	6.3	8.7	3.5	6.2
Green Ext Time (p_c), s	0.0	6.6	0.2	4.8	0.1	7.8	0.0	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	31.8
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	194	69	50	18	68	288
Future Volume (veh/h)	194	69	50	18	68	288
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	211	75	54	20	74	313
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	277	1512	306	108	478	427
Arrive On Green	0.16	0.43	0.12	0.12	0.27	0.27
Sat Flow, veh/h	1774	3632	2662	904	1774	1583
Grp Volume(v), veh/h	211	75	36	38	74	313
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1703	1774	1583
Q Serve(g_s), s	3.4	0.4	0.5	0.6	0.9	5.3
Cycle Q Clear(g_c), s	3.4	0.4	0.5	0.6	0.9	5.3
Prop In Lane	1.00			0.53	1.00	1.00
Lane Grp Cap(c), veh/h	277	1512	211	203	478	427
V/C Ratio(X)	0.76	0.05	0.17	0.19	0.15	0.73
Avail Cap(c_a), veh/h	628	3936	1074	1033	1076	961
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	12.0	5.0	11.8	11.8	8.3	9.9
Incr Delay (d2), s/veh	4.3	0.0	0.4	0.4	0.1	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.2	0.3	0.3	0.5	4.7
LnGrp Delay(d),s/veh	16.3	5.0	12.1	12.2	8.4	12.3
LnGrp LOS	B	A	B	B	A	B
Approach Vol, veh/h		286	74		387	
Approach Delay, s/veh		13.3	12.2		11.6	
Approach LOS		B	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		17.2		12.5	9.1	8.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		33.0		18.0	10.5	18.0		
Max Q Clear Time (g_c+I1), s		2.4		7.3	5.4	2.6		
Green Ext Time (p_c), s		0.4		1.0	0.3	0.2		

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	8	172	35	22	19	58	975	26	11	768	38
Future Volume (veh/h)	34	8	172	35	22	19	58	975	26	11	768	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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	37	9	187	38	24	21	63	1060	28	12	835	41
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	32	261	249	146	87	113	1495	39	28	1292	63
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.06	0.42	0.42	0.02	0.38	0.38
Sat Flow, veh/h	156	156	1268	543	708	424	1774	3523	93	1774	3434	169
Grp Volume(v), veh/h	233	0	0	83	0	0	63	532	556	12	430	446
Grp Sat Flow(s),veh/h/ln	1580	0	0	1675	0	0	1774	1770	1846	1774	1770	1833
Q Serve(g_s), s	2.3	0.0	0.0	0.0	0.0	0.0	1.3	9.4	9.5	0.3	7.6	7.6
Cycle Q Clear(g_c), s	5.2	0.0	0.0	1.5	0.0	0.0	1.3	9.4	9.5	0.3	7.6	7.6
Prop In Lane	0.16		0.80	0.46		0.25	1.00		0.05	1.00		0.09
Lane Grp Cap(c), veh/h	435	0	0	483	0	0	113	751	784	28	666	690
V/C Ratio(X)	0.54	0.00	0.00	0.17	0.00	0.00	0.56	0.71	0.71	0.43	0.65	0.65
Avail Cap(c_a), veh/h	851	0	0	865	0	0	246	1081	1128	237	1072	1110
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.0	0.0	0.0	12.6	0.0	0.0	17.3	9.0	9.0	18.6	9.8	9.8
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.2	0.0	0.0	4.2	1.2	1.2	10.3	1.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	0.7	0.0	0.0	0.8	4.8	5.0	0.2	3.9	4.0
LnGrp Delay(d),s/veh	15.1	0.0	0.0	12.8	0.0	0.0	21.5	10.3	10.2	28.9	10.9	10.8
LnGrp LOS	B			B			C	B	B	C	B	B
Approach Vol, veh/h		233			83			1151			888	
Approach Delay, s/veh		15.1			12.8			10.9			11.1	
Approach LOS		B			B			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	5.1	20.7		12.4	6.9	18.9		12.4
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	23.3		18.1	5.3	23.1		18.1
Max Q Clear Time (g_c+I1), s	2.3	11.5		7.2	3.3	9.6		3.5
Green Ext Time (p_c), s	0.0	4.7		1.0	0.0	3.9		0.3

Intersection Summary		
HCM 2010 Ctrl Delay		11.4
HCM 2010 LOS		B

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	263	335	3	0	58
Future Vol, veh/h	119	263	335	3	0	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	286	364	3	0	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	367	0	-	0	767	184
Stage 1	-	-	-	-	366	-
Stage 2	-	-	-	-	401	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1188	-	-	-	339	827
Stage 1	-	-	-	-	672	-
Stage 2	-	-	-	-	645	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1188	-	-	-	295	827
Mov Cap-2 Maneuver	-	-	-	-	414	-
Stage 1	-	-	-	-	585	-
Stage 2	-	-	-	-	645	-

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1188	-	-	-	-	827
HCM Lane V/C Ratio	0.109	-	-	-	-	0.076
HCM Control Delay (s)	8.4	0.3	-	-	0	9.7
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	5	51	17	2	122	62	1325	20	76	1513	72
Future Volume (veh/h)	120	5	51	17	2	122	62	1325	20	76	1513	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		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	129	5	55	18	2	131	67	1425	22	82	1627	77
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	10	107	177	3	166	510	2871	44	102	1589	75
Arrive On Green	0.07	0.07	0.07	0.10	0.11	0.11	0.29	0.56	0.56	0.06	0.32	0.32
Sat Flow, veh/h	1774	134	1470	1774	24	1563	1774	5157	80	1774	4967	235
Grp Volume(v), veh/h	129	0	60	18	0	133	67	937	510	82	1110	594
Grp Sat Flow(s),veh/h/ln	1774	0	1603	1774	0	1587	1774	1695	1846	1774	1695	1812
Q Serve(g_s), s	7.3	0.0	4.0	1.0	0.0	9.0	3.1	18.6	18.6	5.0	35.2	35.2
Cycle Q Clear(g_c), s	7.3	0.0	4.0	1.0	0.0	9.0	3.1	18.6	18.6	5.0	35.2	35.2
Prop In Lane	1.00		0.92	1.00		0.98	1.00		0.04	1.00		0.13
Lane Grp Cap(c), veh/h	118	0	117	177	0	168	510	1887	1028	102	1085	580
V/C Ratio(X)	1.10	0.00	0.51	0.10	0.00	0.79	0.13	0.50	0.50	0.81	1.02	1.02
Avail Cap(c_a), veh/h	118	0	573	177	0	548	510	1887	1028	102	1085	580
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.79	0.79	0.79	0.84	0.84	0.84
Uniform Delay (d), s/veh	51.3	0.0	49.1	45.0	0.0	48.0	29.0	14.9	14.9	51.2	37.4	37.4
Incr Delay (d2), s/veh	111.0	0.0	2.6	0.1	0.0	6.1	0.0	0.7	1.4	29.8	31.1	40.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	0.0	1.9	0.5	0.0	4.2	1.5	8.9	9.9	3.3	21.1	24.1
LnGrp Delay(d),s/veh	162.3	0.0	51.7	45.1	0.0	54.1	29.0	15.7	16.3	81.0	68.5	77.9
LnGrp LOS	F		D	D		D	C	B	B	F	F	F
Approach Vol, veh/h		189			151			1514			1786	
Approach Delay, s/veh		127.2			53.0			16.5			72.2	
Approach LOS		F			D			B			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	67.6	16.7	13.7	38.0	41.6	13.0	17.4
Change Period (Y+Rc), s	* 5.7	6.4	* 5.7	* 5.7	6.4	* 6.4	* 5.7	* 5.7
Max Green Setting (Gmax), s	* 6.3	34.9	* 6	* 39	6.0	* 35	* 7.3	* 38
Max Q Clear Time (g_c+I1), s	7.0	20.6	3.0	6.0	5.1	37.2	9.3	11.0
Green Ext Time (p_c), s	0.0	10.9	0.0	0.3	0.0	0.0	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	51.1
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2	38	64	10	80	70	1206	54	173	1425	39
Future Volume (veh/h)	20	2	38	64	10	80	70	1206	54	173	1425	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		0.98	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	21	2	40	68	11	85	74	1283	57	184	1516	41
Adj No. of Lanes	1	1	0	1	1	0	2	3	1	1	3	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	8	159	87	21	164	1002	2679	815	210	1771	549
Arrive On Green	0.04	0.11	0.11	0.05	0.12	0.12	0.29	0.53	0.53	0.12	0.35	0.35
Sat Flow, veh/h	1774	75	1494	1774	183	1416	3442	5085	1546	1774	5085	1577
Grp Volume(v), veh/h	21	0	42	68	0	96	74	1283	57	184	1516	41
Grp Sat Flow(s),veh/h/ln	1774	0	1569	1774	0	1600	1721	1695	1546	1774	1695	1577
Q Serve(g_s), s	1.4	0.0	2.9	4.5	0.0	6.8	1.9	19.2	1.5	12.2	33.2	2.1
Cycle Q Clear(g_c), s	1.4	0.0	2.9	4.5	0.0	6.8	1.9	19.2	1.5	12.2	33.2	2.1
Prop In Lane	1.00		0.95	1.00		0.89	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	70	0	167	87	0	185	1002	2679	815	210	1771	549
V/C Ratio(X)	0.30	0.00	0.25	0.78	0.00	0.52	0.07	0.48	0.07	0.88	0.86	0.07
Avail Cap(c_a), veh/h	89	0	549	93	0	564	1002	2679	815	211	1771	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.75	0.75	0.75	0.74	0.74	0.74
Uniform Delay (d), s/veh	56.0	0.0	49.2	56.4	0.0	49.9	30.8	18.0	6.5	52.0	36.3	26.2
Incr Delay (d2), s/veh	0.9	0.0	0.3	29.1	0.0	1.7	0.0	0.5	0.1	23.7	4.2	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	0.7	0.0	1.3	2.9	0.0	3.1	0.9	9.0	0.9	7.4	16.1	0.9
LnGrp Delay(d),s/veh	56.9	0.0	49.5	85.5	0.0	51.6	30.8	18.4	6.6	75.8	40.5	26.4
LnGrp LOS	E		D	F		D	C	B	A	E	D	C
Approach Vol, veh/h		63			164			1414			1741	
Approach Delay, s/veh		52.0			65.7			18.6			43.9	
Approach LOS		D			E			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	19.9	69.6	11.6	18.9	41.3	48.2	10.5	20.0
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.1	6.4	* 6.4	5.7	* 6.1
Max Green Setting (Gmax), s	* 14	33.5	6.3	* 42	6.0	* 42	6.0	* 42
Max Q Clear Time (g_c+I1), s	14.2	21.2	6.5	4.9	3.9	35.2	3.4	8.8
Green Ext Time (p_c), s	0.0	9.6	0.0	0.1	0.0	5.7	0.0	0.5

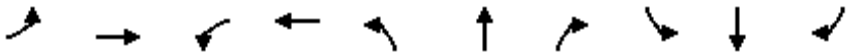
Intersection Summary	
HCM 2010 Ctrl Delay	34.5
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	1405	62	50	1122	29	25	0	47	26	0	52
Future Volume (veh/h)	35	1405	62	50	1122	29	25	0	47	26	0	52
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	36	1464	65	52	1169	30	26	0	49	27	0	54
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	1939	86	93	2023	52	147	10	99	145	9	101
Arrive On Green	0.04	0.56	0.56	0.05	0.57	0.57	0.09	0.00	0.09	0.09	0.00	0.09
Sat Flow, veh/h	1774	3452	153	1774	3523	90	454	108	1060	437	100	1074
Grp Volume(v), veh/h	36	749	780	52	587	612	75	0	0	81	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1836	1774	1770	1844	1622	0	0	1612	0	0
Q Serve(g_s), s	0.9	14.9	15.0	1.3	9.8	9.8	0.0	0.0	0.0	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.9	14.9	15.0	1.3	9.8	9.8	1.9	0.0	0.0	2.0	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.05	0.35		0.65	0.33		0.67
Lane Grp Cap(c), veh/h	71	994	1031	93	1016	1059	257	0	0	255	0	0
V/C Ratio(X)	0.51	0.75	0.76	0.56	0.58	0.58	0.29	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	203	1267	1315	203	1267	1321	701	0	0	701	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.7	7.7	7.7	21.4	6.3	6.3	19.8	0.0	0.0	19.9	0.0	0.0
Incr Delay (d2), s/veh	5.5	1.9	1.9	5.1	0.5	0.5	0.6	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.6	7.9	0.8	4.7	4.9	0.9	0.0	0.0	1.0	0.0	0.0
LnGrp Delay(d),s/veh	27.2	9.6	9.7	26.4	6.8	6.8	20.5	0.0	0.0	20.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	C			C		
Approach Vol, veh/h		1565			1251			75			81	
Approach Delay, s/veh		10.1			7.6			20.5			20.6	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.9	30.5		8.8	6.4	31.0		8.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.3	33.1		18.1	5.3	33.1		18.1
Max Q Clear Time (g_c+I1), s	3.3	17.0		3.9	2.9	11.8		4.0
Green Ext Time (p_c), s	0.0	9.0		0.3	0.0	7.6		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	9.6
HCM 2010 LOS	A



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	309	811	261	569	346	1135	143	199	1382	123
v/c Ratio	0.57	0.67	0.69	0.59	1.03	0.56	0.21	0.70	0.71	0.18
Control Delay	59.1	44.9	69.9	48.3	118.2	35.6	9.5	76.0	40.5	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	44.9	69.9	48.3	118.2	35.6	9.5	76.0	40.5	6.5
Queue Length 50th (ft)	132	221	119	163	~173	295	16	91	390	1
Queue Length 95th (ft)	#204	243	167	170	#275	386	69	136	504	49
Internal Link Dist (ft)		745		794		1348			581	
Turn Bay Length (ft)	345		340		265		165	270		270
Base Capacity (vph)	544	1700	378	1682	335	2015	687	303	1939	666
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.48	0.69	0.34	1.03	0.56	0.21	0.66	0.71	0.18

Intersection Summary

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

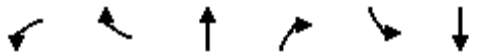
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	294	523	247	248	425	116	329	1078	136	189	1313	117
Future Volume (veh/h)	294	523	247	248	425	116	329	1078	136	189	1313	117
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	309	551	260	261	447	122	346	1135	143	199	1382	123
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	471	834	381	285	764	202	650	2175	676	247	1555	475
Arrive On Green	0.14	0.24	0.24	0.08	0.19	0.19	0.19	0.43	0.43	0.07	0.31	0.31
Sat Flow, veh/h	3442	3405	1557	3442	4005	1058	3442	5085	1580	3442	5085	1553
Grp Volume(v), veh/h	309	549	262	261	376	193	346	1135	143	199	1382	123
Grp Sat Flow(s),veh/h/ln	1721	1695	1572	1721	1695	1672	1721	1695	1580	1721	1695	1553
Q Serve(g_s), s	11.9	20.4	21.2	10.5	14.1	14.8	12.7	23.0	5.6	8.0	36.3	8.4
Cycle Q Clear(g_c), s	11.9	20.4	21.2	10.5	14.1	14.8	12.7	23.0	5.6	8.0	36.3	8.4
Prop In Lane	1.00		0.99	1.00		0.63	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	471	830	385	285	647	319	650	2175	676	247	1555	475
V/C Ratio(X)	0.66	0.66	0.68	0.92	0.58	0.60	0.53	0.52	0.21	0.81	0.89	0.26
Avail Cap(c_a), veh/h	471	1155	536	285	1138	561	650	2175	676	290	1555	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.78	0.78	0.78	0.68	0.68	0.68	0.86	0.86	0.86
Uniform Delay (d), s/veh	57.3	47.6	47.9	63.7	51.6	51.8	51.2	29.5	12.5	64.0	46.3	36.6
Incr Delay (d2), s/veh	2.3	1.5	3.6	26.6	1.3	2.8	0.3	0.6	0.5	9.9	7.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	9.8	9.6	6.1	6.7	7.1	6.1	10.8	3.2	4.1	18.0	3.7
LnGrp Delay(d),s/veh	59.6	49.2	51.5	90.3	52.8	54.6	51.5	30.1	13.0	73.9	53.3	37.8
LnGrp LOS	E	D	D	F	D	D	D	C	B	E	D	D
Approach Vol, veh/h		1120			830			1624			1704	
Approach Delay, s/veh		52.6			65.0			33.2			54.6	
Approach LOS		D			E			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	15.7	66.3	17.3	40.7	32.8	49.2	24.9	33.1
Change Period (Y+Rc), s	* 5.7	6.4	5.7	* 6.4	6.4	* 6.4	5.7	* 6.4
Max Green Setting (Gmax), s	* 12	44.7	11.6	* 48	13.7	* 43	12.3	* 47
Max Q Clear Time (g_c+I1), s	10.0	25.0	12.5	23.2	14.7	38.3	13.9	16.8
Green Ext Time (p_c), s	0.1	13.4	0.0	9.4	0.0	4.0	0.0	6.8

Intersection Summary	
HCM 2010 Ctrl Delay	49.2
HCM 2010 LOS	D

Notes



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	78	426	300	42	439	201
v/c Ratio	0.21	0.65	0.29	0.05	0.72	0.19
Control Delay	19.8	8.1	5.5	1.8	14.8	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.8	8.1	5.5	1.8	14.8	4.9
Queue Length 50th (ft)	14	0	26	0	55	17
Queue Length 95th (ft)	64	71	82	9	195	55
Internal Link Dist (ft)	1226		772			355
Turn Bay Length (ft)		100		160	145	
Base Capacity (vph)	1269	1230	1850	1540	1067	1850
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.35	0.16	0.03	0.41	0.11

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	98	775	333	643	97	311	209	55	247
v/c Ratio	0.58	0.96	0.90	0.61	0.82	0.52	0.55	0.52	0.59
Control Delay	58.6	53.3	67.3	19.0	93.0	17.7	11.8	65.2	38.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.6	53.3	67.3	19.0	93.0	17.7	11.8	65.2	38.6
Queue Length 50th (ft)	61	476	212	277	64	34	0	35	62
Queue Length 95th (ft)	120	#787	#396	442	#163	78	72	#86	102
Internal Link Dist (ft)		978		1708		903			1465
Turn Bay Length (ft)	100		100		200		200	150	
Base Capacity (vph)	192	805	372	1050	119	756	446	109	677
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.96	0.90	0.61	0.82	0.41	0.47	0.50	0.36

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	699	52	323	541	82	94	99	405	53	165	75
Future Volume (veh/h)	95	699	52	323	541	82	94	99	405	53	165	75
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	98	721	54	333	558	85	97	102	418	55	170	77
Adj No. of Lanes	1	1	0	1	1	0	1	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	731	55	361	886	135	117	292	497	71	313	136
Arrive On Green	0.07	0.43	0.43	0.20	0.56	0.56	0.07	0.16	0.16	0.04	0.13	0.13
Sat Flow, veh/h	1774	1712	128	1774	1580	241	1774	1863	3167	1774	2404	1045
Grp Volume(v), veh/h	98	0	775	333	0	643	97	102	418	55	123	124
Grp Sat Flow(s),veh/h/ln	1774	0	1840	1774	0	1820	1774	1863	1583	1774	1770	1678
Q Serve(g_s), s	5.7	0.0	43.4	19.2	0.0	25.0	5.6	5.1	13.4	3.2	6.8	7.2
Cycle Q Clear(g_c), s	5.7	0.0	43.4	19.2	0.0	25.0	5.6	5.1	13.4	3.2	6.8	7.2
Prop In Lane	1.00		0.07	1.00		0.13	1.00		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	124	0	786	361	0	1021	117	292	497	71	231	219
V/C Ratio(X)	0.79	0.00	0.99	0.92	0.00	0.63	0.83	0.35	0.84	0.78	0.53	0.57
Avail Cap(c_a), veh/h	189	0	786	366	0	1021	117	352	599	107	324	308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	0.0	29.5	40.7	0.0	15.5	48.1	39.2	42.7	49.6	42.3	42.5
Incr Delay (d2), s/veh	12.0	0.0	28.6	28.1	0.0	1.2	36.1	0.7	9.0	17.9	1.9	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	28.2	12.2	0.0	12.9	3.9	2.7	6.5	1.9	3.4	3.5
LnGrp Delay(d),s/veh	59.7	0.0	58.1	68.8	0.0	16.8	84.2	39.9	51.7	67.5	44.3	44.8
LnGrp LOS	E		E	E		B	F	D	D	E	D	D
Approach Vol, veh/h		873			976			617			302	
Approach Delay, s/veh		58.3			34.5			54.9			48.7	
Approach LOS		E			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	20.8	25.7	49.0	11.4	18.1	11.8	62.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.3	19.7	21.5	44.5	6.9	19.1	11.1	54.9
Max Q Clear Time (g_c+I1), s	5.2	15.4	21.2	45.4	7.6	9.2	7.7	27.0
Green Ext Time (p_c), s	0.0	1.0	0.0	0.0	0.0	0.9	0.1	4.3

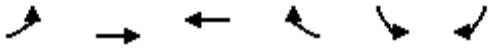
Intersection Summary	
HCM 2010 Ctrl Delay	48.1
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	701	18	10	540	10	9	6	2	6	8	208
Future Volume (veh/h)	192	701	18	10	540	10	9	6	2	6	8	208
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	198	723	19	10	557	10	9	6	2	6	8	214
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	906	24	23	680	12	162	88	17	418	11	287
Arrive On Green	0.14	0.50	0.50	0.01	0.37	0.37	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1774	1807	47	1774	1823	33	217	469	92	1402	57	1535
Grp Volume(v), veh/h	198	0	742	10	0	567	17	0	0	6	0	222
Grp Sat Flow(s),veh/h/ln	1774	0	1854	1774	0	1856	778	0	0	1402	0	1592
Q Serve(g_s), s	4.9	0.0	15.1	0.3	0.0	12.5	0.1	0.0	0.0	0.0	0.0	6.0
Cycle Q Clear(g_c), s	4.9	0.0	15.1	0.3	0.0	12.5	6.0	0.0	0.0	0.2	0.0	6.0
Prop In Lane	1.00		0.03	1.00		0.02	0.53		0.12	1.00		0.96
Lane Grp Cap(c), veh/h	251	0	930	23	0	692	267	0	0	418	0	298
V/C Ratio(X)	0.79	0.00	0.80	0.43	0.00	0.82	0.06	0.00	0.00	0.01	0.00	0.74
Avail Cap(c_a), veh/h	349	0	1168	196	0	1009	558	0	0	713	0	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.8	0.0	9.4	22.2	0.0	12.8	15.3	0.0	0.0	15.0	0.0	17.4
Incr Delay (d2), s/veh	8.0	0.0	3.2	12.2	0.0	3.5	0.1	0.0	0.0	0.0	0.0	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	2.9	0.0	8.4	0.2	0.0	7.0	0.2	0.0	0.0	0.1	0.0	2.9
LnGrp Delay(d),s/veh	26.7	0.0	12.5	34.4	0.0	16.3	15.4	0.0	0.0	15.0	0.0	21.1
LnGrp LOS	C		B	C		B	B			B		C
Approach Vol, veh/h		940			577			17			228	
Approach Delay, s/veh		15.5			16.7			15.4			20.9	
Approach LOS		B			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	27.2		13.0	10.9	21.4		13.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	28.5		18.0	8.9	24.6		18.0
Max Q Clear Time (g_c+I1), s	2.3	17.1		8.0	6.9	14.5		8.0
Green Ext Time (p_c), s	0.0	3.6		0.0	0.1	2.4		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	16.6
HCM 2010 LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	114	537	574	190	125	123
Future Volume (veh/h)	114	537	574	190	125	123
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	124	584	624	207	136	134
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	178	2111	957	317	255	228
Arrive On Green	0.10	0.60	0.37	0.37	0.14	0.14
Sat Flow, veh/h	1774	3632	2707	866	1774	1583
Grp Volume(v), veh/h	124	584	422	409	136	134
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1710	1774	1583
Q Serve(g_s), s	2.3	2.8	6.9	6.9	2.5	2.7
Cycle Q Clear(g_c), s	2.3	2.8	6.9	6.9	2.5	2.7
Prop In Lane	1.00			0.51	1.00	1.00
Lane Grp Cap(c), veh/h	178	2111	648	626	255	228
V/C Ratio(X)	0.70	0.28	0.65	0.65	0.53	0.59
Avail Cap(c_a), veh/h	435	3370	1021	987	921	822
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	15.1	3.4	9.1	9.2	13.8	13.9
Incr Delay (d2), s/veh	4.8	0.1	1.1	1.2	1.7	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.3	3.5	3.4	1.3	2.5
LnGrp Delay(d),s/veh	19.9	3.4	10.3	10.3	15.5	16.3
LnGrp LOS	B	A	B	B	B	B
Approach Vol, veh/h		708	831		270	
Approach Delay, s/veh		6.3	10.3		15.9	
Approach LOS		A	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		25.2		9.5	8.0	17.2		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		33.0		18.0	8.5	20.0		
Max Q Clear Time (g_c+I1), s		4.8		4.7	4.3	8.9		
Green Ext Time (p_c), s		3.9		0.6	0.1	3.8		

Intersection Summary	
HCM 2010 Ctrl Delay	9.6
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	503	74	161	544	32	131	0	260	135	0	68
Future Volume (veh/h)	79	503	74	161	544	32	131	0	260	135	0	68
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	86	547	80	175	591	35	142	0	283	147	0	74
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	822	120	227	1079	64	549	0	454	305	28	96
Arrive On Green	0.08	0.26	0.26	0.13	0.32	0.32	0.29	0.00	0.29	0.29	0.00	0.29
Sat Flow, veh/h	1774	3101	452	1774	3396	201	1317	0	1583	567	97	334
Grp Volume(v), veh/h	86	311	316	175	308	318	142	0	283	221	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1783	1774	1770	1827	1317	0	1583	998	0	0
Q Serve(g_s), s	2.0	6.6	6.7	4.0	6.1	6.1	0.0	0.0	6.5	5.7	0.0	0.0
Cycle Q Clear(g_c), s	2.0	6.6	6.7	4.0	6.1	6.1	3.6	0.0	6.5	9.3	0.0	0.0
Prop In Lane	1.00		0.25	1.00		0.11	1.00		1.00	0.67		0.33
Lane Grp Cap(c), veh/h	134	469	472	227	562	580	549	0	454	428	0	0
V/C Ratio(X)	0.64	0.66	0.67	0.77	0.55	0.55	0.26	0.00	0.62	0.52	0.00	0.00
Avail Cap(c_a), veh/h	303	756	761	442	894	923	734	0	676	599	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.9	13.8	13.8	17.8	11.9	11.9	12.0	0.0	13.1	14.6	0.0	0.0
Incr Delay (d2), s/veh	5.1	1.6	1.6	5.5	0.8	0.8	0.2	0.0	1.4	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.4	3.5	2.3	3.0	3.1	1.3	0.0	3.0	2.5	0.0	0.0
LnGrp Delay(d),s/veh	24.0	15.4	15.5	23.2	12.7	12.7	12.3	0.0	14.5	15.6	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	B		B	B		
Approach Vol, veh/h		713			801			425			221	
Approach Delay, s/veh		16.5			15.0			13.7			15.6	
Approach LOS		B			B			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	9.9	15.7		16.6	7.7	17.9		16.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.5	18.0		18.0	7.2	21.3		18.0
Max Q Clear Time (g_c+I1), s	6.0	8.7		8.5	4.0	8.1		11.3
Green Ext Time (p_c), s	0.2	2.5		1.3	0.0	2.9		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	15.3
HCM 2010 LOS	B



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	134	516	297	299	288	1307	183	986	67
v/c Ratio	0.84	0.74	0.76	0.34	0.64	0.94	0.84	0.49	0.09
Control Delay	104.8	48.5	72.4	38.7	65.0	53.0	90.4	33.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	104.8	48.5	72.4	38.7	65.0	53.0	90.4	33.6	0.3
Queue Length 50th (ft)	63	183	137	104	130	~626	162	249	0
Queue Length 95th (ft)	#124	246	184	141	180	#789	#318	309	0
Internal Link Dist (ft)		765		337		252		1110	
Turn Bay Length (ft)	180		175		205		290		210
Base Capacity (vph)	159	760	468	1017	448	1396	218	2014	723
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.68	0.63	0.29	0.64	0.94	0.84	0.49	0.09

Intersection Summary

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

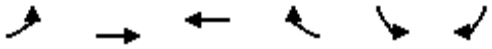
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	283	197	276	214	64	268	974	242	170	917	62
Future Volume (veh/h)	125	283	197	276	214	64	268	974	242	170	917	62
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	134	304	212	297	230	69	288	1047	260	183	986	67
Adj No. of Lanes	2	2	0	2	2	0	2	2	0	1	3	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	366	248	348	652	191	598	1196	296	196	1802	554
Arrive On Green	0.05	0.18	0.18	0.10	0.24	0.24	0.17	0.43	0.43	0.11	0.35	0.35
Sat Flow, veh/h	3442	2008	1362	3442	2694	787	3442	2813	695	1774	5085	1562
Grp Volume(v), veh/h	134	267	249	297	149	150	288	657	650	183	986	67
Grp Sat Flow(s),veh/h/ln	1721	1770	1601	1721	1770	1712	1721	1770	1739	1774	1695	1562
Q Serve(g_s), s	5.4	20.3	21.1	11.9	9.8	10.2	10.6	47.5	48.1	14.3	21.7	3.2
Cycle Q Clear(g_c), s	5.4	20.3	21.1	11.9	9.8	10.2	10.6	47.5	48.1	14.3	21.7	3.2
Prop In Lane	1.00		0.85	1.00		0.46	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	160	323	292	348	428	414	598	752	739	196	1802	554
V/C Ratio(X)	0.84	0.83	0.85	0.85	0.35	0.36	0.48	0.87	0.88	0.93	0.55	0.12
Avail Cap(c_a), veh/h	160	359	325	470	518	501	598	752	739	196	1802	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	66.2	55.1	55.4	61.9	43.9	44.1	52.2	36.8	37.0	61.7	36.2	19.0
Incr Delay (d2), s/veh	25.0	15.1	19.2	8.6	1.4	1.5	0.2	13.3	14.1	37.7	0.9	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	11.3	10.9	6.1	4.9	5.0	5.1	26.0	25.8	9.1	10.3	1.7
LnGrp Delay(d),s/veh	91.3	70.2	74.6	70.5	45.3	45.6	52.4	50.1	51.1	99.5	37.1	19.4
LnGrp LOS	F	E	E	E	D	D	D	D	D	F	D	B
Approach Vol, veh/h		650			596			1595			1236	
Approach Delay, s/veh		76.2			58.0			50.9			45.4	
Approach LOS		E			E			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	21.2	66.3	20.6	31.9	31.1	56.4	12.2	40.3
Change Period (Y+Rc), s	* 5.7	6.8	6.4	* 6.4	6.8	* 6.8	* 5.7	6.4
Max Green Setting (Gmax), s	* 16	52.4	19.1	* 28	18.3	* 50	* 6.5	41.0
Max Q Clear Time (g_c+I1), s	16.3	50.1	13.9	23.1	12.6	23.7	7.4	12.2
Green Ext Time (p_c), s	0.0	2.1	0.3	2.4	0.3	16.2	0.0	3.8

Intersection Summary	
HCM 2010 Ctrl Delay	54.3
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	286	219	56	33	184	345
Future Volume (veh/h)	286	219	56	33	184	345
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	311	238	61	36	200	375
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	384	1633	281	154	537	479
Arrive On Green	0.22	0.46	0.13	0.13	0.30	0.30
Sat Flow, veh/h	1774	3632	2304	1208	1774	1583
Grp Volume(v), veh/h	311	238	48	49	200	375
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1650	1774	1583
Q Serve(g_s), s	6.4	1.5	0.9	1.0	3.4	8.3
Cycle Q Clear(g_c), s	6.4	1.5	0.9	1.0	3.4	8.3
Prop In Lane	1.00			0.73	1.00	1.00
Lane Grp Cap(c), veh/h	384	1633	225	210	537	479
V/C Ratio(X)	0.81	0.15	0.21	0.23	0.37	0.78
Avail Cap(c_a), veh/h	488	3060	835	778	837	747
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	14.2	5.9	14.9	15.0	10.5	12.2
Incr Delay (d2), s/veh	7.9	0.0	0.5	0.6	0.4	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.7	0.5	0.5	1.7	7.1
LnGrp Delay(d),s/veh	22.1	6.0	15.4	15.5	10.9	15.0
LnGrp LOS	C	A	B	B	B	B
Approach Vol, veh/h		549	97		575	
Approach Delay, s/veh		15.1	15.5		13.6	
Approach LOS		B	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		22.1		16.1	12.8	9.4		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		33.0		18.0	10.5	18.0		
Max Q Clear Time (g_c+I1), s		3.5		10.3	8.4	3.0		
Green Ext Time (p_c), s		1.4		1.3	0.2	0.3		

Intersection Summary	
HCM 2010 Ctrl Delay	14.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	5	32	2	4	41	165	1323	69	32	1367	70
Future Volume (veh/h)	41	5	32	2	4	41	165	1323	69	32	1367	70
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	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	43	5	34	2	4	43	174	1393	73	34	1439	74
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	12	53	74	13	116	222	2151	112	66	1852	95
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.12	0.63	0.63	0.04	0.54	0.54
Sat Flow, veh/h	781	148	658	38	163	1440	1774	3422	179	1774	3426	176
Grp Volume(v), veh/h	82	0	0	49	0	0	174	719	747	34	742	771
Grp Sat Flow(s),veh/h/ln	1586	0	0	1641	0	0	1774	1770	1831	1774	1770	1832
Q Serve(g_s), s	1.0	0.0	0.0	0.0	0.0	0.0	5.1	13.5	13.6	1.0	17.6	17.8
Cycle Q Clear(g_c), s	2.5	0.0	0.0	1.5	0.0	0.0	5.1	13.5	13.6	1.0	17.6	17.8
Prop In Lane	0.52		0.41	0.04		0.88	1.00		0.10	1.00		0.10
Lane Grp Cap(c), veh/h	231	0	0	202	0	0	222	1112	1151	66	957	990
V/C Ratio(X)	0.36	0.00	0.00	0.24	0.00	0.00	0.79	0.65	0.65	0.52	0.77	0.78
Avail Cap(c_a), veh/h	612	0	0	617	0	0	350	1441	1492	170	1262	1306
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	0.0	0.0	23.2	0.0	0.0	22.6	6.2	6.2	25.1	9.7	9.7
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.6	0.0	0.0	6.0	0.6	0.6	6.1	2.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.7	0.0	0.0	2.8	6.6	6.8	0.6	9.0	9.4
LnGrp Delay(d),s/veh	24.5	0.0	0.0	23.8	0.0	0.0	28.6	6.8	6.8	31.3	11.9	11.9
LnGrp LOS	C			C			C	A	A	C	B	B
Approach Vol, veh/h		82			49			1640			1547	
Approach Delay, s/veh		24.5			23.8			9.1			12.3	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.5	37.9		8.8	11.1	33.2		8.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.1	43.3		18.1	10.5	37.9		18.1
Max Q Clear Time (g_c+I1), s	3.0	15.6		4.5	7.1	19.8		3.5
Green Ext Time (p_c), s	0.0	10.5		0.3	0.1	9.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	246	501	398	3	4	265
Future Vol, veh/h	246	501	398	3	4	265
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	265	539	428	3	4	285

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	431	0	-	0	1230	216
Stage 1	-	-	-	-	430	-
Stage 2	-	-	-	-	800	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1125	-	-	-	170	789
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	403	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1125	-	-	-	113	789
Mov Cap-2 Maneuver	-	-	-	-	238	-
Stage 1	-	-	-	-	414	-
Stage 2	-	-	-	-	403	-

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1125	-	-	-	238	789
HCM Lane V/C Ratio	0.235	-	-	-	0.018	0.361
HCM Control Delay (s)	9.2	0.8	-	-	20.4	12.1
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.9	-	-	-	0.1	1.7

California Department of Transportation

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September 9, 2021

06-TUL-63-5.48
TIA 3rd REVIEW
TMT SHOPPING CENTER (6)
MASTER CUP DEVELOPMENT
(REF: SPR 20012, TPM 20122)
GTS: 17116

SENT VIA EMAIL

Mr. Cristobal Carrillo, Associate Planner
City of Visalia - Community Development Department - Planning Division
315 East Acequia Avenue
Visalia, CA 93291

Dear Mr. Carrillo:

Caltrans has completed a 3rd review of the Traffic Impact Analysis (TIA) dated July 8, 2021 for the TMT Shopping Center (Project). On August 26, 2021, City staff submitted a Revised Traffic Analysis with Redlines dated August 16, 2021. Comments provided apply to both versions of the TIA. The TMT Shopping Center (Project), proposes a retail and commercial development (Project) on a 44.79-acre site, located at the *southeast* corner of State Route (SR) 63 and Visalia Parkway (Avenue 276) intersection.

The TIA indicates the shopping center will be built in 2 phases and will incorporate the following uses:

Phase I: fronting Mooney Boulevard, consisting of the following uses:
- 71,700 sq. ft. for general retail uses,
- 15,100 sq. ft. for fast food uses,
- 21,000 sq. ft. grocery store, and a
- 4,250 sq. ft. gas station with convenience market.

Phase II: the remainder of the project site, consisting of the following uses:
- 95,400 sq. ft. for general retail uses, and
- 5,000 sq. ft. for fast food uses.

Caltrans provides the *following comments* consistent with the State's smart mobility goals that support a vibrant economy and sustainable communities:

SR 63 Cross Section

1. The updated site plan shows the existing bus stop now designed with a bus bay.

2. The updated site plan shows three through lanes, two left-turn lanes, a right-turn lane, and a bike lane at the northbound approach of the SR 63 intersection with Visalia Parkway.

3. A bike lane, curb and gutter, a landscape strip and sidewalk are shown along the project's frontage with SR 63.

4. A northbound right-turn lane **should be provided** at the access connection with SR 63 (intersection #31). The right-turn lane would improve safety at this access connection, where significant right-turning volumes would be expected. The right-turn lane would reduce the potential for rear-end collisions of vehicles turning right with other vehicles following closely behind.

5. Also, standard left and right shoulders should be provided.

6. Although the City of Visalia is proposing an intersection improvement project at the SR 63 intersection with Visalia Parkway, as stated in the TIA, the Project will construct frontage improvements along SR 63.

Access

7. The updated site plan and TIA report have reduced the number of access connections (driveways) along SR 63 to one main driveway (intersection #31). The previous versions of the site plan also included a secondary driveway on SR 63, which has been eliminated, as Caltrans recommended.

8. The proposed driveway on SR 63 would align with the future Visalia Commons driveway.

9. Inbound left turns are proposed to be permitted while outbound left turns would not be permitted.

10. Please **provide** deceleration lane lengths in the design of the median turn lanes. The TIA analysis indicated that 150 feet of storage would be needed for the proposed inbound left turn.

11. Caltrans continues to recommend that due to inadequate distance to and from the existing median turn lanes this access connection **should be limited** to right-in and right-out movements only.

Vehicle Miles Traveled (VMT) Impact

12. The VMT analysis was included in the TIA. The Project's full build-out is expected to result in an additional 11,224 net VMT in year 2042, compared to the no-build scenarios. Based on the significance threshold recommended by the Office of Planning and

Research (OPR) and specified in the City of Visalia draft VMT guidelines, the project would have a potentially significant impact on regional VMT.

13. The TIA indicted that Air Quality impacts were evaluated through the San Joaquin Valley Air Pollution Control District's Rule 9510 indirect source review (ISR). The ISR involves estimating VMT generated during the operational phase of a project using the California Emissions Estimator Model (CalEEMod) to estimate air pollution emissions, including those due to VMT. The Air District requires a review of both direct and indirect sources of air pollution and payment of fees to mitigate any impacts identified.

14. The TIA indicated that the CalEEMod analysis identified, based on mitigation measures due to the Project location and features related to the surrounding built environment (e.g., roadway medians, intersection density, well connected sidewalk network), a VMT reduction of approximately 14 percent. In order to fully mitigate emissions-related impacts that could not be reduced through on-site measures, the District assessed over $500,000 in impact fees.

15. Since no regional VMT-specific mitigation programs exists, The TIA recommended the following multi-pronged approach be used to fully mitigate project-related VMT impacts by:

    a. Taking into consideration the mitigation fees paid to the San Joaquin Valley Air Pollution Control District, as discussed above, which are based in part on VMT generated by the project,

    b. Providing a one-time contribution to City, County, or TCAG programs aimed at active transportation or non-automobile modes. For example, this may include providing a fair share contribution to a planned transit infrastructure project that is not yet fully funded but which has undergone environmental review to ensure it would generate no additional CEQA impacts. This measure is similar in concept to a VMT mitigation exchange, which envisions the contribution amount to be determined by negotiations between the City and the Project applicant,

    c. Implementing all feasible project-specific mitigation measures, as described below.

16. For Project-specific mitigation, the TIA recommends implementing multiple mitigation measures that take advantage of the Project's location along a high-quality transit corridor be considered. Preferred mitigation measures fall into two categories:

    a. Site and frontage design improvements to improve access, circulation, and convenience of transit users, pedestrians, and bicycles. A variety of such improvements are detailed in section 11.5 of the TIA and the project should incorporate as many of these improvements as possible.

    b. Implement a travel demand management (TDM) program for employees at the

proposed shopping center. A TDM program for shopping center employees may include measures such as subsidized transit passes, facilitating ride sharing, providing information on local transportation facilities and services, or providing on-site amenities for bicycle commuters such as showers and changing areas.

17. The Project should encourage the use of transit and other non-automobile modes for both employees and customers.

18. The TIA recommends that the applicant work with the City of Visalia to finalize the preferred non-automobile physical improvements and the specific TDM elements that would be most appropriate for the proposed Project and its location on a high-quality transit corridor.

19. Caltrans requests the City **identify and provide** which VMT mitigations in section 11 of the TIA, the Project will implement.

General Comment

20. In an effort to improve bicycle connectivity, the Project proponent should consider bicycle facilities along the property's frontage with Midvalley Avenue (Avenue 274).

21. Caltrans recommends the project provide charging stations for electric vehicles as part of the statewide efforts to reduce greenhouse gas emissions.

If you have any other questions, please call me at (559) 981-1041.

Sincerely,



DAVID DEEL
Associate Transportation Planner
Transportation Planning – South

Cultural Resources Assessment for the Oaks Marketplace Master Conditional Use Permit Project, City of Visalia, Tulare County, California

Consuelo Y. Sauls



Prepared By

Taylored Archaeology
6083 N. Figarden Dr., Ste 616
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Prepared For

4Creeks, Inc.
324 S. Santa Fe St., Suite A
Visalia, CA 93292

January 2021

USGS Visalia 7.5' topographic quadrangle;
43.27 total project acres; 43.27 acres surveyed
Keywords: Negative findings

MANAGEMENT SUMMARY

Taylored Archaeology performed a cultural resources assessment for the Oaks Marketplace Master Conditional Use Permit Project (Project). A private developer proposes to construct a commercial development within the Project boundary. The Project site comprises 43.27 acres.

To assist the private developer in meeting California Environmental Quality Act (CEQA) compliance requirements, Taylored Archaeology, under contract to 4Creeks, Inc., conducted a cultural resources assessment to determine whether cultural resources are present within the Project area. The investigation included a records search through the Southern San Joaquin Valley Information Center (SSJVIC) to identify previously recorded cultural resources and prior studies in the project vicinity, a request to the Native American Heritage Commission (NAHC) to review its Sacred Lands File for known resources, and a pedestrian survey of the proposed Project area.

The records search results from SSJVIC indicated that there were two recorded resources. One resource, from the historic era, within the Project area and one recorded resource, from the historic era, within a 0.5-mile radius. However, further review of SSJVIC records indicated the historic era resource within the Project area is actually located outside the Project area to the north. The NAHC's Sacred Lands File results revealed that there were no known identifications of sacred or important tribal cultural sites within the Project area, and no archaeological cultural resources were identified during Taylored Archaeology's pedestrian survey of the Project area.

Due to the Project's close proximity of 0.25 miles to Packwood Creek, which historically contained a Native American Yokut village within the general region, Taylored Archaeology recommends a Native American monitor and archaeological monitor be present during initial ground disturbance during Project construction activities.

In the event of accidental discovery of unidentified archaeological remains during development or ground-moving activities in the Project area, all work within the immediate vicinity (within a 100-foot radius) should be halted until a qualified archaeologist can identify the discovery and assess its significance.

If human remains are uncovered during construction, the Tulare County Coroner is to be notified to investigate the remains and arrange proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 and PRC 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will be afforded an opportunity to make recommendations regarding the treatment and disposition of the remains.

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1
INTRODUCTION

A private developer is currently proposing to construct a 43.27-acre commercial use project within the City of Visalia. 4Creeks, Inc. as the prime contractor to the private developer for environmental compliance services retained Taylored Archaeology to conduct a Phase I cultural resource assessment of the Oaks Marketplace Master Conditional Use Permit Project (Project) for compliance with the California Environmental Quality Act (CEQA), and at the request of the Santa Rosa Rancheria Tachi Yokut Tribe during Assembly Bill 52 (AB 52) consultation.

1.1 PROJECT LOCATION AND DESCRIPTION

The Project area is in the City of Visalia in Tulare County (Figure 1-1). The Project area is within Section 7 of Township 19 South, Range 25 East, Mount Diablo Meridian of the Visalia, California 7.5-minute USGS quadrangle (Figure 1-2).

The Project area covers approximately 43.27 acres of row crops within Assessors Parcel Numbers 126-080-025 and 126-080-056. The proposed Project will involve construction and operation of a regional commercial development. Specifically, the Project will potentially include a grocery store, drive-thru restaurant, sit-down restaurant, convenience store, and a car wash. The total building space proposed is 211,520 square feet.

1.2 REGULATORY SETTING

1.2.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

Pursuant to CEQA, a historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources. Historical resources may include, but are not limited to, "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically or archaeologically significant" (PRC §5020.1[j]). In addition, a resource included in a local register of historical resources or identified as significant in a local survey conducted in accordance with the state guidelines are also considered historic resources under California Public Resources Code (PRC) Section 5020.1.

According to CEQA guidelines §15064.5 (a)(3), criteria for listing on the California Register of Historical Resources includes the following:

> (A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
> (B) Is associated with the lives of persons important in our past.
> (C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
> (D) Has yielded, or may be likely to yield, information important in prehistory or history.

According to CEQA guidelines §21074 (a)(1)(2), criteria for tribal cultural resources includes the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following: (A) included or determined to be eligible for inclusion in the California Register of Historical Resources. (B) included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

1.3 PROFESSIONAL QUALIFICATIONS

Principal Investigator/Archaeologist Consuelo Y. Sauls (M.A.), a Registered Professional Archaeologist (RPA 41591505), served as project manager, providing technical and administrative oversight for all cultural resource tasks conducted, and as report author for the Project study. Ms. Sauls meets the Secretary of the Interior's Standards for Professional Qualifications in Archaeology. Statement of Qualifications for key personnel is provided in Appendix A.

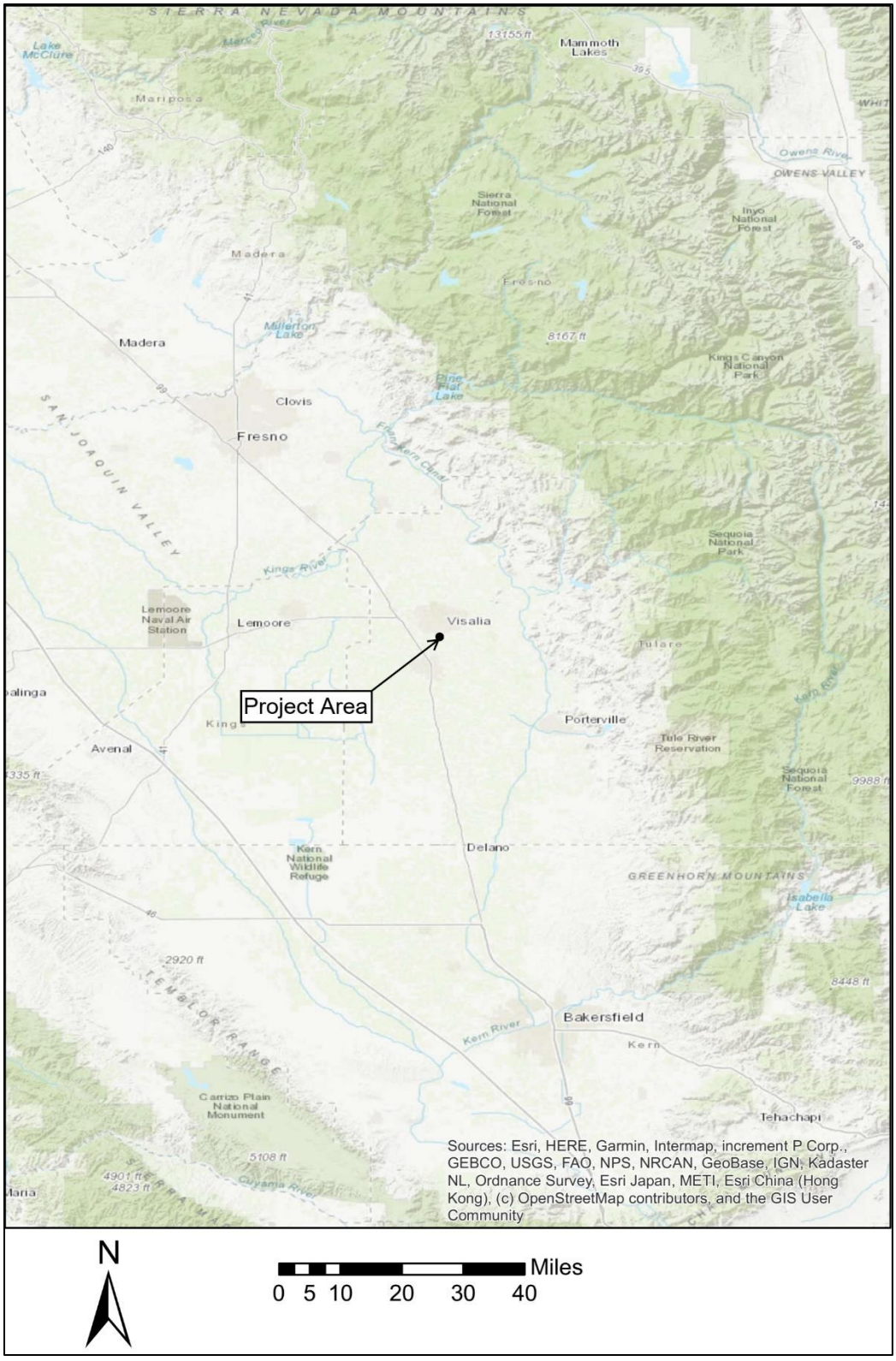


Figure 1-1 Project vicinity in Tulare County, California.

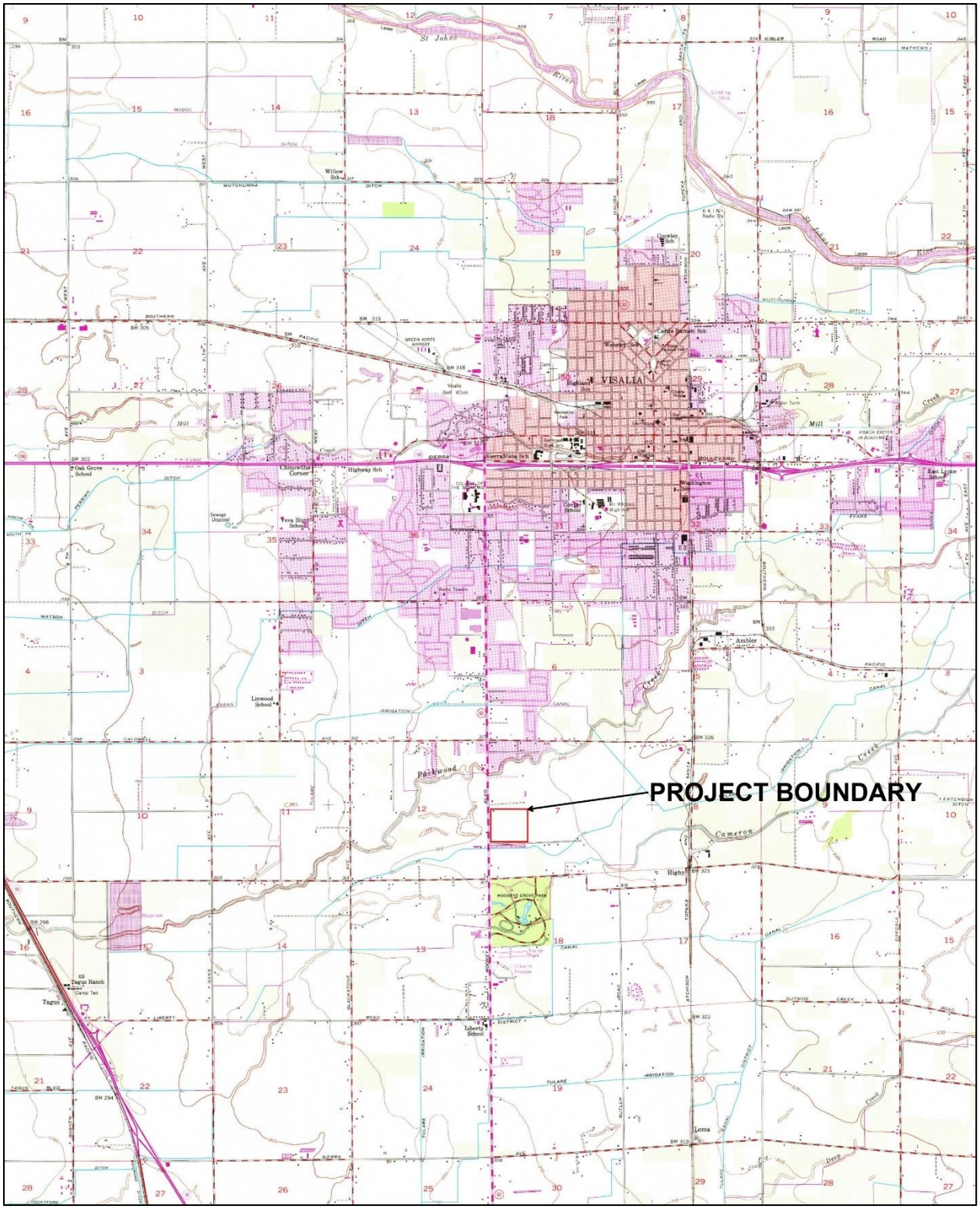


Figure 1-2 Project location on the USGS Visalia, CA 7.5-minute quadrangle.

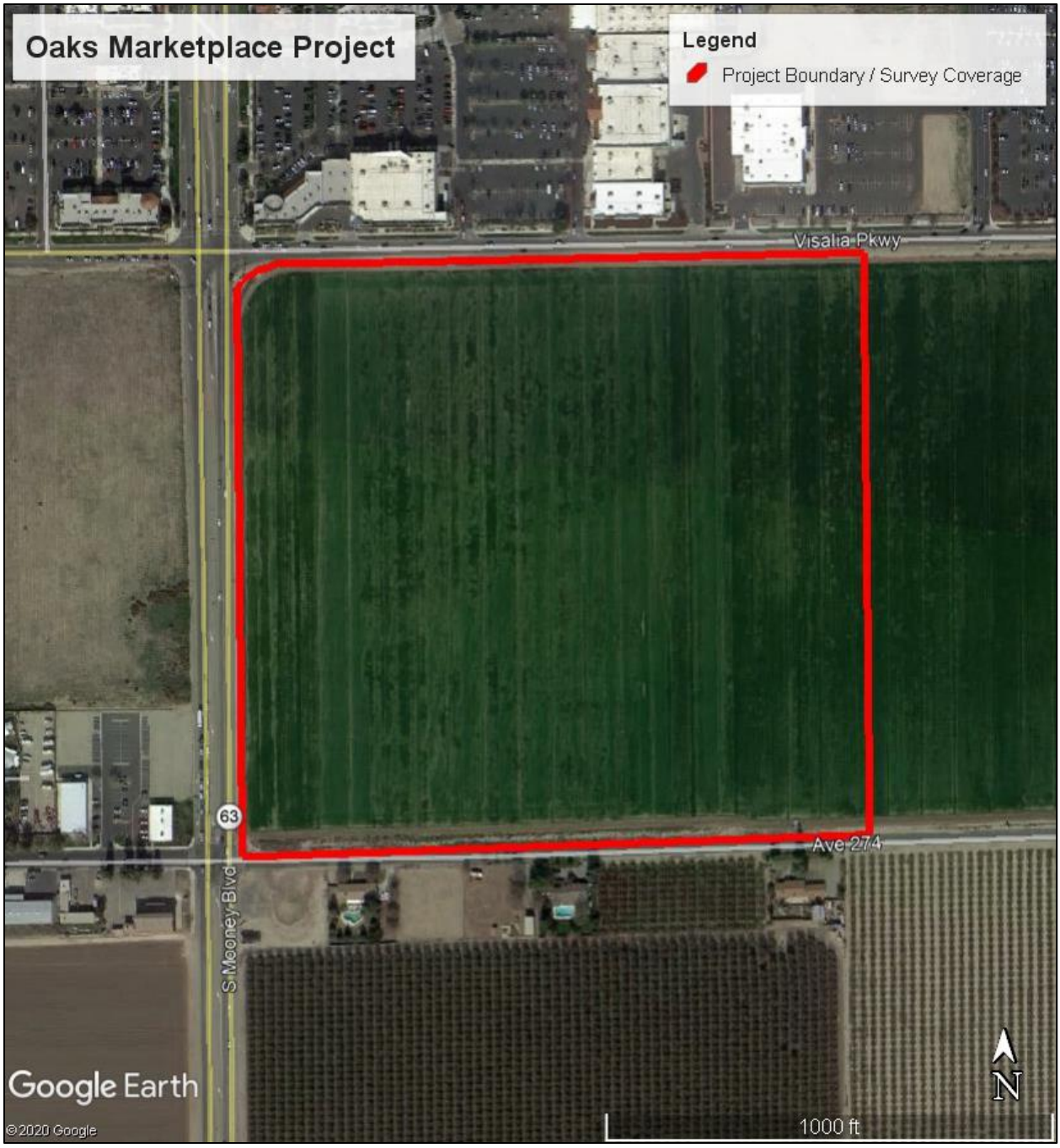


Figure 1-3 Aerial view of the Project boundary showing survey coverage.

1.4 REPORT STRUCTURE

In order to comply with California regulations for CEQA, the following specific tasks were completed: (1) requesting a records search from the Southern San Joaquin Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS), at California State University, Bakersfield; (2) requesting a Sacred Lands File Search and list of interested parties from the Native American Heritage Commission (NAHC) and initiating outreach to local Native American individuals and tribal representatives; (3) conducting an archaeological pedestrian survey, and (4) preparing this technical report.

Taylored Archaeology prepared this report following the California Office of Historic Preservation standards in the 1990 Archaeological Resources Management Report Recommended Contents and Format. Chapter 1 includes the Project description, the Project boundary, and identifies the key personnel involved in this report. Chapter 2 presents the Project setting, including the natural, prehistoric, historic, and ethnohistoric background for the Project area. Chapters 3 and 4 describe the methods and findings of the archival studies, Native American outreach, and pedestrian survey. Chapter 5 summarizes the Project findings and offers management recommendations. Chapter 6 is a bibliography of references cited within this report. The report also contains the following appendices: Qualifications of key personnel (Appendix A), the CHRIS records search results (Appendix B), and Taylored Archaeology's nongovernmental Native American outreach (Appendix C).

2
PROJECT SETTING

2.1 NATURAL ENVIRONMENT

The Project area is located at approximately 315 feet above sea level on the open flat plains of the Southern San Joaquin Valley. The San Joaquin Valley is a comprised of structural trough created approximately 65 million years ago, and is filled with nearly 6 miles of sediment (Bull 1964). The San Joaquin can be split between the San Joaquin River hydrologic area and the Tulare Lake Drainage Basin. Tulare County is located within the latter of the two hydrologic units. The Kaweah, Tule, Kern, and Kings rivers flowed into large inland lakes with no outflow except in high flood events, in which the lakes would flow from through the Fresno Slough into the San Joaquin River. The largest of these inland lakes was the Tulare Lake, which occupied a vast area of Tulare and Kings Counties.

The Project is in northern Tulare County on the valley floor of the San Joaquin Valley, and is located approximately 0.25 miles south of Packwood Creek, which is a distributary of the Kaweah River. Before the appearance of agriculture in the nineteenth century, the Project location would have been comprised of prairie grasslands with scatter oak tree savannas near the foothills, and along the various streams and drainages (Preston 1981). Riparian environments would also have been present along various waterways, including drainages and marshes. Native vegetation likely would have consisted of needle grasses and other perennial bunchgrasses before the introduction of non-native species in the 1800s.

The valley floor of the region was largely dominated by marshlands, lakes, and annual grasslands. Historically, these habitats provided a lush environment for large animals, including various migratory birds and other waterfowl, grizzly bear (*Ursus arctos californicus*), tule elk (*Cervus* sp.), pronghorn (*Antilocapra americana*), mule deer (*Odocoileus hemionus*), black bear (*Ursus americanus*), and mountain lion (*Puma concolor*) (Preston 1981). Native trees and plants observed in the Project vicinity include various blue, live, and white oaks (*Quercus* sp.), cottonwood (*Populus aegiros*), and willow (*Salix* sp.). The introduction of agriculture to region resulted in large animals being forced out of their habitat. Common land mammals now include valley coyote (*Canis latrans*), bobcat (*Lynx rufus*), gray fox, kit fox (*Vulpes macrotis*), and rabbits (Leporidae). Rivers and lakes throughout the valley provide habitat for freshwater fish, including rainbow trout (*Oncorhynchus mykiss*), Sacramento sucker (*Catostomidae* sp.), and Sacramento perch (*Archoplites interruptus*), (Preston 1981).

2.2 PREHISTORIC SETTING

To better understand the past, archaeologists develop models of prehistoric resource chronologies and description of lifestyles based on data collected at the archaeological sites they investigate. Models of prehistoric life patterns are developed from both archaeological and ethnographic research. Within archaeology, models of prehistoric lifestyles are based on data collected from archaeological sites. The Southern San Joaquin Valley is of one of the least understood areas within California (Rosenthal et al. 2007). This is largely due to the valley floor being filled with thick alluvial deposits, and from human activity largely disturbing much of the valley floor due to a century and a half of agricultural use (Dillon 2002; Siefken 1999). Much of the early to middle

Holocene archaeological sites may have been as deep as 10 meters due to millennia of erosion and alluvial deposits from the western Sierras (Moratto 1984).

Agricultural activities have heavily disturbed and changed the landscape of the Southern San Joaquin Valley, from the draining of marshes and the vanishing of the extensive Tulare Lake, to grading nearly the entire valley for agricultural operations (Garone 2011). These activities have impacted or scattered much of the shallow surface deposits and mounds throughout the valley (Rosenthal et al 2007). Riddell suggested that potentially as much as 90 percent of all Central California archaeological sites have been destroyed (Riddell 2002).

The cultural traits and chronologies which are summarized below are largely based upon information discussed in multiple sources, including Bennyhoff and Fredrickson (Fredrickson 1973, 1974), Garfinkel (2015), McGuire and Garfinkel (1980), Moratto (1984), and Rosenthal et al. (2007).

The Paleo-Indian Period (13,500-10,600 cal B.P.) was largely represented by ephemeral lake sites which were characterized by atlatl and spear projectile points. Around 14,000 years ago, California was largely a cooler and wetter place, but with the retreat of continental Pleistocene glaciers, California largely experienced a warming and drying red. Lakes filled with glacial meltwater were located in the valley floor and used by populations of now extinct large game animals. A few prehistoric sites were discovered near the southwestern shore of Tulare Lake, but none were located near the Project Area (Garfinkel 2015). Foragers appear to have operated in small groups which migrated on a regular basis.

During the Lower Archaic Period (10,500-7450 cal B.P.), climate change created a largely different environment which lead to the creation of larger alluvial fans and flood plains. Most of the archaeological records of the prior period wound up being buried by geological processes. During this time, cultural patterns appear to have emerged between the foothill and valley populations of the local people. The foothill sites were often categorized by dense flaked and ground stone assemblages, while the valley sites were instead characterized by a predominance of crescents and stemmed projectile points. Variations in consumption patterns emerged as well, with the valley sites more marked by consumption of waterfowl, mussels, and freshwater fish, while the foothills sites saw an increase in nuts, seeds, and a more narrowly focused diet than the valley sites.

The Middle Archaic (7450-2500 cal B.P.) saw an increase in semi-permanent villages along river and creek settings, with more permanent sites located along lakes with a more stable supply of water and wildlife. Due to the warmer and drier weather of this period, many lakes within the valley dramatically reduced in size, while some vanished completely (Garone 2011). Cultural patterns during this time saw an increase in stone tools, while a growth in shell beads, ornaments, and obsidian evidence an extensive and ever-growing long-distance trade network. Little is known of cultural patterns in the valley during the Upper Archaic (2500-850), but large village structures appeared to be more common around local rivers. An overall reduction of projectile point size suggests changing bow and arrow technologies. Finally, the Emergent Period (850 cal B.P.-Historic Era) was generally marked by an ever-increasing specialization in tools, and the bow and arrow generally replaced the dominance of the dart and atlatl. Cultural traditions ancestral to those recorded during ethnographic research in the early 1900s are identifiable.

2.3 ETHNOGRAPHY

While the prehistoric record of the San Joaquin Valley has not been extensively studied, the ethnography of the region has been intensively research. The Project area is located within the ethnographic territory of the Penutian-speaking Yokuts tribal groups, who occupied the southern San Joaquin Valley and the surrounding Sierra Nevada. The Yokuts are a sub-group of the Penutian language that covers much of coastal and central California and Oregon (Callaghan 1958). The Yokuts language contained multiple dialects spoken throughout the region, though many of them were mutually understandable (Merriam 1904). The Yokuts were generally divided into three major groups, the Northern Valley Yokuts, the Southern Valley Yokuts, and the Foothill Yokuts.

The Yokuts have been extensively researched and recorded by ethnographers, including Powers (1877), Kroeber (1925), Gifford and Schenck (1926, 1929), Gayton (1930, 1945), Driver (1937), Harrington (1957), Latta (1977), and Wallace (1978). Much of the research from these ethnographers focuses on the central Yokuts tribes due to the northernmost tribes being impacted by Euro-Americans during the California Gold Rush of the mid 1800s, and by the southernmost tries often being removed and relocated by the Spanish to various Bay Area or coastal mission. The central Yokuts tribes, and especially the western Sierra Nevada foothill tribes, were the most intact at the time of ethnographic study.

Based upon Kroeber's map of Southern and Central Yokuts (1925: Plate 47), the Project area is likely within the Tulamni Yokuts territory. The main village for this area was *Waitatahulul*, which was 7 miles north of the City of Tulare on the bank of Packwood Creek, a distributary of the Kaweah River (Kroeber 1925). Primary Yokuts villages were typically located along lakeshores and major stream courses, with scattered secondary or temporary camps and settlements located near gathering areas in the foothills. Yokuts were organized into groups originally designated as tribelets by Kroeber, with one or more linked villages and smaller settlements within a territory (Kroeber 1925). Designation of these units as 'tribelets' is often viewed as pejorative by many Native Americans, and for the remainder of this report will be referred to as 'local tribes' instead. Each local tribe was a land-owning group that was organized around a central village, and shared common territory and ancestry. Most local tribe populations ranged from 150 to 500 people (Kroeber 1925). These local tribes were often led by a chief, who was often advised by a variety of assistants including the winatum, who served as a messenger and assistant chief (Gayton 1930).

Prior to Euro-American contact, the Yokuts were one of the densest populations of Native Americans in western North America due to the substantial natural resources surrounding Tulare Lake (Cook 1955). Six Native American tribal groups are currently associated with the Project area, including the Tubatulabals of Kern Valley, Wukasache Indian Tribe/Eshom Valley Band, the Kern Valley Indian Community, the Santa Rosa Rancheria Tachi Yokut Tribe, and the Tule River Indian Tribe.

2.4 HISTORIC SETTING

While the California coast saw European contact as early as the 1500s, the San Joaquin valley did not experience contact until the early 1800s (Starr 2007). The initial excursions to the valley were for exploration such as those led by Lieutenant Bariel Moraga in 1806, but also to find sites for suitable missions and to track down Native Americans fleeing the coastal missions (Cook 1960).

Subsequent expeditions were also sent to pursue outlaws from the coast who would often flee to the valley for safety. One of the subsequent explorations was an expedition in 1814 to 1815 with Sargent Juan Ortega and Father Juan Cabot, who left the Mission San Miguel with a company of approximately 30 Spanish soldiers, and explored the San Joaquin Valley (Smith 2004). This expedition passed through the Kaweah Delta and modern-day Visalia, and made a recommendation to establish a mission near modern-day Visalia. Some of the first Euro-Americans to reside in what would become modern-day Tulare County were Jedediah and Pegleg Smith (Menefee and Dodge 1913). As the valley was still relatively lawless in the 1830s, those drawn to it were often either trappers like Jedediah Smith or horse thieves like Pegleg Smith (Clough and Secrest 1984). In fact, horse and other livestock theft was so rampant that ranching operations on the Rancho Laguna de Tache by the Kings River and Rancho del San Joaquin Rancho along the San Joaquin River could not be properly established (Cook 1962). With the end of the Mexican-American War and the beginning of the gold rush in 1848, the San Joaquin Valley became more populated with ranchers and prospectors. By 1850, California became a state and Tulare County was established in 1853.

The City of Visalia is one of the oldest cities within the Southern San Joaquin Valley and was founded in 1852. A wooden stockade fort was built at the time, named Fort Visalia after Visalia, Kentucky (Robert 1988). By the mid-1850s the town of Visalia was a major station along the Butterfield Overland Mail state route as it traveled north from Los Angeles to Stockton (Helmich 2008; OHP 2019). During the first few decades, Visalia was a supply center for nearby gold rushes, and had an agricultural economy based on livestock (Dyett and Bhatia 2014). The Southern Pacific Railroad was extended from Fresno into Tulare County in the early 1870s and brought a population to towns such as Goshen that served as a regional stop (ESA 2010). With it, the rail line brought an increased in agriculture and farms that clashed with existing ranching operations in the local area. Escalating conflicts and livestock disputes between ranchers and farmers lead to the "No Fence Law" in 1874, which forced ranchers to pay for crop and property damage caused by their cattle (Ludeke 1980). With the passage of this law and the expansion of irrigation systems, predominant land use in the 1870s switched from grazing to farming (Mitchell 1976). This led to the beginning of the vast change of the San Joaquin Valley from native vegetation and grasslands to irrigated crops (Varner and Stuart 1975). One exception of this conversion from native vegetation to irrigated crops present-day Mooney Grove Park, located approximately 0.25 miles south of the Project site. Mooney Grove Park was a tract of land originally settled by Benjamin Willis in 1853 and later sold to the Mooney family in 1878. Significant, the valley oak trees were never cut down for lumber on the property, and the area was sold to Tulare County as the first county park in California in 1909 (Tweed 2012).

Water conveyance systems were developed throughout the region in order to minimize flooding and to divert water to the dryer areas (PID 2012). Surface waters and local wells were only able to satisfy the water demands of the valley for so long, and in 1911 California created the State Reclamation Board to solve water issues in the valley. Various reports were commissioned and 12 years later the California State Water Plan was proposed (Stene 2015). The Central Valley Project was approved in 1933, but funds were stalled until funded by the Rivers and Harbors Act in 1937. Construction on the Central Valley Project began soon after and continued until the mid-1950s (Stene 2015). One cornerstone of this project was the Friant-Kern Canal (FKC), located immediately east of the study area. The FKC, built between 1945 and 1951, is over 150 miles long and represents one of the largest lined canals in the western US (Hundley 2001). Creation of the

FKC brought new opportunities for irrigation to the region and led to the creation of new irrigation districts.

3
METHODS

3.1 RECORDS SEARCH

Taylored Archaeology requested a copy of the prior reports stated in the results letter that the SSJVIC of the CHRIS at California State University in Bakersfield, California, provided to 4Creeks on December 28, 2020. The records search encompassed the Project area and all the land within a 0.5-mile radius of the Project. Sources consulted included archaeological site and survey base maps, historical USGS topographic maps, reports of previous investigations, cultural resource records (DPR forms) as well as listings of the Historic Properties Directory of the Office of Historic Preservation, General Land Office Maps, Archaeological Determinations of Eligibility, and the California Inventory of Historic Resources (Appendix B).

3.2 ARCHIVAL RESEARCH

Taylored Archeology conducted archival research of books, articles, historical US Geological Survey (USGS) topographic maps, historical maps, historical aerial photographs, Google Earth aerial photographs, Google Street View photos, and other records regarding the prehistory and history of the Project area. The results of this research are presented in Chapters 2 and 4.

3.3 NATIVE AMERICAN OUTREACH

4Creeks reached out to the Native American Heritage Commission (NAHC) requesting a search of its Sacred Lands File and the contact information for local Native American tribal representatives who may have an interest in sharing information about the Project area and surrounding area. The NAHC responded to 4Creeks on December 15, 2020, with its search findings and attached a list of Native American tribes and individuals culturally affiliated with the Project area. Additionally, the City of Visalia sent AB 52 consultation letters to local Native American tribes.

3.4 PEDESTRIAN SURVEY

On January 16, 2021, Archaeologist Consuelo Sauls conducted an archaeological survey of the 43.27-acre Project site using parallel transects spaced 15 meters apart. Visible landmarks, plan maps and Gaia GPS application were used for navigation and GPS to locate and survey the Project area. Ms. Sauls photographed the survey area using an iPhone 11 Pro digital camera and recorded location data using the Gaia GPS application. Ms. Sauls recorded her observations on a Survey Field Record and compiled a Photographic Record. Copies of photographs and field notes are on file at Taylored Archaeology's office in Fresno, California.

4
FINDINGS

4.1 RECORDS SEARCH

The SSJVIC provided the results of the records search in a letter dated December 7, 2020 (Records Search File No. 20-436; Appendix B). The results letter indicated that there were two investigations that have been conducted within the Project area, and there have been six additional investigations within a 0.5-mile radius of the Project area. The SSJVIC also reported that there is one previously recorded resource in the Project area, a history era farm (P-54-003650), and one recorded resource, "The Pioneer" monument (P-54-004006), within a 0.5-mile radius of the Project area.

Further review of the two previous investigations the results letter identified as within the Project area (TU-01078 and TU-1080) determined these two investigations are not within the Project area, but instead are adjacent to the northern boundary of the Project area. The historic era farm (P-54-003650) that the results letter identified as within the Project area was instead adjacent to the northern boundary of the Project area. Therefore, upon further review, it appears that no prior cultural resources investigations or cultural records in the SSJVIC archives are located within the Project area.

4.2 ARCHIVAL RESEARCH

Available historic aerial photograph coverage of the Project area began in 1969, and the first available USGS map covering the APE began in 1927. The Project area appears with no specific details on USGS topographic maps dating in 1927 and 1942. USGS topographic maps, starting in 1950, show an unidentified structure in the northwest corner of the project site. Historic aerial photographs in 1969 show a rural residence in the northwest corner of the Project area. The rural residence last appears in aerial photographs in August 2006. The next available aerial photograph, dated June 2009, shows the rural residence as demolished and replaced by row crops.

The earliest Google Street View photographs available date to August 2007, which shows no structures on the Project area. Based upon the available archival information, the residential structure was built on the northwest corner of the Project area sometime between 1942 and 1950 and demolished sometime between August 2006 and August 2007. No other structures, either former or present, appear in the Project area.

4.3 NATIVE AMERICAN OUTREACH

In a December 15, 2020 response to 4Creeks request for information, the NAHC stated that a search of the Sacred Lands File did not indicate the presence of resources in the immediate Project area or surrounding 0.5-mile radius (see Appendix C). The NAHC supplied a list of tribal representatives and recommended that 4Creeks contact the following representatives for information regarding Native American cultural resources in the study locale:

- Chairperson Elizabeth D. Kipp of Big Sandy Rancheria of Western Mono Indians;

- Tribal Chair Benjamin Charley Jr. of Dunlap Band of Mono Indians;
- Tribal Secretary Dirk Charley of Dunlap Band of Mono Indians;
- Secretary Julie Turner of Kern Valley Indian Community;
- Chairperson Robert Robinson of the Kern Valley Indian Community;
- Brandy Kendricks of the Kern Valley Indian Community;
- Chairperson Leo Sisco of the Santa Rosa Rancheria Tachi Yokut Tribe;
- Tribal Chairperson Robert L. Gomez, Jr. of the Tubatulabals of Kern Valley;
- Chairperson Neil Peyron of the Tule River Indian Tribe; and
- Chairperson Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band.

The City of Visalia conducted AB 52 consultation with local Native American tribes. During the consultation process, Samantha McCarty, a Cultural Specialist for the Santa Rosa Rancheria Tachi Yokut Tribe responded. Her response requested a cultural survey, CHRIS record search, and a NAHC record search to be completed with the results sent to the Santa Rosa Rancheria Cultural Department.

4.4 PEDESTRIAN SURVEY RESULTS

Taylored Archaeology conducted an intensive pedestrian survey of the 43.27-acre Project site (Figure 4-1). Field recording and photo documentation of features and the Project area was completed. A series of overview photographs was taken to document the current conditions. Soils consisted of a dark brown silty loam (Figure 4-2). The Project site was bounded by Visalia Parkway on the north, South Mooney Boulevard on the west, and West Midvalley Avenue on the south (Figure 4-3). The eastern boundary of the Project area consisted of the same corn field as the Project area. A recently dug irrigation ditch, was observed around the northern, western, and southern boundaries of the Project site (Figure 4-4).

Vegetation within the Project site was comprised of regularly spaced small corn plants approximately six inches in height (Figure 4-5). No water features, either natural or artificial, were observed in the Project site. No animals were observed within the Project site during the survey. Two irrigation pipes were observed on the southern boundary of the Project site adjacent to West Midvalley Avenue (Figure 4-6). Ground visibility was approximately 85 percent. Natural or artificial erosion exposures were inspected for evidence of buried cultural deposits. No artifacts were identified or collected during the survey.

No cultural resources (e.g. isolated artifacts, features, archaeological sites, or historic-era built environment properties) were found during the survey. No evidence was found of the demolished rural residence in the northwestern corner of the Project site.



Figure 4-1 Northwest portion of project site, facing south. South Mooney Boulevard on the right.



Figure 4-2 Central portion of project site, dark brown silty loam soil in foreground.



Figure 4-3 Northwest corner of project site, facing east. Visalia Parkway on the left.



Figure 4-4 Northeastern corner of project site, facing west. Irrigation ditch in foreground.



Figure 4-5 Central portion of project site, facing east.



Figure 4-6 Southern boundary of project site. Irrigation pipe in foreground.

5
SUMMARY AND RECOMMENDATION

Taylored Archaeology conducted a cultural resource study for the Oaks Marketplace Master Conditional Use Permit Project. The Project will construct a commercial development on the Project site. As a subconsultant to 4Creeks, Inc., Taylored Archaeology conducted a cultural resource assessment of the Project area to determine if cultural resources are present that could be affected by the proposed Project. Accordingly, background research, a records search from the SSJVIC of the CHRIS, a search of the NAHC Sacred Lands File, and an intensive pedestrian survey of the Project area were conducted.

The SSJVIC records search identified one historic era cultural resource within the Project area. However, further review of SSJVIC records indicated the historic era resource misidentified as within the Project area is actually located outside the Project area to the north. Eight prior cultural resource studies and two previously recorded resources were found to be located within a 0.5-mile radius of the Project area (Appendix B). Both recorded resources were historical in age. No cultural or tribal resources were identified in the Project area as a result of the NAHC Sacred Lands File search, archival research, or pedestrian survey.

Due to the Project's close proximity of 0.25 miles to Packwood Creek, which historically contained a Native American Yokut village on its banks within the general region, Taylored Archaeology recommends a Native American monitor and archaeological monitor be present during initial ground disturbance during Project construction activities.

In the event of accidental discovery of unidentified archaeological remains during development or ground-moving activities in the Project area, all work should be halted in the immediate vicinity (within a 100-foot radius) until a qualified archaeologist can identify the discovery and assess its significance.

If human remains are uncovered during construction, the Tulare County Coroner is to be notified to investigate the remains and arrange proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 and PRC 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will be afforded an opportunity to make recommendations regarding the treatment and disposition of the remains.

6
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APPENDIX A

Personnel Qualifications

Consuelo Sauls, M.A., RPA 41591505
Archaeologist
csaulsarchaeo@gmail.com
559.797.1572

Areas of Expertise

- Prehistoric archaeology
- Rock art recordation and analysis
- Laboratory management

Years of Experience

- 12

Education

- M.A., Archaeology, University of Durham, 2014
- B.A., Anthropology, California State University, Fresno, 2009

Registrations/Certifications

- Registered Professional Archaeologist 41591505

Professional Affiliations

- California Rock Art Foundation
- Coalition for Diversity in California Archaeology
- Society for American Archaeology
- Society for California Archaeology
- Society of Black Archaeologists

Professional Experience

2019 – 2021	Principal Investigator, Taylored Archaeology, Fresno, California
2018 – 2019	Staff Archaeologist, Applied EarthWorks, Inc., Fresno, California
2016 – 2018	Principal Investigator, Soar Environmental Consulting, Inc., Fresno, California
2015	Archivist/Database Technician, Development and Conservation Management, Inc., Laguna Beach, California
2013	Laboratory Research Assistant, Durham University Archaeology Department and Archaeology Museum, Durham, England, UK
2011 – 2012	Laboratory Technician (volunteer), University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia, Pennsylvania
2008 – 2009	Laboratory Technician (intern), California State University, Fresno
2008	Field School, California State University, Fresno

Technical Qualifications

Ms. Sauls meets the Secretary of the Interior's Professional Qualification Standards as an archaeologist. She has conducted pedestrian surveys, supervised Extended Phase I survey, authored technical reports, and completed the Section 106 process with the State Historic Preservation Officer and Tribal Historic Preservation Officer. Her experience includes data recovery excavation at Western Mono sites and processing recovered artifacts in the laboratory as well as conducting archival research about prehistory and ethnography of Central California. Ms. Sauls has authored and contributed to technical and letter reports in compliance with of the National Historical Preservation Act (NHPA) Section 106 and the California Environmental Quality Act (CEQA). She also has supported NHPA tribal consultation and responded to Assembly Bill 52 tribal comments. Ms. Sauls also has an extensive background supervising laboratory processing, cataloging, and conservation of prehistoric and historical archaeological collections. In addition, she worked with the Rock Art Heritage Group in the management, preservation, and presentation of rock art in museums throughout England, including a thorough analysis of the British Museum's rock art collections. At Durham University Archaeology Museum, Ms. Sauls processed the excavated skeletal remains of 30 individuals from the seventeenth century.

APPENDIX B

Records Search Results

California Historical Resources Information System



Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

To: Molly McDonnel
4 Creeks, Inc.
324 S. Santa Fe Street, Suite A
Visalia, CA 93292

Record Search 20-436

Date: December 7, 2020

Re: Oaks Marketplace

County: Tulare

Map(s): Visalia 7.5'

CULTURAL RESOURCES RECORDS SEARCH

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

The following are the results of a search of the cultural resource files at the Southern San Joaquin Valley Information Center. These files include known and recorded cultural resources sites, inventory and excavation reports filed with this office, and resources listed on the National Register of Historic Places, the OHP Built Environment Resources Directory, California State Historical Landmarks, California Register of Historical Resources, California Inventory of Historic Resources, and California Points of Historical Interest. Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the OHP are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area.

PRIOR CULTURAL RESOURCE STUDIES CONDUCTED WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

According to the information in our files, there have been two previous cultural resource studies conducted within the northern most portion of the project area, TU-01078 and TU-1080. There have been six additional within the one-half mile radius, TU-00603, 00627, 01079, 01085, 01110, and 01659.

KNOWN/RECORDED CULTURAL RESOURCES WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

There is one recorded resource within the project area, P-54-003650, an historic era farm. There is one recorded resource within the one-half mile radius, P-54-004006, "The Pioneer" monument.

Resource P-54-004006, located at 27000 S. Mooney Blvd., has been given a National Register Status Code of 1S, indicating the individual property has been listed in the National Register of Historic Places by the Keeper. It is also listed in the California Register of Historical Resources. There are no other recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

COMMENTS AND RECOMMENDATIONS

We understand this project consists of construction of a regional commercial development project on approximately 43.27 gross acres of land that is currently vacant. Because most of this project area has not been studied for cultural resources, it is not known if any exist there. Therefore, prior to any ground disturbance activities, we recommend a qualified, professional consultant conduct a field survey to determine if any cultural resources are present. A list of qualified consultants can be found at www.chrisinfo.org.

We also recommend that you contact the Native American Heritage Commission in Sacramento. They will provide you with a current list of Native American individuals/organizations that can assist you with information regarding cultural resources that may not be included in the CHRIS Inventory and that may be of concern to the Native groups in the area. The Commission can consult their "Sacred Lands Inventory" file to determine what sacred resources, if any, exist within this project area and the way in which these resources might be managed. Finally, please consult with the lead agency on this project to determine if any other cultural resource investigation is required. If you need any additional information or have any questions or concerns, please contact our office at (661) 654-2289.

By:

Celeste M. Thomson, Coordinator **Date**: December 7, 2020

Please note that invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

APPENDIX C

Native American Outreach

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
Russell Attebery
Karuk

COMMISSIONER
Marshall McKay
Wintun

COMMISSIONER
William Mungary
Paiute/White Mountain Apache

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[**Vacant**]

COMMISSIONER
[**Vacant**]

EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

December 15, 2020

Cristobal Carrillo

City of Visalia

Via Email to: Cristobal.Carrillo@visalia.city

Re: TMT Visalia Shopping Center Project, Tulare County

Dear Mr. Carillo:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,

Nancy Gonzalez-Lopez

Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contacts List
December 15, 2020

Big Sandy Rancheria of Western Mono Indians
Elizabeth D. Kipp, Chairperson
PO. Box 337
Auberry ,CA 93602
lkipp@bsrnation.com
(559) 374-0066
(559) 374-0055
Western Mono

Dunlap Band of Mono Indians
Benjamin Charley Jr., Tribal Chair
P.O. Box 14
Dunlap ,CA 93621
ben.charley@yahoo.com
(760) 258-5244
Mono

Dunlap Band of Mono Indians
Dirk Charley, Tribal Secretary
5509 E. McKenzie Avenue
Fresno ,CA 93727
dcharley2016@gmail.com
(559) 554-5433
Mono

Kern Valley Indian Community
Julie Turner, Secretary
P.O. Box 1010
Lake Isabella ,CA 93240
(661) 340-0032 Cell
Kawaiisu
Tubatulabal

Kern Valley Indian Community
Robert Robinson, Chairperson
P.O. Box 1010
Lake Isabella ,CA 93240
bbutterbredt@gmail.com
(760) 378-2915 Cell
Tubatulabal
Kawaiisu

Kern Valley Indian Community
Brandy Kendricks
30741 Foxridge Court
Tehachapi ,CA 93561
krazykendricks@hotmail.com
(661) 821-1733
(661) 972-0445
Kawaiisu
Tubatulabal

Santa Rosa Rancheria Tachi Yokut Tribe
Leo Sisco, Chairperson
P.O. Box 8
Lemoore ,CA 93245
(559) 924-1278
(559) 924-3583 Fax
Tache
Tachi
Yokut

Tubatulabals of Kern Valley
Robert L. Gomez, Jr., Tribal Chairperson
P.O. Box 226
Lake Isabella ,CA 93240
(760) 379-4590
(760) 379-4592 Fax
Tubatulabal

Tule River Indian Tribe
Neil Peyron, Chairperson
P.O. Box 589
Porterville ,CA 93258
neil.peyron@tulerivertribe-nsn.gov
(559) 781-4271
(559) 781-4610 Fax
Yokuts

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas ,CA 93906
kwood8934@aol.com
(831) 443-9702
Foothill Yokuts
Mono
Wuksache

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code,Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans Tribes for the proposed:
TMT Visalia Shopping Center Project, Tulare County.

City of Visalia

315 E. Acequia Ave., Visalia, CA 93291

Site Plan Review

September 10, 2020

aaronc@4-creeks.com

Site Plan Review No. 19-167:

Pursuant to Zoning Ordinance Chapter 17.28 the Site Plan Review process has found that your application complies with the general plan, municipal code, policies, and improvement standards of the city.

Based upon Zoning Ordinance Section 17.28.070, this is your Site Plan Review determination. However, your project requires discretionary action as stated on the attached Site Plan Review comments. You may now proceed with filing discretionary applications to the Planning Division.

This is your Site Plan Review Permit; your Site Plan Review became effective **August 12, 2020**. A site plan review permit shall lapse and become null and void one year following the date of approval unless, prior to the expiration of one year, a building permit is issued by the building official and construction is commenced and diligently pursued toward completion.

If you have any questions regarding this action, please call the Community Development Department at (559) 713-4359.

Respectfully,

Paul Bernal
City Planner
315 E. Acequia Ave.
Visalia, CA 93291

Attachment(s):

- Site Plan Review Comments

#1

MEETING DATE: August 12, 2020

SITE PLAN NO. 19-167 Resubmittal #3

PARCEL MAP NO.

SUBDIVISION:

LOT LINE ADJUSTMENT NO.

Enclosed for your review are the comments and decisions of the Site Plan Review committee. Please review all comments since they may impact your project.

☐ **RESUBMIT** Major changes to your plans are required. Prior to accepting construction drawings for building permit, your project must return to the Site Plan Review Committee for review of the revised plans.

☐ During site plan design/policy concerns were identified, schedule a meeting with

☐ Planning ☐ Engineering prior to resubmittal plans for Site Plan Review.

☐ Solid Waste ☐ Parks and Recreation ☐ Fire Dept.

☉ **REVISE AND PROCEED** (see below)

☐ A revised plan addressing the Committee comments and revisions must be submitted for Off-Agenda Review and approval prior to submitting for building permits or discretionary actions.

☐ Submit plans for a building permit between the hours of 9:00 a.m. and 4:00 p.m., Monday through Friday.

☉ Your plans must be reviewed by:

☐ CITY COUNCIL ☐ REDEVELOPMENT

☉ PLANNING COMMISSION ☐ PARK/RECREATION

☉ Master CUP

☐ HISTORIC PRESERVATION ☐ OTHER: _____

☐ **ADDITIONAL COMMENTS :**

If you have any questions or comments, please call (559) 713-4444.

Site Plan Review Committee

BUILDING/DEVELOPMENT PLAN REQUIREMENTS
ENGINEERING DIVISION

☒ **Adrian Rubalcaba**	**713-4271**
☐	**713-**

ITEM NO: 1 DATE: AUGUST 12, 2020

SITE PLAN NO.:	**19-167 3RD RESUBMITTAL (REFER TO 20-012)**
PROJECT TITLE:	**MOONEY BLVD/ VISALIA PKWY - MASTER CUP**
DESCRIPTION:	**PROPOSING FOR THE APPLICATION OF AN ANNEXATION, MASTER CUP, TENTATIVE PARCEL MAP, & REZONE/GENERAL PLAN AMENDMENT**
APPLICANT:	**AARON CARPENTER**
PROP OWNER:	**VISCA INVESTMENT CO**
LOCATION:	**SEC MOONEY BLVD & VISALIA PKWY**
APN:	**126-080-025**

SITE PLAN REVIEW COMMENTS

☒REQUIREMENTS (indicated by checked boxes)

☒Install curb return with ramp, with ***35'*** radius; ***VISALIA PKWY & MIDVALLEY AT MOONEY. REFER TO CITY STDS***

☒Install curb; ☒gutter ***ALL PROJECT STREET FRONTAGES***

☒Drive approach size: ***MAX 41'*** ☒Use radius return; ***REFER TO CITY COMMERCIAL STDS***

☒Sidewalk: ***10'*** width; ☒ ***5'*** parkway width at ***VISALIA PKWY, SEE ADDITIONAL COMMENTS.***

☐Repair and/or replace any sidewalk across the public street frontage(s) of the subject site that has become uneven, cracked or damaged and may constitute a tripping hazard.

☐Replace any curb and gutter across the public street frontage(s) of the subject site that has become uneven and has created areas where water can stand.

☒Right-of-way dedication required. A title report is required for verification of ownership. ***BY MAP***

☐Deed required prior to issuing building permit;

☒City Encroachment Permit Required. ***FOR ALL WORK WITHIN CITY RIGHT-OF-WAY***
Insurance certificate with general & auto liability ($1 million each) and workers compensation ($1 million), valid business license, and appropriate contractor's license must be on file with the City, and valid Underground Service Alert # provided prior to issuing the permit. Contact Encroachment Tech. at 713-4414.

☒CalTrans Encroachment Permit required. ☒ CalTrans comments required prior to issuing building permit. Contacts: David Deel (Planning) 488-4088; ***ALL WORK ON MOONEY BLVD.***

☒Landscape & Lighting District/Home Owners Association required prior to approval of Final Map. Landscape & Lighting District will maintain common area landscaping, street lights, street trees and local streets as applicable. Submit completed Landscape and Lighting District application and filing fee a min. of 75 days before approval of Final Map.***COMMERCIAL PROJECT TO MAINTAIN ALL ONSITE AND PUBLIC PARKWAY LANDSCAPING. A LANDSCAPE AND LIGHTING DISTRICT WILL BE FORMED FOR CITY TO MAINTAIN STREET LIGHTING.***

☒Landscape & irrigation improvement plans to be submitted for each phase. Landscape plans will need to comply with the City's street tree ordinance. The locations of street trees near intersections will need to comply with Plate SD-1 of the City improvement standards. A street tree and landscape master plan for all phases of the subdivision will need to be submitted with the initial phase to assist City staff in the formation of the landscape and lighting assessment district.

☒Grading & Drainage plan required. If the project is phased, then a master plan is required for the entire project area that shall include pipe network sizing and grades and street grades. ☒ Prepared by registered civil engineer or project architect. ☒ All elevations shall be based on the City's benchmark network. Storm run-off from the project shall be handled as follows: a) ☒ directed to the City's existing storm drainage system; b) ☐ directed to a permanent on-site basin; or c) ☐ directed to a temporary on-site basin is required until a connection with adequate capacity is available to the City's storm drainage system. On-site basin: : maximum side slopes, perimeter fencing required, provide access ramp to bottom for maintenance.

☒Grading permit is required for clearing and earthwork performed prior to issuance of the building permit.

☒Show finish elevations. (Minimum slopes: A.C. pavement = 1%, Concrete pavement = 0.25%. Curb & Gutter = 0.20%, V-gutter = 0.25%)

☒Show adjacent property grade elevations. A retaining wall will be required for grade differences greater than 0.5 feet at the property line.

☒All public streets within the project limits and across the project frontage shall be improved to their full width, subject to available right of way, in accordance with City policies, standards and specifications. ***VISALIA PKWY (110' ARTERIAL), MOONEY BLVD (SEE CALTRANS DESIGN), AND MIDVALLEY (70' COLLECTOR).***

☒Traffic indexes per city standards: ***REFER TO CITY ARTERIAL AND COLLECTOR STREET STDS***

☒Install street striping as required by the City Engineer. ***TBD***

☒Install landscape curbing (typical at parking lot planters).

☒Minimum paving section for parking: 2" asphalt concrete paving over 4" Class 2 Agg. Base, or 4" concrete pavement over 2" sand.

☒Design Paving section to traffic index of 5.0 min. for solid waste truck travel path.

☒Provide "R" value tests: ***1*** each at ***300' INTERVALS***

☐Written comments required from ditch company Contacts: James Silva 747-1177 for Modoc, Persian, Watson, Oakes, Flemming, Evans Ditch and Peoples Ditch; Jerry Hill 686-3425 for Tulare Irrigation Canal, Packwood and Cameron Creeks; Bruce George 747-5601 for Mill Creek and St. John's River.

☐Access required on ditch bank, 15' minimum ☐ Provide wide riparian dedication from top of bank.

☒Show Valley Oak trees with drip lines and adjacent grade elevations. ☒ Protect Valley Oak trees during construction in accordance with City requirements.

☒A permit is required to remove Valley Oak trees. Contact Public Works Admin at 713-4428 for a Valley Oak tree evaluation or permit to remove. ☒ A pre-construction conference is required.

☒Relocate existing utility poles and/or facilities. ***REQUIRED WITH PUBLIC STREET CONSTRUCTION***

☒Underground all existing overhead utilities within the project limits. Existing overhead electrical lines over 50kV shall be exempt from undergrounding. ***ANY UTILITIES LOCATED IN FUTURE RIGHT-OF-WAY***

☐Subject to existing Reimbursement Agreement to reimburse prior developer:

☒ Fugitive dust will be controlled in accordance with the applicable rules of San Joaquin Valley Air District's Regulation VIII. Copies of any required permits will be provided to the City.

☒ If the project requires discretionary approval from the City, it may be subject to the San Joaquin Valley Air District's Rule 9510 Indirect Source Review per the rule's applicability criteria. A copy of the approved AIA application will be provided to the City.

☒If the project meets the one acre of disturbance criteria of the State's Storm Water Program, then coverage under General Permit Order 2009-0009-DWQ is required and a Storm Water Pollution Prevention Plan (SWPPP) is needed. A copy of the approved permit and the SWPPP will be provided to the City.

☒Comply with prior comments. ☐Resubmit with additional information. ☒Redesign required.

Additional Comments:

REFER TO THE LATEST SITE PLAN REVIEW COMMENTS UNDER SPR NO. 20-012, IN ADDITION TO:

1. Proposed master planned development will be required to widen Visalia Pkwy & Mooney Blvd to their ultimate width which will include modification to existing signal. Refer to City arterial standards and Caltrans. Visalia Pkwy is identified as a funded arterial street in City's Circulation Element and portions of improvements are reimbursable by the City in the form of Transportation Impact Fee credits. Further coordination with City Engineer is required.

2. Per City Active Transportation Plan, a class 1 bike trail is designated along the south side of Visalia Pkwy. Master plan shall incorporate this trail design into the proposed mixed use layout - to be constructed with each phase. Revise accordingly. Class 1 trail design can be found on City website under Active Transportation Plan. Typically, widening of the required 7' sidewalk to 10' will be necessary.

3. A master plan for storm water and sewer to serve entire development will be required with phase one improvements. Per City storm sewer master plans at this time, the project can tie-into and extend from existing trunk lines in Visalia Pkwy.

4. Proposed drive approach locations on Visalia Pkwy appear to comply with City min. distance standards however dimensions/distances are not shown and will need to be verified. Additional median breaks to be determined in consideration of existing access points to developments to the north. Refer to Traffic Safety Dept. for further comments and conditions.

5. Maintain min. 200' setback distances from the intersections of Visalia Pkwy & Mooney Blvd. and Midvalley & Mooney for proposed drive approaches. Align proposed main entrance/exit with on Mooney with the development to the west.

6. Midvalley (Ave. 274), a 70' collector street, is not identified as a currently funded street in the City's Transportation Impact Fee program - costs to improve would be sole responsibility of the developer(s). The 70' collector design is no longer a City standard therefore a modified 84' City standard shall be implemented (further coordinate with City Engineer).

7. Midvalley shall be widened to its ultimate right-of-way along project street frontage. Extension of existing sewer stub at Mooney will be required across project frontage. Additional improvements, right-of-way, and transitional work will be required due to the centerline offset at Mooney intersection. Signal modifications may be required. Coordinate with City Engineer and Caltrans.

8. New development will incur impact fees associated with the acreage of improvements and building construction. Refer to page 4 for applicable fees.

9. All commercial developments shall have refuse enclosures located and positioned for a direct-service by a City Solid Waste vehicle. Refer to further requirements by the Solid Waste Dept.

10. Street lights shall be installed per City street lighting standards. Refer to City local, collector, and arterial standards. An electrical plan shall be incorporated into the offsite improvement plans.

11. Refer to project entitlement requirements by the Planning Dept. Revise site plan accordingly prior to CUP submittal.

12. Master CUP to incorporate Caltrans requirements on Mooney.

13. Site plan does not include and clearly show dimension of roadways, cross sections, and setback requirements. Provide this information with master CUP layout - to be further reviewed/confirmed by City Engineer.

14. City Transit Dept. will require a bus stop turnout on south side of Visalia Pkwy, immediately following the intersection at Mooney. Refer to further comments by the Transit Dept and City bus stop standards.

15. Although not shown on this site plan, the master planned development may be required to extend frontage improvements on Visalia Pkwy along the Costco site and up to Stonebrook (subject to available right-of-way). Project will be required to install improvements accordingly to address traffic safety and circulation. Further coordinate with City Engineering Dept.

16. There is currently a City project to partially widen intersection and extend improvements along Visalia Pkwy, east of Mooney intersection. Project phase 1 to coordinate with City Engineer and provide right-of-way as deemed necessary.

SUMMARY OF APPLICABLE DEVELOPMENT IMPACT FEES

Site Plan No: **19-167 3rd RESUBMITTAL**
Date: **8/12/2020**

Summary of applicable Development Impact Fees to be collected at the time of building permit:

(Preliminary estimate only! Final fees will be based on the development fee schedule in effect at the time of building permit issuance.)

(Fee Schedule Date:**8/3/2019 --SUBJECT TO NEW 2020 FEE UPDATE--**)
(Project type for fee rates:**COMM. RETAIL**)

☐ Existing uses may qualify for credits on Development Impact Fees.

FEE ITEM	FEE RATE
☒ Groundwater Overdraft Mitigation Fee	**$1,320/AC**
☒ Transportation Impact Fee	**SHOPPING $14,878/1KSF FUELING STATION - REFER TO FEE SCHEDULE**
☒ Trunk Line Capacity Fee	**COMMERCIAL - VARIES PER USE TREATMENT PLANT FEE: VARIES PER USE**
☒ Sewer Front Foot Fee	**$44/LF X 4690 (MOONEY & VISALIA PKWY) = $206,360**
☒ Storm Drain Acq/Dev Fee	**$7,468/AC**
☐ Park Acq/Dev Fee	
☐ Northeast Specific Plan Fees	
☒ Waterways Acquisition Fee	**$5,483/AC**
☒ Public Safety Impact Fee: Police	**$8,849/AC**
☒ Public Safety Impact Fee: Fire	**$1,936/AC**
☒ Public Facility Impact Fee	**VARIES PER USE**
☐ Parking In-Lieu	

Reimbursement:

1.) No reimbursement shall be made except as provided in a written reimbursement agreement between the City and the developer entered into prior to commencement of construction of the subject facilities.
2.) Reimbursement is available for the development of arterial/collector streets as shown in the City's Circulation Element and funded in the City's transportation impact fee program. The developer will be reimbursed for construction costs and right of way dedications as outlined in Municipal Code Section 16.44. Reimbursement unit costs will be subject to those unit costs utilized as the basis for the transportation impact fee.
3.) Reimbursement is available for the construction of storm drain trunk lines and sanitary sewer trunk lines shown in the City's Storm Water Master Plan and Sanitary Sewer System Master Plan. The developer will be reimbursed for construction costs associated with the installation of these trunk lines.

Adrian Rubalcaba

SITE PLAN REVIEW COMMENTS

Josh Dan, Planning Division, 559-713-4003
Date: August 12, 2020

SITE PLAN NO:	2019-167 - D
PROJECT TITLE:	Mooney Blvd/Visalia Parkway – Master CUP
DESCRIPTION:	Proposing For the Application of an Annexation, Master CUP, TSM, Rezone/GPA
APPLICANT:	Aaron Carpenter (4Creeks, Inc.)
PROP. OWNER:	VISCA INVESTMENT CO
LOCATION TITLE:	SW Corner of Visalia Parkway & S. Mooney Blvd.
APN TITLE:	126-080-025, 056
GENERAL PLAN:	Regional Commercial, Residential Medium Density, Residential High Density, Parks/Recreation, Residential Low Density
EXISTING ZONING:	C-R (Regional Commercial), AE-20 (Tulare County Jurisdiction)

Planning Division Recommendation:

☒ Revise and Proceed
☐ Resubmit (For CUP portion plan details)

Reference SPR No. 20-012 and SPR No. 20-013.

Project Requirements

- Annexation
- Master Conditional Use Permit
- Tentative Parcel Map
- Project IS subject to Valley Air District Rule 9510
- Project is subject to Tribal notification prior to entitlement applications being deemed complete, pursuant to State Law precedent.
- Project required to undergo State Clearinghouse process for the environmental document as Caltrans is a Responsible Agency for the project (State highway)
- Traffic Impact Analysis (TIA)
- Additional information as needed.

PROJECT SPECIFIC INFORMATION: August 12, 2020

1. The Master CUP project may proceed concurrently with the Tentative Parcel Map (SPR 2020-122)
2. At time of Master CUP submittal, staff recommends the applicant provide, in addition to the four sheets provided, a large PDF exhibit showing the entire site.
3. CUP must show pedestrian paths of travel from one pad to another.
4. Additional parking is supported by staff, however, an 80 sq. ft. minimum landscape well is required every 10 contiguous parking stalls (Zoning Ordinance Section 17.34.040 & 17.30.015).
5. Comply with all other codes, ordinances, and previous comments which may apply to the project.

PROJECT SPECIFIC INFORMATION: February 26, 2020

1. January 29, 2020 comments made previously on SPR No. 20-012 and SPR No. 20-013 shall be incorporated into this review.
2. The Aldi business proposed for Anchor 2 cannot be classified as a "Specialty Store" as determined by the City Planner. The "Specialty Store" classification is meant to support establishments that draw customers from outside the local economic base, such as Costco, Trader Joes, and Whole Foods. Aldi is considered more in line with a grocery store use, which is not permitted in the C-R Zone. Consult with the City Planner for more information.

PROJECTSPECIFIC INFORMATION: January 22, 2020

1. Provide an Operational Statement clearly describing the requested actions; including, limits of Annexation request.
2. Master CUP will be required, but will entitle the full commercial site.
3. Provide a new SPR number to this portion of the application, and a SPR application for the TPM portion of the project.

PROJECT SPECIFIC INFORMATION: September 18, 2019

3. Staff cannot support the re-zoning of limited Regional Commercial lands in favor of single family residential zoning.
4. Staff cannot support Annexation of land for the above-noted purpose.
5. If the proponent elects to proceed despite the staff recommendation, it is highly encouraged that plans for the full development of the RC component be submitted in plan detail (minimum 24"x36" sheet (1:20 scale). To fully demonstrate project's ability to develop pursuant to the intent and requirements of the RC zone district.
6. Conduct annexation of property located within Tulare County jurisdiction.
7. Obtain a Conditional Use Permit.
8. File for a Tentative Subdivision Map.
9. File for a Rezone and General Plan amendment.

Staff initial finding is that the proposed site plan IS NOT CONSISTENT with the City General Plan. Because this project requires discretionary approval by the City Council and/or Planning Commission the final determination of consistency will be made by the Planning Commission and/or City Council.
Chapter 17.16

17.18.070 Development standards in the C-R zone.

The following development standards shall apply to property located in the C-R zone:

A. Minimum site area: five (5) acres.

B. Maximum building height: fifty (50) feet.

C. Minimum required yards (building setbacks):

1. Front: twenty (20) feet;
2. Rear: zero (0) feet;
3. Rear yards abutting an R-1 or R-M zone district: fifteen (15) feet;
4. Side: zero (0) feet;
5. Side yards abutting an R-1 or R-M zone district: fifteen (15) feet;
6. Street side yard on corner lot: ten (10) feet.

D. Minimum required landscaped yard (setback) areas:

1. Front: twenty (20) feet;
2. Rear: five (5) feet;
3. Rear yards abutting an R-1 or R-M zone district: five (5) feet;
4. Side: five (5) feet (except where a building is located on side property line);
5. Side yards abutting an R-1 or R-M zone district: five (5) feet;
6. Street side on corner lot: ten (10) feet.

Parking:

1. Provide parking spaces based Zoning Ordinance Section 17.34.020
2. 30% of the required parking stalls may be compact and shall be evenly distributed in the lot.
3. Provide handicapped space(s).
4. An 80 sq. ft. minimum landscape well is required every 10 contiguous parking.
5. A planter is required every other row. (5-9 feet in width containing trees on twenty (20) foot centers.
6. No repair work or vehicle servicing allowed in a parking area.
7. It is highly recommended that bicycle rack(s) be provided on site plan.
8. No parking shall be permitted in a required front/rear/side yard.
9. Design/locate parking lot lighting to deflect any glare away from abutting residential areas.
10. Parking lot to be screened from view by a 3-foot tall solid wall or shrubs when located adjacent to a public street or when across from residential property.
11. Front carport area to have a 3 to 6-foot tall screening wall.
12. Provide shopping cart storage areas on site plan.
13. Provide transit facilities on site plan.
14. Provide shared parking/access agreements
15. Provide off-street loading facility.
16. The project should provide preferential parking spaces for carpools and vanpools to decrease the number of single occupant vehicle work trips. The preferential treatment could include covered parking spaces or close-in parking spaces, or designated free parking, or a guaranteed space for the vehicle.
17. Provide a "No Parking" (dead-head) stall at the end of the parking row (for rows over 6 stalls deep with no outlet) to allow vehicles to turn around rather than backing out if no stalls are available.

Fencing and Screening:

1. Provide screening for roof mounted equipment (Zoning Ordinance Section 17.30.130.F).
2. Provide second-story screening for all windows that may intrude into adjacent residential properties. Details and cross-sections will be required to be reviewed and approved prior to issuance of building permits (Zoning Ordinance Section 17.30.130.F).
3. Provide screened trash enclosure with solid screening gates (Zoning Ordinance Section 17.30.130.F).
4. Provide solid screening of all outdoor storage areas. Outdoor storage to be screened from public view with solid material (Zoning Ordinance Section 17.30.130.F).
5. Outdoor retail sales prohibited.
6. Cross Sections need to be provided for site Plan Review if there is greater than an 18-inch difference between the elevation of the subject site and the adjacent properties, and the sections would be required for the public hearing process also.
7. All outdoor storage areas are to be identified on the site plan and they are to be shown with screening (fencing). No materials may be stored above the storage area fence heights (Zoning Ordinance Section 17.30.130.F).
8. If there is an anticipated grade difference of more than 12-inches between this site and the adjacent sites, a cross section of the difference and the walls must be provided as a part of the Subdivision and/or CUP application package.
9. NOTE: The maximum height of block walls and fences is 7-feet in the appropriate areas; this height is measured on the tallest side of the fence. If the height difference is such that the fence on the inside of the project site is not of sufficient height, the fence height should be discussed with Planning Staff prior to the filing of applications to determine if an Exception to fence/wall height should also be submitted.

Landscaping:

1. The City has adopted the State Water Efficient Landscape Ordinance. The ordinance applies to projects installing 2,500 square feet or more of landscaping. It requires that landscaping and

irrigation plans be certified by a qualified entity (i.e., Landscape Architect) as meeting the State water conservation requirements. The City's implementation of this new State law will be accomplished by self-certification of the final landscape and irrigation plans by a California licensed landscape architect or other qualified entity with sections signed by appropriately licensed or certified persons as required by the ordinance. **NOTE: Prior to a <u>final</u> for the project, a signed <u>Certificate of Compliance</u> for the MWELO standards is required indicating that the landscaping has been installed to MWELO standards.**

2. Provide street trees at an average of 20-feet on center along street frontages. All trees to be 15-gallon minimum size (Zoning Ordinance Section 17.30.015-2).
3. In the P(R-M) multi-family residential zone, all multiple family developments shall have landscaping including plants, and ground cover to be consistent with surrounding landscaping in the vicinity. Landscape plans to be approved by city staff prior to installation and occupancy of use and such landscaping to be permanently maintained. (Zoning Ordinance Section 17.16.180)
4. All landscape areas to be protected with 6-inch concrete curbs (Zoning Ordinance Section 17.30.130.F).
5. All parking lots to be designed to provide a tree canopy to provide shade in the hot seasons and sunlight in the winter months.
6. Provide a detailed landscape and irrigation plan as a part of the building permit package (Zoning Ordinance Section 17.34.040).
7. An 80 sq. ft. minimum landscape well is required every 10 contiguous parking stalls (Zoning Ordinance Section 17.30.130.C).
8. Provide a detailed landscape and irrigation plan for review prior to issuance of building permits. Please review Zoning Ordinance section 17.30.130-C for current landscaping and irrigation requirements.
9. Provide a conceptual landscape plan for resubmittal or planning commission review.
10. Locate existing oak trees on site and provide protection for all oak trees greater than 2" diameter (see Oak Tree Preservation Ordinance).
11. Maintenance of landscaped areas. - A landscaped area provided in compliance with the regulations prescribed in this title or as a condition of a use permit or variance shall be planted with materials suitable for screening or ornamenting the site, whichever is appropriate, and plant materials shall be maintained and replaced as needed, to screen or ornament the site. (Prior code § 7484)

<u>Lighting</u>:

1. All lighting is to be designed and installed so as to prevent any significant direct or indirect light or glare from falling upon any adjacent residential property. This will need to be demonstrated in the building plans and prior to final on the site.
2. Parking lot and drive aisle lighting adjacent to residential units or designated property should consider the use of 15-foot high light poles, with the light element to be completely recessed into the can. A reduction in the height of the light pole will assist in the reduction/elimination of direct and indirect light and glare which may adversely impact adjacent residential areas.
3. Building and security lights need to be shielded so that the light element is not visible from the adjacent residential properties, if any new lights are added or existing lights relocated.
4. NOTE: Failure to meet these lighting standards in the field will result in no occupancy for the building until the standards are met.
5. In no case shall more than 0.5 lumens be exceeded at any property line, and in cases where the adjacent residential unit is very close to the property line, 0.5 lumens may not be acceptable.

<u>Drive-thru Performance Standards (Section 17.32.162)</u>

A. Purpose and Intent: It is the purpose of this section to specify performance standards applicable to uses that seek to incorporate a drive-thru lane in associate with specified use. This section does not apply to carwashes and lube and oil changing stations.

B. Performance Standards:

1. Separation from residences: The drive-thru lane shall be no less than 250 feet from the nearest residence or residentially zoned property.
2. Stacking: The drive-thru lane shall contain no less than ten vehicle stacking, measured from the pickup window to the designated entrance to the drive-thru lane. There shall be no less than three vehicles spaces distance from the order menu/speaker (or like device) to the designated entrance to the order window.
3. Circulation: No portion of the drive-thru lane shall obstruct any drive aisles or required on-site parking. The drive thru shall not take ingress or egress from a local residential road.
4. Noise: no component or aspect of the drive-thru lane or its operation shall generate noise levels in excess of 60db between the hours of 7:00 p.m. and 6:00 a.m. daily.
5. Screening: The entire drive-thru lane shall be screened from adjacent street and residential view to a height of three feet. Screening devices shall be a combination of berming, hedge and landscape materials, and solid walls as approved by the City Planner.
6. Menu boards and signage: Shall be oriented or screened to avoid direct visibility from adjacent public

San Joaquin Valley Air Pollution Control District (SJVAPCD)

Please note that the project is subject to SJVAPCD Rule 9510. The applicant is encouraged to do early indirect source modeling consultation with the Air District

NOTE: Staff recommendations contained in this document are not to be considered support for a particular action or project unless otherwise stated in the comments. The comments found on this document pertain to the site plan submitted for review on the above referenced date. Any changes made to the plan submitted must be submitted for additional review.

Signature _____



SPR19167
TENTATIVE SUBDIVISION MAP
126080025

City of Visalia
Building: Site Plan Review Comments

NOTE: These are general comments and DO NOT constitute a complete plan check for your specific project Please refer to the applicable California Code & local ordinance for additional requirements.

- ☐ A building permit will be required. ***For information call (559) 713-4444***
- ☐ Submit 1 digital set of professionally prepared plans and 1 set of calculations. (Small Tenant Improvements)
- ☐ Submit 1 digital set of plans prepared by an architect or engineer. Must comply with 2016 California Building Cod Sec. 2308 for conventional light-frame construction or submit 1 digital set of engineered calculations.
- ☐ Indicate abandoned wells, septic systems and excavations on construction plans.

You are responsible to ensure compliance with the following checked items:

- ☐ Meet State and Federal requirements for accessibility for persons with disabilities.
- ☐ A path of travel, parking and common area must comply with requirements for access for persons with disabilities.
- ☐ All accessible units required to be adaptable for persons with disabilities.
- ☐ Maintain sound transmission control between units minimum of 50 STC.
- ☐ Maintain fire-resistive requirements at property lines.
- ☐ A demolition permit & deposit is required. ***For information call (559) 713-4444***
- ☐ Obtain required permits from San Joaquin Valley Air Pollution Board. ***For information call (661) 392-5500***
- ☐ Plans must be approved by the Tulare County Health Department. ***For information call (559) 624-8011***
- ☐ Project is located in flood zone _____ * ☐ Hazardous materials report.
- ☐ Arrange for an on-site inspection. (Fee for inspection $157.00) ***For information call (559) 713-4444***
- ☐ School Development fees. Commercial $0.61 per square foot. Residential $4.16 per square foot.
- ☐ Park Development fee $_____, per unit collected with building permits.
- ☐ Additional address may be required for each structure located on the site. ***For information call (559) 713-4320***
- ☐ Acceptable as submitted
- ☐ No comments at this time

Additional comments: PROVIDE ACCESSIBLE ROUTE CONNECTING ALL BUILDING ENTRANCES LOCATED ON SITE. PROVIDE ACCESSIBLE ROUTES TO ALL TRASH ENCLOSURES.

VAL GARCIA 3/12/20
Signature

Site Plan Comments Visalia Fire Department Corbin Reed, Fire Marshal 420 N. Burke Visalia CA 93292 559-713-4272 office prevention.division@visalia.city	Date Item # Site Plan # APN:	August 12, 2020 1 19167 Resubmit 126080025

- The Site Plan Review comments are issued as **general overview** of your project. With further details, additional requirements will be enforced at the Plan Review stage. Please refer to the 2019 California Fire Code (CFC), 2019 California Building Codes (CBC) and City of Visalia Municipal Codes.

- **Special comments**: See previous comments.

Corbin Reed
Fire Marshal

City of Visalia
Police Department
303 S. Johnson St.
Visalia, CA 93292
(559) 713-4370

Date : 8-11-20
Item: #1 - RE-SUB
Site Plan: SPR19-167
Name: Agent McEwen

SITE PLAN REVIEW COMMENTS

☒ No Comment at this time

☐ Request opportunity to comment or make recommendations as to safety issues as plans are developed.

☐ Public Safety Impact Fee:
Ordinance No. 2001-11 Chapter 16.48 of Title 16 of the Visalia Municipal Code Effective date – August 17, 2001

Impact fees shall be imposed by the City pursuant to this Ordinance as a condition of or in conjunction with the approval of a development project. "New Development or Development Project" means any new building, structure or improvement of any parcels of land, upon which no like building, structure of improvement previously existed. *Refer to Engineering Site Plan comments for fee estimation.

☐ Not enough information provided. Please provide additional information pertaining to:

☐ Territorial Reinforcement: Define property lines (private/public space).

☐ Access Controlled / Restricted etc.:

☐ Lighting Concerns:

☐ Traffic Concerns:

☐ Surveillance Issues:

☐ Line of Sight Issues:

☐ Other Concerns:

SITE PLAN REVIEW COMMENTS

CITY OF VISALIA TRAFFIC SAFETY DIVISION

August 12, 2020

ITEM NO: 1 Resubmit
SITE PLAN NO: SPR19167
PROJECT TITLE: Mooney Blvd/Visalia Parkway - Master CUP
DESCRIPTION: Proposing for the Application of an Annexation, Master CUP, Tentative Subdivision Map and Rezone/General Plan Amendment.
APPLICANT: Aaron Carpenter
OWNER: VISCA INVESTMENT CO
NO COUNTY DATA
APN: 126080025
LOCATION: SW Corner of Visalia Parkway & S Mooney Blvd

THE TRAFFIC DIVISION WILL PROHIBIT ON-STREET PARKING AS DEEMED NECESSARY

☐ No Comments

☐ See Previous Site Plan Comments

☒ Install Street Light(s) per City Standards.

☒ Install Street Name Blades at ***intersections.***

☒ Install Stop Signs at ***driveway exit locations***.

☒ Construct parking per City Standards PK-1 through PK-4.

☒ Construct drive approach per City Standards.

☒ Traffic Impact Analysis required (CUP)

- ☐ Provide more traffic information such as . Depending on development size, characteristics, etc., a TIA may be required.

☐ Additional traffic information required (Non Discretionary)

- ☐ Trip Generation - Provide documentation as to concurrence with General Plan.
- ☐ Site Specific - Evaluate access points and provide documentation of conformance with COV standards. If noncomplying, provide explanation.
- ☐ Traffic Impact Fee (TIF) Program - Identify improvments needed in concurrence with TIF.

Additional Comments:

- Dimensions are not shown on plan. Per COV Design and Improvement Standard, C-32, Drive Approach Locations, Minimum distance from adjacent intersection is 200-ft and minimum distance between driveways is 500-ft. Also, reference is made to COV Design and Improvement Standard, P-12, Typical Median Break Locations, for median break locations. Any nonconfomance from City standard is required to be addressed in TIA and approval for deviation is dependant on findings of study.

Leslie Blair

- Median break driveway full opening and ¾ access points on Visalia Pkwy to be vetted out in TIA as they are too close to each other as shown on Sheet 3 of 4. See COV Design and Improvement Standard, P-12, Typical Median Break Locations.
- Dimensions and median are not shown on plan for Mooney Blvd. If any median break driveway ¾ access point locations are proposed on Mooney Blvd they need to be shown and be vetted out in TIA. If a ¾ median access is permitted on Mooney Blvd (require Caltrans approval), access drive to align with proposed development at SW corner of Mooney and Visalia Parkway (westside of Mooney Blvd). See COV Design and Improvement Standard, P-12, Typical Median Break Locations. Also reference is made to COV Design and Improvement Standard, C-32, Drive Approach Locations, Minimum distance from adjacent intersection is 200-ft and minimum distance between driveways is 500-ft.
- VMT analysis required

Leslie Blair

Leslie Blair

CITY OF VISALIA
SOLID WASTE DIVISION
336 N. BEN MADDOX
VISALIA CA. 93291
713 - 4500
COMMERCIAL BIN SERVICE

19167

	No comments.
XX	See comments below
XX	Revisions required prior to submitting final plans. See comments below.
	Resubmittal required. See comments below.
XX	Customer responsible for all cardboard and other bulky recyclables to be broken down before disposing of in recycle containers
XX	ALL refuse enclosures must be R-3 OR R-4
XX	Customer must provide combination or keys for access to locked gates/bins
	Type of refuse service not indicated.
	Location of bin enclosure not acceptable. See comments below.
	Bin enclosure not to city standards double.
	Inadequate number of bins to provide sufficient service. See comments below.
	Drive approach too narrow for refuse trucks access. See comments below.
	Area not adequate for allowing refuse truck turning radius of : Commercial 50 ft. outside 36 ft. inside; Residential 35 ft. outside, 20 ft. inside.
XX	Paved areas should be engineered to withstand a 55,000 lb. refuse truck.
XX	Bin enclosure gates are required
	Hammerhead turnaround must be built per city standards.
	Cul - de - sac must be built per city standards.
XX	Bin enclosures are for city refuse containers only. Grease drums or any other items are not allowed to be stored inside bin enclosures.
XX	Area in front of refuse enclosure must be marked off indicating no parking
XX	Enclosure will have to be designed and located for a STAB service (DIRECT ACCESS) with no less than 38' clear space in front of the bin, included the front concrete pad.
	Customer will be required to roll container out to curb for service.
XX	Must be a concrete slab in front of enclosure as per city standards, the width of the enclosure by ten(10) feet, minimum of six(6) inches in depth.
	Roll off compactor's must have a clearance of 3 feet from any wall on both sides and there must be a minimum of 53 feet clearance in front of the compactor to allow the truck enough room to provide service.
XX	City ordinance 8.28.120-130 (effective 07/19/18) requires contractor to contract with City for removal of construction debris unless transported in equipment owned by contractor or unless contracting with a franchise permittee for removal of debris utilizing roll-off boxes.
Comment	Customer to identify solid waste bin enclosure assigned to parcel #15. Once identified the bin enclosures must be R-3 or R4 (City Standard) enclosure and allow for stab load services, with no less than 38' clear space in front of bin, included the front concrete pad. Enclosure gates must open 180 degrees, clear all curbing, and include cain bolts.

Jason Serpa, Solid Waste Manager, 559-713-4533
Edward Zuniga, Solid Waste Supervisor, 559-713-4338

Nathan Garza, Solid Waste,559-713-4532

City of Visalia

315 E. Acequia Ave., Visalia, CA 93291

Site Plan Review

February 6, 2020

4Creeks, Inc.
Aaron Carpenter
324 S. Santa Fe St., Suite A
Visalia, CA 93292

Site Plan Review No. 2020-012:

Pursuant to Zoning Ordinance Chapter 17.28 the Site Plan Review process has found that your application complies with the general plan, municipal code, policies, and improvement standards of the city.

Based upon Zoning Ordinance Section 17.28.070, this is your Site Plan Review determination. However, your project requires discretionary action as stated on the attached Site Plan Review comments. You may now proceed with filing discretionary applications to the Planning Division.

This is your Site Plan Review Permit; your Site Plan Review became effective **January 29, 2020**. A site plan review permit shall lapse and become null and void one year following the date of approval unless, prior to the expiration of one year, a building permit is issued by the building official and construction is commenced and diligently pursued toward completion.

If you have any questions regarding this action, please call the Community Development Department at (559) 713-4359.

Respectfully,

Paul Bernal
City Planner
315 E. Acequia Ave.
Visalia, CA 93291

Attachment(s):

- Site Plan Review Comments

#1

MEETING DATE: January 29, 2020

SITE PLAN NO. 20-012

PARCEL MAP NO.

SUBDIVISION:

LOT LINE ADJUSTMENT NO.

Enclosed for your review are the comments and decisions of the Site Plan Review committee. Please review all comments since they may impact your project.

☐ **RESUBMIT** Major changes to your plans are required. Prior to accepting construction drawings for building permit, your project must return to the Site Plan Review Committee for review of the revised plans.

☐ During site plan design/policy concerns were identified, schedule a meeting with

☐ Planning ☐ Engineering prior to resubmittal plans for Site Plan Review.

☐ Solid Waste ☐ Parks and Recreation ☐ Fire Dept.

☉ **REVISE AND PROCEED** (see below)

☐ A revised plan addressing the Committee comments and revisions must be submitted for Off-Agenda Review and approval prior to submitting for building permits or discretionary actions.

☐ Submit plans for a building permit between the hours of 9:00 a.m. and 4:00 p.m., Monday through Friday.

☉ Your plans must be reviewed by:

☐ CITY COUNCIL ☐ REDEVELOPMENT

☉ PLANNING COMMISSION ☐ PARK/RECREATION

☉ CUP + ANNEXATION

☐ HISTORIC PRESERVATION ☐ OTHER: _____

☐ **ADDITIONAL COMMENTS :**

If you have any questions or comments, please call (559) 713-4444.

Site Plan Review Committee

RECYCLED PAPER

BUILDING/DEVELOPMENT PLAN REQUIREMENTS
ENGINEERING DIVISION

☒	**Adrian Rubalcaba**	**713-4271**
☐		**713-**

ITEM NO: 1 DATE: JANUARY 29, 2020

SITE PLAN NO.:	**20-012**
PROJECT TITLE:	**MOONEY BLVD/ VISALIA PKWY - MASTER CUP (NEW)**
DESCRIPTION:	**PROPOSING FOR THE APPLICATION OF AN ANNEXATION, MASTER CUP, AND TENTATIVE PARCEL MAP**
APPLICANT:	**AARON CARPENTER**
PROP OWNER:	**MOUW LANCE D & JAIME LEE (CO TRS)**
LOCATION:	**4308 S MOONEY BLVD**
APN:	**126-080-025, 056**

SITE PLAN REVIEW COMMENTS

☒ REQUIREMENTS (indicated by checked boxes)

☒ Install curb return with ramp, with ***35'*** radius; ***VISALIA PKWY & MIDVALLEY AT MOONEY. REFER TO CITY STDS***

☒ Install curb; ☒ gutter ***ALL PROJECT STREET FRONTAGES***

☒ Drive approach size: ***MAX 41'*** ☒ Use radius return; ***REFER TO CITY COMMERCIAL STDS***

☒ Sidewalk: ***10'*** width; ☒ ***5'*** parkway width at ***VISALIA PKWY, SEE ADDITIONAL COMMENTS.***

☐ Repair and/or replace any sidewalk across the public street frontage(s) of the subject site that has become uneven, cracked or damaged and may constitute a tripping hazard.

☐ Replace any curb and gutter across the public street frontage(s) of the subject site that has become uneven and has created areas where water can stand.

☒ Right-of-way dedication required. A title report is required for verification of ownership. ***BY MAP***

☐ Deed required prior to issuing building permit;

☒ City Encroachment Permit Required. ***FOR ALL WORK WITHIN CITY RIGHT-OF-WAY***
Insurance certificate with general & auto liability ($1 million each) and workers compensation ($1 million), valid business license, and appropriate contractor's license must be on file with the City, and valid Underground Service Alert # provided prior to issuing the permit. Contact Encroachment Tech. at 713-4414.

☒ CalTrans Encroachment Permit required. ☒ CalTrans comments required prior to issuing building permit. Contacts: David Deel (Planning) 488-4088; ***ALL WORK ON MOONEY BLVD.***

☒ Landscape & Lighting District/Home Owners Association required prior to approval of Final Map. Landscape & Lighting District will maintain common area landscaping, street lights, street trees and local streets as applicable. Submit completed Landscape and Lighting District application and filing fee a min. of 75 days before approval of Final Map.***COMMERCIAL PROJECT TO MAINTAIN ALL ONSITE AND PUBLIC PARKWAY LANDSCAPING. A LANDSCAPE AND LIGHTING DISTRICT WILL BE FORMED FOR CITY TO MAINTAIN PUBLIC STREET PAVEMENT AND STREET LIGHTING.***

☒ Landscape & irrigation improvement plans to be submitted for each phase. Landscape plans will need to comply with the City's street tree ordinance. The locations of street trees near intersections will need to comply with Plate SD-1 of the City improvement standards. A street tree and landscape master plan for all phases of the subdivision will need to be submitted with the initial phase to assist City staff in the formation of the landscape and lighting assessment district.

☒ Grading & Drainage plan required. If the project is phased, then a master plan is required for the entire project area that shall include pipe network sizing and grades and street grades. ☒ Prepared by registered civil engineer or project architect. ☒ All elevations shall be based on the City's benchmark network. Storm run-off from the project shall be handled as follows: a) ☒ directed to the City's existing storm drainage system; b) ☐ directed to a permanent on-site basin; or c) ☐ directed to a temporary on-site basin is required until a connection with adequate capacity is available to the City's storm drainage system. On-site basin: : maximum side slopes, perimeter fencing required, provide access ramp to bottom for maintenance.

☒ Grading permit is required for clearing and earthwork performed prior to issuance of the building permit.

☒ Show finish elevations. (Minimum slopes: A.C. pavement = 1%, Concrete pavement = 0.25%. Curb & Gutter = 0.20%, V-gutter = 0.25%)

☒Show adjacent property grade elevations. A retaining wall will be required for grade differences greater than 0.5 feet at the property line.

☒All public streets within the project limits and across the project frontage shall be improved to their full width, subject to available right of way, in accordance with City policies, standards and specifications. ***VISALIA PKWY (110' ARTERIAL), MOONEY BLVD (SEE CALTRANS DESIGN), MIDVALLEY (70' COLLECTOR), AND 60' LOCAL STREET.***

☒Traffic indexes per city standards: ***REFER TO CITY ARTERIAL, COLLECTOR, & LOCAL STREET STDS***

☒Install street striping as required by the City Engineer. ***TBD***

☒Install landscape curbing (typical at parking lot planters).

☒Minimum paving section for parking: 2" asphalt concrete paving over 4" Class 2 Agg. Base, or 4" concrete pavement over 2" sand.

☒Design Paving section to traffic index of 5.0 min. for solid waste truck travel path.

☒Provide "R" value tests: ***1*** each at ***300' INTERVALS***

☐Written comments required from ditch company Contacts: James Silva 747-1177 for Modoc, Persian, Watson, Oakes, Flemming, Evans Ditch and Peoples Ditch; Jerry Hill 686-3425 for Tulare Irrigation Canal, Packwood and Cameron Creeks; Bruce George 747-5601 for Mill Creek and St. John's River.

☐Access required on ditch bank, 15' minimum ☐ Provide wide riparian dedication from top of bank.

☒Show Valley Oak trees with drip lines and adjacent grade elevations. ☒ Protect Valley Oak trees during construction in accordance with City requirements.

☒A permit is required to remove Valley Oak trees. Contact Public Works Admin at 713-4428 for a Valley Oak tree evaluation or permit to remove. ☒ A pre-construction conference is required.

☒Relocate existing utility poles and/or facilities. ***REQUIRED WITH PUBLIC STREET CONSTRUCTION***

☒Underground all existing overhead utilities within the project limits. Existing overhead electrical lines over 50kV shall be exempt from undergrounding. ***ANY UTILITIES LOCATED IN FUTURE RIGHT-OF-WAY***

☐Subject to existing Reimbursement Agreement to reimburse prior developer:

☒ Fugitive dust will be controlled in accordance with the applicable rules of San Joaquin Valley Air District's Regulation VIII. Copies of any required permits will be provided to the City.

☒ If the project requires discretionary approval from the City, it may be subject to the San Joaquin Valley Air District's Rule 9510 Indirect Source Review per the rule's applicability criteria. A copy of the approved AIA application will be provided to the City.

☒If the project meets the one acre of disturbance criteria of the State's Storm Water Program, then coverage under General Permit Order 2009-0009-DWQ is required and a Storm Water Pollution Prevention Plan (SWPPP) is needed. A copy of the approved permit and the SWPPP will be provided to the City.

☒Comply with prior comments. ☐Resubmit with additional information. ☒Redesign required.

Additional Comments:

REFER TO PREVIOUS SITE COMMENTS, SPR NO. 19-167, IN ADDITION TO:

1. Proposed master planned development will be required to widen Visalia Pkwy & Mooney Blvd to their ultimate width which will include modification to existing signal. Refer to City arterial standards and Caltrans. Visalia Pkwy is identified as a funded arterial street in City's Circulation Element and portions of improvements are reimbursable by the City in the form of Transportation Impact Fee credits. Further coordination with City Engineer is required.

2. Per City Active Transportation Plan, a class 1 bike trail is designated along the south side of Visalia Pkwy. Master plan shall incorporate this trail design into the proposed mixed use layout - to be constructed with each phase. Revise accordingly. Class 1 trail design can be found on City website under Active Transportation Plan. Typically, widening of the required 7' sidewalk to 10' will be necessary.

3. A master plan for storm water and sewer to serve entire development will be required with phase one improvements. Per City storm sewer master plans at this time, the project can tie-into and extend from existing trunk lines in Visalia Pkwy.

4. Proposed drive approach locations and median breaks on Visalia Pkwy do not comply with City min. distance standards and will need to be consolidated. Consideration of main access points of existing development to the north and proposed median break locations will need to be addressed. Refer to Traffic Safety Dept. for further comments regarding access and median breaks. Applicant states that the substandard proposal on site plan will be further analyzed and vetted through the required TIA - to be submitted as part of the master CUP application. Further coordinate with City staff.

5. Maintain min. 200' setback distances from the intersections of Visalia Pkwy & Mooney Blvd. and Midvalley & Mooney for proposed drive approaches. Align proposed main entrance/exit with on Mooney with the development to the west.

6. Midvalley (Ave. 274), a 70' collector street, is not identified as a currently funded street in the City's Transportation Impact Fee program - costs to improve would be sole responsibility of the developer(s). The 70' collector design is no longer a City standard therefore a modified 84' City standard shall be implemented (further coordinate with City Engineer).

7. Midvalley shall be widened to its ultimate right-of-way along project street frontage. Extension of existing sewer stub at Mooney will be required across project frontage. Additional improvements, right-of-way, and transitional work will be required due to the centerline offset at Mooney intersection. Signal modifications may be required. Coordinate with City Engineer and Caltrans.

8. New development will incur impact fees associated with the acreage of improvements and building construction. Refer to page 4 for applicable fees.

9. The north/south local street as shown divided by tier boundaries will be required to be fully improved. As proposed, the right-of-way width is not a City standard at 86' wide. City circulation element does not identify a collector status street in this area therefore the proposed Hall St. can comply with City 60' local street standards.

10. All commercial developments shall have refuse enclosures located and positioned for a direct-service by a City Solid Waste vehicle.

11. Street lights shall be installed per City street lighting standards. Refer to City local, collector, and arterial standards. An electrical plan shall be incorporated into the offsite improvement plans.

12. Refer to project entitlement requirements by the Planning Dept. Revise site plan accordingly prior to CUP submittal.

13. Master CUP to incorporate Caltrans requirements on Mooney.

14. Site plan does not include and clearly show dimension of roadways, cross sections, and setback requirements. Provide this information with master CUP layout - to be further reviewed/confirmed by City Engineer.

15. City Transit Dept. will require a bus stop turnout on south side of Visalia Pkwy, immediately following the intersection at Mooney. Refer to further comments by the Transit Dept and City bus stop standards.

SUMMARY OF APPLICABLE DEVELOPMENT IMPACT FEES

Site Plan No: **20-012**
Date: **1/29/2020**

Summary of applicable Development Impact Fees to be collected at the time of building permit:

(Preliminary estimate only! Final fees will be based on the development fee schedule in effect at the time of building permit issuance.)

(Fee Schedule Date:**8/3/2019**)
(Project type for fee rates:**COMM. RETAIL**)

☐ Existing uses may qualify for credits on Development Impact Fees.

FEE ITEM	FEE RATE
☒ Groundwater Overdraft Mitigation Fee	**$1,320/AC**
☒ Transportation Impact Fee	**SHOPPING $14,878/1KSF FUELING STATION - REFER TO FEE SCHEDULE**
☒ Trunk Line Capacity Fee	**COMMERCIAL - VARIES PER USE TREATMENT PLANT FEE: VARIES PER USE**
☒ Sewer Front Foot Fee	**$44/LF X 4690 (MOONEY & VISALIA PKWY) = $206,360**
☒ Storm Drain Acq/Dev Fee	**$7,468/AC**
☐ Park Acq/Dev Fee	
☐ Northeast Specific Plan Fees	
☒ Waterways Acquisition Fee	**$5,483/AC**
☒ Public Safety Impact Fee: Police	**$8,849/AC**
☒ Public Safety Impact Fee: Fire	**$1,936/AC**
☒ Public Facility Impact Fee	**VARIES PER USE**
☐ Parking In-Lieu	

Reimbursement:

1.) No reimbursement shall be made except as provided in a written reimbursement agreement between the City and the developer entered into prior to commencement of construction of the subject facilities.
2.) Reimbursement is available for the development of arterial/collector streets as shown in the City's Circulation Element and funded in the City's transportation impact fee program. The developer will be reimbursed for construction costs and right of way dedications as outlined in Municipal Code Section 16.44. Reimbursement unit costs will be subject to those unit costs utilized as the basis for the transportation impact fee.
3.) Reimbursement is available for the construction of storm drain trunk lines and sanitary sewer trunk lines shown in the City's Storm Water Master Plan and Sanitary Sewer System Master Plan. The developer will be reimbursed for construction costs associated with the installation of these trunk lines.

Adrian Rubalcaba

SITE PLAN REVIEW COMMENTS

Paul Scheibel, Planning Division (559) 713-4369
Date: January 29, 2020

SITE PLAN NO:	2020-012
PROJECT TITLE:	Mooney Blvd./Visalia Pkwy – Master CUP
DESCRIPTION:	Proposing for the application of an Annexation, Master CUP and TPM
APPLICANT:	Aaron Carpenter
PROP. OWNER:	No County Data – MOUW Lance D & Jamie Lee (CO TRS)
LOCATION TITLE:	4308 S Mooney Blvd.
APN TITLE:	126-080-025 & 126-080-056
GENERAL PLAN:	CR (Regional Commercial)
ZONING:	C-R (Regional Commercial)

Planning Division Recommendation:

☒ Revise and Proceed
☐ Resubmit

Project Requirements

- Annexation
- Master Conditional Use Permit
- Rezone and General Plan Amendment
- Project IS subject to Rule 9510
- Project is subject to Tribal notification pursuant to State Law precedent to deeming applications complete. Project will require State Clearing House process for the environmental document because Caltrans is a Responsible Agency for the project (State highway)
- Additional Information as Needed

PROJECT SPECIFIC INFORMATION: January 29, 2020

1. A Master Conditional Use Permit is required for the proposed.
2. Please be advised the proposed entry points along Visalia Parkway are not consistent with current City Engineering standards. A determination of application completeness and recommendation to the Planning Commission for both the CUP and TPM will be contingent upon the project's access points being in agreement with the recommendations and conclusions of the City Traffic Engineer (and Caltrans relative to Mooney Blvd.)
3. Remove "Specialty Food Store" label from proposed buildings, unless the CUP application fully justifies the lab (e.g.- a qualifying named regional retailer, etc.)
4. Parking stall lines are required to have landscape islands at each ten spaces. Alternately, consider "diamond insert" tree wells at at least the same ratio of parking stalls shaded by trees.
5. Show method of restricting vehicle traffic onto undeveloped pads.
6. Demonstrate that drive-thru s provide a minimum ten spaces between order board and pick up window. Generally demonstrate full compliance of each drive-thru with ZO 17.32.162.
7. Consider methods of restricting vagrancy and panhandling at key locations within the project (such as the roundabout).

8. Proposed loading docks need to demonstrate their ability to serve the truck sizes intended to use the docks.
9. Meet all other Codes and Ordinances, and previous comments.

PROJECTSPECIFIC INFORMATION: January 22, 2020 (SPR 2019-167 B)

1. Provide an Operational Statement clearly describing the requested actions; including, limits of Annexation request.
2. Master CUP will be required, but will entitle the full commercial site.
3. Provide a new SPR number to this portion of the application, and a SPR application for the TPM portion of the project.

PROJECT SPECIFIC INFORMATION: September 18, 2019 (SPR 2019-167)

1. Staff cannot support the re-zoning of limited Regional Commercial lands in favor of single family residential zoning.
2. Staff cannot support Annexation of land for the above-noted purpose.
3. If the proponent elects to proceed despite the staff recommendation, it is highly encouraged that plans for the full development of the RC component be submitted in plan detail (minimum 24"x36" sheet (1:20 scale). To fully demonstrate project's ability to develop pursuant to the intent and requirements of the RC zone district.
4. Conduct annexation of property located within Tulare County jurisdiction.
5. Obtain a Conditional Use Permit.
6. File for a Tentative Subdivision Map.
7. File for a Rezone and General Plan amendment.

CITY GENERAL PLAN CONSISTENCY

- Staff initial finding is that the proposed site plan IS CONSISTENT with the City General Plan. Because a Parcel Map requires discretionary approval by the Planning Commission and/or City Council the final determination of consistency will be made by the Planning Commission and/or City Council.

17.18.070 Development standards in the C-R zone.

The following development standards shall apply to property located in the C-R zone:

A. Minimum site area: five (5) acres.

B. Maximum building height: fifty (50) feet.

C. Minimum required yards (building setbacks):

1. Front: twenty (20) feet;
2. Rear: zero (0) feet;
3. Rear yards abutting an R-1 or R-M zone district: fifteen (15) feet;
4. Side: zero (0) feet;
5. Side yards abutting an R-1 or R-M zone district: fifteen (15) feet;

6. Street side yard on corner lot: ten (10) feet.

D. Minimum required landscaped yard (setback) areas:

1. Front: twenty (20) feet;
2. Rear: five (5) feet;
3. Rear yards abutting an R-1 or R-M zone district: five (5) feet;
4. Side: five (5) feet (except where a building is located on side property line);
5. Side yards abutting an R-1 or R-M zone district: five (5) feet;
6. Street side on corner lot: ten (10) feet.

Parking:

1. Provide parking spaces based Zoning Ordinance Section 17.34.020
2. 30% of the required parking stalls may be compact and shall be evenly distributed in the lot.
3. Provide handicapped space(s).
4. An 80 sq. ft. minimum landscape well is required every 10 contiguous parking.
5. A planter is required every other row. (5-9 feet in width containing trees on twenty (20) foot centers.
6. No repair work or vehicle servicing allowed in a parking area.
7. It is highly recommended that bicycle rack(s) be provided on site plan.
8. No parking shall be permitted in a required front/rear/side yard.
9. Design/locate parking lot lighting to deflect any glare away from abutting residential areas.
10. Parking lot to be screened from view by a 3-foot tall solid wall or shrubs when located adjacent to a public street or when across from residential property.
11. Front carport area to have a 3 to 6-foot tall screening wall.
12. Provide shopping cart storage areas on site plan.
13. Provide transit facilities on site plan.
14. Provide shared parking/access agreements
15. Provide off-street loading facility.
16. The project should provide preferential parking spaces for carpools and vanpools to decrease the number of single occupant vehicle work trips. The preferential treatment could include covered parking spaces or close-in parking spaces, or designated free parking, or a guaranteed space for the vehicle.
17. Provide a "No Parking" (dead-head) stall at the end of the parking row (for rows over 6 stalls deep with no outlet) to allow vehicles to turn around rather than backing out if no stalls are available.

Fencing and Screening:

1. Provide screening for roof mounted equipment (Zoning Ordinance Section 17.30.130.F).
2. Provide second-story screening for all windows that may intrude into adjacent residential properties. Details and cross-sections will be required to be reviewed and approved prior to issuance of building permits (Zoning Ordinance Section 17.30.130.F).
3. Provide screened trash enclosure with solid screening gates (Zoning Ordinance Section 17.30.130.F).
4. Provide solid screening of all outdoor storage areas. Outdoor storage to be screened from public view with solid material (Zoning Ordinance Section 17.30.130.F).
5. Outdoor retail sales prohibited.
6. Cross Sections need to be provided for site Plan Review if there is greater than an 18-inch difference between the elevation of the subject site and the adjacent properties, and the sections would be required for the public hearing process also.

7. All outdoor storage areas are to be identified on the site plan and they are to be shown with screening (fencing). No materials may be stored above the storage area fence heights (Zoning Ordinance Section 17.30.130.F).
8. Provide minimum of _____-foot high concrete block wall or masonry wall along/around the following:_____
9. Provide minimum of _____-foot high solid wooden residential fence along/around the following:_____
10. Provide minimum of _____-foot high chain-link fence _____ with _____ without slats along/around the following: _____
11. If there is an anticipated grade difference of more than 12-inches between this site and the adjacent sites, a cross section of the difference and the walls must be provided as a part of the Subdivision and/or CUP application package.
12. NOTE: The maximum height of block walls and fences is 7-feet in the appropriate areas; this height is measured on the tallest side of the fence. If the height difference is such that the fence on the inside of the project site is not of sufficient height, the fence height should be discussed with Planning Staff prior to the filing of applications to determine if an Exception to fence/wall height should also be submitted.

Landscaping:

1. The City has adopted the State Water Efficient Landscape Ordinance. The ordinance applies to projects installing 2,500 square feet or more of landscaping. It requires that landscaping and irrigation plans be certified by a qualified entity (i.e., Landscape Architect) as meeting the State water conservation requirements. The City's implementation of this new State law will be accomplished by self-certification of the final landscape and irrigation plans by a California licensed landscape architect or other qualified entity with sections signed by appropriately licensed or certified persons as required by the ordinance. **NOTE: Prior to a final for the project, a signed Certificate of Compliance for the MWELO standards is required indicating that the landscaping has been installed to MWELO standards.**
2. Provide street trees at an average of 20-feet on center along street frontages. All trees to be 15-gallon minimum size (Zoning Ordinance Section 17.30.015-2).
3. In the P(R-M) multi-family residential zone, all multiple family developments shall have landscaping including plants, and ground cover to be consistent with surrounding landscaping in the vicinity. Landscape plans to be approved by city staff prior to installation and occupancy of use and such landscaping to be permanently maintained. (Zoning Ordinance Section 17.16.180)
4. All landscape areas to be protected with 6-inch concrete curbs (Zoning Ordinance Section 17.30.130.F).
5. All parking lots to be designed to provide a tree canopy to provide shade in the hot seasons and sunlight in the winter months.
6. Provide a detailed landscape and irrigation plan as a part of the building permit package (Zoning Ordinance Section 17.34.040).
7. An 80 sq. ft. minimum landscape well is required every 10 contiguous parking stalls (Zoning Ordinance Section 17.30.130.C).
8. Provide a detailed landscape and irrigation plan for review prior to issuance of building permits. Please review Zoning Ordinance section 17.30.130-C for current landscaping and irrigation requirements.
9. Provide a conceptual landscape plan for resubmittal or planning commission review.
10. Locate existing oak trees on site and provide protection for all oak trees greater than 2" diameter (see Oak Tree Preservation Ordinance).
11. Maintenance of landscaped areas. - A landscaped area provided in compliance with the regulations prescribed in this title or as a condition of a use permit or variance shall be planted with materials suitable for screening or ornamenting the site, whichever is

appropriate, and plant materials shall be maintained and replaced as needed, to screen or ornament the site. (Prior code § 7484)

Lighting:

1. All lighting is to be designed and installed so as to prevent any significant direct or indirect light or glare from falling upon any adjacent residential property. This will need to be demonstrated in the building plans and prior to final on the site.
2. Parking lot and drive aisle lighting adjacent to residential units or designated property should consider the use of 15-foot high light poles, with the light element to be completely recessed into the can. A reduction in the height of the light pole will assist in the reduction/elimination of direct and indirect light and glare which may adversely impact adjacent residential areas.
3. Building and security lights need to be shielded so that the light element is not visible from the adjacent residential properties, if any new lights are added or existing lights relocated.
4. NOTE: Failure to meet these lighting standards in the field will result in no occupancy for the building until the standards are met.
5. In no case shall more than 0.5 lumens be exceeded at any property line, and in cases where the adjacent residential unit is very close to the property line, 0.5 lumens may not be acceptable.

Drive-thru Performance Standards (Section 17.32.162)

A. Purpose and Intent: It is the purpose of this section to specify performance standards applicable to uses that seek to incorporate a drive-thru lane in associate with specified use. This section does not apply to carwashes and lube and oil changing stations.

B. Performance Standards:

1. Separation from residences: The drive-thru lane shall be no less than 250 feet from the nearest residence or residentially zoned property.
2. Stacking: The drive-thru lane shall contain no less than ten vehicle stacking, measured from the pickup window to the designated entrance to the drive-thru lane. There shall be no less than three vehicles spaces distance from the order menu/speaker (or like device) to the designated entrance to the order window.
3. Circulation: No portion of the drive-thru lane shall obstruct any drive aisles or required on-site parking. The drive thru shall not take ingress or egress from a local residential road.
4. Noise: no component or aspect of the drive-thru lane or its operation shall generate noise levels in excess of 60db between the hours of 7:00 p.m. and 6:00 a.m. daily.
5. Screening: The entire drive-thru lane shall be screened from adjacent street and residential view to a height of three feet. Screening devices shall be a combination of berming, hedge and landscape materials, and solid walls as approved by the City Planner.

Menu boards and signage: Shall be oriented or screened to avoid direct visibility from adjacent public

San Joaquin Valley Air Pollution Control District (SJVAPCD)

Please note that the project is subject to SJVAPCD Rule 9510. The applicant is encouraged to do early indirect source modeling consultation with the Air District

NOTE: Staff recommendations contained in this document are not to be considered support for a particular action or project unless otherwise stated in the comments. The comments found on this document pertain to the site plan submitted for review on the above referenced date. Any changes made to the plan submitted must be submitted for additional review.

Signature _____



SPR 20012
VISALIA PARKWAY
4308S MOONEY BLVD.

City of Visalia

Building: Site Plan Review Comments

NOTE: These are general comments and DO NOT constitute a complete plan check for your specific project
Please refer to the applicable California Code & local ordinance for additional requirements.

- ☐ A building permit will be required. ***For information call (559) 713-4444***
- ☐ Submit 1 digital set of professionally prepared plans and 1 set of calculations. (Small Tenant Improvements)
- ☐ Submit 1 digital set of plans prepared by an architect or engineer. Must comply with 2016 California Building Cod Sec. 2308 for conventional light-frame construction or submit 1 digital set of engineered calculations.
- ☐ Indicate abandoned wells, septic systems and excavations on construction plans.

You are responsible to ensure compliance with the following checked items:

- ☐ Meet State and Federal requirements for accessibility for persons with disabilities.
- ☐ A path of travel, parking and common area must comply with requirements for access for persons with disabilities.
- ☐ All accessible units required to be adaptable for persons with disabilities.
- ☐ Maintain sound transmission control between units minimum of 50 STC.
- ☐ Maintain fire-resistive requirements at property lines.
- ☐ A demolition permit & deposit is required. ***For information call (559) 713-4444***
- ☐ Obtain required permits from San Joaquin Valley Air Pollution Board. ***For information call (661) 392-5500***
- ☐ Plans must be approved by the Tulare County Health Department. ***For information call (559) 624-8011***
- ☐ Project is located in flood zone _____ * ☐ Hazardous materials report.
- ☐ Arrange for an on-site inspection. (Fee for inspection $157.00) ***For information call (559) 713-4444***
- ☐ School Development fees. Commercial $0.61 per square foot. Residential $3.79 per square foot.
- ☐ Park Development fee $_____, per unit collected with building permits.
- ☐ Additional address may be required for each structure located on the site. ***For information call (559) 713-4320***
- ☐ Acceptable as submitted
- ☐ No comments at this time

Additional comments: SEE PREVIOUS COMMENTS.

VAL GARCIA 1/28/20
Signature

Site Plan Comments Visalia Fire Department Corbin Reed, Fire Marshal 420 N. Burke Visalia CA 93292 559-713-4272 office prevention.division@visalia.city	Date Item # Site Plan # APN:	January 29, 2020 1 20012 126-080-025, 126-080-056

- The Site Plan Review comments are issued as **general overview** of your project. With further details, additional requirements will be enforced at the Plan Review stage. Please refer to the 2016 California Fire Code (CFC), 2016 California Building Codes (CBC) and City of Visalia Municipal Codes.

- Construction and demolition sites prior to and during construction shall comply with the following:
  - **Water supply** for fire protection, either temporary or permanent, shall be made available as soon as combustible materials arrive on the site. 2016 CFC 3312
  - Provide an all-weather, 20 feet width **construction access road** capable of holding a 75,000 pound fire apparatus. Fire apparatus access shall be provided within 100 feet of temporary or permanent fire department connections. 2016 CFC 3310

- Where a portion of the facility or building is more than 400 feet from a hydrant on a fire apparatus access road, **on-site fire hydrant(s)** shall be provided. 2016 CFC 507.5.1, App B and C

- A **fire apparatus access road(s)** shall be provided and extend within 150 feet of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility. Minimum turning radius for emergency fire apparatus shall be 20 feet inside radius and 43 feet outside radius. Fire apparatus access roads shall have an unobstructed width of not less than the following (2016 CFC 503.1.1)
  - 20 feet width, exclusive of shoulders (No Parking)
  - More than 26 feet width, exclusive of shoulders (No Parking one side)
  - More than 32 feet wide, exclusive of shoulders (Parking permitted on both sides)

- Locking **fire department connection (FDC) caps** are required. The caps shall be ordered using an approved Knox Authorization Order Form. The forms are located at the fire department administration office located at 420 N Burke, Visalia, CA 93292. 2016 CFC 912.4.1

- **Special comments:** See previous Site Plan Review comments.

Corbin Reed
Fire Marshal

City of Visalia
Police Department
303 S. Johnson St.
Visalia, CA 93292
(559) 713-4370

Date : 1-28-20
Item: SPR-20012
Site Plan: #1
Name: AGENT MCEWEN

SITE PLAN REVIEW COMMENTS

☒ No Comment at this time

☐ Request opportunity to comment or make recommendations as to safety issues as plans are developed.

☐ Public Safety Impact Fee:
Ordinance No. 2001-11 Chapter 16.48 of Title 16 of the Visalia Municipal Code
Effective date – August 17, 2001

Impact fees shall be imposed by the City pursuant to this Ordinance as a condition of or in conjunction with the approval of a development project. "New Development or Development Project" means any new building, structure or improvement of any parcels of land, upon which no like building, structure of improvement previously existed. *Refer to Engineering Site Plan comments for fee estimation.

☐ Not enough information provided. Please provide additional information pertaining to:

_____

☐ Territorial Reinforcement: Define property lines (private/public space).

_____

☐ Access Controlled / Restricted etc.:

_____

☐ Lighting Concerns:

_____

☐ Traffic Concerns:

_____

☐ Surveillance Issues:

_____

☐ Line of Sight Issues:

_____

☐ Other Concerns:

_____

SITE PLAN REVIEW COMMENTS

CITY OF VISALIA TRAFFIC SAFETY DIVISION

January 29, 2020

ITEM NO: 1
SITE PLAN NO: SPR20012
PROJECT TITLE: Mooney Blvd/Visalia Parkway - Master CUP (New)
DESCRIPTION: Proposing for the application of an Annexation, Master CUP and Tentative Parcel Map
APPLICANT: Aaron Carpenter
OWNER: NO COUNTY DATA
MOUW LANCE D & JAIME LEE(CO TRS)
APN: 126080025
126080056
LOCATION: 4308 S MOONEY BLVD

THE TRAFFIC DIVISION WILL PROHIBIT ON-STREET PARKING AS DEEMED NECESSARY

☐ No Comments

☐ See Previous Site Plan Comments

☒ Install Street Light(s) per City Standards.

☒ Install Street Name Blades at ***intersections*** Locations.

☒ Install Stop Signs at ***driveway exit*** Locations.

☒ Construct parking per City Standards PK-1 through PK-4.

☒ Construct drive approach per City Standards.

☒ Traffic Impact Analysis required (CUP)

☐ Provide more traffic information such as . Depending on development size, characteristics, etc., a TIA may be required.

☐ Additional traffic information required (Non Discretionary)

☐ Trip Generation - Provide documentation as to concurrence with General Plan.

☐ Site Specific - Evaluate access points and provide documentation of conformance with COV standards. If noncomplying, provide explanation.

☐ Traffic Impact Fee (TIF) Program - Identify improvments needed in concurrence with TIF.

Additional Comments:

- Per COV Design and Improvement Standard, C-32, Drive Approach Locations, Minimum distance from adjacent intersection is 200-ft and minimum distance between driveways is 500-ft. Note – Proposed plan does not meet COV design standards.
- Median break driveway ¾ access points on Visalia Pkwy to be vetted out in TIA as they are too close to intersection at Mooney and too close to each other. Several need to be eliminated. See COV Design and

Leslie Blair

Improvement Standard, P-12, Typical Median Break Locations. Proposed ¾ access points on southside of Visalia Pkwy should take into consideration major drive aisles on northside of Visalia Pkwy such as main drive aisle in front of Lowes and drive aisle for Costco.

- Median break driveway ¾ access point location on Mooney Blvd to be vetted out in TIA. If a ¾ median access is permitted on Mooney Blvd (require Caltrans approval), access drive to align with proposed development at SE corner of Mooney and Visalia Parkway (westside of Mooney Blvd). See COV Design and Improvement Standard, P-12, Typical Median Break Locations.

Leslie Blair

20-012

CITY OF VISALIA
SOLID WASTE DIVISION
336 N. BEN MADDOX
VISALIA CA. 93291
713 - 4500

COMMERCIAL BIN SERVICE

20012

	No comments.
XX	See comments below
XX	Revisions required prior to submitting final plans. See comments below.
	Resubmittal required. See comments below.
XX	Customer responsible for all cardboard and other bulky recyclables to be broken down before disposing of in recycle containers
XX	ALL refuse enclosures must be R-3 OR R-4
XX	Customer must provide combination or keys for access to locked gates/bins
XX	Type of refuse service not indicated.
XX	Location of bin enclosure not acceptable. See comments below.
	Bin enclosure not to city standards double.
XX	Inadequate number of bins to provide sufficient service. See comments below.
	Drive approach too narrow for refuse trucks access. See comments below.
XX	Area not adequate for allowing refuse truck turning radius of : Commercial 50 ft. outside 36 ft. inside; Residential 35 ft. outside, 20 ft. inside.
XX	Paved areas should be engineered to withstand a 55,000 lb. refuse truck.
XX	Bin enclosure gates are required
	Hammerhead turnaround must be built per city standards.
	Cul - de - sac must be built per city standards.
XX	Bin enclosures are for city refuse containers only. Grease drums or any other items are not allowed to be stored inside bin enclosures.
XX	Area in front of refuse enclosure must be marked off indicating no parking
XX	Enclosure will have to be designed and located for a STAB service (DIRECT ACCESS) with no less than 38' clear space in front of the bin, included the front concrete pad.
	Customer will be required to roll container out to curb for service.
XX	Must be a concrete slab in front of enclosure as per city standards, the width of the enclosure by ten(10) feet, minimum of six(6) inches in depth.
XX	Roll off compactor's must have a clearance of 3 feet from any wall on both sides and there must be a minimum of 53 feet clearance in front of the compactor to allow the truck enough room to provide service.
XX	City ordinance 8.28.120-130 (effective 07/19/18) requires contractor to contract with City for removal of construction debris unless transported in equipment owned by contractor or unless contracting with a franchise permittee for removal of debris utilizing roll-off boxes.
Comment	Same as previous comments on your old SPR 19167

Jim Ross, Solid Waste Manager, 559-713-4533
Edward Zuniga, Solid Waste Supervisor, 559-713-4338

Site Plan Review Comments From:	Date: 01/29/2020
California Water Service Stuart Skoglund, Superintendent 216 N Valley Oaks Dr Visalia, CA 93292 559-624-1662 Office 559-735-3189 Fax	Item # 1 Site Plan # 20-0012 Project: SEC Mooney/Visalia Pkwy annexation Description: Applicant: Location: 4308 S Mooney APN:

The following comments are applicable when checked:

☒ No additional comments at this time. See comments from 9-18-19 site plan # 19-167.

☐ Fire Hydrants
Comments-

☐ Services
Comments-

☐ Mains
Comments-

☐ Backflow Requirements
Comments-

Additional Comments:

☐

Stuart Skoglund
Superintendent

City of Visalia

315 E. Acequia Ave., Visalia, CA 93291

Site Plan Review

February 6, 2020

4Creeks, Inc.
Aaron Carpenter
324 S. Santa Fe St., Suite A
Visalia, CA 93292

Site Plan Review No. 2020-013:

Pursuant to Zoning Ordinance Chapter 17.28 the Site Plan Review process has found that your application complies with the general plan, municipal code, policies, and improvement standards of the city.

Based upon Zoning Ordinance Section 17.28.070, this is your Site Plan Review determination. However, your project requires discretionary action as stated on the attached Site Plan Review comments. You may now proceed with filing discretionary applications to the Planning Division.

This is your Site Plan Review Permit; your Site Plan Review became effective **January 29, 2020**. A site plan review permit shall lapse and become null and void one year following the date of approval unless, prior to the expiration of one year, a building permit is issued by the building official and construction is commenced and diligently pursued toward completion.

If you have any questions regarding this action, please call the Community Development Department at (559) 713-4359.

Respectfully,

Paul Bernal
City Planner
315 E. Acequia Ave.
Visalia, CA 93291

Attachment(s):

- Site Plan Review Comments

#2

MEETING DATE: January 29, 2020
SITE PLAN NO. 20-013
PARCEL MAP NO.
SUBDIVISION:
LOT LINE ADJUSTMENT NO.

Enclosed for your review are the comments and decisions of the Site Plan Review committee. Please review all comments since they may impact your project.

☐ **RESUBMIT** Major changes to your plans are required. Prior to accepting construction drawings for building permit, your project must return to the Site Plan Review Committee for review of the revised plans.

☐ During site plan design/policy concerns were identified, schedule a meeting with

☐ Planning ☐ Engineering prior to resubmittal plans for Site Plan Review.

☐ Solid Waste ☐ Parks and Recreation ☐ Fire Dept.

☉ **REVISE AND PROCEED** (see below)

☐ A revised plan addressing the Committee comments and revisions must be submitted for Off-Agenda Review and approval prior to submitting for building permits or discretionary actions.

☐ Submit plans for a building permit between the hours of 9:00 a.m. and 4:00 p.m., Monday through Friday.

☉ Your plans must be reviewed by:

☐ CITY COUNCIL ☐ REDEVELOPMENT

☉ PLANNING COMMISSION ☐ PARK/RECREATION

☉ TPM

☐ HISTORIC PRESERVATION ☐ OTHER: _____

☐ **ADDITIONAL COMMENTS :**

If you have any questions or comments, please call (559) 713-4444.

Site Plan Review Committee

RECYCLED PAPER

SUBDIVISION & PARCEL MAP REQUIREMENTS
ENGINEERING DIVISION

☒	**Adrian Rubalcaba**	**713-4271**
☐	**Diego Corvera**	**713-4209**

ITEM NO: 2 DATE: JANUARY 29, 2020

SITE PLAN NO.:	**20-013**
PROJECT TITLE:	**MOONEY BLVD / VISALIA PKWY - TENTATIVE PARCEL MAP**
DESCRIPTION:	**PROPOSING TO DIVIDE A 44.8 AC SITE INTO 24 PARCELS**
APPLICANT:	**AARON CARPENTER**
PROP. OWNER:	**MOUW LANCE D & JAIME LEE (CO TRS)**
LOCATION:	
APN:	**126-080-025, 056**

SITE PLAN REVIEW COMMENTS

☒ REQUIREMENTS (Indicated by checked boxes)

☐ Submit improvements plans detailing all proposed work; ☐ Subdivision Agreement will detail fees & bonding requirements

☐ Bonds, certificate of insurance, cash payment of fees/inspection, and approved map & plan required prior to approval of Final Map.

☒ The Final Map & Improvements shall conform to the Subdivision Map Act, the City's Subdivision Ordinance and Standard Improvements.

☐ A preconstruction conference is required prior to the start of any construction.

☒ Right-of-way dedication required. A title report is required for verification of ownership. ☒ by map ☐ by deed ***VISALIA PKWY, MOONEY BLVD, LOCAL STREET, AND MIDVALLEY***

☐ City Encroachment Permit Required which shall include an approved traffic control plan.

☒ CalTrans Encroachment Permit Required. ☒ CalTrans comments required prior to tentative parcel map approval. CalTrans contacts: David Deel (Planning) 488-4088

☒ Landscape & Lighting District/Home Owners Association required prior to approval of Final Map. Landscape & Lighting District will maintain common area landscaping, street lights, street trees and local streets as applicable. Submit completed Landscape and Lighting District application and filing fee a min. of 75 days before approval of Final Map. ***REFER TO SPR NO 20-012 COMMENTS***

☐ Landscape & irrigation improvement plans to be submitted for each phase. Landscape plans will need to comply with the City's street tree ordinance. The locations of street trees near intersections will need to comply with Plate SD-1 of the City improvement standards. A street tree and landscape master plan for all phases of the subdivision will need to be submitted with the initial phase to assist City staff in the formation of the landscape and lighting assessment district.

☐ Dedicate landscape lots to the City that are to be maintained by the Landscape & Lighting District.

☐ Northeast Specific Plan Area: Application for annexation into Northeast District required 75 days prior to Final Map approval.

☐ Written comments required from ditch company. Contacts: James Silva 747-1177 for Modoc, Persian, Watson, Oakes, Flemming, Evans Ditch and Peoples Ditches; Paul Hendrix 686-3425 for Tulare Irrigation Canal, Packwood and Cameron Creeks; Bruce George 747-5601 for Mill Creek and St. John's River.

☐ Final Map & Improvements shall conform to the City's Waterways Policy. ☐ Access required on ditch bank, 12' minimum. ☐ Provide wide riparian dedication from top of bank.

☒ Sanitary Sewer master plan for the entire development shall be submitted for approval prior to approval of any portion of the system. The sewer system will need to be extended to the boundaries of the development where future connection and extension is anticipated. The sewer system will need to be sized to serve any future developments that are anticipated to connect to the system. ***REQUIRED WITH MASTER DEVELOPMENT PLAN, SPR NO. 20-012***

☐ Grading & Drainage plan required. If the project is phased, then a master plan is required for the entire project area that shall include pipe network sizing and grades and street grades. ☐ Prepared by registered civil engineer or project architect. ☐ All elevations shall be based on the City's benchmark network. Storm run-off from the project shall be handled as follows: a) ☐ directed to the City's existing storm drainage system; b) ☐ directed to a permanent on-site basin; or c) ☐ directed to a temporary on-site basin is

required until a connection with adequate capacity is available to the City's storm drainage system. On-site basin: : maximum side slopes, perimeter fencing required, provide access ramp to bottom for maintenance.

☐Show Valley Oak trees with drip lines and adjacent grade elevations. ☐ Protect Valley Oak trees during construction in accordance with City requirements. ☐A permit is required to remove Valley Oak trees. Contact Public Works Admin at (559)713-4428 for a Valley Oak tree evaluation or permit to remove. ☐ Valley Oak tree evaluations by a certified arborist are required to be submitted to the City in conjunction with the tentative map application. ☐ A pre-construction conference is required.

☐Show adjacent property grade elevations on improvement plans. A retaining wall will be required for grade differences greater than 0.5 feet at the property line.

☐Relocate existing utility poles and/or facilities.

☐Underground all existing overhead utilities within the project limits. Existing overhead electrical lines over 50kV shall be exempt from undergrounding.

☐Provide "R" value tests: each at

☐Traffic indexes per city standards:

☐All public streets within the project limits and across the project frontage shall be improved to their full width, subject to available right of way, in accordance with City policies, standards and specifications.

☐All lots shall have separate drive approaches constructed to City Standards.

☐Install street striping as required by the City Engineer.

☐Install sidewalk: ft. wide, with ft. wide parkway on

☐Cluster mailbox supports required at 1 per 2 lots, or use postal unit (contact the Postmaster at 732-8073).

☐Subject to existing Reimbursement Agreement to reimburse prior developer:

☐Abandon existing wells per City of Visalia Code. A building permit is required.

☐Remove existing irrigation lines & dispose off-site. ☐Remove existing leach fields and septic tanks.

☒ Fugitive dust will be controlled in accordance with the applicable rules of San Joaquin Valley Air District's Regulation VIII. Copies of any required permits will be provided to the City.

☒ If the project requires discretionary approval from the City, it may be subject to the San Joaquin Valley Air District's Rule 9510 Indirect Source Review per the rule's applicability criteria. A copy of the approved AIA application will be provided to the City.

☒If the project meets the one acre of disturbance criteria of the State's Storm Water Program, then coverage under General Permit Order 2009-0009-DWQ is required and a Storm Water Pollution Prevention Plan (SWPPP) is needed. A copy of the approved permit and the SWPPP will be provided to the City.

☐Comply with prior comments ☐Resubmit with additional information ☒Redesign required

Additional Comments:

1. Proposed tentative map to include all common easement and access areas onsite.

2. Tentative parcel map to comply with associated development plan requirements conditioned with SPR No. 20-012 and master plan entitlements.

3. Right-of-way and easement dedications to be determined and dedicated on the map based on underlying development plan, City and Caltrans street design standards, and any other circumstances not depicted on site plan layout.

4. Development impact fees can be deferred until time of development of each parcel or development phase.

5. Standard map filing fees apply.

SUMMARY OF APPLICABLE DEVELOPMENT IMPACT FEES

Site Plan No: **20-013**
Date: **1/29/2020**

Summary of applicable Development Impact Fees to be collected at the time of final/parcel map recordation:

(Preliminary estimate only! Final fees will be based on approved subdivision map & improvements plans and the fee schedule in effect at the time of recordation.)

(Fee Schedule Date:**8/3/2019**)
(Project type for fee rates:**TPM**)

☐ Existing uses may qualify for credits on Development Impact Fees.

FEE ITEM	FEE RATE
☒ Trunk Line Capacity Fee	
☒ Sewer Front Foot Fee	
☒ Storm Drainage Acquisition Fee	
☐ Park Acquisition Fee	
☐ Northeast Acquisition Fee Total Storm Drainage Block Walls Parkway Landscaping Bike Paths	
☒ Waterways Acquisition Fee	

Additional Development Impact Fees will be collected at the time of issuance of building permits.

City Reimbursement:

1.) No reimbursement shall be made except as provided in a written reimbursement agreement between the City and the developer entered into prior to commencement of construction of the subject planned facilities.
2.) Reimbursement is available for the development of arterial/collector streets as shown in the City's Circulation Element and funded in the City's transportation impact fee program. The developer will be reimbursed for construction costs and right of way dedications as outlined in Municipal Code Section 16.44. Reimbursement unit costs will be subject to those unit costs utilized as the basis for the transportation impact fee.
3.) Reimbursement is available for the construction of storm drain trunk lines and sanitary sewer trunk lines shown in the City's Storm Water Master Plan and Sanitary Sewer System Master Plan. The developer will be reimbursed for construction costs associated with the installation of these trunk lines.

Adrian Rubalcaba

SITE PLAN REVIEW COMMENTS

Paul Scheibel, Planning Division (559) 713-4369
Date: January 29, 2020

SITE PLAN NO:	2020-013
PROJECT TITLE:	Mooney Blvd./Visalia Pkwy – Tentative Parcel Map
DESCRIPTION:	Proposing to divide a 44.8 acre site into 24 parcels
APPLICANT:	Aaron Carpenter
PROP. OWNER:	No County Data – MOUW Lance D & Jamie Lee (CO TRS)
LOCATION TITLE:	4308 S Mooney Blvd.
APN TITLE:	126-080-025 & 126-080-056
GENERAL PLAN:	CR (Regional Commercial)
ZONING:	C-R (Regional Commercial)

Planning Division Recommendation:

☒ Revise and Proceed
☐ Resubmit

Project Requirements

- Annexation
- Tentative Parcel Map
- Project IS subject to Rule 9510
- Project is subject to Tribal notification pursuant to State Law precedent to deeming applications complete. Project will require State Clearing House process for the environmental document because Caltrans is a Responsible Agency for the project (State highway)
- Additional Information as Needed

PROJECT SPECIFIC INFORMATION: January 29, 2020

1. A Tentative Parcel Map is required for the proposed parcel split.
2. Please be advised the proposed entry points along Visalia Parkway are not consistent with current City Engineering standards. A determination of application completeness and recommendation to the Planning Commission for both the CUP and TPM will be contingent upon the project's access points being in agreement with the recommendations and conclusions of the City Traffic Engineer (and Caltrans relative to Mooney Blvd.)
3.
4. Meet all other Codes and Ordinances.

PROJECTSPECIFIC INFORMATION: January 22, 2020 (SPR 2019-167 B)

1. Provide an Operational Statement clearly describing the requested actions; including, limits of Annexation request.
2. Master CUP will be required, but will entitle the full commercial site.
3. Provide a new SPR number to this portion of the application, and a SPR application for the TPM portion of the project.

PROJECT SPECIFIC INFORMATION: September 18, 2019 (SPR 2019-167)

1. Staff cannot support the re-zoning of limited Regional Commercial lands in favor of single family residential zoning. 2. Staff cannot support Annexation of land for the above-noted purpose. 3. If the proponent elects to proceed despite the staff recommendation, it is highly encouraged that plans for the full development of the RC component be submitted in plan detail (minimum 24"x36" sheet (1:20 scale). To fully demonstrate project's ability to develop pursuant to the intent and requirements of the RC zone district. 4. Conduct annexation of property located within Tulare County jurisdiction. 5. Obtain a Conditional Use Permit. 6. File for a Tentative Subdivision Map.
File for a Rezone and General Plan amendment.

CITY GENERAL PLAN CONSISTENCY

- Staff initial finding is that the proposed site plan IS CONSISTENT with the City General Plan. Because a Parcel Map requires discretionary approval by the Planning Commission and/or City Council the final determination of consistency will be made by the Planning Commission and/or City Council.

17.18.070 Development standards in the C-R zone.

The following development standards shall apply to property located in the C-R zone:

A. Minimum site area: five (5) acres.

B. Maximum building height: fifty (50) feet.

C. Minimum required yards (building setbacks):

1. Front: twenty (20) feet;
2. Rear: zero (0) feet;
3. Rear yards abutting an R-1 or R-M zone district: fifteen (15) feet;
4. Side: zero (0) feet;
5. Side yards abutting an R-1 or R-M zone district: fifteen (15) feet;
6. Street side yard on corner lot: ten (10) feet.

D. Minimum required landscaped yard (setback) areas:

1. Front: twenty (20) feet;
2. Rear: five (5) feet;
3. Rear yards abutting an R-1 or R-M zone district: five (5) feet;
4. Side: five (5) feet (except where a building is located on side property line);
5. Side yards abutting an R-1 or R-M zone district: five (5) feet;
6. Street side on corner lot: ten (10) feet.

Parking:

1. Provide parking spaces based Zoning Ordinance Section 17.34.020
2. 30% of the required parking stalls may be compact and shall be evenly distributed in the lot.
3. Provide handicapped space(s).
4. An 80 sq. ft. minimum landscape well is required every 10 contiguous parking.
5. A planter is required every other row. (5-9 feet in width containing trees on twenty (20) foot centers.
6. No repair work or vehicle servicing allowed in a parking area.
7. It is highly recommended that bicycle rack(s) be provided on site plan.
8. No parking shall be permitted in a required front/rear/side yard.
9. Design/locate parking lot lighting to deflect any glare away from abutting residential areas.
10. Parking lot to be screened from view by a 3-foot tall solid wall or shrubs when located adjacent to a public street or when across from residential property.
11. Front carport area to have a 3 to 6-foot tall screening wall.
12. Provide shopping cart storage areas on site plan.
13. Provide transit facilities on site plan.
14. Provide shared parking/access agreements
15. Provide off-street loading facility.
16. The project should provide preferential parking spaces for carpools and vanpools to decrease the number of single occupant vehicle work trips. The preferential treatment could include covered parking spaces or close-in parking spaces, or designated free parking, or a guaranteed space for the vehicle.
17. Provide a "No Parking" (dead-head) stall at the end of the parking row (for rows over 6 stalls deep with no outlet) to allow vehicles to turn around rather than backing out if no stalls are available.

Fencing and Screening:

1. Provide screening for roof mounted equipment (Zoning Ordinance Section 17.30.130.F).
2. Provide second-story screening for all windows that may intrude into adjacent residential properties. Details and cross-sections will be required to be reviewed and approved prior to issuance of building permits (Zoning Ordinance Section 17.30.130.F).
3. Provide screened trash enclosure with solid screening gates (Zoning Ordinance Section 17.30.130.F).
4. Provide solid screening of all outdoor storage areas. Outdoor storage to be screened from public view with solid material (Zoning Ordinance Section 17.30.130.F).
5. Outdoor retail sales prohibited.
6. Cross Sections need to be provided for site Plan Review if there is greater than an 18-inch difference between the elevation of the subject site and the adjacent properties, and the sections would be required for the public hearing process also.
7. All outdoor storage areas are to be identified on the site plan and they are to be shown with screening (fencing). No materials may be stored above the storage area fence heights (Zoning Ordinance Section 17.30.130.F).
8. Provide minimum of _____-foot high concrete block wall or masonry wall along/around the following:_____
9. Provide minimum of _____-foot high solid wooden residential fence along/around the following:_____
10. Provide minimum of _____-foot high chain-link fence _____ with _____ without slats along/around the following: _____
11. If there is an anticipated grade difference of more than 12-inches between this site and the adjacent sites, a cross section of the difference and the walls must be provided as a part of the Subdivision and/or CUP application package.
12. NOTE: The maximum height of block walls and fences is 7-feet in the appropriate areas; this height is measured on the tallest side of the fence. If the height difference is such that the fence on the inside of the project site is not of sufficient height, the fence height should be

discussed with Planning Staff prior to the filing of applications to determine if an Exception to fence/wall height should also be submitted.

Landscaping:

1. The City has adopted the State Water Efficient Landscape Ordinance. The ordinance applies to projects installing 2,500 square feet or more of landscaping. It requires that landscaping and irrigation plans be certified by a qualified entity (i.e., Landscape Architect) as meeting the State water conservation requirements. The City's implementation of this new State law will be accomplished by self-certification of the final landscape and irrigation plans by a California licensed landscape architect or other qualified entity with sections signed by appropriately licensed or certified persons as required by the ordinance. **NOTE: Prior to a final for the project, a signed Certificate of Compliance for the MWELO standards is required indicating that the landscaping has been installed to MWELO standards.**
2. Provide street trees at an average of 20-feet on center along street frontages. All trees to be 15-gallon minimum size (Zoning Ordinance Section 17.30.015-2).
3. In the P(R-M) multi-family residential zone, all multiple family developments shall have landscaping including plants, and ground cover to be consistent with surrounding landscaping in the vicinity. Landscape plans to be approved by city staff prior to installation and occupancy of use and such landscaping to be permanently maintained. (Zoning Ordinance Section 17.16.180)
4. All landscape areas to be protected with 6-inch concrete curbs (Zoning Ordinance Section 17.30.130.F).
5. All parking lots to be designed to provide a tree canopy to provide shade in the hot seasons and sunlight in the winter months.
6. Provide a detailed landscape and irrigation plan as a part of the building permit package (Zoning Ordinance Section 17.34.040).
7. An 80 sq. ft. minimum landscape well is required every 10 contiguous parking stalls (Zoning Ordinance Section 17.30.130.C).
8. Provide a detailed landscape and irrigation plan for review prior to issuance of building permits. Please review Zoning Ordinance section 17.30.130-C for current landscaping and irrigation requirements.
9. Provide a conceptual landscape plan for resubmittal or planning commission review.
10. Locate existing oak trees on site and provide protection for all oak trees greater than 2" diameter (see Oak Tree Preservation Ordinance).
11. Maintenance of landscaped areas. - A landscaped area provided in compliance with the regulations prescribed in this title or as a condition of a use permit or variance shall be planted with materials suitable for screening or ornamenting the site, whichever is appropriate, and plant materials shall be maintained and replaced as needed, to screen or ornament the site. (Prior code § 7484)

Lighting:

1. All lighting is to be designed and installed so as to prevent any significant direct or indirect light or glare from falling upon any adjacent residential property. This will need to be demonstrated in the building plans and prior to final on the site.
2. Parking lot and drive aisle lighting adjacent to residential units or designated property should consider the use of 15-foot high light poles, with the light element to be completely recessed into the can. A reduction in the height of the light pole will assist in the reduction/elimination of direct and indirect light and glare which may adversely impact adjacent residential areas.
3. Building and security lights need to be shielded so that the light element is not visible from the adjacent residential properties, if any new lights are added or existing lights relocated.
4. NOTE: Failure to meet these lighting standards in the field will result in no occupancy for the building until the standards are met.

5. In no case shall more than 0.5 lumens be exceeded at any property line, and in cases where the adjacent residential unit is very close to the property line, 0.5 lumens may not be acceptable.

Drive-thru Performance Standards (Section 17.32.162)

A. Purpose and Intent: It is the purpose of this section to specify performance standards applicable to uses that seek to incorporate a drive-thru lane in associate with specified use. This section does not apply to carwashes and lube and oil changing stations.

B. Performance Standards:

1. Separation from residences: The drive-thru lane shall be no less than 250 feet from the nearest residence or residentially zoned property.
2. Stacking: The drive-thru lane shall contain no less than ten vehicle stacking, measured from the pickup window to the designated entrance to the drive-thru lane. There shall be no less than three vehicles spaces distance from the order menu/speaker (or like device) to the designated entrance to the order window.
3. Circulation: No portion of the drive-thru lane shall obstruct any drive aisles or required on-site parking. The drive thru shall not take ingress or egress from a local residential road.
4. Noise: no component or aspect of the drive-thru lane or its operation shall generate noise levels in excess of 60db between the hours of 7:00 p.m. and 6:00 a.m. daily.
5. Screening: The entire drive-thru lane shall be screened from adjacent street and residential view to a height of three feet. Screening devices shall be a combination of berming, hedge and landscape materials, and solid walls as approved by the City Planner.

Menu boards and signage: Shall be oriented or screened to avoid direct visibility from adjacent public

San Joaquin Valley Air Pollution Control District (SJVAPCD)

Please note that the project is subject to SJVAPCD Rule 9510. The applicant is encouraged to do early indirect source modeling consultation with the Air District

NOTE: Staff recommendations contained in this document are not to be considered support for a particular action or project unless otherwise stated in the comments. The comments found on this document pertain to the site plan submitted for review on the above referenced date. Any changes made to the plan submitted must be submitted for additional review.

Signature 


N
S

SPR 20013
VISALIA PARKWAY
126080025
126080056

City of Visalia

Building: Site Plan Review Comments

NOTE: These are general comments and DO NOT constitute a complete plan check for your specific project Please refer to the applicable California Code & local ordinance for additional requirements.

- ☐ A building permit will be required. ***For information call (559) 713-4444***
- ☐ Submit 1 digital set of professionally prepared plans and 1 set of calculations. (Small Tenant Improvements)
- ☐ Submit 1 digital set of plans prepared by an architect or engineer. Must comply with 2016 California Building Cod Sec. 2308 for conventional light-frame construction or submit 1 digital set of engineered calculations.
- ☐ Indicate abandoned wells, septic systems and excavations on construction plans.

You are responsible to ensure compliance with the following checked items:

- ☐ Meet State and Federal requirements for accessibility for persons with disabilities.
- ☐ A path of travel, parking and common area must comply with requirements for access for persons with disabilities.
- ☐ All accessible units required to be adaptable for persons with disabilities.
- ☐ Maintain sound transmission control between units minimum of 50 STC.
- ☐ Maintain fire-resistive requirements at property lines.
- ☐ A demolition permit & deposit is required. ***For information call (559) 713-4444***
- ☐ Obtain required permits from San Joaquin Valley Air Pollution Board. ***For information call (661) 392-5500***
- ☐ Plans must be approved by the Tulare County Health Department. ***For information call (559) 624-8011***
- ☐ Project is located in flood zone _____ * ☐ Hazardous materials report.
- ☐ Arrange for an on-site inspection. (Fee for inspection $157.00) ***For information call (559) 713-4444***
- ☐ School Development fees. Commercial $0.61 per square foot. Residential $3.79 per square foot.
- ☐ Park Development fee $_____, per unit collected with building permits.
- ☐ Additional address may be required for each structure located on the site. ***For information call (559) 713-4320***
- ☐ Acceptable as submitted
- ☐ No comments at this time

Additional comments: SEE PREVIOUS COMMENTS.

VAL GARCIA 1/29/20

Signature

Site Plan Comments
Visalia Fire Department
Corbin Reed, Fire Marshal
420 N. Burke
Visalia CA 93292
559-713-4272 office
prevention.division@visalia.city

Date	January 29, 2020
Item #	2
Site Plan #	20-013
APN:	126-080-025,126-080-056

- The Site Plan Review comments are issued as **general overview** of your project. With further details, additional requirements will be enforced at the Plan Review stage. Please refer to the 2016 California Fire Code (CFC), 2016 California Building Codes (CBC) and City of Visalia Municipal Codes.

- Fire protection items are not required to be installed for **parcel map or lot line adjustment** at this time; however, any developments taking place on these parcels will be subject to fire & life safety requirements including fire protection systems and fire hydrants in accordance with all applicable sections of the California Fire Code.

Corbin Reed
Fire Marshal

City of Visalia
Police Department
303 S. Johnson St.
Visalia, CA 93292
(559) 713-4370

Date : 1-28-20
Item: #2
Site Plan: SPR-20013
Name: AGENT MCEWEN

SITE PLAN REVIEW COMMENTS

☒ No Comment at this time

☐ Request opportunity to comment or make recommendations as to safety issues as plans are developed.

☐ Public Safety Impact Fee:
Ordinance No. 2001-11 Chapter 16.48 of Title 16 of the Visalia Municipal Code
Effective date – August 17, 2001

Impact fees shall be imposed by the City pursuant to this Ordinance as a condition of or in conjunction with the approval of a development project. "New Development or Development Project" means any new building, structure or improvement of any parcels of land, upon which no like building, structure of improvement previously existed. *Refer to Engineering Site Plan comments for fee estimation.

☐ Not enough information provided. Please provide additional information pertaining to:

_____

☐ Territorial Reinforcement: Define property lines (private/public space).

_____

☐ Access Controlled / Restricted etc.:

_____

☐ Lighting Concerns:

_____

☐ Traffic Concerns:

_____

☐ Surveillance Issues:

_____

☐ Line of Sight Issues:

_____

☐ Other Concerns:

_____

SITE PLAN REVIEW COMMENTS

CITY OF VISALIA TRAFFIC SAFETY DIVISION

January 29, 2020

ITEM NO: 2
SITE PLAN NO: SPR20013
PROJECT TITLE: Mooney Blvd/Visalia Pkway-Tentative Parcel Map
DESCRIPTION: Proposing to Divide a 44.8 Acre Site into 24 Parcels.
APPLICANT: Aaron Carpenter
OWNER: NO COUNTY DATA
MOUW LANCE D & JAIME LEE(CO TRS)
APN: 126080025
126080056
LOCATION:

THE TRAFFIC DIVISION WILL PROHIBIT ON-STREET PARKING AS DEEMED NECESSARY

☐ No Comments

☐ See Previous Site Plan Comments

☒ Install Street Light(s) per City Standards.

☒ Install Street Name Blades at ***intersections*** Locations.

☒ Install Stop Signs at ***driveway exit*** Locations.

☒ Construct parking per City Standards PK-1 through PK-4.

☒ Construct drive approach per City Standards.

☒ Traffic Impact Analysis required (CUP)

☐ Provide more traffic information such as . Depending on development size, characteristics, etc., a TIA may be required.

☐ Additional traffic information required (Non Discretionary)

☐ Trip Generation - Provide documentation as to concurrence with General Plan.

☐ Site Specific - Evaluate access points and provide documentation of conformance with COV standards. If noncomplying, provide explanation.

☐ Traffic Impact Fee (TIF) Program - Identify improvments needed in concurrence with TIF.

Additional Comments:

- Per COV Design and Improvement Standard, C-32, Drive Approach Locations, Minimum distance from adjacent intersection is 200-ft and minimum distance between driveways is 500-ft. Note – Proposed plan does not meet COV design standards.
- Median break driveway ¾ access points on Visalia Pkwy to be vetted out in TIA as they are too close to intersection at Mooney and too close to each other. Several need to be eliminated. See COV Design and

Leslie Blair

Improvement Standard, P-12, Typical Median Break Locations. Proposed ¾ access points on southside of Visalia Pkwy should take into consideration major drive aisles on northside of Visalia Pkwy such as main drive aisle in front of Lowes and drive aisle for Costco.

- Median break driveway ¾ access point location on Mooney Blvd to be vetted out in TIA. If a ¾ median access is permitted on Mooney Blvd (require Caltrans approval), access drive to align with proposed development at SE corner of Mooney and Visalia Parkway (westside of Mooney Blvd). See COV Design and Improvement Standard, P-12, Typical Median Break Locations.

Leslie Blair

20-013

CITY OF VISALIA
SOLID WASTE DIVISION
336 N. BEN MADDOX
VISALIA CA. 93291
713 - 4500

COMMERCIAL BIN SERVICE

20013

	No comments.
XX	See comments below
XX	Revisions required prior to submitting final plans. See comments below.
	Resubmittal required. See comments below.
XX	Customer responsible for all cardboard and other bulky recyclables to be broken down before disposing of in recycle containers
XX	ALL refuse enclosures must be R-3 OR R-4
XX	Customer must provide combination or keys for access to locked gates/bins
XX	Type of refuse service not indicated.
XX	Location of bin enclosure not acceptable. See comments below.
	Bin enclosure not to city standards double.
XX	Inadequate number of bins to provide sufficient service. See comments below.
	Drive approach too narrow for refuse trucks access. See comments below.
XX	Area not adequate for allowing refuse truck turning radius of : Commercial 50 ft. outside 36 ft. inside; Residential 35 ft. outside, 20 ft. inside.
XX	Paved areas should be engineered to withstand a 55,000 lb. refuse truck.
XX	Bin enclosure gates are required
	Hammerhead turnaround must be built per city standards.
	Cul - de - sac must be built per city standards.
XX	Bin enclosures are for city refuse containers only. Grease drums or any other items are not allowed to be stored inside bin enclosures.
XX	Area in front of refuse enclosure must be marked off indicating no parking
XX	Enclosure will have to be designed and located for a STAB service (DIRECT ACCESS) with no less than 38' clear space in front of the bin, included the front concrete pad.
	Customer will be required to roll container out to curb for service.
XX	Must be a concrete slab in front of enclosure as per city standards, the width of the enclosure by ten(10) feet, minimum of six(6) inches in depth.
XX	Roll off compactor's must have a clearance of 3 feet from any wall on both sides and there must be a minimum of 53 feet clearance in front of the compactor to allow the truck enough room to provide service.
XX	City ordinance 8.28.120-130 (effective 07/19/18) requires contractor to contract with City for removal of construction debris unless transported in equipment owned by contractor or unless contracting with a franchise permittee for removal of debris utilizing roll-off boxes.
Comment	Same as previous comments on your old SPR 19167 and SPR 20013

Jim Ross, Solid Waste Manager, 559-713-4533
Edward Zuniga, Solid Waste Supervisor, 559-713-4338

Site Plan Review Comments From:	Date: 01/29/2020
California Water Service Stuart Skoglund, Superintendent 216 N Valley Oaks Dr Visalia, CA 93292 559-624-1662 Office 559-735-3189 Fax	Item # 2 Site Plan # 20-0013 Project: SEC Mooney/Visalia Pkwy tent parcel map Description: Applicant: Location: 4308 S Mooney APN:

The following comments are applicable when checked:

☒ No additional comments at this time. See comments from 9-18-19 site plan # 19-167.

☐ Fire Hydrants
Comments-

☐ Services
Comments-

☐ Mains
Comments-

☐ Backflow Requirements
Comments-

Additional Comments:

☐

Stuart Skoglund
Superintendent

City of Visalia

315 E. Acequia Ave., Visalia, CA 93291

Site Plan Review

September 10, 2020

aaronc@4-creeks.com

Site Plan Review No. 20-122:

Pursuant to Zoning Ordinance Chapter 17.28 the Site Plan Review process has found that your application complies with the general plan, municipal code, policies, and improvement standards of the city.

Based upon Zoning Ordinance Section 17.28.070, this is your Site Plan Review determination. However, your project requires discretionary action as stated on the attached Site Plan Review comments. You may now proceed with filing discretionary applications to the Planning Division.

This is your Site Plan Review Permit; your Site Plan Review became effective **August 12, 2020**. A site plan review permit shall lapse and become null and void one year following the date of approval unless, prior to the expiration of one year, a building permit is issued by the building official and construction is commenced and diligently pursued toward completion.

If you have any questions regarding this action, please call the Community Development Department at (559) 713-4359.

Respectfully,

Paul Bernal
City Planner
315 E. Acequia Ave.
Visalia, CA 93291

Attachment(s):

- Site Plan Review Comments

#6

MEETING DATE: August 12, 2020

SITE PLAN NO. 20-122

PARCEL MAP NO.

SUBDIVISION:

LOT LINE ADJUSTMENT NO.

Enclosed for your review are the comments and decisions of the Site Plan Review committee. Please review all comments since they may impact your project.

☐ **RESUBMIT** Major changes to your plans are required. Prior to accepting construction drawings for building permit, your project must return to the Site Plan Review Committee for review of the revised plans.

☐ During site plan design/policy concerns were identified, schedule a meeting with

☐ Planning ☐ Engineering prior to resubmittal plans for Site Plan Review.

☐ Solid Waste ☐ Parks and Recreation ☐ Fire Dept.

☉ **REVISE AND PROCEED** (see below)

☐ A revised plan addressing the Committee comments and revisions must be submitted for Off-Agenda Review and approval prior to submitting for building permits or discretionary actions.

☐ Submit plans for a building permit between the hours of 9:00 a.m. and 4:00 p.m., Monday through Friday.

☉ Your plans must be reviewed by:

☐ CITY COUNCIL ☐ REDEVELOPMENT

☉ PLANNING COMMISSION ☐ PARK/RECREATION

☉ TPM + Annexation

☐ HISTORIC PRESERVATION ☐ OTHER: _____

☐ **ADDITIONAL COMMENTS :**

If you have any questions or comments, please call (559) 713-4444.

Site Plan Review Committee

SUBDIVISION & PARCEL MAP REQUIREMENTS
ENGINEERING DIVISION

☒ **Adrian Rubalcaba**	**713-4271**
☐ **Diego Corvera**	**713-4209**

ITEM NO: 6 DATE: AUGUST 12, 2020

SITE PLAN NO.:	**20-122**
PROJECT TITLE:	**MOONEY BLVD/VISALIA PKWY - TENTATIVE PARCEL MAP**
DESCRIPTION:	**PROPOSING TO DIVIDE A 44.8 ACRE SITE INTO 24 PARCELS (CR)**
APPLICANT:	**AARON CARPENTER**
PROP. OWNER:	**NO COUNTY DATA**
LOCATION:	**SW CORNER VISALIA PKWY & MOONEY BLVD**
APN:	**126-080-025**

SITE PLAN REVIEW COMMENTS

☒ REQUIREMENTS (Indicated by checked boxes)

☐ Submit improvements plans detailing all proposed work; ☐ Subdivision Agreement will detail fees & bonding requirements

☐ Bonds, certificate of insurance, cash payment of fees/inspection, and approved map & plan required prior to approval of Final Map.

☒ The Final Map & Improvements shall conform to the Subdivision Map Act, the City's Subdivision Ordinance and Standard Improvements.

☐ A preconstruction conference is required prior to the start of any construction.

☒ Right-of-way dedication required. A title report is required for verification of ownership. ☒ by map ☒ by deed ***DEDICATIONS REQUIRED ON PARCEL THAT IS NOT A PART OF THE MAP THAT FRONTS MOONEY WILL NEED TO BE BY SEPARATE DEED***

☐ City Encroachment Permit Required which shall include an approved traffic control plan.

☐ CalTrans Encroachment Permit Required. ☐ CalTrans comments required prior to tentative parcel map approval. CalTrans contacts: David Deel (Planning) 488-4088

☐ Landscape & Lighting District/Home Owners Association required prior to approval of Final Map. Landscape & Lighting District will maintain common area landscaping, street lights, street trees and local streets as applicable. Submit completed Landscape and Lighting District application and filing fee a min. of 75 days before approval of Final Map.

☐ Landscape & irrigation improvement plans to be submitted for each phase. Landscape plans will need to comply with the City's street tree ordinance. The locations of street trees near intersections will need to comply with Plate SD-1 of the City improvement standards. A street tree and landscape master plan for all phases of the subdivision will need to be submitted with the initial phase to assist City staff in the formation of the landscape and lighting assessment district.

☐ Dedicate landscape lots to the City that are to be maintained by the Landscape & Lighting District.

☐ Northeast Specific Plan Area: Application for annexation into Northeast District required 75 days prior to Final Map approval.

☐ Written comments required from ditch company. Contacts: James Silva 747-1177 for Modoc, Persian, Watson, Oakes, Flemming, Evans Ditch and Peoples Ditches; Paul Hendrix 686-3425 for Tulare Irrigation Canal, Packwood and Cameron Creeks; Bruce George 747-5601 for Mill Creek and St. John's River.

☐ Final Map & Improvements shall conform to the City's Waterways Policy. ☐ Access required on ditch bank, 12' minimum. ☐ Provide wide riparian dedication from top of bank.

☐ Sanitary Sewer master plan for the entire development shall be submitted for approval prior to approval of any portion of the system. The sewer system will need to be extended to the boundaries of the development where future connection and extension is anticipated. The sewer system will need to be sized to serve any future developments that are anticipated to connect to the system.

☐ Grading & Drainage plan required. If the project is phased, then a master plan is required for the entire project area that shall include pipe network sizing and grades and street grades. ☐ Prepared by registered civil engineer or project architect. ☐ All elevations shall be based on the City's benchmark network. Storm run-off from the project shall be handled as follows: a) ☐ directed to the City's existing storm drainage system; b) ☐ directed to a permanent on-site basin; or c) ☐ directed to a temporary on-site basin is

required until a connection with adequate capacity is available to the City's storm drainage system. On-site basin: : maximum side slopes, perimeter fencing required, provide access ramp to bottom for maintenance.

☐Show Valley Oak trees with drip lines and adjacent grade elevations. ☐ Protect Valley Oak trees during construction in accordance with City requirements. ☐A permit is required to remove Valley Oak trees. Contact Public Works Admin at (559)713-4428 for a Valley Oak tree evaluation or permit to remove. ☐ Valley Oak tree evaluations by a certified arborist are required to be submitted to the City in conjunction with the tentative map application. ☐ A pre-construction conference is required.

☐Show adjacent property grade elevations on improvement plans. A retaining wall will be required for grade differences greater than 0.5 feet at the property line.

☐Relocate existing utility poles and/or facilities.

☐Underground all existing overhead utilities within the project limits. Existing overhead electrical lines over 50kV shall be exempt from undergrounding.

☐Provide "R" value tests: each at

☐Traffic indexes per city standards:

☐All public streets within the project limits and across the project frontage shall be improved to their full width, subject to available right of way, in accordance with City policies, standards and specifications.

☐All lots shall have separate drive approaches constructed to City Standards.

☐Install street striping as required by the City Engineer.

☐Install sidewalk: ft. wide, with ft. wide parkway on

☐Cluster mailbox supports required at 1 per 2 lots, or use postal unit (contact the Postmaster at 732-8073).

☐Subject to existing Reimbursement Agreement to reimburse prior developer:

☐Abandon existing wells per City of Visalia Code. A building permit is required.

☐Remove existing irrigation lines & dispose off-site. ☐Remove existing leach fields and septic tanks.

☐ Fugitive dust will be controlled in accordance with the applicable rules of San Joaquin Valley Air District's Regulation VIII. Copies of any required permits will be provided to the City.

☐ If the project requires discretionary approval from the City, it may be subject to the San Joaquin Valley Air District's Rule 9510 Indirect Source Review per the rule's applicability criteria. A copy of the approved AIA application will be provided to the City.

☐If the project meets the one acre of disturbance criteria of the State's Storm Water Program, then coverage under General Permit Order 2009-0009-DWQ is required and a Storm Water Pollution Prevention Plan (SWPPP) is needed. A copy of the approved permit and the SWPPP will be provided to the City.

☐Comply with prior comments ☐Resubmit with additional information ☐Redesign required

Additional Comments:

1. Proposed parcel map is subject to the underlying master planned development - refer to master plan conditions of approval. All improvements and fees can be deferred until time of development of parcels.

2. Right-of-way is needed on Visalia Pkwy, Mooney, and MidValley - dedication by map and separate instruments are required w/ map recordation.

3. The City is currently developing a project to improve the Mooney & Visalia Pkwy intersection - some dedications may be required ahead of map processing. Coordinate with City Engineer.

4. Refer to further entitlement requirements by the Planning Dept.

SUMMARY OF APPLICABLE DEVELOPMENT IMPACT FEES

Site Plan No: **20-122**
Date: **8/12/2020**

Summary of applicable Development Impact Fees to be collected at the time of final/parcel map recordation:

(Preliminary estimate only! Final fees will be based on approved subdivision map & improvements plans and the fee schedule in effect at the time of recordation.)

(Fee Schedule Date:**9/1/2020**)
(Project type for fee rates:**TPM**)

☐ Existing uses may qualify for credits on Development Impact Fees.

FEE ITEM	FEE RATE
☐ Trunk Line Capacity Fee	
☐ Sewer Front Foot Fee	
☐ Storm Drainage Acquisition Fee	
☐ Park Acquisition Fee	
☐ Northeast Acquisition Fee Total Storm Drainage Block Walls Parkway Landscaping Bike Paths	
☐ Waterways Acquisition Fee	

Additional Development Impact Fees will be collected at the time of issuance of building permits.

City Reimbursement:

1.) No reimbursement shall be made except as provided in a written reimbursement agreement between the City and the developer entered into prior to commencement of construction of the subject planned facilities.
2.) Reimbursement is available for the development of arterial/collector streets as shown in the City's Circulation Element and funded in the City's transportation impact fee program. The developer will be reimbursed for construction costs and right of way dedications as outlined in Municipal Code Section 16.44. Reimbursement unit costs will be subject to those unit costs utilized as the basis for the transportation impact fee.
3.) Reimbursement is available for the construction of storm drain trunk lines and sanitary sewer trunk lines shown in the City's Storm Water Master Plan and Sanitary Sewer System Master Plan. The developer will be reimbursed for construction costs associated with the installation of these trunk lines.

Adrian Rubalcaba

SITE PLAN REVIEW COMMENTS

Josh Dan, Planning Division, 559-713-4003
Date: August 12, 2020

SITE PLAN NO:	2020-122
PROJECT TITLE:	Mooney Blvd/Visalia Parkway – Tentative Parcel map
DESCRIPTION:	Proposing to divide a 44.8 acres site into 24 parcels
APPLICANT:	Aaron Carpenter (4Creeks, Inc.)
PROP. OWNER:	VISCA INVESTMENT CO
LOCATION TITLE:	SW Corner of Visalia Parkway & S. Mooney Blvd.
APN TITLE:	126-080-025, 056
GENERAL PLAN:	Regional Commercial, Residential Medium Density, Residential High Density, Parks/Recreation, Residential Low Density
EXISTING ZONING:	C-R (Regional Commercial), AE-20 (Tulare County Jurisdiction)

Planning Division Recommendation:

☒ Revise and Proceed
☐ Resubmit

Reference SPR No. 20-012 and SPR No. 20-013.

Project Requirements

- Annexation
- Tentative Parcel Map
- Project IS subject to Valley Air District Rule 9510
- Project required to undergo State Clearinghouse process for the environmental document as Caltrans is a Responsible Agency for the project (State highway)
- Additional information as needed.

PROJECT SPECIFIC INFORMATION: August 12, 2020

1. Project description is not consistent with site plan submitted. The creation of a single parcel as the vehicle to annexing the portion of the property within Tier I into the City limit is permitted through the use of a Tentative Parcel Map (TPM) and Annexation Application.
2. The associated Master CUP and TPM of SPR submittal 2019-167 project may proceed concurrently with this Tentative Parcel Map and Annexation proposal.
3. Comply with all other codes, ordinances, and previous comments which may apply to the project.

Staff initial finding is that the proposed site plan IS CONSISTENT with the City General Plan. Because this project requires discretionary approval by the City Council and/or Planning Commission the final determination of consistency will be made by the Planning Commission and/or City Council.
Chapter 17.16

17.18.070 Development standards in the C-R zone.

The following development standards shall apply to property located in the C-R zone:

A. Minimum site area: five (5) acres.

B. Maximum building height: fifty (50) feet.

C. Minimum required yards (building setbacks):

1. Front: twenty (20) feet;

2. Rear: zero (0) feet;

3. Rear yards abutting an R-1 or R-M zone district: fifteen (15) feet;

4. Side: zero (0) feet;
5. Side yards abutting an R-1 or R-M zone district: fifteen (15) feet;
6. Street side yard on corner lot: ten (10) feet.

D. Minimum required landscaped yard (setback) areas:
1. Front: twenty (20) feet;
2. Rear: five (5) feet;
3. Rear yards abutting an R-1 or R-M zone district: five (5) feet;
4. Side: five (5) feet (except where a building is located on side property line);
5. Side yards abutting an R-1 or R-M zone district: five (5) feet;
6. Street side on corner lot: ten (10) feet.

San Joaquin Valley Air Pollution Control District (SJVAPCD)

Please note that the project is subject to SJVAPCD Rule 9510. The applicant is encouraged to do early indirect source modeling consultation with the Air District

NOTE: Staff recommendations contained in this document are not to be considered support for a particular action or project unless otherwise stated in the comments. The comments found on this document pertain to the site plan submitted for review on the above referenced date. Any changes made to the plan submitted must be submitted for additional review.

Signature _____



SPR 20122
TENTATIVE PARCEL MAP
126080025

City of Visalia

Building: Site Plan Review Comments

NOTE: These are general comments and DO NOT constitute a complete plan check for your specific project Please refer to the applicable California Code & local ordinance for additional requirements.

- ☐ A building permit will be required. ***For information call (559) 713-4444***
- ☐ Submit 1 digital set of professionally prepared plans and 1 set of calculations. (Small Tenant Improvements)
- ☐ Submit 1 digital set of plans prepared by an architect or engineer. Must comply with 2016 California Building Cod Sec. 2308 for conventional light-frame construction or submit 1 digital set of engineered calculations.
- ☐ Indicate abandoned wells, septic systems and excavations on construction plans.

You are responsible to ensure compliance with the following checked items:

- ☐ Meet State and Federal requirements for accessibility for persons with disabilities.
- ☐ A path of travel, parking and common area must comply with requirements for access for persons with disabilities.
- ☐ All accessible units required to be adaptable for persons with disabilities.
- ☐ Maintain sound transmission control between units minimum of 50 STC.
- ☐ Maintain fire-resistive requirements at property lines.
- ☐ A demolition permit & deposit is required. ***For information call (559) 713-4444***
- ☐ Obtain required permits from San Joaquin Valley Air Pollution Board. ***For information call (661) 392-5500***
- ☐ Plans must be approved by the Tulare County Health Department. ***For information call (559) 624-8011***
- ☐ Project is located in flood zone _____ * ☐ Hazardous materials report.
- ☐ Arrange for an on-site inspection. (Fee for inspection $157.00) ***For information call (559) 713-4444***
- ☐ School Development fees. Commercial $0.61 per square foot. Residential $4.16 per square foot.
- ☐ Park Development fee $_____, per unit collected with building permits.
- ☐ Additional address may be required for each structure located on the site. ***For information call (559) 713-4320***
- ☐ Acceptable as submitted
- ☒ No comments at this time

Additional comments: _____

_____

_____

_____

Val Garcia 8/12/20

Signature

Site Plan Comments Visalia Fire Department Corbin Reed, Fire Marshal 420 N. Burke Visalia CA 93292 559-713-4272 office prevention.division@visalia.city	Date Item # Site Plan # APN:	August 12, 2020 6 20122 126080025

- The Site Plan Review comments are issued as **general overview** of your project. With further details, additional requirements will be enforced at the Plan Review stage. Please refer to the 2019 California Fire Code (CFC), 2019 California Building Codes (CBC) and City of Visalia Municipal Codes.

- Fire protection items are not required to be installed for **parcel map or lot line adjustment** at this time; however, any developments taking place on these parcels will be subject to fire & life safety requirements including fire protection systems and fire hydrants in accordance with all applicable sections of the California Fire Code.

Corbin Reed
Fire Marshal



City of Visalia
Police Department
303 S. Johnson St.
Visalia, CA 93292
(559) 713-4370

Date : 8-11-20
Item: #6
Site Plan: SPR20-122
Name: Agent McEwen

SITE PLAN REVIEW COMMENTS

☒ No Comment at this time

☐ Request opportunity to comment or make recommendations as to safety issues as plans are developed.

☐ Public Safety Impact Fee:
Ordinance No. 2001-11 Chapter 16.48 of Title 16 of the Visalia Municipal Code Effective date – August 17, 2001

Impact fees shall be imposed by the City pursuant to this Ordinance as a condition of or in conjunction with the approval of a development project. "New Development or Development Project" means any new building, structure or improvement of any parcels of land, upon which no like building, structure of improvement previously existed. *Refer to Engineering Site Plan comments for fee estimation.

☐ Not enough information provided. Please provide additional information pertaining to:

_____

☐ Territorial Reinforcement: Define property lines (private/public space).

_____

☐ Access Controlled / Restricted etc.:

_____

☐ Lighting Concerns:

_____

☐ Traffic Concerns:

_____

☐ Surveillance Issues:

_____

☐ Line of Sight Issues:

_____

☐ Other Concerns:

_____

SITE PLAN REVIEW COMMENTS

CITY OF VISALIA TRAFFIC SAFETY DIVISION

August 12, 2020

ITEM NO: 6
SITE PLAN NO: SPR20122
PROJECT TITLE: Mooney Blvd/Visalia Pkway - Tentative Parcel Map
DESCRIPTION: Proposing to Divide A 44 8 Acre Site into 24 Parcels (CR)
APPLICANT: Aaron Carpenter
OWNER: NO COUNTY DATA
APN: 126080025
LOCATION: SW Corner of Visalia Parkway & S Mooney Blvd

THE TRAFFIC DIVISION WILL PROHIBIT ON-STREET PARKING AS DEEMED NECESSARY

☒ No Comments

☐ See Previous Site Plan Comments

☐ Install Street Light(s) per City Standards.

☐ Install Street Name Blades at Locations.

☐ Install Stop Signs at Locations.

☐ Construct parking per City Standards PK-1 through PK-4.

☐ Construct drive approach per City Standards.

☐ Traffic Impact Analysis required (CUP)

- ☐ Provide more traffic information such as . Depending on development size, characteristics, etc., a TIA may be required.

☐ Additional traffic information required (Non Discretionary)

- ☐ Trip Generation - Provide documentation as to concurrence with General Plan.
- ☐ Site Specific - Evaluate access points and provide documentation of conformance with COV standards. If noncomplying, provide explanation.
- ☐ Traffic Impact Fee (TIF) Program - Identify improvments needed in concurrence with TIF.

Additional Comments:

- Joint access easement may be required for property directly to east of Remainedr parcel that aligns with the Costco/LaZy Boy driveway to the North.

Leslie Blair

Leslie Blair

CITY OF VISALIA
SOLID WASTE DIVISION
336 N. BEN MADDOX
VISALIA CA. 93291
713 - 4500
COMMERCIAL BIN SERVICE

20122

XX	No comments.
	See comments below
	Revisions required prior to submitting final plans. See comments below.
	Resubmittal required. See comments below.
	Customer responsible for all cardboard and other bulky recyclables to be broken down before disposing of in recycle containers
	ALL refuse enclosures must be R-3 OR R-4
	Customer must provide combination or keys for access to locked gates/bins
	Type of refuse service not indicated.
	Location of bin enclosure not acceptable. See comments below.
	Bin enclosure not to city standards double.
	Inadequate number of bins to provide sufficient service. See comments below.
	Drive approach too narrow for refuse trucks access. See comments below.
	Area not adequate for allowing refuse truck turning radius of : Commercial 50 ft. outside 36 ft. inside; Residential 35 ft. outside, 20 ft. inside.
	Paved areas should be engineered to withstand a 55,000 lb. refuse truck.
	Bin enclosure gates are required
	Hammerhead turnaround must be built per city standards.
	Cul - de - sac must be built per city standards.
	Bin enclosures are for city refuse containers only. Grease drums or any other items are not allowed to be stored inside bin enclosures.
	Area in front of refuse enclosure must be marked off indicating no parking
	Enclosure will have to be designed and located for a STAB service (DIRECT ACCESS) with no less than 38' clear space in front of the bin, included the front concrete pad.
	Customer will be required to roll container out to curb for service.
	Must be a concrete slab in front of enclosure as per city standards, the width of the enclosure by ten(10) feet, minimum of six(6) inches in depth.
	Roll off compactor's must have a clearance of 3 feet from any wall on both sides and there must be a minimum of 53 feet clearance in front of the compactor to allow the truck enough room to provide service.
	City ordinance 8.28.120-130 (effective 07/19/18) requires contractor to contract with City for removal of construction debris unless transported in equipment owned by contractor or unless contracting with a franchise permittee for removal of debris utilizing roll-off boxes.

Comment

Jason Serpa, Solid Waste Manager, 559-713-4533
Edward Zuniga, Solid Waste Supervisor, 559-713-4338

Nathan Garza, Solid Waste,559-713-4532

DEPARTMENT OF TRANSPORTATION
DISTRICT 6 OFFICE
1352 WEST OLIVE AVENUE
P.O. BOX 12616
FRESNO, CA 93778-2616
PHONE (559) 488-7396
FAX (559) 488-4088
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life

August 25, 2020

06-TUL-63-5.48
SPR 20012
TPM 20122
VISALIA PARKWAY SEC
MASTER CUP DEVELOPMENT
AGENDA: 08/12/2020
(REF: SPR 19167, TPM 20013)

SENT VIA EMAIL

Ms. Susan Currier, Sr. Administrative Assistant
City of Visalia – Community Development – Site Plan Review
315 East Acequia Avenue
Visalia, CA 93291

Dear Ms. Currier:

Thank you for the opportunity to review Site Plan Review (SPR) 20012 (previously SPR 19167), which proposes a retail and commercial development (Project) on a 44.79-acre site and Tentative Parcel (TPM) 20122 (previously SPR 20013) that proposes to divide the 44.79-acre site into 24 parcels of varying sizes. Each of the 24 proposed parcels will be developed in Phases with numerous building pads. The Project site is located at the southeast corner of State Route (SR) 63 and Visalia Parkway (Avenue 276) intersection.

The Project's phased development will include 286,000 square feet of retail-commercial development as follows:

Phase 1 (Parcels 1 thru 5: 7.57-acres; Total Square Feet = **45,450 sf**):
- Gas Station with Convenience Store - 4,250 square feet
- Quick-Serve-Restaurant with drive-thru (QSR w/DT) - 2,400 square feet
- QSR w/DT - 2,800 square feet
- Specialty Food Anchor Store #1 - 15,000 square feet
- Specialty Food Anchor Store #2 - 21,000 square feet

Phase 2 (Parcels 6 thru 13: 10.82-acres; Total Square Feet = **63,500 sf**):
- 4 QSRs w/DT – 10,000 square feet
- 9 building pads – 14,400 square feet
- 3 building pads – 8,100 square feet
- 2 Anchor Stores – 31,000 square feet

Phase 3 (Parcels 14 thru 18: 10.95-acres; Total Square Feet = **48,900 sf**)
- 2 QSR w/DT – 4,800 square feet
- 3 building pads – 8,100 square feet
- 2 Anchor Stores – 36,000 square feet

Phase 4 (Parcels 19 thru 24: 8.84-acres: Total Square Feet = **67,000 sf**)

- 9 building pads – 14,400 square feet
- 8 building pads – 21,600 square feet
- 2 Anchor Stores – 31,000 square feet

Caltrans provides the *following comments* consistent with the State's smart mobility goals that support a vibrant economy and sustainable communities:

1. Please confirm, if the proposed residential development has been eliminated from the current Project. The residential development initially proposed on the east portion of the Project site, appears to be eliminated from the Project scope however the site plan legend still has information on the number of residential units?

2. Caltrans recommends that the following intersections be analyzed by the Project:
   - SR 63/Visalia Parkway and,
   - SR 63/Midvalley Avenue.

3. The intersection analysis should identify potential queuing issues and safety design elements that would reduce potential vehicle conflicts.

4. A prior TIS for the Commons at Visalia Parkway project (located west, directly across SR 63 from the current Project) identified:

   a. That the calculated 95th percentile queues exceeded the storage capacity for existing conditions in the left-turn lane on the westbound approach of SR 63 intersection with Visalia Parkway.

   b. That the calculated 95th percentile queues exceeded the existing storage capacity for the cumulative conditions in the left-turn lanes on the eastbound, westbound, and northbound approaches of the intersection.

   c. And concluded that there should be two (2) left-turn lanes on the westbound approach of the SR 63 intersection with Visalia Parkway.

5. For the posted speed of 45 mph, the minimum spacing between an intersection and an upstream driveway (measured near-side to near-side) is 400 feet.

6. The driveways accessing SR 63 will be limited to right-in/right-out movements only, due to the presence of the raised median on SR 63.

The following comments, from our February 28, 2020 letter, are still valid for the Project:

7. Caltrans anticipates a channelized right-turn lane will be needed to accommodate traffic generated by the Project:
   a. On northbound SR 63 to eastbound Visalia Parkway and,
   b. At the 2 driveways accessing SR 63.

8. The proposed retail commercial development will have frontage along SR 63 and Visalia Parkway. SR 63 in the vicinity of the project is currently a 4-lane conventional highway with a raised median and a posted 45 mph speed limit.

9. The minimum spacing between an intersection and a downstream driveway (measured near-side to near-side) is 580 feet. Please refer to the Transportation Research Board (TRB) Access Management Manual, 2nd Edition, Exhibits 14.3, 14.4, and 14.11.

10. Therefore, any driveway accessing SR 63 should be located no closer than 400 feet from Visalia Parkway and no closer than 580 feet from Midvalley Avenue.

11. The site plan shows two (2) proposed driveways providing direct access to SR 63, three (3) driveways connecting to Midvalley Avenue, and five (5) driveways connecting to Visalia Parkway.

12. Driveways should not be situated within the functional area of an intersection or in the influence area of an adjacent driveway.

13. The driveway located on SR 63 near Visalia Parkway appears to be situated within the functional area of the SR 63/Visalia Parkway intersection.

14. Please update the Project site plan and Tentative Parcel Map to indicate all driveway widths and the distances the driveways are from the intersections of:
    - SR 63 and Visalia Parkway and,
    - SR 63 and Midvalley Avenue.

15. All driveways accessing the State's right of way (SR 63) should be designed per Caltrans Standard Plan A87A.

16. Caltrans concurs with the location of the proposed Project driveway across from the proposed left turn lane median diverter (worm) within SR 63.

17. According to the Caltrans Transportation Concept Report (TCR), segment 3 of SR 63 in the vicinity of the proposed project is currently a 4-lane conventional highway and ultimately planned to be a 6-lane facility within a total of 156 feet of right-of-way (78 feet from the centerline). Caltrans right-of-way maps shows this segment of SR 63 existing at 110 feet with 55 feet from the centerline on the east side of SR 63.

18. A Dedication to Caltrans for 23 feet of right-of-way is needed to accommodate the ultimate configuration of SR 63. Dedications required by the Lead Agency need to be shown on a revised site plan and forwarded for our review. Right-of-way dedicated to the State due to the proposed project or work proposed in the State right-of-way, will need to be dedicated and conveyed to the State (in a form approved by the State) before an encroachment permit is issued for any work in the State right-of-way.

19. Please contact Kuldeep K. Brar, PLS, at 559-445-6573, in the Caltrans Surveys Branch, for a summary of the requirements for right-of-way dedications.

20. Please *revise* the Project site plan and Tentative Subdivision Map to indicate the existing right-of-way of 55 feet from the centerline and the required 23 feet of dedication to accommodate opening day improvements and the planned configuration of SR 63.

21. As part of opening day improvements, the Project is required to widen and improve SR 63 along its frontage to accommodate the following configuration for SR 63: three (3) northbound thru-lanes, left & right turn lanes, standard shoulder, a bike lane, gutter, curb and sidewalk.

22. Please note that the SR 63/Visalia Parkway intersection may need additional ROW beyond the 23 feet (comment #18) to accommodate the intersection cross section.

23. Caltrans request that the Project submit the proposed cross section at the SR 63/Visalia Parkway intersection for the opening day configuration of SR 63 to include: three (3) northbound thru-lanes, left & right turn lanes, standard shoulder, a bike lane, gutter, curb and sidewalk.

24. A minimum of a 6-foot sidewalk (10- foot preferred), measured from the back of the curb is required.

25. The back of the sidewalk should be construct at the ultimate configuration of SR 63 or per the cross section submitted whichever is greater.

26. The sidewalk should be set back from the curb with a landscape strip.

27. The sidewalk and any landscaping shall be maintained per a "District 6" approved maintenance agreement.

28. An assessment of multi-modal facilities should be conducted to develop an integrated multi-modal transportation system to serve and help alleviate traffic congestion caused by the project and related development in this area of the City. The assessment should include the following:

    a. Pedestrian walkways should link this proposal to an internal project area walkway, transit facilities, as well as other walkways in the surrounding area.
    b. The project should consider bicycles as an alternative mode of transportation and offer internal amenities to encourage bicycle use which should include parking, security, lockers and showers.
    c. If transit is not available within ¼-mile of the site, transit should be extended to provide services to what will be a high activity center.

29. The *existing* bus stop situated along the Project's frontage, on northbound SR 63 just north of the SR 63/Midvalley Avenue intersection should be included in the Project's site plan.

30. The Caltrans Permit and Environmental Planning Branches will review and approve the activity and work in the State right-of-way before an encroachment permit is issued.

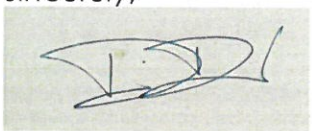
31. The CEQA (California Environmental Quality Act) document prepared and submitted to the State Clearinghouse for the Project will need to include analysis of the frontage improvements (additional ROW, new lanes, new median diverter, new curb-gutter-sidewalk) along SR 63 for the required environmental clearance (using the assigned SCH #) during the Caltrans encroachment permit process.

32. An encroachment permit must be obtained for all proposed activities for placement of encroachments within, under or over the State highway rights-of-way. Activity and work planned in the State right-of-way shall be performed to State standards and specifications, at no cost to the State. Engineering plans, calculations, specifications, and reports (documents) shall be stamped and signed by a licensed Engineer or Architect. Engineering documents for encroachment permit activity and work in the State right-of-way may be submitted using English Units. The Permit Department and the Environmental Planning Branch will review and approve the activity and work in the State right-of-way before an encroachment permit is issued. The Streets and Highways Code Section 670 provides Caltrans discretionary approval authority for projects that encroach on the State Highway System. Encroachment permits will be issued in accordance with Streets and Highway Codes, Section 671.5, "Time Limitations." Encroachment permits do not run with the land. A change of ownership requires a new permit application. Only the legal property owner or his/her authorized agent can pursue obtaining an encroachment permit. **Please call the Caltrans Encroachment Permit Office - District 6: 1352 W. Olive, Fresno, CA 93778, at (559) 488-4058. Please review the permit application checklist at:**
https://forms.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=TR0402&distpath=MAOTO&brapath=PERM

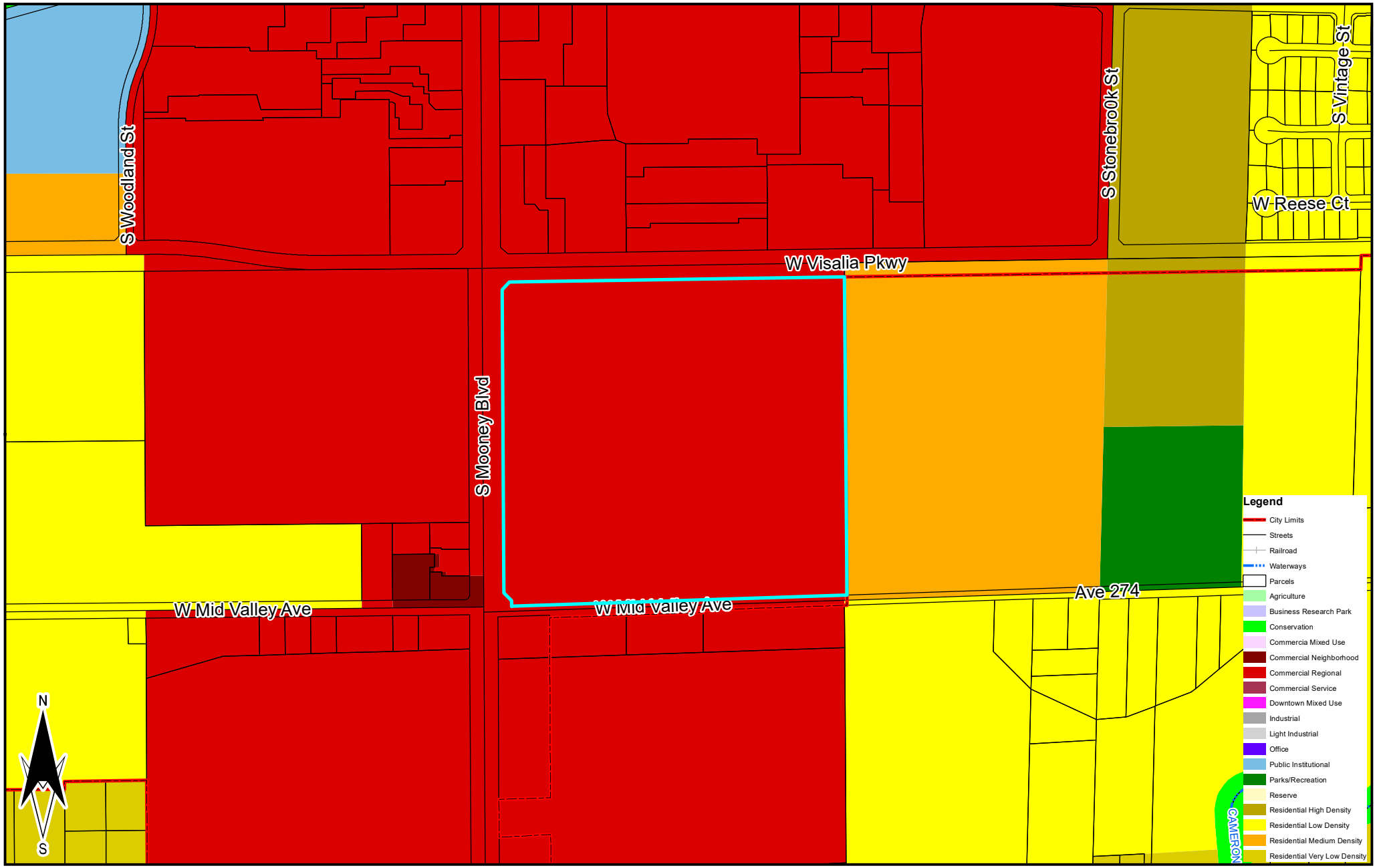
33. Upon project approval by the local public agency and prior to an encroachment permit application submittal, the project proponent is required to schedule a "Pre-Submittal" meeting with District 6 Encroachment Permit Office. **Please contact District 6 Encroachment Permit Office at (559) 488-4058 to schedule this meeting.**

If you have any other questions, please call me at (559) 488-7396.

Sincerely,

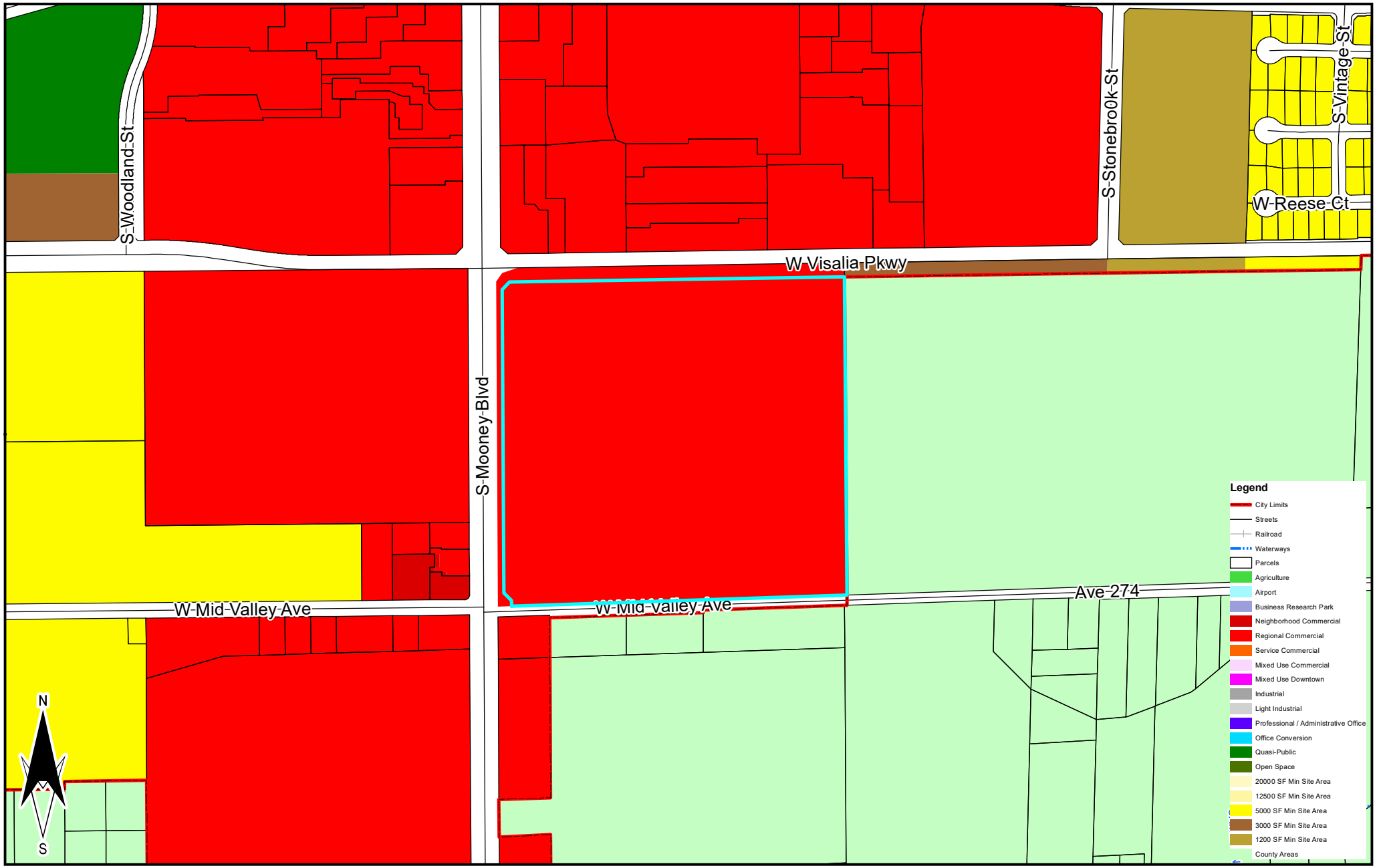


DAVID DEEL
Associate Transportation Planner
Transportation Planning – North



CUP No. 2020-30, TPM No. 2020-09
VAR No. 2021-03
General Plan
Land Use Map

0 215 430 860
Feet



CUP No. 2020-30, TPM No. 2020-09
VAR No. 2021-03
Zoning Map

0 215 430 860
Feet



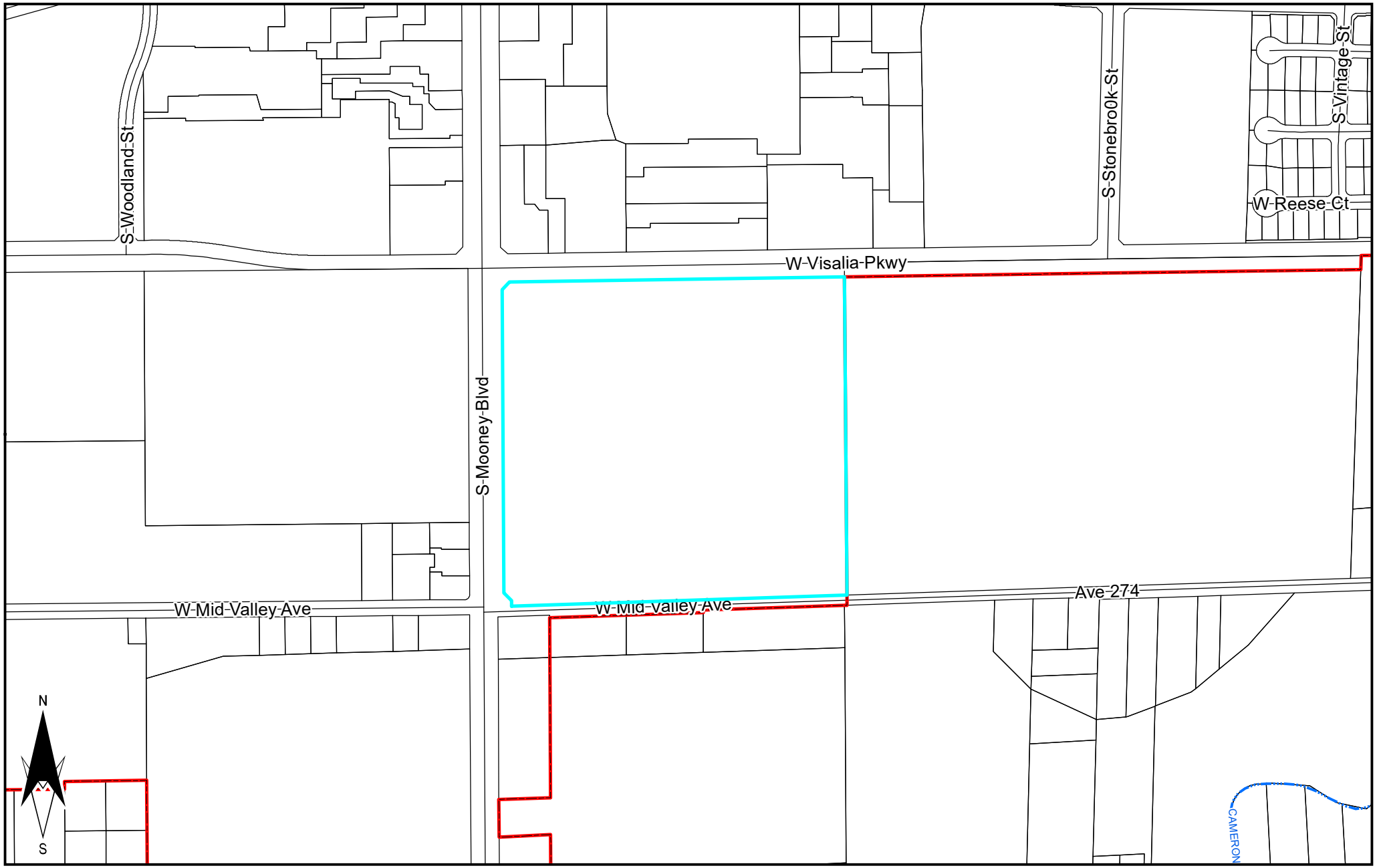
CUP No. 2020-30, TPM No. 2020-09
VAR No. 2021-03
Aerial Map

Legend

- City Limits
- Streets
- Railroad
- Waterways
- Parcels

0 180 360 720

Feet



CUP No. 2020-30, TPM No. 2020-09
VAR No. 2021-03
Vicinity Map

0 215 430 860
Feet

Legend

- City Limits
- Streets
- Railroad
- Waterways
- Parcels