Planning Commission Agenda Report Meeting Date 05/19/22

Files: UP 21-03, DRP 18-02

DATE: May 10, 2022

TO: PLANNING COMMISSION

FROM: Tina Wilson, Associate Planner (879-6807, tina.wilson@chicoca.gov)

RE: Use Permit 21-03 (Achieve Charter School), 1494 East Avenue, APN 016-070-022

SUMMARY

The applicant proposes to establish Achieve Charter School as a permanent use, converting the temporary campus to a permanent campus serving grades K-8. The school would have a maximum enrollment of 250 students. The proposed permanent campus consists entirely of existing buildings. The only proposed structure is for the construction of a new covered trash enclosure. In addition to ongoing landscaping improvements at the site, new landscape planting is proposed to meet City parking lot shade requirements. The 4.7-acre project site is located on the north side of East Avenue, across the street from Pleasant Valley High School. No project issues have been identified. Planning staff recommends approval, subject to conditions.

Recommendation:

Planning staff recommends adoption of Resolution No. 22-02 (**Attachment A**), approving the conditional use permit, subject to the attached conditions.

Proposed Motion:

I move that the Planning Commission adopt Resolution No. 22-02 approving the conditional use permit, subject to the attached conditions.

BACKGROUND

On January 3, 2019, the Community Development Director issued Disaster Recovery Permit 18-02, which approved the installation of 25 temporary classrooms to accommodate a new campus for Achieve Charter School during the aftermath of the Camp Fire. The project site is located on the north side of East Avenue on the existing Life Church campus. In addition to the installation of the classroom modular units, the site included the development of playground, laboratory, restroom and administration buildings.

The site is located on the north side of East Avenue on the existing Life Church campus and has been operating as a temporary campus for grades K-8 pursuant to Disaster Recover Permit 18-02 (see Location/Notification Map, **Attachment B**) since early 2019. Minor changes including a trash enclosure, removal of four parking spaces, and landscaping improvements are proposed (see Site Plan, **Attachment C**). The site is designated Office Mixed Use on the General Plan Land Use diagram and is zoned OR-AOC (Office Residential with Aircraft Operations Zone C overlay). The project has been determined to be categorically exempt from review under the California Environmental Quality Act (CEQA), pursuant to CEQA Guidelines Section 15301 (Existing Facilities). The site is currently developed with the existing school

facilities and existing Life Church campus. Surrounding land uses include Pleasant Valley High School to the south, CVS and single-family residences to the east, and single-family residences to the north and west.

DISCUSSION

As noted above, the project site is located within the -AOC overlay. Prior to submitting the use permit application to the City, the applicant submitted the project for review by the Butte County Airport Land Use Commission (ALUC). As noted in the attached letter from the applicant's architect, ALUC unanimously approved the project within Airport Overflight Zone C by way of a Site Specific Special Conditions Exemption (see Letter, **Attachment D**).

Fehr and Peers prepared a transportation analysis, which concluded that the project would not create any significant impacts or violate any City policies (see Report, **Attachment E**). The report recommended that the school consider staggering pickup times and to consider operational changes to improve flow of pickup and dropoff of students. These recommendations have since been implemented.

The applicant held a neighborhood meeting on November 18, 2021 at 6:30 PM where attendance was both in-person and virtual via Zoom. Staff furnished the applicant with a list of all property owners and occupants within 500 feet of the project site, pursuant to Chico Municipal Code Section 19.16.020.B (Pre-application neighborhood meetings, Notice). Several applicant representatives, a few interested citizens, and Planning staff were present and participated in the meeting. Casey Taylor, Executive Director of Achieve Charter School, conducted a presentation and responded to questions. Topics of concern that were discussed included noise, lighting, and traffic. The applicant was appreciative of the feedback from the community and open to making operational changes to address the issues that were raised at the meeting.

Recommended conditions of approval are included in **Attachment A, Exhibit I**.

GENERAL PLAN CONSISTENCY

The following General Plan policies apply to the proposed use permit request:

Action LU-2.3.3 (Encourage Mixed-Use Development) – Allow horizontal and vertical mixed uses in the following land use designations:

- *Residential Mixed Use*
- *Neighborhood Commercial*
- *Commercial Mixed Use*
- *Regional Commercial*
- *Office Mixed Use*
- *Industrial Office Mixed Use*

Policy LU-4.2 (Infill Compatibility) - Support infill development, redevelopment, and rehabilitation projects that are compatible with surrounding properties and neighborhoods.

Action CIRC-2.2.4 (Safe Routes to Schools) – Work with the Chico Unified School District to identify, promote, and improve safe routes to schools.

Action N-2.1.1 (Noise Control Measures) - Limit noise exposure through the use of insulation, building design and orientation, staggered operating hours, and other techniques. Utilize physical barriers such as landscaped sound walls only when other solutions are unable to achieve the desired level of mitigation.

MUNICIPAL CODE CONFORMANCE

Pursuant to Chico Municipal Code Chapter 19.44, schools are allowed in the OR zoning district, subject to use permit approval. This use permit has been processed in accordance with the requirements of Chapter 19.24 (*Use Permits*).

FINDINGS

Environmental Finding

The project has been determined to be categorically exempt under CMC Section 1.40.220 and pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15301 (Existing Facilities). Consistent with this exemption, the establishment of a permanent school campus that was originally constructed as a temporary location under a disaster recovery permit in the aftermath of the Camp Fire involves negligible expansion of an existing use.

Use Permit Findings

Following a public hearing, the Planning Commission may approve a use permit application, with or without conditions, only if all of the following findings can be made:

A. *The proposed use is allowed within the subject-zoning district and complies with all of the applicable provisions of Chapter 19.24 (Use Permits).*

Chico Municipal Code Chapter 19.44 allows public and private schools in the OR zoning district, subject to use permit approval. This use permit has been processed in accordance with the requirements of Chapter 19.24 (*Use Permits*).

B. *The proposed use would not be detrimental to the health, safety, and general welfare of persons residing or working in the neighborhood of the proposed use.*

Operation of a public charter school with up to 250 students at the existing Achieve Charter School and Life Church campus on East Avenue would not be detrimental to the health, safety, or general welfare of persons residing or working in the neighborhood because the school use is compatible with the surrounding existing school, commercial, and residential uses in the area. The school has operated successfully since 2019 with no major disruptions or disturbances to the neighborhood.

C. *The proposed use will not be detrimental and/or injurious to property and improvements in the neighborhood of the proposed use, as well as the general welfare of the City.*

The establishment of a permanent school campus with a student enrollment of up to 250 students maximum will not be detrimental or injurious to property and improvements in the neighborhood, or the general welfare of the City because it will

continue to implement the recommendations of the transportation analysis report by continuing to stagger pickup and dropoff times for the students. The proposed establishment of a permanent school campus is conditioned to comply with all applicable building and development standards. No other impacts to property or improvements outside of the project site have been identified.

D. *The proposed use will be consistent with the policies, standards, and land use designations established by the General Plan.*

The proposed conditional use permit is consistent with the General Plan policies that encourage mixed use development by allowing a church and school to operate on the same property at different times (Action LU-2.3.3). The use is further supported by General Plan Policy LU-4.2 since the school is compatible with the surrounding neighborhood. In addition, the coordinated effort and support by the Chico Unified School District is consistent with the General Plan Action CIRC-2.2.4. As demonstrated by the applicant's efforts to address noise concerns, the project is consistent with Action N-2.1.1.

E. *The design, location, size, and operating characteristics of the proposed use are compatible with the existing and future land uses in the vicinity.*

Establishing Achieve Charter School as a permanent campus that has been and will continue to be compatible with surrounding development.

As supported by the Conditions of Approval (Exhibit I to **Attachment A**), and this staff report, the proposed conditional use permit conforms with the requirements of Title 19 of the Chico Municipal Code and would be consistent with the Chico General Plan.

PUBLIC CONTACT

A 10-day public hearing notice was mailed to all landowners and residents within 500 feet of the site, and a legal notice was published in the *Chico Enterprise Record*. As of the date of this report no correspondence has been received in response to the public notice.

DISTRIBUTION:
PC Distribution
Principal Planner Bruce Ambo
Associate Planner Tina Wilson
Files: UP 21-03, DRP 18-02

External
Russell, Gallaway, Associates Inc., Attn: Kevin Easterling, 115 Meyers Street, Suite #110, Chico, CA 95928, Email: kevin@rgachico.com
Achieve Charter School, Attn: Casey Taylor, 1494 East Avenue, Chico, CA 95926, Email: ctaylor@achievecharter.org
International Church of Foursquare Gospel, 1492 East Avenue, Chico, CA 95926

ATTACHMENTS:
A. Planning Commission Resolution No. 22-02
   Exhibit I Conditions of Approval for UP 21-03
B. Location/Notification Map

C. Existing Site Plan (Plat)
D. August 5, 2021 Letter from applicant's architect
E. February 2021 Fehr and Peers Transportation Impact Analysis Report

RESOLUTION NO. 22-02

RESOLUTION OF THE CITY OF CHICO PLANNING COMMISSION APPROVING USE PERMIT 21-03 (ACHIEVE CHARTER SCHOOL)

WHEREAS, Achieve Charter School has submitted a use permit application to allow a public charter school located at 1494 East Avenue and further identified as Assessor's Parcel No. 016-070-022 (the "Project"); and

WHEREAS, the site is designated Office Mixed Use on the General Plan Land Use Diagram and is zoned OR-AOC (Office Residential with Aircraft Operations Zone C overlay); and

WHEREAS, the Airport Land Use Commission found the Project compatible with the 2017 Butte County Airport Land Use Compatibility Plan for the Chico Municipal Airport at a noticed public hearing held on May 19, 2021; and

WHEREAS, the Planning Commission considered the Project, staff report, and comments submitted at a noticed public hearing held on May 19, 2022; and

WHEREAS, the Project has been determined to be categorically exempt pursuant to the Guidelines for the California Environmental Quality Act, 14 CCR Section 15301 (Existing Facilities).

NOW, THEREFORE, BE IT RESOLVED BY THE PLANNING COMMISSION OF THE CITY OF CHICO AS FOLLOWS:

1. The Planning Commission finds that:

   A. The proposed use is allowed within the subject zoning district and complies with all of the applicable provisions of Chapter 19.24 (Use Permits) in that, pursuant to Chico Municipal Code (CMC) Sections 19.44, a public or private school may be allowed in the OR (Office Residential) zoning district, subject to use permit approval. This use permit has been processed in accordance with CMC 19.24 (Use Permits).

B. The proposed use would not be detrimental to the health, safety, and general welfare of persons residing or working in the neighborhood of the proposed use in that with continued implementation of staggered pickup times and operational changes to improve flow of pickup and dropoff of students, recommendations of the Transportation Impact Analysis (Fehr and Peers, February, 2021), including all site improvements, the proposed use is anticipated operate compatibly with persons residing or working in the neighborhood. No other health, safety, or welfare impacts have been identified.

C. The proposed use will not be detrimental and/or injurious to property and improvements in the neighborhood of the proposed use, as well as the general welfare of the city in that the proposed use involves the use of existing structures and school facilities with minimal construction or expansion. Improvements are limited to the construction of a trash enclosure, removal of four parking spaces, and landscaping improvements.

D. The proposed use will be consistent with the policies, standards, and land use designations established by the General Plan in that the proposal is consistent with General Plan Policy LU-4.2 that supports infill and redevelopment of existing properties and Action CIRC-2.2.4, supporting efforts to maintain and improve educational facilities and services in the City.

E. The design, location, size, and operating characteristics of the proposed use are compatible with the existing and future land uses in the vicinity in that site and buildings have been utilized as a public charter school since 1999 and operated compatibly with adjacent single-family residential uses, commercial uses, and other nearby schools. With continued implementation of staggered pickup times and operational changes to improve flow of pickup and dropoff of students recommended by a Transportation Impact Analysis (Fehr and Peers, February, 2021), vehicle traffic and circulation associated with the school will improve

operations compatibly with adjacent commercial, residential, and other educational uses.

1. Based on all of the above, the Planning Commission hereby approves the Project, subject to the conditions set forth in Exhibit I, attached hereto.
2. The Planning Commission hereby specifies that the materials and documents which constitute the record of proceedings upon which its decision is based are located at and under the custody of the City of Chico Community Development Department.

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THE FOREGOING RESOLUTION WAS ADOPTED at a meeting of the Planning Commission of the City of Chico held on May 19, 2022, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAINED:

DISQUALIFIED:

ATTEST:

APPROVED AS TO FORM:

_____

BRUCE AMBO
Planning Commission Secretary

_____

Vincent C. Ewing, City Attorney*

*Pursuant to The Charter of the City of Chico, Section 906(E)

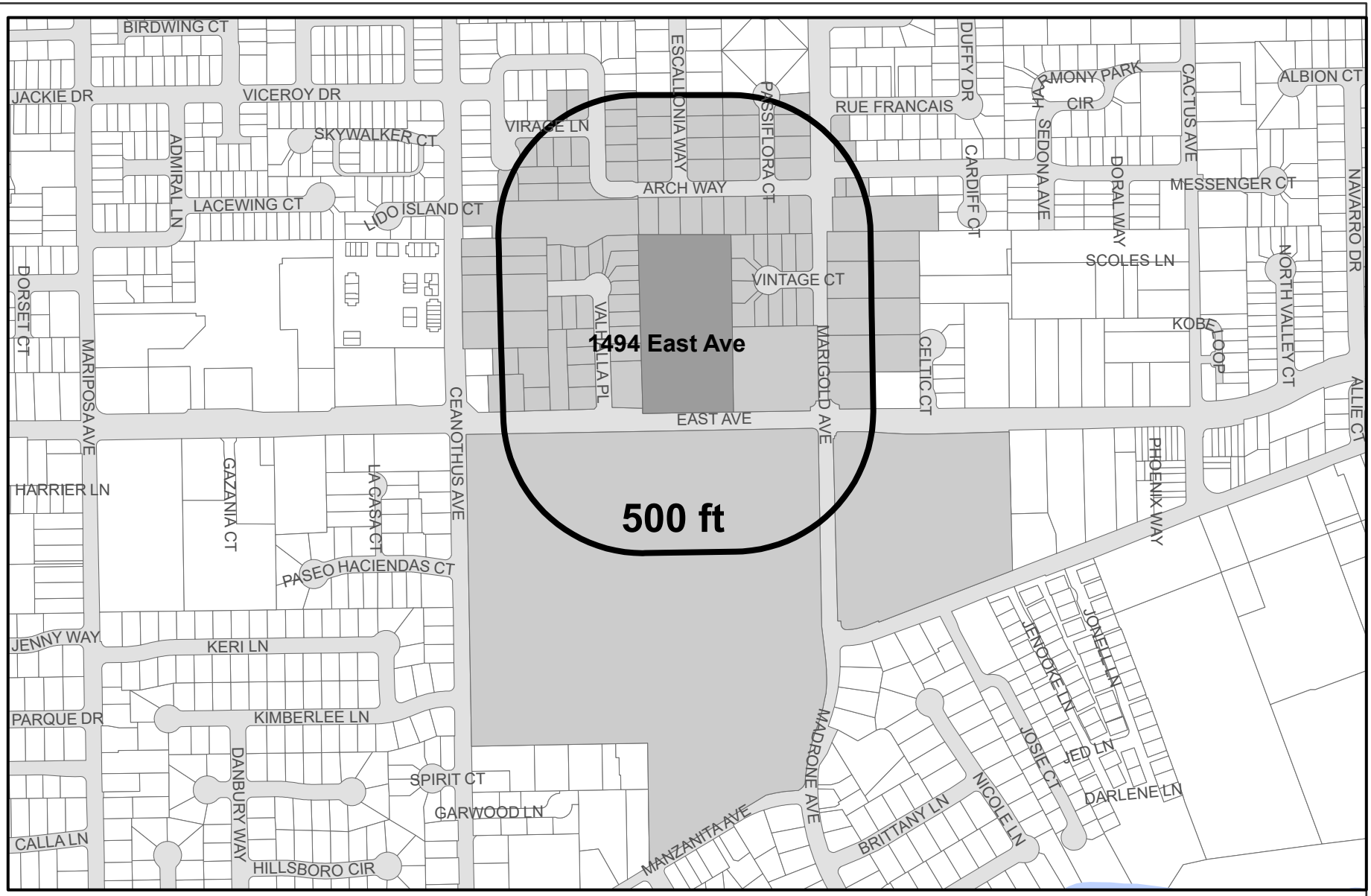
EXHIBIT "I"
CONDITIONS OF APPROVAL FOR USE PERMIT 21-03
(Achieve Charter School)

1. Use Permit 21-03 (Achieve Charter School) authorizes a public charter school with a maximum of 250 students, in substantial accordance with the "Plat to Accompany Use Permit 21-03 (Achieve Charter School)" included in the staff report dated May 10, 2022, except as modified by any other condition of approval.

2. The operator shall comply with all other State and local Code provisions, including those of the Building Division, Fire Department and the Department of Public Works. The operator is responsible for contacting these departments to verify the need for permits.

3. The facility is subject to architectural review and approval prior to issuance of building permits.

4. The applicant shall defend, indemnify, and hold harmless the City of Chico, its boards and commissions, officers and employees against and from any and all liabilities, demands, claims, actions or proceedings and costs and expenses incidental thereto (including costs of defense, settlement and reasonable attorney's fees), which any or all of them may suffer, incur, be responsible for or pay out as a result of or in connection with any challenge to or claim regarding the legality, validity, processing or adequacy associated with: (i) this requested entitlement; (ii) the proceedings undertaken in connection with the adoption or approval of this entitlement; (iii) any subsequent approvals or permits relating to this entitlement; (iv) the processing of occupancy permits and (v) any amendments to the approvals for this entitlement. The City of Chico shall promptly notify the applicant of any claim, action or proceeding which may be filed and shall cooperate fully in the defense, as provided for in Government code section 66474.9.



PC (Achieve Charter School)
1494 East Ave
APN: 016-070-022-000

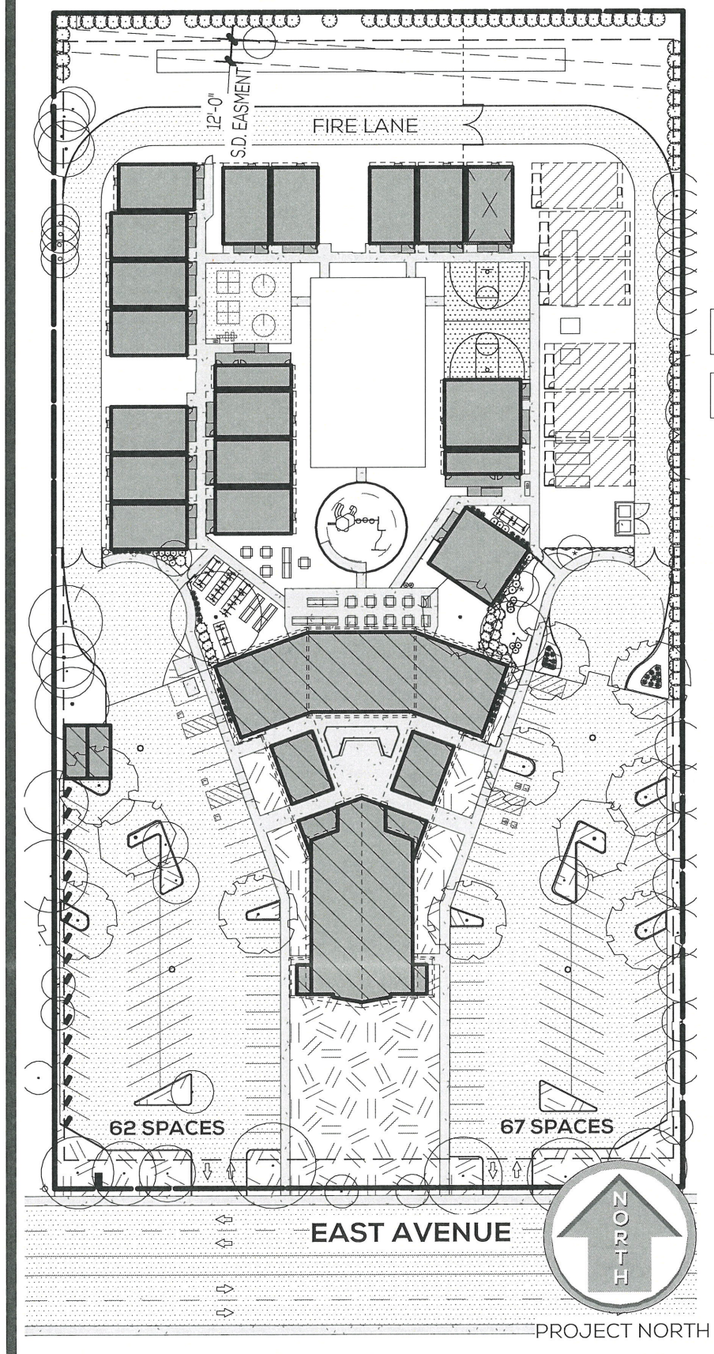
Noticed Parcels

Noticed Addresses

0 250

Feet

Attachment B



AA - OVERALL SITE PLAN

SCALE : 1" = 80'-0"

SCOPE OF WORK:
THIS PROJECT CONSISTS OF CONVERTING AN EXISTING TEMPORARY K-8 CHARTER SCHOOL TO PERMANENT STATUS FOR A MAXIMUM ENROLLMENT OF 250 STUDENTS. THE CURRENT TEMPORARY CAMPUS WAS CONSTRUCTED UNDER A DISASTER RECOVERY PERMIT FROM THE CITY OF CHICO IN THE AFTERMATH OF THE CAMP FIRE.

A.P. NUMBER, ZONING, AND LAND USE:
ASSESSOR'S PARCEL NUMBER: 016-070-022
GENERAL PLAN DESIGNATION: OFFICE MIXED USE (OMU)
ZONING: OFFICE RESIDENTIAL DISTRICT (OR)
ZONING OVERLAY: AIRPORT OVERFLIGHT C (-AOC), TRAFFIC PATTERN

USE PERMIT REQUIRED (PER CMC 19.44.020)

BUTTE COUNTY AIRPORT LAND USE COMMISSION CONSISTENCY DETERMINATION REQ'D

OCCUPANCY:
EXISTING EDUCATIONAL GROUP E
EXISTING ASSEMBLY GROUP A-3 (RELIGIOUS WORSHIP)

C.B.C. CONSTRUCTION TYPE:
TYPE V-B (NON-FIRE SPRINKLERED)

PROPOSED AREA AND DESCRIPTION:

EXISTING:		
ADMIN OFFICE	(1) 1,440 SF MODULAR	1,440 SF
RESTROOMS	(2) 480 SF MODULAR	960 SF
CLASSROOMS	(14) 960 SF MODULAR	13,440 SF
SCIENCE CLASS	(1) 1,440 SF MODULAR	1,440 SF
EXISTING SCHOOL		17,280 SF
RELOCATED:		
CLASSROOMS	(1) 960 SF MODULAR	960 SF
FUTURE:		
CLASSROOMS:	(7) 960 SF MODULAR	6,720 SF
TOTAL EXISTING SCHOOL:		17,280 SF
TOTAL RELOCATED SCHOOL:		960 SF
TOTAL FUTURE SCHOOL:		6,720 SF
TOTAL SCHOOL:		24,960 SF
EXISTING CHURCH		13,010 SF
ASSEMBLY AREA 2,893 SF		
EXISTING SHED		672 SF
TOTAL PROJECT		38,642 SF

SITE COVERAGE

PROPOSED BLDG FOOTPRINT	38,642 SF
LOT AREA	4.70 AC
	204,732 SF
PROPOSED SITE COVERAGE	18.87%
ALLOWABLE SITE COVERAGE (PER CMC 19.44.030, TABLE 4-7)	70%

PROPOSED SITE COVERAGE < ALLOWABLE OK

BB - VICINITY MAP

NOISE MITIGATION
PROJECT LOCATED OUTSIDE OF 65 dB NOISE CONTOUR PER BUTTE COUNTY AIRPORT LAND USE COMPATIBILITY PLAN.

NO NOISE MITIGATION REQUIRED (PER CMC 19.52.020.E.2)

LANDSCAPE REQUIREMENTS

REQUIRED LANDSCAPE AREA	15% OF SITE (19.68.040, TABLE 5-2)
EXISTING LANDSCAPE AREA	21,394 SF LANDSCAPE / 204,732 SF = 10.4%

ADDITIONAL REQUIRED LANDSCAPE AREA 9,316 SF

PARKING REQUIREMENTS

CHURCH				
1 VEHICLE PER	42 SF GROSS	2,893SF	=	69 SPACES
1 BICYCLE PER	10% OF VEHICLE		=	7 BICYCLE SPACES
SCHOOL				
1 VEHICLE PER	EMPLOYEE	22 EMPLOYEES	=	22 SPACES
+1 VEHICLE PER	CLASSROOM	16 CLASSROOMS	=	16 SPACES
1 BICYCLE PER	4 STUDENTS	250 STUDENTS	=	63 BICYCLE SPACES

TOTAL CHURCH REQUIRED	69 VEHICLE SPACES 7 BICYCLE SPACES
TOTAL SCHOOL REQUIRED	38 VEHICLE SPACES 63 BICYCLE SPACES
OVERALL TOTAL REQUIRED	107 VEHICLE SPACES 70 BICYCLE SPACES
EXISTING VEHICLE SPACES PROVIDED	129 VEHICLE SPACES
PROPOSED BICYCLE SPACES PROVIDED	70 BICYCLE SPACES

r · g · a
architecture + engineering

RUSSELL GALLAWAY ASSOCIATES inc.

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SUITE 110
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ACHIEVE CHARTER SCHOOL

PERMANENT CAMPUS CONVERSION

1492 EAST AVENUE
CHICO, CA 95926

DRAWING SCALE	As indicated
RGA PROJECT #	20-725
DRAWN	KJE
CHECKED	RGA
STATUS DATE	2021.02.01

OVERALL SITE PLAN

PC-1

Attachment C

r · g · a
architecture + engineering

August 5, 2021

City of Chico Planning
411 Main Street
Chico, Ca. 95928

RE: Conversion of Temporary Campus to Permanent
Use Permit
Achieve Charter School
1494 East Avenue, Chico CA 95926
APN: 016-070-022

Dear Planner,

It is with great pleasure that we submit the application to you for Achieve Charter School and the conversion of their temporary campus to a permanent use. This campus serves grades K-8, and was originally constructed as a temporary location under a disaster recovery permit issued by the City of Chico in the aftermath of the Camp Fire. The temporary use permit for this campus with the City of Chico will expire after the 2022-2023 school year. Given the proven success of the school at this location, the approximately $4 million investment made in constructing the campus, and the continued need for charter school presence in Chico, Achieve has chosen to proceed with securing the City's approval of the campus as permanent. The school recognizes that this process will require approval from a formal plan review, and that this Use Permit submittal is the first step in that process.

As recommended by Planning Staff, this submittal consists of an application for a Use Permit. A Use Permit is required due to the property's zoning designation (Office Residential District, CMC19.44.020) and the proposed use as a school. Refer to sheets PC-1 and PC-2 for additional information.

The proposed permanent campus consists entirely of existing buildings, with no new buildings proposed except for the construction of a covered trash enclosure. As indicated on the provided Enlarged Site Plan (see sheet PC-2) the property contains an existing

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church building (#26) and shed (#27), nineteen individual school buildings (#1-19), and room for six additional future classroom buildings (#20-25) to be addressed at a later date under separate submittal. All school buildings are located on the northern portion of the property, and are setback from East avenue and obscured from view by planting, church buildings, and parking. Additional views of the school campus from surrounding residential neighbors are screened by new landscape planting and existing fences. Given the secluded nature of the campus and its location away from East Avenue, the school buildings are not readily visible from the public right of way. Additional proposed landscaping around the perimeter of the school campus and in the parking lot will provide additional screening of views (see sheet L-0.1).

This project proposes to allow Achieve Charter School to operate this campus as a K-8 school with a total maximum enrollment of 250 students. Including 22 staff members, which brings the total proposed occupancy of this site to 272 occupants. The school is typically occupied from Monday through Friday during regular school hours. The church and the school are never occupied at the same time, as church services are only held on Sundays, and other functions held on weeknights. As such, the school campus does not represent an addition to the number of occupants already permitted for the site. The maximum occupancy of the church is 300 occupants when church services overlap on Sunday as one service is coming, and one is leaving.

New landscape planting is proposed throughout the campus to achieve compliance with City requirements. A total of four existing parking stalls are proposed to be removed for the installation of landscape islands with shade trees (see sheets PC-2 and L-0.1). Even with the removal of these stalls, the site provides parking quantities in compliance with Title 19 (see sheet PC-1). Furthermore, the staggered peak usage times between the school (weekdays, morning through afternoon) and the church (weekends and possibly weekday evenings) further ensure that parking arrangements are feasible as well as compliant. With respect to traffic and parking, the heaviest impact imposed by School is dropoff and pickup of students during weekday mornings and afternoons. A transportation analysis prepared by Fehr and Peers concluded that the proposed project identified no significant impacts or violation of City policies, and only recommended that the School consider staggering pickup times and consider operational modifications to improve flow of pickup and dropoff.

This project was recently reviewed by the Butte County Airport Land Use Commission, and was unanimously approved by way of a Site Specific Special Conditions Exemption. This approval examined the use of the school within the Airport Overflight Zone C in which it exists. The proposed use of this site is similar to a number of properties located nearby, and specifically in the same overflight zone. Just to the south of the project site,

approximately 90% of the buildings located on Pleasant Valley High School's campus are positioned within Overflight Zone C. With an approximate enrollment of 2,000 students, the Pleasant Valley campus contains over 8 times the number of students proposed at Achieve. To the southeast of the project site Marigold Elementary School contains approximately 28,000 square feet of classroom and administrative office building area within Overflight Zone C. With an approximate enrollment of 477 students, the Marigold Elementary campus population is nearly twice the number of students proposed at Achieve. Approximately 1.1 miles southwest of the project site, Bidwell Junior High School is also located with Overflight Zone C. The student population of Bidwell Junior is approximately 1,000 students, nearly quadruple the number of students proposed at Achieve (see figure 1 below).

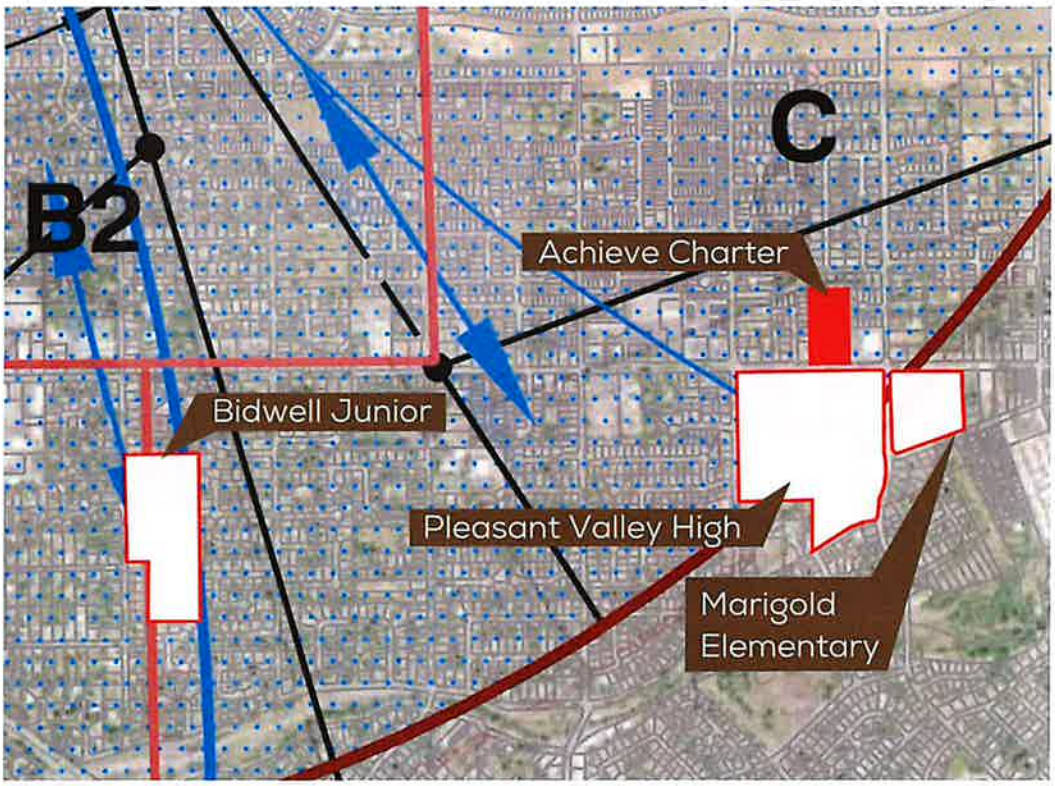

Figure 1 - Similar Uses Adjacent to Project Site

Also, the Butte County Airport Land Use Commission examined the level of sound reduction achieved by the existing school buildings, and found the levels of reduction achieved to be in compliance with the Airport Land Use Commission Plan. Specifically, pursuant to BCALUCP section 3.3.2.a, all existing structures in the project provide a noise level reduction of at least 20 dB. The school campus has been operating on the project site since 2019, and has not experienced any disruptions due to noise.

Achieve enlisted the services of a landscape architect (Brian Firth Landscape Architect, Inc.) to develop a proposed landscape plan that brings the site into conformance with City of Chico Standards, addresses neighbors' concerns, and provides an aesthetically pleasing campus for the benefit of the students and faculty. To address parking lot shade requirements, parking lot shade trees and landscape planters are being proposed (see sheet L-0.0). The Project Architect worked with the City of Chico to determine the number of parking spaces that are associated with the School. In doing so, the project will provide over the minimum requirements of parking lot tree shade and landscape at the parking lot area associated with the School and hence bring the project into conformance with current City of Chico Requirements. Landscape is being provided along the south of the project to provide an attractive entry facing the public view. Bicycle parking requirements will also be met as a part of this effort, with new bicycle racks being provided (see sheets PC-2 and L-0.1). A covered trash enclosure is being provided at the south east of the project site. Thought was given to keeping the enclosure away from neighboring properties to the extent possible. The enclosure will be screened using evergreen shrubs.

Special attention was also paid to addressing the neighbor's concerns regarding privacy and area programming. Existing trees were preserved as much as possible during the original temporary campus construction. Large evergreen screen shrubs are being proposed around the perimeter of the site to provide privacy to the neighboring parcels. The screen shrubs will be held away from existing gate openings so as not to preclude the Owners' use of existing gates. There is a sizable open area located at the north end of the property. A significant portion of this landscape area is a vegetated bio-swale created as part of the original temporary campus construction. An area north of that is being programmed as a potential gardening area with the thought being that gardening is a somewhat passive recreational activity so as not to disturb neighbors.

Another goal of the landscape plan was to provide an attractive campus for the students, staff, and faculty. During construction of the temporary campus, the entire site was prepared to receive the portable units by stabilizing the site with base rock. Concrete walkways were provided to meet ADA requirements. Many of the leftover areas are proposed to be landscaped using durable, low water use, evergreen shrubs. Landscape Irrigation will tie into an existing system and will be automatically controlled and utilize drip irrigation in the interest of water efficiency. Areas around several buildings will receive foundation plantings to help soften the transitions to the buildings. Small scale trees will be provided to help provide some visual interest and solar relief/ tree shade while not impeding rooftop exposures for future solar arrays. All landscaped areas will receive a 3" minimum layer of top dressing in accordance with California's Model Water Efficient Landscape Ordinance (MWELO).

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In summary, the proposed project is consistent with the infill and densification goals of the Chico General Plan. Furthermore, the project has received support and recognition from the Butte County Airport Land Use Commission, Chico Unified School District, and State Senator and State Assemblymembers. See attached letters of support for reference and explanation as to why this project represents a recognizable benefit for the City of Chico and its community members. On behalf of our entire project team, we look forward to a successful resolution of this request, and allowing Achieve Charter to continue to serve the needs of our local community.

Sincerely,

Kevin Easterling, Project Architect
Russell, Gallaway, Associates Inc.

Administrative Offices
1163 East Seventh Street
Chico, CA 95928-5999
530.891.3000
WWW.CHICOUSD.ORG

Senior Planner Mark Michelena
Butte County Airport Land Use Commission
Development Services
7 County Center Dr., Oroville, CA 95965

June 15, 2020

Dear Mr. Michelena,

This letter is in support of Achieve Charter School of Paradise's submission for a Site-Specific Special Conditions Exception for their school campus at 1494 East Ave, Chico, CA 95926.

After the Paradise Camp Fire, Achieve Charter School built a temporary campus at 1494 East Ave, Chico, to serve Paradise students that had relocated to Chico. The temporary use permit for this campus with the City of Chico will expire after the 2022-2023 school year. Achieve has been working with Chico Unified School District (CUSD) to share the vision for their school as well as to ensure they are following the state charter school laws that allow them to operate within the CUSD boundaries.

Achieve's current location is directly across the street from Pleasant Valley High School, diagonally across the street from Marigold Elementary School, and 5 blocks East of both McManus Elementary School and Bidwell Junior High School. These schools have been highly successful in their locations for decades. To my knowledge, there has been no negative impacts on the airport from the schools, nor has the airport had negative impacts on the schools.

Achieve has invested millions of dollars, much of it taxpayer funded, into their East Avenue facility. It does not seem a prudent use of tax payer dollars to allow use the facility for five years and then force abandonment.

For the reasons of both educational equity and public dollar accountability, we support Achieve's request for a Site-Specific Special Conditions Exception from the Butte County Airport Land Use Commission.

Sincerely,

Kelly Staley, Superintendent
Chico Unified School District
1163 East Seventh Street

CALIFORNIA LEGISLATURE

STATE CAPITOL
SACRAMENTO, CALIFORNIA
95814

June 19, 2020

Mr. Mark Michelena, Senior Planner
Butte County Airport Land Use Commission
Development Services
7 County Center Drive
Oroville, CA 95965

RE: Support for Permanent School Campus for Achieve Charter School of Paradise

Dear Mr. Michelena:

Assemblyman James Gallagher and I are writing to urge your support for a Site-Specific Special Conditions Exception for the Achieve Charter School of Paradise (Achieve) school campus located at 1494 East Avenue in Chico, that we represent respectively in the Third Assembly and Fourth Senate districts.

As you know, the devastating Camp Fire in November 2018 destroyed the Achieve Charter School in Paradise and forced many families of its students to relocate to Chico where a temporary campus was established at 1494 East Avenue. The temporary use permit for this campus, approved by the City of Chico, will expire after the 2022-2023 school year.

Many of Achieve's families plan to continue to live in Chico and are hopeful their children can continue to attend Achieve Charter School in Chico. Achieve school administrators are working closely with the Chico Unified School District to follow state charter school laws to continue operating the Chico campus permanently.

Achieve also is working with the City of Chico's Planning Department on a permanent use permit. Achieve has contracted with Russell Gallaway Associates Inc. for a feasibility study and architecture work for the project and has contracted with Fehrs and Peers for a traffic study.

Achieve's temporary Chico campus is located directly across the street from Pleasant Valley High School, diagonally across the street from Marigold Elementary School, and five blocks east of McManus Elementary School. Achieve and their facilities development team conducted a thorough study of potential school sites in Chico and could not find any other affordable or easily developable space.

Achieve's insurance company, CharterSafe, invested approximately $4 million into the infrastructure, city code requirements, and buildings on the Chico campus. The campus opened with temporary approval in August of 2019, and has successfully served 215 students and their families for the 2019-2020 school year.

We believe Achieve Charter School of Paradise has shown that being able to continue operating permanently at the Chico campus offers a valuable education experience to the relocated students they are serving from Paradise as well as the student population of Chico and its surrounding communities.

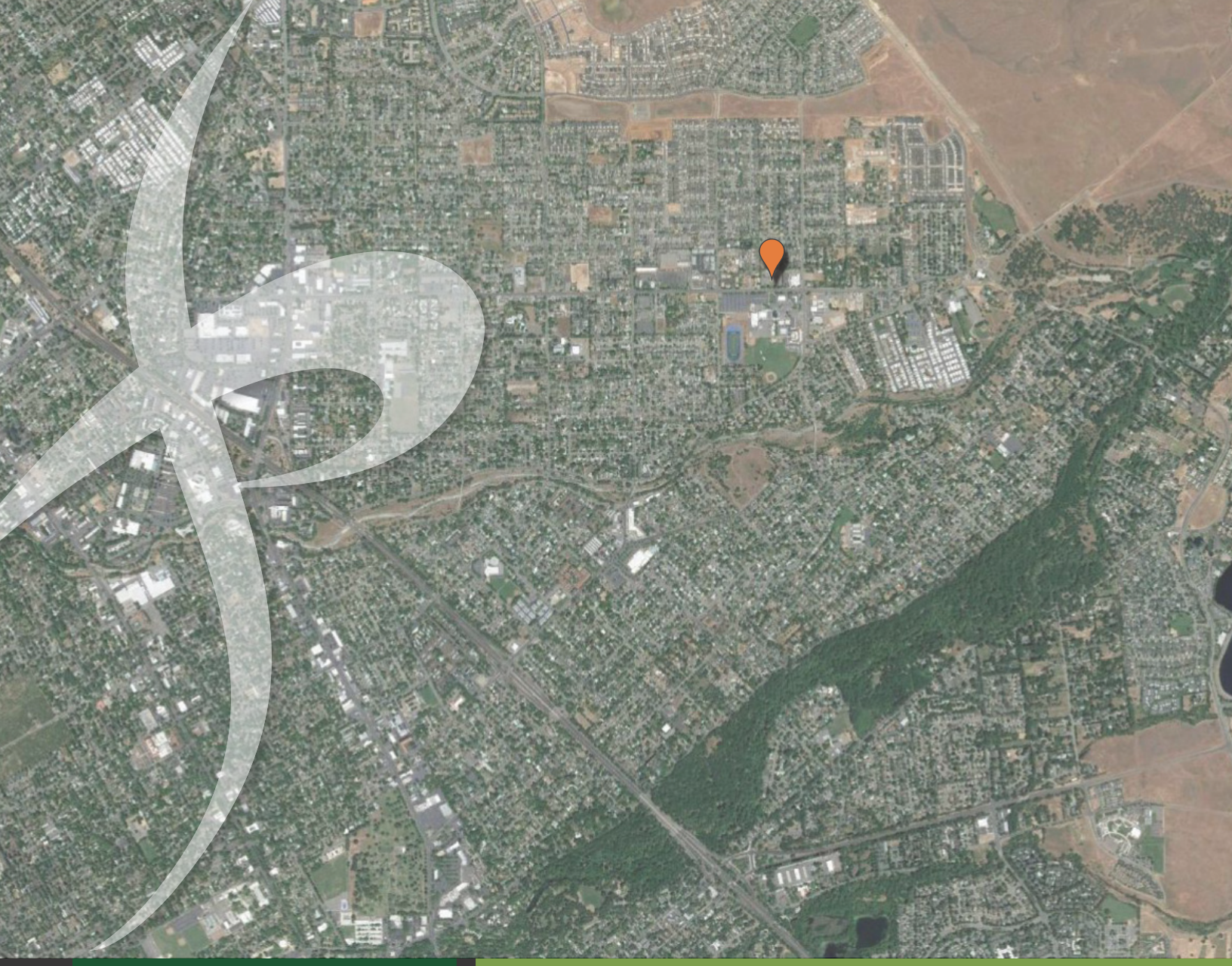
We strongly support Achieve's request for a Site-Specific Special Conditions Exception from the Butte County Airport Land Use Commission so that they can continue to serve their students well into the future. These students have persevered through extraordinarily difficult circumstances since the Camp Fire, and now the COVID-19 pandemic, and we would like to be able to promise them the support and commitment to their education and future success they so rightfully deserve.

If you have further questions, please contact my Deputy Chief of Staff, Rob Olmstead, at (916) 772-0571, or Assemblyman Gallagher's Chief of Staff, Curtis Grima, at (530).671-0303. Again, thank you for your consideration of this request.

Sincerely,

JIM NIELSEN
State Senator, Fourth District

JAMES GALLAGHER
State Assemblymember, Third District



Prepared by
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100 Pringle Avenue
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February 2021

Draft

Transportation Impact Analysis

Achieve Charter School

Prepared for:
Achieve Charter School

Achieve Charter School

Prepared for:
City of Chico
Achieve Charter School

February 2021

WC20-3698

FEHR PEERS

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1. Introduction

This Traffic Impact Study (TIS) documents the potential transportation impacts associated with the development of the Achieve Charter School Project in Chico, California.

1.1 Purpose

This study analyzes the potential transportation impacts associated with the development of the Achieve Charter School Project. The Project proposes to permanently occupy an existing facility at 1492 East Avenue in Chico with a charter school use accommodating 250 students. It should be noted that the charter school has been temporarily occupying the facility in recent months and is seeking approvals to permanently remain at the site. This transportation assessment has been prepared in accordance with City of Chico requirements to evaluate the potential transportation related consequences of the proposed use.

1.2 Project Description

Achieve Charter School currently shares a facility located at 1492 East Avenue in Chico, California with a church. This study evaluates the potential permanent/long term occupation and use of the facility as a charter school facility with 250 kindergarten-eighth grade students. Nearby schools include Pleasant Valley High School to the south, and Marigold Elementary School and Loma Vista School to the southeast, as shown on **Figure 1**. Access to the site is provided along the project's frontage on East Avenue via a sidewalk and two driveways, as shown on **Figure 2**. As illustrated in Figure 2, the school currently occupies and would improve the rear portion of the property, with the church continuing to operate in the front (southern) portion of the site.

1.3 Report Organization

This report is organized into nine chapters:

Chapter 1. Introduction – overview of the study's purpose, project description, and report organization

Chapter 2. Analysis Methodologies and Assumptions – describes the analysis methods, impact criteria, and assumptions used in this study

Chapter 3. Existing Conditions – documents the existing conditions of the study area transportation network

Chapter 4. Project Trip Estimates – describes the project's trip generation, trip distribution, and trip assignment

Chapter 5. VMT Analysis – evaluates the project's potential effects on Vehicle Miles of Travel (VMT)

Chapter 6. Safety Analysis – analyzes historic collision data, identifies any collision trends and safety concerns, and recommends safety improvements based on findings

Chapter 7. Existing plus Project Conditions – evaluates the project's potential effects on pedestrian, bicycle, and transit facilities. Presents the project's effect on intersection LOS under Existing plus Project Conditions.

Chapter 8. Cumulative Conditions – evaluates the project's potential cumulative effects on the transportation system. Presents intersection LOS under Buildout Base (2040) Conditions and the project's effects on intersection LOS under Buildout (2040) plus Project Conditions

Chapter 9. Site Review – evaluates site conformance with design, safety, and parking standards and provides recommendations for site improvements, if necessary

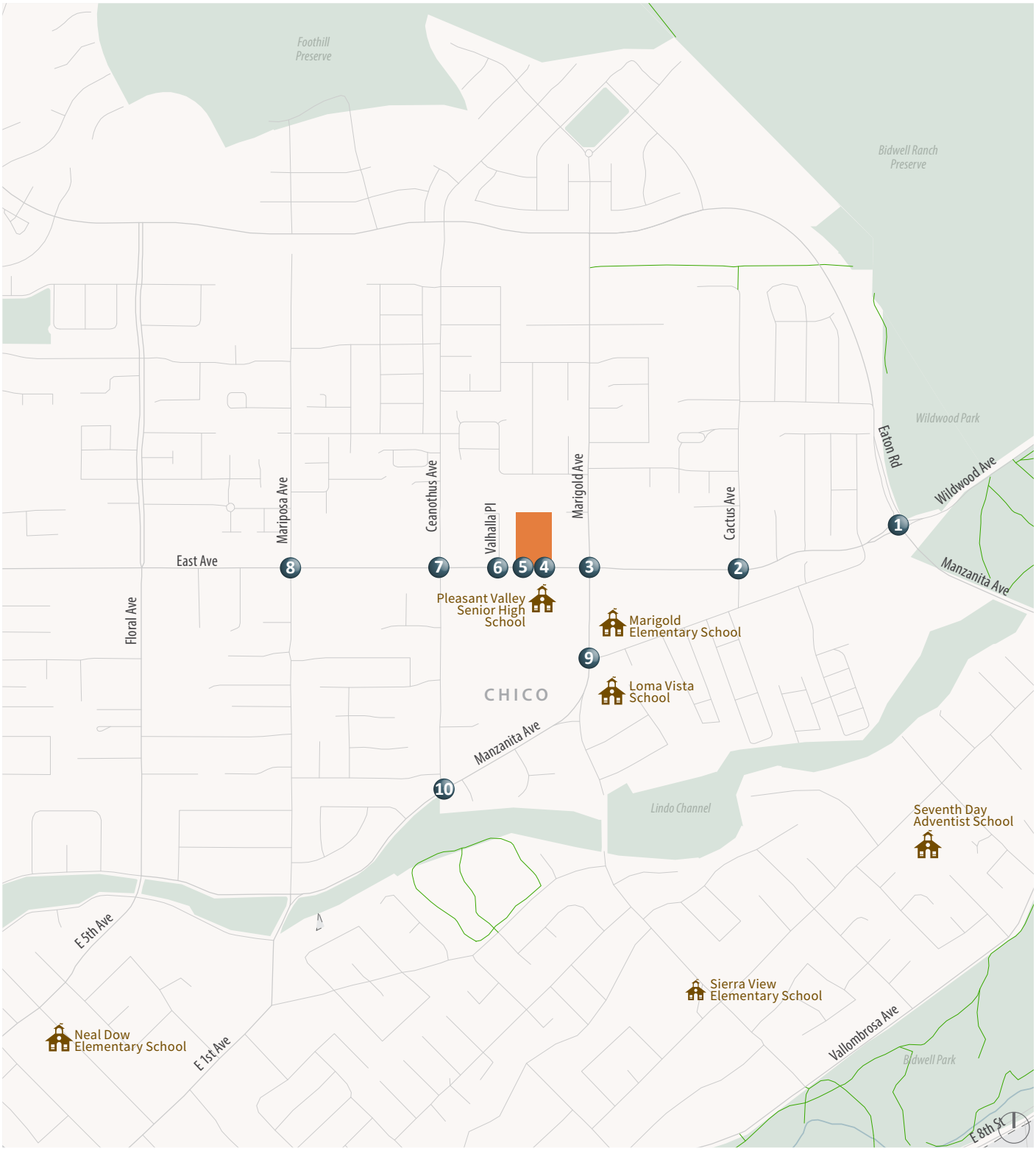


Figure 1

Project Location and Study Intersections

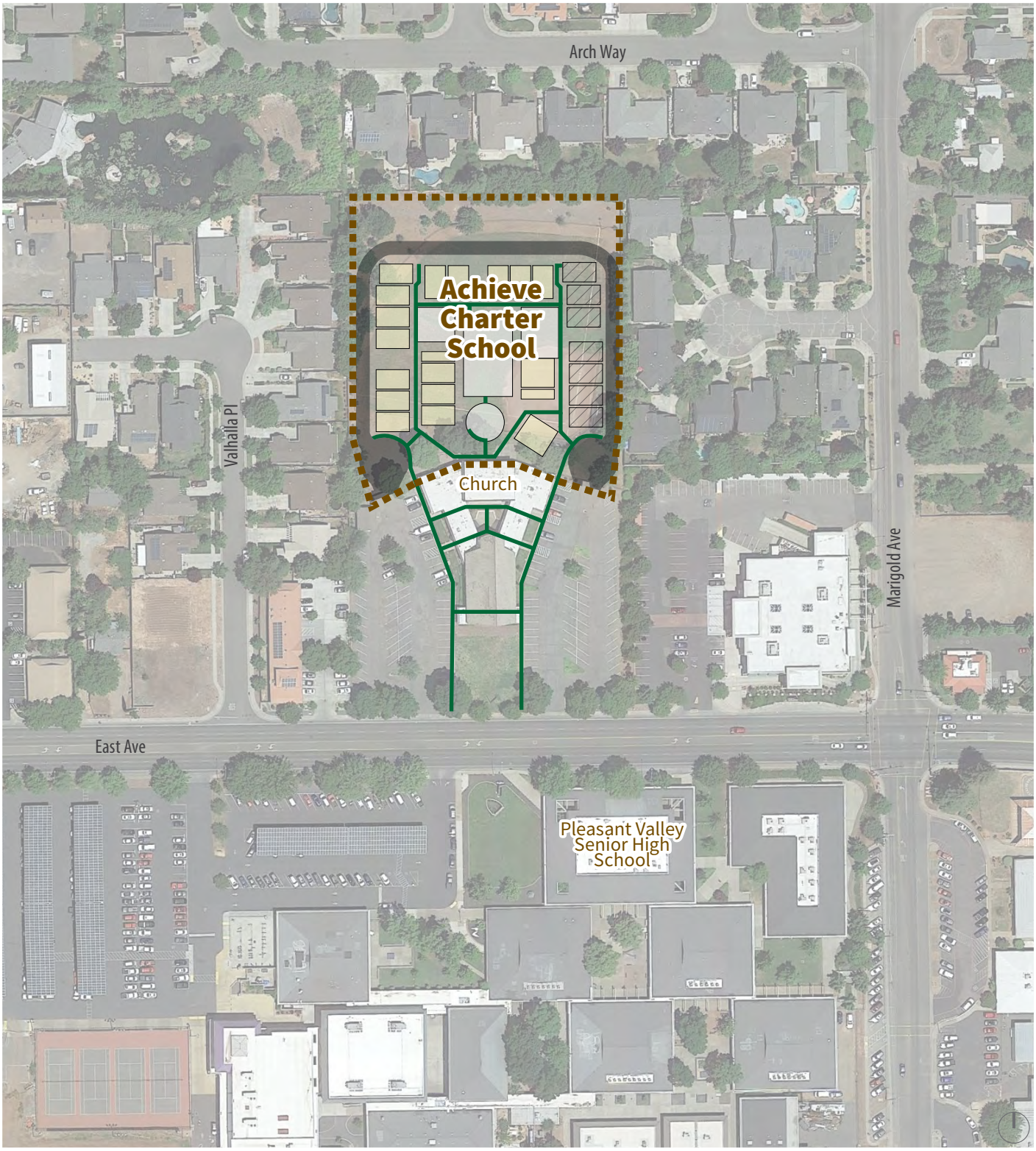


Figure 2

Project Site

2. Analysis Methodologies and Assumptions

This section describes the analysis methods, impact criteria, and assumptions used in this study.

2.1 SB 743/Vehicle Miles Traveled (VMT)

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

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

For this report, both VMT and LOS are reported. LOS results are reported to provide decision-makers and the general public a better understanding of the effects the proposed project may have on the surrounding roadway network and the types of operational enhancements that could be considered to improve operations and safety. Presentation of LOS information also helps evaluate the project's consistency with the City, Butte County and Caltrans established level of service performance targets. VMT is used to identify the project's potentially significant transportation impacts.

Consistent with SB 743 requirements, project daily VMT was estimated using travel demand model data, information on student residences, and trip generation estimates. Since the City of Chico has not adopted thresholds for VMT impacts, this VMT analysis applies an ad hoc threshold based on guidance provided in the California Office of Planning and Research (OPR)'s Technical Advisory on Evaluation Transportation Impacts in CEQA (December 2018). OPR guidance specifies that a project would have a significant impact on the environment if it causes substantial additional VMT per capita, per service population, or other appropriate efficiency measure. Specifically,

- For residential projects, a project would cause substantial additional VMT if it exceeds existing regional household VMT per capita minus 15 percent.
- For office projects, a project would cause substantial additional VMT if it exceeds the existing regional VMT per employee minus 15 percent.
- For retail projects greater than 80,000 square feet, a project would cause substantial additional VMT if it results in a net increase in citywide total VMT per service population.
- Local-Serving Uses - Projects that consist of Local-Serving Uses can generally be presumed to have a less-than-significant impact absent substantial evidence to the contrary, since these types of projects will primarily draw users and customers from a relatively small geographic area that will lead to short-distance trips and trips that are linked to other destinations.
- Other Uses and Projects should be analyzed using a methodology developed by the lead agency specifically for the project, prepared and documented based on available data and taking into account the specific methodologies and thresholds.

The proposed project is not residential, office, or retail in nature. It is best characterized as a local serving or other-use type. Its total anticipated daily VMT is calculated and reported along with an assessment of the its likely effects on overall regional VMT.

2.2 Roadway System

The project would create a significant impact related to the vehicle system if any of the following criteria are met:

- The project design would not provide or would eliminate vehicle facilities to connect to the area circulation system, or
- The project design would create hazardous conditions for vehicle drivers, or
- The project conflicts with existing or planned vehicle facilities.

2.3 Pedestrian System

The project would create a significant impact related to the pedestrian system if any of the following criteria are met:

- The project design would not provide or would eliminate pedestrian facilities to connect to the area circulation system, or
- The project design would create hazardous conditions for pedestrians, or
- The project conflicts with existing or planned pedestrian facilities.

2.4 Bicycle System

The project would create a significant impact related to the bicycle system if any of the following criteria are met:

- The project design would not provide or would eliminate bicycle facilities that connect to the area circulation system; or
- The project design would create hazardous conditions for bicyclists; or
- The project conflicts with existing or planned bicycle facilities.

2.5 Transit System

The project would create a significant impact related to transit service if either of the following criteria are met:

- The project generates a substantial increase in transit riders that cannot be adequately served by existing transit services; or,
- The project conflicts with existing or planned transit facilities.

2.6 Emergency Access

The project would create a significant impact related to emergency vehicle access if the following criterion is met:

- The project incorporates design features that limit or result in inadequate emergency vehicle access.

2.7 Intersection Operations

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

2.7.1 Signalized Intersections

Traffic conditions at signalized intersections were evaluated using methods developed by the Transportation Research Board (TRB), as documented in the *Highway Capacity Manual* (2010 HCM) for vehicles using the analysis software Synchro 10.0. The HCM method calculates control delay at an intersection based on inputs such as traffic volumes, lane geometry, signal phasing and timing, pedestrian crossing times, and peak hour factors. Control delay is defined as the delay directly associated with the traffic control device (i.e., a stop sign or a traffic signal) and specifically includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The relationship between LOS and control delay for signalized intersections is summarized in **Table 1**.

Table 1: Signalized Intersection LOS Criteria

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

Source: Highway Capacity Manual (Transportation Research Board)

2.7.2 Unsignalized Intersections

For all-way stop controlled and side-street stop-controlled intersections, the HCM method for unsignalized intersections was used. For roundabouts, the HCM method (6th Edition) for roundabouts was used. With both methods, operations are defined by the average control delay per vehicle (measured in seconds). The control delay incorporates delay associated with deceleration, acceleration, stopping, and moving up in queue. **Table 2** summarizes the relationship between LOS and delay for unsignalized intersections. At side-street stop-controlled intersections, the delay is calculated for each stop-controlled movement, the left turn movement from the major street, as well as the intersection average. The intersection average delay and highest movement/approach delay are reported for side-street stop-controlled intersections.

Table 2: Unsignalized Intersection LOS Criteria

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

Source: Highway Capacity Manual (Transportation Research Board)

2.7.3 City of Chico LOS Policy

In general, the project would result in a violation of a Level of Service Policy if it would cause an increase in traffic which is substantial in relation to the traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, or delay and congestion at intersections), or change the condition of an existing street (e.g., street closures, changing direction of travel) in a manner that would substantially impact access or traffic load and capacity of the street system. Per the City's General Plan, Chico strives to maintain LOS D operations at all intersections.

2.8 Study Locations and Scenarios

The effects of the project on study area roadway facilities were determined by measuring the change in delay that project generated traffic would create at intersections in the vicinity of the site during the weekday morning (7:00 to 9:00 AM), mid-day (1:00 to 3:00 PM), and evening (4:00 to 6:00 PM) peak periods. The following intersections, as shown on **Figure 1**, were selected based on a review of the project location, estimates of the added traffic from the project, and locations of existing and planned roadways in the area:

1. Manzanita Ave/East Ave (roundabout)
2. Cactus Ave/East Ave (unsignalized)
3. Marigold Ave/East Ave (signalized)
4. Project East Driveway/East Ave (driveway)
5. Project West Driveway/East Ave (driveway)
6. Valhalla Pl/East Ave (unsignalized)
7. Ceanothus Ave/East Ave (signalized)
8. Mariposa Ave/East Ave (signalized)
9. Marigold Ave/Manzanita Ave (unsignalized)
10. Ceanothus Ave/Manzanita Ave (unsignalized)

Intersection operations were evaluated for the following scenarios:

- **Existing Conditions** – Existing conditions based on traffic counts collected from StreetLight Data at the study locations
- **Existing plus Project Conditions** – Existing traffic counts plus traffic expected to be generated by the project
- **Buildout Base (2040) Conditions** – based on a 1.5 percent growth per year for the next five years and 1.2 percent growth per year after that
- **Buildout (2040) plus Project Conditions** – Buildout Base forecasts plus traffic expected to be generated by the project

3. Existing Conditions

This chapter describes the existing regulatory setting and transportation network, including roadways, and bicycle, pedestrian and transit facilities, within the study area, and traffic counts and intersections operations at the study locations.

3.1 Regulatory Setting

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

The *City of Chico General Plan (Adopted: April 2011, Amended: March 2017*) provides long-range direction and policies for the use of land within Chico. The Circulation Element of the General Plan provides the framework for achieving the City's transportation system goals. The Circulation Element outlines the goals and policies necessary for the City to achieve its vision of a multimodal transportation network that accommodates vehicles, transit, bicycles, and pedestrians. For the purposes of this study, the goals and policies of this document were used in developing the impact significance criteria.

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

- Policy CIRC-1.1 (Transportation Improvements) – Safely and efficiently accommodate traffic generated by development and redevelopment associated with build-out of the General Plan Land Use Diagram.
    - Action CIRC-1.1.1 (Road Network) – Enhance existing roadways and intersections and develop the roadway system shown in Figure CIRC-1 (Roadway System Map) over the life of the General Plan as needed to accommodate development.
- Policy CIRC-1.2 (Project-Level Circulation Improvements) – Require new development to finance and construct internal and adjacent roadway circulation improvements as necessary to mitigate project impacts, including roadway, transit, pedestrian, and bicycle facilities.
- Policy CIRC-1.3 (Citywide Circulation Improvements) – Collect the fair share cost of circulation improvements necessary to address cumulative transportation impacts, including those to state highways, local roadways, and transit, pedestrian and bicycle facilities, through the City's development impact fee program.
- Policy CIRC-1.5 (Vehicle Miles Travelled Analysis) – Consistent with State law, implement Vehicle Miles Travelled (VMT) assessments as part of the environmental review process under CEQA.

  - Action CIRC-1.5.1 (VMT CEQA Analysis) – For projects that require a full traffic analysis as part of the CEQA review process, perform a VMT analysis consistent with the California Office of Planning and Research CEQA Guidelines.

- Policy CIRC-2.1 (Complete Streets) – Develop an integrated, multimodal circulation system that accommodates transit, bicycles, pedestrians, and vehicles; provides opportunities to reduce air pollution and greenhouse gas emissions; and reinforces the role of the street as a public space that unites the City.
  - Action CIRC-2.1.3 (Multimodal Connections) – Provide connections between and within existing and new neighborhoods for bicycles, pedestrians, and automobiles.
- Policy CIRC-2.2 (Circulation Connectivity and Efficiency) – Provide greater street connectivity and efficiency for all transportation modes.
  - Action CIRC-2.2.1 (Connectivity in Project Review) – New development shall include the following internal circulation features:
    - A grid or modified grid-based primary street system. Cul-de-sacs are discouraged, but may be approved in situations where difficult site planning issues, such as odd lot size, topography, or physical constraints exist or where their use results in a more efficient use of land, however in all cases the overall grid pattern of streets should be maintained;
    - Traffic-calming measures, where appropriate;
    - Roundabouts as alternative intersection controls, where appropriate;
    - Bicycle and pedestrian connections to adjacent streets, trails, public-spaces, and bicycle paths; and
    - Short block lengths consistent with City design standards.
  - Action CIRC-2.2.2 (Traffic Management) – Perform routine, ongoing evaluation of the street traffic control system, with emphasis on traffic management, such as signal timing and coordination or the use of roundabouts, to optimize traffic flow along arterial corridors and reduce vehicle emissions.
- Policy CIRC-3.3 (New Development and Bikeway Connections) – Ensure that new residential and non-residential development projects provide connections to the nearest bikeways.
  - Action CIRC-3.3.1 (Bikeway Requirements) – Require pedestrian and bicycle connections to the Citywide bikeway system every 500 feet, where feasible, as part of project approval and as identified in the Bicycle Master Plan.

- Policy CIRC-4.2 (Continuous Network) – Provide a pedestrian network in existing and new neighborhoods that facilitates convenient and continuous pedestrian travel free from major impediments and obstacles.
- Policy CIRC-5.3 (Transit Connectivity in Projects) – Ensure that new development supports public transit.
    - Action CIRC-5.3.2 (Transit Improvements for New Development) – During project review, consult with BCAG to determine appropriate requirements for the installation of stops and streetscape improvements, if needed to accommodate transit.

3.2 Existing Roadway System

A network of local roadway facilities forms the roadway system within the study area. Key roadways within the study area are described below:

Cactus Avenue is a north-south collector street with one travel lane in each direction east of the project site. It provides access to residential neighborhoods. Bicycle facilities are not present, and pedestrian facilities are limited.

Ceanothus Avenue is a north-south collector street with one travel lane in each direction west of the project site. It primarily serves residential land uses while also connecting to commercial and institutional uses along the street. Bicycle facilities are provided south of East Avenue. Pedestrian facilities are present along the street. The posted speed limit is 30 miles-per-hour with a school zone speed limit of 25 miles-per-hour along the Pleasant Valley High School frontage.

East Avenue is an east-west arterial with two travel lanes in each direction and a center two-way-left-turn lane. It provides direct access to the project site and connects to commercial, residential, and institutional uses along the street. Bicycle and pedestrian facilities are provided. The posted speed limit is 35 miles-per-hour with a school zone speed limit of 25 miles-per-hour along the Pleasant Valley High School frontage.

Manzanita Avenue has one travel lane in each direction. It is a northeast-southwest oriented collector street between Mariposa avenue and Eaton Road and turns into a northeast-southwest oriented arterial south of Eaton Road. Bicycle and pedestrian facilities are provided. The posted speed limit is 25 miles-per-hour.

Marigold Avenue is a north-south collector street with one travel lane in each direction east of the project site. It primarily serves residential land uses while also connecting to commercial and institutional uses along the street. Bicycle and pedestrian facilities are provided along the street. The posted speed limit is 35 miles-per-hour with a school zone speed limit of 25 miles-per-hour.

Mariposa Avenue is a north-south arterial with one travel lane in each direction west of the project site. It provides access to residential, commercial, institutional uses along the street. Bicycle facilities are limited, and sidewalks are provided. The posted speed limit is 35 miles-per-hour.

Valhalla Place is a local street with one travel lane in each direction west of the project site. It provides direct access to adjacent residential uses. Bicycle facilities are not present. Sidewalks are provided on both sides of the street.

3.3 Existing Pedestrian System

Pedestrian facilities include sidewalks, shared-use pathways, crosswalks, and pedestrian signals. Within the study area, paved sidewalks are provided on: both sides of the street along East Avenue and Valhalla Place; and at least one side of the street along Cactus Avenue, Ceanothus Avenue, Manzanita Avenue, Marigold Avenue, and Mariposa Avenue. At signalized study intersections, crosswalks, pedestrian push buttons, and pedestrian signals are provided. Crosswalks are provided at all unsignalized study intersections except at the intersection of Ceanothus Avenue and Manzanita Avenue. Existing pedestrian facilities in the study area are shown on **Figure 3**.

3.4 Existing Bicycle System

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

Class I (Bikeway or Bike Path) facilities are separated from automobile traffic for the exclusive use of bicyclists. Class I facilities can be designed to accommodate other modes of transportation, including pedestrians and equestrians, in which case they are referred to as shared use paths. Class I facilities are not currently provided within the study area.

Class II (Bike Lane) facilities are dedicated right-of-way for bicyclists immediately adjacent to automobile traffic. Class II facilities are identified with striping, pavement markings and signage. Existing Class II facilities are provided on the following key roadways within the project study area:

- East Avenue east of Mariposa Avenue
- Manzanita Ave
- Marigold Avenue south of East Avenue

Class III (Bike Route) facilities are on-street routes where bicyclists and automobiles share the road. They are identified with pavement markings and signage and are typically assigned to low-volume and/or low-

speed streets. Existing Class III facilities are provided on the following key roadway within the project study area:

- Ceanothus Avenue south of East Avenue

Proposed bicycle facilities on key roadways within the study area include:

- Class II facility on Ceanothus Avenue and Marigold Avenue north of East Avenue
- Class III facility on East Avenue west of Mariposa Avenue

Existing and proposed bicycle facilities within the study area are shown on **Figure 4**.

3.5 Existing Transit System

Transit service within the study area is provided by Butte Regional Transit (B-Line). Bus routes that serve the project site include Route 4 and Route 7. The nearest Route 4 bus stop is located approximately 350 feet east of the project site on the same side of the street. The nearest Route 7 bus stop is located across the street approximately 180 feet west of the project site. Existing transit facilities are shown on **Figure 5** and service schedules are summarized in **Table 3**.

Table 3: Existing Transit Service Schedule Summary

Route	Weekdays		Saturday		Sunday	
	Hours of Operation	Headways (minutes)	Hours of Operation	Headways (minutes)	Hours of Operation	Headways (minutes)
Route 4 – First/East	6:15 AM to 9:00 PM	30 to 60	6:15 AM to 9:00 PM	30 to 60	*No Sunday service*	
Route 7 – Bruce/Manzanita	6:45 AM to 5:30 PM	30 to 60	*No weekend service*			

Source: Butte Regional Transit, January 2021.

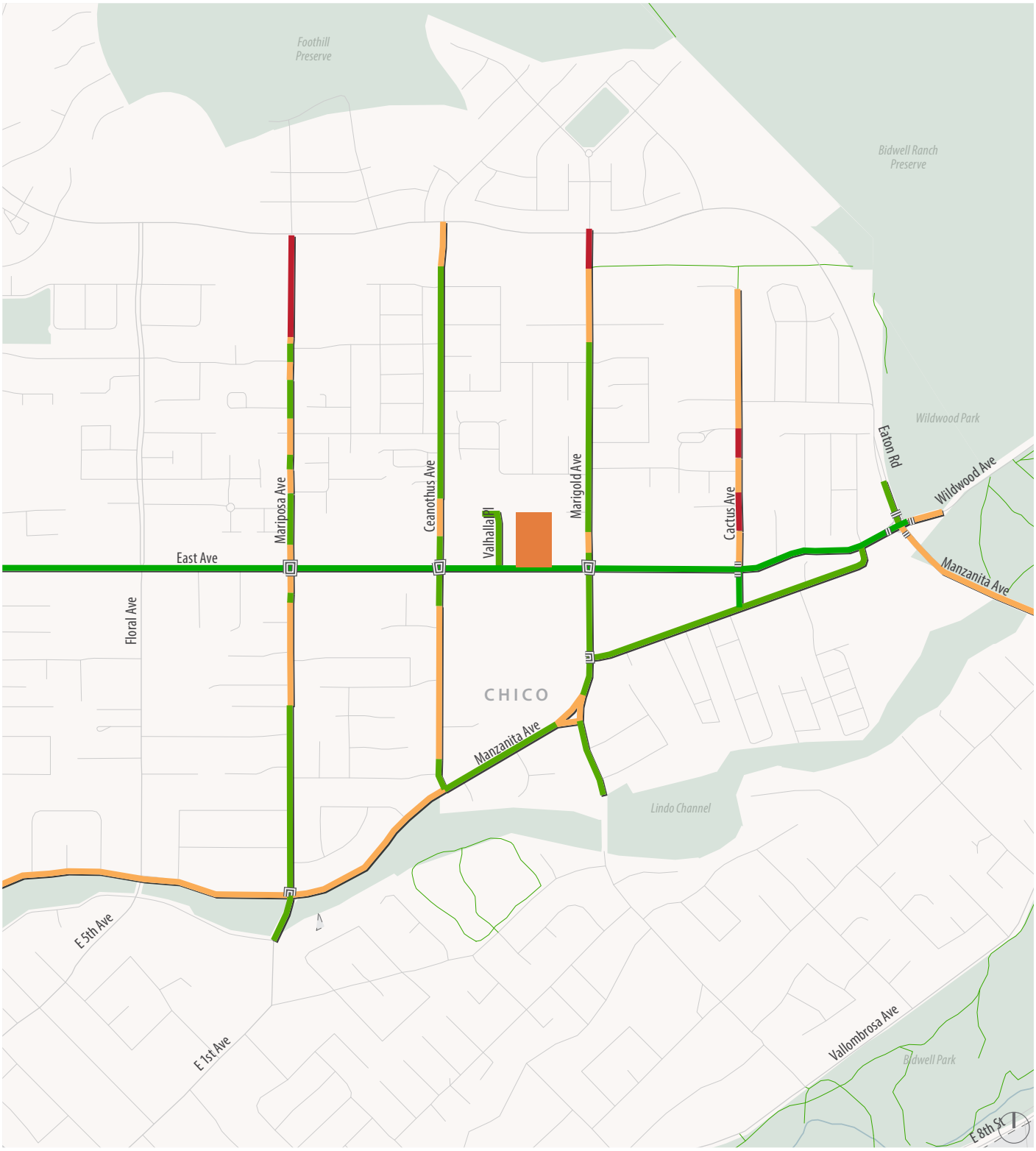


Figure 3

Existing Pedestrian Facilities

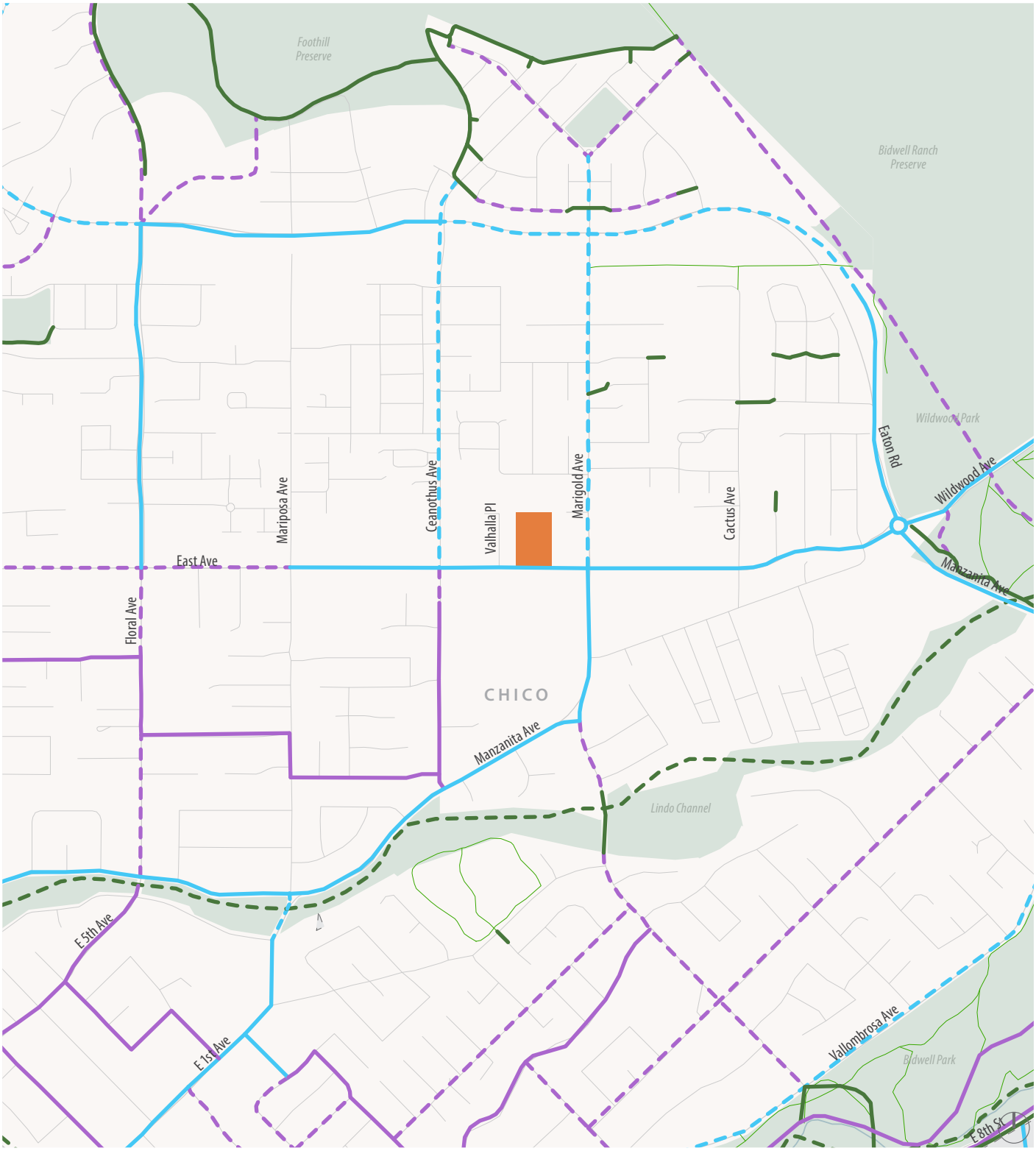


Figure 4

Existing and Proposed Bicycle Facilities

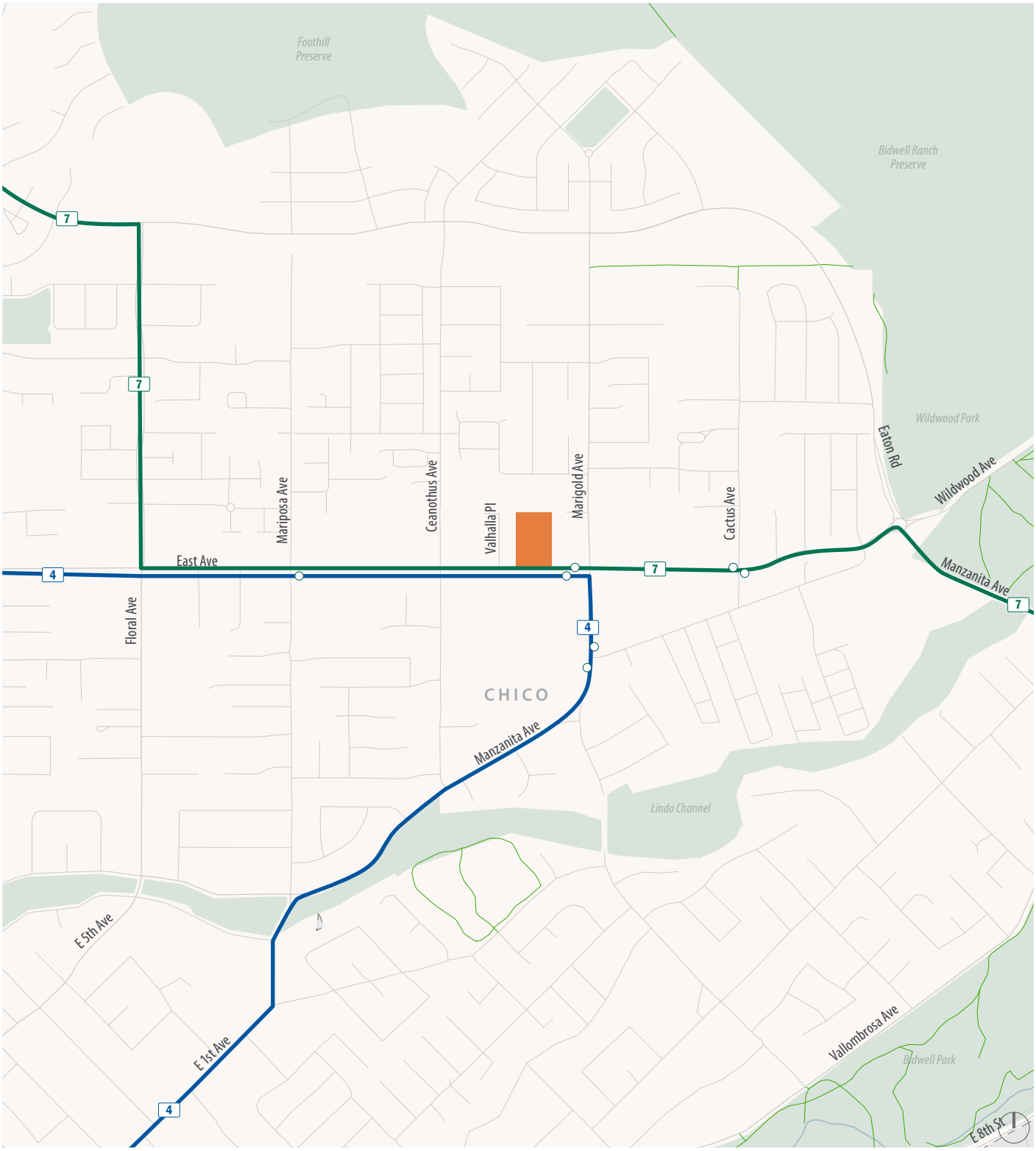


Figure 5

Existing Transit Facilities

3.6 Existing Traffic Counts

3.6.1 COVID-19

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

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

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

3.6.2 Traffic Counts

Due to the suppressed travel conditions occurring because of the COVID-19 pandemic, traditional intersection counts are not a reliable source of data. As an alternative approach, mobile device "Big Data" tools, such as StreetLight Data, can be used to estimate count volumes. The advantage of using StreetLight Data over traditional counts is that StreetLight Data provides the average count volumes over multiple days instead of just the one day of count volumes provided by traditional counts. Therefore, StreetLight Data can provide a more technically robust baseline of traffic volumes for LOS analysis[1].

[1] For more about the performance of StreetLight Data's intersection turning movement count product, please review Fehr & Peers' whitepaper detailing our independent review of the data source: https://www.fehrandpeers.com/transformative-data-collection-solution/

The following steps were performed to develop the baseline analysis volumes at the study intersections:

Step 1: Define analysis periods in StreetLight Data:

- Months with schools in normal session: February through May; September through November
- Days: Tuesdays, Wednesdays and Thursday (holidays excluded)
- Morning peak period: 7:00 AM to 8:00 AM; 8:00 AM to 9:00 AM
- Mid-day peak period: 1:00 PM to 2:00 PM; 2:00 PM to 3:00 PM
- Evening peak period: 4:00 PM to 5:00 PM; 5:00 PM to 6:00 PM

Step 2: Download StreetLight Data count volumes.

Step 3: Choose 60-minute period with the highest traffic volumes during the two-hour morning, mid-day, and evening count periods as peak hours of traffic.

Step 4: As requested by City staff, factor up peak 60-minute period 2019 StreetLight Data counts by 5%. Round factored volumes up to the next highest 10.

The Existing Conditions peak hour volumes, land configurations, and traffic controls are shown on **Figure 6**.

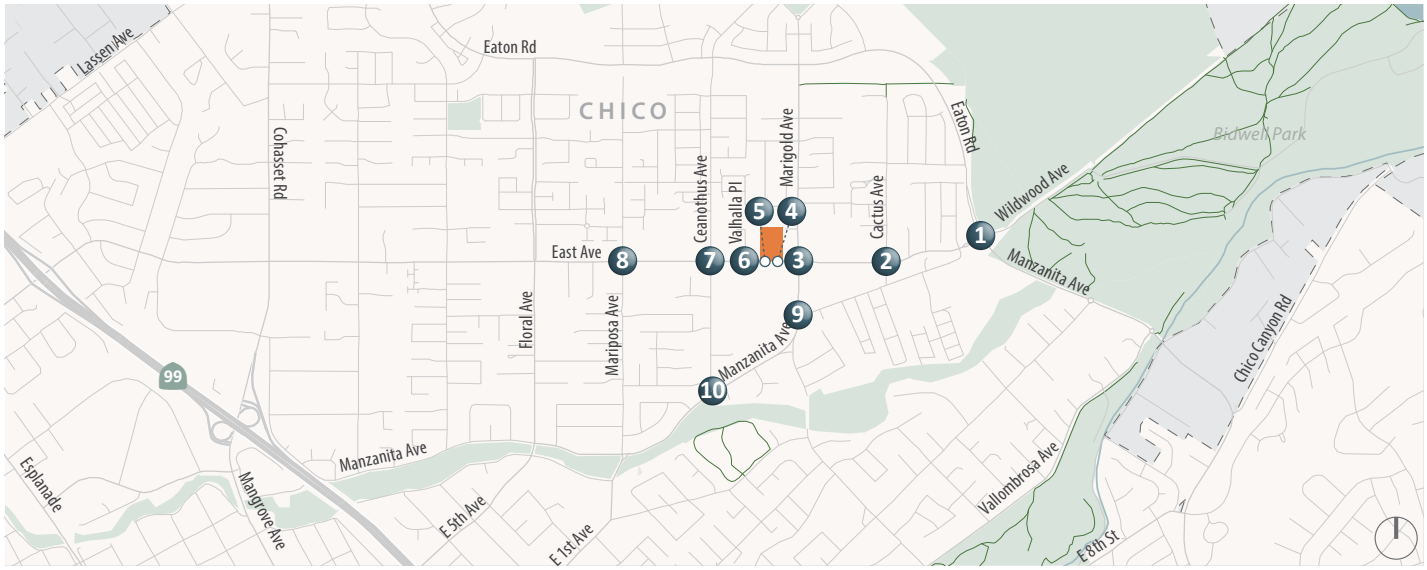
3.7 Existing Intersection Operations

Existing Conditions intersection operations were evaluated using the methodology described in **Section 2.7**. The intersection operations results are summarized in **Table 4**. Detailed LOS calculation worksheets are provided in **Appendix A**. All study intersections operate acceptably at LOS C or better.

Table 4: Existing Conditions Intersection LOS

Intersection	Control[1]	Peak Hour[2]	Delay (seconds)[3]	LOS
1. Manzanita Ave/East Ave	Roundabout	AM MD PM	5.8 6.3 8.5	A A A
2. Cactus Ave/East Ave	SSSC	AM MD PM	1.9 (21.8) 2.6 (26.4) 2.4 (50.2)	A (C) A (D) A (F)
3. Marigold Ave/East Ave	Signalized	AM MD PM	15.5 16.3 16.4	B B B
4. Project East Driveway/East Ave	SSSC	AM MD PM	*Evaluated in Existing + Project*	*Evaluated in Existing + Project*
5. Project West Driveway/East Ave	SSSC	AM MD PM	*Evaluated in Existing + Project*	*Evaluated in Existing + Project*
6. Valhalla Pl/East Ave	SSSC	AM MD PM	0.5 (12.1) 0.4 (13.6) 0.4 (14.9)	A (B) A (B) A (B)
7. Ceanothus Ave/East Ave	Signalized	AM MD PM	13.3 14.5 15.3	B B B
8. Mariposa Ave/East Ave	Signalized	AM MD PM	23.7 25.4 25.6	C C C
9. Marigold Ave/Manzanita Ave	AWSC	AM MD PM	10.9 12.4 14.2	B B B
10. Ceanothus Ave/Manzanita Ave	SSSC	AM MD PM	4.4 (13.3) 3.7 (13.3) 4.4 (16.3)	A (B) A (B) A (C)

Notes:
1. Intersection control types: roundabout=roundabout; signal=signalized intersection; SSSC=side-street stop-controlled intersection; AWSC=all-way stop controlled intersection
2. AM=morning peak hour; MD=mid-day peak hour' PM=evening peak hour
3. For signalized intersections, AWSC intersections, and roundabouts, average intersection delay is reported in seconds per vehicle for all approaches. For SSSC intersections, average intersection delay (and worst-case movement delay) is reported.
Source: Fehr & Peers, January 2021



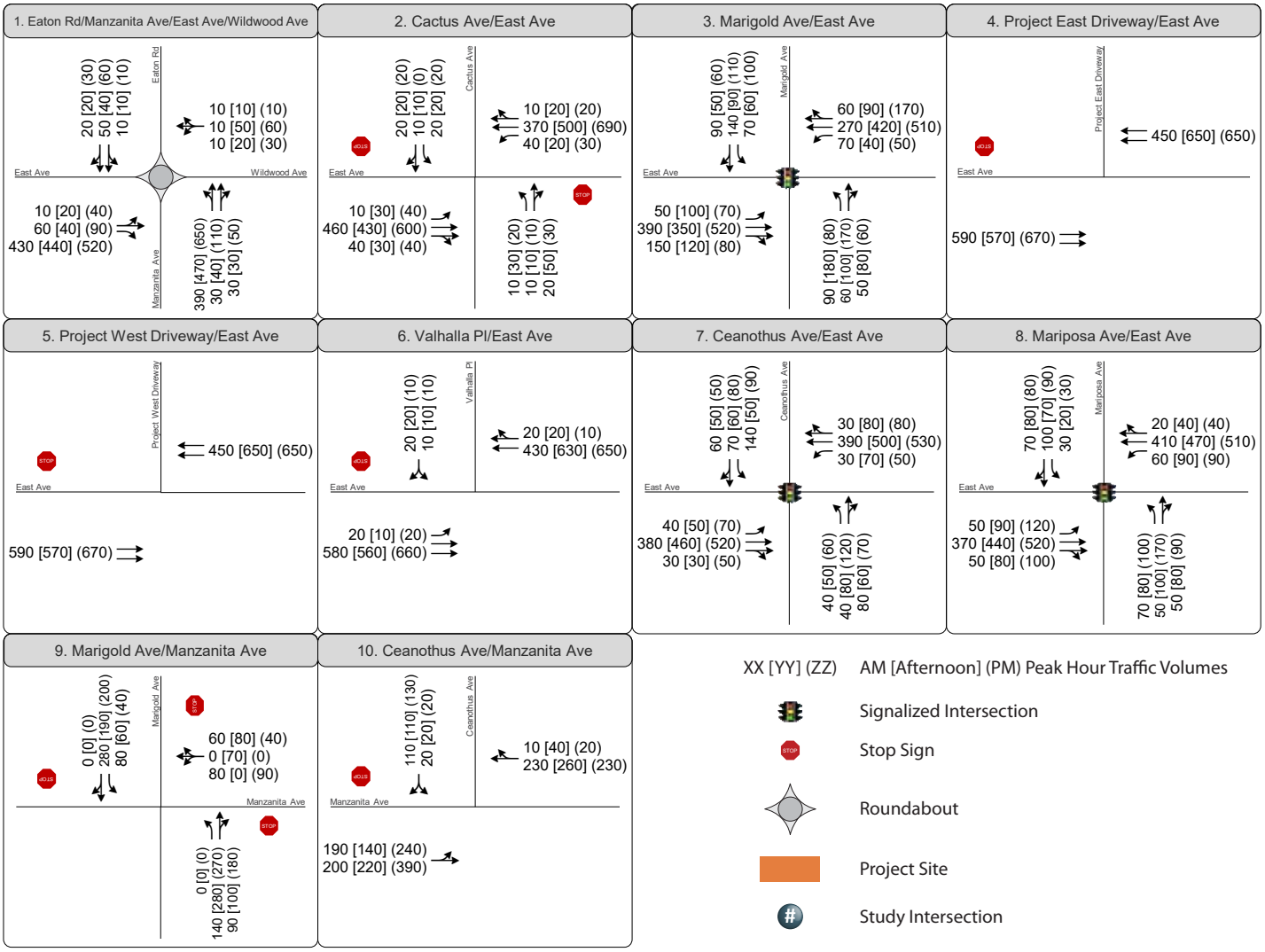


Figure 6

Existing Peak Hour Intersection Traffic Volumes, Lane Configurations and Traffic Controls

4. Project Trip Estimates

This chapter provides a review of the trip generation, distribution and assignment analysis completed for the project. The proposed project trip generation, trip distribution, and trip assignment allow for an evaluation of project effects on the surrounding roadway network. The amount of new project vehicle traffic expected to be added to the transportation system after completion of the project was estimated using a three-step process:

1. **Trip Generation** – The amount of project generated vehicle traffic entering/exiting the site was estimated.
2. **Trip Distribution** – The directions of trips to compatible land uses and their general routes of approach/departure to the project site were identified.
3. **Trip Assignment** – Trips were then assigned to specific roadway segments and intersection turning movements based on likely paths of travel.

4.1 Project Trip Generation

Trip generation refers to the process of estimating the amount of vehicular traffic a project would add to the surrounding roadway system. Project trip generation estimates are prepared for the one-hour peak period during the weekday morning, mid-day, and evening commute periods when traffic volumes on the adjacent streets are typically the highest.

The trip generation estimates for the project were prepared using data from the Institute of Transportation Engineers' *Trip Generation Manual, 10th Edition*. Based on the assumed charter school land use type, data from Land Use Code 537 (Charter Elementary School [K-8]) was used. Project trip generation estimates are presented in **Table 5**. The project is expected to generate approximately 278 morning peak hour trips, 173 mid-day peak hour trips, and 35 evening peak hour trips.

Table 5: Project Trip Generation Estimates

Land Use	Quantity	Weekday AM Peak Hour Trips			Weekday MD Peak Hour Trips			Weekday PM Peak Hour Trips		
		In	Out	Total	In	Out	Total	In	Out	Total
Charter Elementary School (K-8)[1]	250 students	147	131	278	80	93	173	12	23	35

Notes:
1. Trip generation estimated using data from the Institute of Transportation Engineers' *Trip Generation Manual, 10th Edition*, using Land Use Code 537 – Charter Elementary School (K-8)

4.2 Project Trip Distribution and Assignment

The distribution of project trips was based on the location of each student's home. Achieve Charter School was able to provide the home addresses of each student, which was utilized to develop the directions of trip arrivals and departures. The trip distribution is presented on **Figure 7**. Project trip assignment is presented on **Figure 8**.

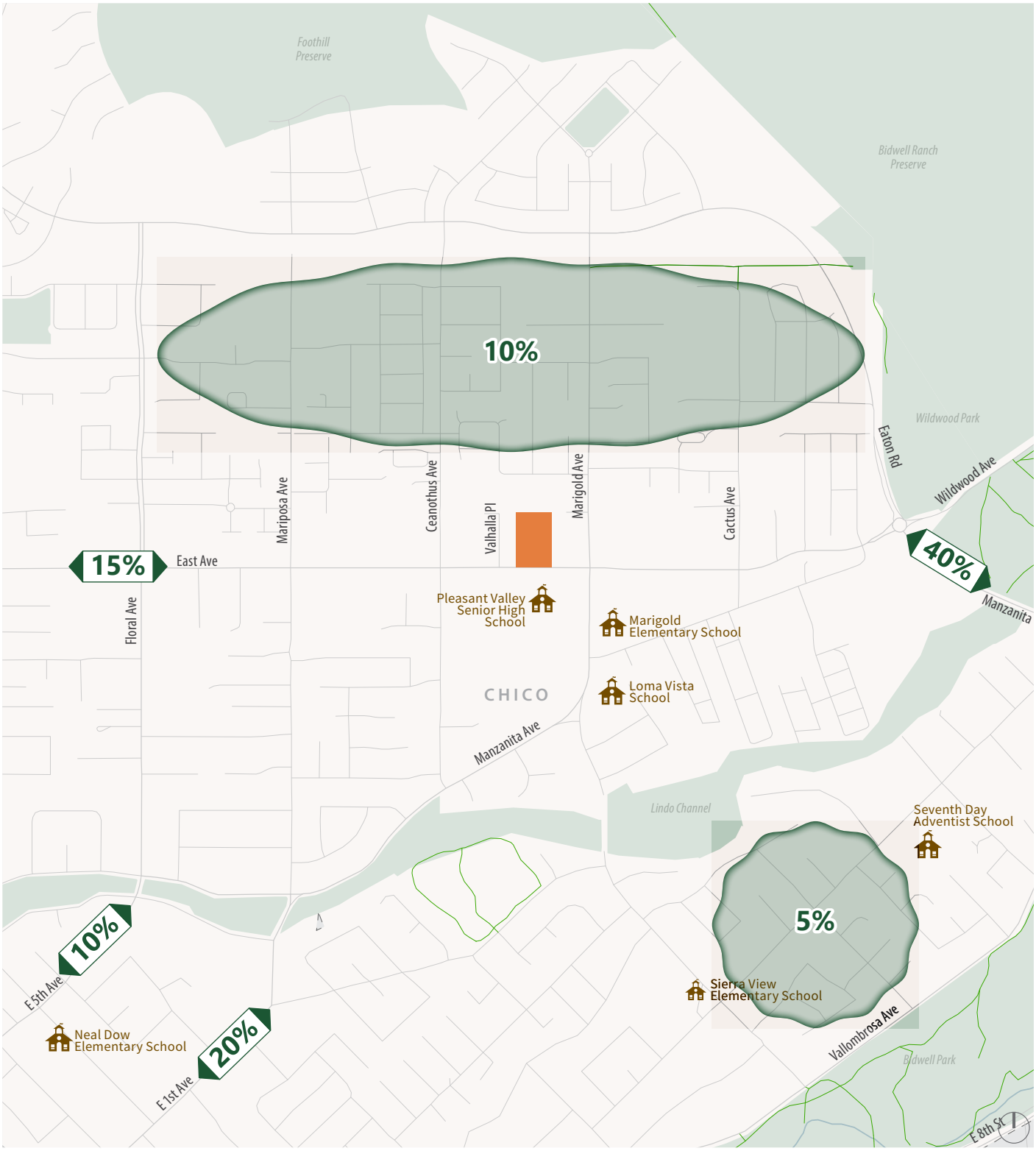


Figure 7

Project Trip Distribution

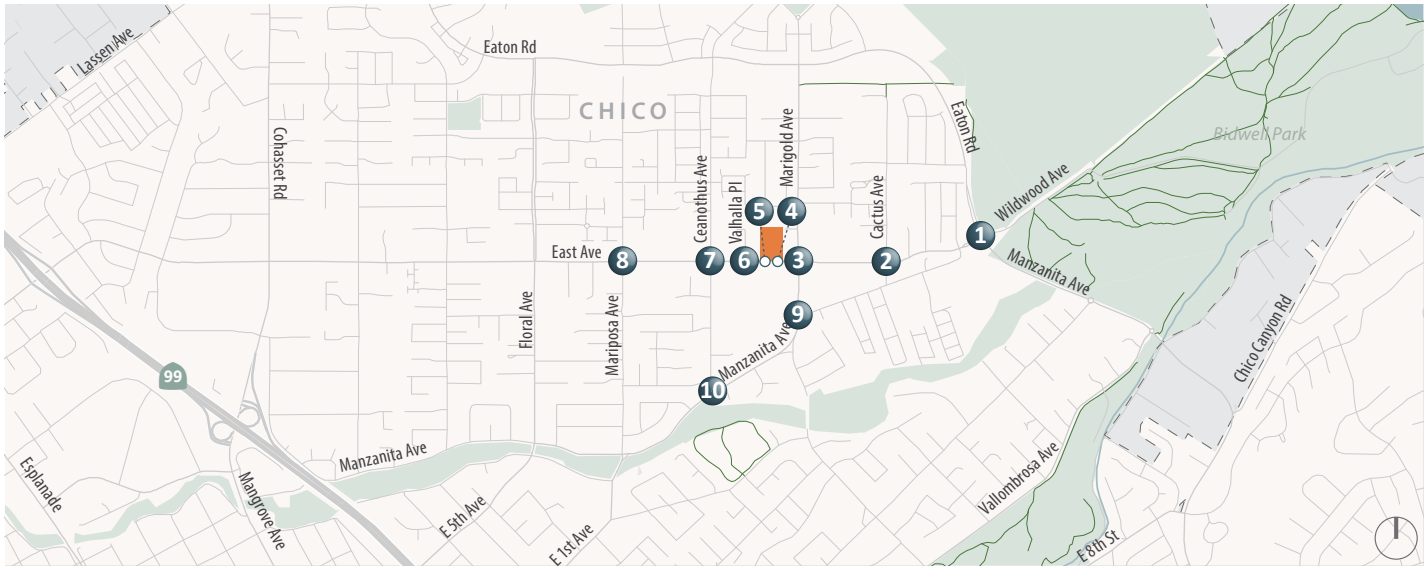
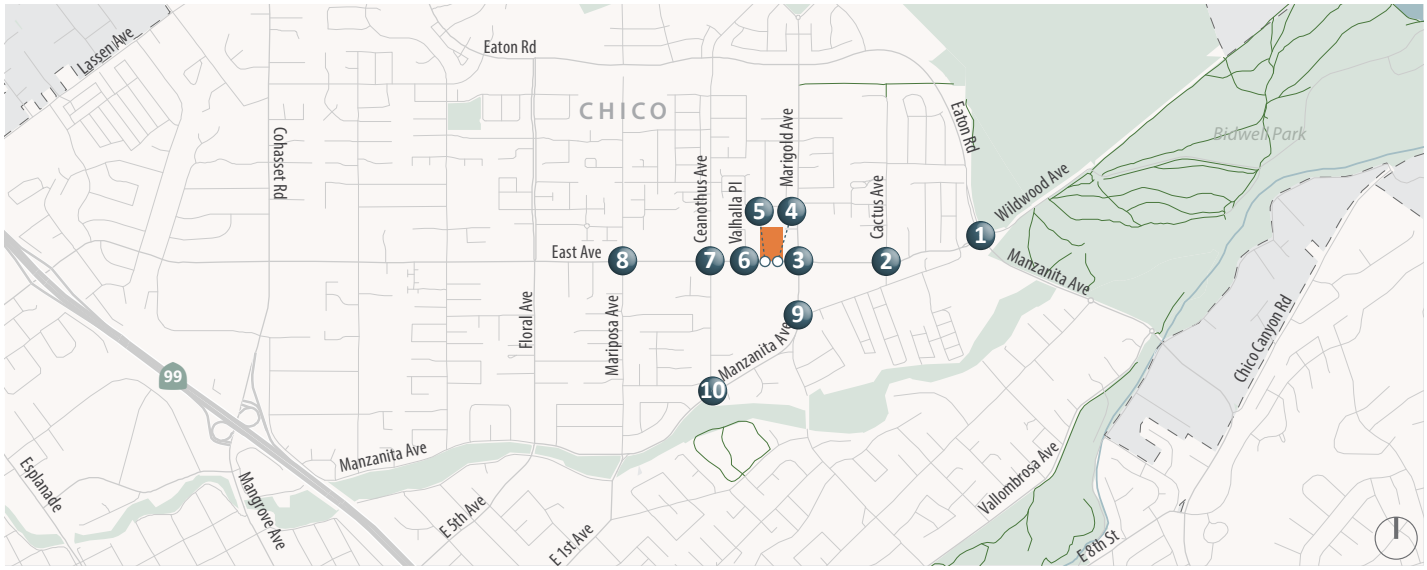


Figure 8

Project Trip Assignment



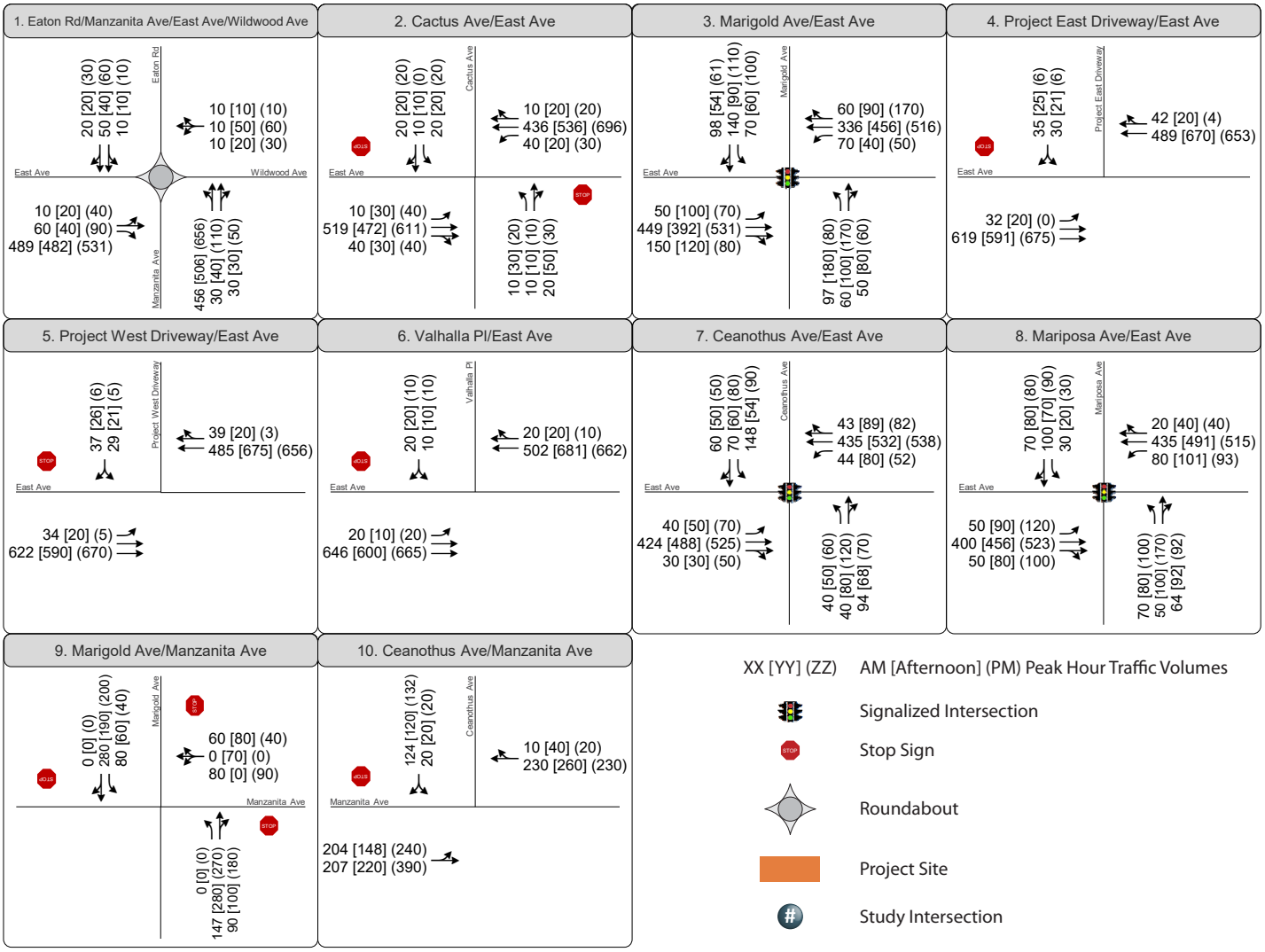


Figure 9

Existing Plus Project Peak Hour
Intersection Traffic Volumes, Lane Configurations and Traffic Controls

5. VMT Analysis

5.1 VMT Approach

Consistent with SB 743 requirements, project daily VMT was estimated using travel demand model data, information on student residences, and trip generation estimates. Since the City of Chico has not adopted thresholds for VMT impacts, this VMT analysis applies an ad hoc threshold based on guidance provided in the California Office of Planning and Research (OPR)'s Technical Advisory on Evaluation Transportation Impacts in CEQA (December 2018). OPR guidance specifies that a project would have a significant impact on the environment if it causes substantial additional VMT per capita, per service population, or other appropriate efficiency measure. Specifically,

- For residential projects, a project would cause substantial additional VMT if it exceeds existing regional household VMT per capita minus 15 percent.
- For office projects, a project would cause substantial additional VMT if it exceeds the existing regional VMT per employee minus 15 percent.
- For retail projects greater than 80,000 square feet, a project would cause substantial additional VMT if it results in a net increase in citywide total VMT per service population.
- Local-Serving Uses - Projects that consist of Local-Serving Uses can generally be presumed to have a less-than-significant impact absent substantial evidence to the contrary, since these types of projects will primarily draw users and customers from a relatively small geographic area that will lead to short-distance trips and trips that are linked to other destinations.
- Other Uses and Projects should be analyzed using a methodology developed by the lead agency specifically for the project, prepared and documented based on available data and taking into account the specific methodologies and thresholds.

The proposed project is not residential, office, or retail in nature. It is best characterized as a local serving or other-use type. Its total anticipated daily VMT has been calculated.

5.2 Project VMT

The project's daily VMT was calculated to be 5,540 vehicle miles. This is based on a project daily trip generation of 486 trips (*ITE Trip Generation Manual, 10th Edition*) and an average trip length of 11.4 miles. The average trip length was calculated based on the home addresses of each student enrolled at the facility.

The project's overall effect on total VMT is expected to be minimal to reductive. Unlike a residential or employment land use, the project is not expected to be accretive to overall VMT. Without the development of the project, children would still attend an alternative educational institution. While the exact educational

decisions of each individual family are unknown, the expectation is that their amount of travel would be similar to or potentially even larger than with project development. The project is not expected to result in detrimental environmental impacts associated with VMT

6. Safety Analysis

Statewide Integrated Traffic Records System (SWITRS) collision data for eight study intersections and one roadway segment from 2013 through 2017 are summarized in the tables below. The collisions by type are summarized in **Table 6**; collisions by severity are summarized in **Table 7**; and collisions by primary collision factor are summarized in **Table 8**.

As shown in Table 6, there were a total of 17 collision records at the nine analysis locations over the five years. The three analysis locations with the highest number of collisions are listed below with a brief description of the type of collisions that occurred:

- Marigold Avenue & East Avenue intersection (3 collisions)
    - 2 vehicle collisions—1 side swipe and 1 rear end—resulted in minor injuries or property damage only
    - 1 pedestrian-involved collision where the driver did not yield right-of-way to the pedestrian, which resulted in moderate injuries
- Mariposa Avenue & East Avenue intersection (5 collisions)
    - 5 vehicle collisions—2 head-on, 1 rear end, and 2 broadside—all resulted in minor injuries
- East Avenue segment between Ceanothus Avenue & Marigold Avenue (3 collisions total; 1 collision between Ceanothus Avenue & Valhalla Place and 2 collisions between Valhalla Place & Marigold Avenue)
    - 2 pedestrian-involved collisions, one of which involved a pedestrian crossing mid-block, and another involved a pedestrian in the roadway shoulder; both of which resulted in moderate injuries
    - 1 bicyclist-involved broadside collision where the bicyclist was cited for riding the wrong way

There were no fatal collisions at the analysis locations. One vehicle collision that resulted in severe injuries was reported at the unsignalized intersection of Ceanothus Avenue and Manzanita Avenue (a sideswipe collision resulting from unsafe speeding). All other collisions resulted in moderate injuries, minor injuries, or property damage only, as shown in Table 7. The most common primary collision factors were "Unsafe Speed" (3 collisions) and "Auto Right of Way" (3 collisions), as shown in Table 8.

Table 9 compares the actual crash frequencies and predicted crash frequencies of facilities with similar characteristics at the analysis locations. At all analysis locations, the actual crash frequency is less than the predicted crash frequency. The project would add approximately 278 AM peak hour trips, 173 mid-day peak hour trips, and 35 PM peak hour vehicle trips. The number of project-related vehicle trips at the study intersections is low compared to the existing number of vehicles at the intersections and would not add a significant amount of traffic. The project is not expected to add a material amount of pedestrian traffic or bicycle traffic to study intersections. This finding is based on observations of pick up and drop-off activities at the school and a review of the addresses of current enrollees.

Table 6: Collisions by Type

Location	Intersection Control Type/ Segment	Crash Type					Total	Ped	Bike
		Head-On	Side-swipe	Rear End	Broad-side	Ped			
Manzanita Ave & East Ave	Roundabout	0	0	1	0	0	1	0	0
Cactus Ave & East Ave	Unsignalized	0	1	0	1	0	2	0	0
Marigold Ave & East Ave	Signalized	0	1	1	0	1	3	1	0
Valhalla Pl & East Ave	Unsignalized	0	1	0	0	0	1	0	0
Ceanothus Ave & East Ave	Signalized	1	0	0	0	0	1	0	0
Mariposa Ave & East Ave	Signalized	2	0	1	2	0	5	0	0
Marigold Ave & Manzanita Ave	Unsignalized	0	0	0	0	0	0	0	0
Ceanothus Ave & Manzanita Ave	Unsignalized	0	1	0	0	0	1	0	0
East Ave b/t Ceanothus Ave & Valhalla Pl	Segment	0	0	0	0	1	1	1	0
East Ave b/t Valhalla Pl & Marigold Ave	Segment	0	0	0	1	1	2	1	1
Total		**3**	**4**	**3**	**4**	**3**	**17**	**3**	**1**

Source: Statewide Integrated Traffic Records System (SWITRS) 2013-2017 data for Chico, CA, accessed 2020.
Fehr & Peers, 2021.

Table 7: Collisions by Severity

Location	All Collisions Severity					Ped Collisions Severity					Bike Collisions Severity					Auto Collisions Severity				
	Fatal	Severe	Moderate	Minor	PDO	Fatal	Severe	Moderate	Minor	PDO	Fatal	Severe	Moderate	Minor	PDO	Fatal	Severe	Moderate	Minor	PDO
Manzanita Ave & East Ave	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Cactus Ave & East Ave	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Marigold Ave & East Ave	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1
Valhalla Pl & East Ave	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ceanothus Ave & East Ave	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mariposa Ave & East Ave	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
Marigold Ave & Manzanita Ave	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ceanothus Ave & Manzanita Ave	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
East Ave b/t Ceanothus Ave & Valhalla Pl	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
East Ave b/t Valhalla Pl & Marigold Ave	0	0	2	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
Total	**0**	**1**	**5**	**8**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**8**	**3**

Source: Statewide Integrated Traffic Records System (SWITRS) 2013-2017 data for Chico, CA, accessed 2020.
Fehr & Peers, 2021.

Table 8: Collisions by Primary Collision Factor

Location	Primary Collision Factor										
	DUI	Unsafe Speed	Following Too Closely	Wrong Side of the Road	Unsafe Lane Change	Improper Turning	Auto Right of Way	Ped Right of Way	Traffic Signals/ Signs	Ped Violation	Other/Not Stated
Manzanita Ave & East Ave	0	0	1	0	0	0	0	0	0	0	0
Cactus Ave & East Ave	0	0	0	0	1	0	1	0	0	0	0
Marigold Ave & East Ave	1	1	0	0	0	0	0	1	0	0	0
Valhalla Pl & East Ave	0	0	0	0	0	1	0	0	0	0	0
Ceanothus Ave & East Ave	0	0	0	1	0	0	0	0	0	0	0
Mariposa Ave & East Ave	0	1	0	0	0	0	2	0	2	0	0
Marigold Ave & Manzanita Ave	0	0	0	0	0	0	0	0	0	0	0
Ceanothus Ave & Manzanita Ave	0	1	0	0	0	0	0	0	0	0	0
East Ave b/t Ceanothus Ave & Valhalla Pl	0	0	0	0	0	0	0	0	0	0	1
East Ave b/t Valhalla Pl & Marigold Ave	0	0	0	1	0	0	0	0	0	1	0
Total	**1**	**3**	**1**	**2**	**1**	**1**	**3**	**1**	**2**	**1**	**1**

Source: Statewide Integrated Traffic Records System (SWITRS) 2013-2017 data for Chico, CA, accessed 2020.
Fehr & Peers, 2021.

Table 9: Predicted Collision Frequencies vs Actual

Location	Type[1]	AADT[2] (major)	AADT[2] (minor)	Total Collisions (Actual)[3]	Collisions per year (Actual)[4]	Predicted Collision Frequency[5]	Difference[6]
Intersection							
Manzanita Ave & East Ave[7]	RA	9,100	5,900	1	0.2	1.1	-0.9
Cactus Ave & East Ave	4ST	14,200	1,000	2	0.4	1.1	-0.7
Marigold Ave & East Ave	4SG	14,000	5,800	3	0.6	2.7	-2.1
Valhalla Pl & East Ave	3ST	13,400	200	1	0.2	0.4	-0.2
Ceanothus Ave & East Ave	4SG	13,000	4,700	1	0.2	1.9	-1.7
Mariposa Ave & East Ave	4SG	13,800	5,600	5	1	2	-1
Marigold Ave & Manzanita Ave[8]	3ST	6,900	1,300	0	0	0.1	-0.1
Ceanothus Ave & Manzanita Ave	3ST	8,800	1,500	1	0.2	1	-0.8
Segment							
East Ave b/t Ceanothus Ave & Valhalla Pl	5T	13,400		1	0.2	0.9	-0.7
East Ave b/t Valhalla Pl & Marigold Ave	5T	13,200		2	0.4	1.6	-1.2

Notes:

1. RA = Roundabout; 4ST = 4 leg unsignalized intersection; 4SG = 4 leg signalized intersection; 3ST = 3 leg unsignalized intersection; 5T = five-lane arterial including a center two-way left-turn lane (TWLTL)
2. Average annual daily traffic (AADT) was estimated using the existing PM peak hour counts collected in 2019 multiplied by ten.
3. Collision data obtained from SWITRS from 2013 through 2017.
4. Normalized total collisions over five years.
5. Based on Part C of the 2010 Highway Safety Manual (HSM).
6. Negative values indicate that the actual collision frequency is less than the predicted collision frequency for a typical location with similar attributes. Positive values indicate that the actual collision frequency is greater than the predicted collision frequency for a typical intersection with similar attributes.
7. Sufficient research has not yet been conducted to form the basis for development of a predictive method for roundabouts. The 2010 HSM Section 12.9 provides an interim predictive method to convert a two-way stop-controlled intersection to a modern roundabout by first calculating the intersection as a two-way stop-controlled intersection and then apply a 0.56 conversion factor to get the predicted collision frequency for a roundabout.
8. This intersection is an all-way stop-controlled intersection and used a conversion factor to calculate the predicted collision frequency. The 2010 HSM crash modification factors for unsignalized intersection refers to side-street stop-controlled intersection only. Table 14-5 of the HSM provides a 0.3 crash modification factor to convert a side-street stop-controlled intersection to an all-way stop-controlled intersection.

Source: Fehr & Peers, 2021.

While the actual collision frequencies are lower than the predicted collision frequencies at all study locations, the City may want to consider implementing protected rather than permissive left turn phasing at East Avenue intersections.

7. Existing plus Project Conditions

This section evaluates the project's potential impacts on pedestrian, bicycle, and transit facilities. The project's effects on intersection levels of service is also presented.

7.1 Pedestrian Network

While the project would increase pedestrian activity on the local transportation network, it is not forecast to result in demand exceedances on local pedestrian facilities. Observations of arrival and departure at the site have found few students or employees choosing to walk to the site. City standard sidewalks are provided along both sides of East Avenue in the vicinity of the project. Crosswalks and push-button actuation are provided at the East Avenue/Marigold Avenue and East Avenue/Ceanothus Avenue intersections.

The project proposes no features that would be hazardous to pedestrian travel. The project proposes no features in conflict with City or regional plans, policies or goals pertaining to pedestrian facilities.

7.2 Bicycle Network

While the project would increase bicycle activity on the local transportation network, it is not forecast to result in demand exceedances on local bicycle facilities. Observations of arrival and departure at the site have found few students or employees choosing to bicycle to the site. Class II bike lanes are provided on East Avenue in the vicinity of the project.

The project proposes no features that would be hazardous to bicycle travel. The project proposes no features in conflict with City or regional plans, policies or goals pertaining to bicycle facilities.

7.3 Transit Network

As discussed in Section 3.5, public bus service is provided to the site by Butte Regional Transit with bus stops provided on East Avenue in close proximity to the project site. Few project employees or students have been observed to ride the existing services and the project is not forecast to result in transit demand exceeding the capacity of the available bus service. The project proposes no features in conflict with transit plans, policies, or goals.

7.4 Existing plus Project Intersection Operations

Traffic forecast to be generated by the development of the project was added to existing traffic levels and Existing plus Project intersection levels of service were evaluated using the methodology described in **Section 2.7**. The intersection operations results are summarized in **Table 10**. Detailed LOS calculation worksheets are provided in **Appendix A**. All study intersections were found to operate acceptably, at LOS C or better, with the addition of project traffic.

Table 10: Existing plus Project Conditions Intersection LOS

Intersection	Control[1]	Peak Hour[2]	Existing Conditions		Existing plus Project	
			Delay (seconds)[3]	LOS	Delay (seconds)[3]	LOS
1. Manzanita Ave/East Ave	Roundabout	AM MD PM	5.8 6.3 8.5	A A A	6.4 6.7 8.6	A A A
2. Cactus Ave/East Ave	SSSC	AM MD PM	1.9 (21.8) 2.6 (26.4) 2.4 (50.2)	A (C) A (D) A (F)	1.9 (25.4) 2.6 (29.4) 2.4 (51.9)	A (D) A (D) A (F)
3. Marigold Ave/East Ave	Signalized	AM MD PM	15.5 16.3 16.4	B B B	16.1 16.7 16.5	B B B
4. Project East Driveway/East Ave	SSSC	AM MD PM	*Exists with Project*	*Exists with Project*	1 (14.4) 0.7 (15.5) 0.1 (14.3)	A (B) A (C) A (B)
5. Project West Driveway/East Ave	SSSC	AM MD PM	*Exists with Project*	*Exists with Project*	1 (14.3) 0.7 (15.5) 0.2 (14.1)	A (B) A (C) A (B)
6. Valhalla Pl/East Ave	SSSC	AM MD PM	0.5 (12.1) 0.4 (13.6) 0.4 (14.9)	A (B) A (B) A (B)	0.5 (12.7) 0.4 (14.1) 0.4 (15)	A (B) A (B) A (C)
7. Ceanothus Ave/East Ave	Signalized	AM MD PM	13.3 14.5 15.3	B B B	14.1 14.9 15.4	B B B
8. Mariposa Ave/East Ave	Signalized	AM MD PM	23.7 25.4 25.6	C C C	24.2 25.7 25.7	C C C
9. Marigold Ave/Manzanita Ave	AWSC	AM MD PM	10.9 12.4 14.2	B B B	10.9 12.4 14.2	B B B
10. Ceanothus Ave/Manzanita Ave	SSSC	AM MD PM	4.4 (13.3) 3.7 (13.3) 4.4 (16.3)	A (B) A (B) A (C)	4.6 (13.5) 3.9 (13.5) 4.4 (16.3)	A (B) A (B) A (C)

Notes:
1. Intersection control types: roundabout=roundabout; signal=signalized intersection; SSSC=side-street stop-controlled intersection; AWSC=all-way stop controlled intersection
2. AM=morning peak hour; MD=mid-day peak hour' PM=evening peak hour
3. For signalized intersections, AWSC intersections, and roundabouts, average intersection delay is reported in seconds per vehicle for all approaches. For SSSC intersections, average intersection delay (and worst-case movement delay) is reported.
Source: Fehr & Peers, 2021

8. Cumulative Conditions

This section evaluates the project's potential cumulative effects on the local roadway network, through level of service calculations at the study intersections. Intersection levels of service have been calculated for the following two scenarios:

- Cumulative Baseline Conditions – Cumulative, or Buildout Base, Conditions reflect traffic volumes expected to prevail in the year 2040 with the buildout of the City's General Plan. Traffic volumes for this scenario were developed by applying 1.5 percent growth in traffic for the next five years followed by 1.2 percent growth after that until the year 2040.

- Cumulative plus Project Conditions – In this scenario, traffic forecast to be generated by the development of the proposed project is added to the Cumulative Baseline condition.

8.1 Cumulative Intersection Operations

Cumulative Conditions intersection operations were evaluated using the methodology described in **Section 2.7**. The intersection operations results are summarized in **Table 11** and **Table 12** for the Cumulative Baseline and Cumulative plus Project scenarios. Detailed LOS calculation worksheets are provided in **Appendix A**. As presented in Tables 11 and 12, all intersections are forecast to operate at LOS C or better in the cumulative scenarios. The project would add small amounts of vehicle delay to the study intersections.

Table 11: Cumulative Conditions Intersection LOS

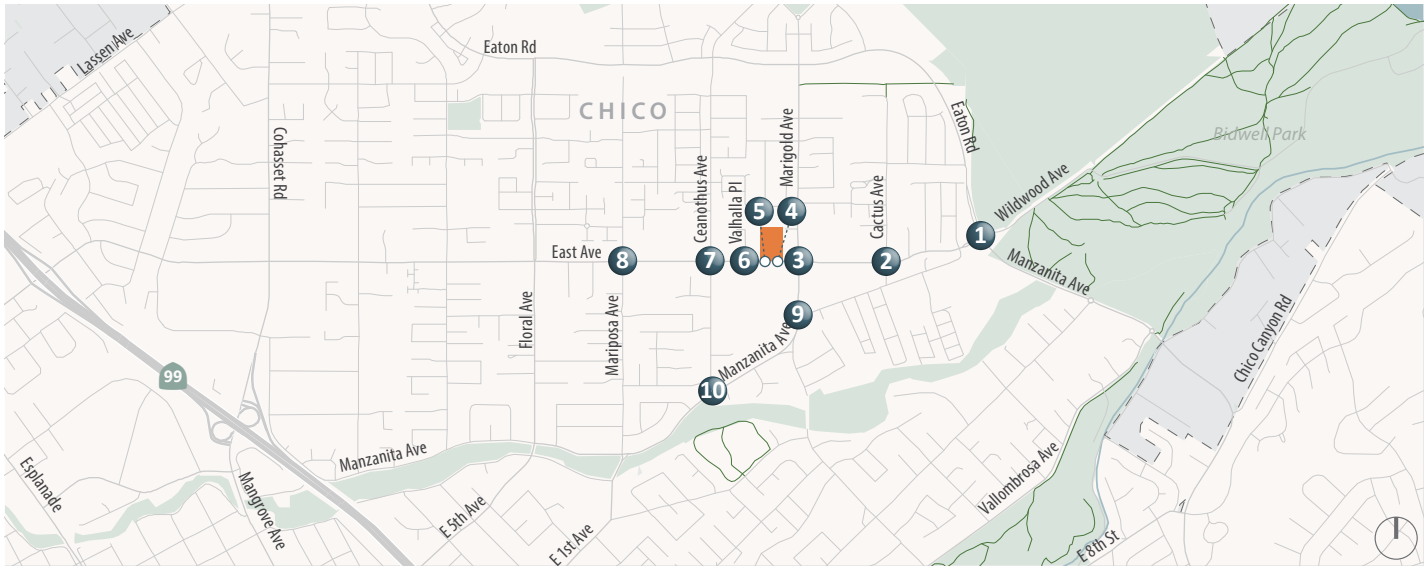
Intersection	Control[1]	Peak Hour[2]	Delay (seconds)[3]	LOS
1. Manzanita Ave/East Ave	Roundabout	AM MD PM	7.1 7.5 12.4	A A B
2. Cactus Ave/East Ave	SSSC	AM MD PM	2.4 (35.6) 3.0 (41.2) 5.1 (135.5)	A (E) A (E) A (F)
3. Marigold Ave/East Ave	Signalized	AM MD PM	17.8 18.2 19.1	B B B
4. Project East Driveway/East Ave	SSSC	AM MD PM	*Exists with Project*	*Exists with Project*
5. Project West Driveway/East Ave	SSSC	AM MD PM	*Exists with Project*	*Exists with Project*
6. Valhalla Pl/East Ave	SSSC	AM MD PM	0.4 (13.0) 0.4 (15.4) 0.4 (15.5)	A (B) A (C) A (C)
7. Ceanothus Ave/East Ave	Signalized	AM MD PM	15.0 16.1 17.8	B B B
8. Mariposa Ave/East Ave	Signalized	AM MD PM	24.5 26.7 27.5	C C C
9. Marigold Ave/Manzanita Ave	AWSC	AM MD PM	12.8 17.1 23.1	B C C
10. Ceanothus Ave/Manzanita Ave	SSSC	AM MD PM	4.8 (15.5) 4.7 (16.4) 7.6 (34.3)	A (C) A (C) A (C)

Notes:
1. Intersection control types: roundabout=roundabout; signal=signalized intersection; SSSC=side-street stop-controlled intersection; AWSC=all-way stop controlled intersection
2. AM=morning peak hour; MD=mid-day peak hour' PM=evening peak hour
3. For signalized intersections, AWSC intersections, and roundabouts, average intersection delay is reported in seconds per vehicle for all approaches. For SSSC intersections, average intersection delay (and worst-case movement delay) is reported.
Source: Fehr & Peers, 2021

Table 12: Cumulative plus Project Conditions Intersection LOS

Intersection	Control[1]	Peak Hour[2]	Cumulative Conditions		Cumulative plus Project	
			Delay (seconds)[3]	LOS	Delay (seconds)[3]	LOS
1. Manzanita Ave/East Ave	Roundabout	AM MD PM	7.1 7.5 12.4	A A B	7.9 8 12.6	A A B
2. Cactus Ave/East Ave	SSSC	AM MD PM	2.4 (35.6) 3.0 (41.2) 5.1 (135.5)	A (E) A (E) A (F)	2.6 (43.5) 3.1 (46.5) 5.2 (139.9)	A (E) A (E) A (F)
3. Marigold Ave/East Ave	Signalized	AM MD PM	17.8 18.2 19.1	B B B	18.4 18.6 19.2	B B B
4. Project East Driveway/East Ave	SSSC	AM MD PM	*Exists with Project*	*Exists with Project*	0.9 (16) 0.6 (17.8) 0.1 (16.1)	A (C) A (C) A (C)
5. Project West Driveway/East Ave	SSSC	AM MD PM	*Exists with Project*	*Exists with Project*	0.9 (15.8) 0.7 (17.8) 0.2 (15.8)	A (C) A (C) A (C)
6. Valhalla Pl/East Ave	SSSC	AM MD PM	0.4 (13.0) 0.4 (15.4) 0.4 (15.5)	A (B) A (C) A (C)	0.4 (13.8) 0.4 (16) 0.4 (15.6)	A (B) A (C) A (C)
7. Ceanothus Ave/East Ave	Signalized	AM MD PM	15.0 16.1 17.8	B B B	16 16.5 17.8	B B B
8. Mariposa Ave/East Ave	Signalized	AM MD PM	24.5 26.7 27.5	C C C	25 27 27.6	C C C
9. Marigold Ave/Manzanita Ave	AWSC	AM MD PM	12.8 17.1 23.1	B C C	13 17.1 23.1	B C C
10. Ceanothus Ave/Manzanita Ave	SSSC	AM MD PM	4.8 (15.5) 4.7 (16.4) 7.6 (34.3)	A (C) A (C) A (D)	5.1 (16.1) 5 (16.8) 7.7 (34.3)	A (C) A (C) A (D)

Notes:
1. Intersection control types: roundabout=roundabout; signal=signalized intersection; SSSC=side-street stop-controlled intersection; AWSC=all-way stop controlled intersection
2. AM=morning peak hour; MD=mid-day peak hour' PM=evening peak hour
3. For signalized intersections, AWSC intersections, and roundabouts, average intersection delay is reported in seconds per vehicle for all approaches. For SSSC intersections, average intersection delay (and worst-case movement delay) is reported.
Source: Fehr & Peers, 2021



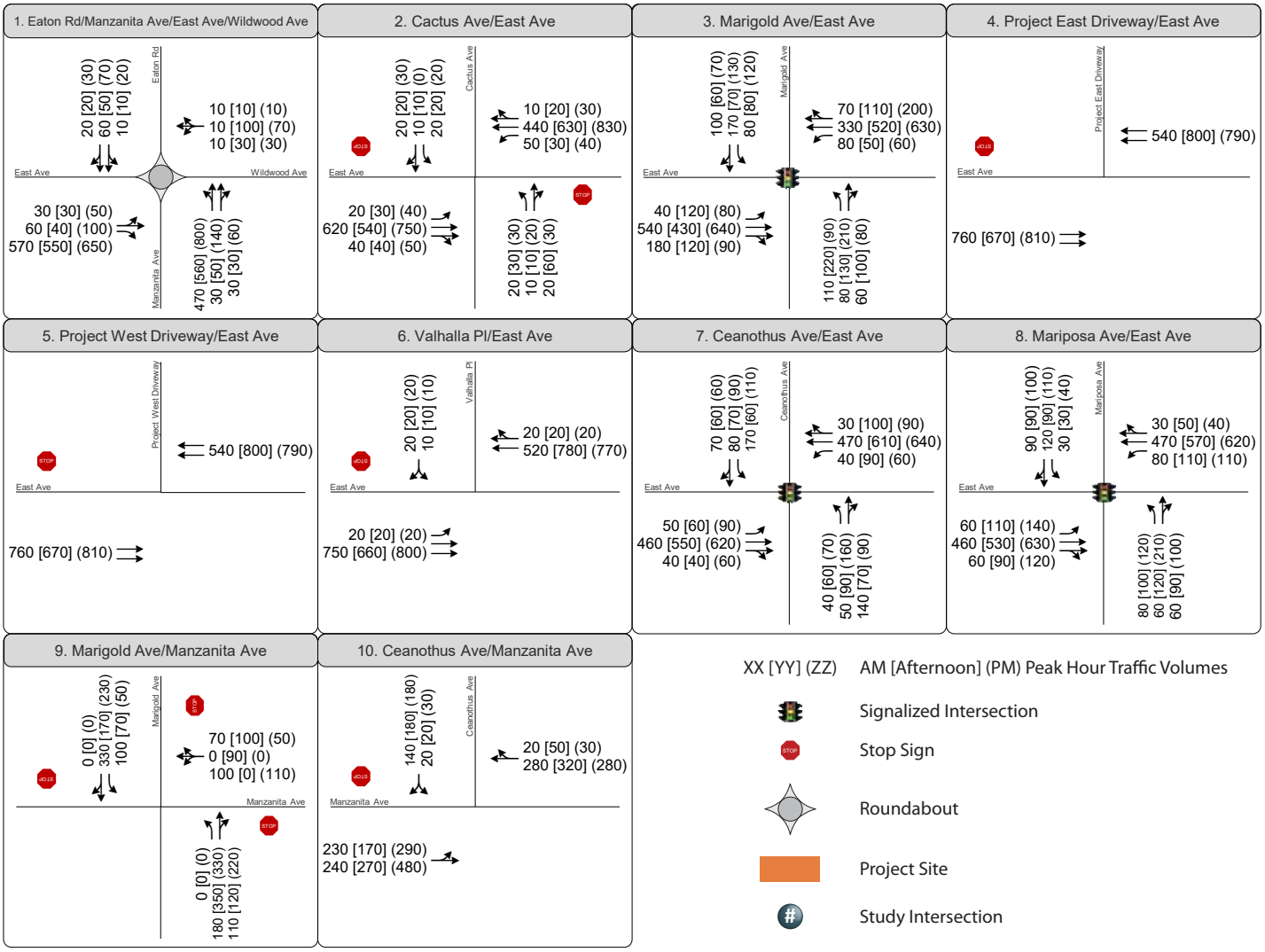
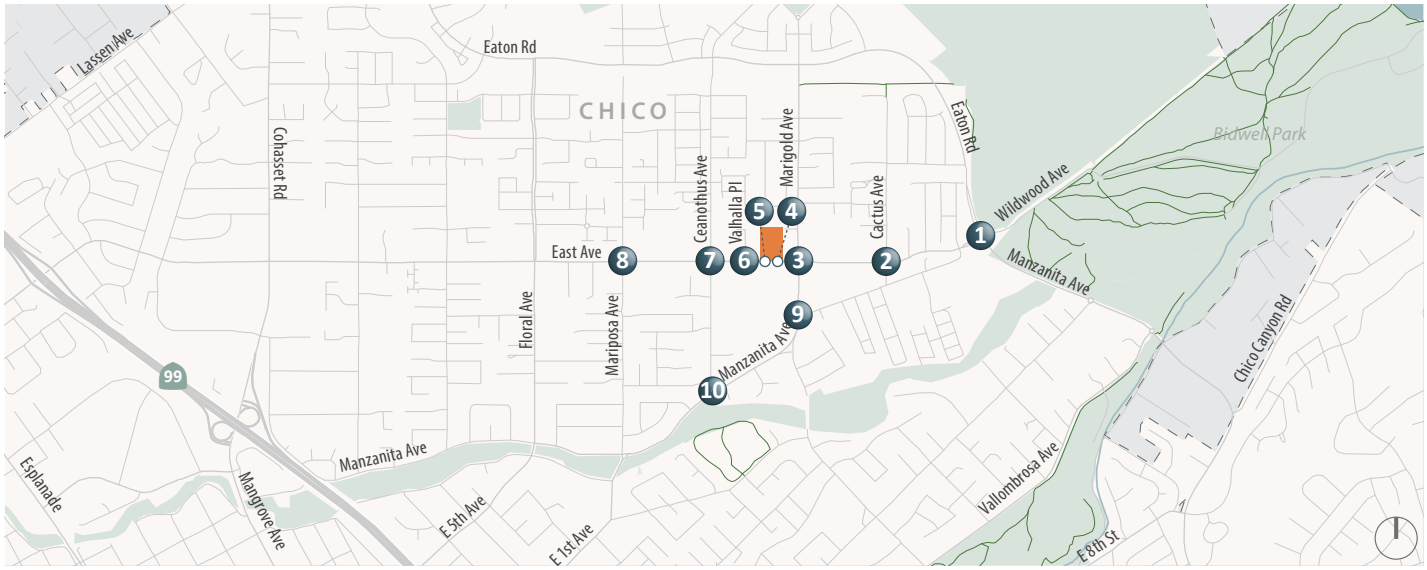


Figure 10

Cumulative without Project Peak Hour Intersection Traffic Volumes, Lane Configurations and Traffic Controls



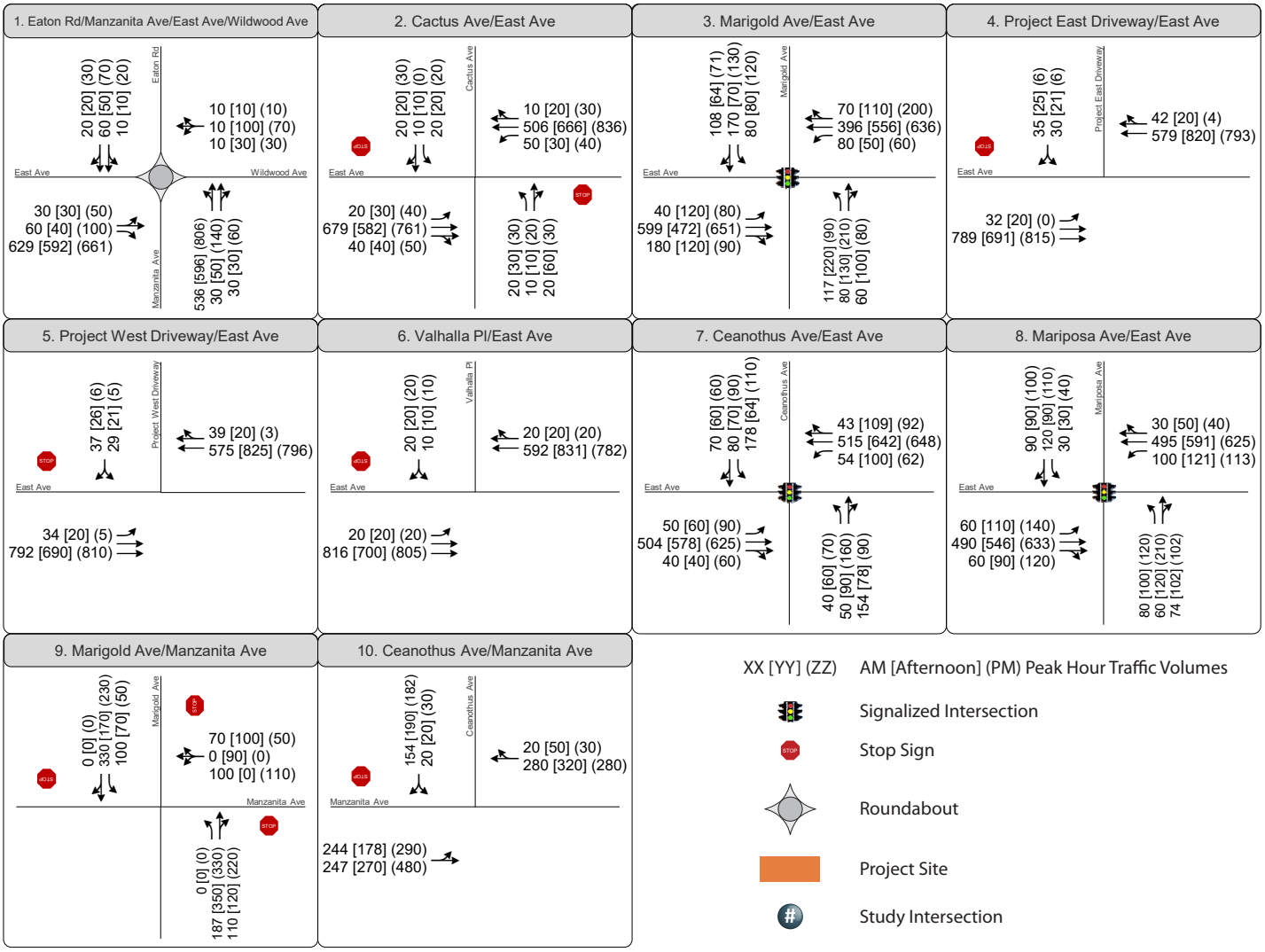


Figure 11

Cumulative Plus Project Peak Hour Intersection Traffic Volumes, Lane Configurations and Traffic Controls

9. Site Plan Review

As previously illustrated in Figure 2, the project site is served by two similar parking lots located on either side of the Christian Life Center Foursquare Church building. Access to these two parking lots is provided via two-way full-movement driveways on East Avenue. Vehicular access between the parking lots is not available. The Achieve Charter School facilities have been developed on the rear (northern) portion of the project site with gated access available via each parking lot. Further expansion and improvements associated with the project would occur on this portion of the site (rear/northern). To facilitate pick-up and drop-off activities for school traffic, asphalt concrete loops have been constructed at the northern ends of each parking lot wherein school access is available. These facilities are illustrated on Figure 12. A total of 130 parking spaces are provided on site. The project proposes no further changes to on-site parking, vehicle circulation, or access.

9.1 Pre-COVID 19 Operations

Prior to the onset of the COVID-19 pandemic in the spring of 2020, the school used its "normal" operations for student arrival and departure. With these operating procedures, scheduled arrivals and departures were as follows:

Morning Arrivals:

- Morning supervision begins = 7:30 AM
- Middle school begins = 8:00 AM
- Elementary school begins = 8:10 AM

Afternoon Departures:

- K-3 Dismissal = 2:30 PM
- 4-5 Grade Dismissal = 2:45 PM
- 6-8 Grade Dismissal = 3:15 PM
- Student supervision ends (K-5) = 3:00 PM
- Student supervision ends (6-8) = 3:30 PM
- Student supervision ends (K-5 siblings of middle schoolers) = 3:30 PM

In this "normal" operating procedure all drop-off and pick-up movements occur via the site's western driveway and loop roadway. Students and parents are directed to load or unload at the northern terminus of the loop roadway rather than within the actual parking lot. At this location, a school employee meets each vehicle and assists with the student exiting or entering the vehicle. The eastern pedestrian gate is not opened for drop-off and pick-up procedures under normal operations. Parents and guardians are welcome to park in either parking lot and drop-off/pick-up their student or walk them to the school.

Field observations of site operating conditions in the normal operating condition prior to the COVID-19 pandemic found the site to operate well during both the morning and afternoon peaks. The staggering of arrivals and departures coupled with the operation of the loop pick-up and drop-off are effectively served the demand. Queues were not observed to back out of the site onto East Avenue in either the morning or afternoon.

9.2 COVID 19 Operations

In response to the COVID19 pandemic, the school revised its operating schedule and drop-off and pick up procedure. Those procedures, which are currently in use, have all students arrive and depart the site at the same time, on an abridged school-day schedule. Students are dropped off generally between 8:00 and 8:15 AM with all students being dismissed and picked up at 1:30 PM. At the beginning and end of the school day, students are required to walk directly from their vehicle to classroom (or reverse in the afternoon) without mixing with other students. Masks are required at all times. If parents arrive for a dismissal pick-up prior to school letting out, they are directed to park in a parking space and not allow queues to spill back onto East Avenue.

As the pandemic response operations do not stagger arrival or departure times, the school operates both the eastern and western loop road drop-off and pick-up locations. Staff meet vehicles at the loop terminus where the school gates are located to assist with vehicle entry and exit. Each student is assigned a drop-off and pick-up location so that parents know where to meet them. One-half of students are assigned to the western location and one-half are assigned to the western location to spread out the activity and minimize the potential for queue spill back.

Observations of pick-up and drop-off activities during the pandemic have found that the morning drop-off function operates well with minimal congestion and no off-site queuing. However, observations have found that for occasional brief periods during the afternoon pick-up operation, queues can spill back onto East Avenue. These queues normally form in the minutes immediately preceding school dismissal when most parents arrive to pick up their children.

9.3 Driveway Sight Distance

Field observed travel speeds along East Avenue in the vicinity of the project site range between 25-40 miles per hour. The posted speed limit is 35 miles per hour. This analysis assumes sight distance requirements for the two driveways based on a design speed of 40 miles per hour. Table 201.1 of the Caltrans Highway Design Manual (HDM) states that the stopping sight distance standard for a design speed of 40 miles per hour is 300 feet. Field observations of sight distance at the proposed project driveway find sight distances in excess of 500 feet in both the eastbound and westbound directions.

9.4 Vehicle Parking Requirements

A total of 130 off-street vehicle parking spaces are provided on the site. The City of Chico's Municipal Code (*Section 19.70.040 – Number of parking spaces required*) requires the higher of the following two

requirements (a) 1 space for each employee plus 1 space for each classroom or (b) 1 space for every 42 square feet of gross auditorium assembly area. The project site has 10 classrooms, 33 employees and an auditorium that is 2,000 square feet in size. Thus, the project requires a total of 48 off-street parking spaces per the City's Municipal Code (the auditorium calculation governs as the largest of the two measures).

The project's demand for parking was also calculated using national statistics from the Institute of Transportation Engineers (ITE) *Parking Generation Manual, 5th Edition*. Based on data from the reference the project's demand for parking is forecast to be 33 spaces (Land Use Code 520 – Elementary School).

The project's supply of parking (130 spaces) is greater than the amount of parking required by City Code (48 spaces) and the expected demand for parking (33 spaces). Observations of existing conditions at the site support the conclusion of sufficient off-street vehicle parking.

9.5 Bicycle Parking

The project proposes a total of 63 on-site parking spaces for bicycles via bike racks. The City of Chico's Municipal Code (*Section 19.70.040 – Number of parking spaces required*) requires one bicycle parking space for every 4 students. Thus, the project is required to provide a total of 63 bicycle parking spaces. The project proposes sufficient bicycle parking to meet the City's Code requirement and anticipated demand.

9.6 Emergency Vehicle Access

As illustrated on Figure 2, the project site provides two access points via driveways on East Avenue. Both driveways are approximately 36 feet in width, which is adequate for emergency vehicle access. The project proposes no features which would impede emergency vehicle access. As part of the project approval process the site plan should be reviewed and approved by the City of Chico Fire Department to ensure that all local code requirements are satisfied.

9.7 Conclusions and Recommendations

The transportation analysis conducted for the proposed project identified no significant impacts or violation of City polices related to Vehicle Miles of Travel, intersections level of service, transit facilities, transportation safety, bicycles, pedestrians, parking, or emergency vehicle access.

Recommendation #1 – Pick-Up and Drop-Off Modifications (COVID-19 Operations)

Observations of site activity found that the site functioned well prior to the on-set of the COVID-19 pandemic, with no spillover queuing onto East Avenue. However, current site operations (during COVID-19) can lead to short periods of time during the peak afternoon pick-up when queues extend onto East Avenue. This likely occurs due to the lack of staggering of pick-up and drop-off activity under the with-COVID operational protocol. To mitigate these queues, the following recommendations are proposed:

- Stagger pick-up times – consider instituting staggered pick-up times during the afternoon peak to minimize the potential for queuing onto East Avenue. As observations have found that the queue

spill back only occurs for a brief period, a modest staggering would eliminate the issue (i.e. staggering the elementary and middle school pick-ups by 15 minutes).

- Site Plan Operational Modifications – As the site provides a level of parking supply over and above what is required for the school's use, space within the parking lot could be repurposed to provide for additional on-site queuing (thereby eliminating spillback onto East Avenue). **Figure 12** presents a potential concept to provide for this additional on-site queuing. With this concept, the angled parking aisle along the site's eastern boundary would be coned off (not used as parking) and employed as additional queuing space during the afternoon pick-up. A similar approach could be implemented within the western lot with the coning off and use of the ninety-degree parking aisle along the church/auditorium structure.

We recommend that the school stagger school pick-up times or implement measures within the site's parking lots to minimize/eliminate the potential for queuing onto East Avenue to occur during the current COVID-19 protocol.

Recommendation #2 – Pick-Up and Drop-Off Modifications (Post COVID-19)

As discussed in Section 9.1 above, prior to the on-set of the COVID-19 pandemic the school staggered drop-off and pick-up times but only used the western loop and parking lot for drop-offs and pick-ups. With the project's expansion to 250 students, we recommend that the school employ the pre-COVID-19 staggered pick-up and drop-off schedule and use both the eastern and western loops for operations. Our calculations of arrivals, departures and dwell times find that these two measures, implemented in tandem should eliminate the potential for queues to spill back out of the site and onto East Avenue. They will also minimize parent delays during both the morning and afternoon drop-off and pick up.

Recommendation #3 – Driveway Sight Distance

Both site driveways currently provide adequate sight distance, as described in Section 9.3. The project should include no improvements or modifications (landscaping, entry signage, etc) that obstruct vehicular sight distance.

Recommendation #4 – Emergency Vehicle Access

Our review has found that the project provides adequate emergency vehicle access, as discussed in Section 9.6. However, the final site plan should be reviewed and approved by the City of Chico's Fire Department prior to construction.

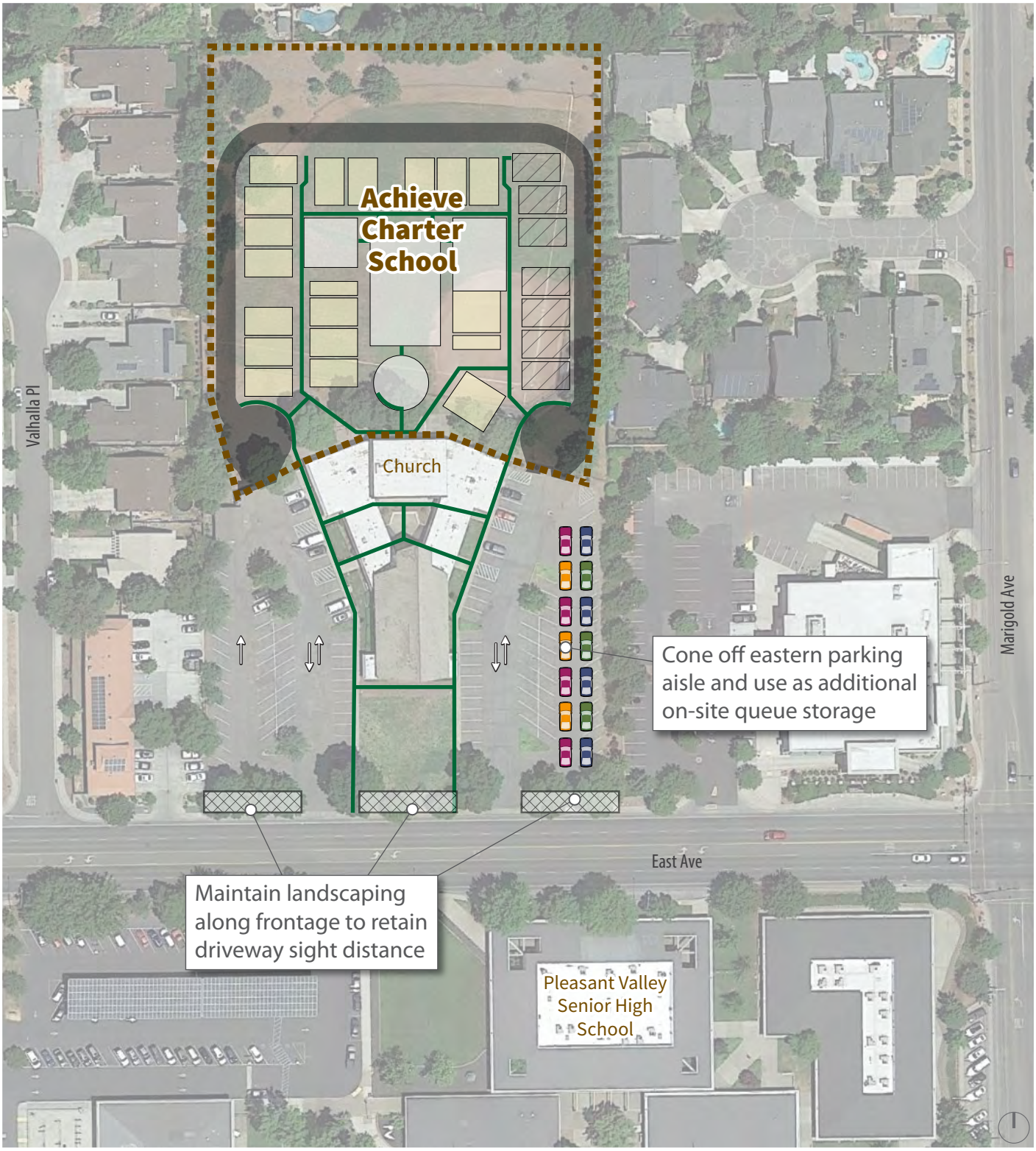


Figure 12

Site Plan Recommendations

TECHNICAL APPENDIX – LOS Calculation Worksheets

Intersection	
Intersection Delay, s/veh	5.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	543	33	490	87
Demand Flow Rate, veh/h	559	33	505	90
Vehicles Circulating, veh/h	78	482	89	459
Vehicles Exiting, veh/h	471	112	548	56
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.989	0.999	0.989	0.993
Approach Delay, s/veh	5.9	4.2	6.0	4.5
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	TR	LT	TR
Assumed Moves	LT	R	LTR	L	TR	LT	TR
RT Channelized							
Lane Util	0.140	0.860	1.000	0.865	0.135	0.467	0.533
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	78	481	33	437	68	42	48
Cap Entry Lane, veh/h	1256	1329	943	1244	1317	885	961
Entry HV Adj Factor	0.975	0.971	0.990	0.970	0.971	0.978	0.965
Flow Entry, veh/h	76	467	33	424	66	41	46
Cap Entry, veh/h	1212	1276	932	1194	1264	859	921
V/C Ratio	0.063	0.366	0.035	0.355	0.052	0.048	0.050
Control Delay, s/veh	3.5	6.3	4.2	6.4	3.3	4.6	4.4
LOS	A	A	A	A	A	A	A
95th %tile Queue, veh	0	2	0	2	0	0	0

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	10	460	40	40	370	10	10	10	20	20	10	20
Future Vol, veh/h	10	460	40	40	370	10	10	10	20	20	10	20
Conflicting Peds, #/hr	10	0	10	10	0	10	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	80	-	-	60	-	-	80	-	-	70	-	-
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	11	500	43	43	402	11	11	11	22	22	11	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	423	0	0	553	0	0	847	1063	282	782	1079	217
Stage 1	-	-	-	-	-	-	554	554	-	504	504	-
Stage 2	-	-	-	-	-	-	293	509	-	278	575	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	1126	-	-	1006	-	-	254	220	712	283	215	784
Stage 1	-	-	-	-	-	-	482	509	-	516	537	-
Stage 2	-	-	-	-	-	-	688	534	-	702	498	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1115	-	-	996	-	-	225	204	705	250	200	777
Mov Cap-2 Maneuver	-	-	-	-	-	-	225	204	-	250	200	-
Stage 1	-	-	-	-	-	-	473	499	-	506	509	-
Stage 2	-	-	-	-	-	-	626	506	-	659	488	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.8	16.8	17.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	225	388	1115	-	-	996	-	-	250	396
HCM Lane V/C Ratio	0.048	0.084	0.01	-	-	0.044	-	-	0.087	0.082
HCM Control Delay (s)	21.8	15.1	8.3	-	-	8.8	-	-	20.8	14.9
HCM Lane LOS	C	C	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.2	0.3	0	-	-	0.1	-	-	0.3	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	390	150	70	270	60	90	60	50	70	140	90
Future Volume (veh/h)	50	390	150	70	270	60	90	60	50	70	140	90
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		0.90	1.00		0.91	0.98		0.95	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	54	424	125	76	293	47	98	65	25	76	152	75
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	127	794	230	156	958	151	431	453	174	546	415	205
Arrive On Green	0.07	0.30	0.30	0.09	0.32	0.32	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1757	2611	758	1757	2988	470	1114	1249	481	1253	1145	565
Grp Volume(v), veh/h	54	282	267	76	170	170	98	0	90	76	0	227
Grp Sat Flow(s),veh/h/ln	1757	1752	1616	1757	1752	1706	1114	0	1730	1253	0	1710
Q Serve(g_s), s	1.6	7.1	7.3	2.2	3.9	4.0	3.8	0.0	1.9	2.3	0.0	5.2
Cycle Q Clear(g_c), s	1.6	7.1	7.3	2.2	3.9	4.0	9.0	0.0	1.9	4.2	0.0	5.2
Prop In Lane	1.00		0.47	1.00		0.28	1.00		0.28	1.00		0.33
Lane Grp Cap(c), veh/h	127	533	491	156	562	547	431	0	627	546	0	620
V/C Ratio(X)	0.42	0.53	0.54	0.49	0.30	0.31	0.23	0.00	0.14	0.14	0.00	0.37
Avail Cap(c_a), veh/h	562	1319	1217	562	1319	1284	846	0	1273	1035	0	1287
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	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	23.6	15.3	15.4	23.1	13.6	13.6	15.7	0.0	11.4	12.8	0.0	12.5
Incr Delay (d2), s/veh	0.8	1.0	1.1	0.9	0.4	0.4	0.3	0.0	0.1	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	0.8	3.5	3.4	1.1	1.9	2.0	1.2	0.0	0.9	0.8	0.0	2.5
LnGrp Delay(d),s/veh	24.4	16.3	16.5	23.9	13.9	14.0	16.1	0.0	11.5	12.9	0.0	12.9
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		603			416			188			303	
Approach Delay, s/veh		17.1			15.8			13.9			12.9	
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	7.7	21.2		24.3	6.8	22.0		24.3
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	4.2	9.3		7.2	3.6	6.0		11.0
Green Ext Time (p_c), s	0.0	4.8		2.0	0.0	2.6		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	15.5
HCM 2010 LOS	B

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	590	450	0	0	0
Future Vol, veh/h	0	590	450	0	0	0
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	641	489	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	529	0	-	0	850	285
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	321	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	1027	-	-	-	298	709
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	705	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	988	-	-	-	276	682
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	678	-

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)	988	-	-	-	-
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	590	450	0	0	0
Future Vol, veh/h	0	590	450	0	0	0
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	641	489	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	529	0	-	0	850	285
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	321	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	1027	-	-	-	298	709
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	705	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	988	-	-	-	276	682
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	678	-

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)	988	-	-	-	-
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	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	580	430	20	10	20
Future Vol, veh/h	20	580	430	20	10	20
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	630	467	22	11	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	529	0	-	0	877	285
Stage 1	-	-	-	-	518	-
Stage 2	-	-	-	-	359	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	1027	-	-	-	286	709
Stage 1	-	-	-	-	560	-
Stage 2	-	-	-	-	674	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	988	-	-	-	259	682
Mov Cap-2 Maneuver	-	-	-	-	381	-
Stage 1	-	-	-	-	527	-
Stage 2	-	-	-	-	648	-

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)	988	-	-	-	540
HCM Lane V/C Ratio	0.022	-	-	-	0.06
HCM Control Delay (s)	8.7	-	-	-	12.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	380	30	30	390	30	40	40	80	140	70	60
Future Volume (veh/h)	40	380	30	30	390	30	40	40	80	140	70	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.90	0.97		0.95	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	43	413	26	33	424	28	43	43	27	152	76	35
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	113	998	63	92	955	63	550	377	236	585	426	196
Arrive On Green	0.06	0.30	0.30	0.05	0.29	0.29	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1757	3326	208	1757	3313	218	1231	1038	652	1274	1175	541
Grp Volume(v), veh/h	43	217	222	33	223	229	43	0	70	152	0	111
Grp Sat Flow(s),veh/h/ln	1757	1752	1782	1757	1752	1778	1231	0	1689	1274	0	1716
Q Serve(g_s), s	1.1	4.5	4.6	0.8	4.7	4.8	1.1	0.0	1.3	4.1	0.0	2.0
Cycle Q Clear(g_c), s	1.1	4.5	4.6	0.8	4.7	4.8	3.1	0.0	1.3	5.4	0.0	2.0
Prop In Lane	1.00		0.12	1.00		0.12	1.00		0.39	1.00		0.32
Lane Grp Cap(c), veh/h	113	526	535	92	505	512	550	0	613	585	0	622
V/C Ratio(X)	0.38	0.41	0.42	0.36	0.44	0.45	0.08	0.00	0.11	0.26	0.00	0.18
Avail Cap(c_a), veh/h	654	1534	1560	654	1534	1557	1157	0	1446	1238	0	1502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	20.5	12.8	12.8	20.9	13.3	13.3	11.0	0.0	9.7	11.5	0.0	9.9
Incr Delay (d2), s/veh	0.8	0.6	0.6	0.9	0.7	0.7	0.1	0.0	0.1	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.3	2.3	0.4	2.4	2.5	0.4	0.0	0.6	1.5	0.0	1.0
LnGrp Delay(d),s/veh	21.3	13.4	13.4	21.8	14.0	14.0	11.1	0.0	9.8	11.7	0.0	10.1
LnGrp LOS	C	B	B	C	B	B	B		A	B		B
Approach Vol, veh/h		482			485			113			263	
Approach Delay, s/veh		14.1			14.5			10.3			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	5.4	18.7		21.6	5.9	18.2		21.6
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	2.8	6.6		7.4	3.1	6.8		5.1
Green Ext Time (p_c), s	0.0	3.4		1.5	0.0	3.8		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	13.3
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)	50	370	50	60	410	20	70	50	50	30	100	70
Future Volume (veh/h)	50	370	50	60	410	20	70	50	50	30	100	70
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	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	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	54	402	42	65	446	18	76	54	28	33	109	59
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	112	662	69	123	733	30	692	624	323	774	613	332
Arrive On Green	0.06	0.21	0.21	0.07	0.21	0.21	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1757	3197	332	1757	3431	138	1196	1143	593	1292	1125	609
Grp Volume(v), veh/h	54	219	225	65	227	237	76	0	82	33	0	168
Grp Sat Flow(s),veh/h/ln	1757	1752	1776	1757	1752	1816	1196	0	1736	1292	0	1733
Q Serve(g_s), s	2.2	8.3	8.4	2.6	8.6	8.6	2.5	0.0	1.7	0.9	0.0	3.6
Cycle Q Clear(g_c), s	2.2	8.3	8.4	2.6	8.6	8.6	6.1	0.0	1.7	2.6	0.0	3.6
Prop In Lane	1.00		0.19	1.00		0.08	1.00		0.34	1.00		0.35
Lane Grp Cap(c), veh/h	112	363	368	123	374	388	692	0	947	774	0	945
V/C Ratio(X)	0.48	0.60	0.61	0.53	0.61	0.61	0.11	0.00	0.09	0.04	0.00	0.18
Avail Cap(c_a), veh/h	407	956	969	407	956	991	692	0	947	774	0	945
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	33.2	26.3	26.4	32.9	26.1	26.1	9.9	0.0	8.0	8.6	0.0	8.4
Incr Delay (d2), s/veh	1.2	1.9	2.0	1.3	1.9	1.9	0.3	0.0	0.2	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	1.1	4.2	4.3	1.3	4.4	4.5	0.9	0.0	0.8	0.3	0.0	1.8
LnGrp Delay(d),s/veh	34.4	28.3	28.4	34.2	28.0	27.9	10.2	0.0	8.1	8.7	0.0	8.8
LnGrp LOS	C	C	C	C	C	C	B		A	A		A
Approach Vol, veh/h		498			529			158			201	
Approach Delay, s/veh		29.0			28.7			9.1			8.8	
Approach LOS		C			C			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.1	20.2		45.0	7.7	20.7		45.0
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	4.6	10.4		5.6	4.2	10.6		8.1
Green Ext Time (p_c), s	0.0	3.3		1.3	0.0	3.6		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	23.7
HCM 2010 LOS	C

Notes

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

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	80	0	60	0	140	90	80	280	0
Future Vol, veh/h	0	0	0	80	0	60	0	140	90	80	280	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
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	87	0	65	0	152	98	87	304	0
Number of Lanes	0	0	0	0	1	0	1	1	0	1	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	9.9	10.6	11.4
HCM LOS	A	B	B

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	57%	100%	0%
Vol Thru, %	100%	61%	0%	0%	100%
Vol Right, %	0%	39%	43%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	230	140	80	280
LT Vol	0	0	80	80	0
Through Vol	0	140	0	0	280
RT Vol	0	90	60	0	0
Lane Flow Rate	0	250	152	87	304
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0	0.352	0.224	0.137	0.438
Departure Headway (Hd)	5.349	5.073	5.298	5.687	5.183
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	705	674	628	691
Service Time	3.114	2.837	3.364	3.446	2.943
HCM Lane V/C Ratio	0	0.355	0.226	0.139	0.44
HCM Control Delay	8.1	10.6	9.9	9.4	12
HCM Lane LOS	N	B	A	A	B
HCM 95th-tile Q	0	1.6	0.9	0.5	2.2

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	190	200	230	10	20	110
Future Vol, veh/h	190	200	230	10	20	110
Conflicting Peds, #/hr	0	0	0	10	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, %	3	3	3	3	3	3
Mvmt Flow	207	217	250	11	22	120

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	271	0	-	0	897	266
Stage 1	-	-	-	-	266	-
Stage 2	-	-	-	-	631	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1287	-	-	-	309	770
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	528	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1275	-	-	-	247	763
Mov Cap-2 Maneuver	-	-	-	-	247	-
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	523	-

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1275	-	-	-	577
HCM Lane V/C Ratio	0.162	-	-	-	0.245
HCM Control Delay (s)	8.4	0	-	-	13.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1

Intersection	
Intersection Delay, s/veh	6.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	543	87	587	76
Demand Flow Rate, veh/h	559	90	604	78
Vehicles Circulating, veh/h	78	593	78	605
Vehicles Exiting, veh/h	605	89	559	78
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.989	0.999	0.989	0.995
Approach Delay, s/veh	6.0	5.4	6.8	5.1
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	TR	LT	TR
Assumed Moves	LT	R	LTR	L	TR	LT	TR
RT Channelized							
Lane Util	0.120	0.880	1.000	0.871	0.129	0.474	0.526
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	67	492	90	526	78	37	41
Cap Entry Lane, veh/h	1256	1329	858	1256	1329	774	849
Entry HV Adj Factor	0.966	0.972	0.971	0.971	0.971	0.962	0.979
Flow Entry, veh/h	65	478	87	511	76	36	40
Cap Entry, veh/h	1201	1277	832	1207	1276	740	827
V/C Ratio	0.054	0.374	0.105	0.423	0.059	0.048	0.049
Control Delay, s/veh	3.4	6.4	5.4	7.3	3.3	5.3	4.8
LOS	A	A	A	A	A	A	A
95th %tile Queue, veh	0	2	0	2	0	0	0

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	30	430	30	20	500	20	30	10	50	20	10	20
Future Vol, veh/h	30	430	30	20	500	20	30	10	50	20	10	20
Conflicting Peds, #/hr	10	0	10	10	0	10	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	80	-	-	60	-	-	80	-	-	70	-	-
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	33	467	33	22	543	22	33	11	54	22	11	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	575	0	0	510	0	0	881	1179	260	913	1184	293
Stage 1	-	-	-	-	-	-	560	560	-	608	608	-
Stage 2	-	-	-	-	-	-	321	619	-	305	576	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	987	-	-	1044	-	-	239	188	736	227	186	700
Stage 1	-	-	-	-	-	-	478	506	-	447	482	-
Stage 2	-	-	-	-	-	-	662	476	-	677	498	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	978	-	-	1034	-	-	209	174	729	190	172	693
Mov Cap-2 Maneuver	-	-	-	-	-	-	209	174	-	190	172	-
Stage 1	-	-	-	-	-	-	457	484	-	428	467	-
Stage 2	-	-	-	-	-	-	613	461	-	592	476	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	17.7	20.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	209	476	978	-	-	1034	-	-	190	345
HCM Lane V/C Ratio	0.156	0.137	0.033	-	-	0.021	-	-	0.114	0.095
HCM Control Delay (s)	25.4	13.8	8.8	-	-	8.6	-	-	26.4	16.5
HCM Lane LOS	D	B	A	-	-	A	-	-	D	C
HCM 95th %tile Q(veh)	0.5	0.5	0.1	-	-	0.1	-	-	0.4	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	350	120	40	420	90	180	100	80	60	90	50
Future Volume (veh/h)	100	350	120	40	420	90	180	100	80	60	90	50
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		0.91	1.00		0.90	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	109	380	98	43	457	80	196	109	60	65	98	36
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	180	893	226	107	845	146	519	411	226	488	475	175
Arrive On Green	0.10	0.33	0.33	0.06	0.29	0.29	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1757	2710	686	1757	2933	508	1208	1097	604	1172	1268	466
Grp Volume(v), veh/h	109	243	235	43	271	266	196	0	169	65	0	134
Grp Sat Flow(s),veh/h/ln	1757	1752	1644	1757	1752	1689	1208	0	1701	1172	0	1734
Q Serve(g_s), s	3.3	6.0	6.2	1.3	7.2	7.4	7.3	0.0	3.8	2.3	0.0	2.9
Cycle Q Clear(g_c), s	3.3	6.0	6.2	1.3	7.2	7.4	10.2	0.0	3.8	6.1	0.0	2.9
Prop In Lane	1.00		0.42	1.00		0.30	1.00		0.36	1.00		0.27
Lane Grp Cap(c), veh/h	180	578	542	107	505	486	519	0	638	488	0	650
V/C Ratio(X)	0.60	0.42	0.43	0.40	0.54	0.55	0.38	0.00	0.27	0.13	0.00	0.21
Avail Cap(c_a), veh/h	539	1264	1186	539	1264	1218	918	0	1200	895	0	1251
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	23.8	14.5	14.5	25.0	16.6	16.7	15.2	0.0	12.0	14.1	0.0	11.7
Incr Delay (d2), s/veh	1.2	0.6	0.7	0.9	1.1	1.2	0.5	0.0	0.3	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	3.0	2.9	0.7	3.6	3.6	2.5	0.0	1.8	0.7	0.0	1.4
LnGrp Delay(d),s/veh	25.0	15.1	15.2	25.9	17.7	17.8	15.7	0.0	12.3	14.3	0.0	11.9
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		587			580			365			199	
Approach Delay, s/veh		17.0			18.4			14.1			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	6.4	23.3		25.8	8.7	21.0		25.8
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	3.3	8.2		8.1	5.3	9.4		12.2
Green Ext Time (p_c), s	0.0	4.1		1.2	0.0	4.4		2.3

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.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	570	650	0	0	0
Future Vol, veh/h	0	570	650	0	0	0
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	620	707	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	747	0	-	0	1057	394
Stage 1	-	-	-	-	747	-
Stage 2	-	-	-	-	310	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	851	-	-	-	219	602
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	714	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	819	-	-	-	203	579
Mov Cap-2 Maneuver	-	-	-	-	318	-
Stage 1	-	-	-	-	410	-
Stage 2	-	-	-	-	687	-

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)	819	-	-	-	-
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	570	650	0	0	0
Future Vol, veh/h	0	570	650	0	0	0
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	620	707	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	747	0	-	0	1057	394
Stage 1	-	-	-	-	747	-
Stage 2	-	-	-	-	310	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	851	-	-	-	219	602
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	714	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	819	-	-	-	203	579
Mov Cap-2 Maneuver	-	-	-	-	318	-
Stage 1	-	-	-	-	410	-
Stage 2	-	-	-	-	687	-

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)	819	-	-	-	-
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	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	560	630	20	10	20
Future Vol, veh/h	10	560	630	20	10	20
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	11	609	685	22	11	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	747	0	-	0	1063	394
Stage 1	-	-	-	-	736	-
Stage 2	-	-	-	-	327	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	851	-	-	-	217	602
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-	-	700	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	819	-	-	-	198	579
Mov Cap-2 Maneuver	-	-	-	-	315	-
Stage 1	-	-	-	-	410	-
Stage 2	-	-	-	-	673	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	819	-	-	-	453
HCM Lane V/C Ratio	0.013	-	-	-	0.072
HCM Control Delay (s)	9.5	-	-	-	13.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	460	30	70	500	80	50	80	60	50	60	50
Future Volume (veh/h)	50	460	30	70	500	80	50	80	60	50	60	50
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		0.91	1.00		0.91	0.97		0.95	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	54	500	29	76	543	76	54	87	36	54	65	22
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	131	1059	61	162	1019	142	510	396	164	480	423	143
Arrive On Green	0.07	0.32	0.32	0.09	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1757	3346	193	1757	3049	425	1252	1218	504	1215	1298	439
Grp Volume(v), veh/h	54	261	268	76	311	308	54	0	123	54	0	87
Grp Sat Flow(s),veh/h/ln	1757	1752	1787	1757	1752	1721	1252	0	1722	1215	0	1737
Q Serve(g_s), s	1.4	5.8	5.9	2.0	7.0	7.1	1.6	0.0	2.5	1.7	0.0	1.7
Cycle Q Clear(g_c), s	1.4	5.8	5.9	2.0	7.0	7.1	3.3	0.0	2.5	4.2	0.0	1.7
Prop In Lane	1.00		0.11	1.00		0.25	1.00		0.29	1.00		0.25
Lane Grp Cap(c), veh/h	131	554	565	162	586	575	510	0	560	480	0	566
V/C Ratio(X)	0.41	0.47	0.47	0.47	0.53	0.54	0.11	0.00	0.22	0.11	0.00	0.15
Avail Cap(c_a), veh/h	611	1434	1462	611	1434	1408	1104	0	1377	1078	0	1422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.6	13.4	13.4	21.1	13.2	13.2	12.9	0.0	12.0	13.5	0.0	11.7
Incr Delay (d2), s/veh	0.8	0.8	0.7	0.8	0.9	0.9	0.1	0.0	0.2	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.9	3.0	1.0	3.5	3.5	0.6	0.0	1.2	0.6	0.0	0.8
LnGrp Delay(d),s/veh	22.4	14.2	14.2	21.8	14.1	14.1	13.0	0.0	12.2	13.6	0.0	11.9
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		583			695			177			141	
Approach Delay, s/veh		14.9			15.0			12.4			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	7.5	20.5		20.9	6.6	21.3		20.9
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	4.0	7.9		6.2	3.4	9.1		5.3
Green Ext Time (p_c), s	0.0	4.2		0.9	0.0	5.4		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	14.5
HCM 2010 LOS	B

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	440	80	90	470	40	80	100	80	20	70	80
Future Volume (veh/h)	90	440	80	90	470	40	80	100	80	20	70	80
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	98	478	70	98	511	36	87	109	67	22	76	58
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	139	725	106	139	786	55	678	551	339	640	500	382
Arrive On Green	0.08	0.24	0.24	0.08	0.24	0.24	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1757	3061	446	1757	3317	233	1233	1068	656	1187	969	740
Grp Volume(v), veh/h	98	273	275	98	269	278	87	0	176	22	0	134
Grp Sat Flow(s),veh/h/ln	1757	1752	1755	1757	1752	1798	1233	0	1724	1187	0	1709
Q Serve(g_s), s	4.2	10.9	11.0	4.2	10.7	10.8	3.1	0.0	4.3	0.8	0.0	3.2
Cycle Q Clear(g_c), s	4.2	10.9	11.0	4.2	10.7	10.8	6.3	0.0	4.3	5.1	0.0	3.2
Prop In Lane	1.00		0.25	1.00		0.13	1.00		0.38	1.00		0.43
Lane Grp Cap(c), veh/h	139	415	416	139	415	426	678	0	890	640	0	882
V/C Ratio(X)	0.70	0.66	0.66	0.70	0.65	0.65	0.13	0.00	0.20	0.03	0.00	0.15
Avail Cap(c_a), veh/h	385	904	906	385	904	928	678	0	890	640	0	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.8	26.7	26.8	34.8	26.7	26.7	11.5	0.0	10.1	11.5	0.0	9.8
Incr Delay (d2), s/veh	2.4	2.1	2.2	2.4	2.1	2.0	0.4	0.0	0.5	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	2.1	5.5	5.6	2.1	5.4	5.6	1.1	0.0	2.1	0.3	0.0	1.6
LnGrp Delay(d),s/veh	37.2	28.9	29.0	37.2	28.7	28.7	11.9	0.0	10.6	11.6	0.0	10.2
LnGrp LOS	D	C	C	D	C	C	B		B	B		B
Approach Vol, veh/h		646			645			263			156	
Approach Delay, s/veh		30.2			30.0			11.0			10.4	
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	9.2	23.4		45.0	9.2	23.4		45.0
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	6.2	13.0		7.1	6.2	12.8		8.3
Green Ext Time (p_c), s	0.0	4.1		1.0	0.0	4.3		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	25.4
HCM 2010 LOS	C

Notes

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

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	70	80	0	280	100	60	190	0
Future Vol, veh/h	0	0	0	0	70	80	0	280	100	60	190	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
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	0	76	87	0	304	109	65	207	0
Number of Lanes	0	0	0	0	1	0	1	1	0	1	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	10	14.7	10.2
HCM LOS	A	B	B

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	100%	0%
Vol Thru, %	100%	74%	47%	0%	100%
Vol Right, %	0%	26%	53%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	380	150	60	190
LT Vol	0	0	0	60	0
Through Vol	0	280	70	0	190
RT Vol	0	100	80	0	0
Lane Flow Rate	0	413	163	65	207
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0	0.582	0.238	0.106	0.307
Departure Headway (Hd)	5.256	5.07	5.265	5.864	5.359
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	706	677	607	665
Service Time	3.026	2.84	3.344	3.643	3.138
HCM Lane V/C Ratio	0	0.585	0.241	0.107	0.311
HCM Control Delay	8	14.7	10	9.3	10.5
HCM Lane LOS	N	B	A	A	B
HCM 95th-tile Q	0	3.8	0.9	0.4	1.3

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	140	220	260	40	20	110
Future Vol, veh/h	140	220	260	40	20	110
Conflicting Peds, #/hr	0	0	0	10	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, %	3	3	3	3	3	3
Mvmt Flow	152	239	283	43	22	120

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	336	0	-	0	858	315
Stage 1	-	-	-	-	315	-
Stage 2	-	-	-	-	543	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1218	-	-	-	326	723
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	580	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1206	-	-	-	273	716
Mov Cap-2 Maneuver	-	-	-	-	273	-
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	574	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1206	-	-	-	573
HCM Lane V/C Ratio	0.126	-	-	-	0.247
HCM Control Delay (s)	8.4	0	-	-	13.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.4	-	-	-	1

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	706	109	881	109
Demand Flow Rate, veh/h	727	112	908	112
Vehicles Circulating, veh/h	112	896	156	829
Vehicles Exiting, veh/h	829	168	683	179
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.990	1.000	0.990	0.998
Approach Delay, s/veh	6.9	7.6	10.2	6.5
Approach LOS	A	A	B	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	TR	LT	TR
Assumed Moves	LT	R	LTR	L	TR	LT	TR
RT Channelized							
Lane Util	0.199	0.801	1.000	0.802	0.198	0.473	0.527
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	145	582	112	728	180	53	59
Cap Entry Lane, veh/h	1218	1291	663	1169	1244	630	702
Entry HV Adj Factor	0.973	0.971	0.974	0.971	0.969	0.967	0.980
Flow Entry, veh/h	141	565	109	707	174	51	58
Cap Entry, veh/h	1172	1240	646	1124	1193	608	686
V/C Ratio	0.120	0.456	0.169	0.629	0.146	0.084	0.084
Control Delay, s/veh	4.1	7.6	7.6	11.6	4.3	6.9	6.1
LOS	A	A	A	B	A	A	A
95th %tile Queue, veh	0	2	1	5	1	0	0

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	40	600	40	30	690	20	20	10	30	20	0	20
Future Vol, veh/h	40	600	40	30	690	20	20	10	30	20	0	20
Conflicting Peds, #/hr	10	0	10	10	0	10	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	80	-	-	60	-	-	80	-	-	70	-	-
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	43	652	43	33	750	22	22	11	33	22	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	782	0	0	705	0	0	1211	1618	358	1255	1628	396
Stage 1	-	-	-	-	-	-	770	770	-	837	837	-
Stage 2	-	-	-	-	-	-	441	848	-	418	791	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	825	-	-	882	-	-	137	101	636	127	100	600
Stage 1	-	-	-	-	-	-	357	406	-	325	378	-
Stage 2	-	-	-	-	-	-	562	373	-	580	397	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	817	-	-	874	-	-	122	90	630	101	89	594
Mov Cap-2 Maneuver	-	-	-	-	-	-	122	90	-	101	89	-
Stage 1	-	-	-	-	-	-	335	381	-	305	360	-
Stage 2	-	-	-	-	-	-	521	355	-	506	372	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.4	28.4	30.8
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	122	252	817	-	-	874	-	-	101	594
HCM Lane V/C Ratio	0.178	0.173	0.053	-	-	0.037	-	-	0.215	0.037
HCM Control Delay (s)	40.8	22.2	9.7	-	-	9.3	-	-	50.2	11.3
HCM Lane LOS	E	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.6	0.6	0.2	-	-	0.1	-	-	0.8	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	520	80	50	510	170	80	170	60	100	110	60
Future Volume (veh/h)	70	520	80	50	510	170	80	170	60	100	110	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.91	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	76	565	76	54	554	156	87	185	52	109	120	47
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	119	1118	150	93	923	258	485	514	144	414	447	175
Arrive On Green	0.07	0.36	0.35	0.05	0.35	0.33	0.38	0.38	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1757	3068	411	1757	2641	740	1174	1368	385	1104	1242	486
Grp Volume(v), veh/h	76	322	319	54	366	344	87	0	237	109	0	167
Grp Sat Flow(s),veh/h/ln	1757	1752	1726	1757	1752	1629	1174	0	1753	1104	0	1728
Q Serve(g_s), s	2.4	8.3	8.4	1.7	10.0	10.1	3.2	0.0	5.7	4.7	0.0	4.0
Cycle Q Clear(g_c), s	2.4	8.3	8.4	1.7	10.0	10.1	7.2	0.0	5.7	10.4	0.0	4.0
Prop In Lane	1.00		0.24	1.00		0.45	1.00		0.22	1.00		0.28
Lane Grp Cap(c), veh/h	119	639	629	93	612	569	485	0	659	414	0	623
V/C Ratio(X)	0.64	0.50	0.51	0.58	0.60	0.60	0.18	0.00	0.36	0.26	0.00	0.27
Avail Cap(c_a), veh/h	484	1238	1220	484	1238	1151	855	0	1211	779	0	1195
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	26.3	14.3	14.5	26.8	15.5	15.8	15.0	0.0	13.2	17.5	0.0	13.2
Incr Delay (d2), s/veh	2.1	0.7	0.8	2.1	1.1	1.2	0.2	0.0	0.4	0.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.1	4.1	0.9	5.0	4.7	1.1	0.0	2.8	1.5	0.0	2.0
LnGrp Delay(d),s/veh	28.4	15.1	15.2	29.0	16.7	17.0	15.2	0.0	13.6	17.9	0.0	13.4
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		717			764			324			276	
Approach Delay, s/veh		16.6			17.7			14.0			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	7.1	25.2		25.8	7.9	24.3		25.8
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	3.7	10.4		12.4	4.4	12.1		9.2
Green Ext Time (p_c), s	0.0	5.6		1.7	0.0	6.1		2.3

Intersection Summary	
HCM 2010 Ctrl Delay	16.4
HCM 2010 LOS	B

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	670	650	0	0	0
Future Vol, veh/h	0	670	650	0	0	0
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	728	707	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	747	0	-	0	1111	394
Stage 1	-	-	-	-	747	-
Stage 2	-	-	-	-	364	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	851	-	-	-	202	602
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	819	-	-	-	187	579
Mov Cap-2 Maneuver	-	-	-	-	308	-
Stage 1	-	-	-	-	410	-
Stage 2	-	-	-	-	646	-

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)	819	-	-	-	-
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	670	650	0	0	0
Future Vol, veh/h	0	670	650	0	0	0
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	728	707	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	747	0	-	0	1111	394
Stage 1	-	-	-	-	747	-
Stage 2	-	-	-	-	364	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	851	-	-	-	202	602
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	819	-	-	-	187	579
Mov Cap-2 Maneuver	-	-	-	-	308	-
Stage 1	-	-	-	-	410	-
Stage 2	-	-	-	-	646	-

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)	819	-	-	-	-
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	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	660	650	10	10	10
Future Vol, veh/h	20	660	650	10	10	10
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	717	707	11	11	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	758	0	-	0	1156	399
Stage 1	-	-	-	-	753	-
Stage 2	-	-	-	-	403	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	843	-	-	-	188	598
Stage 1	-	-	-	-	423	-
Stage 2	-	-	-	-	641	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	811	-	-	-	169	575
Mov Cap-2 Maneuver	-	-	-	-	292	-
Stage 1	-	-	-	-	396	-
Stage 2	-	-	-	-	617	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	811	-	-	-	387
HCM Lane V/C Ratio	0.027	-	-	-	0.056
HCM Control Delay (s)	9.6	-	-	-	14.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	520	50	50	530	80	60	120	70	90	80	50
Future Volume (veh/h)	70	520	50	50	530	80	60	120	70	90	80	50
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		0.91	1.00		0.91	0.97		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	76	565	47	54	576	76	65	130	55	98	87	32
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	122	1166	97	94	1053	138	522	444	188	448	444	163
Arrive On Green	0.07	0.36	0.34	0.05	0.34	0.32	0.37	0.37	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1757	3250	269	1757	3074	404	1223	1210	512	1154	1267	466
Grp Volume(v), veh/h	76	304	308	54	327	325	65	0	185	98	0	119
Grp Sat Flow(s),veh/h/ln	1757	1752	1767	1757	1752	1726	1223	0	1721	1154	0	1733
Q Serve(g_s), s	2.3	7.3	7.4	1.6	8.2	8.3	2.1	0.0	4.2	3.7	0.0	2.6
Cycle Q Clear(g_c), s	2.3	7.3	7.4	1.6	8.2	8.3	4.7	0.0	4.2	7.8	0.0	2.6
Prop In Lane	1.00		0.15	1.00		0.23	1.00		0.30	1.00		0.27
Lane Grp Cap(c), veh/h	122	629	634	94	601	591	522	0	631	448	0	607
V/C Ratio(X)	0.62	0.48	0.49	0.58	0.55	0.55	0.12	0.00	0.29	0.22	0.00	0.20
Avail Cap(c_a), veh/h	518	1323	1334	518	1323	1303	977	0	1271	896	0	1279
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	24.6	13.5	13.6	25.1	14.4	14.6	13.3	0.0	12.3	15.7	0.0	12.3
Incr Delay (d2), s/veh	1.9	0.7	0.7	2.1	0.9	1.0	0.1	0.0	0.3	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.7	3.7	0.8	4.1	4.0	0.7	0.0	2.0	1.2	0.0	1.3
LnGrp Delay(d),s/veh	26.5	14.2	14.3	27.2	15.4	15.5	13.4	0.0	12.6	16.0	0.0	12.5
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		688			706			250			217	
Approach Delay, s/veh		15.6			16.3			12.8			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	6.9	23.5		23.9	7.8	22.6		23.9
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	3.6	9.4		9.8	4.3	10.3		6.7
Green Ext Time (p_c), s	0.0	5.0		1.4	0.0	5.7		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	15.3
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)	120	520	100	90	510	40	100	170	90	30	90	80
Future Volume (veh/h)	120	520	100	90	510	40	100	170	90	30	90	80
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	130	565	93	98	554	36	109	185	84	33	98	63
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	143	836	137	114	874	57	638	610	277	533	521	335
Arrive On Green	0.08	0.28	0.27	0.06	0.26	0.25	0.51	0.51	0.50	0.50	0.50	0.50
Sat Flow, veh/h	1757	3006	493	1757	3337	216	1203	1200	545	1091	1048	673
Grp Volume(v), veh/h	130	329	329	98	290	300	109	0	269	33	0	161
Grp Sat Flow(s),veh/h/ln	1757	1752	1747	1757	1752	1801	1203	0	1745	1091	0	1721
Q Serve(g_s), s	5.9	13.4	13.6	4.5	11.8	11.9	4.4	0.0	7.3	1.5	0.0	4.2
Cycle Q Clear(g_c), s	5.9	13.4	13.6	4.5	11.8	11.9	8.6	0.0	7.3	8.8	0.0	4.2
Prop In Lane	1.00		0.28	1.00		0.12	1.00		0.31	1.00		0.39
Lane Grp Cap(c), veh/h	143	488	486	114	459	472	638	0	887	533	0	855
V/C Ratio(X)	0.91	0.67	0.68	0.86	0.63	0.64	0.17	0.00	0.30	0.06	0.00	0.19
Avail Cap(c_a), veh/h	348	891	888	348	891	915	638	0	887	533	0	855
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	36.8	25.9	26.0	37.4	26.3	26.4	13.1	0.0	11.6	14.6	0.0	11.3
Incr Delay (d2), s/veh	8.5	2.0	2.0	7.1	1.7	1.7	0.6	0.0	0.9	0.2	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	3.2	6.7	6.8	2.4	6.0	6.1	1.6	0.0	3.7	0.5	0.0	2.1
LnGrp Delay(d),s/veh	45.3	27.8	28.0	44.5	28.1	28.1	13.7	0.0	12.5	14.9	0.0	11.8
LnGrp LOS	D	C	C	D	C	C	B		B	B		B
Approach Vol, veh/h		788			688			378			194	
Approach Delay, s/veh		30.8			30.4			12.9			12.3	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.2	26.5		45.0	10.6	25.1		45.0
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	6.5	15.6		10.8	7.9	13.9		10.6
Green Ext Time (p_c), s	0.0	5.0		1.3	0.1	4.6		2.5

Intersection Summary	
HCM 2010 Ctrl Delay	25.6
HCM 2010 LOS	C

Notes

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

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	90	0	40	0	270	180	40	200	0
Future Vol, veh/h	0	0	0	90	0	40	0	270	180	40	200	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
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	98	0	43	0	293	196	43	217	0
Number of Lanes	0	0	0	0	1	0	1	1	0	1	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	10.4	17.2	10.5
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	69%	100%	0%
Vol Thru, %	100%	60%	0%	0%	100%
Vol Right, %	0%	40%	31%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	450	130	40	200
LT Vol	0	0	90	40	0
Through Vol	0	270	0	0	200
RT Vol	0	180	40	0	0
Lane Flow Rate	0	489	141	43	217
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0	0.67	0.222	0.071	0.325
Departure Headway (Hd)	5.211	4.929	5.666	5.889	5.384
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	729	627	604	663
Service Time	2.975	2.693	3.758	3.666	3.161
HCM Lane V/C Ratio	0	0.671	0.225	0.071	0.327
HCM Control Delay	8	17.2	10.4	9.1	10.8
HCM Lane LOS	N	C	B	A	B
HCM 95th-tile Q	0	5.2	0.8	0.2	1.4

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	240	390	230	20	20	130
Future Vol, veh/h	240	390	230	20	20	130
Conflicting Peds, #/hr	0	0	0	10	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, %	3	3	3	3	3	3
Mvmt Flow	261	424	250	22	22	141

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	282	0	-	0	1217	271
Stage 1	-	-	-	-	271	-
Stage 2	-	-	-	-	946	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1275	-	-	-	199	765
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	376	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1263	-	-	-	142	758
Mov Cap-2 Maneuver	-	-	-	-	142	-
Stage 1	-	-	-	-	558	-
Stage 2	-	-	-	-	372	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	16.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1263	-	-	-	480
HCM Lane V/C Ratio	0.207	-	-	-	0.34
HCM Control Delay (s)	8.6	0	-	-	16.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.8	-	-	-	1.5

Intersection	
Intersection Delay, s/veh	6.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	608	33	562	87
Demand Flow Rate, veh/h	626	33	579	90
Vehicles Circulating, veh/h	78	556	89	533
Vehicles Exiting, veh/h	545	112	615	56
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.989	0.999	0.989	0.994
Approach Delay, s/veh	6.5	4.5	6.8	4.8
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	TR	LT	TR
Assumed Moves	LT	R	LTR	L	TR	LT	TR
RT Channelized							
Lane Util	0.125	0.875	1.000	0.883	0.117	0.467	0.533
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	78	548	33	511	68	42	48
Cap Entry Lane, veh/h	1256	1329	885	1244	1317	827	903
Entry HV Adj Factor	0.975	0.971	0.990	0.971	0.971	0.978	0.965
Flow Entry, veh/h	76	532	33	496	66	41	46
Cap Entry, veh/h	1212	1276	875	1194	1264	803	866
V/C Ratio	0.063	0.417	0.037	0.415	0.052	0.051	0.053
Control Delay, s/veh	3.5	6.9	4.5	7.2	3.3	5.0	4.7
LOS	A	A	A	A	A	A	A
95th %tile Queue, veh	0	2	0	2	0	0	0

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	10	519	40	40	436	10	10	10	20	20	10	20
Future Vol, veh/h	10	519	40	40	436	10	10	10	20	20	10	20
Conflicting Peds, #/hr	10	0	10	10	0	10	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	80	-	-	60	-	-	80	-	-	70	-	-
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	11	564	43	43	474	11	11	11	22	22	11	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	495	0	0	617	0	0	947	1199	314	886	1215	253
Stage 1	-	-	-	-	-	-	618	618	-	576	576	-
Stage 2	-	-	-	-	-	-	329	581	-	310	639	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	1058	-	-	952	-	-	214	183	679	237	179	743
Stage 1	-	-	-	-	-	-	441	477	-	467	498	-
Stage 2	-	-	-	-	-	-	655	495	-	672	466	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1048	-	-	943	-	-	187	169	673	207	166	736
Mov Cap-2 Maneuver	-	-	-	-	-	-	187	169	-	207	166	-
Stage 1	-	-	-	-	-	-	432	467	-	458	470	-
Stage 2	-	-	-	-	-	-	593	467	-	628	457	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.7	19	19.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	187	337	1048	-	-	943	-	-	207	343
HCM Lane V/C Ratio	0.058	0.097	0.01	-	-	0.046	-	-	0.105	0.095
HCM Control Delay (s)	25.4	16.8	8.5	-	-	9	-	-	24.4	16.6
HCM Lane LOS	D	C	A	-	-	A	-	-	C	C
HCM 95th %tile Q(veh)	0.2	0.3	0	-	-	0.1	-	-	0.3	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	449	150	70	336	60	97	60	50	70	140	98
Future Volume (veh/h)	50	449	150	70	336	60	97	60	50	70	140	98
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		0.91	1.00		0.91	0.98		0.95	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	54	488	133	76	365	52	105	65	24	76	152	82
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	125	848	229	153	1017	143	416	457	169	539	399	215
Arrive On Green	0.07	0.32	0.32	0.09	0.33	0.33	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1757	2665	719	1757	3044	428	1107	1266	467	1254	1106	596
Grp Volume(v), veh/h	54	319	302	76	208	209	105	0	89	76	0	234
Grp Sat Flow(s),veh/h/ln	1757	1752	1632	1757	1752	1720	1107	0	1733	1254	0	1702
Q Serve(g_s), s	1.6	8.4	8.6	2.3	5.0	5.1	4.3	0.0	1.9	2.4	0.0	5.7
Cycle Q Clear(g_c), s	1.6	8.4	8.6	2.3	5.0	5.1	10.0	0.0	1.9	4.3	0.0	5.7
Prop In Lane	1.00		0.44	1.00		0.25	1.00		0.27	1.00		0.35
Lane Grp Cap(c), veh/h	125	558	519	153	585	574	416	0	626	539	0	614
V/C Ratio(X)	0.43	0.57	0.58	0.50	0.36	0.36	0.25	0.00	0.14	0.14	0.00	0.38
Avail Cap(c_a), veh/h	537	1261	1174	537	1261	1238	796	0	1219	989	0	1225
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	24.7	15.8	15.9	24.2	14.0	14.0	16.9	0.0	12.0	13.4	0.0	13.2
Incr Delay (d2), s/veh	0.9	1.1	1.2	0.9	0.4	0.5	0.4	0.0	0.1	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	4.3	4.0	1.2	2.4	2.5	1.4	0.0	0.9	0.8	0.0	2.7
LnGrp Delay(d),s/veh	25.6	16.9	17.1	25.1	14.4	14.5	17.2	0.0	12.1	13.6	0.0	13.6
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		675			493			194			310	
Approach Delay, s/veh		17.7			16.1			14.9			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	7.8	22.7		25.1	7.0	23.6		25.1
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	4.3	10.6		7.7	3.6	7.1		12.0
Green Ext Time (p_c), s	0.0	5.5		2.1	0.0	3.3		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.1
HCM 2010 LOS	B

Notes

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

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	32	619	489	42	30	35
Future Vol, veh/h	32	619	489	42	30	35
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	35	673	532	46	33	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	618	0	-	0	1002	329
Stage 1	-	-	-	-	595	-
Stage 2	-	-	-	-	407	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	951	-	-	-	237	664
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	638	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	915	-	-	-	211	639
Mov Cap-2 Maneuver	-	-	-	-	338	-
Stage 1	-	-	-	-	473	-
Stage 2	-	-	-	-	614	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	915	-	-	-	453
HCM Lane V/C Ratio	0.038	-	-	-	0.156
HCM Control Delay (s)	9.1	-	-	-	14.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	622	485	39	29	37
Future Vol, veh/h	34	622	485	39	29	37
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	37	676	527	42	32	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	609	0	-	0	1000	325
Stage 1	-	-	-	-	588	-
Stage 2	-	-	-	-	412	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	959	-	-	-	238	668
Stage 1	-	-	-	-	515	-
Stage 2	-	-	-	-	634	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	922	-	-	-	211	643
Mov Cap-2 Maneuver	-	-	-	-	338	-
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	610	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	922	-	-	-	460
HCM Lane V/C Ratio	0.04	-	-	-	0.156
HCM Control Delay (s)	9.1	-	-	-	14.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	646	502	20	10	20
Future Vol, veh/h	20	646	502	20	10	20
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	702	546	22	11	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	608	0	-	0	992	324
Stage 1	-	-	-	-	597	-
Stage 2	-	-	-	-	395	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	960	-	-	-	241	669
Stage 1	-	-	-	-	510	-
Stage 2	-	-	-	-	647	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	923	-	-	-	218	644
Mov Cap-2 Maneuver	-	-	-	-	344	-
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	622	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	923	-	-	-	499
HCM Lane V/C Ratio	0.024	-	-	-	0.065
HCM Control Delay (s)	9	-	-	-	12.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	424	30	44	435	43	40	40	94	148	70	60
Future Volume (veh/h)	40	424	30	44	435	43	40	40	94	148	70	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.90	0.97		0.95	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	43	461	28	48	473	40	43	43	32	161	76	35
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	112	989	60	121	979	82	542	347	259	572	425	196
Arrive On Green	0.06	0.30	0.30	0.07	0.30	0.30	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1757	3334	202	1757	3242	273	1231	960	714	1269	1175	541
Grp Volume(v), veh/h	43	241	248	48	254	259	43	0	75	161	0	111
Grp Sat Flow(s),veh/h/ln	1757	1752	1783	1757	1752	1762	1231	0	1674	1269	0	1716
Q Serve(g_s), s	1.1	5.4	5.4	1.2	5.7	5.7	1.2	0.0	1.4	4.6	0.0	2.1
Cycle Q Clear(g_c), s	1.1	5.4	5.4	1.2	5.7	5.7	3.3	0.0	1.4	6.1	0.0	2.1
Prop In Lane	1.00		0.11	1.00		0.15	1.00		0.43	1.00		0.32
Lane Grp Cap(c), veh/h	112	520	529	121	529	532	542	0	606	572	0	621
V/C Ratio(X)	0.38	0.46	0.47	0.40	0.48	0.49	0.08	0.00	0.12	0.28	0.00	0.18
Avail Cap(c_a), veh/h	626	1468	1494	626	1468	1476	1104	0	1371	1176	0	1437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	13.7	13.7	21.3	13.6	13.6	11.5	0.0	10.2	12.2	0.0	10.4
Incr Delay (d2), s/veh	0.8	0.8	0.8	0.8	0.8	0.8	0.1	0.0	0.1	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.7	2.7	0.6	2.8	2.9	0.4	0.0	0.7	1.7	0.0	1.0
LnGrp Delay(d),s/veh	22.3	14.5	14.5	22.0	14.4	14.5	11.6	0.0	10.3	12.5	0.0	10.6
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		532			561			118			272	
Approach Delay, s/veh		15.1			15.1			10.8			11.7	
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	6.3	19.2		22.3	6.0	19.4		22.3
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	3.2	7.4		8.1	3.1	7.7		5.3
Green Ext Time (p_c), s	0.0	3.9		1.6	0.0	4.3		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	14.1
HCM 2010 LOS	B

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	400	50	80	435	20	70	50	64	30	100	70
Future Volume (veh/h)	50	400	50	80	435	20	70	50	64	30	100	70
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	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	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	54	435	43	87	473	18	76	54	37	33	109	59
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	111	695	68	137	795	30	673	543	372	745	599	324
Arrive On Green	0.06	0.22	0.22	0.08	0.23	0.23	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	1757	3216	316	1757	3440	131	1196	1019	698	1281	1125	609
Grp Volume(v), veh/h	54	236	242	87	241	250	76	0	91	33	0	168
Grp Sat Flow(s),veh/h/ln	1757	1752	1780	1757	1752	1818	1196	0	1717	1281	0	1733
Q Serve(g_s), s	2.2	9.2	9.3	3.6	9.2	9.2	2.6	0.0	2.0	1.0	0.0	3.8
Cycle Q Clear(g_c), s	2.2	9.2	9.3	3.6	9.2	9.2	6.4	0.0	2.0	2.9	0.0	3.8
Prop In Lane	1.00		0.18	1.00		0.07	1.00		0.41	1.00		0.35
Lane Grp Cap(c), veh/h	111	379	385	137	405	420	673	0	915	745	0	923
V/C Ratio(X)	0.49	0.62	0.63	0.63	0.59	0.60	0.11	0.00	0.10	0.04	0.00	0.18
Avail Cap(c_a), veh/h	398	934	948	398	934	969	673	0	915	745	0	923
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.0	26.7	26.7	33.6	25.7	25.7	10.7	0.0	8.7	9.4	0.0	9.1
Incr Delay (d2), s/veh	1.2	2.0	2.0	1.8	1.7	1.6	0.3	0.0	0.2	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	1.1	4.6	4.8	1.8	4.6	4.8	0.9	0.0	1.0	0.4	0.0	1.9
LnGrp Delay(d),s/veh	35.2	28.7	28.7	35.4	27.4	27.4	11.1	0.0	8.9	9.5	0.0	9.5
LnGrp LOS	D	C	C	D	C	C	B		A	A		A
Approach Vol, veh/h		532			578			167			201	
Approach Delay, s/veh		29.4			28.6			9.9			9.5	
Approach LOS		C			C			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	21.2		45.0	7.7	22.4		45.0
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	5.6	11.3		5.8	4.2	11.2		8.4
Green Ext Time (p_c), s	0.0	3.5		1.3	0.0	3.8		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	24.2
HCM 2010 LOS	C

Notes

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

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	80	0	60	0	147	90	80	280	0
Future Vol, veh/h	0	0	0	80	0	60	0	147	90	80	280	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
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	87	0	65	0	160	98	87	304	0
Number of Lanes	0	0	0	0	1	0	1	1	0	1	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	9.9	10.8	11.4
HCM LOS	A	B	B

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	57%	100%	0%
Vol Thru, %	100%	62%	0%	0%	100%
Vol Right, %	0%	38%	43%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	237	140	80	280
LT Vol	0	0	80	80	0
Through Vol	0	147	0	0	280
RT Vol	0	90	60	0	0
Lane Flow Rate	0	258	152	87	304
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0	0.364	0.225	0.138	0.439
Departure Headway (Hd)	5.35	5.082	5.317	5.694	5.191
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	703	671	627	691
Service Time	3.118	2.849	3.386	3.457	2.953
HCM Lane V/C Ratio	0	0.367	0.227	0.139	0.44
HCM Control Delay	8.1	10.8	9.9	9.4	12
HCM Lane LOS	N	B	A	A	B
HCM 95th-tile Q	0	1.7	0.9	0.5	2.2

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	204	207	230	10	20	124
Future Vol, veh/h	204	207	230	10	20	124
Conflicting Peds, #/hr	0	0	0	10	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, %	3	3	3	3	3	3
Mvmt Flow	222	225	250	11	22	135

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	271	0	-	0	935	266
Stage 1	-	-	-	-	266	-
Stage 2	-	-	-	-	669	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1287	-	-	-	293	770
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	507	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1275	-	-	-	230	763
Mov Cap-2 Maneuver	-	-	-	-	230	-
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	502	-

Approach	EB	WB	SB
HCM Control Delay, s	4.2	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1275	-	-	-	577
HCM Lane V/C Ratio	0.174	-	-	-	0.271
HCM Control Delay (s)	8.4	0	-	-	13.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.1

Intersection	
Intersection Delay, s/veh	6.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	589	87	626	76
Demand Flow Rate, veh/h	607	90	644	78
Vehicles Circulating, veh/h	78	634	78	646
Vehicles Exiting, veh/h	646	89	607	78
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.989	0.999	0.989	0.996
Approach Delay, s/veh	6.5	5.6	7.2	5.3
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	TR	LT	TR
Assumed Moves	LT	R	LTR	L	TR	LT	TR
RT Channelized							
Lane Util	0.110	0.890	1.000	0.879	0.121	0.474	0.526
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	67	540	90	566	78	37	41
Cap Entry Lane, veh/h	1256	1329	828	1256	1329	745	820
Entry HV Adj Factor	0.966	0.970	0.971	0.972	0.971	0.962	0.979
Flow Entry, veh/h	65	524	87	550	76	36	40
Cap Entry, veh/h	1201	1276	803	1208	1276	713	799
V/C Ratio	0.054	0.411	0.109	0.455	0.059	0.050	0.050
Control Delay, s/veh	3.4	6.8	5.6	7.7	3.3	5.6	5.0
LOS	A	A	A	A	A	A	A
95th %tile Queue, veh	0	2	0	2	0	0	0

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	30	472	30	20	536	20	30	10	50	20	10	20
Future Vol, veh/h	30	472	30	20	536	20	30	10	50	20	10	20
Conflicting Peds, #/hr	10	0	10	10	0	10	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	80	-	-	60	-	-	80	-	-	70	-	-
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	33	513	33	22	583	22	33	11	54	22	11	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	615	0	0	556	0	0	947	1265	283	976	1270	313
Stage 1	-	-	-	-	-	-	606	606	-	648	648	-
Stage 2	-	-	-	-	-	-	341	659	-	328	622	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	954	-	-	1004	-	-	214	167	711	204	165	680
Stage 1	-	-	-	-	-	-	448	483	-	423	462	-
Stage 2	-	-	-	-	-	-	645	456	-	656	475	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	945	-	-	994	-	-	186	154	704	169	153	674
Mov Cap-2 Maneuver	-	-	-	-	-	-	186	154	-	169	153	-
Stage 1	-	-	-	-	-	-	428	461	-	404	447	-
Stage 2	-	-	-	-	-	-	596	441	-	570	454	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	19.2	22.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	186	441	945	-	-	994	-	-	169	316
HCM Lane V/C Ratio	0.175	0.148	0.035	-	-	0.022	-	-	0.129	0.103
HCM Control Delay (s)	28.4	14.6	8.9	-	-	8.7	-	-	29.4	17.7
HCM Lane LOS	D	B	A	-	-	A	-	-	D	C
HCM 95th %tile Q(veh)	0.6	0.5	0.1	-	-	0.1	-	-	0.4	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	392	120	40	456	90	180	100	80	60	90	54
Future Volume (veh/h)	100	392	120	40	456	90	180	100	80	60	90	54
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		0.91	1.00		0.90	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	109	426	104	43	496	82	196	109	59	65	98	39
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	178	926	223	107	879	144	510	411	223	483	460	183
Arrive On Green	0.10	0.34	0.34	0.06	0.30	0.30	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1757	2744	661	1757	2963	486	1204	1105	598	1173	1236	492
Grp Volume(v), veh/h	109	270	260	43	292	286	196	0	168	65	0	137
Grp Sat Flow(s),veh/h/ln	1757	1752	1653	1757	1752	1697	1204	0	1703	1173	0	1728
Q Serve(g_s), s	3.4	6.8	7.0	1.3	7.9	8.1	7.5	0.0	3.9	2.3	0.0	3.1
Cycle Q Clear(g_c), s	3.4	6.8	7.0	1.3	7.9	8.1	10.6	0.0	3.9	6.2	0.0	3.1
Prop In Lane	1.00		0.40	1.00		0.29	1.00		0.35	1.00		0.28
Lane Grp Cap(c), veh/h	178	591	557	107	520	503	510	0	634	483	0	643
V/C Ratio(X)	0.61	0.46	0.47	0.40	0.56	0.57	0.38	0.00	0.27	0.13	0.00	0.21
Avail Cap(c_a), veh/h	528	1239	1168	528	1239	1200	894	0	1177	876	0	1222
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	24.4	14.7	14.7	25.6	16.8	16.8	15.7	0.0	12.4	14.5	0.0	12.1
Incr Delay (d2), s/veh	1.3	0.7	0.7	0.9	1.1	1.2	0.6	0.0	0.3	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	3.4	3.3	0.7	4.0	3.9	2.5	0.0	1.9	0.8	0.0	1.5
LnGrp Delay(d),s/veh	25.6	15.4	15.5	26.5	17.9	18.1	16.3	0.0	12.6	14.7	0.0	12.3
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		639			621			364			202	
Approach Delay, s/veh		17.2			18.6			14.6			13.1	
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	6.4	24.1		26.1	8.7	21.8		26.1
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	3.3	9.0		8.2	5.4	10.1		12.6
Green Ext Time (p_c), s	0.0	4.6		1.3	0.0	4.7		2.3

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes

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

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	591	670	20	21	25
Future Vol, veh/h	20	591	670	20	21	25
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	642	728	22	23	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	790	0	-	0	1144	415
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	365	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	819	-	-	-	192	584
Stage 1	-	-	-	-	410	-
Stage 2	-	-	-	-	670	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	788	-	-	-	173	562
Mov Cap-2 Maneuver	-	-	-	-	291	-
Stage 1	-	-	-	-	383	-
Stage 2	-	-	-	-	645	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	788	-	-	-	394
HCM Lane V/C Ratio	0.028	-	-	-	0.127
HCM Control Delay (s)	9.7	-	-	-	15.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	590	675	20	21	26
Future Vol, veh/h	20	590	675	20	21	26
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	641	734	22	23	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	796	0	-	0	1150	418
Stage 1	-	-	-	-	785	-
Stage 2	-	-	-	-	365	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	815	-	-	-	190	581
Stage 1	-	-	-	-	407	-
Stage 2	-	-	-	-	670	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	784	-	-	-	171	559
Mov Cap-2 Maneuver	-	-	-	-	289	-
Stage 1	-	-	-	-	381	-
Stage 2	-	-	-	-	645	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	784	-	-	-	394
HCM Lane V/C Ratio	0.028	-	-	-	0.13
HCM Control Delay (s)	9.7	-	-	-	15.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	600	681	20	10	20
Future Vol, veh/h	10	600	681	20	10	20
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	11	652	740	22	11	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	802	0	-	0	1139	421
Stage 1	-	-	-	-	791	-
Stage 2	-	-	-	-	348	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	811	-	-	-	193	578
Stage 1	-	-	-	-	405	-
Stage 2	-	-	-	-	683	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	780	-	-	-	176	556
Mov Cap-2 Maneuver	-	-	-	-	293	-
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	657	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	780	-	-	-	428
HCM Lane V/C Ratio	0.014	-	-	-	0.076
HCM Control Delay (s)	9.7	-	-	-	14.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	488	30	80	532	89	50	80	68	54	60	50
Future Volume (veh/h)	50	488	30	80	532	89	50	80	68	54	60	50
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		0.91	1.00		0.91	0.97		0.95	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	54	530	29	87	578	85	54	87	42	59	65	22
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	129	1071	58	172	1038	152	506	375	181	470	423	143
Arrive On Green	0.07	0.32	0.32	0.10	0.34	0.34	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1757	3359	183	1757	3026	443	1252	1152	556	1209	1298	439
Grp Volume(v), veh/h	54	276	283	87	334	329	54	0	129	59	0	87
Grp Sat Flow(s),veh/h/ln	1757	1752	1790	1757	1752	1717	1252	0	1709	1209	0	1737
Q Serve(g_s), s	1.5	6.4	6.5	2.4	7.8	7.9	1.6	0.0	2.8	1.9	0.0	1.8
Cycle Q Clear(g_c), s	1.5	6.4	6.5	2.4	7.8	7.9	3.4	0.0	2.8	4.7	0.0	1.8
Prop In Lane	1.00		0.10	1.00		0.26	1.00		0.33	1.00		0.25
Lane Grp Cap(c), veh/h	129	559	571	172	601	589	506	0	556	470	0	566
V/C Ratio(X)	0.42	0.49	0.50	0.51	0.56	0.56	0.11	0.00	0.23	0.13	0.00	0.15
Avail Cap(c_a), veh/h	592	1390	1420	592	1390	1362	1069	0	1325	1035	0	1378
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	22.3	13.9	13.9	21.6	13.4	13.5	13.3	0.0	12.4	14.1	0.0	12.1
Incr Delay (d2), s/veh	0.8	0.8	0.8	0.9	1.0	1.0	0.1	0.0	0.3	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.2	3.3	1.2	3.9	3.8	0.6	0.0	1.3	0.6	0.0	0.9
LnGrp Delay(d),s/veh	23.1	14.7	14.7	22.4	14.4	14.5	13.4	0.0	12.7	14.2	0.0	12.2
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		613			750			183			146	
Approach Delay, s/veh		15.4			15.4			12.9			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	7.9	21.1		21.4	6.7	22.3		21.4
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	4.4	8.5		6.7	3.5	9.9		5.4
Green Ext Time (p_c), s	0.0	4.5		0.9	0.0	5.9		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	14.9
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)	90	456	80	101	491	40	80	100	92	20	70	80
Future Volume (veh/h)	90	456	80	101	491	40	80	100	92	20	70	80
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	98	496	71	110	534	36	87	109	76	22	76	57
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	138	743	106	143	813	55	671	516	360	624	499	374
Arrive On Green	0.08	0.24	0.24	0.08	0.24	0.24	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	1757	3071	438	1757	3328	224	1234	1011	705	1177	977	733
Grp Volume(v), veh/h	98	282	285	110	281	289	87	0	185	22	0	133
Grp Sat Flow(s),veh/h/ln	1757	1752	1757	1757	1752	1800	1234	0	1715	1177	0	1710
Q Serve(g_s), s	4.3	11.4	11.5	4.8	11.3	11.3	3.1	0.0	4.6	0.8	0.0	3.2
Cycle Q Clear(g_c), s	4.3	11.4	11.5	4.8	11.3	11.3	6.4	0.0	4.6	5.4	0.0	3.2
Prop In Lane	1.00		0.25	1.00		0.12	1.00		0.41	1.00		0.43
Lane Grp Cap(c), veh/h	138	424	425	143	428	440	671	0	876	624	0	874
V/C Ratio(X)	0.71	0.67	0.67	0.77	0.66	0.66	0.13	0.00	0.21	0.04	0.00	0.15
Avail Cap(c_a), veh/h	381	895	897	381	895	919	671	0	876	624	0	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	35.2	26.8	26.9	35.3	26.6	26.6	11.8	0.0	10.5	12.0	0.0	10.2
Incr Delay (d2), s/veh	2.5	2.2	2.2	3.3	2.1	2.0	0.4	0.0	0.5	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	2.2	5.7	5.8	2.5	5.7	5.9	1.1	0.0	2.3	0.3	0.0	1.6
LnGrp Delay(d),s/veh	37.7	29.0	29.1	38.5	28.7	28.7	12.2	0.0	11.0	12.1	0.0	10.5
LnGrp LOS	D	C	C	D	C	C	B		B	B		B
Approach Vol, veh/h		665			680			272			155	
Approach Delay, s/veh		30.3			30.3			11.4			10.7	
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	9.4	23.9		45.0	9.2	24.1		45.0
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	6.8	13.5		7.4	6.3	13.3		8.4
Green Ext Time (p_c), s	0.1	4.3		1.0	0.0	4.4		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	25.7
HCM 2010 LOS	C

Notes

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

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	70	80	0	280	100	60	190	0
Future Vol, veh/h	0	0	0	0	70	80	0	280	100	60	190	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
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	0	76	87	0	304	109	65	207	0
Number of Lanes	0	0	0	0	1	0	1	1	0	1	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	10	14.7	10.2
HCM LOS	A	B	B

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	100%	0%
Vol Thru, %	100%	74%	47%	0%	100%
Vol Right, %	0%	26%	53%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	380	150	60	190
LT Vol	0	0	0	60	0
Through Vol	0	280	70	0	190
RT Vol	0	100	80	0	0
Lane Flow Rate	0	413	163	65	207
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0	0.582	0.238	0.106	0.307
Departure Headway (Hd)	5.256	5.07	5.265	5.864	5.359
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	706	677	607	665
Service Time	3.026	2.84	3.344	3.643	3.138
HCM Lane V/C Ratio	0	0.585	0.241	0.107	0.311
HCM Control Delay	8	14.7	10	9.3	10.5
HCM Lane LOS	N	B	A	A	B
HCM 95th-tile Q	0	3.8	0.9	0.4	1.3

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	148	220	260	40	20	120
Future Vol, veh/h	148	220	260	40	20	120
Conflicting Peds, #/hr	0	0	0	10	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, %	3	3	3	3	3	3
Mvmt Flow	161	239	283	43	22	130

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	336	0	-	0	876	315
Stage 1	-	-	-	-	315	-
Stage 2	-	-	-	-	561	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1218	-	-	-	318	723
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	569	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1206	-	-	-	264	716
Mov Cap-2 Maneuver	-	-	-	-	264	-
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	563	-

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1206	-	-	-	575
HCM Lane V/C Ratio	0.133	-	-	-	0.265
HCM Control Delay (s)	8.4	0	-	-	13.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1.1

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	718	109	887	109
Demand Flow Rate, veh/h	739	112	914	112
Vehicles Circulating, veh/h	112	902	156	835
Vehicles Exiting, veh/h	835	168	695	179
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.990	1.000	0.990	0.998
Approach Delay, s/veh	7.0	7.6	10.3	6.5
Approach LOS	A	A	B	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	TR	LT	TR
Assumed Moves	LT	R	LTR	L	TR	LT	TR
RT Channelized							
Lane Util	0.196	0.804	1.000	0.803	0.197	0.473	0.527
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	145	594	112	734	180	53	59
Cap Entry Lane, veh/h	1218	1291	660	1169	1244	626	698
Entry HV Adj Factor	0.973	0.971	0.974	0.971	0.969	0.967	0.980
Flow Entry, veh/h	141	577	109	713	174	51	58
Cap Entry, veh/h	1172	1241	642	1125	1193	605	683
V/C Ratio	0.120	0.465	0.170	0.634	0.146	0.085	0.085
Control Delay, s/veh	4.1	7.7	7.6	11.7	4.3	6.9	6.2
LOS	A	A	A	B	A	A	A
95th %tile Queue, veh	0	3	1	5	1	0	0

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	40	611	40	30	696	20	20	10	30	20	0	20
Future Vol, veh/h	40	611	40	30	696	20	20	10	30	20	0	20
Conflicting Peds, #/hr	10	0	10	10	0	10	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	80	-	-	60	-	-	80	-	-	70	-	-
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	43	664	43	33	757	22	22	11	33	22	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	789	0	0	717	0	0	1227	1637	364	1268	1647	400
Stage 1	-	-	-	-	-	-	782	782	-	844	844	-
Stage 2	-	-	-	-	-	-	445	855	-	424	803	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	820	-	-	873	-	-	133	99	630	124	97	597
Stage 1	-	-	-	-	-	-	351	401	-	322	375	-
Stage 2	-	-	-	-	-	-	559	371	-	576	392	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	812	-	-	865	-	-	118	88	624	98	87	591
Mov Cap-2 Maneuver	-	-	-	-	-	-	118	88	-	98	87	-
Stage 1	-	-	-	-	-	-	329	376	-	302	357	-
Stage 2	-	-	-	-	-	-	518	353	-	502	368	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.4	29.2	31.6
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	118	247	812	-	-	865	-	-	98	591
HCM Lane V/C Ratio	0.184	0.176	0.054	-	-	0.038	-	-	0.222	0.037
HCM Control Delay (s)	42.3	22.7	9.7	-	-	9.3	-	-	51.9	11.3
HCM Lane LOS	E	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.6	0.6	0.2	-	-	0.1	-	-	0.8	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	531	80	50	516	170	80	170	60	100	110	61
Future Volume (veh/h)	70	531	80	50	516	170	80	170	60	100	110	61
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		0.91	1.00		0.91	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	76	577	77	54	561	157	87	185	53	109	120	46
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	119	1124	149	93	928	258	485	511	146	412	450	172
Arrive On Green	0.07	0.37	0.35	0.05	0.35	0.33	0.38	0.38	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1757	3071	408	1757	2646	737	1175	1361	390	1103	1251	479
Grp Volume(v), veh/h	76	328	326	54	371	347	87	0	238	109	0	166
Grp Sat Flow(s),veh/h/ln	1757	1752	1727	1757	1752	1630	1175	0	1751	1103	0	1730
Q Serve(g_s), s	2.5	8.5	8.6	1.7	10.1	10.3	3.2	0.0	5.8	4.7	0.0	4.0
Cycle Q Clear(g_c), s	2.5	8.5	8.6	1.7	10.1	10.3	7.2	0.0	5.8	10.5	0.0	4.0
Prop In Lane	1.00		0.24	1.00		0.45	1.00		0.22	1.00		0.28
Lane Grp Cap(c), veh/h	119	641	632	93	615	572	485	0	657	412	0	622
V/C Ratio(X)	0.64	0.51	0.52	0.58	0.60	0.61	0.18	0.00	0.36	0.26	0.00	0.27
Avail Cap(c_a), veh/h	482	1233	1216	482	1233	1147	852	0	1205	774	0	1191
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	26.5	14.4	14.5	27.0	15.6	15.8	15.1	0.0	13.2	17.6	0.0	13.2
Incr Delay (d2), s/veh	2.1	0.8	0.8	2.1	1.2	1.3	0.2	0.0	0.4	0.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.2	4.2	0.9	5.0	4.8	1.1	0.0	2.8	1.5	0.0	1.9
LnGrp Delay(d),s/veh	28.6	15.2	15.3	29.1	16.7	17.1	15.3	0.0	13.7	18.1	0.0	13.5
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		730			772			325			275	
Approach Delay, s/veh		16.6			17.7			14.1			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	7.1	25.3		25.9	8.0	24.4		25.9
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	3.7	10.6		12.5	4.5	12.3		9.2
Green Ext Time (p_c), s	0.0	5.7		1.7	0.0	6.1		2.3

Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	675	653	4	6	6
Future Vol, veh/h	0	675	653	4	6	6
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	734	710	4	7	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	754	0	-	0	1119	397
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	367	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	845	-	-	-	199	600
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	668	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	813	-	-	-	184	577
Mov Cap-2 Maneuver	-	-	-	-	305	-
Stage 1	-	-	-	-	408	-
Stage 2	-	-	-	-	643	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	813	-	-	-	399
HCM Lane V/C Ratio	-	-	-	-	0.033
HCM Control Delay (s)	0	-	-	-	14.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	670	656	3	5	6
Future Vol, veh/h	5	670	656	3	5	6
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	5	728	713	3	5	7

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	756	0	-	0	1129	398			
Stage 1	-	-	-	-	755	-			
Stage 2	-	-	-	-	374	-			
Critical Hdwy	4.16	-	-	-	6.86	6.96			
Critical Hdwy Stg 1	-	-	-	-	5.86	-			
Critical Hdwy Stg 2	-	-	-	-	5.86	-			
Follow-up Hdwy	2.23	-	-	-	3.53	3.33			
Pot Cap-1 Maneuver	844	-	-	-	196	599			
Stage 1	-	-	-	-	422	-			
Stage 2	-	-	-	-	663	-			
Platoon blocked, %		-	-	-					
Mov Cap-1 Maneuver	812	-	-	-	180	576			
Mov Cap-2 Maneuver	-	-	-	-	301	-			
Stage 1	-	-	-	-	403	-			
Stage 2	-	-	-	-	638	-			

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	812	-	-	-	407
HCM Lane V/C Ratio	0.007	-	-	-	0.029
HCM Control Delay (s)	9.5	-	-	-	14.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	665	662	10	10	10
Future Vol, veh/h	20	665	662	10	10	10
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	723	720	11	11	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	771	0	-	0	1172	406
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	406	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	833	-	-	-	184	592
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	638	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	801	-	-	-	166	569
Mov Cap-2 Maneuver	-	-	-	-	288	-
Stage 1	-	-	-	-	390	-
Stage 2	-	-	-	-	614	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	801	-	-	-	382
HCM Lane V/C Ratio	0.027	-	-	-	0.057
HCM Control Delay (s)	9.6	-	-	-	15
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	525	50	52	538	82	60	120	70	90	80	50
Future Volume (veh/h)	70	525	50	52	538	82	60	120	70	90	80	50
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		0.91	1.00		0.91	0.97		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	76	571	47	57	585	78	65	130	55	98	87	32
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	122	1166	96	98	1059	141	521	443	187	446	443	163
Arrive On Green	0.07	0.36	0.34	0.06	0.34	0.33	0.37	0.37	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1757	3253	267	1757	3070	408	1223	1210	512	1154	1267	466
Grp Volume(v), veh/h	76	307	311	57	333	330	65	0	185	98	0	119
Grp Sat Flow(s),veh/h/ln	1757	1752	1767	1757	1752	1725	1223	0	1721	1154	0	1732
Q Serve(g_s), s	2.3	7.4	7.5	1.7	8.4	8.5	2.1	0.0	4.2	3.7	0.0	2.6
Cycle Q Clear(g_c), s	2.3	7.4	7.5	1.7	8.4	8.5	4.7	0.0	4.2	7.9	0.0	2.6
Prop In Lane	1.00		0.15	1.00		0.24	1.00		0.30	1.00		0.27
Lane Grp Cap(c), veh/h	122	628	634	98	604	595	521	0	630	446	0	605
V/C Ratio(X)	0.62	0.49	0.49	0.58	0.55	0.55	0.12	0.00	0.29	0.22	0.00	0.20
Avail Cap(c_a), veh/h	515	1316	1327	515	1316	1295	971	0	1264	891	0	1272
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	24.7	13.6	13.7	25.2	14.5	14.6	13.4	0.0	12.4	15.8	0.0	12.4
Incr Delay (d2), s/veh	1.9	0.7	0.7	2.0	0.9	1.0	0.1	0.0	0.3	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.7	3.8	0.9	4.1	4.2	0.7	0.0	2.0	1.2	0.0	1.3
LnGrp Delay(d),s/veh	26.6	14.3	14.4	27.2	15.4	15.6	13.5	0.0	12.7	16.1	0.0	12.6
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		694			720			250			217	
Approach Delay, s/veh		15.7			16.4			12.9			14.2	
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	7.1	23.6		24.0	7.8	22.8		24.0
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	3.7	9.5		9.9	4.3	10.5		6.7
Green Ext Time (p_c), s	0.0	5.1		1.4	0.0	5.8		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	15.4
HCM 2010 LOS	B

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	523	100	93	515	40	100	170	92	30	90	80
Future Volume (veh/h)	120	523	100	93	515	40	100	170	92	30	90	80
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	130	568	93	101	560	36	109	185	85	33	98	63
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	143	839	137	115	878	56	637	606	278	531	520	334
Arrive On Green	0.08	0.28	0.27	0.07	0.26	0.25	0.51	0.51	0.49	0.50	0.50	0.49
Sat Flow, veh/h	1757	3008	491	1757	3340	214	1203	1195	549	1090	1048	673
Grp Volume(v), veh/h	130	330	331	101	293	303	109	0	270	33	0	161
Grp Sat Flow(s),veh/h/ln	1757	1752	1747	1757	1752	1802	1203	0	1744	1090	0	1721
Q Serve(g_s), s	5.9	13.5	13.6	4.6	12.0	12.0	4.4	0.0	7.3	1.5	0.0	4.2
Cycle Q Clear(g_c), s	5.9	13.5	13.6	4.6	12.0	12.0	8.6	0.0	7.3	8.8	0.0	4.2
Prop In Lane	1.00		0.28	1.00		0.12	1.00		0.31	1.00		0.39
Lane Grp Cap(c), veh/h	143	489	487	115	461	474	637	0	885	531	0	854
V/C Ratio(X)	0.91	0.68	0.68	0.88	0.64	0.64	0.17	0.00	0.31	0.06	0.00	0.19
Avail Cap(c_a), veh/h	348	889	886	348	889	914	637	0	885	531	0	854
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	36.8	25.9	26.1	37.5	26.4	26.4	13.2	0.0	11.7	14.7	0.0	11.3
Incr Delay (d2), s/veh	8.5	2.0	2.0	8.1	1.8	1.7	0.6	0.0	0.9	0.2	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	3.2	6.8	6.8	2.5	6.0	6.2	1.6	0.0	3.8	0.5	0.0	2.1
LnGrp Delay(d),s/veh	45.4	27.9	28.1	45.5	28.1	28.2	13.8	0.0	12.6	15.0	0.0	11.8
LnGrp LOS	D	C	C	D	C	C	B		B	B		B
Approach Vol, veh/h		791			697			379			194	
Approach Delay, s/veh		30.8			30.7			12.9			12.4	
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	9.3	26.5		45.0	10.6	25.3		45.0
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.6	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	6.6	15.6		10.8	7.9	14.0		10.6
Green Ext Time (p_c), s	0.0	5.0		1.3	0.1	4.7		2.5

Intersection Summary	
HCM 2010 Ctrl Delay	25.7
HCM 2010 LOS	C

Notes

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

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	90	0	40	0	270	180	40	200	0
Future Vol, veh/h	0	0	0	90	0	40	0	270	180	40	200	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
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	98	0	43	0	293	196	43	217	0
Number of Lanes	0	0	0	0	1	0	1	1	0	1	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	10.4	17.2	10.5
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	69%	100%	0%
Vol Thru, %	100%	60%	0%	0%	100%
Vol Right, %	0%	40%	31%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	450	130	40	200
LT Vol	0	0	90	40	0
Through Vol	0	270	0	0	200
RT Vol	0	180	40	0	0
Lane Flow Rate	0	489	141	43	217
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0	0.67	0.222	0.071	0.325
Departure Headway (Hd)	5.211	4.929	5.666	5.889	5.384
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	729	627	604	663
Service Time	2.975	2.693	3.758	3.666	3.161
HCM Lane V/C Ratio	0	0.671	0.225	0.071	0.327
HCM Control Delay	8	17.2	10.4	9.1	10.8
HCM Lane LOS	N	C	B	A	B
HCM 95th-tile Q	0	5.2	0.8	0.2	1.4

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	240	390	230	20	20	132
Future Vol, veh/h	240	390	230	20	20	132
Conflicting Peds, #/hr	0	0	0	10	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, %	3	3	3	3	3	3
Mvmt Flow	261	424	250	22	22	143

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	282	0	-	0	1217	271
Stage 1	-	-	-	-	271	-
Stage 2	-	-	-	-	946	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1275	-	-	-	199	765
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	376	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1263	-	-	-	142	758
Mov Cap-2 Maneuver	-	-	-	-	142	-
Stage 1	-	-	-	-	558	-
Stage 2	-	-	-	-	372	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	16.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1263	-	-	-	483
HCM Lane V/C Ratio	0.207	-	-	-	0.342
HCM Control Delay (s)	8.6	0	-	-	16.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.8	-	-	-	1.5

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	718	33	577	98
Demand Flow Rate, veh/h	740	33	594	101
Vehicles Circulating, veh/h	89	594	112	548
Vehicles Exiting, veh/h	560	112	717	79
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.989	0.999	0.990	0.994
Approach Delay, s/veh	7.4	4.6	7.1	4.9
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	TR	LT	TR
Assumed Moves	LT	R	LTR	L	TR	LT	TR
RT Channelized							
Lane Util	0.136	0.864	1.000	0.886	0.114	0.465	0.535
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	101	639	33	526	68	47	54
Cap Entry Lane, veh/h	1244	1317	857	1218	1291	815	891
Entry HV Adj Factor	0.971	0.970	0.990	0.971	0.971	0.980	0.962
Flow Entry, veh/h	98	620	33	511	66	46	52
Cap Entry, veh/h	1195	1264	848	1171	1240	795	853
V/C Ratio	0.082	0.491	0.039	0.437	0.053	0.058	0.061
Control Delay, s/veh	3.7	8.0	4.6	7.6	3.3	5.1	4.8
LOS	A	A	A	A	A	A	A
95th %tile Queue, veh	0	3	0	2	0	0	0

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	20	620	40	50	440	10	20	10	20	20	10	20
Future Vol, veh/h	20	620	40	50	440	10	20	10	20	20	10	20
Conflicting Peds, #/hr	10	0	10	10	0	10	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	80	-	-	60	-	-	80	-	-	70	-	-
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	674	43	54	478	11	22	11	22	22	11	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	499	0	0	727	0	0	1103	1357	369	989	1373	255
Stage 1	-	-	-	-	-	-	750	750	-	602	602	-
Stage 2	-	-	-	-	-	-	353	607	-	387	771	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	1054	-	-	866	-	-	165	147	625	200	143	741
Stage 1	-	-	-	-	-	-	367	415	-	451	485	-
Stage 2	-	-	-	-	-	-	634	482	-	605	405	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1044	-	-	858	-	-	139	132	619	168	129	734
Mov Cap-2 Maneuver	-	-	-	-	-	-	139	132	-	168	129	-
Stage 1	-	-	-	-	-	-	356	402	-	437	450	-
Stage 2	-	-	-	-	-	-	563	447	-	556	392	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.9	26.1	23.4
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	139	278	1044	-	-	858	-	-	168	286
HCM Lane V/C Ratio	0.156	0.117	0.021	-	-	0.063	-	-	0.129	0.114
HCM Control Delay (s)	35.6	19.7	8.5	-	-	9.5	-	-	29.6	19.2
HCM Lane LOS	E	C	A	-	-	A	-	-	D	C
HCM 95th %tile Q(veh)	0.5	0.4	0.1	-	-	0.2	-	-	0.4	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	540	180	80	330	70	110	80	60	80	170	100
Future Volume (veh/h)	40	540	180	80	330	70	110	80	60	80	170	100
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		0.91	1.00		0.92	0.98		0.95	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	43	587	168	87	359	61	120	87	38	87	185	88
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	104	892	254	154	1089	182	376	435	190	497	422	201
Arrive On Green	0.06	0.34	0.34	0.09	0.37	0.37	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1757	2630	750	1757	2961	496	1070	1197	523	1216	1161	552
Grp Volume(v), veh/h	43	390	365	87	210	210	120	0	125	87	0	273
Grp Sat Flow(s),veh/h/ln	1757	1752	1627	1757	1752	1704	1070	0	1720	1216	0	1713
Q Serve(g_s), s	1.5	11.7	11.8	2.9	5.3	5.5	5.9	0.0	3.1	3.3	0.0	7.5
Cycle Q Clear(g_c), s	1.5	11.7	11.8	2.9	5.3	5.5	13.4	0.0	3.1	6.4	0.0	7.5
Prop In Lane	1.00		0.46	1.00		0.29	1.00		0.30	1.00		0.32
Lane Grp Cap(c), veh/h	104	594	552	154	644	627	376	0	625	497	0	622
V/C Ratio(X)	0.41	0.66	0.66	0.56	0.33	0.33	0.32	0.00	0.20	0.17	0.00	0.44
Avail Cap(c_a), veh/h	483	1132	1052	483	1132	1101	663	0	1086	842	0	1107
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	28.1	17.4	17.4	27.1	14.1	14.1	20.0	0.0	13.5	15.7	0.0	14.9
Incr Delay (d2), s/veh	1.0	1.5	1.6	1.2	0.4	0.4	0.6	0.0	0.2	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	0.7	5.9	5.5	1.5	2.6	2.6	1.8	0.0	1.5	1.1	0.0	3.6
LnGrp Delay(d),s/veh	29.1	18.9	19.1	28.3	14.4	14.5	20.6	0.0	13.7	15.9	0.0	15.5
LnGrp LOS	C	B	B	C	B	B	C		B	B		B
Approach Vol, veh/h		798			507			245			360	
Approach Delay, s/veh		19.5			16.8			17.1			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	8.4	26.0		27.5	6.7	27.8		27.5
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	4.9	13.8		9.5	3.5	7.5		15.4
Green Ext Time (p_c), s	0.0	6.7		2.5	0.0	3.3		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	17.8
HCM 2010 LOS	B

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	760	540	0	0	0
Future Vol, veh/h	0	760	540	0	0	0
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	826	587	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	627	0	-	0	1040	334
Stage 1	-	-	-	-	627	-
Stage 2	-	-	-	-	413	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	944	-	-	-	224	659
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	633	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	908	-	-	-	207	634
Mov Cap-2 Maneuver	-	-	-	-	335	-
Stage 1	-	-	-	-	473	-
Stage 2	-	-	-	-	609	-

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)	908	-	-	-	-
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	760	540	0	0	0
Future Vol, veh/h	0	760	540	0	0	0
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	826	587	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	627	0	-	0	1040	334
Stage 1	-	-	-	-	627	-
Stage 2	-	-	-	-	413	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	944	-	-	-	224	659
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	633	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	908	-	-	-	207	634
Mov Cap-2 Maneuver	-	-	-	-	335	-
Stage 1	-	-	-	-	473	-
Stage 2	-	-	-	-	609	-

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)	908	-	-	-	-
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	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	750	520	20	10	20
Future Vol, veh/h	20	750	520	20	10	20
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	815	565	22	11	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	627	0	-	0	1068	334
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	452	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	944	-	-	-	215	659
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	605	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	908	-	-	-	194	634
Mov Cap-2 Maneuver	-	-	-	-	324	-
Stage 1	-	-	-	-	468	-
Stage 2	-	-	-	-	582	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	908	-	-	-	481
HCM Lane V/C Ratio	0.024	-	-	-	0.068
HCM Control Delay (s)	9.1	-	-	-	13
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	460	40	40	470	30	40	50	140	170	80	70
Future Volume (veh/h)	50	460	40	40	470	30	40	50	140	170	80	70
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		0.91	1.00		0.90	0.98		0.95	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	54	500	36	43	511	28	43	54	53	185	87	46
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	129	1018	73	110	1003	55	529	311	306	549	417	220
Arrive On Green	0.07	0.31	0.31	0.06	0.30	0.30	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1757	3291	236	1757	3358	183	1209	833	818	1236	1115	590
Grp Volume(v), veh/h	54	265	271	43	266	273	43	0	107	185	0	133
Grp Sat Flow(s),veh/h/ln	1757	1752	1774	1757	1752	1789	1209	0	1651	1236	0	1705
Q Serve(g_s), s	1.5	6.3	6.4	1.2	6.4	6.5	1.3	0.0	2.2	6.0	0.0	2.7
Cycle Q Clear(g_c), s	1.5	6.3	6.4	1.2	6.4	6.5	4.0	0.0	2.2	8.2	0.0	2.7
Prop In Lane	1.00		0.13	1.00		0.10	1.00		0.50	1.00		0.35
Lane Grp Cap(c), veh/h	129	542	549	110	523	534	529	0	617	549	0	637
V/C Ratio(X)	0.42	0.49	0.49	0.39	0.51	0.51	0.08	0.00	0.17	0.34	0.00	0.21
Avail Cap(c_a), veh/h	584	1371	1388	584	1371	1399	1001	0	1262	1054	0	1333
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	22.7	14.4	14.4	23.0	14.8	14.8	12.2	0.0	10.7	13.5	0.0	10.9
Incr Delay (d2), s/veh	0.8	0.8	0.8	0.8	0.9	0.9	0.1	0.0	0.2	0.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.1	3.2	0.6	3.2	3.3	0.4	0.0	1.0	2.1	0.0	1.3
LnGrp Delay(d),s/veh	23.5	15.2	15.2	23.9	15.7	15.8	12.3	0.0	10.9	13.9	0.0	11.1
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		590			582			150			318	
Approach Delay, s/veh		16.0			16.4			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	6.2	20.8		24.1	6.7	20.3		24.1
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	3.2	8.4		10.2	3.5	8.5		6.0
Green Ext Time (p_c), s	0.0	4.3		1.9	0.0	4.6		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	15.0
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)	60	460	60	80	470	30	80	60	60	30	120	90
Future Volume (veh/h)	60	460	60	80	470	30	80	60	60	30	120	90
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	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	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	65	500	54	87	511	28	87	65	40	33	130	80
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	120	758	82	135	831	45	612	552	340	708	552	340
Arrive On Green	0.07	0.24	0.24	0.08	0.25	0.25	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1757	3185	343	1757	3375	185	1151	1067	657	1265	1067	657
Grp Volume(v), veh/h	65	274	280	87	265	274	87	0	105	33	0	210
Grp Sat Flow(s),veh/h/ln	1757	1752	1776	1757	1752	1808	1151	0	1724	1265	0	1724
Q Serve(g_s), s	2.8	10.9	11.0	3.7	10.4	10.4	3.5	0.0	2.4	1.1	0.0	5.2
Cycle Q Clear(g_c), s	2.8	10.9	11.0	3.7	10.4	10.4	8.6	0.0	2.4	3.5	0.0	5.2
Prop In Lane	1.00		0.19	1.00		0.10	1.00		0.38	1.00		0.38
Lane Grp Cap(c), veh/h	120	417	422	135	432	445	612	0	892	708	0	892
V/C Ratio(X)	0.54	0.66	0.66	0.65	0.61	0.62	0.14	0.00	0.12	0.05	0.00	0.24
Avail Cap(c_a), veh/h	386	907	919	386	907	935	612	0	892	708	0	892
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	34.9	26.6	26.7	34.7	25.9	25.9	12.6	0.0	9.6	10.5	0.0	10.3
Incr Delay (d2), s/veh	1.4	2.1	2.2	1.9	1.7	1.7	0.5	0.0	0.3	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	1.4	5.5	5.6	1.9	5.2	5.4	1.2	0.0	1.2	0.4	0.0	2.6
LnGrp Delay(d),s/veh	36.3	28.8	28.8	36.6	27.6	27.6	13.1	0.0	9.9	10.6	0.0	10.9
LnGrp LOS	D	C	C	D	C	C	B		A	B		B
Approach Vol, veh/h		619			626			192			243	
Approach Delay, s/veh		29.6			28.8			11.3			10.8	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	23.4		45.0	8.3	24.0		45.0
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	5.7	13.0		7.2	4.8	12.4		10.6
Green Ext Time (p_c), s	0.0	4.1		1.7	0.0	4.2		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	24.5
HCM 2010 LOS	C

Notes

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

Intersection	
Intersection Delay, s/veh	12.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	100	0	70	0	180	110	100	330	0
Future Vol, veh/h	0	0	0	100	0	70	0	180	110	100	330	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
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	109	0	76	0	196	120	109	359	0
Number of Lanes	0	0	0	0	1	0	1	1	0	1	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	11.1	12.9	13.5
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	59%	100%	0%
Vol Thru, %	100%	62%	0%	0%	100%
Vol Right, %	0%	38%	41%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	290	170	100	330
LT Vol	0	0	100	100	0
Through Vol	0	180	0	0	330
RT Vol	0	110	70	0	0
Lane Flow Rate	0	315	185	109	359
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0	0.473	0.294	0.181	0.547
Departure Headway (Hd)	5.671	5.402	5.725	5.996	5.491
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	668	628	602	660
Service Time	3.397	3.128	3.757	3.696	3.191
HCM Lane V/C Ratio	0	0.472	0.295	0.181	0.544
HCM Control Delay	8.4	12.9	11.1	10	14.6
HCM Lane LOS	N	B	B	A	B
HCM 95th-tile Q	0	2.5	1.2	0.7	3.3

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	230	240	280	20	20	140
Future Vol, veh/h	230	240	280	20	20	140
Conflicting Peds, #/hr	0	0	0	10	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, %	3	3	3	3	3	3
Mvmt Flow	250	261	304	22	22	152

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	336	0	-	0	1086	325
Stage 1	-	-	-	-	325	-
Stage 2	-	-	-	-	761	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1218	-	-	-	238	714
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	459	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1206	-	-	-	177	707
Mov Cap-2 Maneuver	-	-	-	-	177	-
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	454	-

Approach	EB	WB	SB
HCM Control Delay, s	4.3	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1206	-	-	-	514
HCM Lane V/C Ratio	0.207	-	-	-	0.338
HCM Control Delay (s)	8.8	0	-	-	15.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.8	-	-	-	1.5

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	674	153	696	87
Demand Flow Rate, veh/h	694	157	717	90
Vehicles Circulating, veh/h	101	717	89	773
Vehicles Exiting, veh/h	762	89	706	101
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.989	0.999	0.989	0.997
Approach Delay, s/veh	7.4	7.0	8.0	6.0
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	TR	LT	TR
Assumed Moves	LT	R	LTR	L	TR	LT	TR
RT Channelized							
Lane Util	0.112	0.888	1.000	0.874	0.126	0.467	0.533
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	78	616	157	627	90	42	48
Cap Entry Lane, veh/h	1230	1303	772	1244	1317	663	736
Entry HV Adj Factor	0.971	0.971	0.973	0.971	0.971	0.978	0.965
Flow Entry, veh/h	76	598	153	609	87	41	46
Cap Entry, veh/h	1181	1252	750	1195	1265	647	708
V/C Ratio	0.064	0.478	0.204	0.510	0.069	0.064	0.065
Control Delay, s/veh	3.6	7.9	7.0	8.6	3.4	6.3	5.8
LOS	A	A	A	A	A	A	A
95th %tile Queue, veh	0	3	1	3	0	0	0

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	30	540	40	30	630	20	30	10	60	20	10	20
Future Vol, veh/h	30	540	40	30	630	20	30	10	60	20	10	20
Conflicting Peds, #/hr	10	0	10	10	0	10	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	80	-	-	60	-	-	80	-	-	70	-	-
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	33	587	43	33	685	22	33	11	65	22	11	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	717	0	0	640	0	0	1099	1468	325	1137	1478	364
Stage 1	-	-	-	-	-	-	685	685	-	772	772	-
Stage 2	-	-	-	-	-	-	414	783	-	365	706	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	873	-	-	933	-	-	166	125	668	155	124	630
Stage 1	-	-	-	-	-	-	402	444	-	356	405	-
Stage 2	-	-	-	-	-	-	584	400	-	624	434	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	865	-	-	924	-	-	139	114	662	121	113	624
Mov Cap-2 Maneuver	-	-	-	-	-	-	139	114	-	121	113	-
Stage 1	-	-	-	-	-	-	383	423	-	339	386	-
Stage 2	-	-	-	-	-	-	528	382	-	527	413	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.4	23.1	29.4
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	139	392	865	-	-	924	-	-	121	249
HCM Lane V/C Ratio	0.235	0.194	0.038	-	-	0.035	-	-	0.18	0.131
HCM Control Delay (s)	38.7	16.4	9.3	-	-	9	-	-	41.2	21.6
HCM Lane LOS	E	C	A	-	-	A	-	-	E	C
HCM 95th %tile Q(veh)	0.9	0.7	0.1	-	-	0.1	-	-	0.6	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	430	120	50	520	110	220	130	100	80	70	60
Future Volume (veh/h)	120	430	120	50	520	110	220	130	100	80	70	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.91	0.97		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	130	467	108	54	565	103	239	141	83	87	76	36
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	180	958	219	121	907	164	523	398	234	428	434	205
Arrive On Green	0.10	0.34	0.34	0.07	0.31	0.31	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1757	2778	636	1757	2911	528	1231	1067	628	1117	1163	551
Grp Volume(v), veh/h	130	293	282	54	339	329	239	0	224	87	0	112
Grp Sat Flow(s),veh/h/ln	1757	1752	1661	1757	1752	1687	1231	0	1696	1117	0	1714
Q Serve(g_s), s	4.4	8.0	8.2	1.8	10.1	10.2	9.9	0.0	5.8	3.7	0.0	2.7
Cycle Q Clear(g_c), s	4.4	8.0	8.2	1.8	10.1	10.2	12.5	0.0	5.8	9.5	0.0	2.7
Prop In Lane	1.00		0.38	1.00		0.31	1.00		0.37	1.00		0.32
Lane Grp Cap(c), veh/h	180	604	573	121	546	526	523	0	632	428	0	639
V/C Ratio(X)	0.72	0.48	0.49	0.45	0.62	0.63	0.46	0.00	0.35	0.20	0.00	0.18
Avail Cap(c_a), veh/h	490	1151	1091	490	1151	1108	854	0	1089	746	0	1126
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.5	15.7	15.7	27.2	17.9	17.9	17.0	0.0	13.8	17.2	0.0	12.8
Incr Delay (d2), s/veh	2.1	0.7	0.8	1.0	1.4	1.5	0.8	0.0	0.4	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	3.9	3.8	0.9	5.0	4.9	3.4	0.0	2.7	1.2	0.0	1.3
LnGrp Delay(d),s/veh	28.6	16.4	16.5	28.2	19.3	19.4	17.8	0.0	14.2	17.5	0.0	13.0
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		705			722			463			199	
Approach Delay, s/veh		18.7			20.0			16.0			15.0	
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	7.2	26.0		27.7	9.2	24.0		27.7
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	3.8	10.2		11.5	6.4	12.2		14.5
Green Ext Time (p_c), s	0.0	5.0		1.2	0.0	5.6		2.9

Intersection Summary	
HCM 2010 Ctrl Delay	18.2
HCM 2010 LOS	B

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	670	800	0	0	0
Future Vol, veh/h	0	670	800	0	0	0
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	728	870	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	910	0	-	0	1274	475
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	364	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	738	-	-	-	158	533
Stage 1	-	-	-	-	350	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	710	-	-	-	146	513
Mov Cap-2 Maneuver	-	-	-	-	259	-
Stage 1	-	-	-	-	337	-
Stage 2	-	-	-	-	646	-

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)	710	-	-	-	-
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	670	800	0	0	0
Future Vol, veh/h	0	670	800	0	0	0
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	728	870	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	910	0	-	0	1274	475
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	364	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	738	-	-	-	158	533
Stage 1	-	-	-	-	350	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	710	-	-	-	146	513
Mov Cap-2 Maneuver	-	-	-	-	259	-
Stage 1	-	-	-	-	337	-
Stage 2	-	-	-	-	646	-

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)	710	-	-	-	-
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	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	660	780	20	10	20
Future Vol, veh/h	20	660	780	20	10	20
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	717	848	22	11	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	910	0	-	0	1302	475
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	403	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	738	-	-	-	151	533
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	641	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	710	-	-	-	135	513
Mov Cap-2 Maneuver	-	-	-	-	250	-
Stage 1	-	-	-	-	331	-
Stage 2	-	-	-	-	617	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	710	-	-	-	380
HCM Lane V/C Ratio	0.031	-	-	-	0.086
HCM Control Delay (s)	10.2	-	-	-	15.4
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	550	40	90	610	100	60	90	70	60	70	60
Future Volume (veh/h)	60	550	40	90	610	100	60	90	70	60	70	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.92	0.97		0.95	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	65	598	38	98	663	98	65	98	47	65	76	33
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	141	1129	72	174	1083	160	473	374	179	443	388	168
Arrive On Green	0.08	0.34	0.34	0.10	0.36	0.36	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1757	3325	211	1757	3024	446	1229	1155	554	1192	1197	520
Grp Volume(v), veh/h	65	315	321	98	384	377	65	0	145	65	0	109
Grp Sat Flow(s),veh/h/ln	1757	1752	1784	1757	1752	1718	1229	0	1709	1192	0	1717
Q Serve(g_s), s	1.9	7.9	7.9	2.9	9.8	9.9	2.2	0.0	3.4	2.3	0.0	2.5
Cycle Q Clear(g_c), s	1.9	7.9	7.9	2.9	9.8	9.9	4.7	0.0	3.4	5.8	0.0	2.5
Prop In Lane	1.00		0.12	1.00		0.26	1.00		0.32	1.00		0.30
Lane Grp Cap(c), veh/h	141	595	606	174	628	615	473	0	553	443	0	556
V/C Ratio(X)	0.46	0.53	0.53	0.56	0.61	0.61	0.14	0.00	0.26	0.15	0.00	0.20
Avail Cap(c_a), veh/h	546	1282	1305	546	1282	1256	954	0	1222	929	0	1256
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	24.0	14.5	14.5	23.5	14.4	14.4	15.1	0.0	13.7	15.8	0.0	13.4
Incr Delay (d2), s/veh	0.9	0.9	0.9	1.1	1.2	1.2	0.2	0.0	0.3	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.9	4.0	1.5	4.9	4.8	0.8	0.0	1.7	0.8	0.0	1.2
LnGrp Delay(d),s/veh	24.9	15.4	15.4	24.6	15.6	15.6	15.2	0.0	14.0	16.0	0.0	13.6
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		701			859			210			174	
Approach Delay, s/veh		16.3			16.6			14.4			14.5	
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	8.4	23.6		22.7	7.4	24.6		22.7
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	4.9	9.9		7.8	3.9	11.9		6.7
Green Ext Time (p_c), s	0.1	5.2		1.1	0.0	6.8		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.1
HCM 2010 LOS	B

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	530	90	110	570	50	100	120	90	30	90	90
Future Volume (veh/h)	110	530	90	110	570	50	100	120	90	30	90	90
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	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	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	120	576	84	120	620	47	109	130	77	33	98	70
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	151	821	119	151	884	67	604	528	313	570	487	348
Arrive On Green	0.09	0.27	0.27	0.09	0.27	0.27	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1757	3063	445	1757	3298	250	1195	1084	642	1154	1000	714
Grp Volume(v), veh/h	120	329	331	120	329	338	109	0	207	33	0	168
Grp Sat Flow(s),veh/h/ln	1757	1752	1756	1757	1752	1795	1195	0	1727	1154	0	1713
Q Serve(g_s), s	5.5	13.9	14.0	5.5	13.9	13.9	4.7	0.0	5.7	1.4	0.0	4.6
Cycle Q Clear(g_c), s	5.5	13.9	14.0	5.5	13.9	13.9	9.3	0.0	5.7	7.1	0.0	4.6
Prop In Lane	1.00		0.25	1.00		0.14	1.00		0.37	1.00		0.42
Lane Grp Cap(c), veh/h	151	470	471	151	470	481	604	0	841	570	0	835
V/C Ratio(X)	0.79	0.70	0.70	0.79	0.70	0.70	0.18	0.00	0.25	0.06	0.00	0.20
Avail Cap(c_a), veh/h	364	854	856	364	854	875	604	0	841	570	0	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.8	27.1	27.1	36.8	27.1	27.1	14.6	0.0	12.3	14.3	0.0	12.0
Incr Delay (d2), s/veh	3.5	2.3	2.3	3.5	2.3	2.3	0.7	0.0	0.7	0.2	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	2.8	7.0	7.0	2.8	7.0	7.2	1.7	0.0	2.9	0.5	0.0	2.3
LnGrp Delay(d),s/veh	40.3	29.3	29.4	40.3	29.4	29.3	15.2	0.0	13.0	14.5	0.0	12.5
LnGrp LOS	D	C	C	D	C	C	B		B	B		B
Approach Vol, veh/h		780			787			316			201	
Approach Delay, s/veh		31.1			31.0			13.7			12.8	
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	10.1	27.0		45.0	10.1	27.0		45.0
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	7.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	7.5	16.0		9.1	7.5	15.9		11.3
Green Ext Time (p_c), s	0.1	5.0		1.3	0.1	5.2		2.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

Notes

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

Intersection	
Intersection Delay, s/veh	17.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	90	100	0	350	120	70	170	0
Future Vol, veh/h	0	0	0	0	90	100	0	350	120	70	170	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
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	0	98	109	0	380	130	76	185	0
Number of Lanes	0	0	0	0	1	0	1	1	0	1	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	11.3	22.7	10.6
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	100%	0%
Vol Thru, %	100%	74%	47%	0%	100%
Vol Right, %	0%	26%	53%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	470	190	70	170
LT Vol	0	0	0	70	0
Through Vol	0	350	90	0	170
RT Vol	0	120	100	0	0
Lane Flow Rate	0	511	207	76	185
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0	0.756	0.322	0.132	0.295
Departure Headway (Hd)	5.505	5.324	5.615	6.255	5.748
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	679	640	574	626
Service Time	3.226	3.046	3.652	3.982	3.475
HCM Lane V/C Ratio	0	0.753	0.323	0.132	0.296
HCM Control Delay	8.2	22.7	11.3	9.9	10.9
HCM Lane LOS	N	C	B	A	B
HCM 95th-tile Q	0	6.9	1.4	0.5	1.2

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	170	270	320	50	20	180
Future Vol, veh/h	170	270	320	50	20	180
Conflicting Peds, #/hr	0	0	0	10	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, %	3	3	3	3	3	3
Mvmt Flow	185	293	348	54	22	196

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	412	0	-	0	1048	385
Stage 1	-	-	-	-	385	-
Stage 2	-	-	-	-	663	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1142	-	-	-	251	660
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	511	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1131	-	-	-	198	654
Mov Cap-2 Maneuver	-	-	-	-	198	-
Stage 1	-	-	-	-	547	-
Stage 2	-	-	-	-	506	-

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	16.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1131	-	-	-	532
HCM Lane V/C Ratio	0.163	-	-	-	0.409
HCM Control Delay (s)	8.8	0	-	-	16.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.6	-	-	-	2

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	870	120	1087	131
Demand Flow Rate, veh/h	896	123	1120	135
Vehicles Circulating, veh/h	135	1109	191	1008
Vehicles Exiting, veh/h	1008	202	840	224
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.990	1.000	0.990	1.000
Approach Delay, s/veh	8.8	9.7	16.1	8.0
Approach LOS	A	A	C	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	TR	LT	TR
Assumed Moves	LT	R	LTR	L	TR	LT	TR
RT Channelized							
Lane Util	0.188	0.812	1.000	0.800	0.200	0.467	0.533
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	168	728	123	896	224	63	72
Cap Entry Lane, veh/h	1192	1266	553	1132	1207	534	603
Entry HV Adj Factor	0.969	0.971	0.973	0.971	0.971	0.975	0.962
Flow Entry, veh/h	163	707	120	870	217	61	69
Cap Entry, veh/h	1143	1217	538	1089	1160	521	580
V/C Ratio	0.142	0.581	0.222	0.799	0.187	0.118	0.119
Control Delay, s/veh	4.4	9.9	9.7	18.9	4.8	8.4	7.6
LOS	A	A	A	C	A	A	A
95th %tile Queue, veh	0	4	1	9	1	0	0

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	40	750	50	40	830	30	30	20	30	20	0	30
Future Vol, veh/h	40	750	50	40	830	30	30	20	30	20	0	30
Conflicting Peds, #/hr	10	0	10	10	0	10	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	80	-	-	60	-	-	80	-	-	70	-	-
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	43	815	54	43	902	33	33	22	33	22	0	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	945	0	0	879	0	0	1475	1969	445	1520	1980	478
Stage 1	-	-	-	-	-	-	938	938	-	1015	1015	-
Stage 2	-	-	-	-	-	-	537	1031	-	505	965	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	716	-	-	758	-	-	87	61	558	81	60	531
Stage 1	-	-	-	-	-	-	282	339	-	253	312	-
Stage 2	-	-	-	-	-	-	493	306	-	515	329	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	709	-	-	751	-	-	74	53	553	47	52	526
Mov Cap-2 Maneuver	-	-	-	-	-	-	74	53	-	47	52	-
Stage 1	-	-	-	-	-	-	262	315	-	235	291	-
Stage 2	-	-	-	-	-	-	436	286	-	424	306	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.4	70.8	61.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	74	116	709	-	-	751	-	-	47	526
HCM Lane V/C Ratio	0.441	0.469	0.061	-	-	0.058	-	-	0.463	0.062
HCM Control Delay (s)	87.4	60.8	10.4	-	-	10.1	-	-	135.5	12.3
HCM Lane LOS	F	F	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.8	2.1	0.2	-	-	0.2	-	-	1.7	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	640	90	60	630	200	90	210	80	120	130	70
Future Volume (veh/h)	80	640	90	60	630	200	90	210	80	120	130	70
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		0.92	1.00		0.92	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	87	696	89	65	685	192	98	228	73	130	141	58
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	121	1191	152	103	992	278	444	498	160	351	445	183
Arrive On Green	0.07	0.39	0.37	0.06	0.37	0.36	0.38	0.38	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1757	3091	395	1757	2645	741	1142	1321	423	1045	1222	503
Grp Volume(v), veh/h	87	394	391	65	454	423	98	0	301	130	0	199
Grp Sat Flow(s),veh/h/ln	1757	1752	1733	1757	1752	1634	1142	0	1744	1045	0	1725
Q Serve(g_s), s	3.3	12.0	12.0	2.4	14.6	14.7	4.4	0.0	8.7	7.3	0.0	5.6
Cycle Q Clear(g_c), s	3.3	12.0	12.0	2.4	14.6	14.7	10.0	0.0	8.7	16.1	0.0	5.6
Prop In Lane	1.00		0.23	1.00		0.45	1.00		0.24	1.00		0.29
Lane Grp Cap(c), veh/h	121	675	668	103	657	613	444	0	658	351	0	628
V/C Ratio(X)	0.72	0.58	0.59	0.63	0.69	0.69	0.22	0.00	0.46	0.37	0.00	0.32
Avail Cap(c_a), veh/h	419	1071	1060	419	1071	999	696	0	1043	596	0	1031
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.6	16.3	16.5	30.9	17.7	17.9	18.3	0.0	15.8	22.5	0.0	15.3
Incr Delay (d2), s/veh	3.0	1.0	1.0	2.4	1.6	1.7	0.3	0.0	0.6	0.8	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.9	5.9	1.2	7.3	6.9	1.4	0.0	4.3	2.2	0.0	2.7
LnGrp Delay(d),s/veh	33.6	17.3	17.4	33.3	19.3	19.6	18.6	0.0	16.4	23.3	0.0	15.7
LnGrp LOS	C	B	B	C	B	B	B		B	C		B
Approach Vol, veh/h		872			942			399			329	
Approach Delay, s/veh		19.0			20.4			16.9			18.7	
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	7.9	29.8		29.3	8.6	29.1		29.3
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	4.4	14.0		18.1	5.3	16.7		12.0
Green Ext Time (p_c), s	0.0	6.9		2.0	0.0	7.4		3.0

Intersection Summary	
HCM 2010 Ctrl Delay	19.1
HCM 2010 LOS	B

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	810	790	0	0	0
Future Vol, veh/h	0	810	790	0	0	0
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	880	859	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	899	0	-	0	1339	470
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	440	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	745	-	-	-	143	537
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	613	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	717	-	-	-	132	517
Mov Cap-2 Maneuver	-	-	-	-	252	-
Stage 1	-	-	-	-	342	-
Stage 2	-	-	-	-	590	-

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)	717	-	-	-	-
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	810	790	0	0	0
Future Vol, veh/h	0	810	790	0	0	0
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	880	859	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	899	0	-	0	1339	470
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	440	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	745	-	-	-	143	537
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	613	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	717	-	-	-	132	517
Mov Cap-2 Maneuver	-	-	-	-	252	-
Stage 1	-	-	-	-	342	-
Stage 2	-	-	-	-	590	-

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)	717	-	-	-	-
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	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	800	770	20	10	20
Future Vol, veh/h	20	800	770	20	10	20
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	870	837	22	11	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	899	0	-	0	1367	470
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	479	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	745	-	-	-	137	537
Stage 1	-	-	-	-	360	-
Stage 2	-	-	-	-	586	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	717	-	-	-	123	517
Mov Cap-2 Maneuver	-	-	-	-	243	-
Stage 1	-	-	-	-	336	-
Stage 2	-	-	-	-	564	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	717	-	-	-	376
HCM Lane V/C Ratio	0.03	-	-	-	0.087
HCM Control Delay (s)	10.2	-	-	-	15.5
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	620	60	60	640	90	70	160	90	110	90	60
Future Volume (veh/h)	90	620	60	60	640	90	70	160	90	110	90	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.91	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	98	674	58	65	696	89	76	174	78	120	98	41
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	134	1205	104	105	1100	140	498	443	199	390	436	182
Arrive On Green	0.08	0.37	0.36	0.06	0.36	0.34	0.37	0.37	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1757	3239	278	1757	3088	394	1203	1186	532	1090	1215	508
Grp Volume(v), veh/h	98	364	368	65	395	390	76	0	252	120	0	139
Grp Sat Flow(s),veh/h/ln	1757	1752	1765	1757	1752	1730	1203	0	1717	1090	0	1723
Q Serve(g_s), s	3.4	10.2	10.2	2.2	11.6	11.6	2.8	0.0	6.7	5.7	0.0	3.5
Cycle Q Clear(g_c), s	3.4	10.2	10.2	2.2	11.6	11.6	6.3	0.0	6.7	12.4	0.0	3.5
Prop In Lane	1.00		0.16	1.00		0.23	1.00		0.31	1.00		0.29
Lane Grp Cap(c), veh/h	134	652	657	105	624	616	498	0	642	390	0	619
V/C Ratio(X)	0.73	0.56	0.56	0.62	0.63	0.63	0.15	0.00	0.39	0.31	0.00	0.22
Avail Cap(c_a), veh/h	455	1163	1172	455	1163	1148	829	0	1115	706	0	1118
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	27.9	15.4	15.5	28.3	16.5	16.6	15.4	0.0	14.3	19.5	0.0	13.8
Incr Delay (d2), s/veh	2.9	0.9	0.9	2.2	1.3	1.3	0.2	0.0	0.5	0.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.0	5.1	1.1	5.8	5.8	1.0	0.0	3.2	1.8	0.0	1.7
LnGrp Delay(d),s/veh	30.8	16.3	16.4	30.5	17.8	18.0	15.5	0.0	14.8	20.0	0.0	14.0
LnGrp LOS	C	B	B	C	B	B	B		B	C		B
Approach Vol, veh/h		830			850			328			259	
Approach Delay, s/veh		18.0			18.8			15.0			16.8	
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	7.7	27.0		27.1	8.7	26.0		27.1
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	4.2	12.2		14.4	5.4	13.6		8.7
Green Ext Time (p_c), s	0.0	6.1		1.7	0.1	7.0		2.4

Intersection Summary	
HCM 2010 Ctrl Delay	17.8
HCM 2010 LOS	B

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	630	120	110	620	40	120	210	100	40	110	100
Future Volume (veh/h)	140	630	120	110	620	40	120	210	100	40	110	100
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	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	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	152	685	115	120	674	38	130	228	95	43	120	83
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	167	935	157	132	983	55	549	586	244	441	470	325
Arrive On Green	0.10	0.31	0.30	0.07	0.29	0.28	0.47	0.47	0.46	0.46	0.46	0.46
Sat Flow, veh/h	1757	2996	502	1757	3370	190	1158	1235	515	1039	1014	701
Grp Volume(v), veh/h	152	400	400	120	350	362	130	0	323	43	0	203
Grp Sat Flow(s),veh/h/ln	1757	1752	1746	1757	1752	1807	1158	0	1750	1039	0	1715
Q Serve(g_s), s	7.4	17.6	17.7	5.9	15.3	15.3	6.5	0.0	10.3	2.4	0.0	6.2
Cycle Q Clear(g_c), s	7.4	17.6	17.7	5.9	15.3	15.3	12.8	0.0	10.3	12.8	0.0	6.2
Prop In Lane	1.00		0.29	1.00		0.11	1.00		0.29	1.00		0.41
Lane Grp Cap(c), veh/h	167	547	545	132	511	527	549	0	830	441	0	796
V/C Ratio(X)	0.91	0.73	0.73	0.91	0.69	0.69	0.24	0.00	0.39	0.10	0.00	0.26
Avail Cap(c_a), veh/h	325	831	828	325	831	857	549	0	830	441	0	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	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	38.7	26.5	26.7	39.7	27.1	27.2	17.4	0.0	14.8	19.4	0.0	14.1
Incr Delay (d2), s/veh	7.3	2.3	2.3	9.2	2.0	1.9	1.0	0.0	1.4	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	3.9	8.8	8.8	3.2	7.7	7.9	2.2	0.0	5.3	0.8	0.0	3.1
LnGrp Delay(d),s/veh	46.0	28.8	29.0	48.9	29.1	29.1	18.4	0.0	16.1	19.8	0.0	14.9
LnGrp LOS	D	C	C	D	C	C	B		B	B		B
Approach Vol, veh/h		952			832			453			246	
Approach Delay, s/veh		31.6			31.9			16.8			15.7	
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	10.5	31.0		45.0	12.2	29.2		45.0
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	7.5	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	7.9	19.7		14.8	9.4	17.3		14.8
Green Ext Time (p_c), s	0.1	5.9		1.6	0.1	5.5		3.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.5
HCM 2010 LOS	C

Notes

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

Intersection	
Intersection Delay, s/veh	23.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	110	0	50	0	330	220	50	230	0
Future Vol, veh/h	0	0	0	110	0	50	0	330	220	50	230	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
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	120	0	54	0	359	239	54	250	0
Number of Lanes	0	0	0	0	1	0	1	1	0	1	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	11.8	32.1	11.8
HCM LOS	B	D	B

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	69%	100%	0%
Vol Thru, %	100%	60%	0%	0%	100%
Vol Right, %	0%	40%	31%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	550	160	50	230
LT Vol	0	0	110	50	0
Through Vol	0	330	0	0	230
RT Vol	0	220	50	0	0
Lane Flow Rate	0	598	174	54	250
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0	0.866	0.298	0.095	0.4
Departure Headway (Hd)	5.498	5.215	6.161	6.273	5.766
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	693	583	572	625
Service Time	3.223	2.94	4.202	4.004	3.497
HCM Lane V/C Ratio	0	0.863	0.298	0.094	0.4
HCM Control Delay	8.2	32.1	11.8	9.7	12.3
HCM Lane LOS	N	D	B	A	B
HCM 95th-tile Q	0	10.3	1.2	0.3	1.9

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	290	480	280	30	30	180
Future Vol, veh/h	290	480	280	30	30	180
Conflicting Peds, #/hr	0	0	0	10	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, %	3	3	3	3	3	3
Mvmt Flow	315	522	304	33	33	196

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	347	0	-	0	1483	331
Stage 1	-	-	-	-	331	-
Stage 2	-	-	-	-	1152	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1206	-	-	-	137	708
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	300	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1195	-	-	-	84	701
Mov Cap-2 Maneuver	-	-	-	-	84	-
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	297	-

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	34.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1195	-	-	-	342
HCM Lane V/C Ratio	0.264	-	-	-	0.667
HCM Control Delay (s)	9.1	0	-	-	34.3
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	1.1	-	-	-	4.6

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	782	33	649	98
Demand Flow Rate, veh/h	806	33	668	101
Vehicles Circulating, veh/h	89	668	112	622
Vehicles Exiting, veh/h	634	112	783	79
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.989	0.999	0.990	0.995
Approach Delay, s/veh	8.2	4.9	8.0	5.3
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	TR	LT	TR
Assumed Moves	LT	R	LTR	L	TR	LT	TR
RT Channelized							
Lane Util	0.125	0.875	1.000	0.898	0.102	0.465	0.535
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	101	705	33	600	68	47	54
Cap Entry Lane, veh/h	1244	1317	805	1218	1291	762	837
Entry HV Adj Factor	0.971	0.970	0.990	0.972	0.971	0.980	0.962
Flow Entry, veh/h	98	684	33	583	66	46	52
Cap Entry, veh/h	1195	1264	796	1171	1240	743	802
V/C Ratio	0.082	0.541	0.041	0.498	0.053	0.062	0.065
Control Delay, s/veh	3.7	8.9	4.9	8.6	3.3	5.5	5.1
LOS	A	A	A	A	A	A	A
95th %tile Queue, veh	0	3	0	3	0	0	0

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	20	679	40	50	506	10	20	10	20	20	10	20
Future Vol, veh/h	20	679	40	50	506	10	20	10	20	20	10	20
Conflicting Peds, #/hr	10	0	10	10	0	10	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	80	-	-	60	-	-	80	-	-	70	-	-
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	738	43	54	550	11	22	11	22	22	11	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	571	0	0	791	0	0	1203	1493	401	1093	1509	291
Stage 1	-	-	-	-	-	-	814	814	-	674	674	-
Stage 2	-	-	-	-	-	-	389	679	-	419	835	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	991	-	-	819	-	-	139	121	596	167	118	703
Stage 1	-	-	-	-	-	-	336	387	-	408	449	-
Stage 2	-	-	-	-	-	-	604	447	-	580	379	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	982	-	-	811	-	-	115	108	590	137	105	696
Mov Cap-2 Maneuver	-	-	-	-	-	-	115	108	-	137	105	-
Stage 1	-	-	-	-	-	-	325	375	-	395	415	-
Stage 2	-	-	-	-	-	-	532	413	-	530	367	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.9	31	27.8
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	115	237	982	-	-	811	-	-	137	242
HCM Lane V/C Ratio	0.189	0.138	0.022	-	-	0.067	-	-	0.159	0.135
HCM Control Delay (s)	43.5	22.6	8.7	-	-	9.8	-	-	36.2	22.2
HCM Lane LOS	E	C	A	-	-	A	-	-	E	C
HCM 95th %tile Q(veh)	0.7	0.5	0.1	-	-	0.2	-	-	0.5	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	599	180	80	396	70	117	80	60	80	170	108
Future Volume (veh/h)	40	599	180	80	396	70	117	80	60	80	170	108
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		0.91	1.00		0.92	0.98		0.95	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	43	651	172	87	430	65	127	87	38	87	185	94
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	102	946	249	150	1145	171	363	432	189	489	409	208
Arrive On Green	0.06	0.35	0.35	0.09	0.38	0.38	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1757	2686	708	1757	3019	452	1065	1197	523	1216	1132	575
Grp Volume(v), veh/h	43	424	399	87	248	247	127	0	125	87	0	279
Grp Sat Flow(s),veh/h/ln	1757	1752	1642	1757	1752	1718	1065	0	1720	1216	0	1707
Q Serve(g_s), s	1.5	13.4	13.4	3.1	6.6	6.7	6.7	0.0	3.2	3.4	0.0	8.1
Cycle Q Clear(g_c), s	1.5	13.4	13.4	3.1	6.6	6.7	14.7	0.0	3.2	6.7	0.0	8.1
Prop In Lane	1.00		0.43	1.00		0.26	1.00		0.30	1.00		0.34
Lane Grp Cap(c), veh/h	102	617	578	150	665	652	363	0	621	489	0	616
V/C Ratio(X)	0.42	0.69	0.69	0.58	0.37	0.38	0.35	0.00	0.20	0.18	0.00	0.45
Avail Cap(c_a), veh/h	463	1086	1017	463	1086	1065	623	0	1042	804	0	1058
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	29.3	17.9	17.9	28.4	14.5	14.5	21.4	0.0	14.2	16.5	0.0	15.8
Incr Delay (d2), s/veh	1.0	1.7	1.8	1.3	0.4	0.4	0.7	0.0	0.2	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	0.8	6.6	6.4	1.6	3.2	3.2	2.0	0.0	1.6	1.2	0.0	3.9
LnGrp Delay(d),s/veh	30.4	19.5	19.7	29.7	14.9	15.0	22.1	0.0	14.4	16.7	0.0	16.4
LnGrp LOS	C	B	B	C	B	B	C		B	B		B
Approach Vol, veh/h		866			582			252			366	
Approach Delay, s/veh		20.1			17.1			18.3			16.5	
Approach LOS		C			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	27.7		28.3	6.8	29.5		28.3
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	5.1	15.4		10.1	3.5	8.7		16.7
Green Ext Time (p_c), s	0.0	7.3		2.5	0.0	4.0		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	18.4
HCM 2010 LOS	B

Notes

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

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	32	789	579	42	30	35
Future Vol, veh/h	32	789	579	42	30	35
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	35	858	629	46	33	38

Major/Minor	Major1			Major2		
					Minor2	
Conflicting Flow All	715	0	-	0	1191	378
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	499	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	875	-	-	-	179	617
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	572	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	842	-	-	-	159	593
Mov Cap-2 Maneuver	-	-	-	-	288	-
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	550	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	16
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	842	-	-	-	398
HCM Lane V/C Ratio	0.041	-	-	-	0.178
HCM Control Delay (s)	9.5	-	-	-	16
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	792	575	39	29	37
Future Vol, veh/h	34	792	575	39	29	37
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	37	861	625	42	32	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	707	0	-	0	1191	374
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	505	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	881	-	-	-	179	621
Stage 1	-	-	-	-	459	-
Stage 2	-	-	-	-	568	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	847	-	-	-	158	597
Mov Cap-2 Maneuver	-	-	-	-	288	-
Stage 1	-	-	-	-	422	-
Stage 2	-	-	-	-	546	-

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)	847	-	-	-	406
HCM Lane V/C Ratio	0.044	-	-	-	0.177
HCM Control Delay (s)	9.4	-	-	-	15.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	816	592	20	10	20
Future Vol, veh/h	20	816	592	20	10	20
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	887	643	22	11	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	705	0	-	0	1182	373
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	488	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	882	-	-	-	181	622
Stage 1	-	-	-	-	454	-
Stage 2	-	-	-	-	580	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	848	-	-	-	163	598
Mov Cap-2 Maneuver	-	-	-	-	293	-
Stage 1	-	-	-	-	425	-
Stage 2	-	-	-	-	558	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	848	-	-	-	444
HCM Lane V/C Ratio	0.026	-	-	-	0.073
HCM Control Delay (s)	9.4	-	-	-	13.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	504	40	54	515	43	40	50	154	178	80	70
Future Volume (veh/h)	50	504	40	54	515	43	40	50	154	178	80	70
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		0.90	1.00		0.91	0.98		0.95	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	54	548	38	59	560	40	43	54	62	193	87	47
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	127	1013	70	134	1025	73	521	284	327	534	413	223
Arrive On Green	0.07	0.31	0.31	0.08	0.31	0.31	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1757	3300	228	1757	3293	234	1208	762	875	1226	1106	597
Grp Volume(v), veh/h	54	290	296	59	297	303	43	0	116	193	0	134
Grp Sat Flow(s),veh/h/ln	1757	1752	1776	1757	1752	1775	1208	0	1637	1226	0	1703
Q Serve(g_s), s	1.6	7.3	7.4	1.7	7.5	7.6	1.3	0.0	2.6	6.7	0.0	2.9
Cycle Q Clear(g_c), s	1.6	7.3	7.4	1.7	7.5	7.6	4.2	0.0	2.6	9.3	0.0	2.9
Prop In Lane	1.00		0.13	1.00		0.13	1.00		0.53	1.00		0.35
Lane Grp Cap(c), veh/h	127	538	545	134	545	552	521	0	611	534	0	636
V/C Ratio(X)	0.43	0.54	0.54	0.44	0.55	0.55	0.08	0.00	0.19	0.36	0.00	0.21
Avail Cap(c_a), veh/h	559	1312	1330	559	1312	1329	954	0	1198	995	0	1275
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	23.7	15.4	15.4	23.6	15.3	15.3	12.8	0.0	11.3	14.4	0.0	11.4
Incr Delay (d2), s/veh	0.8	1.0	1.0	0.8	1.0	1.0	0.1	0.0	0.2	0.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.7	3.8	0.9	3.8	3.9	0.5	0.0	1.2	2.3	0.0	1.4
LnGrp Delay(d),s/veh	24.6	16.4	16.4	24.4	16.3	16.3	12.9	0.0	11.5	14.9	0.0	11.6
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		640			659			159			327	
Approach Delay, s/veh		17.1			17.0			11.9			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	7.1	21.4		24.9	6.9	21.6		24.9
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	3.7	9.4		11.3	3.6	9.6		6.2
Green Ext Time (p_c), s	0.0	4.8		2.0	0.0	5.2		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.0
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)	60	490	60	100	495	30	80	60	74	30	120	90
Future Volume (veh/h)	60	490	60	100	495	30	80	60	74	30	120	90
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	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	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	65	533	55	109	538	29	87	65	48	33	130	80
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	118	790	81	142	878	47	597	500	369	685	542	333
Arrive On Green	0.07	0.25	0.25	0.08	0.26	0.26	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	1757	3202	329	1757	3379	182	1151	984	727	1256	1067	657
Grp Volume(v), veh/h	65	291	297	109	279	288	87	0	113	33	0	210
Grp Sat Flow(s),veh/h/ln	1757	1752	1779	1757	1752	1808	1151	0	1711	1256	0	1724
Q Serve(g_s), s	2.8	11.8	11.9	4.8	11.0	11.1	3.6	0.0	2.7	1.1	0.0	5.4
Cycle Q Clear(g_c), s	2.8	11.8	11.9	4.8	11.0	11.1	9.0	0.0	2.7	3.9	0.0	5.4
Prop In Lane	1.00		0.19	1.00		0.10	1.00		0.42	1.00		0.38
Lane Grp Cap(c), veh/h	118	432	439	142	455	470	597	0	869	685	0	875
V/C Ratio(X)	0.55	0.67	0.68	0.77	0.61	0.61	0.15	0.00	0.13	0.05	0.00	0.24
Avail Cap(c_a), veh/h	379	890	903	379	890	918	597	0	869	685	0	875
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	35.6	26.8	26.8	35.5	25.7	25.7	13.4	0.0	10.2	11.2	0.0	10.9
Incr Delay (d2), s/veh	1.5	2.2	2.2	3.3	1.6	1.6	0.5	0.0	0.3	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	1.4	6.0	6.1	2.5	5.5	5.7	1.2	0.0	1.4	0.4	0.0	2.7
LnGrp Delay(d),s/veh	37.0	29.0	29.1	38.8	27.3	27.2	13.9	0.0	10.5	11.4	0.0	11.5
LnGrp LOS	D	C	C	D	C	C	B		B	B		B
Approach Vol, veh/h		653			676			200			243	
Approach Delay, s/veh		29.8			29.1			12.0			11.5	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.4	24.4		45.0	8.3	25.5		45.0
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	6.8	13.9		7.4	4.8	13.1		11.0
Green Ext Time (p_c), s	0.1	4.4		1.7	0.0	4.4		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	25.0
HCM 2010 LOS	C

Notes

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

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	100	0	70	0	187	110	100	330	0
Future Vol, veh/h	0	0	0	100	0	70	0	187	110	100	330	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
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	109	0	76	0	203	120	109	359	0
Number of Lanes	0	0	0	0	1	0	1	1	0	1	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	11.2	13.2	13.6
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	59%	100%	0%
Vol Thru, %	100%	63%	0%	0%	100%
Vol Right, %	0%	37%	41%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	297	170	100	330
LT Vol	0	0	100	100	0
Through Vol	0	187	0	0	330
RT Vol	0	110	70	0	0
Lane Flow Rate	0	323	185	109	359
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0	0.485	0.295	0.181	0.548
Departure Headway (Hd)	5.674	5.412	5.745	6.007	5.502
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	668	626	601	660
Service Time	3.4	3.138	3.777	3.707	3.202
HCM Lane V/C Ratio	0	0.484	0.296	0.181	0.544
HCM Control Delay	8.4	13.2	11.2	10	14.7
HCM Lane LOS	N	B	B	A	B
HCM 95th-tile Q	0	2.7	1.2	0.7	3.3

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	244	247	280	20	20	154
Future Vol, veh/h	244	247	280	20	20	154
Conflicting Peds, #/hr	0	0	0	10	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, %	3	3	3	3	3	3
Mvmt Flow	265	268	304	22	22	167

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	336	0	-	0	1123	325
Stage 1	-	-	-	-	325	-
Stage 2	-	-	-	-	798	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1218	-	-	-	226	714
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	441	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1206	-	-	-	164	707
Mov Cap-2 Maneuver	-	-	-	-	164	-
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	437	-

Approach	EB	WB	SB
HCM Control Delay, s	4.4	0	16.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1206	-	-	-	512
HCM Lane V/C Ratio	0.22	-	-	-	0.369
HCM Control Delay (s)	8.8	0	-	-	16.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.8	-	-	-	1.7

Intersection	
Intersection Delay, s/veh	8.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	719	153	735	87
Demand Flow Rate, veh/h	740	157	757	90
Vehicles Circulating, veh/h	101	757	89	813
Vehicles Exiting, veh/h	802	89	752	101
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.989	0.999	0.989	0.998
Approach Delay, s/veh	7.9	7.3	8.5	6.2
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	TR	LT	TR
Assumed Moves	LT	R	LTR	L	TR	LT	TR
RT Channelized							
Lane Util	0.105	0.895	1.000	0.881	0.119	0.467	0.533
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	78	662	157	667	90	42	48
Cap Entry Lane, veh/h	1230	1303	746	1244	1317	639	711
Entry HV Adj Factor	0.971	0.971	0.973	0.972	0.971	0.978	0.965
Flow Entry, veh/h	76	643	153	648	87	41	46
Cap Entry, veh/h	1181	1253	725	1195	1265	624	685
V/C Ratio	0.064	0.513	0.211	0.542	0.069	0.066	0.068
Control Delay, s/veh	3.6	8.4	7.3	9.2	3.4	6.5	6.0
LOS	A	A	A	A	A	A	A
95th %tile Queue, veh	0	3	1	3	0	0	0

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	30	582	40	30	666	20	30	10	60	20	10	20
Future Vol, veh/h	30	582	40	30	666	20	30	10	60	20	10	20
Conflicting Peds, #/hr	10	0	10	10	0	10	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	80	-	-	60	-	-	80	-	-	70	-	-
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	33	633	43	33	724	22	33	11	65	22	11	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	756	0	0	686	0	0	1165	1553	348	1199	1563	383
Stage 1	-	-	-	-	-	-	731	731	-	811	811	-
Stage 2	-	-	-	-	-	-	434	822	-	388	752	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	844	-	-	897	-	-	148	111	645	140	110	612
Stage 1	-	-	-	-	-	-	377	423	-	337	388	-
Stage 2	-	-	-	-	-	-	568	384	-	605	414	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	836	-	-	888	-	-	122	101	639	108	100	606
Mov Cap-2 Maneuver	-	-	-	-	-	-	122	101	-	108	100	-
Stage 1	-	-	-	-	-	-	359	402	-	320	370	-
Stage 2	-	-	-	-	-	-	512	366	-	508	394	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.4	25.7	32.8
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	122	363	836	-	-	888	-	-	108	226
HCM Lane V/C Ratio	0.267	0.21	0.039	-	-	0.037	-	-	0.201	0.144
HCM Control Delay (s)	44.9	17.5	9.5	-	-	9.2	-	-	46.5	23.6
HCM Lane LOS	E	C	A	-	-	A	-	-	E	C
HCM 95th %tile Q(veh)	1	0.8	0.1	-	-	0.1	-	-	0.7	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	472	120	50	556	110	220	130	100	80	70	64
Future Volume (veh/h)	120	472	120	50	556	110	220	130	100	80	70	64
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.91	0.97		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	130	513	112	54	604	105	239	141	82	87	76	38
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	177	990	215	120	939	163	515	397	231	423	422	211
Arrive On Green	0.10	0.35	0.35	0.07	0.32	0.32	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1757	2813	609	1757	2938	509	1228	1073	624	1118	1139	570
Grp Volume(v), veh/h	130	318	307	54	359	350	239	0	223	87	0	114
Grp Sat Flow(s),veh/h/ln	1757	1752	1670	1757	1752	1694	1228	0	1696	1118	0	1709
Q Serve(g_s), s	4.5	8.9	9.0	1.8	10.9	11.0	10.1	0.0	5.9	3.8	0.0	2.8
Cycle Q Clear(g_c), s	4.5	8.9	9.0	1.8	10.9	11.0	12.9	0.0	5.9	9.7	0.0	2.8
Prop In Lane	1.00		0.36	1.00		0.30	1.00		0.37	1.00		0.33
Lane Grp Cap(c), veh/h	177	617	588	120	560	541	515	0	628	423	0	633
V/C Ratio(X)	0.73	0.52	0.52	0.45	0.64	0.65	0.46	0.00	0.36	0.21	0.00	0.18
Avail Cap(c_a), veh/h	481	1130	1077	481	1130	1092	835	0	1069	731	0	1102
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	27.1	15.9	16.0	27.8	18.1	18.1	17.5	0.0	14.2	17.7	0.0	13.2
Incr Delay (d2), s/veh	2.2	0.8	0.9	1.0	1.5	1.6	0.8	0.0	0.4	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	4.4	4.3	0.9	5.4	5.4	3.5	0.0	2.8	1.2	0.0	1.3
LnGrp Delay(d),s/veh	29.3	16.7	16.8	28.8	19.6	19.7	18.3	0.0	14.6	18.0	0.0	13.3
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		755			763			462			201	
Approach Delay, s/veh		18.9			20.3			16.5			15.4	
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	7.2	26.8		28.0	9.3	24.8		28.0
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	3.8	11.0		11.7	6.5	13.0		14.9
Green Ext Time (p_c), s	0.0	5.5		1.2	0.0	5.9		2.9

Intersection Summary	
HCM 2010 Ctrl Delay	18.6
HCM 2010 LOS	B

Notes

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

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	691	820	20	21	25
Future Vol, veh/h	20	691	820	20	21	25
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	751	891	22	23	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	953	0	-	0	1362	497
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	420	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	711	-	-	-	138	516
Stage 1	-	-	-	-	337	-
Stage 2	-	-	-	-	628	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	684	-	-	-	124	496
Mov Cap-2 Maneuver	-	-	-	-	237	-
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	604	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	684	-	-	-	331
HCM Lane V/C Ratio	0.032	-	-	-	0.151
HCM Control Delay (s)	10.4	-	-	-	17.8
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	690	825	20	21	26
Future Vol, veh/h	20	690	825	20	21	26
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	750	897	22	23	28

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	959	0	-	0	1367	500			
Stage 1	-	-	-	-	948	-			
Stage 2	-	-	-	-	419	-			
Critical Hdwy	4.16	-	-	-	6.86	6.96			
Critical Hdwy Stg 1	-	-	-	-	5.86	-			
Critical Hdwy Stg 2	-	-	-	-	5.86	-			
Follow-up Hdwy	2.23	-	-	-	3.53	3.33			
Pot Cap-1 Maneuver	707	-	-	-	137	514			
Stage 1	-	-	-	-	335	-			
Stage 2	-	-	-	-	629	-			
Platoon blocked, %		-	-	-					
Mov Cap-1 Maneuver	680	-	-	-	123	494			
Mov Cap-2 Maneuver	-	-	-	-	236	-			
Stage 1	-	-	-	-	312	-			
Stage 2	-	-	-	-	605	-			

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	680	-	-	-	332
HCM Lane V/C Ratio	0.032	-	-	-	0.154
HCM Control Delay (s)	10.5	-	-	-	17.8
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	700	831	20	10	20
Future Vol, veh/h	20	700	831	20	10	20
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	761	903	22	11	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	965	0	-	0	1379	503
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	425	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	703	-	-	-	134	511
Stage 1	-	-	-	-	332	-
Stage 2	-	-	-	-	624	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	676	-	-	-	120	492
Mov Cap-2 Maneuver	-	-	-	-	233	-
Stage 1	-	-	-	-	309	-
Stage 2	-	-	-	-	600	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	16
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	676	-	-	-	359
HCM Lane V/C Ratio	0.032	-	-	-	0.091
HCM Control Delay (s)	10.5	-	-	-	16
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	578	40	100	642	109	60	90	78	64	70	60
Future Volume (veh/h)	60	578	40	100	642	109	60	90	78	64	70	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.92	0.97		0.95	0.97		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	65	628	39	109	698	107	65	98	52	70	76	33
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	139	1145	71	179	1101	169	469	359	191	434	387	168
Arrive On Green	0.08	0.34	0.34	0.10	0.37	0.37	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1757	3331	207	1757	3006	460	1229	1111	589	1187	1197	520
Grp Volume(v), veh/h	65	330	337	109	406	399	65	0	150	70	0	109
Grp Sat Flow(s),veh/h/ln	1757	1752	1785	1757	1752	1714	1229	0	1700	1187	0	1717
Q Serve(g_s), s	2.0	8.6	8.6	3.3	10.8	10.8	2.3	0.0	3.7	2.6	0.0	2.6
Cycle Q Clear(g_c), s	2.0	8.6	8.6	3.3	10.8	10.8	4.8	0.0	3.7	6.3	0.0	2.6
Prop In Lane	1.00		0.12	1.00		0.27	1.00		0.35	1.00		0.30
Lane Grp Cap(c), veh/h	139	602	614	179	642	628	469	0	550	434	0	555
V/C Ratio(X)	0.47	0.55	0.55	0.61	0.63	0.63	0.14	0.00	0.27	0.16	0.00	0.20
Avail Cap(c_a), veh/h	531	1247	1270	531	1247	1220	926	0	1182	895	0	1222
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	24.7	14.9	14.9	24.2	14.7	14.7	15.5	0.0	14.1	16.5	0.0	13.7
Incr Delay (d2), s/veh	0.9	0.9	0.9	1.2	1.3	1.3	0.2	0.0	0.3	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.3	4.4	1.7	5.4	5.3	0.8	0.0	1.8	0.9	0.0	1.2
LnGrp Delay(d),s/veh	25.6	15.9	15.9	25.4	16.0	16.0	15.7	0.0	14.4	16.7	0.0	14.0
LnGrp LOS	C	B	B	C	B	B	B		B	B		B
Approach Vol, veh/h		732			914			215			179	
Approach Delay, s/veh		16.7			17.1			14.8			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	8.7	24.3		23.2	7.5	25.6		23.2
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	5.3	10.6		8.3	4.0	12.8		6.8
Green Ext Time (p_c), s	0.1	5.5		1.1	0.0	7.3		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	546	90	121	591	50	100	120	102	30	90	90
Future Volume (veh/h)	110	546	90	121	591	50	100	120	102	30	90	90
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	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	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	120	593	84	132	642	47	109	130	87	33	98	70
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	151	830	117	165	918	67	593	494	331	550	480	343
Arrive On Green	0.09	0.27	0.27	0.09	0.28	0.28	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	1757	3076	435	1757	3307	242	1195	1029	689	1144	999	714
Grp Volume(v), veh/h	120	337	340	132	340	349	109	0	217	33	0	168
Grp Sat Flow(s),veh/h/ln	1757	1752	1758	1757	1752	1797	1195	0	1718	1144	0	1713
Q Serve(g_s), s	5.6	14.5	14.6	6.1	14.5	14.5	4.8	0.0	6.3	1.5	0.0	4.7
Cycle Q Clear(g_c), s	5.6	14.5	14.6	6.1	14.5	14.5	9.5	0.0	6.3	7.7	0.0	4.7
Prop In Lane	1.00		0.25	1.00		0.13	1.00		0.40	1.00		0.42
Lane Grp Cap(c), veh/h	151	473	474	165	486	499	593	0	825	550	0	823
V/C Ratio(X)	0.79	0.71	0.72	0.80	0.70	0.70	0.18	0.00	0.26	0.06	0.00	0.20
Avail Cap(c_a), veh/h	359	842	845	359	842	863	593	0	825	550	0	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	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	37.3	27.5	27.5	37.0	27.0	27.0	15.2	0.0	12.9	15.2	0.0	12.5
Incr Delay (d2), s/veh	3.5	2.4	2.5	3.4	2.2	2.2	0.7	0.0	0.8	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	2.8	7.3	7.4	3.1	7.3	7.5	1.7	0.0	3.1	0.5	0.0	2.3
LnGrp Delay(d),s/veh	40.9	29.9	30.0	40.4	29.2	29.1	15.9	0.0	13.6	15.4	0.0	13.0
LnGrp LOS	D	C	C	D	C	C	B		B	B		B
Approach Vol, veh/h		797			821			326			201	
Approach Delay, s/veh		31.6			31.0			14.4			13.4	
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	10.8	27.5		45.0	10.2	28.1		45.0
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	7.8	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	8.1	16.6		9.7	7.6	16.5		11.5
Green Ext Time (p_c), s	0.1	5.1		1.3	0.1	5.4		2.1

Intersection Summary	
HCM 2010 Ctrl Delay	27.0
HCM 2010 LOS	C

Notes

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

Intersection	
Intersection Delay, s/veh	17.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	90	100	0	350	120	70	170	0
Future Vol, veh/h	0	0	0	0	90	100	0	350	120	70	170	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
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	0	98	109	0	380	130	76	185	0
Number of Lanes	0	0	0	0	1	0	1	1	0	1	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	11.3	22.7	10.6
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	100%	0%
Vol Thru, %	100%	74%	47%	0%	100%
Vol Right, %	0%	26%	53%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	470	190	70	170
LT Vol	0	0	0	70	0
Through Vol	0	350	90	0	170
RT Vol	0	120	100	0	0
Lane Flow Rate	0	511	207	76	185
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0	0.756	0.322	0.132	0.295
Departure Headway (Hd)	5.505	5.324	5.615	6.255	5.748
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	679	640	574	626
Service Time	3.226	3.046	3.652	3.982	3.475
HCM Lane V/C Ratio	0	0.753	0.323	0.132	0.296
HCM Control Delay	8.2	22.7	11.3	9.9	10.9
HCM Lane LOS	N	C	B	A	B
HCM 95th-tile Q	0	6.9	1.4	0.5	1.2

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	178	270	320	50	20	190
Future Vol, veh/h	178	270	320	50	20	190
Conflicting Peds, #/hr	0	0	0	10	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, %	3	3	3	3	3	3
Mvmt Flow	193	293	348	54	22	207

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	412	0	-	0	1064	385
Stage 1	-	-	-	-	385	-
Stage 2	-	-	-	-	679	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1142	-	-	-	246	660
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	502	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1131	-	-	-	192	654
Mov Cap-2 Maneuver	-	-	-	-	192	-
Stage 1	-	-	-	-	541	-
Stage 2	-	-	-	-	497	-

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	16.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1131	-	-	-	532
HCM Lane V/C Ratio	0.171	-	-	-	0.429
HCM Control Delay (s)	8.8	0	-	-	16.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.6	-	-	-	2.1

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	881	120	1093	131
Demand Flow Rate, veh/h	908	123	1126	135
Vehicles Circulating, veh/h	135	1115	191	1014
Vehicles Exiting, veh/h	1014	202	852	224
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.990	1.000	0.990	1.000
Approach Delay, s/veh	9.0	9.8	16.4	8.1
Approach LOS	A	A	C	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	LT	TR	LT	TR
Assumed Moves	LT	R	LTR	L	TR	LT	TR
RT Channelized							
Lane Util	0.185	0.815	1.000	0.801	0.199	0.467	0.533
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	168	740	123	902	224	63	72
Cap Entry Lane, veh/h	1192	1266	550	1132	1207	531	600
Entry HV Adj Factor	0.969	0.970	0.973	0.971	0.971	0.975	0.962
Flow Entry, veh/h	163	718	120	876	217	61	69
Cap Entry, veh/h	1143	1216	536	1089	1160	518	577
V/C Ratio	0.142	0.591	0.223	0.804	0.187	0.119	0.120
Control Delay, s/veh	4.4	10.1	9.8	19.3	4.8	8.5	7.7
LOS	A	B	A	C	A	A	A
95th %tile Queue, veh	0	4	1	9	1	0	0

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	40	761	50	40	836	30	30	20	30	20	0	30
Future Vol, veh/h	40	761	50	40	836	30	30	20	30	20	0	30
Conflicting Peds, #/hr	10	0	10	10	0	10	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	80	-	-	60	-	-	80	-	-	70	-	-
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	43	827	54	43	909	33	33	22	33	22	0	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	952	0	0	891	0	0	1491	1988	451	1533	1999	481
Stage 1	-	-	-	-	-	-	950	950	-	1022	1022	-
Stage 2	-	-	-	-	-	-	541	1038	-	511	977	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.56	6.96	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.56	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33	3.53	4.03	3.33
Pot Cap-1 Maneuver	711	-	-	750	-	-	85	60	553	79	59	528
Stage 1	-	-	-	-	-	-	278	335	-	251	309	-
Stage 2	-	-	-	-	-	-	490	304	-	511	325	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	704	-	-	743	-	-	72	52	548	46	51	523
Mov Cap-2 Maneuver	-	-	-	-	-	-	72	52	-	46	51	-
Stage 1	-	-	-	-	-	-	259	312	-	233	288	-
Stage 2	-	-	-	-	-	-	433	284	-	420	302	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.4	73.2	63.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	72	114	704	-	-	743	-	-	46	523
HCM Lane V/C Ratio	0.453	0.477	0.062	-	-	0.059	-	-	0.473	0.062
HCM Control Delay (s)	91.1	62.5	10.4	-	-	10.1	-	-	139.9	12.3
HCM Lane LOS	F	F	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.8	2.1	0.2	-	-	0.2	-	-	1.7	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	651	90	60	636	200	90	210	80	120	130	71
Future Volume (veh/h)	80	651	90	60	636	200	90	210	80	120	130	71
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		0.92	1.00		0.92	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	87	708	89	65	691	192	98	228	73	130	141	59
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	121	1198	150	102	998	277	441	497	159	350	441	185
Arrive On Green	0.07	0.39	0.37	0.06	0.38	0.36	0.38	0.38	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1757	3098	389	1757	2652	736	1141	1321	423	1044	1215	508
Grp Volume(v), veh/h	87	400	397	65	457	426	98	0	301	130	0	200
Grp Sat Flow(s),veh/h/ln	1757	1752	1735	1757	1752	1635	1141	0	1744	1044	0	1723
Q Serve(g_s), s	3.3	12.2	12.3	2.4	14.8	14.9	4.5	0.0	8.8	7.3	0.0	5.6
Cycle Q Clear(g_c), s	3.3	12.2	12.3	2.4	14.8	14.9	10.1	0.0	8.8	16.1	0.0	5.6
Prop In Lane	1.00		0.22	1.00		0.45	1.00		0.24	1.00		0.29
Lane Grp Cap(c), veh/h	121	678	671	102	659	615	441	0	657	350	0	626
V/C Ratio(X)	0.72	0.59	0.59	0.63	0.69	0.69	0.22	0.00	0.46	0.37	0.00	0.32
Avail Cap(c_a), veh/h	418	1068	1057	418	1068	996	692	0	1039	593	0	1027
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	30.7	16.4	16.5	31.0	17.7	17.9	18.4	0.0	15.9	22.6	0.0	15.4
Incr Delay (d2), s/veh	3.0	1.0	1.0	2.4	1.6	1.7	0.3	0.0	0.6	0.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	6.1	6.0	1.2	7.4	6.9	1.4	0.0	4.3	2.2	0.0	2.7
LnGrp Delay(d),s/veh	33.7	17.4	17.5	33.4	19.3	19.6	18.7	0.0	16.5	23.4	0.0	15.8
LnGrp LOS	C	B	B	C	B	B	B		B	C		B
Approach Vol, veh/h		884			948			399			330	
Approach Delay, s/veh		19.1			20.4			17.0			18.8	
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	7.9	30.0		29.3	8.6	29.3		29.3
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	4.4	14.3		18.1	5.3	16.9		12.1
Green Ext Time (p_c), s	0.0	7.0		2.0	0.0	7.5		3.0

Intersection Summary	
HCM 2010 Ctrl Delay	19.2
HCM 2010 LOS	B

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	815	793	4	6	6
Future Vol, veh/h	0	815	793	4	6	6
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	886	862	4	7	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	906	0	-	0	1347	473
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	443	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	740	-	-	-	141	535
Stage 1	-	-	-	-	353	-
Stage 2	-	-	-	-	611	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	712	-	-	-	130	515
Mov Cap-2 Maneuver	-	-	-	-	250	-
Stage 1	-	-	-	-	340	-
Stage 2	-	-	-	-	588	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	712	-	-	-	337
HCM Lane V/C Ratio	-	-	-	-	0.039
HCM Control Delay (s)	0	-	-	-	16.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	810	796	3	5	6
Future Vol, veh/h	5	810	796	3	5	6
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	5	880	865	3	5	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	908	0	-	0	1357	474
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	450	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	739	-	-	-	139	534
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	606	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	711	-	-	-	128	514
Mov Cap-2 Maneuver	-	-	-	-	247	-
Stage 1	-	-	-	-	336	-
Stage 2	-	-	-	-	583	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	15.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	711	-	-	-	345
HCM Lane V/C Ratio	0.008	-	-	-	0.035
HCM Control Delay (s)	10.1	-	-	-	15.8
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	805	782	20	10	20
Future Vol, veh/h	20	805	782	20	10	20
Conflicting Peds, #/hr	0	0	0	40	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	875	850	22	11	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	912	0	-	0	1383	476
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	482	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	737	-	-	-	134	532
Stage 1	-	-	-	-	354	-
Stage 2	-	-	-	-	584	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	709	-	-	-	120	512
Mov Cap-2 Maneuver	-	-	-	-	239	-
Stage 1	-	-	-	-	330	-
Stage 2	-	-	-	-	562	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	709	-	-	-	371
HCM Lane V/C Ratio	0.031	-	-	-	0.088
HCM Control Delay (s)	10.2	-	-	-	15.6
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	625	60	62	648	92	70	160	90	110	90	60
Future Volume (veh/h)	90	625	60	62	648	92	70	160	90	110	90	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.91	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	98	679	58	67	704	91	76	174	78	120	98	41
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	133	1208	103	107	1104	143	497	442	198	388	435	182
Arrive On Green	0.08	0.37	0.36	0.06	0.36	0.34	0.37	0.37	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1757	3242	277	1757	3084	398	1202	1186	532	1090	1215	508
Grp Volume(v), veh/h	98	367	370	67	400	395	76	0	252	120	0	139
Grp Sat Flow(s),veh/h/ln	1757	1752	1766	1757	1752	1729	1202	0	1717	1090	0	1723
Q Serve(g_s), s	3.4	10.3	10.4	2.3	11.8	11.8	2.9	0.0	6.7	5.8	0.0	3.5
Cycle Q Clear(g_c), s	3.4	10.3	10.4	2.3	11.8	11.8	6.4	0.0	6.7	12.5	0.0	3.5
Prop In Lane	1.00		0.16	1.00		0.23	1.00		0.31	1.00		0.29
Lane Grp Cap(c), veh/h	133	653	658	107	627	619	497	0	640	388	0	617
V/C Ratio(X)	0.74	0.56	0.56	0.62	0.64	0.64	0.15	0.00	0.39	0.31	0.00	0.23
Avail Cap(c_a), veh/h	453	1158	1167	453	1158	1143	825	0	1110	702	0	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	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	28.1	15.4	15.5	28.4	16.6	16.7	15.5	0.0	14.4	19.6	0.0	13.9
Incr Delay (d2), s/veh	2.9	0.9	0.9	2.2	1.3	1.3	0.2	0.0	0.5	0.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.2	5.2	1.2	5.9	5.8	1.0	0.0	3.3	1.8	0.0	1.7
LnGrp Delay(d),s/veh	31.0	16.4	16.4	30.6	17.9	18.0	15.6	0.0	14.9	20.2	0.0	14.1
LnGrp LOS	C	B	B	C	B	B	B		B	C		B
Approach Vol, veh/h		835			862			328			259	
Approach Delay, s/veh		18.1			18.9			15.1			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	7.8	27.1		27.1	8.7	26.2		27.1
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	17.0	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	4.3	12.4		14.5	5.4	13.8		8.7
Green Ext Time (p_c), s	0.0	6.2		1.7	0.1	7.0		2.4

Intersection Summary	
HCM 2010 Ctrl Delay	17.8
HCM 2010 LOS	B

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	633	120	113	625	40	120	210	102	40	110	100
Future Volume (veh/h)	140	633	120	113	625	40	120	210	102	40	110	100
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	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	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	152	688	115	123	679	38	130	228	97	43	120	83
Adj No. of Lanes	1	2	0	1	2	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, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	167	937	156	135	991	55	546	580	247	437	469	324
Arrive On Green	0.10	0.31	0.30	0.08	0.29	0.28	0.47	0.47	0.46	0.46	0.46	0.46
Sat Flow, veh/h	1757	2998	501	1757	3371	189	1158	1227	522	1037	1014	701
Grp Volume(v), veh/h	152	402	401	123	353	364	130	0	325	43	0	203
Grp Sat Flow(s),veh/h/ln	1757	1752	1746	1757	1752	1807	1158	0	1749	1037	0	1715
Q Serve(g_s), s	7.4	17.8	17.8	6.0	15.4	15.5	6.6	0.0	10.5	2.5	0.0	6.3
Cycle Q Clear(g_c), s	7.4	17.8	17.8	6.0	15.4	15.5	12.9	0.0	10.5	13.0	0.0	6.3
Prop In Lane	1.00		0.29	1.00		0.10	1.00		0.30	1.00		0.41
Lane Grp Cap(c), veh/h	167	547	546	135	515	532	546	0	826	437	0	793
V/C Ratio(X)	0.91	0.73	0.74	0.91	0.68	0.69	0.24	0.00	0.39	0.10	0.00	0.26
Avail Cap(c_a), veh/h	324	828	825	324	828	854	546	0	826	437	0	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	38.9	26.6	26.8	39.8	27.1	27.1	17.6	0.0	14.9	19.7	0.0	14.3
Incr Delay (d2), s/veh	7.3	2.3	2.3	8.9	1.9	1.9	1.0	0.0	1.4	0.5	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	3.9	8.9	8.9	3.2	7.7	8.0	2.3	0.0	5.4	0.8	0.0	3.1
LnGrp Delay(d),s/veh	46.2	28.9	29.1	48.6	29.0	29.0	18.6	0.0	16.4	20.1	0.0	15.0
LnGrp LOS	D	C	C	D	C	C	B		B	C		B
Approach Vol, veh/h		955			840			455			246	
Approach Delay, s/veh		31.8			31.9			17.0			15.9	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.7	31.1		45.0	12.3	29.5		45.0
Change Period (Y+Rc), s	3.0	5.0		* 5	3.0	5.0		5.0
Max Green Setting (Gmax), s	7.6	40.0		* 40	17.0	40.0		39.1
Max Q Clear Time (g_c+I1), s	8.0	19.8		15.0	9.4	17.5		14.9
Green Ext Time (p_c), s	0.1	5.9		1.6	0.1	5.6		3.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.6
HCM 2010 LOS	C

Notes

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

Intersection	
Intersection Delay, s/veh	23.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	110	0	50	0	330	220	50	230	0
Future Vol, veh/h	0	0	0	110	0	50	0	330	220	50	230	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
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	120	0	54	0	359	239	54	250	0
Number of Lanes	0	0	0	0	1	0	1	1	0	1	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	11.8	32.1	11.8
HCM LOS	B	D	B

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	69%	100%	0%
Vol Thru, %	100%	60%	0%	0%	100%
Vol Right, %	0%	40%	31%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	550	160	50	230
LT Vol	0	0	110	50	0
Through Vol	0	330	0	0	230
RT Vol	0	220	50	0	0
Lane Flow Rate	0	598	174	54	250
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0	0.866	0.298	0.095	0.4
Departure Headway (Hd)	5.498	5.215	6.161	6.273	5.766
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	693	583	572	625
Service Time	3.223	2.94	4.202	4.004	3.497
HCM Lane V/C Ratio	0	0.863	0.298	0.094	0.4
HCM Control Delay	8.2	32.1	11.8	9.7	12.3
HCM Lane LOS	N	D	B	A	B
HCM 95th-tile Q	0	10.3	1.2	0.3	1.9

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	290	480	280	30	30	182
Future Vol, veh/h	290	480	280	30	30	182
Conflicting Peds, #/hr	0	0	0	10	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, %	3	3	3	3	3	3
Mvmt Flow	315	522	304	33	33	198

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	347	0	-	0	1483	331
Stage 1	-	-	-	-	331	-
Stage 2	-	-	-	-	1152	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1206	-	-	-	137	708
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	300	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1195	-	-	-	84	701
Mov Cap-2 Maneuver	-	-	-	-	84	-
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	297	-

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	34.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1195	-	-	-	344
HCM Lane V/C Ratio	0.264	-	-	-	0.67
HCM Control Delay (s)	9.1	0	-	-	34.3
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	1.1	-	-	-	4.6