Appendix H

Transportation Analysis &
CEQA Impact Study

CITY OF FOLSOM - DIGNITY HEALTH CAMPUS

FINAL LOCAL TRANSPORTATION ANALYSIS & CEQA IMPACT STUDY

APRIL 23, 2021

DKS

8950 CAL CENTER DRIVE, SUITE 340, SACRAMENTO, CA 95826 • 916.368.2000 • DKSASSOCIATES.COM

SHAPING A SMARTER TRANSPORTATION EXPERIENCE™

AN EMPLOYEE-OWNED COMPANY

DOCUMENT DESCRIPTION

CLIENT	City of Folsom
DKS Project Number	20204-000
Project Name	City of Folsom - Dignity Health Campus EIR Support
Document Name	Dignity Health Local Transportation Analysis and CEQA Final Impact Study

PREPARED FOR CITY OF FOLSOM

CITY OF FOLSOM
DISTINCTIVE BY NATURE

PREPARED BY DKS ASSOCIATES

DKS

Jim Damkowitch

Josh Pilachowski, PhD, PE, RSP1

Christian Thompson, EIT

EXECUTIVE SUMMARY

This combined Local Transportation Analysis and California Environmental Quality Act (CEQA) Impact Study for the proposed Dignity Hospital Campus (the Project) was developed to serve the following three purposes:

1. to evaluate the operational performance of the multi-modal circulation system serving the Project to meet the City of Folsom's General Plan policies;

2. to evaluate the operational performance of alternative access alternatives relative to the timing and magnitude of project development phases; and,

3. to help inform the development of a CEQA compliant environmental document including identifying potential VMT impacts pursuant to SB 743 and generating on-road activity inputs for noise and air quality technical studies.

It should be noted that the Dignity Health Campus land use was assumed as part of the Folsom Plan Area Specific Plan (FPASP) (Amended March 13, 2018) which includes a CEQA certified EIR. Per SB 743, there are some non-VMT related CEQA principles that are applied to certain projects to eliminate the need for VMT analysis one of which is that the Project was already analyzed in a prior certified EIR. Despite environmental coverage provided by the FPAP EIR, it was the City of Folsom's preference to perform an SB 743 compliant VMT analysis for this specific use / project.

This study has been prepared by DKS Associates for Ascent Environmental Inc. on behalf of the City of Folsom.

PROJECT DESCRIPTION

This study evaluates the transportation circulation and mobility characteristics associated with the proposed Dignity Health project located adjacent to East Bidwell Street and Alder Creek Parkway in Folsom, CA. The project will include medical office buildings and a hospital, which will be built out in phases until final completion in 2045. When fully built out, the proposed project site will consist of a 300-bed hospital and two office buildings.

ANALYSIS SCOPE

The analysis considers the traffic operations at intersections in the FPASP and Folsom that could potentially be impacted by project traffic. Study intersections and segments are shown in **Figure ES-1** and listed below:

1. East Bidwell Street & Iron Point Road
2. East Bidwell Street & Placerville Road
3. East Bidwell Street & US 50 WB Ramps
4. East Bidwell Street & US 50 EB Ramps
5. Placerville Road & Westwood Drive
6. Rowberry Way & Alder Creek Parkway

7. 1st Street & Alder Creek Parkway
8. 3rd Street & Alder Creek Parkway
9. East Bidwell Street & Alder Creek Parkway
10. McCarthy Way & Alder Creek Parkway
11. Westwood Drive & Alder Creek Parkway
12. Placerville Road & Alder Creek Parkway
13. East Bidwell Street & Old Ranch Road
14. East Bidwell Street & Savannah Parkway
15. Westwood Drive & Savannah Parkway
16. East Bidwell Street & Mangini Parkway
17. East Bidwell Street & Regency Parkway
18. East Bidwell Street & White Rock Road
19. Placerville Road & White Rock Road

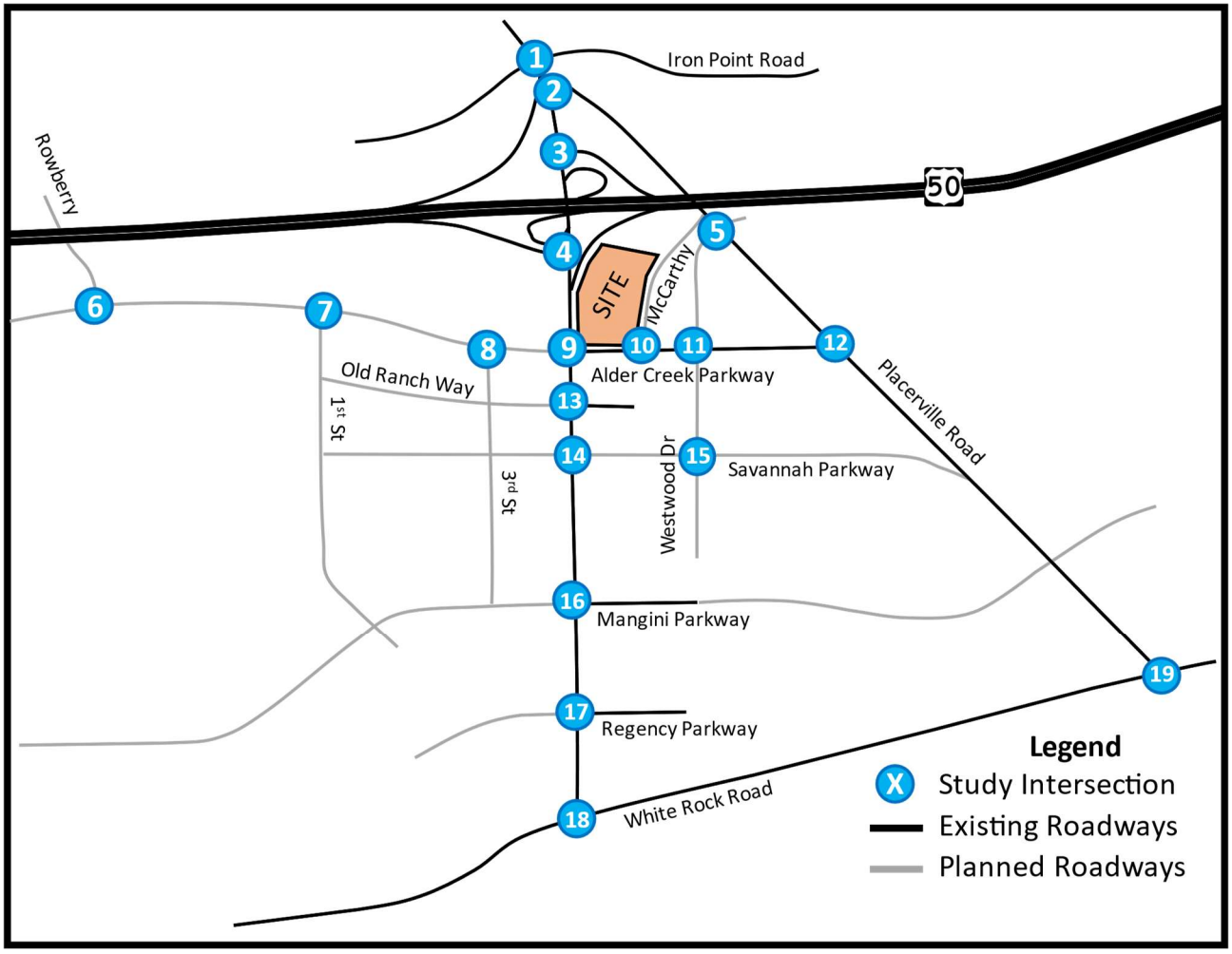


FIGURE ES-1: STUDY INTERSECTIONS

The project proposes a phased schedule of development, with five phases that each add either Medical Office space or Hospital space to support a higher bed count shown in **Table ES-1**. This Transportation Impact Study considers Existing Conditions and the five development phases

representing each of the development phases with and without the project. The fifth phase represents full buildout under Cumulative Conditions (2040).

PHASE	LAND USE	YEAR	OCCUPIED (KSF)
1	MEDICAL OFFICE BUILDING	2023	65
2	HOSPITAL (BEDS)	2028	160
3	MEDICAL OFFICE BUILDING	2030	65
4	HOSPITAL (BEDS)	2034	120
5	HOSPITAL (BEDS)	2040	120

TABLE ES-1: PROPOSED PHASED LAND USE

The project applicant has proposed the addition of signalized access control at the intersection of Alder Creek and McCarthy; the City has expressed concern that a signal at this intersection is inconsistent with the approved Specific Plan and City design standards. A microsimulation analysis of intersection operations at the intersection of Alder Creek Parkway & McCarthy Way and a proposed driveway on East Bidwell Street was performed for Cumulative Conditions to determine potential interactions between closely spaced intersections including the potential for queue spillback at upstream adjacent intersections. The analysis concluded that there would not be a significant impact, but the analysis includes significant assumptions about geometric changes, operational changes and impacts to the proposed BRT service that staff does not support at this time.

Staff does however acknowledge that the proposed signal is not requested by the project applicant until a later development phase (specifically Phase 3, the addition of the hospital and emergency center) and has agreed to allow for a supplemental traffic analysis at that stage of development which would assess the impacts of the proposed traffic signal on traffic conditions present in the area at that time. If the supplemental study concludes that signalization can be accomplished with minimal or no impacts, then the project applicant can choose to proceed with the signal at that time; however, if the study identifies significant and unmitigable impacts then the signal will not be installed.

The analysis of the Alder Creek/McCarthy traffic control options can be found in this report under Appendix Section 4, including a conceptual-level discussion of potential BRT alignments to incorporate BRT service along Alder Creek Parkway adjacent to the Project Site.

FINDINGS

TRIP GENERATION

The proposed land use is anticipated to employ 2,662 employees, service an estimated 2,631 visitors and receive 45 deliveries on a typical weekday. On weekend days (Saturday or Sunday) the estimated number of on-site employees will be 1,779 with 1,428 visitors. This will result in 11,220 daily vehicle trips, 914 AM peak-hour trips, and 1,017 PM peak-hour vehicle trips.

OPERATIONAL DEFICIENCIES

Based in the City of Folsom's General Plan thresholds, the project does not create any operational issues under any of the Phased Project Conditions with the exception of:

- Microsimulation shows the intersection of Alder Creek Parkway & McCarthy Way to exceed General Plan thresholds for southbound queuing and delay under Cumulative Conditions (PM Peak). This can be addressed with the addition of an additional 250 ft channelized southbound right-turn lane along McCarthy Way leading into an extended westbound right-turn lane at East Bidwell Street & Alder Creek Way. To minimize weaving, the southbound right-turn lane should be signed and/or striped for vehicles planning to go north on East Bidwell Street.
- Two merge-diverge influence areas on US 50 under EPAP Conditions (Phase 1 – 2023) where vehicle density thresholds exceed thresholds at two locations. Both of these operational issues will be addressed as part of the programmed Empire Ranch Road / US 50 Interchange improvement project. This improvement is scheduled to complete the preliminary design and environmental phase in 2021 with construction scheduled no earlier 2025 and addressing the deficiency before the next planned phase of development. Given that this improvement is currently programmed in Sacramento Area Council of Government's (SACOG) Metropolitan Transportation Improvement Program (MTIP) (SACOG, February 18, 2021), it can be assumed as part of the future baseline transportation network for CEQA purposes.

PROGRAMMED INFRASTRUCTURE IMPROVEMENTS

The majority of infrastructure and ultimate roadway cross-sections for the Plan Area identified in the FPASP have not been constructed yet, however they are critical to handling the expected traffic growth associated with planned development throughout the region. **Table ES-2** shows the programmed infrastructure improvements and expansions identified to correspond with the phased expansion of land use identified in the Project Development Permit Application. It also identifies any improvements either associated with the project, or that become deficient with the addition of Project Trips.

IMPROVEMENT	PHASE 1 (2023)[a]	PHASE 2 (2028)[a]	PHASE 3 (2030)[a]	PHASE 4 (2034)[a]	PHASE 5 (2040)[a]
WIDENING OF EAST BIDWELL STREET FROM US 50 TO WHITE ROCK ROAD	C	C	C	C	C
WIDENING OF ALDER CREEK PARKWAY FROM EAST BIDWELL STREET TO PLACERVILLE ROAD	C	C	C	C	C
CONSTRUCTION OF WESTWOOD DRIVE BETWEEN ALDER CREEK PARKWAY AND PLACERVILLE ROAD	C	C	C	C	C
CONSTRUCTION OF ALDER CREEK PARKWAY WEST OF EAST BIDWELL ST INCLUDING INTERSECTIONS OF ALDER CREEK PARKWAY WITH 1ST STREET AND 3RD STREET	C	C	C	C	C
CONSTRUCTION OF MCCARTHY WAY BETWEEN ALDER CREEK PARKWAY TO PLACERVILLE ROAD	P	P	P	P	P
CONSTRUCTION OF EMERGENCY ACCESS MIDBLOCK HALF SIGNAL ON EAST BIDWELL STREET	P	P	P	P	P
CONSTRUCTION OF EMPIRE RANCH ROAD US 50 INTERCHANGE	**D**	C	C	C	C
CONSTRUCTION OF SAVANNAH PARKWAY WEST OF EAST BIDWELL ST	-	C	C	C	C
CONSTRUCTION OF ROWBERRY ROAD US 50 OVERCROSSING	-	C	C	C	C
WIDENING OF WHITE ROCK ROAD FOR CAPITAL SOUTHEAST CORRIDOR	-	-	-	C	C
SIGNALIZATION OF ALDER CREEK PARKWAY AND WESTWOOD DRIVE	-	-	-	-	C

[a] 'C' indicates an improvement programmed by the City;
'P' indicates an improvement associated with the Project;
'**D**' indicates an improvement required due to deficiency associated with Project trips
'-' indicates an improvement that is not programmed nor required due to a deficiency

TABLE ES-2: PROGRAMMED SCHEDULE OF PLAN AREA INFRASTRUCTURE

VMT IMPACTS

The previous EIR/EIS did not evaluate VMT related transportation impacts. However, Impact 3A.15-2 of the FPASP EIR/EIS identified significant impacts related to increased demand for single-occupant automobile travel. Implementation of adopted Mitigation Measures 3A.15-2a, 3A.15-2b, and 3A.15-2c requires the provision of options for alternative transportation modes, participation in the City's Transportation System Management Fee Program, and participation in the 50 Corridor Transportation Management Association. The EIR/EIS concluded implementation of these mitigation measures would reduce significant impacts. The project would be required to implement adopt Mitigation Measures 3A.15-2a, 3A.15-2b, and 3A.15-2c related to single-occupant vehicle travel as well as new Mitigation Measure identified in this document related to work-based VMT that refines the implementation of

adopted Mitigation Measure 3A.15-2c. With implementation of these mitigation measures and remaining consistent with the commercial land use designation identified in the FPASP, the project would not result in a substantial increase in VMT. Therefore, no new significant impacts or substantially more severe impacts would occur.

Mitigation Measure 4.17-1 Participation in the Sacramento Council of Governments 50 Corridor Transportation Management Association.

During project operation, and consistent with Mitigation Measure 3A.15-2c listed above, the project applicant shall ensure on-going employer membership and participation by Dignity Health in the Sacramento Area Council of Governments (SACOG) 50 Corridor Transportation Management Association (U.S. 50 TMA). In addition, given that employee participation in the U.S. 50 TMA is voluntary, the project applicant shall be required to conduct biennial Dignity Health employee surveys to ensure that at a minimum a 4.5 percent reduction in VMT (or 1,525 daily VMT) is achieved and maintained as part of project operations. Dignity Health shall be responsible for implementing biennial Dignity Health employee surveys to gauge participation with the various employee benefits offered by the U.S. 50 TMA. In order to ensure that the necessary reduction in VMT is being reported and achieved, the surveys shall include questions from which VMT reduction estimates can be estimated (e.g., how many days per week do you take alternative modes of transportation to work? How far do you live from your site of employment? etc). Surveys and survey results shall be coordinated through and submitted to the U.S. 50 TMA, SACOG, and the City. If the required level of VMT reduction is not achieved, the City of Folsom shall work with Dignity Health and the TMA to identify other demand management related strategies to increase participation in the program and achieve the required reduction in VMT.

PLANNED BRT ALIGNMENT DESIGN CONSIDERATIONS

The key considerations described above include consistency with the planned alignment west of East Bidwell Street, the ease of making a right-turn to and left-turn from the planned alignment along Westwood Drive, potential conflicts between transit and general traffic, and safety and accessibility for transit riders.

The westbound center-running alignment provides consistency with the Specific Plan and adjacent design alignments while also providing a high level of transit performance with minimal conflicts with other vehicles. It is the preferred alignment in all scenarios.

Eastbound BRT operations have the option of either center-running or right-running.

- While center-running operations provides similar consistency with plans and adjacent designs, it results in lower transit performance due to resulting conflicts with left-turning vehicles at McCarthy Way and at Westwood Drive and a dedicated transit phase at Westwood Drive to make the extended right-turn movement.
- Right-running operations in a Business Access Transit Lane (driveway and right-turn access only) improves transit operations, minimizes conflicts with heavy left-turn volumes, and results in a lower right-of-way impact. The right-running would however require a transition at East

Bidwell Street using a dedicated transit queue jump phase and would increase crossing distance for eastbound passengers.

CONDITIONS OF APPROVAL

To address the identified deficiencies and to provide safe and efficient operations, the following conditions of approval are recommended as part of the associated development phases.

Phase 1 (2023) Conditions of Approval

- Construction of McCarthy Way between Alder Creek Parkway and Placerville Road along with multiple access points to the site, consistent with City of Folsom design and operational standards.
- Construction of an additional 250-foot right-turn lane for southbound McCarthy Way approaching Alder Creek Parkway connecting to a right-turn pocket for westbound Alder Creek Parkway approaching East Bidwell Street; revised setback of the proposed parking lot curb along the south and east edge of the Project Site.
- Construction of a southbound emergency vehicle-only left-turn movement into the East Bidwell Street access point along with installation of a half-signal that will be triggered through emergency signal preemption to stop northbound traffic for enough time for the vehicle to safety complete the turning maneuver.

Phase 2 (2028) Conditions of Approval

- No conditions of approval required

Phase 3 (2030) Conditions of Approval

- Should the applicant desire to construct a traffic signal at Alder Creek/McCarthy as an element of Phase 3 development, applicant shall first be required to perform a supplemental traffic analysis to assess the operational impacts associated with signalization of the intersection.

Phase 4 (2034) Conditions of Approval

- No conditions of approval required

Buildout Conditions of Approval

- If the intersection of Alder Creek Parkway and McCarthy Way remains two-way stop controlled, construction of a pedestrian-actuated midblock protected crossing (RRFB, or HAWK-signal) to coincide with implementation of BRT service to allow for safe pedestrian access to and from the eastbound BRT stop.

TABLE OF CONTENTS

EXECUTIVE SUMMARY 3

PROJECT DESCRIPTION 3
ANALYSIS SCOPE 3
FINDINGS 5
Trip Generation 5
Operational Deficiencies 6
Programmed Infrastructure improvements 6
VMT Impacts 7
Planned BRT Alignment Design Considerations 8
Conditions of Approval 9

INTRODUCTION 16

PROJECT DESCRIPTION 16
SITE PLAN & CIRCULATION 17
Parking 20
BICYCLE, PEDESTRIAN, AND TRANSIT FACILITIES 20
STUDY AREA 21
TRIP GENERATION 23
TRIP DISTRIBUTION 23

EXISTING AND EPAP STUDY AREA SETTING 28

PROJECT SITE 28
STUDY AREA ROADWAY NETWORK 28
PEDESTRIAN AND BICYCLE FACILITIES 28
TRANSIT SERVICE 28
EXISTING AND PLANNED TRAFFIC CONTROL 31
EXISTING TRAFFIC VOLUMES 34
EXISTING PLUS APPROVED PROJECTS TRAFFIC VOLUMES 38
Absorption of Approved and Anticipated FPASP Projects 38
Change to Infrastructure and Control 39

ANALYSIS METHODOLOGY 44

VMT METHODOLOGY (CEQA ANALYSIS) 44
VMT Screening Criteria 44
VMT Analysis 46
Travel Demand Model 46
Baseline Average and Selected Threshold 47
OFFICE/Medical Uses (VMT per Employee Metric) 47

Hospital Use – patient care and visitation (net VMT change) 47
GENERAL PLAN CONSISTENCY ANALYSIS 48
Travel Forecasts 48
Level of Service Analysis 48
Operating CRITERIA 49
Design Criteria 51

CEQA VMT IMPACT ANALYSIS AND MITIGATION 51

VMT MITIGATION (TRANPORTATION MANAGEMENT ASSOCIATION) 54
Transportation Management Associations 54

EXISTING AND PHASE 1 (EPAP) OPERATIONS 57

EXISTING CONDITION OPERATIONS 57
EXISTING PLUS APPROVED PROJECT CONDITION OPERATIONS 58
EPAP WITH PROJECT CONDITIONS OPERATIONS 59

INTERMEDIATE DEVELOPMENT PHASES 62

PHASE 2 (2028) INFRASTRUCTURE AND VOLUMES 62
PHASE 2 (2028) OPERATIONS 69
PHASE 3 (2030) INFRASTRUCTURE AND VOLUMES 70
PHASE 3 (2030) OPERATIONS 77
PHASE 4 (2034) INFRASTRUCTURE AND VOLUMES 78
PHASE 4 (2034) OPERATIONS 85

FUTURE CONDITIONS AND FULL PROJECT BUILDOUT 86

CUMULATIVE CONDITIONS 86
Future Traffic Control 86
BACKGROUND TRAFFIC VOLUME GROWTH 88
ADJACENT PARCEL 93
CUMULATIVE OPERATIONS 94
PHASE 5 (BUILDOUT) VOLUMES 95
CUMULATIVE PLUS PROJECT OPERATIONS 98
Microsimulation Analysis 99

FREEWAY ANALYSIS 101

FUTURE BUS RAPID TRANSIT OPERATIONS 105

Westbound BRT Operations Summary 105
Eastbound BRT Operations Summary 105
Westbound BRT Operations Summary 106
Eastbound BRT Operations Summary 106

CONCLUSIONS FOR BRT INCLUSION 107

PROJECT SUMMARY 107

VMT 107
Impact 107
Mitigation Measure 107
TRANSIT 108
Impact 108
Mitigation Measure 108
PEDESTRIAN 108
Impact 108
Mitigation Measure 108
BICYCLE 108
Impact 108
Mitigation Measure 108
INTERSECTION OPERATIONS 109
Deficiency 109
Improvement 109
INTERSECTION DESIGNS 109
Deficiency 109
Improvement 109
FREEWAY OPERATIONS 109
Deficiency 109
Improvement 110

CONDITIONS OF APPROVAL 110

PHASE 1 (2023) CONDITIONS OF APPROVAL 110
PHASE 2 (2028) CONDITIONS OF APPROVAL 110
PHASE 3 (2030) CONDITIONS OF APPROVAL 110
PHASE 4 (2034) CONDITIONS OF APPROVAL 110
PHASE 5 (2040) BUILDOUT CONDITIONS OF APPROVAL 111

APPENDIX 113

LIST OF FIGURES

FIGURE 1: SITE PLAN AND CIRCULATION 18
FIGURE 2. ELECTRIC VEHICLE CHARGING AND BICYCLE PARKING 19
FIGURE 3: SITE VICINITY 21
FIGURE 4: STUDY AREA AND INTERSECTIONS 22
FIGURE 5: PROJECT SITE TRIP DISTRIBUTION 25
FIGURE 6: PROJECT GENERATED VOLUMES (1 OF 2) 26
FIGURE 7: PROJECT GENERATED VOLUMES (2 OF 2) 27
FIGURE 8: EXISTING LANE CONFIGURATION (1 OF 2) 35
FIGURE 9: EXISTING LANE CONFIGURATION (2 OF 2) 36
FIGURE 10: EXISTING VOLUMES (1 OF 2) 37
FIGURE 11: EXISTING VOLUMES (2 OF 2) 38
FIGURE 12: EPAP (2024) LANE CONFIGURATION (1 OF 2) 40
FIGURE 13: EPAP (2024) LANE CONFIGURATION (2 OF 2) 41
FIGURE 14: EPAP (2024) VOLUMES (1 OF 2) 42
FIGURE 15: EPAP (2024) VOLUMES (2 OF 2) 43
FIGURE 16: REGIONAL HOSPITAL LOCATION MAP 53
FIGURE 17: TMA AREAS (SACOG FEDERAL CONGESTION MANAGEMENT PROCESS, 2017) 56
FIGURE 18: EPAP WITH PROJECT (2024) VOLUMES (1 OF 2) 60
FIGURE 19: EPAP WITH PROJECT (2024) VOLUMES (2 OF 2) 61
FIGURE 20: 2028 LANE CONFIGURATION (1 OF 2) 63
FIGURE 21: 2028 LANE CONFIGURATION (2 OF 2) 64
FIGURE 22: BASELINE 2028 VOLUMES (1 OF 2) 65
FIGURE 23: BASELINE 2028 VOLUMES (2 OF 2) 66
FIGURE 24: PHASE 2 (2028) VOLUMES (1 OF 2) 67
FIGURE 25: PHASE 2 (2028) VOLUMES (2 OF 2) 68
FIGURE 26: 2030 LANE CONFIGURATION (1 OF 2) 71
FIGURE 27: 2030 LANE CONFIGURATION (2 OF 2) 72
FIGURE 28: BASELINE 2030 VOLUMES (1 OF 2) 73

FIGURE 29: BASELINE 2030 VOLUMES (2 OF 2) 74
FIGURE 30: PHASE 3 (2030) VOLUMES (1 OF 2) 75
FIGURE 31: PHASE 3 (2030) VOLUMES (2 OF 2) 76
FIGURE 32: 2034 LANE CONFIGURATION (1 OF 2) 79
FIGURE 33: 2034 LANE CONFIGURATION (2 OF 2) 80
FIGURE 34: BASELINE 2034 VOLUMES (1 OF 2) 81
FIGURE 35: BASELINE 2034 VOLUMES (2 OF 2) 82
FIGURE 36: PHASE 4 (2034) VOLUMES (1 OF 2) 83
FIGURE 37: PHASE 4 (2034) VOLUMES (2 OF 2) 84
FIGURE 38: CUMULATIVE LANE CONFIGURATION (1 OF 2) 90
FIGURE 39: CUMULATIVE LANE CONFIGURATION (2 OF 2) 91
FIGURE 40: CUMULATIVE VOLUMES (1 OF 2) 92
FIGURE 41: CUMULATIVE VOLUMES (2 OF 2) 93
FIGURE 42: CUMULATIVE PLUS PROJECT VOLUMES (1 OF 2) 96
FIGURE 43: CUMULATIVE PLUS PROJECT VOLUMES (2 OF 2) 97
FIGURE 44: MEDIAN CENTER RUNNING 105
FIGURE 45: CENTER RUNNING WESTBOUND / RIGHT RUNNING EASTBOUND 106

LIST OF TABLES

TABLE 1: PROPOSED DIGNITY HEALTH CAMPUS EMPLOYEES/VISITORS/DELIVERIES BY PHASE . 16

TABLE 2: PROJECT TRIP GENERATION 24

TABLE 3: EXISTING TRANSPORTATION NETWORK 30

TABLE 4: ASSUMED PROJECTS 39

TABLE 5: LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS 49

TABLE 6: VMT PER EMPLOYEE THRESHOLD ANALYSIS RESULTS 52

TABLE 7: DIGNITY HEALTH CAMPUS TMA ANALYSIS INPUTS 55

TABLE 8: TMA PARTICIPATION (SACOG FEDERAL CONGESTION MANAGEMENT PROCESS, 2017) 55

TABLE 9: EXISTING CONDITIONS AM AND PM PEAK HOUR INTERSECTION OPERATIONS 57

TABLE 10: EPAP (2024) CONDITIONS AM AND PM PEAK INTERSECTION OPERATIONS 58

TABLE 11: EPAP WITH PHASE 1 (2024) CONDITIONS AM AND PM PEAK INTERSECTION OPERATIONS 59

TABLE 12: PHASE 2 CONDITIONS AM AND PM PEAK INTERSECTION OPERATIONS 69

TABLE 13: PHASE 3 CONDITIONS AM AND PM PEAK INTERSECTION OPERATIONS 77

TABLE 14: PHASE 4 CONDITIONS AM AND PM PEAK INTERSECTION OPERATIONS 85

TABLE 15: ADJACENT LAND USE AND TRIP GENERATION 94

TABLE 16: CUMULATIVE CONDITIONS AM AND PM PEAK INTERSECTION OPERATIONS 94

TABLE 17: CUMULATIVE PLUS PROJECT CONDITIONS AM AND PM PEAK INTERSECTION OPERATIONS 98

TABLE 18: BASELINE CONFIGURATION – MICROSIMULATION RESULTS 99

TABLE 19: MODIFIED BASELINE WITH ADDITIONAL TURN LANE – MICROSIMULATION RESULTS 100

TABLE 20: AM AND PM PEAK FREEWAY DEMAND 102

TABLE 21: AM AND PM PEAK FREEWAY DENSITY 103

TABLE 22: AM AND PM PEAK FREEWAY OPERATIONS 104

INTRODUCTION

The purpose of this transportation analysis is to: 1) perform a City of Folsom General Plan consistency assessment by examining if roadway operational deficiencies result from the proposed Dignity Health Campus development during the AM and PM peak hours; and, 2) perform a systemic vehicle miles of travel (VMT) assessment of the proposed development to address the requirements of the California Environmental Quality Act (CEQA) per the requirements of Senate Bill (SB) 743.

While the CEQA VMT analysis is based on a regional systemwide assessment, the General Plan consistency operational analysis is focused on specific locations (roadway intersections and access locations). These analyses will inform help facility sizing needs, circulation characteristics, intersection control types and operating conditions required to adequately and safely accommodate traffic to/from the proposed Dignity Health facility and in the vicinity of the proposed development.

PROJECT DESCRIPTION

The proposed Dignity Health project includes medical office buildings and a hospital, which will be built out in five phases spanning from 2023 until final completion in 2045. At build out, the proposed project will consist of a 300-bed hospital (totaling 400 ksf) and two office buildings which will be 65 ksf each for a total of 530 ksf. When fully operational, the proposed Dignity Health Campus is estimated to employ 2,662 employees, service an estimated 2,631 visitors and receive 45 deliveries on a typical weekday. On weekend days (Saturday or Sunday) the estimated number of on-site employees will be 1,779 with 1,428 visitors. **Table 1** shows the assumed incremental growth in employees, visitors and deliveries resulting from each project phase.

TABLE 1: PROPOSED DIGNITY HEALTH CAMPUS EMPLOYEES/VISITORS/DELIVERIES BY PHASE

PHASE	PHASE ADDITION	NEW EMPLOYEES	NEW VISITORS	NEW DELIVERIES
1	Medical Office Building	Weekday: 126 Weekend: 5	Weekday: 585 Weekend: 30	Weekday: 5 Weekend: 0
2	Hospital (100 Beds)	Weekday: 788 Weekend: 591	Weekday: 466 Weekend: 466	Weekday: 24 Weekend: 0
3	Medical Office Building	Weekday: 171 Weekend: 0	Weekday: 648 Weekend: 0	Weekday: 5 Weekend: 0
4	Hospital (100 Beds)	Weekday: 1,576 Weekend: 1,182	Weekday: 931 Weekend: 931	Weekday: 30 Weekend: 0
5	Hospital (100 Beds)	Weekday: 2,365 Weekend: 1,774	Weekday: 1,398 Weekend: 1,398	Weekday: 35 Weekend: 0
TOTAL		**Weekday: 2,662** **Weekend: 1,779**	**Weekday: 2,631** **Weekend: 1,428**	**Weekday: 45** **Weekend: 0**

SITE PLAN & CIRCULATION

The conceptual site plan in **Figure 1** below shows three general purpose access points on McCarthy Way and one access point on East Bidwell Street allowing for direct emergency access to the site. Intersection control at the access nearest the main entry will be a roundabout, while the other two general access intersections will be stop-controlled on the driveway approaches. At the emergency access on East Bidwell Street, fire- and other emergency response vehicles may turn left into the site. General traffic will have standard right-in right-out (RIRO) access with a 90-foot right-turn pocket provided for save deceleration and access with no queue expected to form. To ensure safety of emergency response vehicles accessing the site via a southbound left-turn movement into the East Bidwell Street access point, a half-signal will be installed that will be triggered through emergency signal preemption to stop northbound traffic for enough time for the vehicle to safety complete the turning maneuver. Based upon future volumes with full project buildout, the estimated worst-case queue (i.e., 95th percentile queue) from an emergency vehicle signal preemption event would extend a maximum of 223 feet which would not cause any safety or queue spillback issues at the adjacent upstream intersection of Alder Creek Parkway.

Service and material trips will access the service entry on the northwest side of the central hospital building and the conceptual site plan shows three truck loading/unloading docks. Service vehicles will only use the northern access point along McCarthy Way. The ambulance entrance is located just north of the service entry, and the heliport is located west of the ambulance entry with a walkway leading to the ambulance entry. Ambulance circulation will avoid any parking aisles (except for the ambulance parking and service entry parking) and utilize the perimeter roads which will eliminate the possibility of friction with visitor vehicles making parking maneuvers.

Internal roads consist of perimeter roads around the central hospital and two medical office buildings (one to the north of the main hospital building and one to the south), a short pull-off at the main entry, aisles through the parking areas, and roads that connect the access points on East Bidwell Street and McCarthy Way to the internal perimeter roads. The emergency department walk-in entry is located just north of the main entry on the east side of the hospital, where visitors will use the main entry on McCarthy Way to quickly access the pull-off driveway.

The internal circulation has been reviewed for operations, efficient circulation, and safety. The proposed path for service and material trips provides a direct path to docks, however it is unclear if trucks would exit via the same path or if they would exit via the East Bidwell Street driveway. Main drive aisles are kept clear of parking maneuvers with the exception of the seven spaces located at the southwest corner of the hospital at a skewed road entry. This location would benefit from removing the two southernmost parking spaces and reducing the width of the entry-point to allow for a right-turn entry. The two lost spaces can potentially be relocated to the west side of the segment. Regarding the East Bidwell Street driveway, the Highway Design Manual recommends a throat depth of 200 feet for the number of exiting vehicles based upon a 2-minute demand of 8 vehicles with less than 10% trucks (Cumulative Conditions, PM Peak). This length is longer than the distance to the main drive aisle behind the hospital, as well as four additional parking section access points, and could result in internal congestion for departing vehicles.



FIGURE 1: SITE PLAN AND CIRCULATION

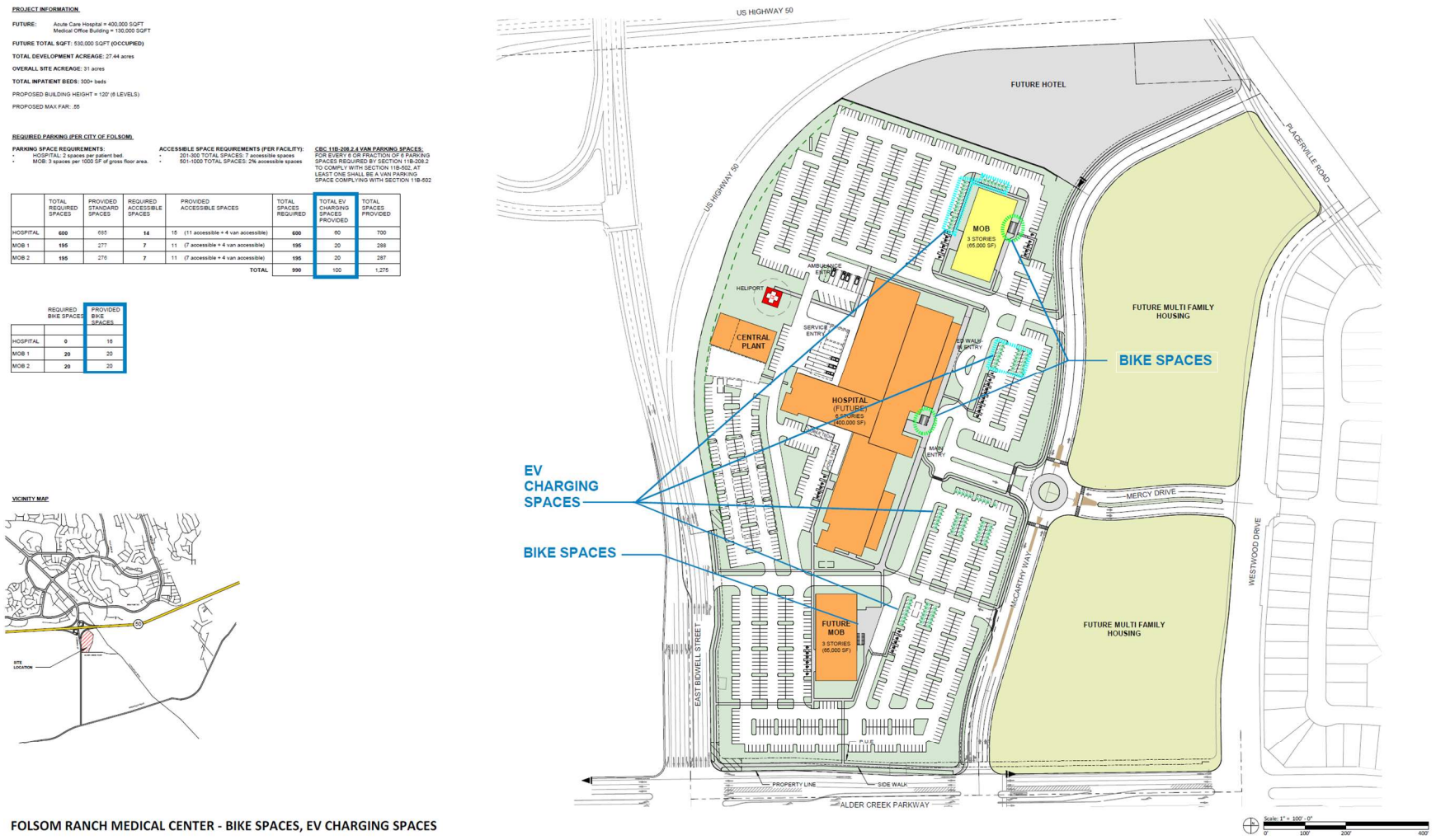


FIGURE 2. ELECTRIC VEHICLE CHARGING AND BICYCLE PARKING

PARKING

The site contains five vehicle parking areas separated by roads that connect the access points to the perimeter roads around each building, as shown in **Figure 1**. In total, the site plan shows 1,275 parking spaces (exceeding the required 990 spaces) which includes 37 accessible spaces and 100 electric vehicle charging spaces.

Up to 40 bike parking spaces are required[1] for the office buildings and 40 will be provided per the conceptual site plan. Additionally, 16 bike parking spaces will be provided for the main Hospital building. It is recommended that a portion of the bicycle parking spaces for employee use be provided as protected long-term bicycle parking spaces.

BICYCLE, PEDESTRIAN, AND TRANSIT FACILITIES

Bicycle access to the site will be provided via Class II Bicycle Lanes along Alder Creek Parkway and East Bidwell Street as planned in the *Folsom Plan Area Specific Plan* (FPASP) (Amended March 13, 2018) and along McCarthy Way as proposed by the applicant.

New sidewalks and pedestrian walkways providing access to the site are shown in the conceptual site plan. New sidewalks are shown for McCarthy Way along the western frontage, Alder Creek Parkway along the northern frontage, and approximately 600 feet along East Bidwell Street. The Alder Creek Parkway sidewalk should connect to the existing eastern sidewalk terminus.

Internal walkways are shown along most of the perimeter roads and access points, providing pedestrian access to the project buildings from the project boundary and across parking lots. The emergency access point, northern access point on McCarthy Way, and southern access point on McCarthy Way show sidewalks on the conceptual plan but none are shown along the central McCarthy Way access point (western leg at the roundabout). Pedestrian crossings are shown across each leg of the new roundabout on McCarthy Way, which are the only new pedestrian crossings on the site plan.

The FPASP identifies Alder Creek Parkway as a future transit corridor with transit service to be designed and implemented by Sacramento Regional Transit (SacRT). The applicant would propose to have a transit stop for both directions of travel to be located at the intersection of Alder Creek Parkway and McCarthy Way with a protected crossing opportunity across Alder Creek Parkway.

[1] Folsom Municipal Code, 17.57.090.A.2

STUDY AREA

The proposed project site is located directly southeast of the US 50 East Bidwell Street interchange within the vicinity of the star shown in **Figure 3**.

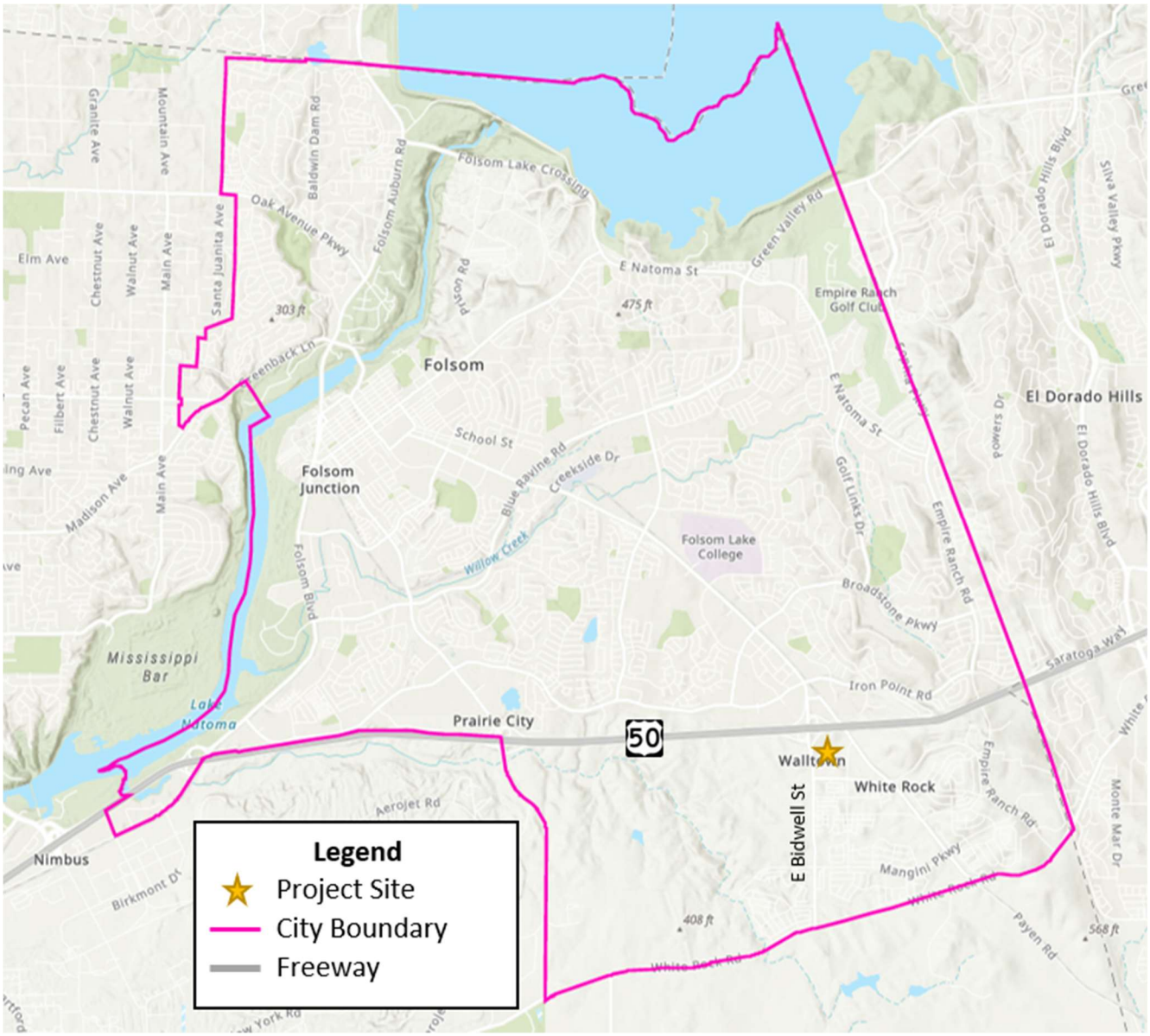


FIGURE 3: SITE VICINITY

Study area intersections are listed below and shown in **Figure 4**.

1. East Bidwell Street & Iron Point Road
2. East Bidwell Street & Placerville Road
3. East Bidwell Street & US 50 WB Ramps
4. East Bidwell Street & US 50 EB Ramps
5. Placerville Road & Westwood Drive
6. Rowberry Way & Alder Creek Parkway
7. 1st Street & Alder Creek Parkway
8. 3rd Street & Alder Creek Parkway
9. East Bidwell Street & Alder Creek Parkway
10. McCarthy Way & Alder Creek Parkway
11. Westwood Drive & Alder Creek Parkway
12. Placerville Road & Alder Creek Parkway
13. East Bidwell Street & Old Ranch Road
14. East Bidwell Street & Savannah Parkway
15. Westwood Drive & Savannah Parkway
16. East Bidwell Street & Mangini Parkway
17. East Bidwell Street & Regency Parkway
18. East Bidwell Street & White Rock Road
19. Placerville Road & White Rock Road

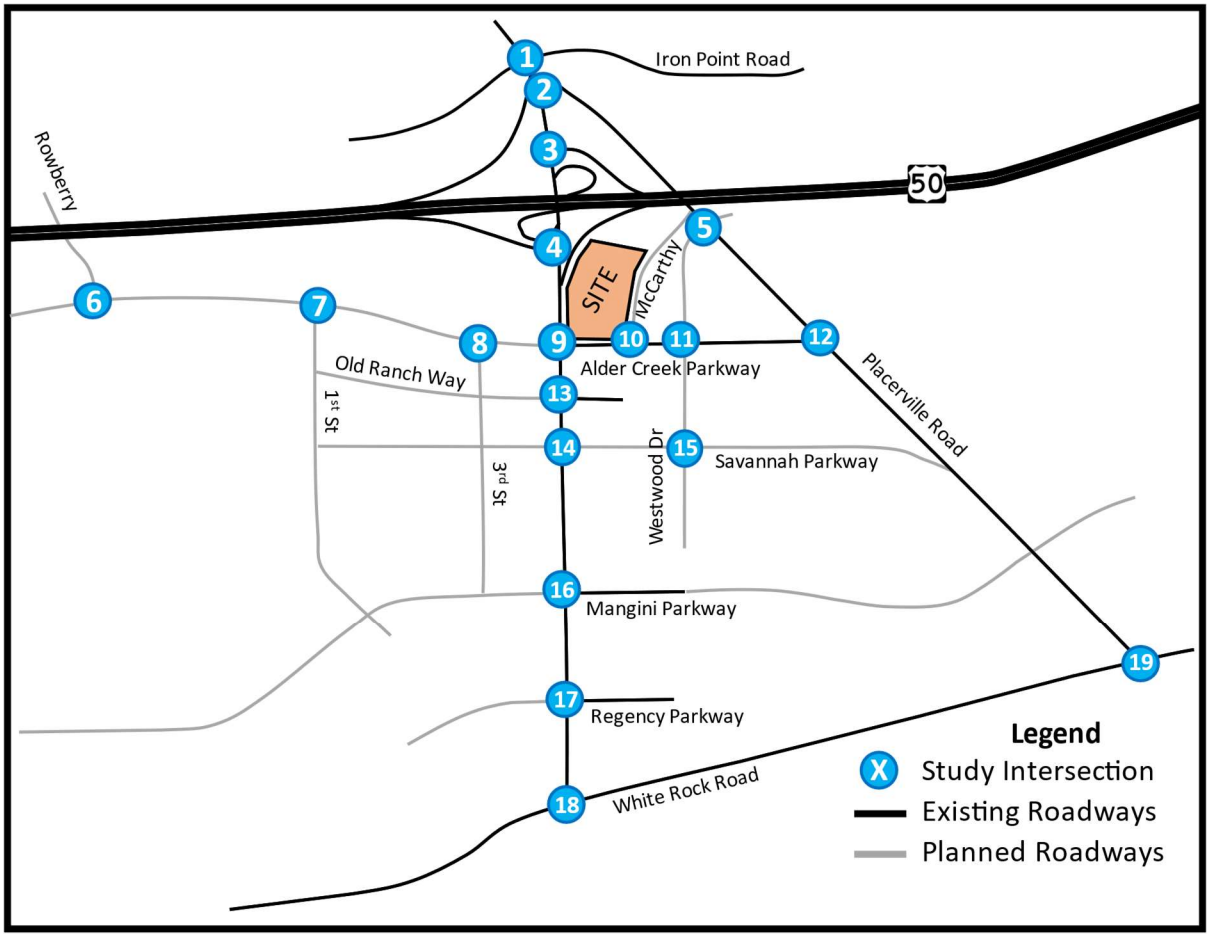


FIGURE 4: STUDY AREA AND INTERSECTIONS

TRIP GENERATION

When fully built out, the proposed project site will consist of a 300-bed hospital (totaling 400 ksf) and two office buildings which will be 65 ksf each for a total of 530 ksf.

The trip generation methodology uses the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. Trip generation rates are given for Land Use Codes (LUC) that correspond to unique types of land uses. All proposed hospital use is categorized as LUC 610 Hospital, and the two office buildings are categorized into LUC 720 Medical-Dental Office Building.

The project is proposed to be built over 5 phases from 2023 to 2045. **Table 2** below shows the trip generation estimates for each phase of the project. No trip reductions have been applied, such as pass-by trips or internal trip reduction factors.

TRIP DISTRIBUTION

Trip distribution provides routing through the study intersections of project generated trips. Given the lack of existing infrastructure and large amount of future development, trip distribution under full buildout conditions was based upon proportions of daily trip volumes along the approaching links from the 2040 City of Folsom Travel Demand Model and trip distribution assumptions documented in the FPASP (Amended March 13, 2018).

Trip distribution of project added trips at the project access points were based on the following assumptions:

- one third of the project trips coming from the north choose to take a U-turn at Alder Creek and access the project site from the Bidwell Driveway;
- all the project trips coming from the south continue north to access the project site from the Bidwell driveway; and,
- all other project trips access the site from the main entrance at McCarthy Way and Mercy Way via the intersection of Alder Creek Parkway and McCarthy Way.

The resulting trip distribution for gateway segments is provided **Figure 5** shows the estimated trip distribution percentage through the study area. As shown, trip distribution assignments were based on expected land use buildout for the surrounding area with trip origins and destinations distributed across the available side streets to represent a conservative scenario with more conflicting left turns from minor streets at two-way stop-controlled intersections. These same distributions were applied to individual project phase analysis. Project trips under full buildout are shown in **Figure 6** and **Figure 7**.

TABLE 2: PROJECT TRIP GENERATION

Land Use	Year	LUC	Occupied ksf	Units (Type)	AM Peak Hour					PM Peak Hour					Daily	
					Rate	Enter %	Enter Trips	Exit Trips	Total Trips	Rate	Enter %	Enter Trips	Exit Trips	Total Trips	Daily Rate	Daily Trips
Medical Office Building	2023	720	65	65 ksf	2.78	78%	141	40	181	3.46	28%	63	162	225	34.8	2,262
Hospital (Beds)	2028	610	160	100 (beds)	1.84	72%	132	52	184	1.89	28%	53	136	189	22.3	2,232
Medical Office Building	2030	720	65	65 ksf	2.78	78%	141	40	181	3.46	28%	63	162	225	34.8	2,262
Hospital (Beds)	2034	610	120	100 (beds)	1.84	72%	132	52	184	1.89	28%	53	136	189	22.3	2,232
Hospital (Beds)	2045	610	120	100 (beds)	0.89	72%	132	52	184	1.89	28%	53	136	189	22.3	2,232
Total			**530**				**678**	**236**	**914**			**285**	**732**	**1,017**		**11,220**

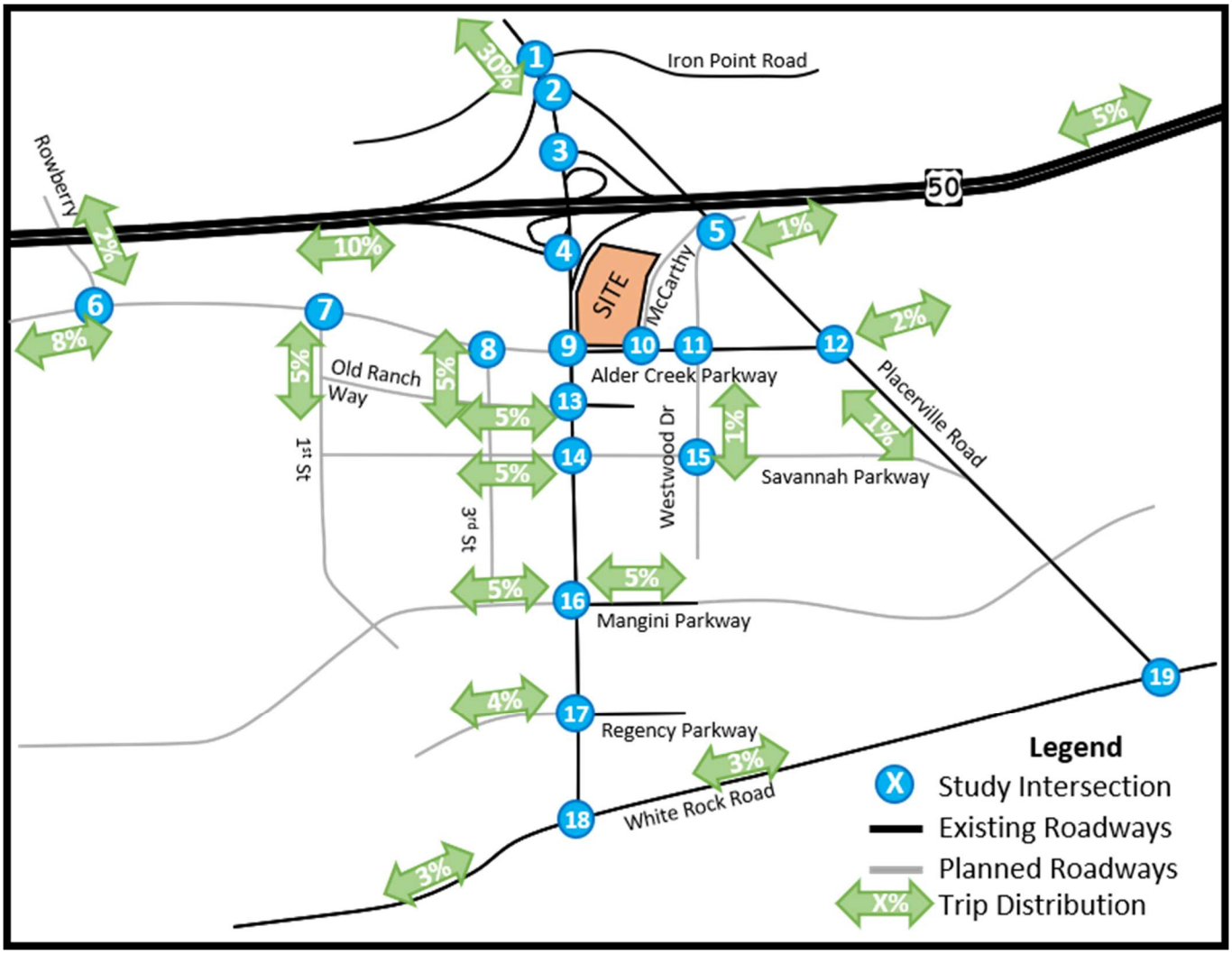


FIGURE 5: PROJECT SITE TRIP DISTRIBUTION

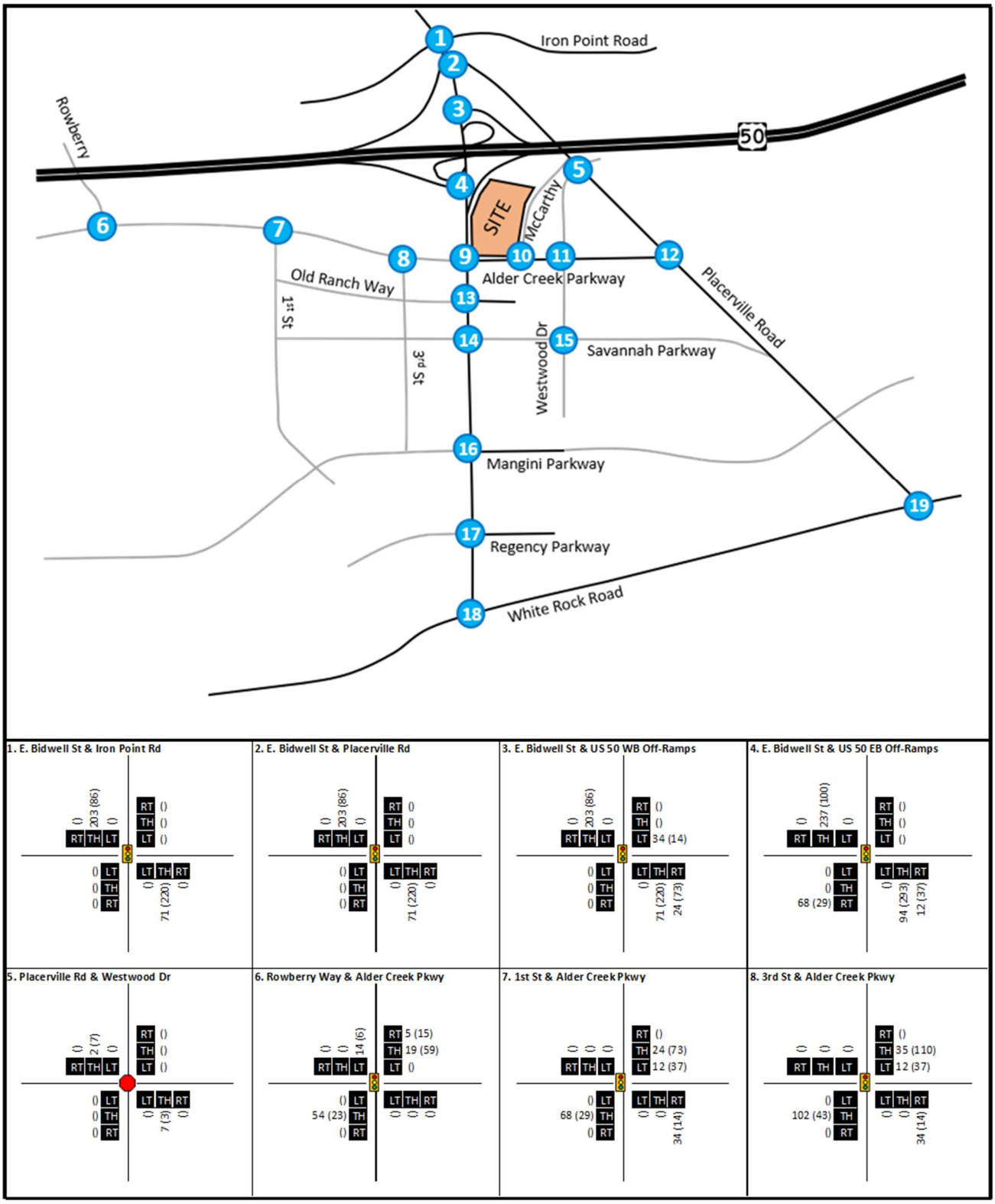


FIGURE 6: PROJECT GENERATED VOLUMES (1 OF 2)

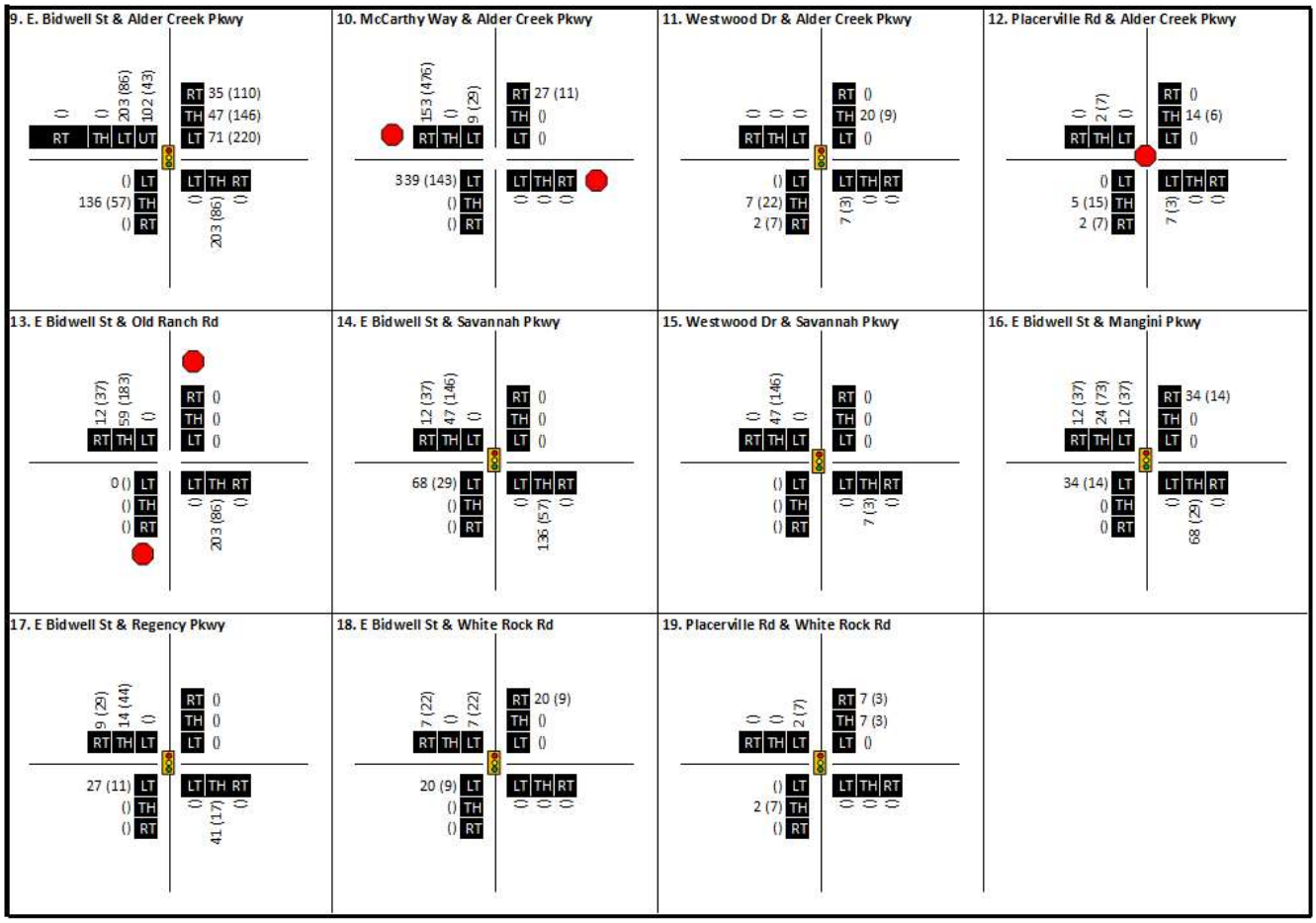


FIGURE 7: PROJECT GENERATED VOLUMES (2 OF 2)

EXISTING AND EPAP STUDY AREA SETTING

PROJECT SITE

The project site is located east of East Bidwell Street and north of Alder Creek Parkway in Folsom, CA. Sacramento County Assessor maps identify the parcel as 072-3190-047. The parcel is currently vacant and zoned for SP-GC-PD (Specific Plan – General Commercial – Planned Development District) according to Folsom zoning information.[2]

The following sections detail the existing study area road network, existing pedestrian and bicycle facilities, existing transit, and existing traffic control. Given the lack of development near the project location, this analysis will document both the actual (existing traffic conditions) as well as projected EPAP traffic conditions within the study area.

STUDY AREA ROADWAY NETWORK

This section documents existing study area conditions, pedestrian and bicycle facilities, and existing traffic volumes and operations. **Table 3** below identifies the characteristics of the surrounding transportation network.

PEDESTRIAN AND BICYCLE FACILITIES

Sidewalks and bike lanes exist on the recently constructed Mangini Parkway, and partially on East Bidwell Street and Placerville Road. The project conceptual plan shows new sidewalks, see the site plan review section for more information. Most roadways will have sidewalks and bike lanes in the future, as detailed in the FPASP and included below in the Traffic Control section of this report.

TRANSIT SERVICE

SacRT, which operates the Gold Line light rail and three bus routes (10F, 20F, and 30F) in the Folsom city limits.[3] The three bus routes were previously operated by Folsom Stage Line but have been operated by SacRT since 2020.[4] El Dorado Transit also operates near the project site with routes along US 50. While buses do travel along East Bidwell Street to access US 50, no transit stops are currently located within the study area limits.[5]

[2] City of Folsom Zoning, 10/19/2018. https://www.folsom.ca.us/civicax/filebank/blobdload.aspx?blobid=34284

[3] https://www.sacrt.com/systemmap/

[4] https://www.sacrt.com/apps/folsom/

[5] https://eldoradotransit.com/map/

As a newly developing area, there were no SacRT established transit routes in the existing study area network prior to April 2021. However, as of April 5th, 2021 SacRT expanded its' Smart-Ride service to include the area south of US-50 to White Rock Road, between Prairie City Road and the county line (called the Folsom Zone - see map). Smart-Ride is a corner-to-corner dial a ride service that is open to the general public. The service picks up and drops off passengers at the nearest corner, or 'virtual bus stop' which is usually within a block or two of the requested location. This SacRT expansion will provide some service coverage within the project area. Smart-Ride service is a precursor to eventual fixed route services that are not feasible at this time given the lack of development.

Alder Creek Parkway is identified as a Transit Corridor, in the FPASP, west of Westwood Avenue and is intended to accommodate Bus Rapid Transit service in the future. The incorporation of BRT into the design and operations of Alder Creek Parkway adjacent to the Project Site is covered in a later section following Cumulative analysis and covers potential impacts across multiple alignment and access scenarios.

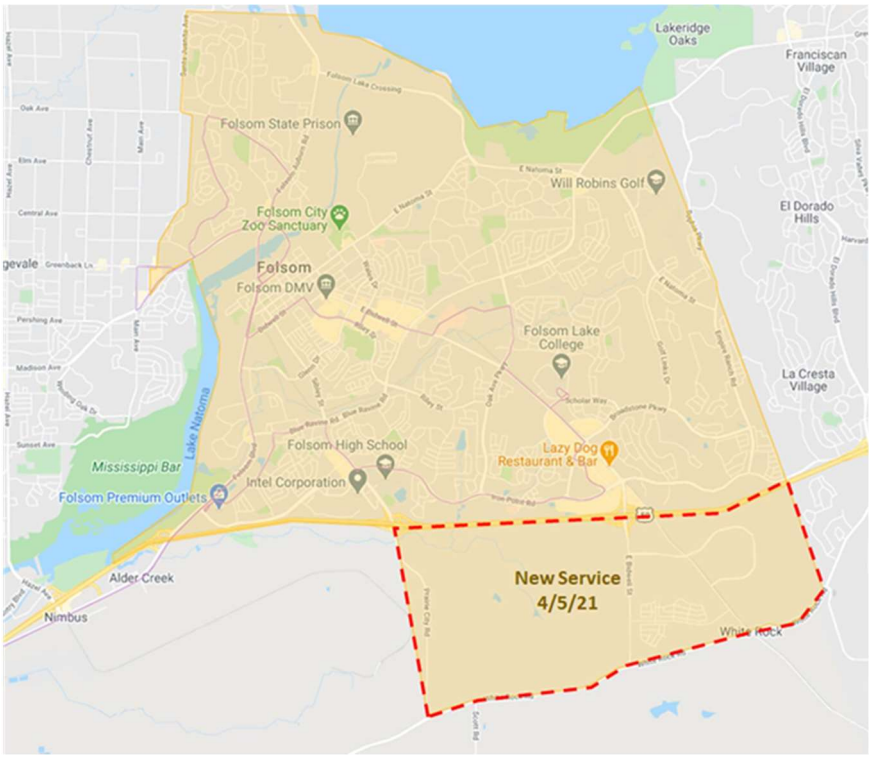


TABLE 3: EXISTING TRANSPORTATION NETWORK

ROADWAY	2035 CLASSIFICATION [a]	NO. OF LANES	POSTED SPEED	SIDEWALKS	BIKE LANES	ON-STREET PARKING
EAST BIDWELL STREET	Major Arterial	2 to 6	45	Partial	Partial	No
PLACERVILLE ROAD	Major Collector Major Arterial	2	35	Partial	Partial	No
US 50	Freeway	6 to 7	65	No	No	No
ALDER CREEK PARKWAY	Major Arterial Major Collector	2	45	No	Yes	No
ROWBERRY ROAD (FUTURE)	Major Arterial	-	-	-	-	-
1ST STREET (FUTURE)	Major Collector	-	-	-	-	-
3RD STREET (FUTURE)	Minor Collector	-	-	-	-	-
MCCARTHY WAY (FUTURE)	Local	-	-	-	-	-
WESTWOOD DRIVE (FUTURE)	Major Collector	-	-	-	-	-
OLD RANCH ROAD (FUTURE)	Minor Collector	-	-	-	-	-
SAVANNAH PARKWAY (FUTURE)	Major Collector	-	-	-	-	-
MANGINI PARKWAY	Major Collector	2	40	Yes	Yes	No
REGENCY PARKWAY (FUTURE)	Minor Collector	-	-	-	-	-
WHITE ROCK ROAD	Expressway	2	55	No	No	No

[a] Folsom General Plan Update, Figure M-1: Folsom 2035 Circulation Diagram

EXISTING AND PLANNED TRAFFIC CONTROL

East Bidwell Street & Placerville Road

This intersection is partially signalized. The northbound approach on East Bidwell Street, westbound approach on Placerville Road, and southbound left turn from East Bidwell Street are all signal controlled while the remaining southbound through and right turn movements are free (uncontrolled). The westbound approach is right turn only and has a protected overlap phase with the southbound left turn phase. Right turns are allowed on red.

The southbound right turn movement onto the US 50 WB On-Ramp has 2 lanes, 1 for general traffic and 1 for High Occupancy Vehicles (2 or more occupants).

Bike lanes exist on the northbound and westbound approaches, and sidewalks exist on all approaches. Note that there are no crosswalks crossing East Bidwell Street at this intersection.

East Bidwell Street & US 50 WB Ramps

This intersection is signalized. The northbound right turn movement from East Bidwell Street onto the US 50 WB On-Ramp is uncontrolled (free) and has 2 lanes, 1 for general traffic and 1 for High Occupancy Vehicles (2 or more occupants).

No bicycle lanes exist at this intersection. Sidewalks exist on East Bidwell Street.

East Bidwell Street & US 50 EB Ramps

This intersection is signalized. The southbound right turn movement from East Bidwell Street onto the US 50 EB On-Ramp is uncontrolled (free) and has 2 lanes, 1 for general traffic and 1 for High Occupancy Vehicles (2 or more occupants). Just south of the intersection, the SB direction of East Bidwell Street merges from 2 lanes down to 1 lane.

No bicycle lanes exist at this intersection. Sidewalks exist on East Bidwell Street.

Placerville Road & Westwood Drive

This future intersection will be two-way stop-controlled with stop control on Westwood Drive. Westwood Drive has not yet been constructed but will be a local street at this intersection and will have 2 vehicular travel lanes, bike lanes, and sidewalks.

Rowberry Way & Alder Creek Parkway

This future intersection will be signal controlled. Rowberry Road will be extended over US 50 from Iron Point Road, with an overcrossing to connect with the future Alder Creek Parkway segment. Rowberry Road will be a minor arterial with 4 vehicle lanes, bike lanes, and sidewalks. Alder Creek Parkway will be an open space arterial at this intersection with 4 lanes, bike lanes, sidewalks, a bike path, and a 36-foot wide median.

1st Street & Alder Creek Parkway

This future intersection will be signal controlled. 1st Street will be classified as a collector and will have 2 vehicle travel lanes, bike lanes, sidewalks, and a 12-foot median. Alder Creek Parkway will be an urban arterial with 4 travel lanes, bike lanes, wide sidewalks, and a 36-foot wide median.

3rd Street & Alder Creek Parkway

This future intersection will be two-way stop-controlled, with stop control on 3rd Street. 3rd Street will be classified as an urban street with 2 travel lanes, angle parking, and sidewalks. Alder Creek Parkway will be an urban arterial at this intersection with 4 travel lanes, bike lanes, wide sidewalks, and a 36-foot wide median.

East Bidwell Street & Alder Creek Parkway

This intersection is currently all-way stop-controlled. The eastbound approach has not yet been constructed. Bike lanes exist on Adler Creek Parkway but no sidewalks. The intersection will be signalized; the signal is currently in the design phase and the signal will be operational by 2022.

McCarthy Way & Alder Creek Parkway

The results of this analysis will determine the final design of this intersection. See the future analysis sections for further information.

Westwood Drive & Alder Creek Parkway

This future intersection will be signalized. McCarthy Way will be a collector with transit on the south leg and an arterial on the north leg, with 2 vehicle travel lanes, bike lanes, sidewalks, and a 38-foot median. Alder Creek Parkway will be an urban arterial at this intersection with 4 travel lanes, bike lanes, wide sidewalks, and a 36-foot wide median.

Placerville Road & Alder Creek Parkway

This intersection is currently all-way stop-controlled. Bike lanes exist on Adler Creek Parkway but no sidewalks. A railroad runs parallel to Placerville Road along its eastern side, and an at-grade crossing exists on the westbound approach of Alder Creek Parkway less than 100 feet from this intersection. Alder Creek Parkway will be a two-lane urban collector with bike lanes, sidewalks, and a 16-foot median.

East Bidwell Street & Old Ranch Road

This future intersection will be two-way stop-controlled with stop signs on Old Ranch Road. East Bidwell Street will be a four-lane minor arterial at this intersection with bike lanes, sidewalks, and a 38-foot median. Old Ranch Road will be an urban street with two travel lanes, parallel parking on both sides, and sidewalks.

East Bidwell Street & Savannah Parkway

This future intersection will be signalized. East Bidwell Street will be a four-lane minor arterial at this intersection with bike lanes, sidewalks, and a 38-foot median. Savannah Parkway will be a two-lane urban collector with bike lanes, parallel parking on both sides, sidewalks, and a 16-foot median.

Westwood Drive & Savannah Parkway

This future intersection will be signalized. Savannah Parkway will be a two-lane urban collector with bike lanes, parallel parking on both sides, sidewalks, and a 16-foot median. Westwood Drive will be a collector street with two travel lanes, bike lanes, sidewalks, and a 12-foot median.

East Bidwell Street & Mangini Parkway

This intersection is currently signalized with three approaches. The eastbound approach of Mangini Parkway has not yet been constructed.

In the future East Bidwell Street will be a four-lane minor arterial at this intersection with bike lanes, sidewalks, and a 38-foot median. Mangini Way will be a two-lane collector with bike lanes, sidewalks, and a 16-foot median.

East Bidwell Street & Regency Parkway

This future intersection will be two-way stop-controlled with stop signs on Regency Parkway. East Bidwell Street will be a four-lane minor arterial at this intersection with bike lanes, sidewalks, and a 38-foot median.

East Bidwell Street & White Rock Rd

This intersection is all-way stop-controlled and has three legs. There are no sidewalks, and the northbound shoulder of East Bidwell Street is marked as a bike lane. There is a driveway aligned as the south leg, but it leads to a pull-off area adjacent to an agricultural area.

In the future, this intersection will be signalized and act as a connection to the Capital Southeast Connector (CSEC), replacing White Rock Road. East Bidwell Street will be a four-lane minor arterial at this intersection with bike lanes, sidewalks, and a 38-foot median. The CSEC will be a four-lane expressway with a separated bike path on one side.

Placerville Road & White Rock Road

This intersection has stop control for the southbound approach of Placerville Road, yield control for the northbound approach of Placerville Road, and both approaches on White Rock Road are uncontrolled. The southern leg of Placerville Road has no centerline and the roadway width is approximately 17 ft to each edge of pavement. On the eastern leg, an at-grade railroad crossing exists directly adjacent to the intersection.

In the future this intersection will act as a connection to the Capital Southeast Connector (CSEC), replacing White Rock Road, and Placerville Road will no longer provide a direct connection to Alder Creek Parkway. The current alignment of Placerville Road at this intersection will be connected instead to Savannah Parkway. The intersection is planned to be moved west along the current White

Rock Road by realigning the existing north leg and removing the south leg of Placerville Road. The CSEC will be a four-lane expressway with a separated bike path on one side. Savannah Parkway will be a collector on the north leg and the south leg will be removed.

EXISTING TRAFFIC VOLUMES

Due to the government mandated shutdowns in response to the COVID-19 pandemic, normal traffic patterns have been interrupted indefinitely. To circumvent this issue, traffic counts from ongoing City data collection and recent previous studies were inventoried. Traffic counts from the City Video Detection System were provided for the intersection of East Bidwell Street and Placerville Road for Tuesday, December 10, 2019. Traffic Counts for the remaining existing study intersections south of Placerville Road to White Rock Road were collected April 23, 2019 as part of the Regency at Folsom Ranch TIS.

The existing lane configuration is shown in **Figure 8** and AM and PM peak hour volumes are shown in **Figure 10**.

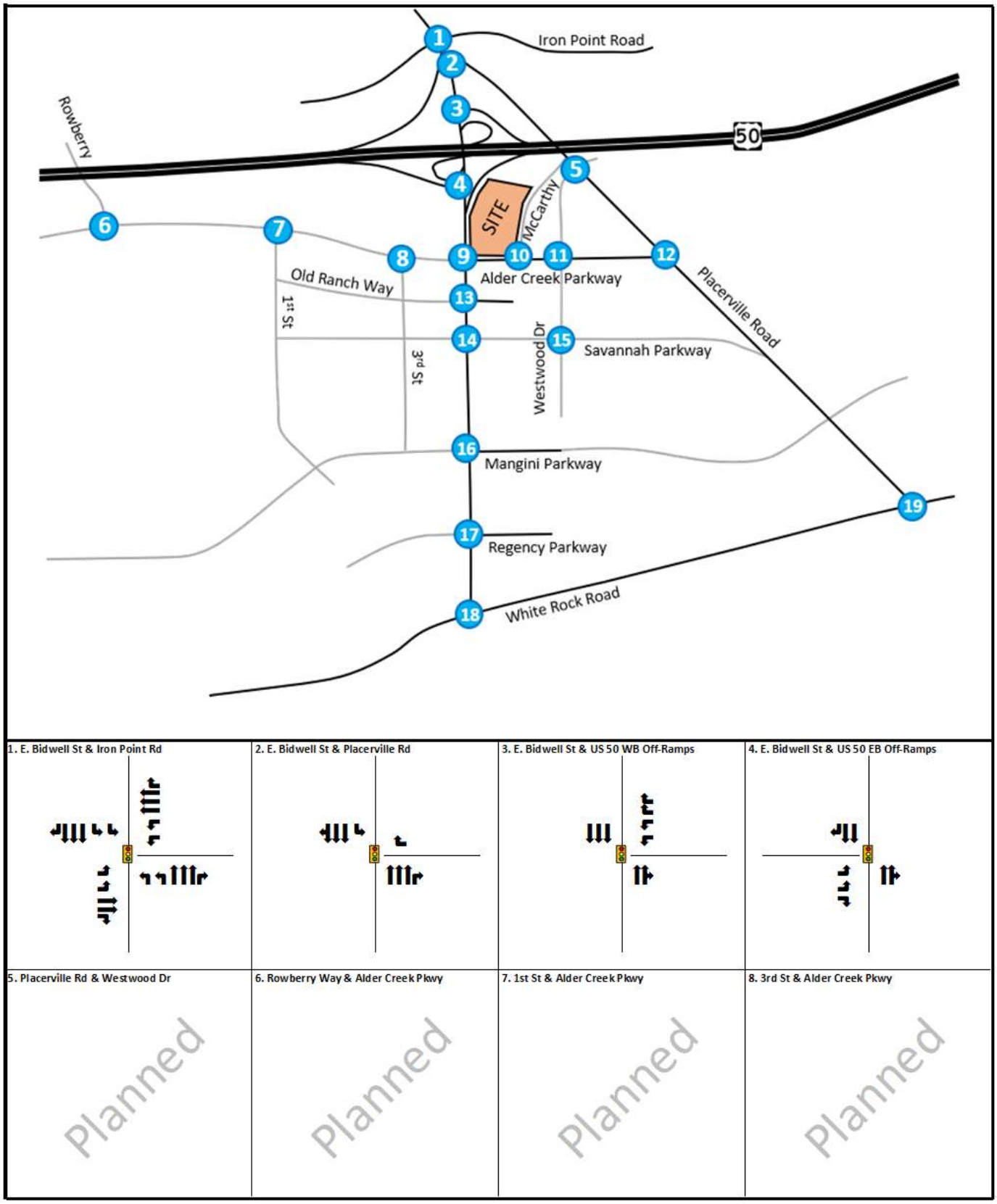


FIGURE 8: EXISTING LANE CONFIGURATION (1 OF 2)

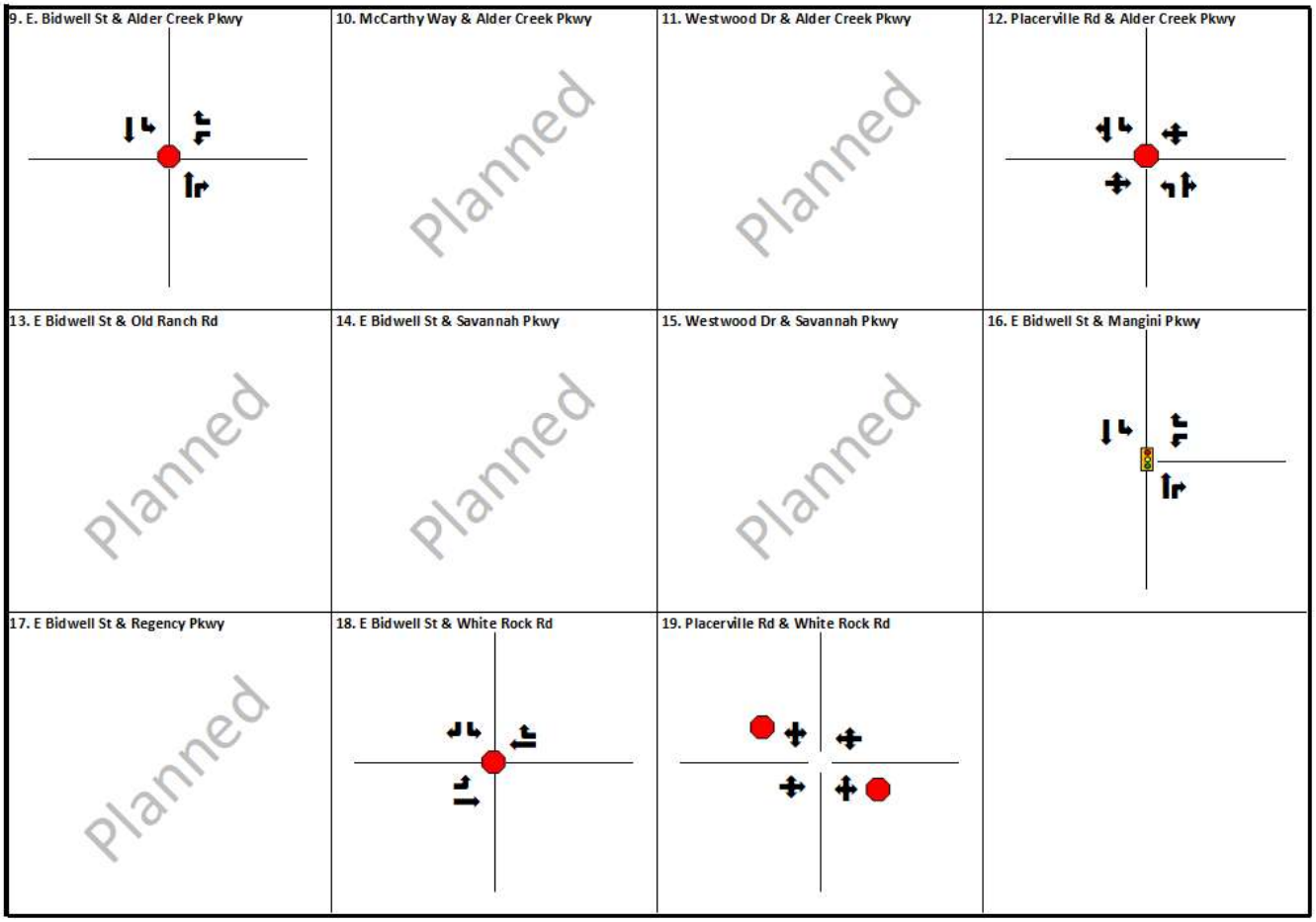


FIGURE 9: EXISTING LANE CONFIGURATION (2 OF 2)

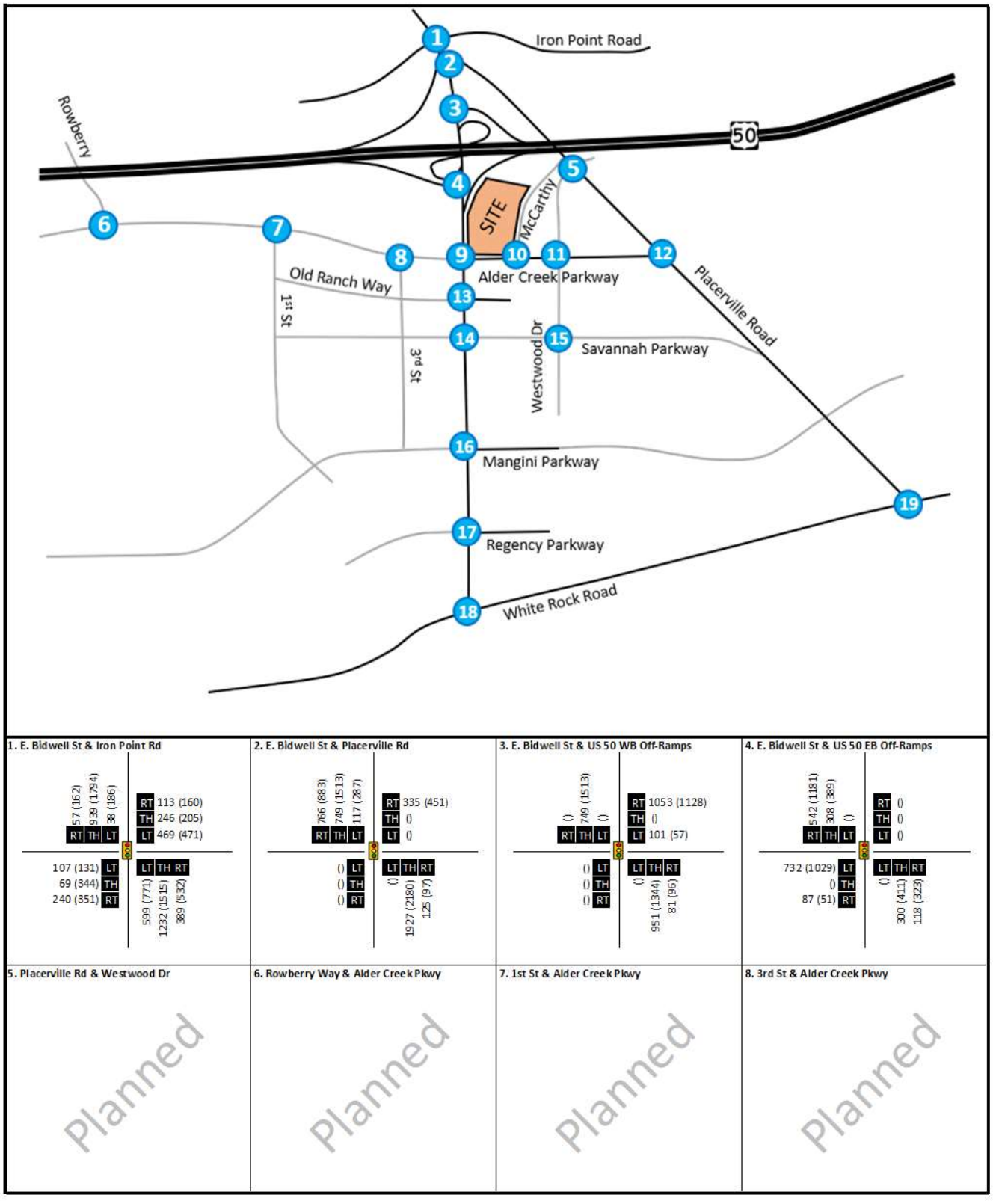


FIGURE 10: EXISTING VOLUMES (1 OF 2)

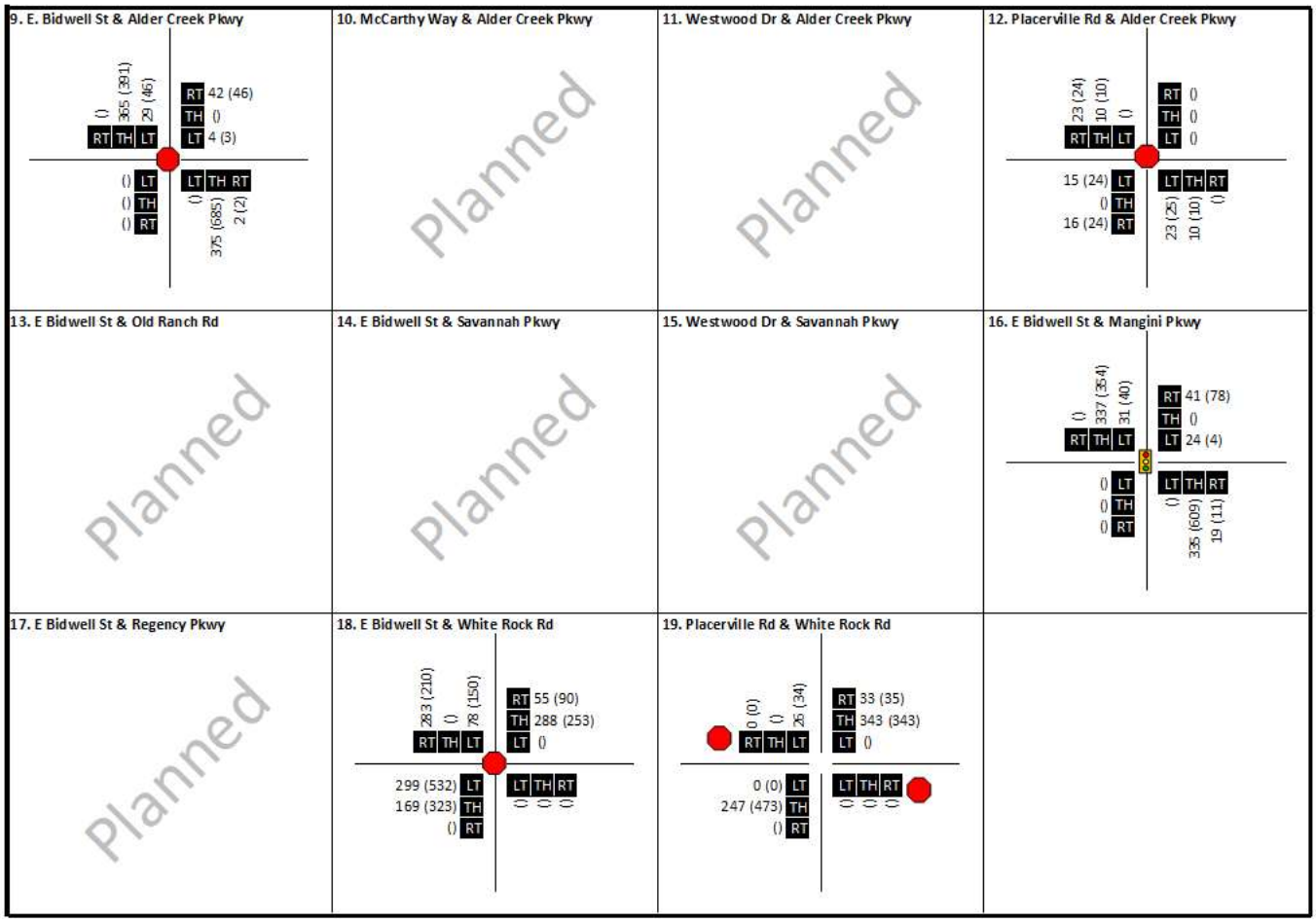


FIGURE 11: EXISTING VOLUMES (2 OF 2)

EXISTING PLUS APPROVED PROJECTS TRAFFIC VOLUMES

The existing plus approved projects (EPAP) scenario and EPAP with project scenario analyze conditions with the addition of traffic from approved and reasonably foreseeable projects that affect study intersections and segments. This scenario is intended to reflect anticipated traffic for 2024, established by the City as the EPAP scenario year.

ABSORPTION OF APPROVED AND ANTICIPATED FPASP PROJECTS

There are 20 approved development projects that will be assumed to be built near the study area. These projects include multiple phases, which are counted as separate projects in **Table 4**.

TABLE 4: ASSUMED PROJECTS

Projects Assumed to Contribute EPAP Traffic to Study Intersections and Segments (EPAP)				
Project Name	**Location**	**Approved Land Use**	**Assumed Absorption**	**Assumed Land Use for EPAP**
Russel Ranch (Phase 1) Subdivision	Folsom Plan Area	394 DU	70%	275 DU
Russel Ranch (Phases 2 & 3) Subdivision	Folsom Plan Area	681 DU	30%	170 DU
Broadstone Estates Subdivision	Folsom Plan Area	81 DU	50%	40 DU
Mangini Ranch Phase 1 Subdivision	Folsom Plan Area	833 DU	100%	667 DU
Mangini Ranch Apartments (MR-1)	Folsom Plan Area	278 DU	100%	278 DU
Mangini Ranch Bungalows (MR-1)	Folsom Plan Area	160 DU	100%	160 DU
Mangini Place Apartments (MR-1)	Folsom Plan Area	152 DU	100%	152 DU
Mangini Ranch Phase 2 Subdivision	Folsom Plan Area	545 DU	70%	327 DU
Alder Creek Apartments (MR-2)	Folsom Plan Area	265 DU	100%	265 DU
Mangini Ranch Phase 1C Subdivision (MR-1)	Folsom Plan Area	100 DU	100%	100 DU
Mangini Ranch Phase 1C North Subdivision (MR-1)	Folsom Plan Area	76 DU	100%	76 DU
Folsom Heights Subdivision	Folsom Plan Area	401 DU	40%	160 DU
White Rock Springs/Carr Trust Subdivision	Folsom Plan Area	423 DU	75%	253 DU
The Enclave Subdivision	Folsom Plan Area	111 DU	100%	111 DU
Shops at Folsom Ranch	Folsom Plan Area	27,900 SF	100%	27,900 SF
Toll Brothers at Folsom Ranch Phase 1 Subdivision	Folsom Plan Area	804 DU	30%	201 DU
Toll Brothers at Folsom Ranch Phase 2 Subdivision	Folsom Plan Area	329 DU	15%	82 DU
Town Center South Subdivision	Folsom Plan Area	260 DU	50%	130 DU
Scholar Way Apartments (North of Highway)	Scholar Way	110 DU	100%	110 DU
Avenida Senior Apartments (North of Highway)	Serpa Way	154 DU	100%	154 DU
TOTAL		**6,157 DU**		**3,111 DU**

CHANGE TO INFRASTRUCTURE AND CONTROL

For the EPAP scenario, additional roadways are assumed to be built by new developments that will rely on new access. Most development in the next 5 years is expected to occur near Mangini Parkway, Regency Parkway, and south of Alder Creek Parkway. New roadways are assumed to be built include the Westwood Drive signalized connection at Alder Creek Parkway, the eastern leg of Old Ranch Road at East Bidwell Street, the eastern leg of Savannah Parkway at East Bidwell Street, the western leg of Mangini Parkway at East Bidwell Street, and both legs of Regency Parkway at East Bidwell Street. New intersections along East Bidwell Street are assumed to be TWSC under this EPAP condition. All other intersections are assumed to maintain the existing lane configuration and signal control.

The EPAP lane configuration is shown in **Figure 12** and AM and PM peak hour counts are shown in **Figure 14** and the appendix.

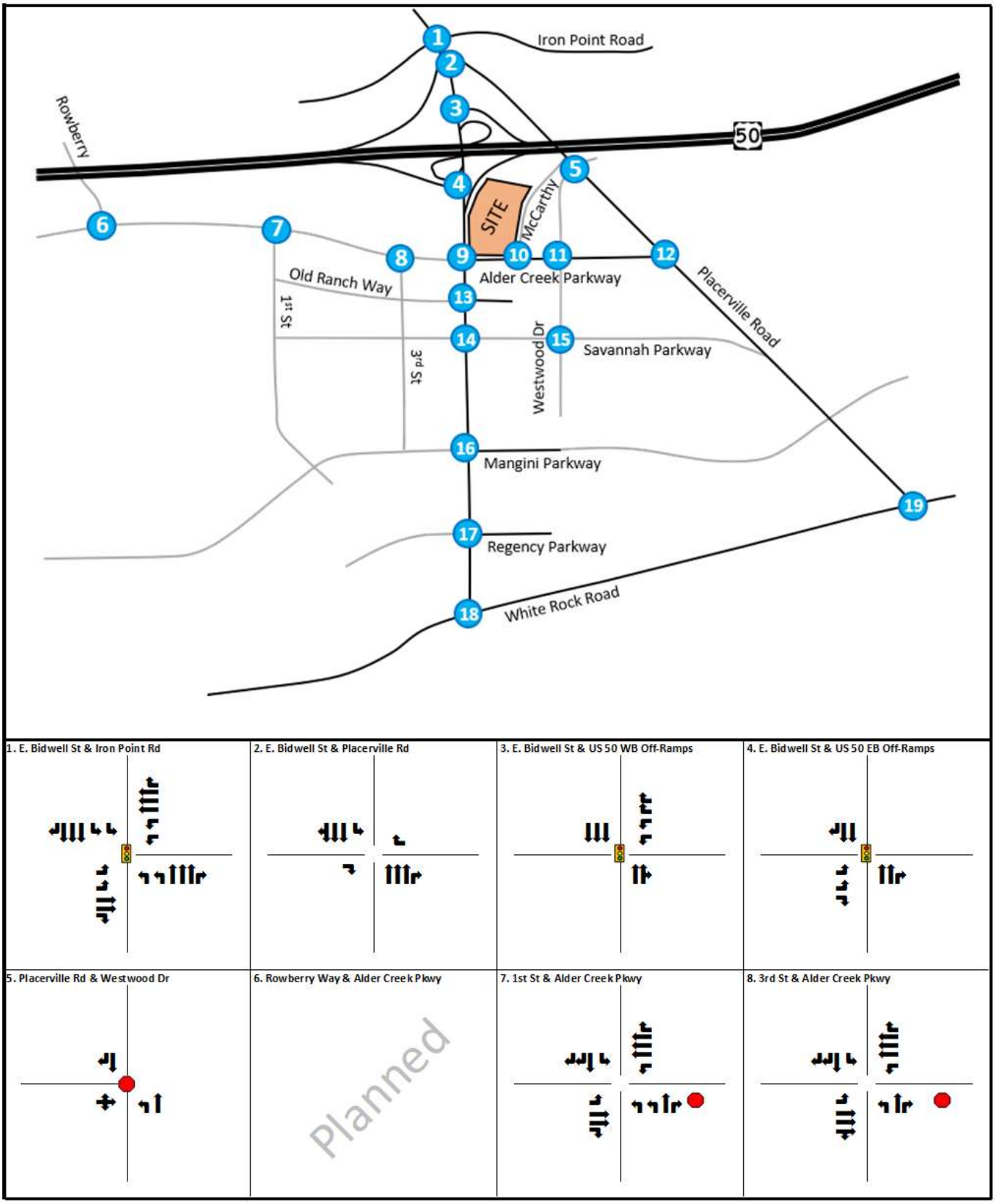


FIGURE 12: EPAP (2024) LANE CONFIGURATION (1 OF 2)

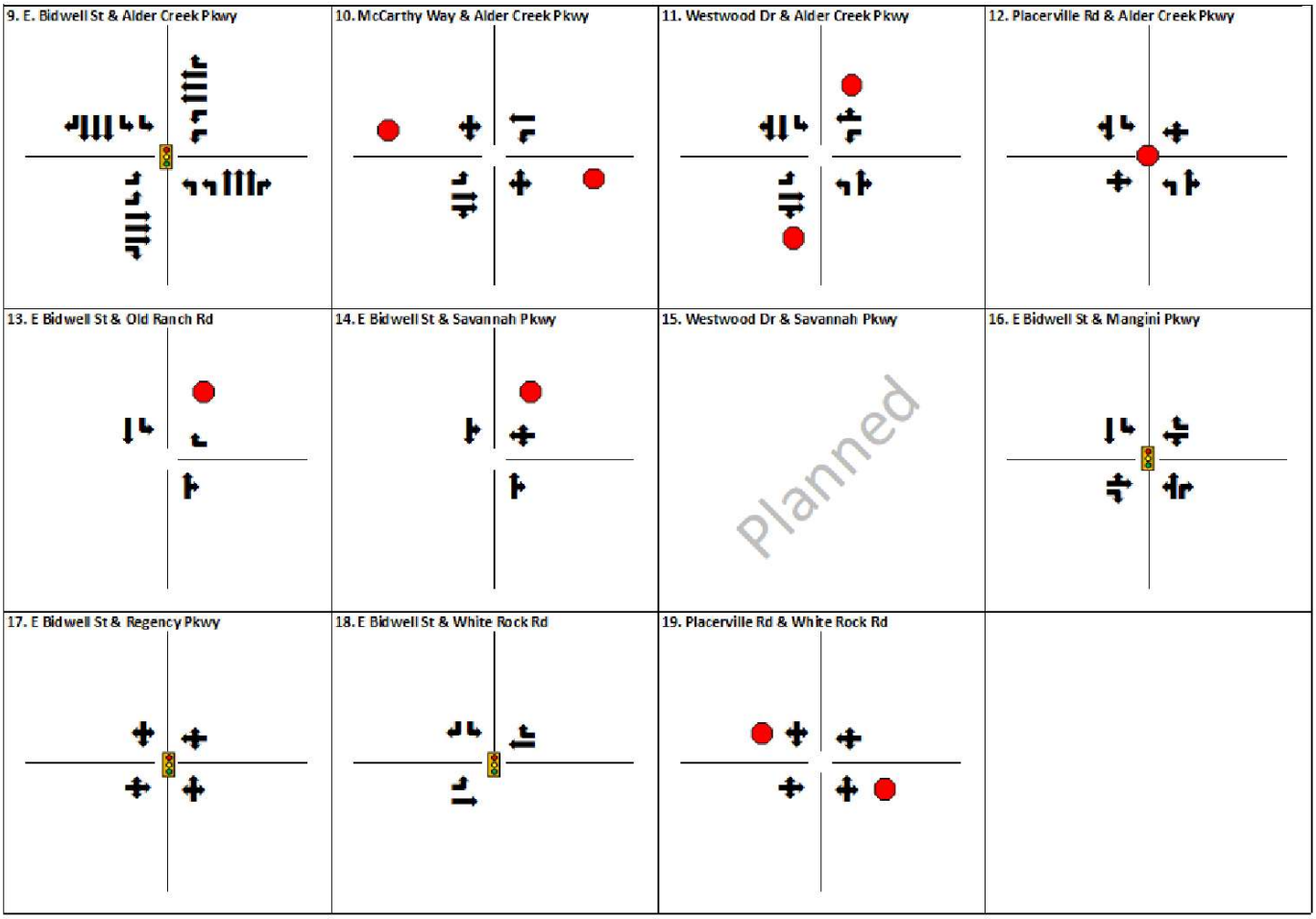


FIGURE 13: EPAP (2024) LANE CONFIGURATION (2 OF 2)

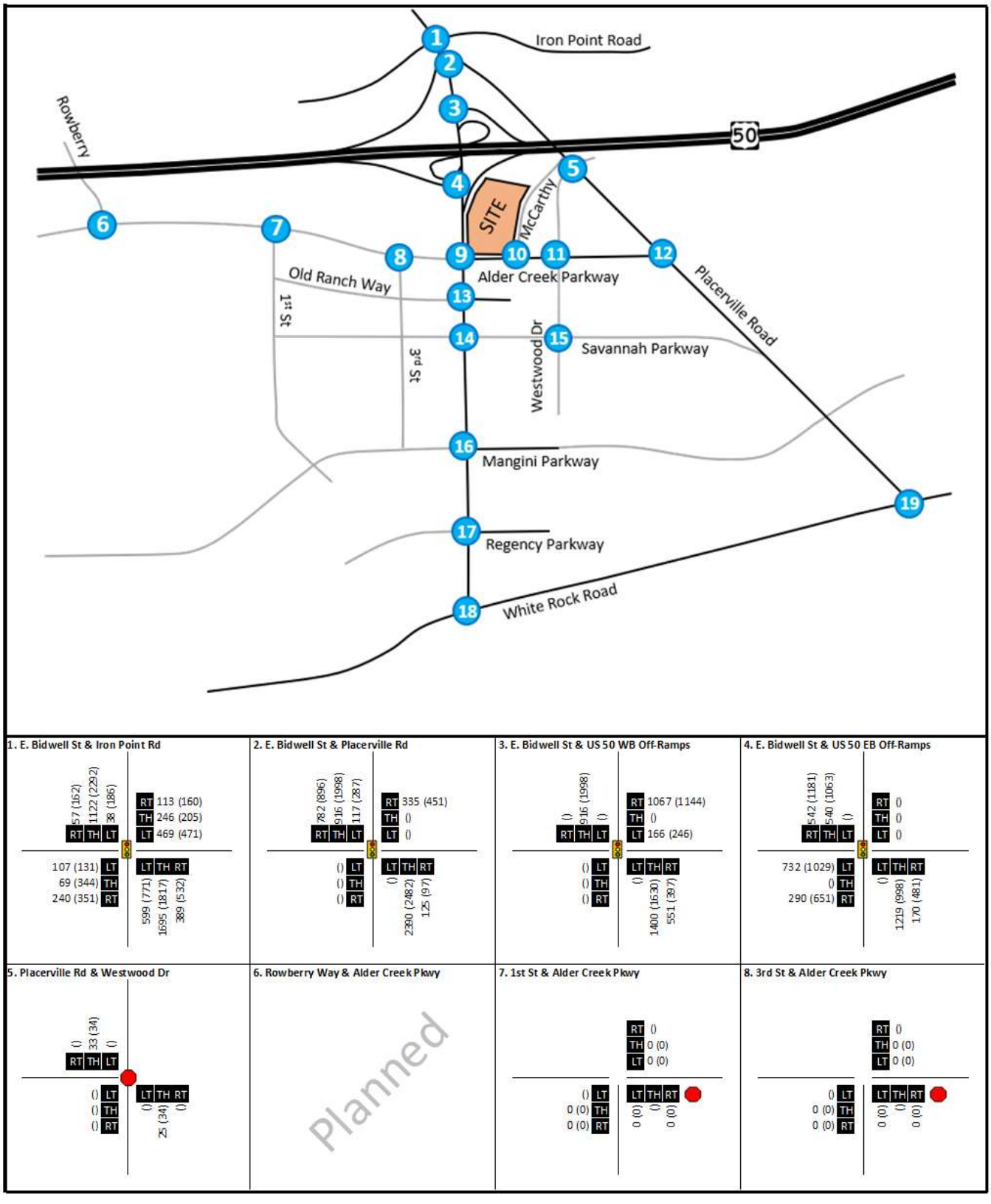


FIGURE 14: EPAP (2024) VOLUMES (1 OF 2)

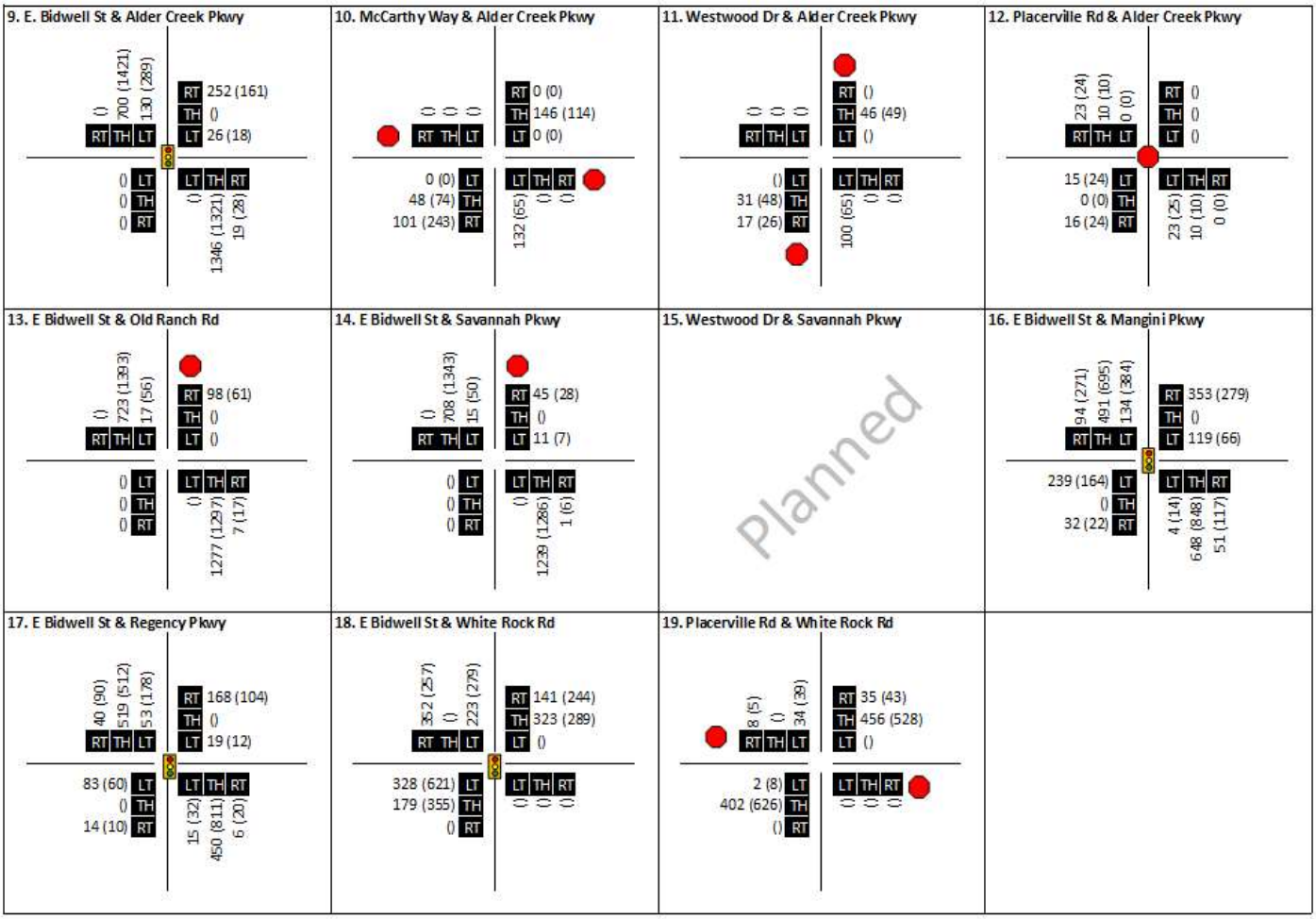


FIGURE 15: EPAP (2024) VOLUMES (2 OF 2)

ANALYSIS METHODOLOGY

This section describes both the CEQA specific VMT analysis methodology and the General Plan consistency assessment methodology for determining operations.

VMT METHODOLOGY (CEQA ANALYSIS)

In accordance with Senate Bill 743 (SB 743) and the resulting changes to the California Environmental Quality Act (CEQA) Guidelines published by the Natural Resources Agency, local agencies may no longer use measures of vehicle delay such as Level of Service (LOS) to quantify transportation impacts on the environment. VMT is a systemic metric and is a useful indicator of overall land use and transportation efficiency, where the most efficient system is one that minimizes VMT by encouraging shorter vehicle trip lengths, more walking and biking, or increased carpooling and transit. While the City of Folsom continues to maintain LOS standards as a matter of local General Plan policy for project analysis, vehicle miles traveled (VMT) has been codified in the CEQA Guidelines as the most appropriate measure for measuring transportation impacts under CEQA. This change went to effect statewide on July 1, 2020.

Given that the Dignity Health Campus land use was assumed as part of the FPASP (Amended March 13, 2018) which includes a CEQA certified EIR, a supplemental VMT analysis pursuant to SB 743 is not required for the proposed Dignity Health project. However, despite the environmental coverage provided by the FPAP EIR, it was the City of Folsom's preference to perform an SB 743 compliant VMT analysis for this specific use / project.

The change from LOS to VMT for CEQA purposes establishes the need for the City of Folsom to adopt VMT thresholds and to revise its CEQA process and guidelines, which now must address VMT thresholds of significance, screening, and mitigation procedures. At this time, the City of Folsom has not formally adopted its VMT thresholds or screening parameters. In lieu of locally adopted VMT thresholds or screening criteria, this analysis draws heavily on technical guidance published by the Governor's Office of Planning and Research (OPR). The proposed methodology for evaluating VMT and completing an SB 743 compliant analysis of the proposed Dignity Health Campus in the City of Folsom is described below.

VMT SCREENING CRITERIA

Pursuant to SB 743 and technical guidance published by OPR, there are several screening procedures to potentially streamline project analysis (i.e., provide a presumptive non-impact finding and obviate the need for a VMT analysis). The various screening options are listed below with a brief determination of whether a given screen is triggered by the proposed project.

- Project Size: projects that generate fewer than 110 trips per day can be presumed to have a less than significant transportation impact. **Based on the trip generation data presented in Table 2, the proposed Dignity Health Campus does not trigger this screen.**
- Proximity to High Quality Transit: residential or office projects within one-half mile of an existing major transit station or stop along an existing high-quality transit corridor can be

presumed to have a less than significant transportation impact. Although the City of Folsom has long-range plans to implement Bus Rapid Transit (BRT) line along Alder Creek Parkway including a BRT stop at Alder Creek Parkway and McCarthy Way, there is currently no funding identified to implement this service. Nonetheless, the proposed Dignity Health Campus access and site plans were developed to accommodate and facilitate this eventual service. The planned BRT line would meet the criteria of high-quality transit and with the adjacent location of the proposed Dignity Health Campus being well within a ½ mile buffer – if provided this service would result in a presumed less than significant transportation impact for the proposed project. **However, given that the planned BRT improvement is currently not programmed, the proposed Dignity Health Campus does not trigger this screen.**

- Affordable Housing Development: **The proposed project does not include the provision of housing, the proposed Dignity Health Campus does not trigger this screen.**

- Locally Serving Retail: typically less than 50,000 square feet. **Based on the project size information presented in Table 2, the proposed project exceeds the 50,000 square foot locally serving criteria. The proposed Dignity Health Campus does not trigger this screen.**

- Infrastructure: projects that would not likely lead to a substantial or measurable increase in vehicle travel are presumed to be VMT neutral and generally presumed to have a less than significant transportation impact (i.e., induced VMT). These include: Roadway Maintenance and Rehab Projects; Signal Timing / Synchronization / Adaptive Signal Control /Signal Preemption Improvements; Intersection Control Type and Turn Lane Channelization Improvements; Widening for Local or Local Collector Streets; and, Transit / Bicycle / Pedestrian Infrastructure Improvements. As will be described later in this report, there are a number of infrastructure improvements being considered as part of the proposed Dignity Health Campus project description. Below is a brief description of the various alternatives.

    - Project Description (Signal): signalization at Alder Creek Parkway/McCarthy Way with coordination to the Alder Creek Parkway/East Bidwell Street (Interconnect already planned for this corridor as a transit corridor); removal of concrete median through intersection and second eastbound left turn lane; pedestrian crossings at all except for western leg.

    - Project Access Alternative (Roundabout): full access mixed-lane roundabout at Alder Creek Parkway/McCarthy Way; removal of concrete median through intersection; pedestrian crossings with pedestrian refuges at all approaches.

    - Project Access Alternative (Stop Control with No EB/WB Left-Turn access at Alder Creek Parkway/McCarthy Way): installation of full concrete median through intersection and rerouting of access trips to Westwood Drive; addition of second eastbound left turn lane at Alder Creek Parkway / Westwood Drive; pedestrian crossing with PPB and pedestrian signal across Alder Creek Parkway.

All potential infrastructure design elements for the proposed Dignity Health Campus are considered VMT neutral pursuant to OPR guidance. **Based on these proposed Dignity Health Campus infrastructure alternatives, the infrastructure screening criteria is triggered** and therefore these improvements themselves do not trigger the need for a "induced" VMT analysis (i.e., net VMT change).

VMT ANALYSIS

Based on the screening assessment and the proposed Dignity Health Campus project description, there are two operative VMT metrics that require analysis: Office/Medical (VMT/employee) and Hospital services (net VMT change). In terms of the latter analysis, it is recommended that medical projects be analyzed in terms of net VMT impacts in a manner similar to retail projects. As with retail, providing additional opportunities for healthcare may reduce the lengths of trips made for this purpose. By this line of reasoning, most freestanding clinics, medical practices, and nursing homes could be assumed less than significant with respect to VMT impacts. However, larger or regional-serving facilities, such as the proposed Dignity Health Campus/Hospital, would need to consider employee and patient/visitor VMT separately.

It is recommended that the proposed project's office component is analyzed according to the primary proposed land use type, as follows:

Work VMT – Establish baseline VMT and threshold on a per employee basis. "Work" uses include, but are not limited to office employment and medical/support service staff employment,

The proposed thresholds are 85 percent of the existing baseline regional VMT per land use unit, as calculated within the SACOG region (office, commercial, manufacturing, industrial). These recommendations are consistent with OPR guidance.

Hospital VMT – Measure net VMT and determine threshold based on ***net VMT change*** (i.e., project will result in less VMT than the Land Use identified in the FPASP for the lot) "Hospital" uses include but are not limited to all in- and out-patient care, medical and support personnel/staff, on-site services such as cafeteria and miscellaneous retail.

These analyses will be modeled independently of one another and are described below.

TRAVEL DEMAND MODEL

A CEQA VMT analysis was based on the latest SACOG SACSIM-19 activity-based travel demand model (ABM) including scripts prepared by SACOG for this very analysis purpose. The analysis is tour-based, meaning that the analysis fully accounts for trips that are linked to trips that start or end at the project. This clarification means that intermediate trips, such as those occurring after someone has left the project area, such as a trip to pick-up lunch while at work, are accounted for in this analysis.

Based on the latest SACOG model scripts, SACSIM-19 also reflects the entire trip length, including the portion of the trip that occurs outside the SACOG region. External-internal and internal-external VMT is calculated via a script file provided by SACOG and included in their model for VMT post-processing. The post-processor determines the project added VMT that occurs outside the SACOG

region (i.e., for trips that either start or end outside of the region). This interregional VMT is then added to the internal-internal VMT to determine the total VMT. Consistent with OPR guidelines only automobile trips are considered as a part of this analysis. Heavy-duty truck and delivery vehicle VMT as well as alternative mode VMT (transit vehicles) are not reflected.

BASELINE AVERAGE AND SELECTED THRESHOLD

The SACOG SACSIM-19 2016 baseline model must first be applied to establish the regional average VMT per capita and regional VMT per employee. This is a requisite step given OPR's guidance to establish CEQA thresholds at 15 percent below the regional average for home-based and employee-based land uses. Regionwide VMT is divided by the number of residents (for residential uses) or employees (for non-residential uses) to quantify these regional metrics. The project specific VMT per employee metric is then compared to the regional VMT threshold (15-percent below the regional average) to determine whether the project results in a significant impact.

OFFICE/MEDICAL USES (VMT PER EMPLOYEE METRIC)

For work-based land uses of the proposed project, the SACSIM-19 was used with the SACOG script per guidance from the Office of Planning and Research (OPR). A regional baseline (2016) average VMT per employee metric was used to establish the threshold set at 85% of the regional average.

Given that the existing site and surrounding area is currently vacant, the proposed project was added to the 2040 SACSIM-19 land use for the future model run. The 2040 SACSIM-19 model includes approximately 60% of the anticipated growth in the project area. A Traffic Analysis Zone (TAZ 542) representing the project area with no other land use was used to isolate the proposed project from all surrounding land uses. The projected number of Dignity Health Campus employees were added to the project's TAZ to represent the project. The project VMT per employee result is then compared to 85% of the 2016 regional average VMT per employee result.

HOSPITAL USE – PATIENT CARE AND VISITATION (NET VMT CHANGE)

To address the day-to-day patient and visitor VMT associated with the hospital a net-change threshold is recommended consistent with OPR's guidance for retail uses. The impact of Dignity Health on access trip length to health care facilities for the Sacramento region was evaluated using a closest facility assignment analysis in ArcGIS Pro. This analysis was performed by importing the SACSIM-19 road network, the TAZ centroid layer, the population attribute, and a health care facility location layer. The heath care facilities layer is a simple subset of the TAZ centroid layer with only the health care facilities retained.

The ArcGIS network analysis executes the shortest path assignment of the regional population to the nearest hospital across the region. The analysis was run with and without the proposed Dignity Health Campus with total VMT being recorded respectively and the two VMT totals compared. This analysis accounts for specific "costs" of different functional classifications in the network, such as the speed limit. For this study it was assumed people will access the closest health care facility by distance, regardless of other factors, so road characteristics, other than length, were controlled for.

Given that VMT is not a good indicator of congestion nor is it useful for identifying hot-spot locations or infrastructure deficiencies, the City of Folsom maintains level of service (LOS) and operational determinations as part of its General Plan policies and requires a local traffic analysis to be performed outside of CEQA. The local traffic analysis is based on traffic operations that were analyzed using Synchro 10 software to determine the intersection operations (i.e., delay and queue lengths) based on the Highway Capacity Manual (HCM) 2000 methodology. HCM 2000 methodology was used based upon lane configurations at several key intersections which are not supported in HCM 6th Edition, including non-NEMA phasing, exclusive plus shared turn lanes (through/left combined with exclusive left), and U-turn movements. Freeway study segments were evaluated using Highway Capacity Software 7 software which also implements the HCM 6th Edition methodology.

TRAVEL FORECASTS

Existing Plus Planned and Approved Project (EPAP) Condition volumes were developed as existing volumes plus trip generation as a proportion of full buildout of all planned and approved project land use in the nearby vicinity. The list of included projects and the associated land use was provided by the City and is included in the Existing plus Approved Projects Traffic Volumes Section.

The Cumulative Forecast Condition volumes were developed based on the Regency at Folsom Ranch TIA (December 2019). This study assumed 2036 cumulative volumes through a comprehensive sub-TAZ trip generation and frataring exercise to generate turning movements at study area intersections. As part of that analysis, land use assumptions for TAZ 1803 were developed (representing the proposed land uses and adjacent parcels analyzed in this document). The trip generation associated with this parcel, summing to 512 trips during the AM peak and 598 trips in the PM peak, was subtracted from the Cumulative Condition volumes used in the Regency study to create a baseline (no project) Cumulative Condition for this study's trip generation. The associated volumes were subtracted proportionally from the movements approaching and departing the parcel along Alder Creek Road to create the Cumulative Peak Hour volumes for Alder Creek Parkway & East Bidwell Street.

LEVEL OF SERVICE ANALYSIS

The level of service (LOS) is an intersection performance measure commonly used to provide an overview of how each movement and the overall intersection is operating. The LOS provides a "report card" rating of letters A through F based on average vehicle delay through the intersection. LOS A indicates free flow conditions with minimal delay traveling through an intersection while LOS F indicates excessive vehicle delay and demand is greater than capacity. The intersection average delay and LOS is based on the movement with the highest delay for a two-way stop-controlled intersection. The Highway Capacity Manual has LOS criteria for unsignalized intersections and can be found below in **Table 5**.

TABLE 5: LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	UNSIGNALIZED INTERSECTION AVERAGE CONTROL DELAY[a] (SEC/VEH)	SIGNALIZED INTERSECTIONS AVERAGE CONTROL DELAY (SEC/VEH)	GENERAL DESCRIPTION
A	0-10	0-10	Free flow
B	10-15	10-20	Stable flow (slight delays)
C	15-25	20-35	Stable flow (acceptable delays)
D	25-35	35-55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	35-50	55-80	Unstable flow (intolerable delay)
F	50+	80+	Forced flow (congested and queues fail to clear)

Based on *Highway Capacity Manual 6th Edition*, Transportation Research Board, Washington D.C., 2019 Supplement

Notes:
[a] Average delay for minor-street stop-controlled intersections is evaluated for worst approach instead of averaged overall approaches

OPERATING CRITERIA

Operating conditions are determined based on a given facility's AM/PM peak hour LOS relative to the following City and State LOS thresholds.

City of Folsom

Policy M 4.13 of the City of Folsom General Plan (adopted August 28, 2018) calls for the City to:

> *Strive to achieve at least traffic Level of Service "D" (or better) for local streets and roadways throughout the city. In designing transportation improvements, the City will prioritize use of smart technologies and innovative solutions that maximize efficiencies and safety while minimizing the physical footprint. During the course of Plan buildout, it may occur that temporarily higher levels-of-service result where roadway improvements have not been adequately phased as development proceeds. However, this situation will be minimized based on annual traffic studies and monitoring programs. City Staff will report to the City Council at regular intervals via the Capital Improvement Program process for the Council to prioritize projects integral to achieving level-of-service D or better.*

Intersection Operations

The General Plan EIR also includes criteria for locations that operate at LOS E or F under no-project conditions. A deficient condition exists if the proposed project would:

> *Increase the average delay by five seconds or more at an intersection that currently operates (or is projected to operate) at an unacceptable level-of-service under "no-project" conditions.*

Based upon these policies, an operational deficiency would occur if Project-generated trips resulted in either:

- an intersection that currently or is forecasted to operate at LOS D or better to degrade to LOS E or worse;
- an increase in average delay of five-seconds or more in the operations of an intersection that currently or is forecasted to operate at LOS E or worse.

Freeway Facilities

State highway facilities are owned and operated by the State and are outside the City's jurisdiction. For these facilities, Caltrans guidelines are followed for determining operational deficiencies. Per the Caltrans' Guide for the Preparation of Traffic Impact Studies, Caltrans strives to maintain a target LOS at the transition between C and D. However, for the effected portion of US 50 within the study area, Caltrans has established a concept LOS E threshold[6]. For consistency with other operational studies performed in the City of Folsom, LOS E was selected as the minimum criteria for all study freeway facilities. This is consistent with methods used in the FPASP and W/E SPA analyses.

For purposes of this analysis, an operational deficiency on freeway facilities is identified if the project causes the facility to change from a LOS A-D to LOS E or worse. For facilities that are or will be operating at unacceptable LOS without the project, an impact is considered significant if:

- The existing LOS cannot be maintained with the addition of project traffic;
- The project traffic increases vehicle density on a freeway mainline segment or freeway ramp junction by 0.1 passenger cars per lane per mile;
- The project increases the number of peak-hour vehicles on a freeway mainline segment or freeway ramp junction by more than 1 percent.

Bicycle/Pedestrian/Transit Facilities

Operational issues associated with bicycle and pedestrian facilities caused by implementation of the Project are based on the following:

- Inhibit the use of bicycle, pedestrian, or transit facilities;
- Eliminate existing bicycle, pedestrian, or transit facilities;
- Prevent the implementation of planned bicycle, pedestrian, or transit facilities.

This method is consistent with methods used in the FPASP and W/E SPA analyses.

[6] Caltrans (2014) Transportation Concept Report and Corridor System Management Plan, United States Route 50, district 3, California Department of Transportation, June 27, 2014

DESIGN CRITERIA

City of Folsom Standard Construction Specifications Design Standards, Section 13: Traffic Impact Studies, 13.2 Traffic Study Format states that:

> *If a new traffic signal is being proposed which is not already a part of the City's Capital Improvements Program, and the signal installation would result in less than 1,320 feet between signals, then the study shall include a signal progression analysis. The section of roadway to be analyzed for signal progression shall be determined by the Public Works Department and will include all existing and possible future signalized intersections.*
>
> *The progression pattern calculations shall use a cycle consistent with current signal timing.*

CEQA VMT IMPACT ANALYSIS AND MITIGATION

Based on the VMT results presented in **Table 6**, the work-based land uses of the proposed project exceed 85% of the VMT per employee regional average (14.33 VMT per employee vs. 13.69 VMT per employee). In order to mitigate this impact to less than significant levels, the VMT per employee VMT result must be reduced by 4.7 percent. Adopted Mitigation Measure 3A.15-2c identified in the EIR/EIS would reduce impacts related to VMT though participation in the 50 Corridor Transportation Management Association. However, employee participation in this program is voluntary; and thus, the rate of employee participation and the associated VMT reduction attributed to implementation of this mitigation measure is not fully known at this time. Therefore, consistent with Mitigation Measure 3A.15-2c, the project would implement Mitigation Measure 4.17-1, listed below, which further refines Mitigation Measure 3A.15-2c of the EIR/EIS and requires the applicant to conduct surveys and ensure participation in the 50 Corridor Transportation Management Association such that the necessary reduction in VMT (i.e., 4.5 percent) is achieved. With implementation of these mitigation measures, VMT impacts associated with work-based land uses would be reduced to a less-than-significant level. In addition, the transportation study found that average trip length of day-to-day patient and visitor trips would be less (4.50 miles) with the project than without (4.53 miles). Therefore, impacts associated with patient and visitor VMT would be less than significant and no additional mitigation would be required.

Additionally, the project would be consistent with the commercial land use designation identified for the medical center site in the FPASP; and thus, would not substantially increase VMT as compared to that what is anticipated to occur under buildout of the FPASP EIR/EIS.

TABLE 6: VMT PER EMPLOYEE THRESHOLD ANALYSIS RESULTS

	Baseline 2016 VMT	Baseline 2016 Employment	Baseline VMT/Emp
Regional Totals	15,268,577	947,734	16.11
Project Totals: TAZ 542	33,889	2,365	14.33
	Baseline 2016	**Baseline (85%) 2016**	**2040 Plus Project**
VMT per Employee: Regional	16.11	13.69	n/a
VMT per Employee: TAZ 542	-	-	14.33

Based on the net VMT change metric for the hospital uses the ArcGIS network analysis shortest path assignment runs were executed twice. The first run, without Dignity Health, resulted in a population weighted average trip length of 4.53 miles. The second run, with Dignity Health approximately located south of US 50 and east of East Bidwell Street (see **Figure 16** for relation to other similar land use in the region), resulted in a population weighted average trip length of 4.50. Based on these results, there is less than significant transportation impact related to the proposed Dignity Health Campus hospital operations (visitor and patient travel).

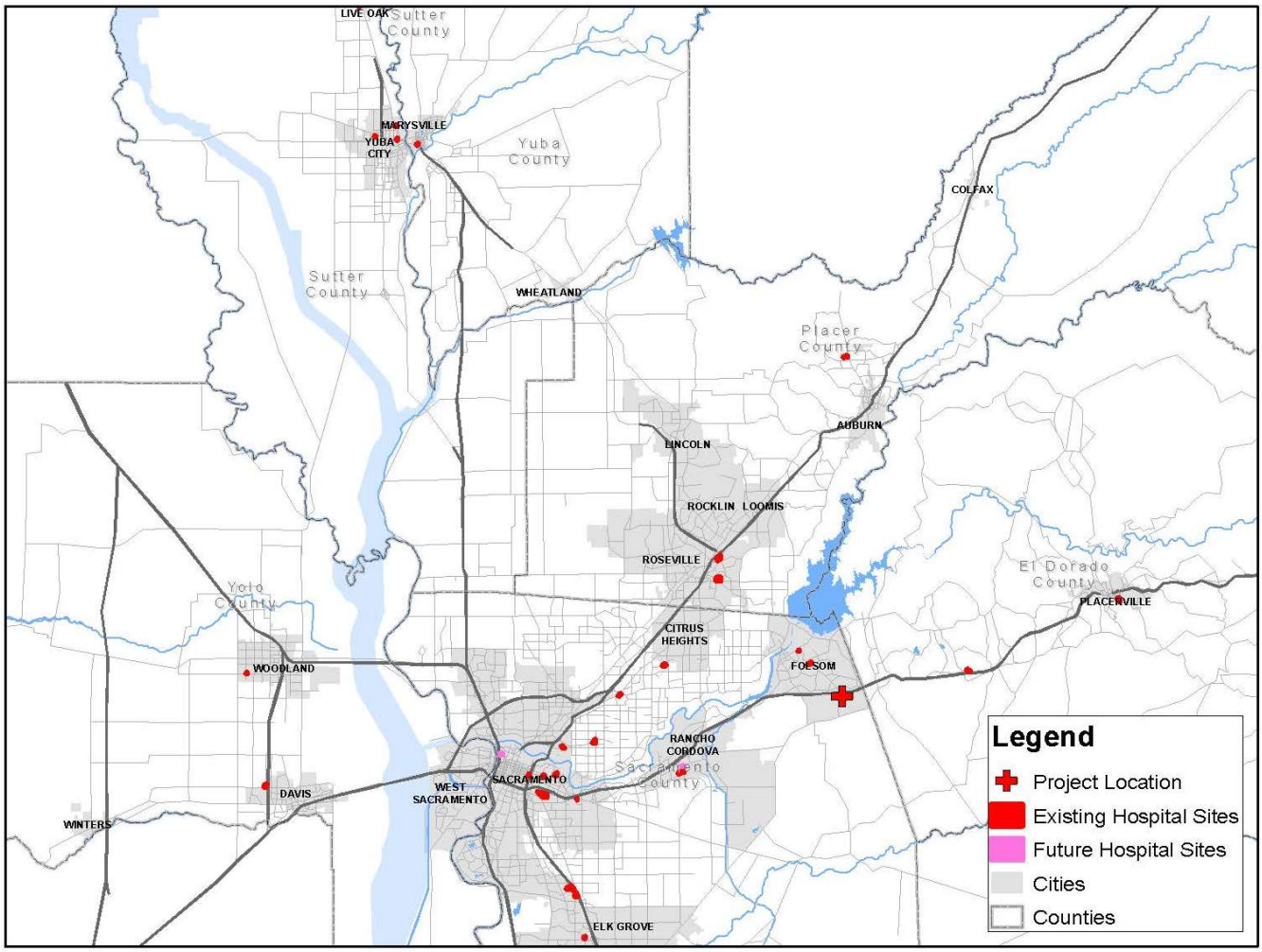


FIGURE 16: REGIONAL HOSPITAL LOCATION MAP

VMT MITIGATION (TRANPORTATION MANAGEMENT ASSOCIATION)

Mitigation Measure 4.17-1 Participation in the Sacramento Council of Governments 50 Corridor Transportation Management Association.

During project operation, and consistent with Mitigation Measure 3A.15-2c listed above, the project applicant shall ensure on-going employer membership and participation by Dignity Health in the Sacramento Area Council of Governments (SACOG) 50 Corridor Transportation Management Association (U.S. 50 TMA). In addition, given that employee participation in the U.S. 50 TMA is voluntary, the project applicant shall be required to conduct biennial Dignity Health employee surveys to ensure that at a minimum a 4.5 percent reduction in VMT (or 1,525 daily VMT) is achieved and maintained as part of project operations. Dignity Health shall be responsible for implementing biennial Dignity Health employee surveys to gauge participation with the various employee benefits offered by the U.S. 50 TMA. In order to ensure that the necessary reduction in VMT is being reported and achieved, the surveys shall include questions from which VMT reduction estimates can be estimated (e.g., how many days per week do you take alternative modes of transportation to work? How far do you live from your site of employment? etc). Surveys and survey results shall be coordinated through and submitted to the U.S. 50 TMA, SACOG, and the City. If the required level of VMT reduction is not achieved, the City of Folsom shall work with Dignity Health and the TMA to identify other demand management related strategies to increase participation in the program and achieve the required reduction in VMT.

Transportation Demand Management Programs offer a variety of voluntary choices to driving alone to work. SACOG actively supports TDM programs to address congestion through educating motorists (typically commuters) on their available travel options, creating awareness of the relative costs and benefits to driving alone versus using shared or non-motorized transportation, and providing incentives to use shared transportation.

TRANSPORTATION MANAGEMENT ASSOCIATIONS

SACOG actively administers Transportation Management Associations (TMAs) that are made up of employers that provide a shared resource that those employers and their employees can use to learn more about travel options available, benefit from services such as Emergency Ride Home programs, match up with carpool/vanpool partners, and enroll in incentive programs such as transit pass subsidies and commuter clubs.

SACOG TMAs implement what are called "soft" TDM measures given that the menu of commute options and programs offered are voluntary-based and that participating employers are not accompanied by mandatory performance targets or reviews. Providing access to the services that TMAs provide assumes that some employees will shift from single occupant vehicle commuting to more efficient modes such as transit, bicycling, and carpooling. There are 13 Sacramento area TMAs of which nine have formal MOUs established with SACOG. The Dignity Health VMT and travel information are provided in **Table 7** (source DKS). TMA participation data from SACOG is provided in **Table 8**. TMA areas are shown in **Figure 17**.

Given that the proposed Dignity Health Campus will represent one of Folsom's largest employers, by becoming a participating employer in a TMA (i.e., 50 Corridor TMA) and assuming the same level of voluntary employee participation will be experienced as across all TMAs combined in the Sacramento region (7.16%). Applying this average participation rate to the total number of Dignity's employees yields 170 expected TMA participants (2,365 x 7.16% = 170). Applying the region's average commuter trip length (round-trip) of 16.11 miles to the estimated number of participating employees yields a daily VMT reduction of 2,740. This would be distributed among Office and Hospital employment. Reducing TAZ 542 VMT (i.e., Dignity Health Campus TAZ) by 2,740 yields a revised VMT per employee of 13.17 ((33,889 – 2,740) / 2,365). This falls below the 13.69 VMT per employee threshold for determining a VMT impact.

TABLE 7: DIGNITY HEALTH CAMPUS TMA ANALYSIS INPUTS

TMA Analysis Inputs	TMA Parameters
Dignity Health Employees	2,365
TAZ 542 (Dignity Health TAZ) Total HBW VMT	33,889
TMA Participation (See Table 8)	7.16%
Regional Average HBW Trip Length	16.11

TABLE 8: TMA PARTICIPATION (SACOG FEDERAL CONGESTION MANAGEMENT PROCESS, 2017)

TMA-TMO ID	TMA NAME	Employers 2012	Employees 2012	TMA Area sq miles	Number of TMA Employers	Number of TMA Employees	Number of TMA Participants	% of Participants in Participating Employers	% Employers in TMA	% of Employees in TMA	% of TMA Participants
1	50 Corridor TMA	6,927	88,024	89	56	24,436	1,875	7.7%	0.8%	27.8%	2.1%
2	City of Elk Grove	7,246	53,070	1,790	1	6	2	33.3%	0.0%	0.0%	0.0%
3	City of Roseville	2,292	21,035	36	61	6,772	149	2.2%	2.7%	32.2%	0.7%
4	El Dorado County Transportation Commission	138	2,134	4	193	2,560	275	10.7%	139.9%	120.0%	12.9%
5	McClellen Park TMA	1,030	8,645	11	42	1,909	63	3.3%	4.1%	22.1%	0.7%
6	North Natomas TMA	8,525	70,196	1,457	2	15,007	18	0.1%	0.0%	21.4%	0.0%
7	Placer County Transportation Planning Agency	4,514	45,572	20	12	2,824	244	8.6%	0.3%	6.2%	0.5%
8	Point West Area TMA	2,698	32,820	16	99	8,357	158	1.9%	3.7%	25.5%	0.5%
9	Power Inn Alliance	4,358	56,558	42	117	37,212	1,160	3.1%	2.7%	65.8%	2.1%
10	Sacramento TMA	11,447	113,192	68	224	103,579	10,327	10.0%	2.0%	91.5%	9.1%
11	South Natomas TMA	785	8,248	6	195	6,869	829	12.1%	24.8%	83.3%	10.1%
12	Yolo TMA	5,833	85,899	1,023	26	19,048	1,361	7.1%	0.4%	22.2%	1.6%
13	Yuba-Sutter TMA	4,276	41,116	1,252	5	2,589	88	3.4%	0.1%	6.3%	0.2%
	TOTAL TMA areas	**60,069**	**626,509**	**5,814**	**1,033**	**231,168**	**16,549**	**7.2%**	**1.7%**	**36.9%**	**2.6%**
	Non TMA areas	**13,571**	**273,660**								
	Regional Totals	**73,640**	**900,169**						**1.4%**	**25.7%**	**1.8%**

Sources: SACOG Employment Inventory 2012; Commuter Club registration June 2016
1 - McClellan park has grown significantly in number of employers and employees between 2012 and 2016.

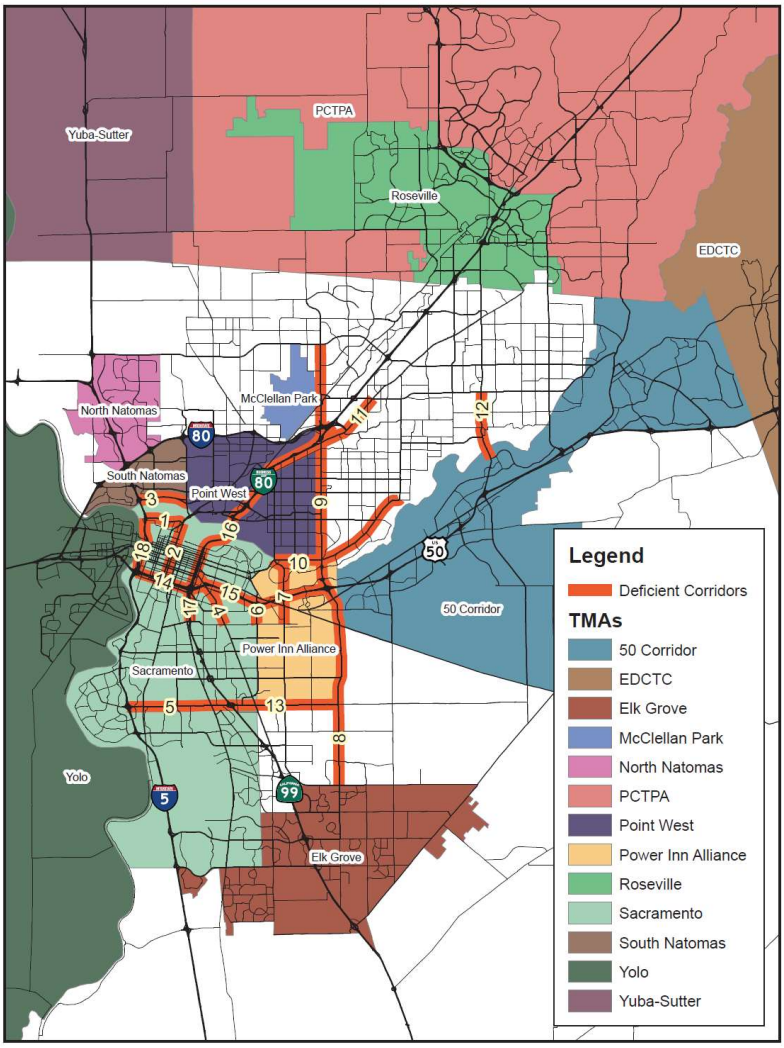


FIGURE 17: TMA AREAS (SACOG FEDERAL CONGESTION MANAGEMENT PROCESS, 2017)

EXISTING AND PHASE 1 (EPAP) OPERATIONS

EXISTING CONDITION OPERATIONS

Existing operations are shown below in **Table 9**. The table provides the intersection LOS at each study location as well as average delay at any locations operating worse than the standard of LOS D. The intersection of East Bidwell Street & Iron Point Road operates at LOS E during the PM peak hour, worse than the City standard. All remaining study intersections currently meet the operating standards in the AM and PM peak hours.

TABLE 9: EXISTING CONDITIONS AM AND PM PEAK HOUR INTERSECTION OPERATIONS

#	Location	Control Type	Existing	
			AM	PM
1	E Bidwell Street & Iron Point Road	Signal	C	E (76.5s)
2	E Bidwell Street & Placerville Rd	Signal	A	B
3	E Bidwell Street & US 50 WB Ramps	Signal	B	D
4	E Bidwell Street & US 50 EB Ramps	Signal	A	C
5	Placerville Road & Westwood Drive	-	-	-
6	Rowberry Way & Alder Creek Parkway	-	-	-
7	1st Street & Alder Creek Parkway	-	-	-
8	3rd Street & Alder Creek Parkway	-	-	-
9	E Bidwell Street & Alder Creek Parkway	TWSC	C	D
10	McCarthy Way & Alder Creek Parkway	TWSC	-	-
11	Westwood Drive & Alder Creek Parkway	-	-	-
12	Placerville Road & Alder Creek Parkway	AWSC	A	A
13	E Bidwell Street & Old Ranch Way	TWSC	-	-
14	E Bidwell Street & Savannah Parkway	TWSC	-	-
15	Westwood Drive & Savannah Parkway	-	-	-
16	E Bidwell Street & Mangini Parkway	Signal	A	A
17	E Bidwell Street & Regency Parkway	TWSC	-	-
18	E Bidwell Street & White Rock Rd	AWSC	A	C
19	Placerville Road & White Rock Rd	TWSC	B	C

EXISTING PLUS APPROVED PROJECT CONDITION OPERATIONS

EPAP AM and PM peak hour intersection operations are shown below in **Table 10**. The table provides the intersection LOS at each study location as well as average delay at any locations operating worse than the standard of LOS D. The intersections of East Bidwell Street & Iron Point Road and East Bidwell Street & US 50 WB Ramps operate worse than the City standard. All remaining study intersections currently meet the operating standards in the AM and PM peak hours.

TABLE 10: EPAP (2024) CONDITIONS AM AND PM PEAK INTERSECTION OPERATIONS

#	Location	Control Type	EPAP 2024	
			AM	PM
1	E Bidwell Street & Iron Point Road	Signal	C	F (125.6s)
2	E Bidwell Street & Placerville Rd	Signal	B	B
3	E Bidwell Street & US 50 WB Ramps	Signal	E (66.0s)	E (72.2s)
4	E Bidwell Street & US 50 EB Ramps	Signal	B	C
5	Placerville Road & Westwood Drive	AWSC	A	A
6	Rowberry Way & Alder Creek Parkway	-	-	-
7	1st Street & Alder Creek Parkway	1WSC	A	A
8	3rd Street & Alder Creek Parkway	1WSC	A	A
9	E Bidwell Street & Alder Creek Parkway	Signal	B	B
10	McCarthy Way & Alder Creek Parkway	TWSC	B	B
11	Westwood Drive & Alder Creek Parkway	TWSC	B	B
12	Placerville Road & Alder Creek Parkway	AWSC	A	A
13	E Bidwell Street & Old Ranch Way	TWSC	B	B
14	E Bidwell Street & Savannah Parkway	TWSC	C	D
15	Westwood Drive & Savannah Parkway	-	-	-
16	E Bidwell Street & Mangini Parkway	Signal	C	C
17	E Bidwell Street & Regency Parkway	Signal	B	A
18	E Bidwell Street & White Rock Road	Signal	B	B
19	Placerville Road & White Rock Road	TWSC	C	E

EPAP WITH PROJECT CONDITIONS OPERATIONS

The EPAP with project scenario includes project trips that are expected to be complete by 2024 added to the EPAP conditions. See **Table 2** for the trip generation, which shows that the first phase of the project will be completed by 2023 (the second phase will not be complete until 2028). EPAP with Phase 1 project volumes are shown in **Figure 18** and **Figure 19**.

EPAP with project conditions AM and PM peak hour intersection operations are shown below in **Table 11**. The table provides the intersection LOS at each study location as well as average delay at any locations operating worse than the standard of LOS D.

The intersections of East Bidwell Street & Iron Point Road (PM Peak) and East Bidwell Street & US 50 WB Ramps operate worse than the City standard. The intersection of East Bidwell Street & Iron Point Road has an increase to average delay of 2.2 seconds during the PM peak hour when the first project phase is added. This is within the significance threshold of 5 seconds. The intersection of East Bidwell Street & US 50 WB Ramps drops from LOS E to F during the PM peak hour when the first project phase is added. This intersection can maintain LOS E with signal timing adjustments, resulting in an average delay of 76.7 seconds which is within the significance threshold of 5 seconds. The cumulative scenario, shown in subsequent sections, show that the LOS will improve to LOS D as a result of programmed interchange improvements on US 50 that will relieve demand at the East Bidwell Street interchange.

TABLE 11: EPAP WITH PHASE 1 (2024) CONDITIONS AM AND PM PEAK INTERSECTION OPERATIONS

#	Location	Control Type	EPAP with Project 2024	
			AM	PM
1	E Bidwell Street & Iron Point Road	Signal	C	F (127.8s)
2	E Bidwell Street & Placerville Rd	Signal	B	B
3	E Bidwell Street & US 50 WB Ramps	Signal	E (67.4s)	F (80.3s)
4	E Bidwell Street & US 50 EB Ramps	Signal	B	C
5	Placerville Road & Westwood Drive	AWSC	A	A
6	Rowberry Way & Alder Creek Parkway	-	-	-
7	1st Street & Alder Creek Parkway	1WSC	A	A
8	3rd Street & Alder Creek Parkway	1WSC	A	A
9	E Bidwell Street & Alder Creek Parkway	Signal	B	B
10	McCarthy Way & Alder Creek Parkway	TWSC	B	B
11	Westwood Drive & Alder Creek Parkway	TWSC	B	B
12	Placerville Road & Alder Creek Parkway	AWSC	A	A
13	E Bidwell Street & Old Ranch Way	TWSC	B	B
14	E Bidwell Street & Savannah Parkway	TWSC	C	D
15	Westwood Drive & Savannah Parkway	-	-	-
16	E Bidwell Street & Mangini Parkway	Signal	C	C
17	E Bidwell Street & Regency Parkway	Signal	B	A
18	E Bidwell Street & White Rock Road	Signal	B	B
19	Placerville Road & White Rock Road	TWSC	D	E

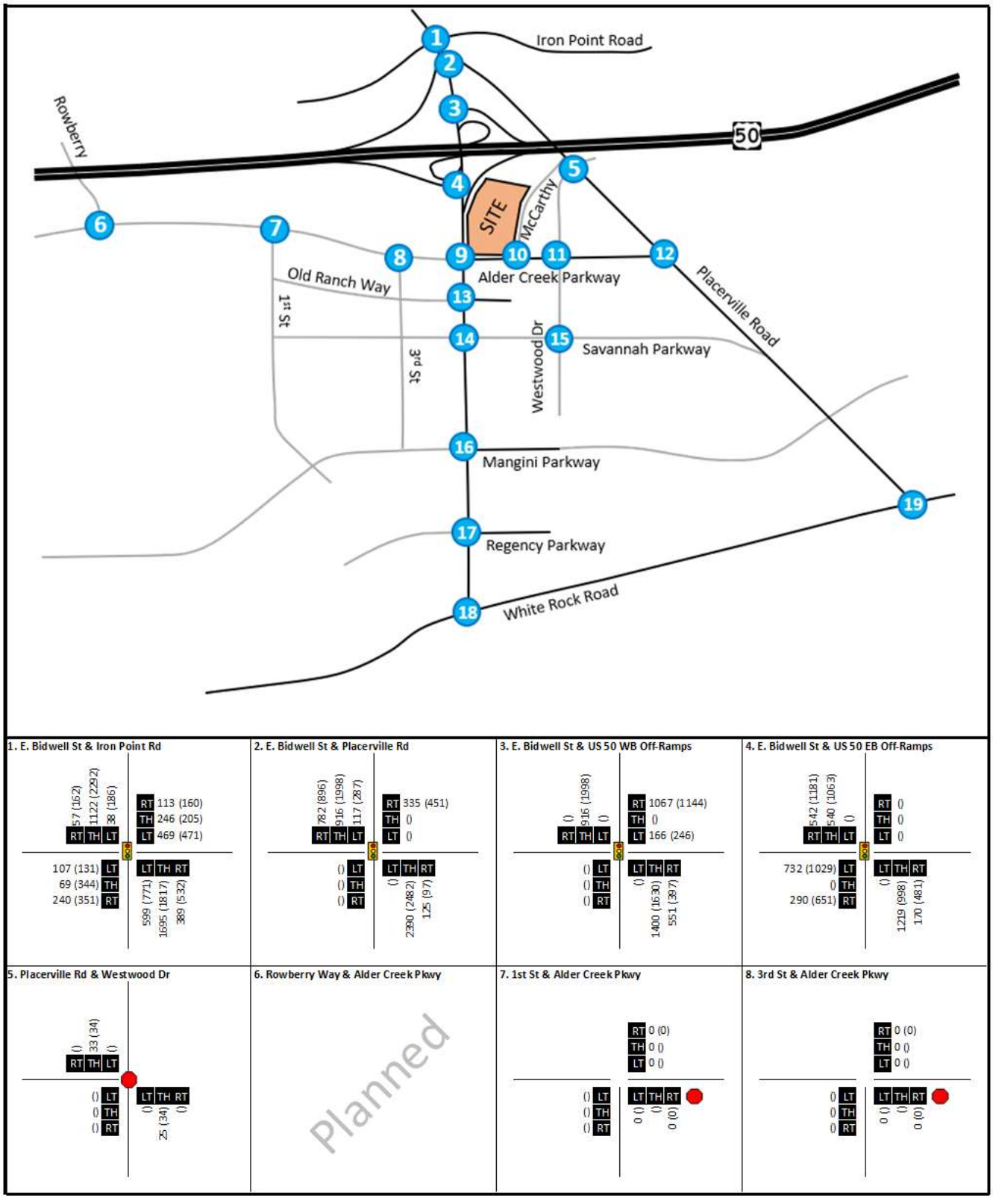


FIGURE 18: EPAP WITH PROJECT (2024) VOLUMES (1 OF 2)

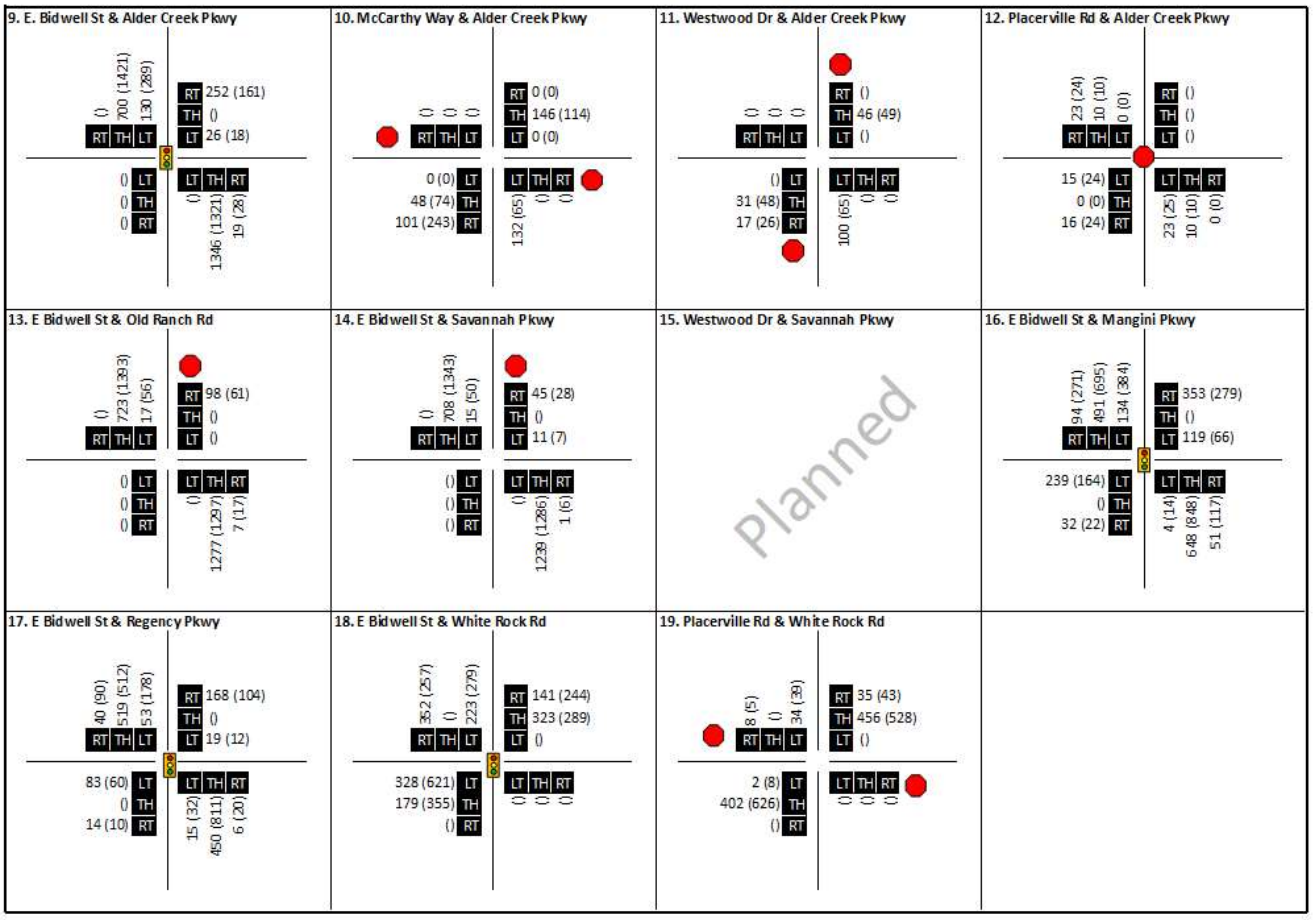


FIGURE 19: EPAP WITH PROJECT (2024) VOLUMES (2 OF 2)

INTERMEDIATE DEVELOPMENT PHASES

The majority of infrastructure and ultimate roadway cross-sections for the Plan Area identified in the FPASP have not been constructed yet, however they are critical to handling the expected traffic growth associated with planned development throughout the region. As such, it is necessary to understand at which point intersection control and capacity improvements are required to minimize delay and congestion compared to when they are programmed.

As the Proposed Project has a phased expansion of land use as part of the Project Development Permit Application, this analysis will use the associated timeline for programmed or expected improvements relevant to traffic and travel patterns in the study area. The following programmed or expected infrastructure improvements were identified by the City to be assumed as part of the baseline network for each Phase:

Phase 2 (2028)

- Construction of the Rowberry Road overcrossing (Intersection 6)
- Construction of Savannah Parkway west of East Bidwell Street (EB approach for Intersection 14)

Phase 3 (2030)

- Construction of the Empire Ranch Interchange (Freeway volumes)

Phase 4 (2034)

- Widening of White Rock Road and implementation of the Capital Southeast Connector

PHASE 2 (2028) INFRASTRUCTURE AND VOLUMES

The 2028 lane configuration is shown in **Figure 20**. Baseline 2028 AM and PM peak hour volumes are shown in **Figure 22** while Phase 2 (2028) AM and PM volumes are shown in **Figure 24**.

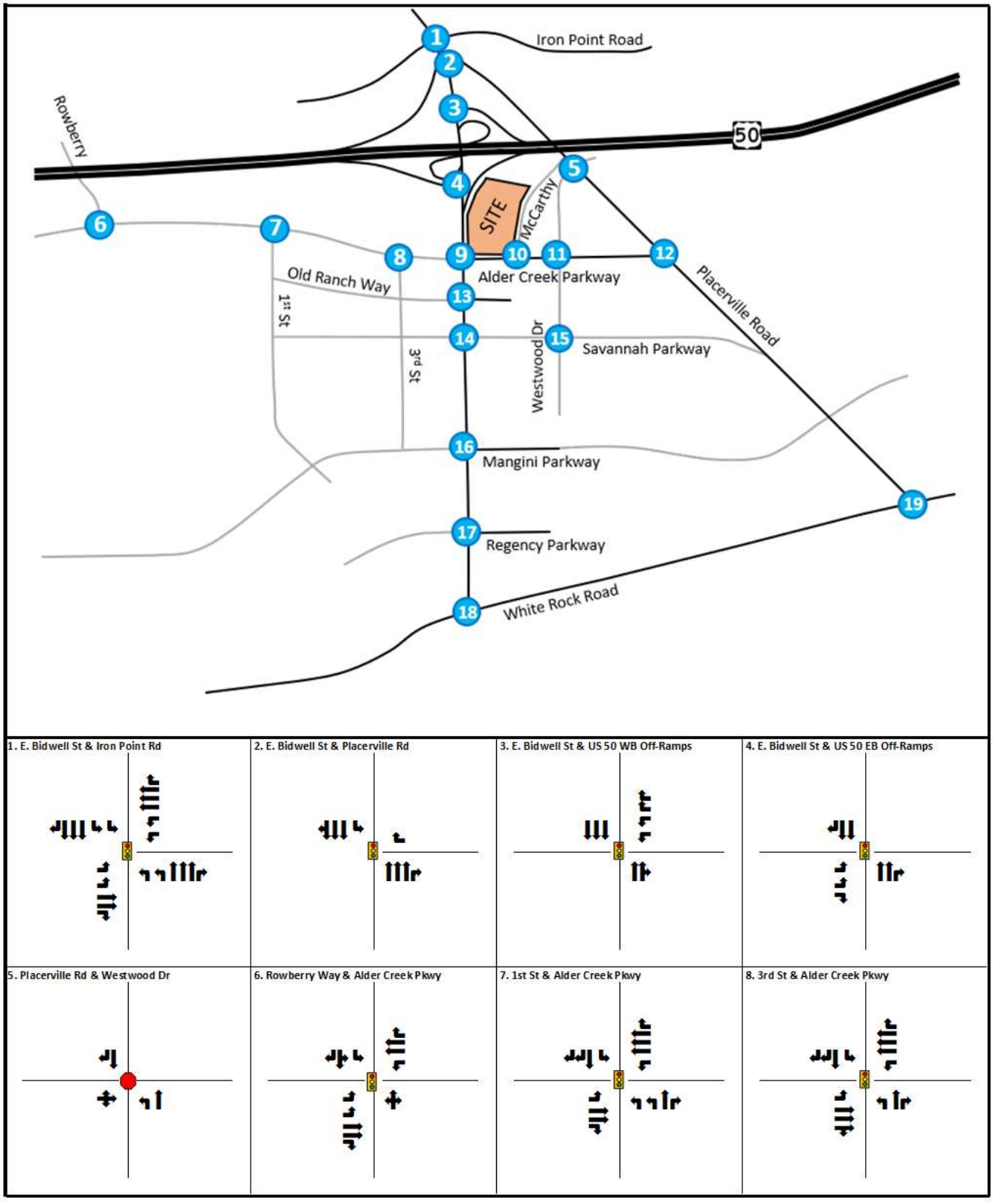


FIGURE 20: 2028 LANE CONFIGURATION (1 OF 2)

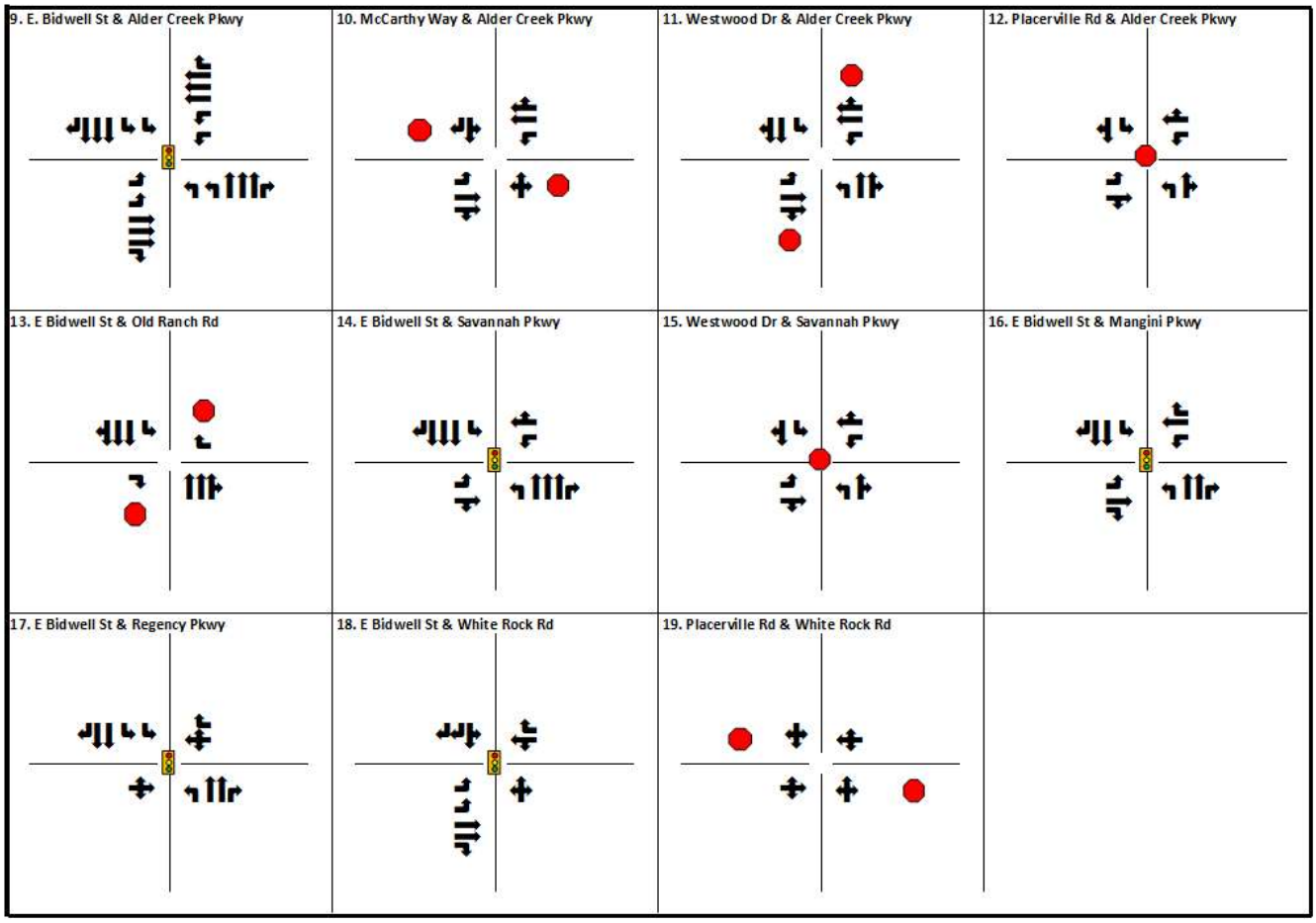


FIGURE 21: 2028 LANE CONFIGURATION (2 OF 2)

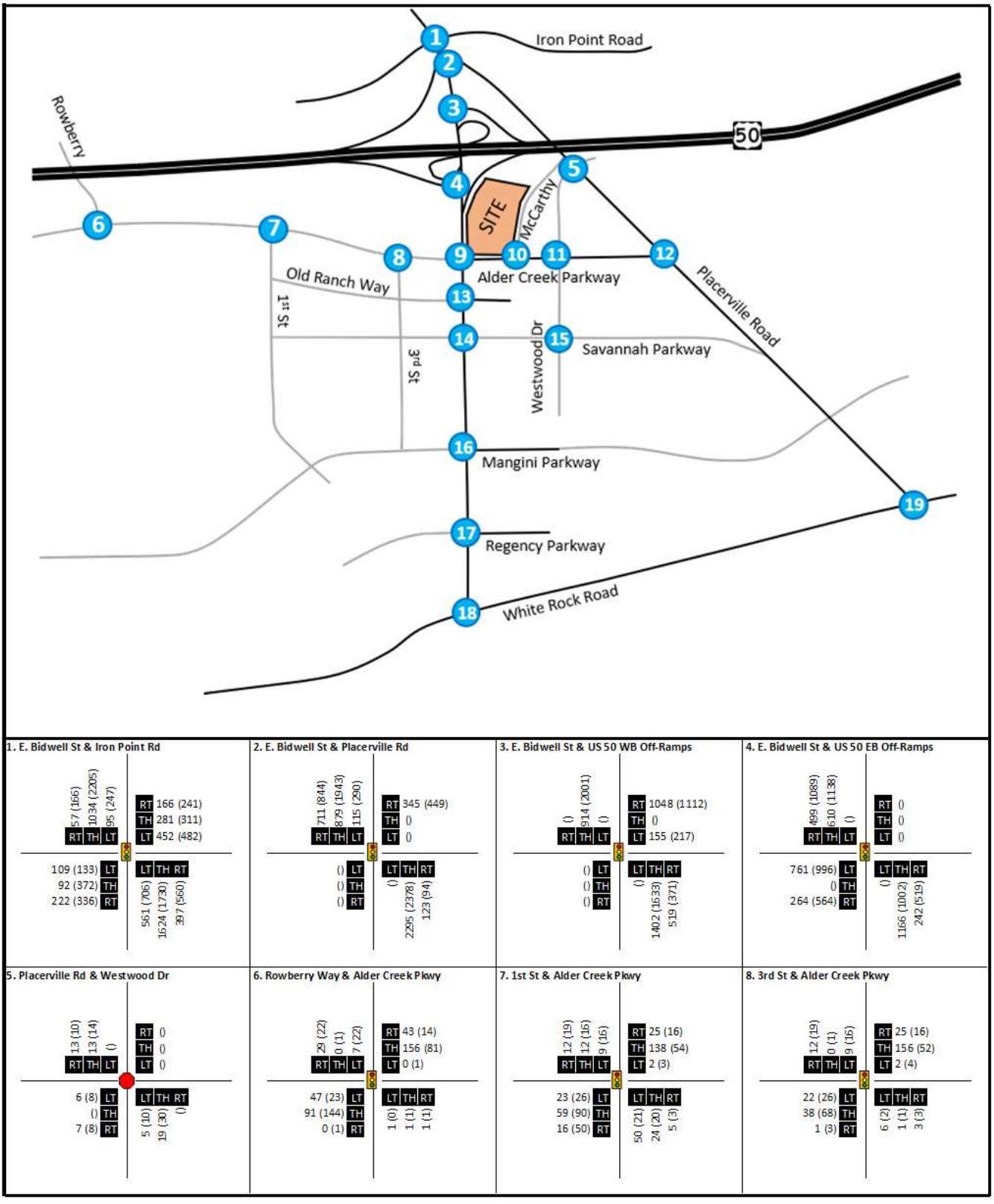


FIGURE 22: BASELINE 2028 VOLUMES (1 OF 2)

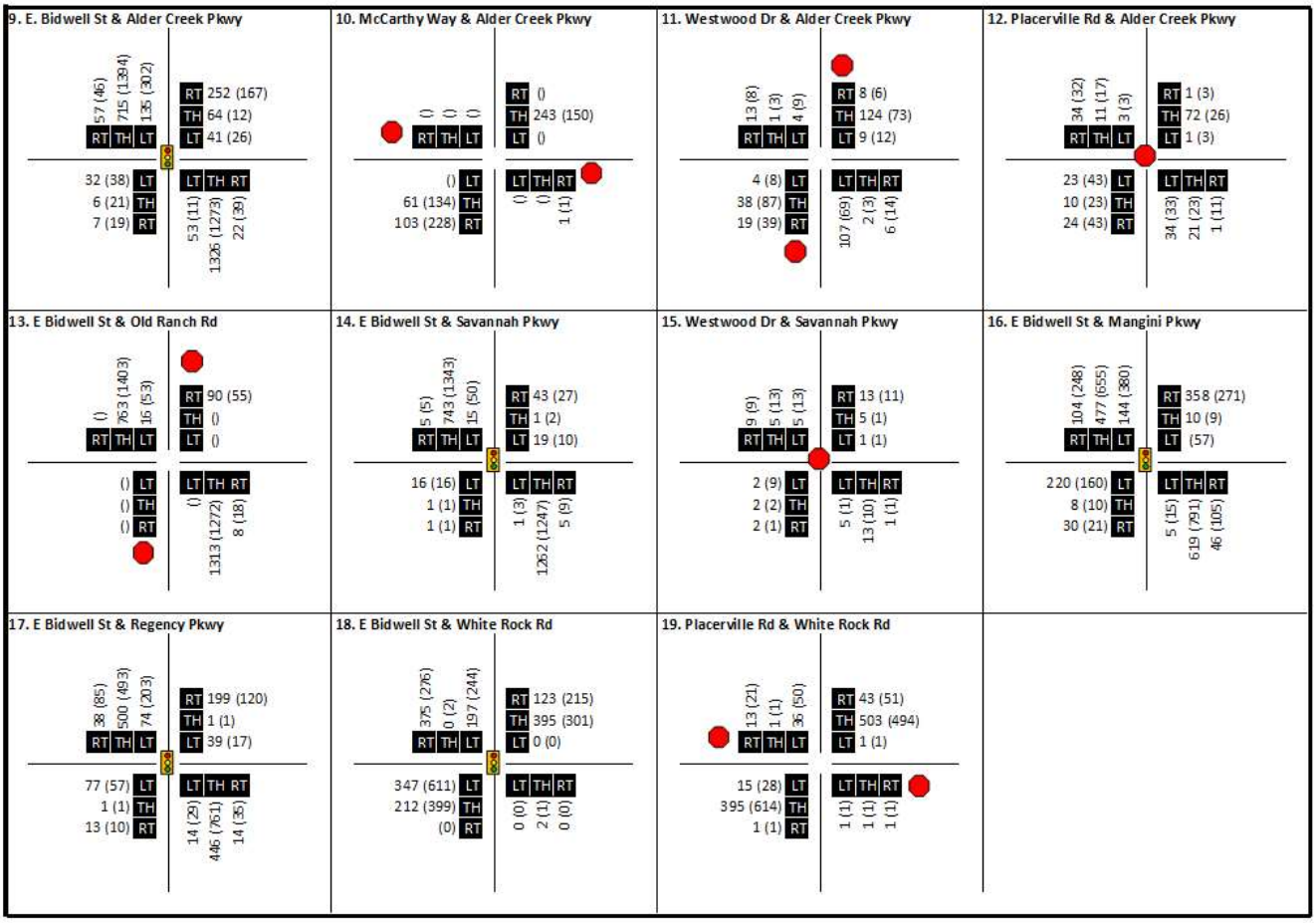


FIGURE 23: BASELINE 2028 VOLUMES (2 OF 2)

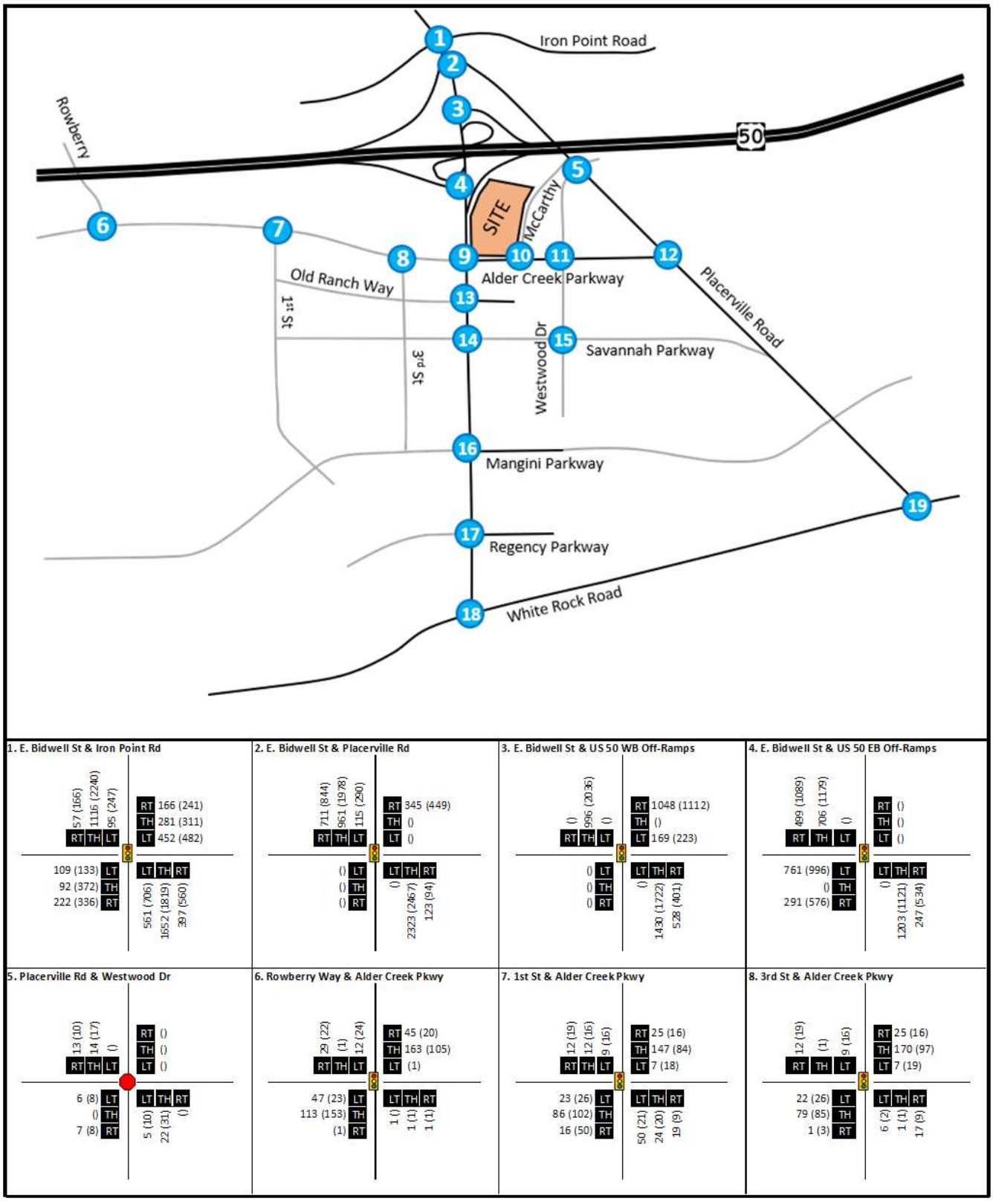


FIGURE 24: PHASE 2 (2028) VOLUMES (1 OF 2)

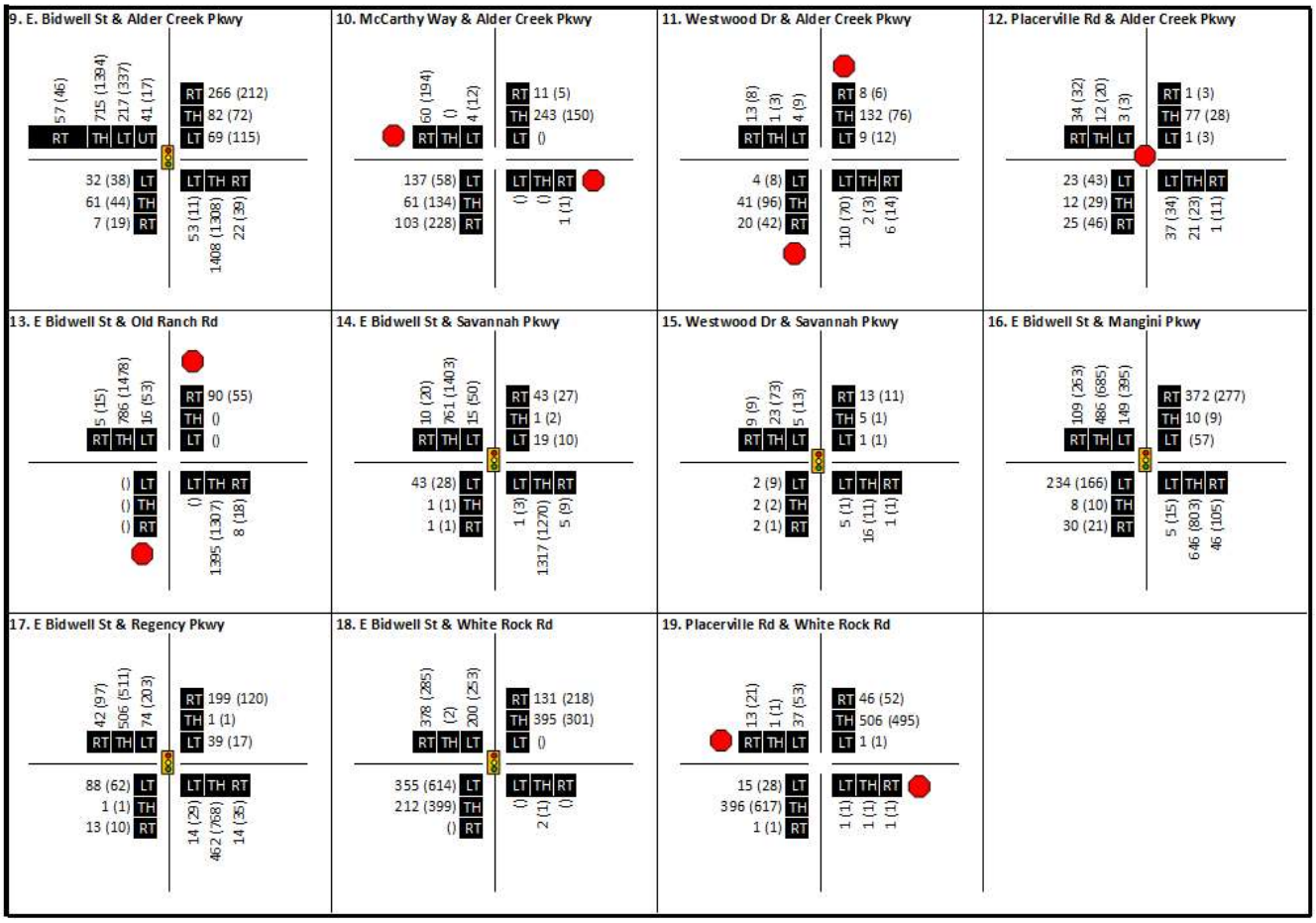


FIGURE 25: PHASE 2 (2028) VOLUMES (2 OF 2)

PHASE 2 (2028) OPERATIONS

Phase 2 (2028) AM and PM peak hour intersection operations, with and without Project, are shown in **Table 12**. The table provides the intersection LOS at each study location as well as average delay at any locations operating worse than the standard of LOS D. The intersections of East Bidwell Street & Iron Point Road (PM Peak), East Bidwell Street & US 50 WB Ramps, and Placerville Road & White Rock Road (PM Peak) continue to operate worse than LOS standards while all other study intersections continue to meet LOS standards. The intersections of East Bidwell Street & Iron Point Road and Placerville Road & White Rock Road have an increase to average delay of under the significance threshold of 5 seconds. The average delay at the intersection of East Bidwell Street & US 50 WB Ramps increases by more than 5 seconds with project trips during the PM peak hour, however, similar to Phase 1, signal timing adjustments will reduce the average delay to 71.0 seconds, which is within the significance threshold of 5 seconds.

TABLE 12: PHASE 2 CONDITIONS AM AND PM PEAK INTERSECTION OPERATIONS

#	Location	Control Type	Phase 2 Baseline		Phase 2 with Project	
			AM	PM	AM	PM
1	E Bidwell Street & Iron Point Road	Signal	C	F (110.5s)	C	F (113.6s)
2	E Bidwell Street & Placerville Rd	Signal	B	B	B	B
3	E Bidwell Street & US 50 WB Ramps	Signal	E (60.6s)	E (66.7s)	E (63.4s)	E (77.5s)
4	E Bidwell Street & US 50 EB Ramps	Signal	B	C	B	C
5	Placerville Road & Westwood Drive	AWSC	A	A	A	A
6	Rowberry Way & Alder Creek Parkway	Signal	A	A	A	A
7	1st Street & Alder Creek Parkway	TWSC	B	B	B	B
8	3rd Street & Alder Creek Parkway	Signal	B	B	B	B
9	E Bidwell Street & Alder Creek Parkway	Signal	B	B	B	B
10	McCarthy Way & Alder Creek Parkway	Signal	A	A	A	B
11	Westwood Drive & Alder Creek Parkway	Signal	C	B	C	B
12	Placerville Road & Alder Creek Parkway	AWSC	A	A	A	A
13	E Bidwell Street & Old Ranch Way	TWSC	B	B	B	B
14	E Bidwell Street & Savannah Parkway	Signal	A	A	A	A
15	Westwood Drive & Savannah Parkway	Signal	A	A	A	A
16	E Bidwell Street & Mangini Parkway	Signal	C	C	C	C
17	E Bidwell Street & Regency Parkway	Signal	B	A	B	A
18	E Bidwell Street & CSEC	Signal	B	B	B	B
19	Placerville Road & CSEC	1WSC	C	E (38.2s)	C	E (40.0s)

PHASE 3 (2030) INFRASTRUCTURE AND VOLUMES

The 2030 lane configuration is shown in **Figure 26.** Baseline 2030 AM and PM peak hour volumes are shown in **Figure 28** while Phase 3 (2030) AM and PM volumes are shown in **Figure 31**.

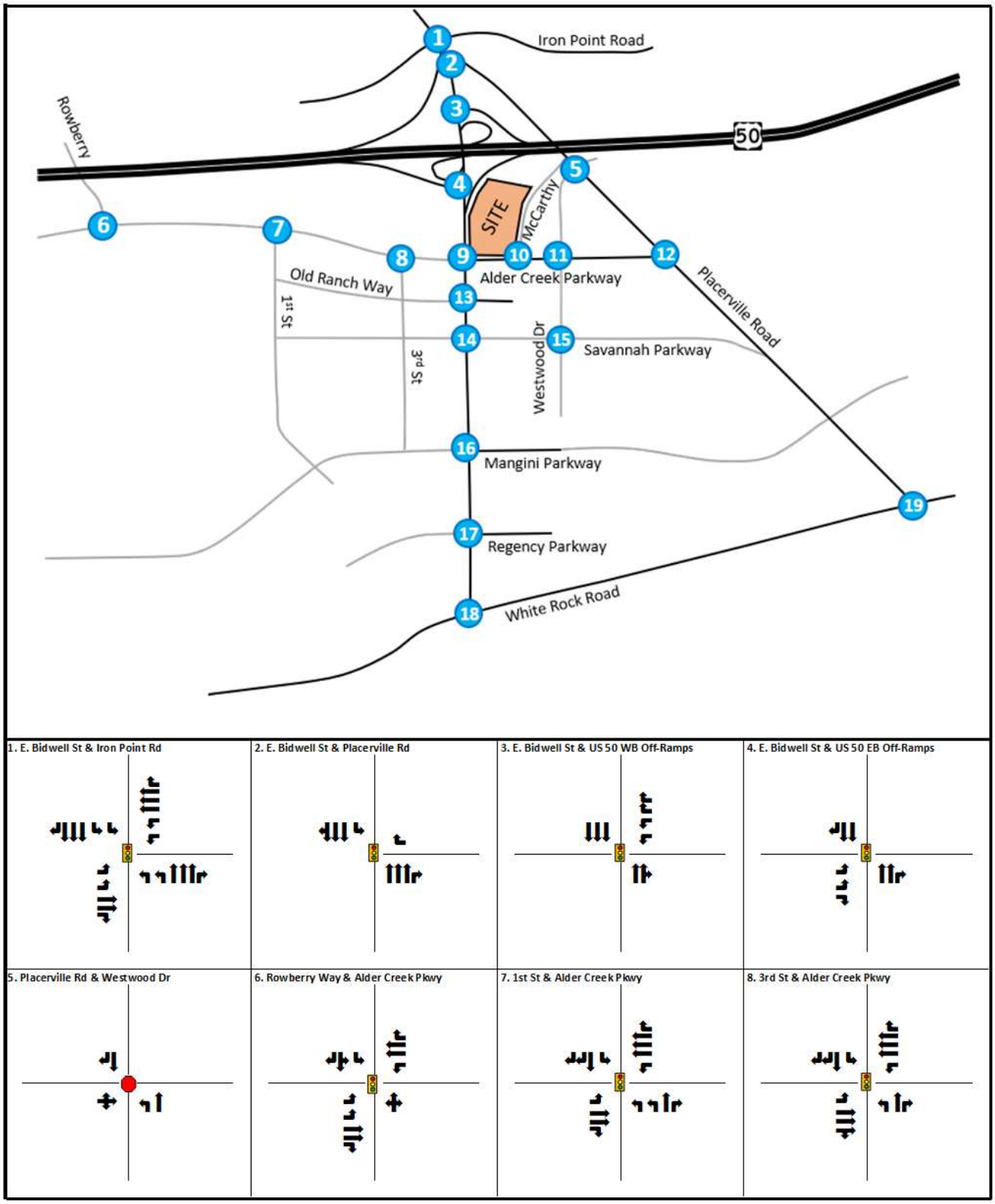


FIGURE 26: 2030 LANE CONFIGURATION (1 OF 2)

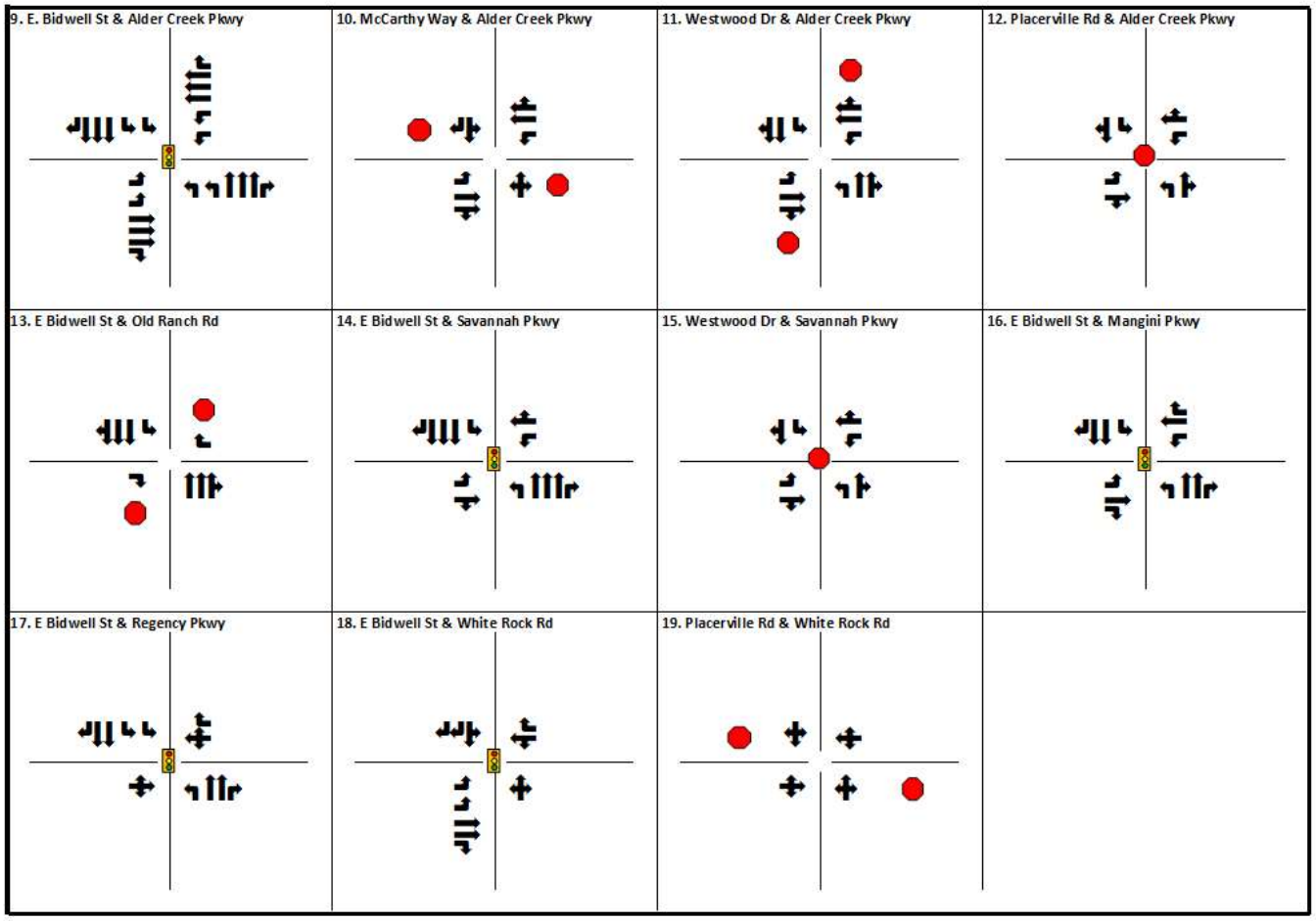


FIGURE 27: 2030 LANE CONFIGURATION (2 OF 2)

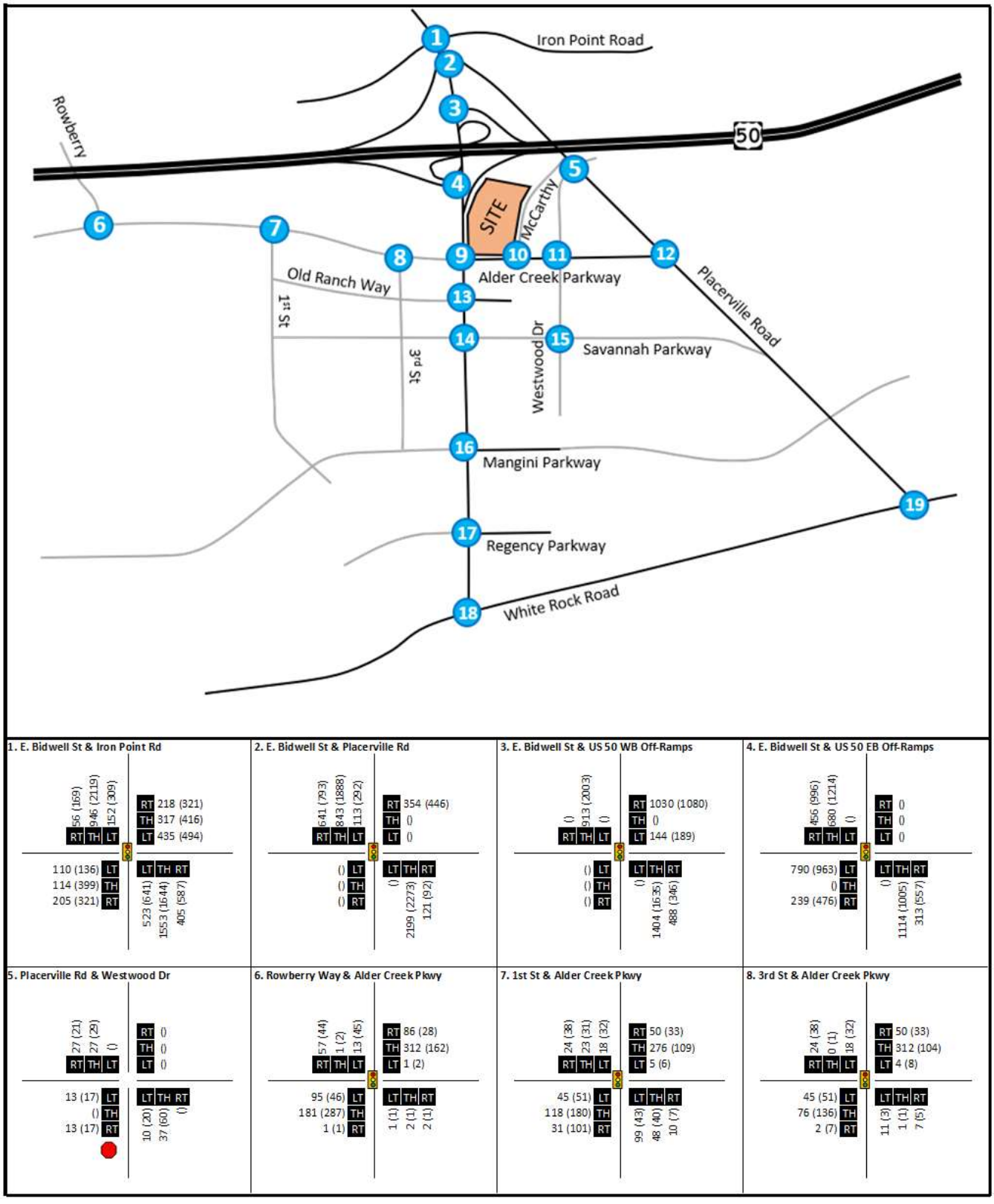


FIGURE 28: BASELINE 2030 VOLUMES (1 OF 2)

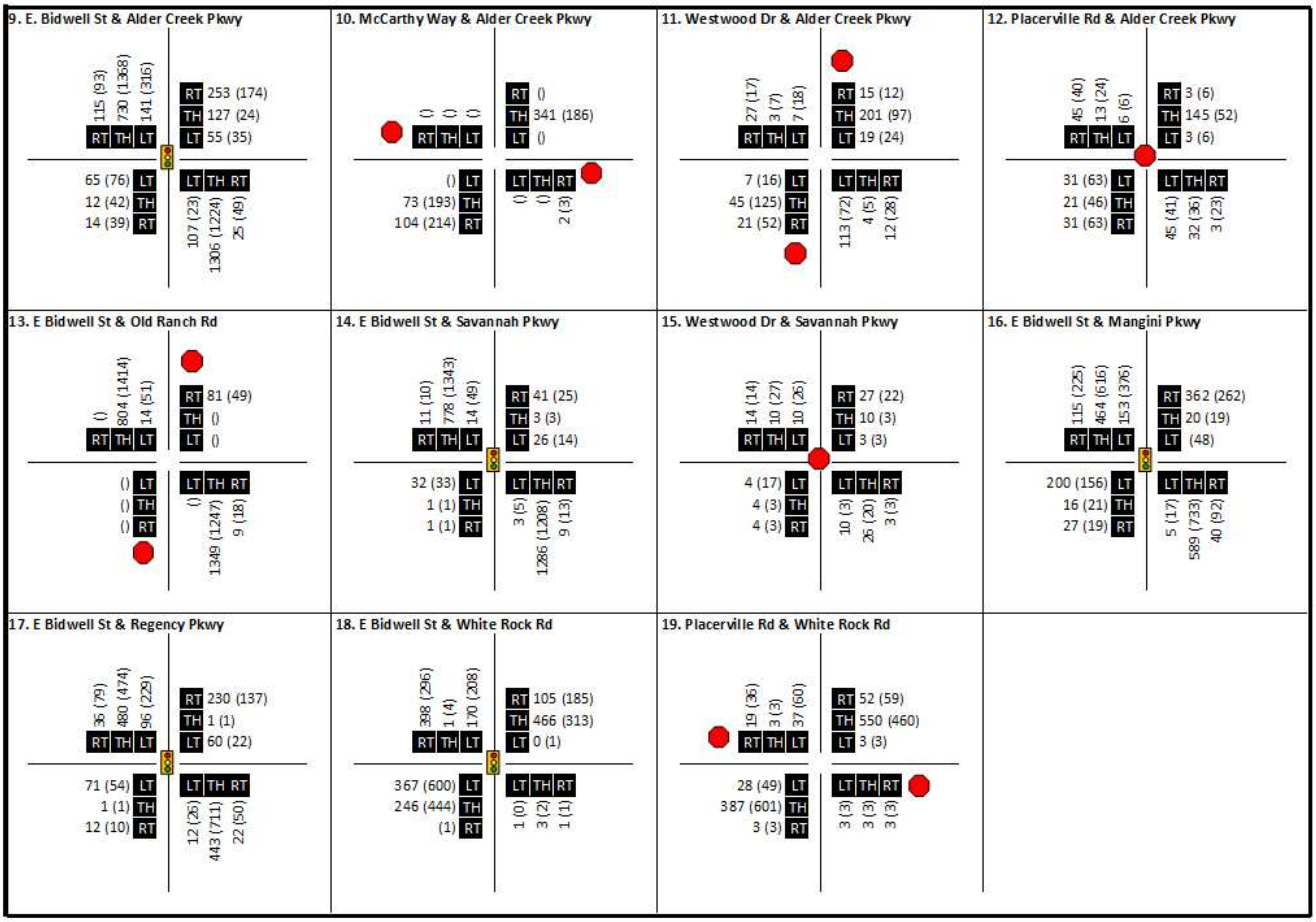


FIGURE 29: BASELINE 2030 VOLUMES (2 OF 2)

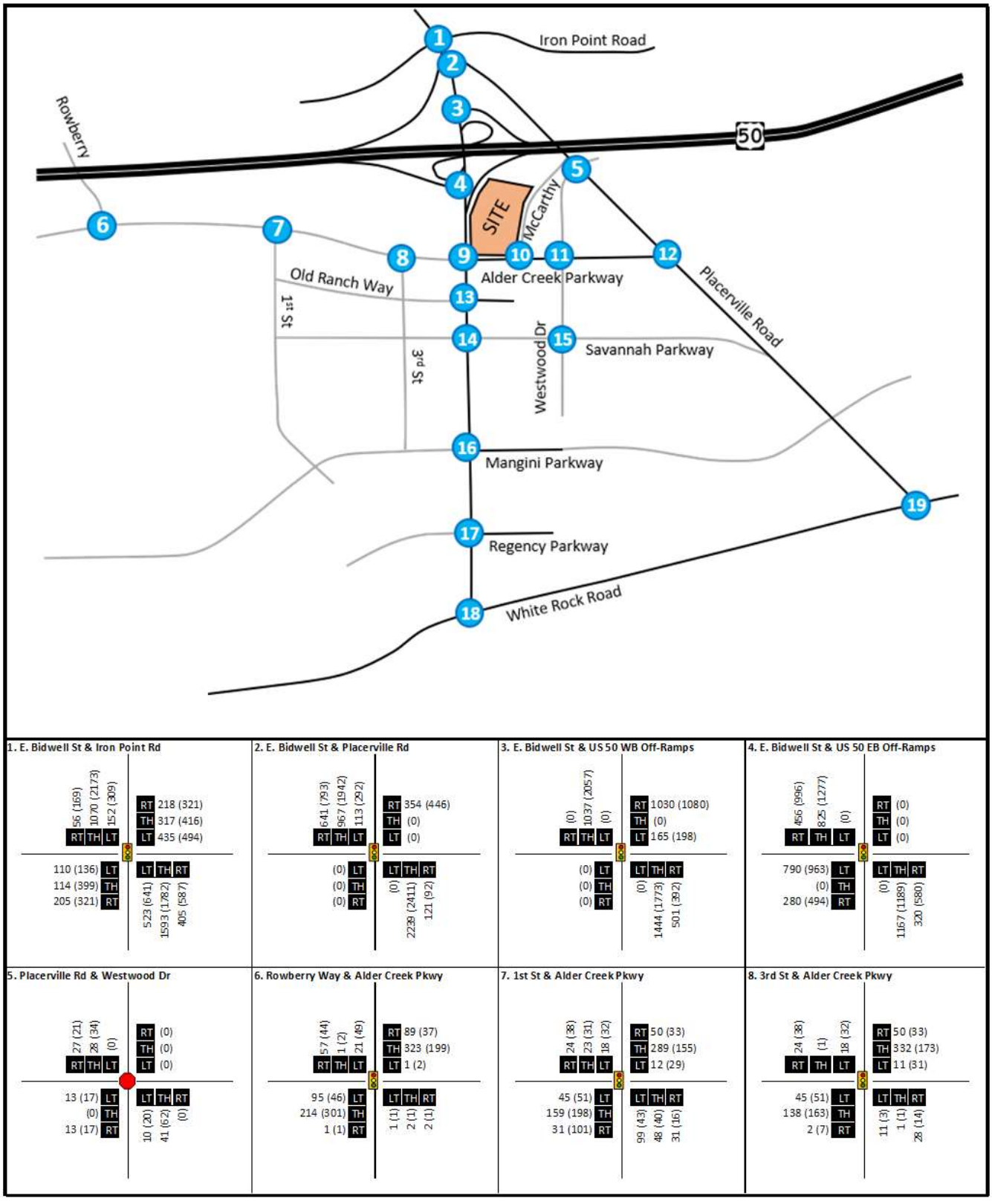


FIGURE 30: PHASE 3 (2030) VOLUMES (1 OF 2)

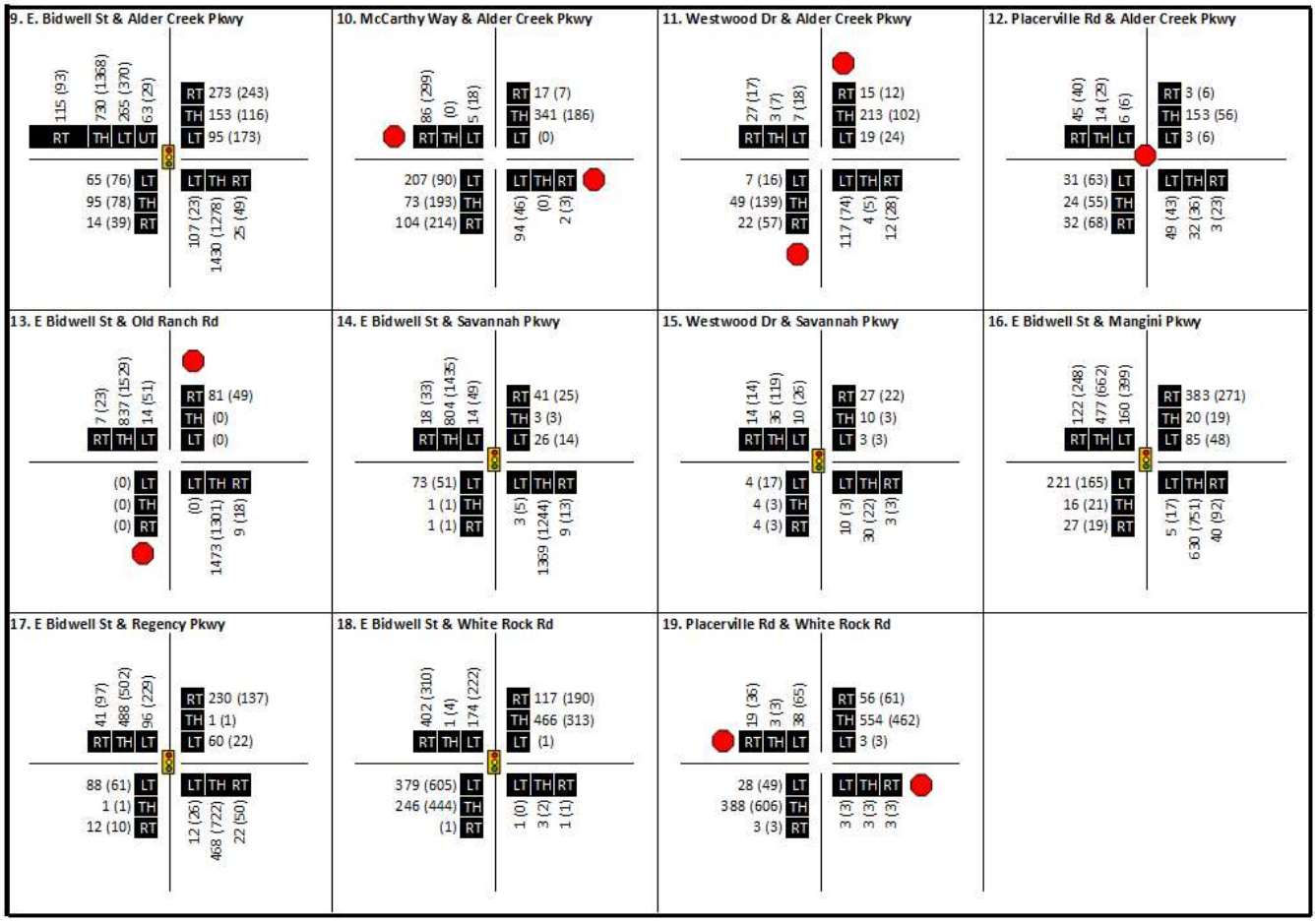


FIGURE 31: PHASE 3 (2030) VOLUMES (2 OF 2)

PHASE 3 (2030) OPERATIONS

Phase 3 (2030) AM and PM peak hour intersection operations, with and without Project, are shown in **Table 13**. The table provides the intersection LOS at each study location as well as average delay at any locations operating worse than the standard of LOS D. The intersections of East Bidwell Street & Iron Point Road (PM Peak), East Bidwell Street & US 50 WB Ramps, and Placerville Road & White Rock Road (PM Peak) continue to operate worse than LOS standards while all other study intersections continue to meet LOS standards. The intersections of East Bidwell Street & Iron Point Road and Placerville Road & White Rock Road have an increase to average delay of under the significance threshold of 5 seconds. The average delay at the intersection of East Bidwell Street & US 50 WB Ramps increases by more than 5 seconds with project trips during the PM peak hour, however, similar to previous Phases, signal timing adjustments will reduce the average delay to 65.0 seconds, which is within the significance threshold of 5 seconds.

TABLE 13: PHASE 3 CONDITIONS AM AND PM PEAK INTERSECTION OPERATIONS

#	Location	Control Type	Phase 3 Baseline		Phase 3 with Project	
			AM	PM	AM	PM
1	E Bidwell Street & Iron Point Road	Signal	C	F (95.8s)	C	F (100.4s)
2	E Bidwell Street & Placerville Rd	Signal	A	B	A	B
3	E Bidwell Street & US 50 WB Ramps	Signal	E (55.8s)	E (61.0s)	E (59.5s)	E (78.3s)
4	E Bidwell Street & US 50 EB Ramps	Signal	B	B	B	C
5	Placerville Road & Westwood Drive	AWSC	A	A	A	A
6	Rowberry Way & Alder Creek Parkway	Signal	A	A	A	A
7	1st Street & Alder Creek Parkway	Signal	B	B	B	B
8	3rd Street & Alder Creek Parkway	Signal	B	B	B	B
9	E Bidwell Street & Alder Creek Parkway	Signal	B	B	C	B
10	McCarthy Way & Alder Creek Parkway	TWSC	A	A	C	C
11	Westwood Drive & Alder Creek Parkway	Signal	C	C	B	C
12	Placerville Road & Alder Creek Parkway	AWSC	A	A	A	A
13	E Bidwell Street & Old Ranch Way	TWSC	B	B	B	B
14	E Bidwell Street & Savannah Parkway	Signal	A	A	B	A
15	Westwood Drive & Savannah Parkway	Signal	A	A	A	A
16	E Bidwell Street & Mangini Parkway	Signal	C	C	C	C
17	E Bidwell Street & Regency Parkway	Signal	B	A	B	A
18	E Bidwell Street & White Rock Road	Signal	B	B	B	B
19	Placerville Road & White Rock Road	1WSC	D	E (44.8s)	D	E (49.4s)

PHASE 4 (2034) INFRASTRUCTURE AND VOLUMES

The 2034 lane configuration is shown in **Figure 32**. Baseline 2034 AM and PM peak hour volumes are shown in **Figure 34** while Phase 4 (2034) AM and PM volumes are shown in **Figure 36**.

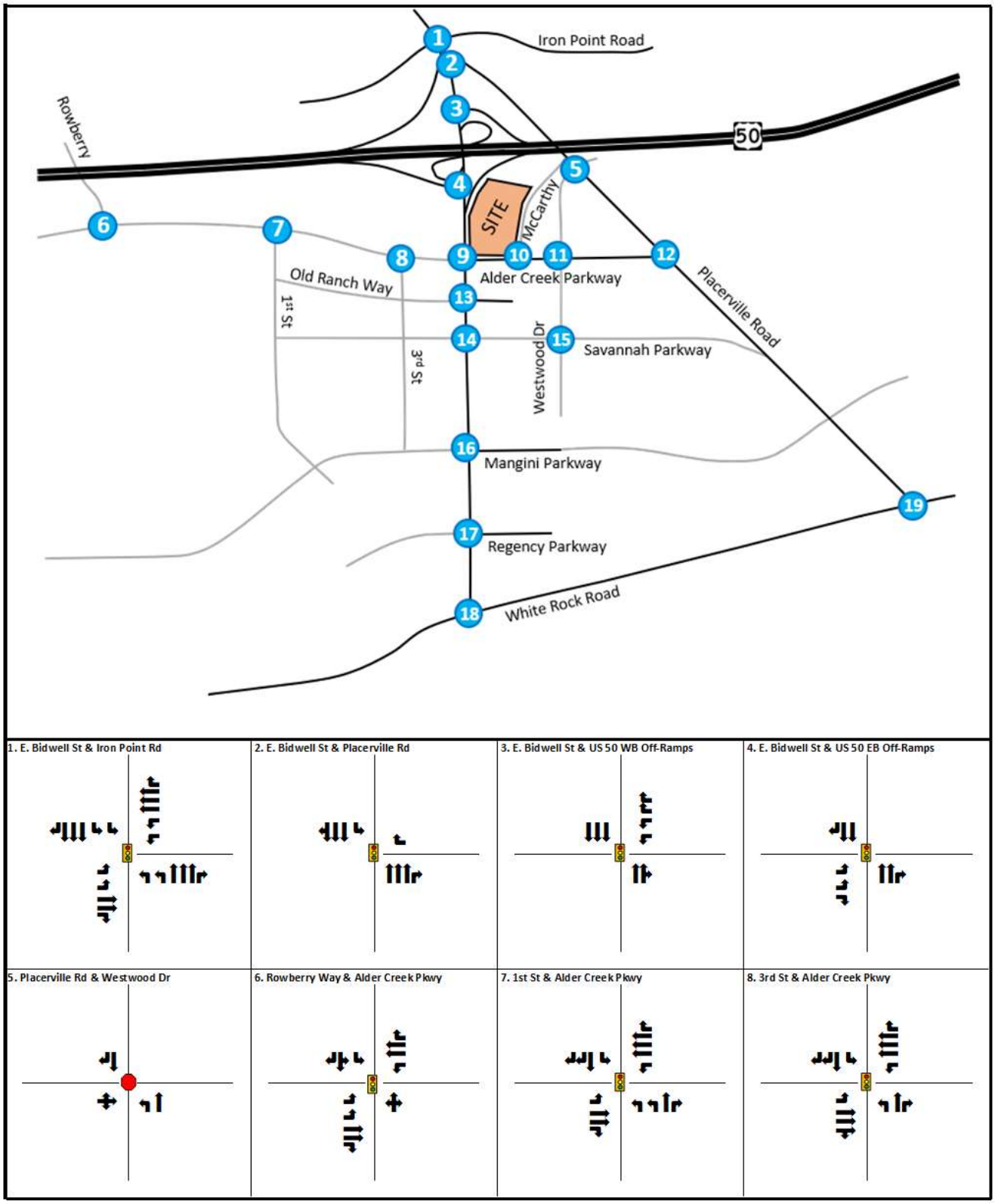


FIGURE 32: 2034 LANE CONFIGURATION (1 OF 2)

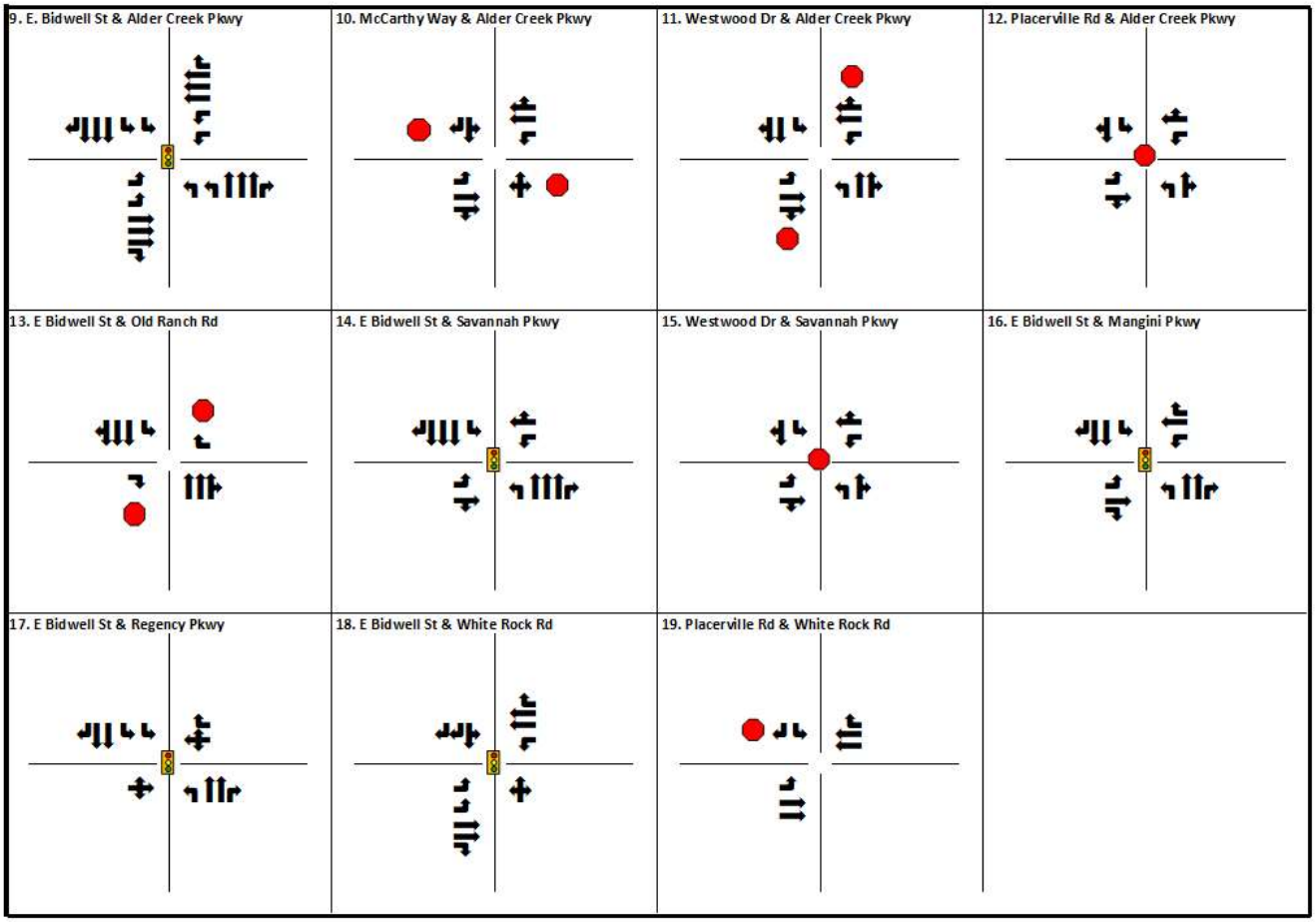


FIGURE 33: 2034 LANE CONFIGURATION (2 OF 2)

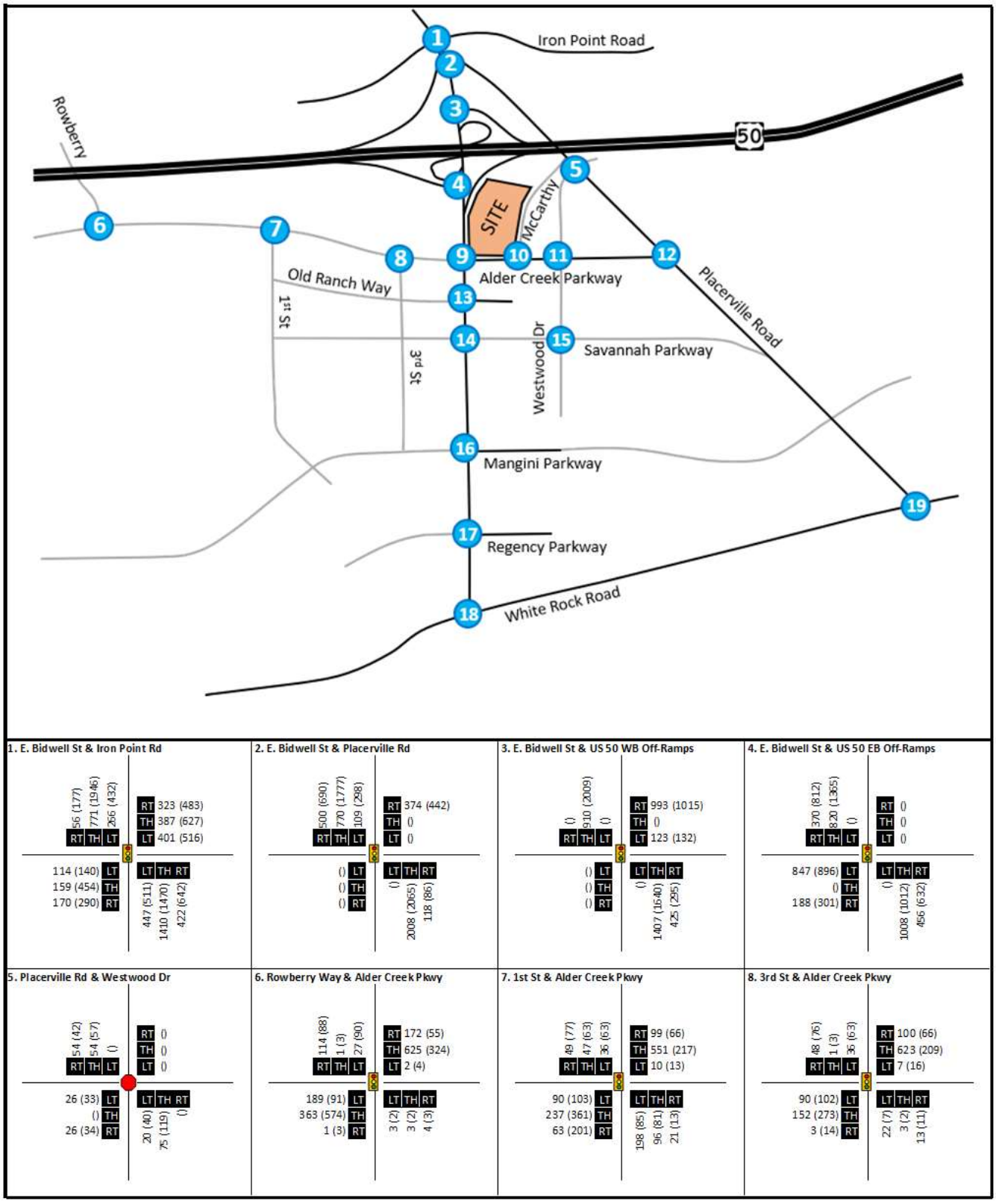


FIGURE 34: BASELINE 2034 VOLUMES (1 OF 2)

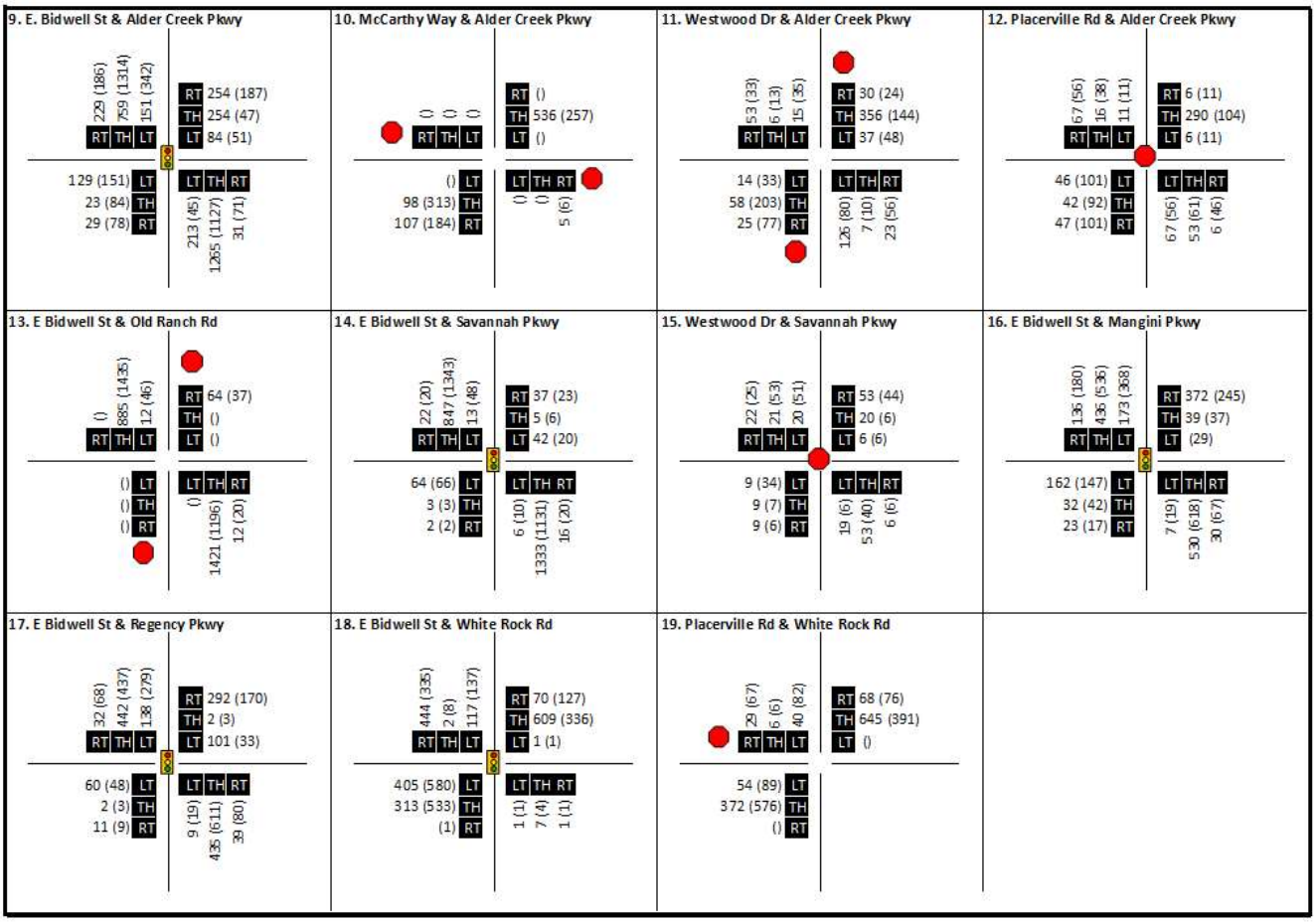


FIGURE 35: BASELINE 2034 VOLUMES (2 OF 2)

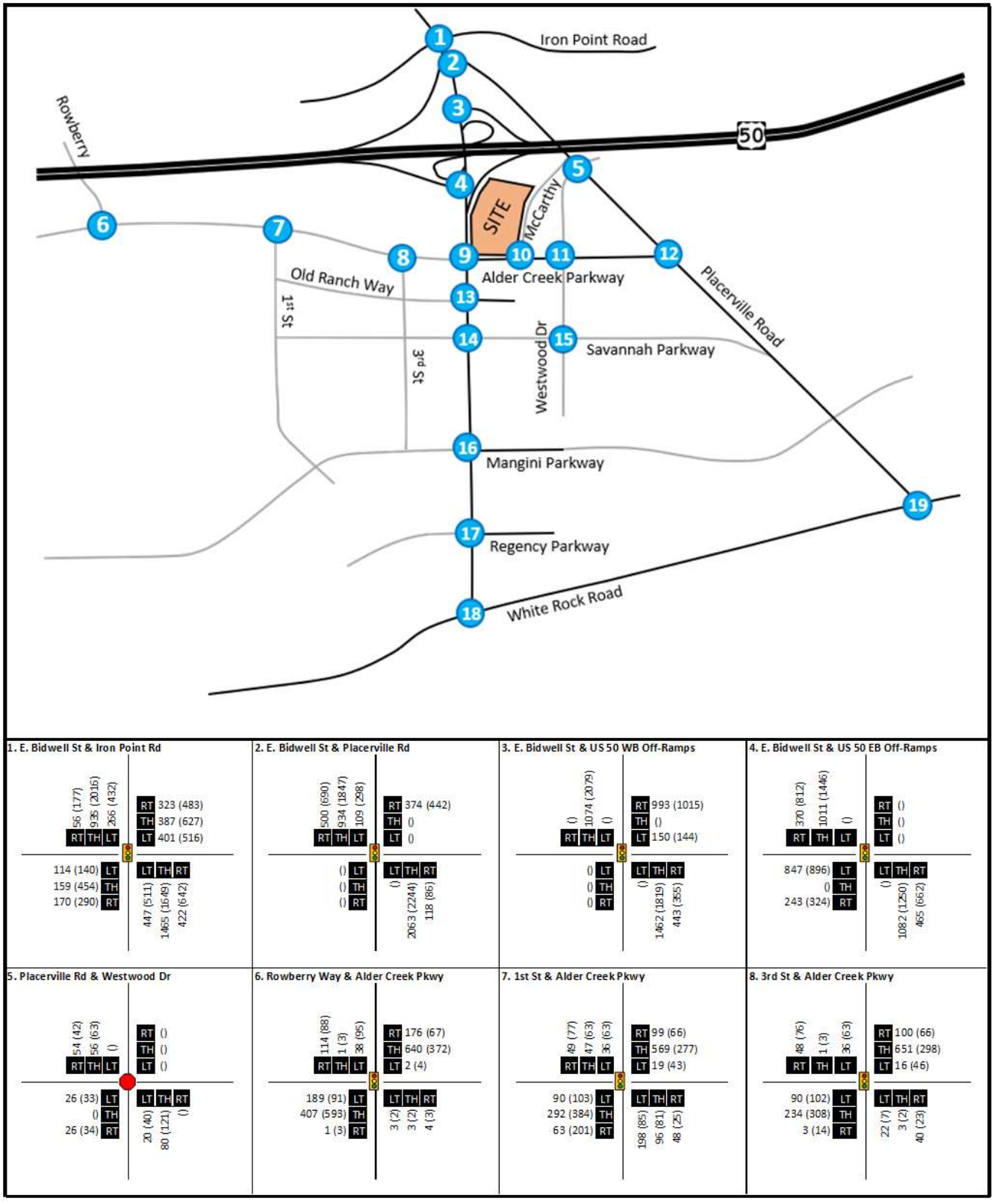


FIGURE 36: PHASE 4 (2034) VOLUMES (1 OF 2)

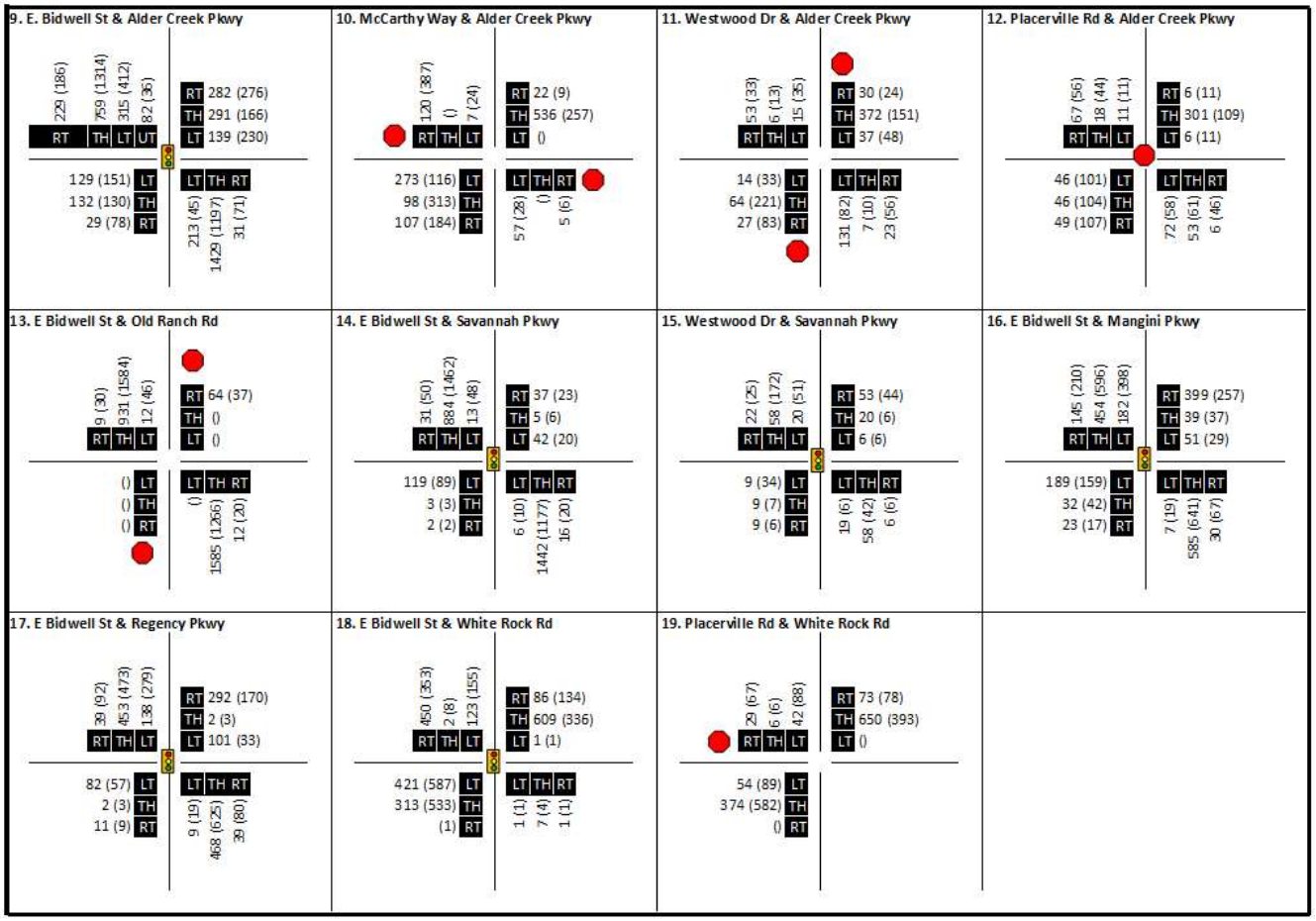


FIGURE 37: PHASE 4 (2034) VOLUMES (2 OF 2)

PHASE 4 (2034) OPERATIONS

Phase 4 (2034) AM and PM peak hour intersection operations, with and without Project, are shown in **Table 17**. The table provides the intersection LOS at each study location as well as average delay at any locations operating worse than the standard of LOS D. The intersections of East Bidwell Street & Iron Point Road (PM Peak) and East Bidwell Street & US 50 WB Ramps (PM Peak) continue to operate worse than LOS standards while all other study intersections continue to meet LOS standards. The intersections of East Bidwell Street & Iron Point Road and Placerville Road & White Rock Road have an increase to average delay of under the significance threshold of 5 seconds. The average delay at the intersection of East Bidwell Street & US 50 WB Ramps increases by more than 5 seconds with project trips during the PM peak hour, however, similar to previous Phases, signal timing adjustments will reduce the average delay to maintain LOS D. Warrant analysis shows that a Peak Hour signal warrant is not met for the intersection of Alder Creek Parkway and McCarthy Way.

TABLE 14: PHASE 4 CONDITIONS AM AND PM PEAK INTERSECTION OPERATIONS

#	Location	Control Type	Phase 4 Baseline		Phase 4 with Project	
			AM	PM	AM	PM
1	E Bidwell Street & Iron Point Road	Signal	C	E (69.9s)	C	E (74.7s)
2	E Bidwell Street & Placerville Road	Signal	B	B	A	B
3	E Bidwell Street & US 50 WB Ramps	Signal	D	D	D	E (72.9s)
4	E Bidwell Street & US 50 EB Ramps	Signal	B	C	B	C
5	Placerville Road & Westwood Drive	AWSC	A	A	A	A
6	Rowberry Way & Alder Creek Parkway	Signal	A	A	A	A
7	1st Street & Alder Creek Parkway	Signal	B	B	B	B
8	3rd Street & Alder Creek Parkway	Signal	B	B	B	B
9	E Bidwell Street & Alder Creek Parkway	Signal	B	B	C	C
10	McCarthy Way & Alder Creek Parkway	TWSC	A	A	D	C
11	Westwood Drive & Alder Creek Parkway	Signal	C	C	C	C
12	Placerville Road & Alder Creek Parkway	AWSC	A	A	A	A
13	E Bidwell Street & Old Ranch Way	TWSC	B	B	B	B
14	E Bidwell Street & Savannah Parkway	Signal	A	A	C	B
15	Westwood Drive & Savannah Parkway	Signal	A	A	A	A
16	E Bidwell Street & Mangini Parkway	Signal	C	C	C	C
17	E Bidwell Street & Regency Parkway	Signal	B	A	B	A
18	E Bidwell Street & CSEC	Signal	B	B	B	B
19	Placerville Road & CSEC	Signal	A	A	A	A

FUTURE CONDITIONS AND FULL PROJECT BUILDOUT

CUMULATIVE CONDITIONS

Baseline Cumulative Conditions analysis represents full buildout of the Plan Area, both regarding land use and planned infrastructure, as presented in the FPASP. There are two exceptions to this, being the BRT transit corridor identified in the Specific Plan, but not yet approved or funded by SacRT, the implementing agency, and the control and configuration of White Rock Road, which will be converted into the Capital Southeast Connector (CSEC) and assumed in this analysis but has not yet been represented though an amendment to the Specific Plan. This Chapter will however further qualitatively examine operational and design considerations of the BRT Line planned for Alder Creek Parkway adjacent to the Project site.

Based upon the FPASP, the following section details planned and assumed intersection control in the Project study area:

FUTURE TRAFFIC CONTROL

East Bidwell Street & Placerville Road

This intersection will continue to be partially signalized.

East Bidwell Street & US 50 WB Ramps

This intersection will continue to be signalized.

East Bidwell Street & US 50 EB Ramps

This intersection will continue to be signalized.

Placerville Road & Westwood Drive

This future intersection will be two-way stop-controlled with stop control on Westwood Drive. Westwood Drive will be a local street at this intersection and will have 2 vehicular travel lanes, bike lanes, and sidewalks.

Rowberry Way & Alder Creek Parkway

This future intersection will be signal controlled. Rowberry Road will be extended over US 50 with an overcrossing to connect with the future Alder Creek Parkway segment. Rowberry Road will be a minor arterial with 4 vehicle lanes, bike lanes, and sidewalks. Alder Creek Parkway will be an open space arterial at this intersection with 4 lanes, bike lanes, sidewalks, a bike path, and a 36-foot wide median.

1st Street & Alder Creek Parkway

This future intersection will be signal controlled. 1st Street will be classified as a collector and will have 2 vehicle travel lanes, bike lanes, sidewalks, and a 12-foot median. Alder Creek Parkway will be an urban arterial with 4 travel lanes, bike lanes, wide sidewalks, and a 36-foot wide median.

3rd Street & Alder Creek Parkway

This future intersection will be two-way stop-controlled, with stop control on 3rd St. 3rd Street will be classified as an urban street with 2 travel lanes, angle parking, and sidewalks. Alder Creek Parkway will be an urban arterial at this intersection with 4 travel lanes, bike lanes, wide sidewalks, and a 36-foot wide median.

East Bidwell Street & Alder Creek Parkway

This intersection will be signalized. Each approach will have dual left turns, three through-lanes, and a right turn pocket.

McCarthy Way & Alder Creek Parkway

This intersection is assumed to continue operating with two-way stop control along McCarthy Way and at the Driveway of the Enclave development. Additional analysis is provided for multiple access control scenarios at this intersection, given the expectation of circulation and safety issues given the proposed land use and potential BRT station.

Westwood Drive & Alder Creek Parkway

This future intersection will be signalized. Westwood Drive will be a collector with transit on the south leg and an arterial on the north leg, with 2 vehicle travel lanes, bike lanes, sidewalks, and a 38-foot median. Alder Creek Parkway will be an urban arterial at this intersection with 4 travel lanes, bike lanes, wide sidewalks, and a 36-foot wide median.

Placerville Road & Alder Creek Parkway

This intersection is assumed to continue operating with all-way stop-control. Alder Creek Parkway will be a two-lane urban collector with bike lanes, sidewalks, and a 16-foot median. The Placerville Road configuration is assumed to stay the same as existing.

East Bidwell Street & Old Ranch Rd

This future intersection will be two-way stop-controlled with stop signs on Old Ranch Road. East Bidwell Street will be a four-lane minor arterial at this intersection with bike lanes, sidewalks, and a 38-foot median. Old Ranch Road will be an urban street with two travel lanes, parallel parking on both sides, and sidewalks.

East Bidwell Street & Savannah Parkway

This future intersection will be signalized. East Bidwell Street will be a four-lane minor arterial at this intersection with bike lanes, sidewalks, and a 38-foot median. Savannah Parkway will be a two-lane urban collector with bike lanes, parallel parking on both sides, sidewalks, and a 16-foot median.

Westwood Drive & Savannah Parkway

This future intersection will be signalized. Savannah Parkway will be a two-lane urban collector with bike lanes, parallel parking on both sides, sidewalks, and a 16-foot median. Westwood Drive will be a collector street with two travel lanes, bike lanes, sidewalks, and a 12-foot median.

East Bidwell Street & Mangini Parkway

This intersection will continue to be signalized. East Bidwell Street will be a four-lane minor arterial at this intersection with bike lanes, sidewalks, and a 38-foot median. Mangini Way will be a two-lane collector with bike lanes, sidewalks, and a 16-foot median.

East Bidwell Street & Regency Parkway

This future intersection will be two-way stop-controlled with stop signs on Regency Parkway. East Bidwell Street will be a four-lane minor arterial at this intersection with bike lanes, sidewalks, and a 38-foot median.

East Bidwell Street & White Rock Road

In the future, this intersection will be signalized and act as a connection to the Capital Southeast Connector (CSEC), replacing White Rock Road. East Bidwell Street will be a four-lane minor arterial at this intersection with bike lanes, sidewalks, and a 38-foot median. The CSEC will be a four-lane expressway with a separated bike path on one side.

Placerville Road & White Rock Road

In the future this intersection will act as a connection to the Capital Southeast Connector (CSEC), replacing White Rock Road, and Placerville Road will no longer provide a direct connection to Alder Creek Parkway. The current alignment of Placerville Road at this intersection will be connected instead to Savannah Parkway The intersection is planned to be moved west along the current White Rock Road by realigning the north leg and removing the south leg of Placerville Road. The CSEC will be a four-lane expressway with a separated bike path on one side. Savannah Parkway will be a collector on the north leg and the south leg will be removed.

BACKGROUND TRAFFIC VOLUME GROWTH

The Regency at Folsom Ranch recently completed a TIA (December 2019) that assumed 2036 cumulative volumes through a comprehensive sub-TAZ trip generation and frataring exercise to generate turning movements at the relevant intersections. As part of that analysis, they assumed

land use for TAZ 1803[7], representing the lot associated with this proposed land use and adjacent parcels analyzed in this document. The trip generation associated with this parcel, summing to 512 trips during the AM peak and 598 trips in the PM peak, was subtracted from the Cumulative Condition volumes[8] used in the Regency study to create baseline (no project) Cumulative Conditions for this trip generation. The associated volumes were subtracted proportionally from the movements approaching and departing the parcel along Alder Creek Road to create the Cumulative Peak Hour volumes for Alder Creek Parkway & East Bidwell Street.

The cumulative lane configuration is based upon the FPASP circulation chapter and associated cross sections as shown in **Figure 38**, while **Figure 40** shows the cumulative volumes at each study intersection.

[7] Regency at Folsom Ranch Transportation Impact Study, Table 20, pg 54

[8] Regency at Folsom Ranch Transportation Impact Study, Figure 14, Intersection 14, pg 59

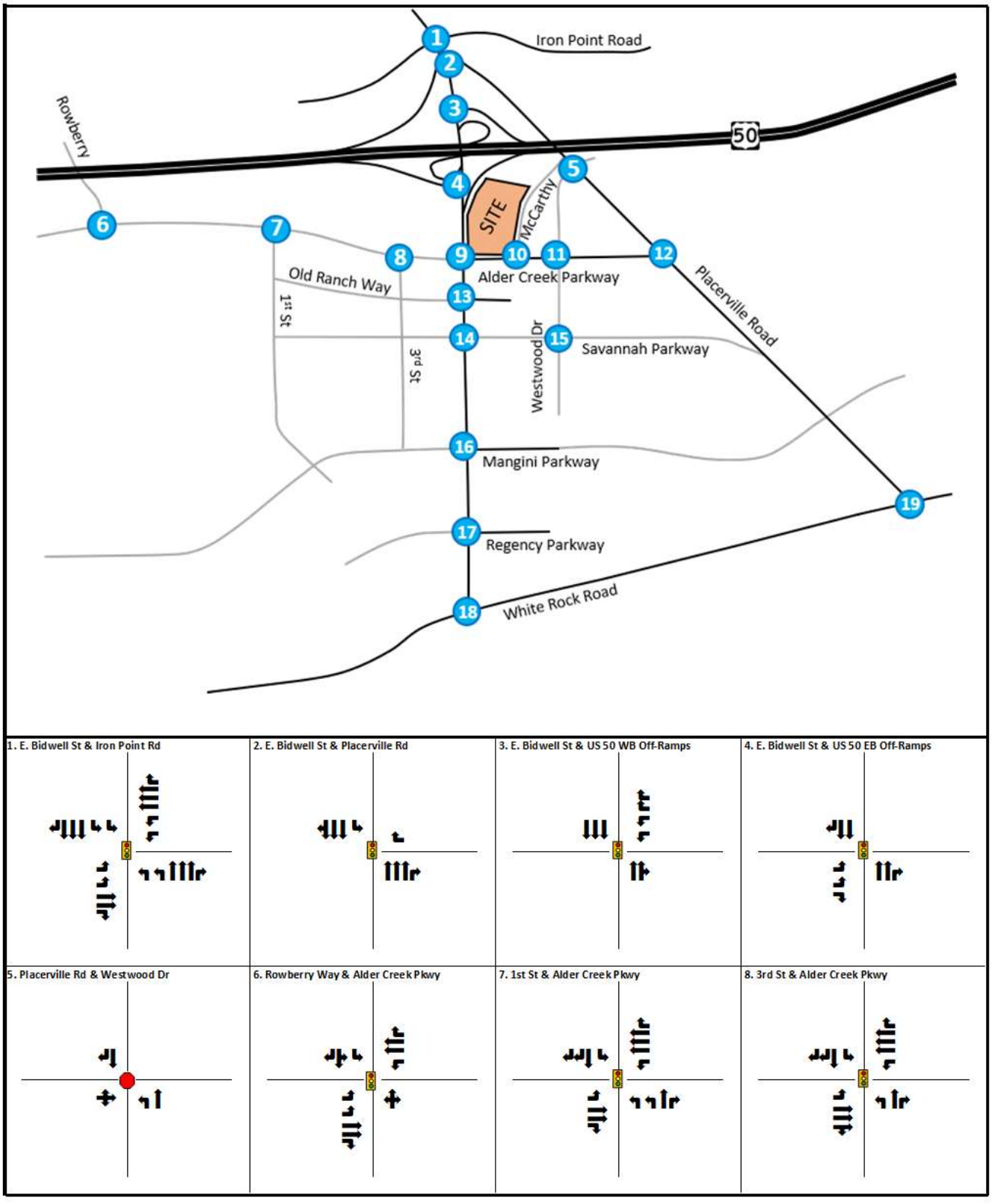


FIGURE 38: CUMULATIVE LANE CONFIGURATION (1 OF 2)

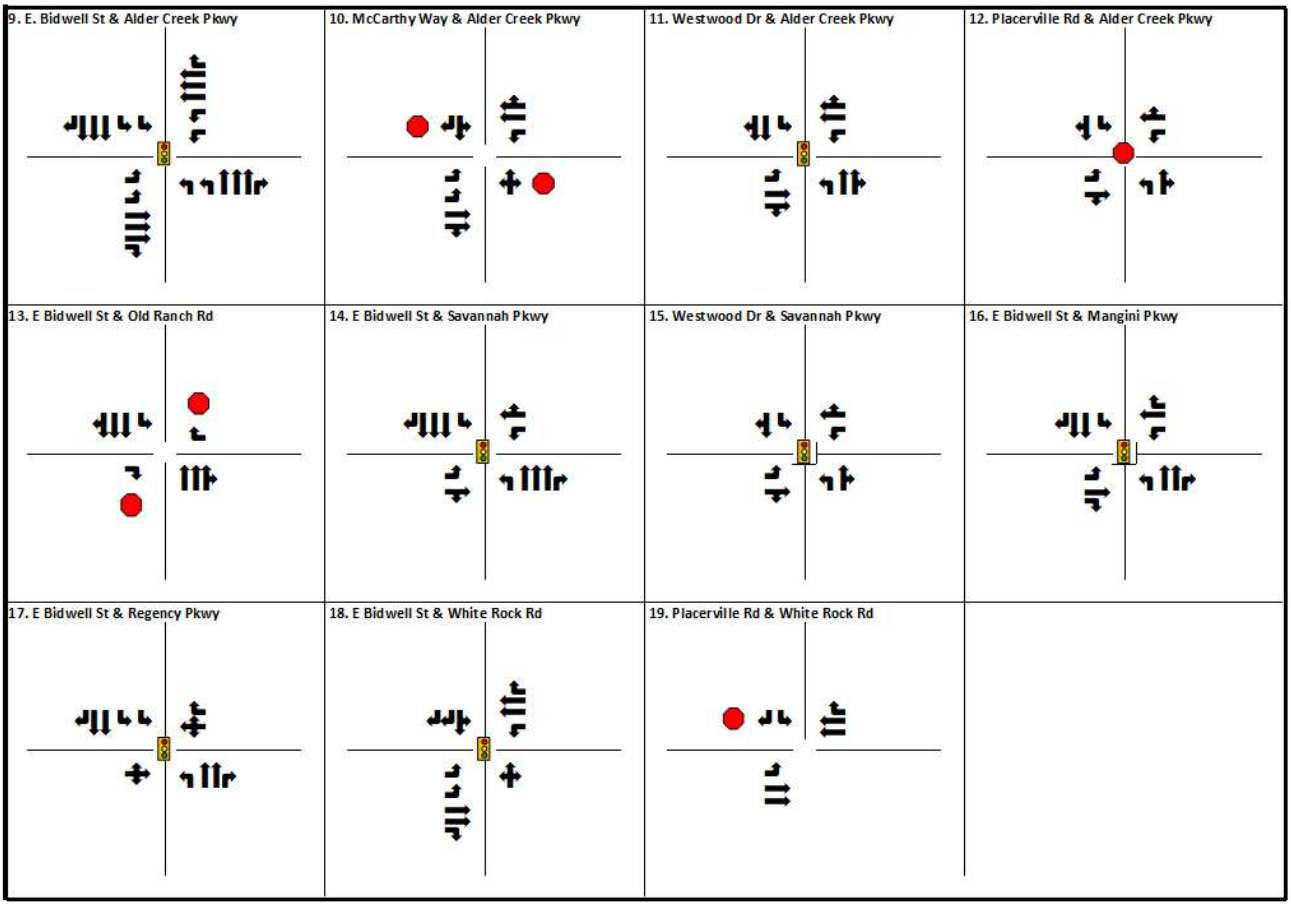


FIGURE 39: CUMULATIVE LANE CONFIGURATION (2 OF 2)

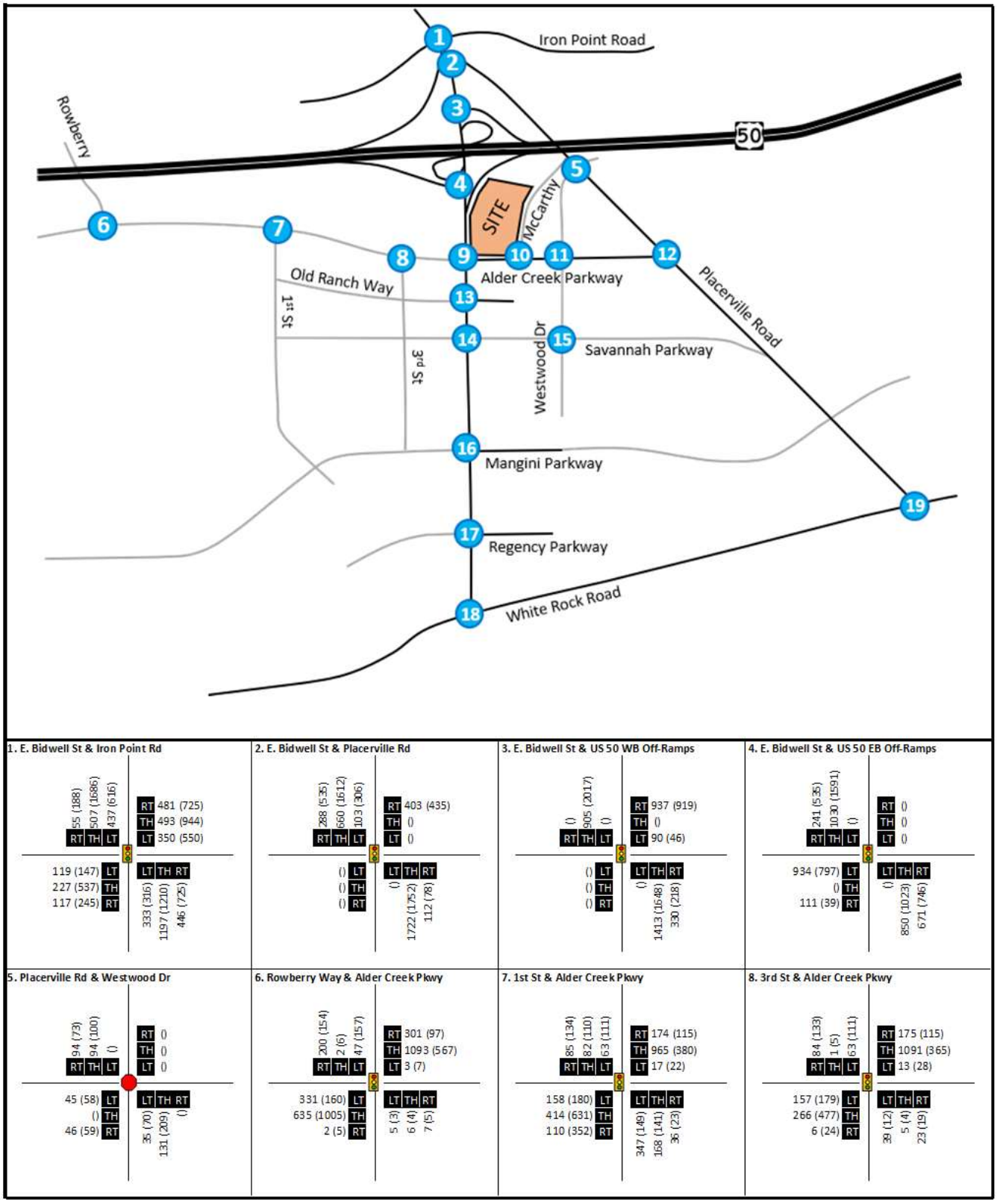


FIGURE 40: CUMULATIVE VOLUMES (1 OF 2)

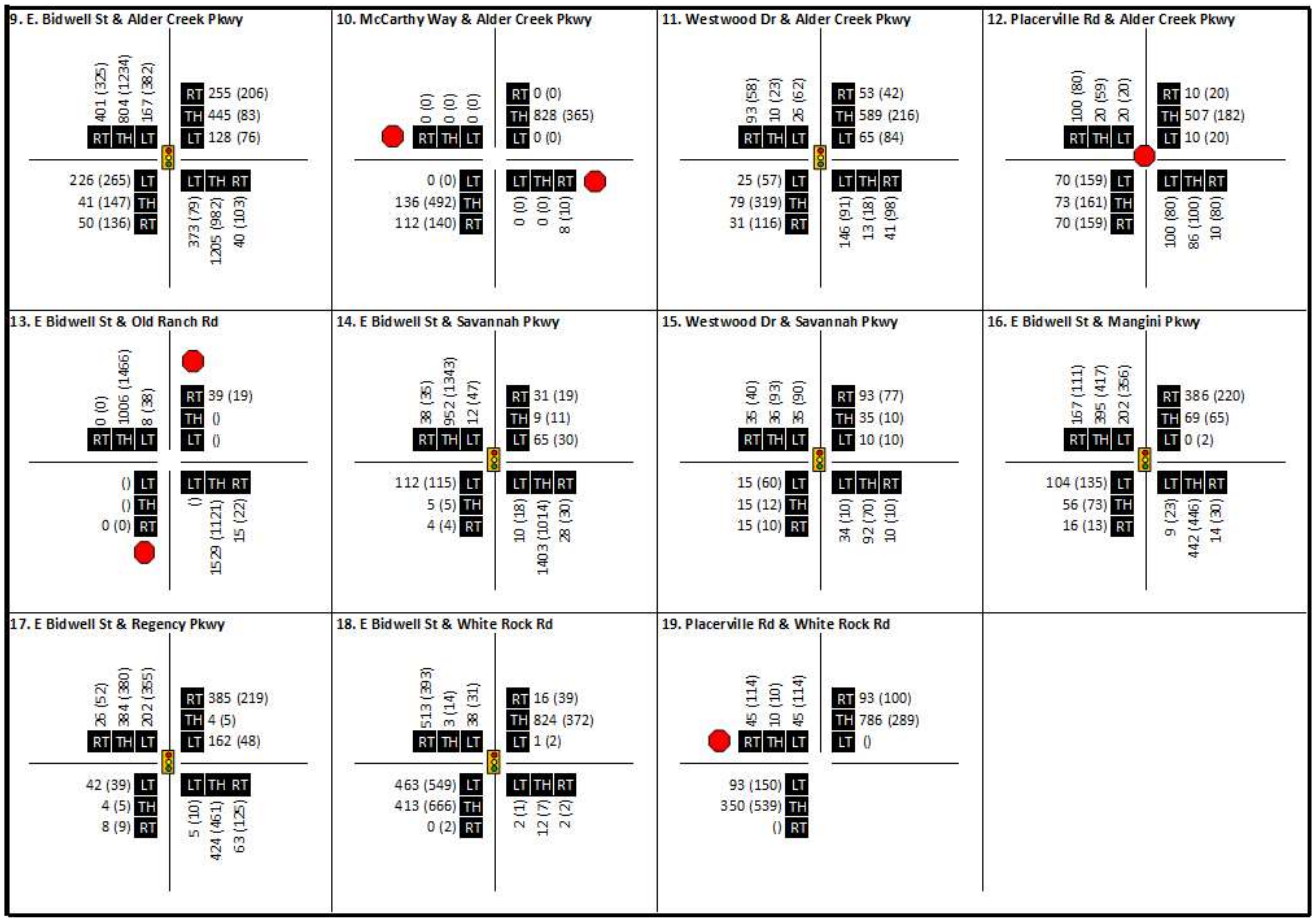


FIGURE 41: CUMULATIVE VOLUMES (2 OF 2)

ADJACENT PARCEL

Adjacent parcels to the Dignity Health project site will also add peak hour trips to the intersection before full buildout is achieved. The current plans for those sites include a hotel to the north of the Dignity Health project site and multi-family housing on the two parcels to the east. To provide a conservative estimate of additional trips, trips generation based on standard ITE rates was applied to the planned development, as shown in **Table 15**, and then all assumed to enter and exit the lot from Alder Creek Way & McCarthy Way. The trips were distributed similarly to how the project trips were without access to the Bidwell driveway.

TABLE 15: ADJACENT LAND USE AND TRIP GENERATION

LAND USE	LAND USE ID	UNITS (TYPE)	AM PEAK HOUR					PM PEAK HOUR				
			RATE	ENTER %	ENTER TRIPS	EXIT TRIPS	TOTAL TRIPS	RATE	ENTER %	ENTER TRIPS	EXIT TRIPS	TOTAL TRIPS
MULTI-FAMILY HOUSING	221	343 (apts.)	0.36	26%	32	91	123	0.44	61%	92	59	151
HOTEL	310	100 (rooms)	0.47	59%	28	19	47	0.60	51%	31	29	60
TOTAL					60	110	170			123	88	211

This additional land use represents 18% of the daily trips generated by the entire lot and 22% of the trips entering or exiting the parcel at McCarthy Way during the AM and PM peak hours.

CUMULATIVE OPERATIONS

Cumulative AM and PM peak hour intersection operations are shown below in **Table 16**. The table provides the intersection LOS at each study location. The intersection of East Bidwell Street & Iron Point Road operates at LOS F (PM Peak), worse than the City standard. All remaining study intersections meet the operating standards in the AM and PM peak hours

TABLE 16: CUMULATIVE CONDITIONS AM AND PM PEAK INTERSECTION OPERATIONS

#	Location	Control Type	Cumulative	
			AM	PM
1	E Bidwell Street & Iron Point Road	Signal	C	E (59.6s)
2	E Bidwell Street & Placerville Road	Signal	B	B
3	E Bidwell Street & US 50 WB Ramps	Signal	D	D
4	E Bidwell Street & US 50 EB Ramps	Signal	B	C
5	Placerville Road & Westwood Drive	AWSC	A	A
6	Rowberry Way & Alder Creek Parkway	Signal	A	A
7	1st Street & Alder Creek Parkway	Signal	B	B
8	3rd Street & Alder Creek Parkway	Signal	B	B
9	E Bidwell Street & Alder Creek Parkway	Signal	C	C
10	McCarthy Way & Alder Creek Parkway	Signal	A	B
11	Westwood Drive & Alder Creek Parkway	Signal	C	C
12	Placerville Road & Alder Creek Parkway	AWSC	C	B
13	E Bidwell Street & Old Ranch Way	TWSC	B	B
14	E Bidwell Street & Savannah Parkway	Signal	B	A
15	Westwood Drive & Savannah Parkway	Signal	A	A
16	E Bidwell Street & Mangini Parkway	Signal	C	C
17	E Bidwell Street & Regency Parkway	Signal	B	B
18	E Bidwell Street & CSEC	Signal	B	B
19	Placerville Road & CSEC	1WSC	A	A

PHASE 5 (BUILDOUT) VOLUMES

Figure 42 and **Figure 43** below show the cumulative plus project volumes at the study intersections in the AM and PM peak hours.

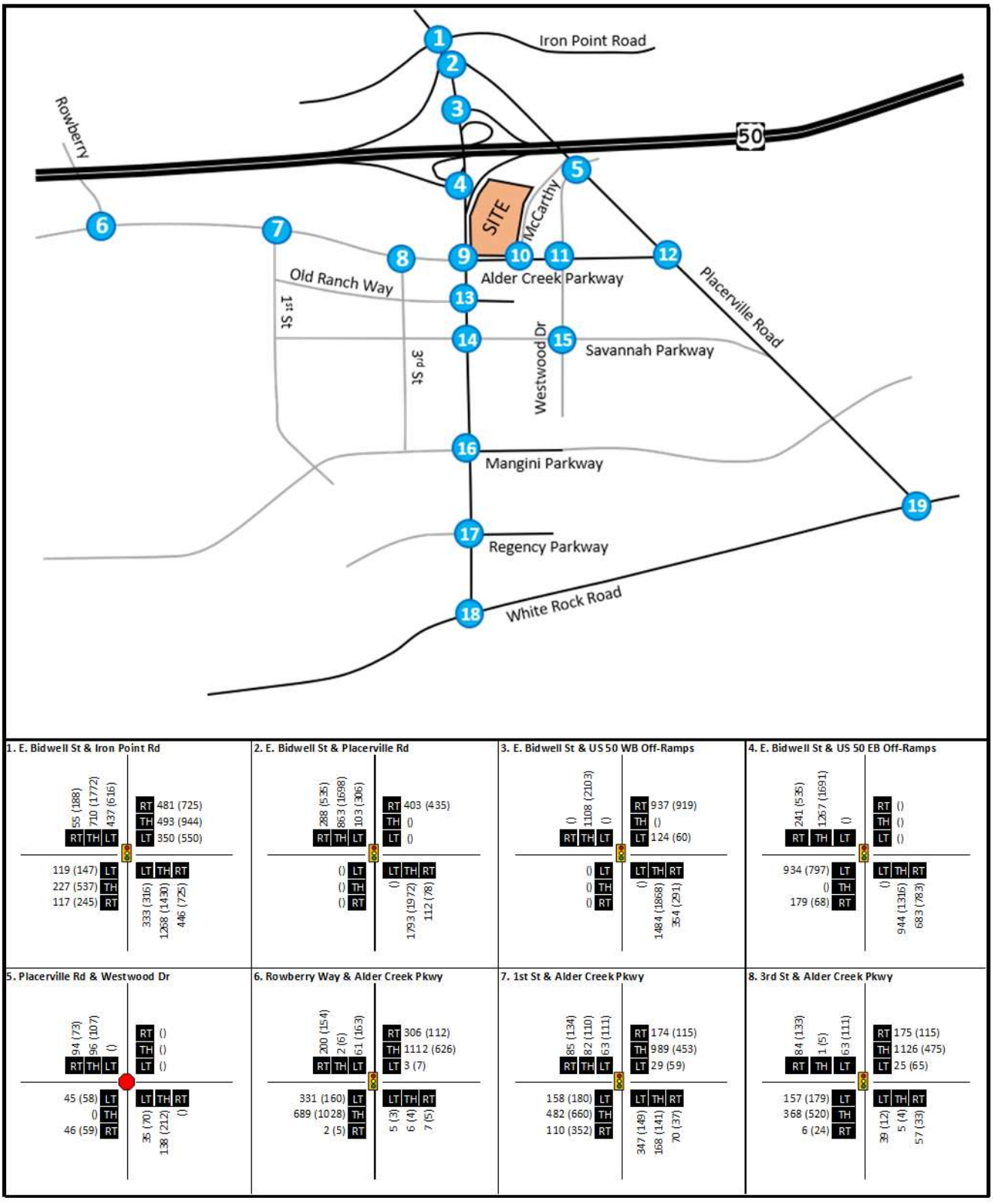


FIGURE 42: CUMULATIVE PLUS PROJECT VOLUMES (1 OF 2)

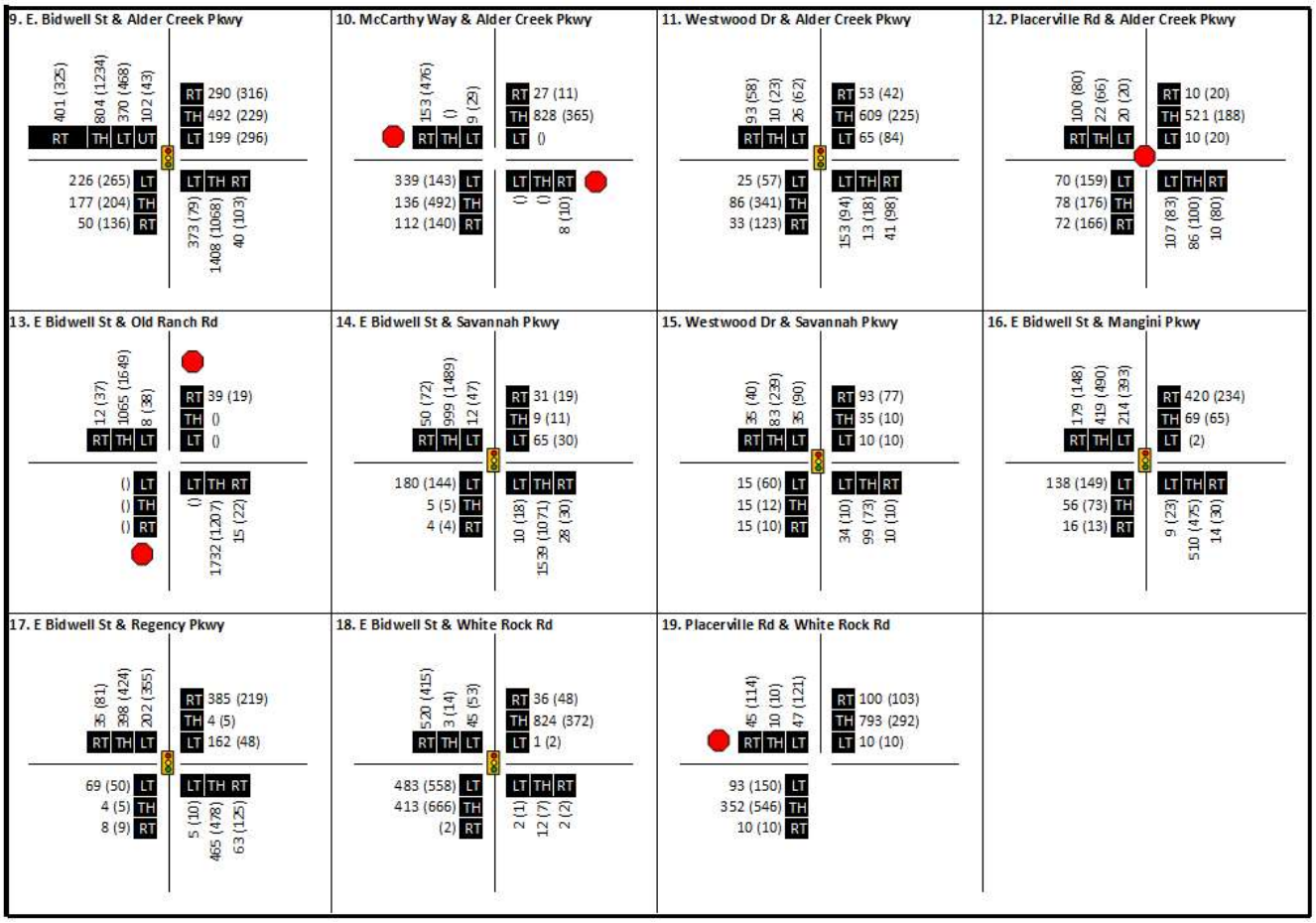


FIGURE 43: CUMULATIVE PLUS PROJECT VOLUMES (2 OF 2)

CUMULATIVE PLUS PROJECT OPERATIONS

Cumulative plus project AM and PM peak hour intersection operations are shown in **Table 17**. The table provides the intersection LOS at each study location. The intersection of East Bidwell Street & Iron Point Road operates at LOS F (PM Peak), worse than the City standard, however the change to the average delay with the addition of project trips is less than the significance threshold of 5 seconds. All remaining intersections continue to meet LOS standards. Warrant analysis shows that a Peak Hour signal warrant is met for the intersection of Alder Creek Parkway and McCarthy Way during the PM Peak Hour.

TABLE 17: CUMULATIVE PLUS PROJECT CONDITIONS AM AND PM PEAK INTERSECTION OPERATIONS

#	Location	Control Type	Cumulative		Cumulative with Project	
			AM	PM	AM	PM
1	E Bidwell Street & Iron Point Road	Signal	C	E (59.6s)	C	E (59.4)
2	E Bidwell Street & Placerville Road	Signal	B	B	B	B
3	E Bidwell Street & US 50 WB Ramps	Signal	D	D	D	D
4	E Bidwell Street & US 50 EB Ramps	Signal	B	C	B	D
5	Placerville Road & Westwood Drive	AWSC	A	A	A	A
6	Rowberry Way & Alder Creek Parkway	Signal	A	A	A	A
7	1st Street & Alder Creek Parkway	Signal	B	B	B	B
8	3rd Street & Alder Creek Parkway	Signal	B	B	B	B
9	E Bidwell Street & Alder Creek Parkway	Signal	C	C	C	C
10	McCarthy Way & Alder Creek Parkway	Signal	A	B	D	C
11	Westwood Drive & Alder Creek Parkway	Signal	C	C	C	C
12	Placerville Road & Alder Creek Parkway	AWSC	C	B	D	B
13	E Bidwell Street & Old Ranch Way	TWSC	B	B	B	B
14	E Bidwell Street & Savannah Parkway	Signal	B	A	B	A
15	Westwood Drive & Savannah Parkway	Signal	A	A	A	A
16	E Bidwell Street & Mangini Parkway	Signal	C	C	C	C
17	E Bidwell Street & Regency Parkway	Signal	B	B	B	B
18	E Bidwell Street & CSEC	Signal	B	B	B	B
19	Placerville Road & CSEC	1WSC	A	A	A	A

MICROSIMULATION ANALYSIS

Given the closely spaced intersections located adjacent to the Project site along Alder Creek Parkway and potential for spillback queues from vehicles accessing the site, additional microsimulation analysis was performed to confirm or elaborate on the Synchro model results. The analysis focuses on the segment of East Bidwell Street and Alder Creek Parkway adjacent to the project site. While the Synchro results show acceptable queuing and delay for the existing configuration at the intersection of Alder Creek Parkway and McCarthy Way, examines alternative control scenarios, providing future options for the City.

First, to confirm that the results for baseline Cumulative Conditions, the intersection of McCarthy Way & Alder Creek Parkway was modeled in Vissim consistent with current lane configuration providing permissive left turns from Alder Creek Parkway. See **Table 18** below for the 95th percentile queue, intersection delay, and LOS for the intersection of McCarthy Way & Alder Creek Parkway under baseline lane configuration.

TABLE 18: BASELINE CONFIGURATION – MICROSIMULATION RESULTS

INTERSECTION	MOVEMENT	95TH %TILE Q (FT)* SCENARIO		DESIGN POCKET LENGTH (ft)	DELAY & LOS SCENARIO	
		AM	PM		AM	PM
Alder Creek Parkway & McCarthy Way	SBR	66	**857**	250	11/B	**149/F**
	EBL	74	5	315	12/B	3/A

* 95th percentile queue length results based on Vissim simulation, **red text** denotes a queue that exceeds pocket length or distance to closest upstream intersection

As shown, while the isolated Synchro analysis does not highlight any delay or queueing concerns, the microsimulation shows that westbound traffic queues from East Bidwell reduce the available opportunities for people to turn onto Alder Creek Parkway from McCarthy Way, resulting in significant queuing and delays during the PM peak. If an additional southbound channelized right turn lane is added which allows traffic to go directly into the westbound right turn at Alder Creek Parkway & East Bidwell Street, most of the vehicles trying to leave the site will not have to wait for a gap in the westbound traffic.

See **Table 19** below for the 95th percentile queue, intersection delay, and LOS for the intersection of McCarthy Way & Alder Creek Parkway under baseline lane configuration.

TABLE 19: MODIFIED BASELINE WITH ADDITIONAL TURN LANE – MICROSIMULATION RESULTS

INTERSECTION	MOVEMENT	95TH %TILE Q (FT)* SCENARIO		DESIGN POCKET LENGTH (ft)	DELAY & LOS SCENARIO	
		AM	PM		AM	PM
Alder Creek & Bidwell	SBL	249	244	400	52.4 / D	47.2 / D
	WBT	271	115	-		
	WBR	164	146	310		
Alder Creek & McCarthy	SBR	48	179	250	8.6 / A	14.4 / B
	EBL	96	6	315	10.7 / B	3.0 / A

* 95th percentile queue length results based on Vissim simulation, **red text** denotes a queue that exceeds pocket length or distance to closest upstream intersection

As shown, the queue along McCarthy is sufficiently stored within the dual right turn pocket and delays are reduced to acceptable levels while maintaining operations at Alder Creek Parkway & East Bidwell Street.

Analysis was also performed for the Bidwell driveway for storage for northbound right-turning vehicles and potential queues forming during an emergency signal preemption event allowing for an ambulance, fire engine, or other emergency vehicle to have safe left-turn access across East Bidwell Street. Analysis was done using cumulative conditions and full project buildout to ensure worst case conditions.

The access point will have standard right-in right-out (RIRO) access with a 90-foot right-turn pocket provided for save deceleration and access. Analysis shows no 95th percentile queue forming. During an emergency signal preemption event, a half-signal will stop northbound traffic for enough time for the vehicle to safety complete the turning maneuver. Analysis shows the 95th percentile queue would extend a maximum of 223 feet which is significantly shorter than the 600 foot distance to the upstream intersection of Alder Creek Parkway. Queue analysis is documented at the end of the Synchro appendix.

FREEWAY ANALYSIS

This section shows freeway segment, merge, and diverge analysis for US 50 at the East Bidwell Street interchange, summarized in **Table 20**, **Table 21**, and **Table 22**. Analyses were performed using HCS7 with HCM 6th Edition methodology for each scenario (Existing, EPAP, EPAP with Project, Cumulative, and Cumulative with Project). Worksheets can be found in the appendix.

The following freeway facilities were identified to operate worse than the general plan defined operating criteria:

- US 50 Eastbound mainline segment west of East Bidwell Street Interchange (EPAP PM, Cumulative PM)
- US 50 Westbound mainline segment east of East Bidwell Street Interchange (EPAP AM, Cumulative AM)
- East Bidwell Street to US 50 Westbound Slip On-Ramp Merge (EPAP AM)
- US 50 Westbound mainline segment west of East Bidwell Street Interchange (EPAP AM, Cumulative AM)

The addition of project related trips do not result in any change to level-of-service nor meet the 1% threshold for additional volume stated in the General Plan. Project trips however do increase vehicle density by more than 0.1 passenger cars per lane per mile at the following two locations:

- US 50 Westbound mainline segment east of East Bidwell Street Interchange (EPAP AM)
- East Bidwell Street to US 50 Westbound Slip On-Ramp Merge (EPAP AM)

Therefore, the project results in an operational deficiency. However, the threshold is no longer exceeded under Cumulative Conditions due to the implementation of the US 50 interchange at Empire Ranch Road, which is programmed and scheduled to begin construction in 2025, a year after the EPAP scenario. As a result, no additional improvements are necessary to address this deficiency.

TABLE 20: AM AND PM PEAK FREEWAY DEMAND

#	Location	Analysis Type	Existing[2]		EPAP 2024[2]		EPAP with Project 2024[2]		Cumulative[2]		Cumulative with Project[2]	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	EB west of East Bidwell Street Interchange	Segment	2,747	**3,960**	2,950	**4,560**	2,971	**4,569**	3,716	**4,635**	3,784	**4,664**
2	EB East Bidwell Street Slip Off-Ramp	Diverge	819	1,080	1,022	1,680	1,043	1,689	1,045	836	1,113	865
3	EB between Off-Ramp and On-Ramps[1]	Segment	*1,928*	*2,880*	*1,928*	*2,880*	*1,928*	*2,880*	*2,671*	*3,799*	*2,671*	*3,799*
4	EB East Bidwell Street Loop On-Ramp	Merge	542	1,181	542	1,181	542	1,181	241	535	241	535
5	EB East Bidwell Street Slip On-Ramp	Merge	118	323	170	481	174	497	671	746	683	783
6	EB east of East Bidwell Street Interchange[1]	Segment	*2,588*	*4,384*	*2,640*	*4,542*	*2,644*	*4,558*	*3,583*	*5,080*	*3,595*	*5,117*
7	WB east of East Bidwell Street Interchange	Segment	**4,216**	3,272	**4,295**	3,477	**4,309**	3,483	**5,040**	3,753	**5,074**	3,767
8	WB East Bidwell Street Slip Off-Ramp	Diverge	1,154	1,185	1,233	1,390	1,247	1,396	1,027	965	1,061	979
9	WB between Off-Ramp and On-Ramps[1]	Segment	*3,062*	*2,087*	*3,062*	*2,087*	*3,062*	*2,087*	*4,013*	*2,788*	*4,013*	*2,788*
10	WB East Bidwell Street Loop On-Ramp	Merge	81	96	551	397	557	421	330	218	354	291
11	WB East Bidwell Street Slip On-Ramp	Merge	924	687	**940**	700	**940**	700	288	535	288	535
12	WB west of East Bidwell Street Interchange[1]	Segment	***4,067***	*2,870*	***4,553***	*3,184*	***4,559***	*3,208*	***4,631***	*3,541*	***4,655***	*3,614*

Notes:
[1]: Freeway segment volumes downstream of the first mainline segment are calculated based on on-ramp and off-ramp flows.
[2]: Volumes of operationally deficient freeway facilities are bolded

TABLE 21: AM AND PM PEAK FREEWAY DENSITY

#	Location	Analysis Type	Existing[1]		EPAP 2024[1]		EPAP with Project 2024[1]		Cumulative[1]		Cumulative with Project[1]	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	EB west of East Bidwell Street Interchange	Segment	20.9	**35.7**	22.8	**45.0**	23.0	**45.0**	31.9	**45.0**	33.0	**45.0**
2	EB East Bidwell Street Slip Off-Ramp	Diverge	9.1	15.5	11.0	20.5	11.2	20.5	14.3	17.0	15.0	17.0
3	EB between Off-Ramp and On-Ramps	Segment	14.2	22.1	14.2	21.1	14.2	21.0	20.2	30.3	20.2	29.9
4	EB East Bidwell Street Loop On-Ramp	Merge	11.8	20.0	11.8	21.5	11.8	21.5	14.0	22.5	14.0	22.3
5	EB East Bidwell Street Slip On-Ramp	Merge	9.3	15.9	9.5	17.3	9.5	17.3	12.8	19.2	12.9	19.3
6	EB east of East Bidwell Street Interchange	Segment	12.7	22.5	13.0	22.6	13.0	22.7	17.8	25.8	17.8	25.9
7	WB east of East Bidwell Street Interchange	Segment	**40.4**	26.2	**42.1**	28.6	**42.5**	28.7	**45.0**	32.4	**45.0**	32.7
8	WB East Bidwell Street Slip Off-Ramp	Diverge	17.0	13.2	17.7	15.1	17.8	15.1	17.2	14.1	17.4	14.2
9	WB between Off-Ramp and On-Ramps	Segment	23.9	15.5	23.4	15.4	23.4	15.4	27.9	21.2	27.5	21.2
10	WB East Bidwell Street Loop On-Ramp	Merge	15.1	10.5	18.8	11.9	18.8	12.0	20.1	14.4	20.1	14.8
11	WB East Bidwell Street Slip On-Ramp	Merge	20.1	13.7	**80.6**	15.3	**81.0**	15.4	21.7	17.1	21.7	17.5
12	WB west of East Bidwell Street Interchange	Segment	**37.6**	22.0	**38.5**	25.2	**38.5**	25.5	**36.7**	29.5	**36.6**	30.5

Notes:
[1]: Density (passenger cars per lane per mile) of operationally deficient freeway facilities are bolded

TABLE 22: AM AND PM PEAK FREEWAY OPERATIONS

#	Location	Analysis Type	Existing		EPAP 2024		EPAP with Project 2024		Cumulative		Cumulative with Project	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	EB west of East Bidwell Street Interchange	Segment	C	**E**	C	**F**	C	**F**	D	**F**	D	**F**
2	EB East Bidwell Street Slip Off-Ramp	Diverge	A	B	B	C	B	C	B	B	B	B
3	EB between Off-Ramp and On-Ramps	Segment	B	C	B	C	B	C	C	D	C	D
4	EB East Bidwell Street Loop On-Ramp	Merge	B	C	B	C	B	C	B	C	B	C
5	EB East Bidwell Street Slip On-Ramp	Merge	A	B	A	B	A	B	B	C	B	C
6	EB east of East Bidwell Street Interchange	Segment	B	C	B	C	B	C	B	C	B	C
7	WB east of East Bidwell Street Interchange	Segment	**E**	D	**E**	D	**E**	D	**F**	D	**F**	D
8	WB East Bidwell Street Slip Off-Ramp	Diverge	B	B	B	B	B	B	B	B	B	B
9	WB between Off-Ramp and On-Ramps	Segment	C	B	C	B	B	B	D	C	D	C
10	WB East Bidwell Street Loop On-Ramp	Merge	B	A	C	B	B	B	C	B	C	B
11	WB East Bidwell Street Slip On-Ramp	Merge	C	B	**F**	B	**F**	B	C	B	C	B
12	WB west of East Bidwell Street Interchange	Segment	**E**	C	**F**	C	**F**	C	**F**	D	**F**	D

Notes:
[1]: Operationally deficient freeway facilities are bolded

FUTURE BUS RAPID TRANSIT OPERATIONS

The following section details the design implications and effect on the operation of study intersections adjacent to the Project Site of Bus Rapid Transit (BRT) implementation on Alder Creek Parkway. Effects on BRT operations as well as pedestrian and bicycle interactions are also examined. This summary includes two potential alignments for each the three intersection control alternatives at Alder Creek and McCarthy Way. Each concept is highlighted in the figures below using a Vissim model representation where red lanes denote bus-only lanes, orange lanes are Business Access Transit (BAT) lanes, and dark blue represents station platform locations. Both BRT concepts assume center running operations for westbound Alder Creek Parkway and from Westwood Drive through East Bidwell Street. Eastbound BRT concepts consider center running operations or right running operations with the use of a BAT Lane that allows exclusive use for right turning vehicles and transit.

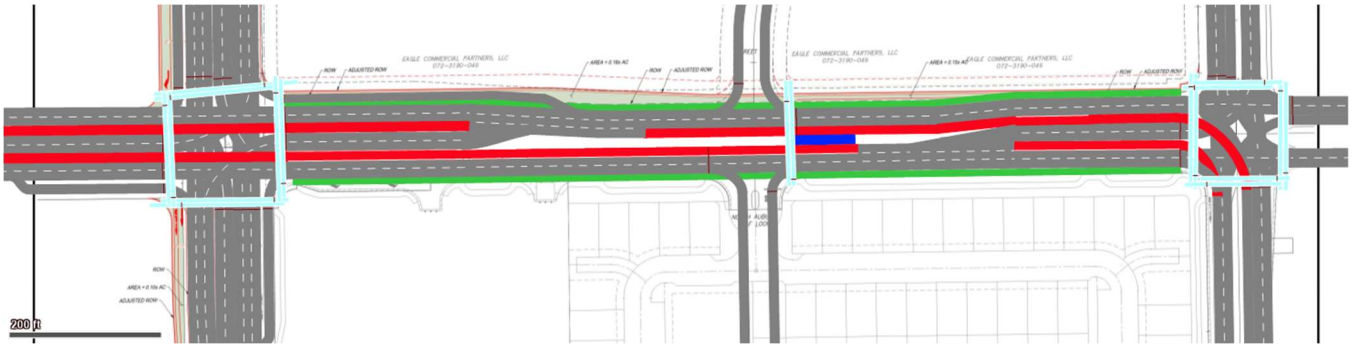


FIGURE 44: MEDIAN CENTER RUNNING

WESTBOUND BRT OPERATIONS SUMMARY

- Northbound left turn from Westwood Drive directly into bus-only lane on Alder Creek Parkway
- Near-side station at McCarthy Way with signalized crosswalk
- Bus-only lane transitions to general purpose lane west of McCarthy Way to allow vehicles turning left onto East Bidwell access to the turn lanes (128 vph PM peak)
- BRT has distance to get up to speed after departing station prior to vehicle traffic merging into lane
- Bus-only lane approaching East Bidwell with opportunity for advanced transit signal priority
- Westbound center-running BRT allows for transit to operate concurrent with vehicle phases taking advantage of signal progression
- Avoids heavy vehicle demand in right lanes along Alder Creek Parkway.

EASTBOUND BRT OPERATIONS SUMMARY

- Eastbound BRT in bus-only lane across East Bidwell Street through McCarthy Way
- Far-side station at McCarthy Way with signalized crosswalk
- Bus-only lane ends immediately east of station to allow eastbound left and u-turn vehicles access to the turn lane at Westwood Drive (394 vph AM peak)

- Significant weave of vehicles in front of BRT departing station poses potential safety and performance issues.
- BRT enters bus-only lane approaching Westwood Drive where bus needs to wait for exclusive eastbound right turn phase from the left side of the through lanes, resulting in additional transit and vehicle delay with possible impacts to vehicle progression

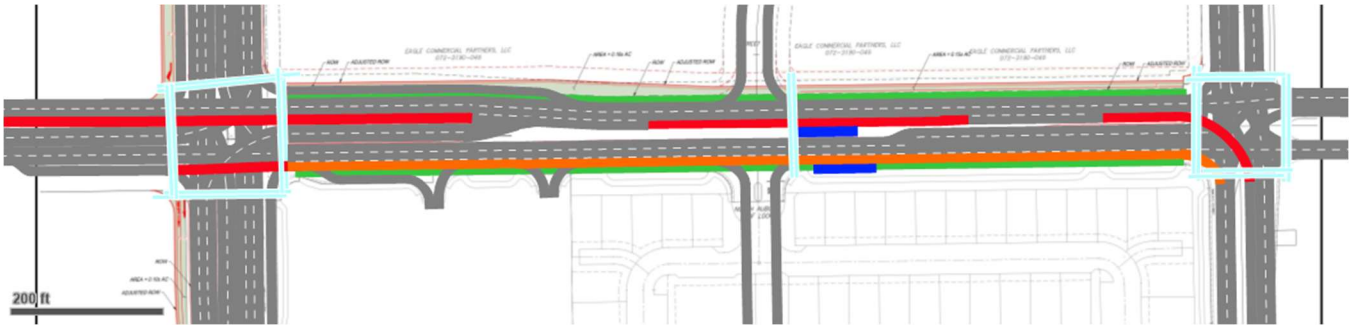


FIGURE 45: CENTER RUNNING WESTBOUND / RIGHT RUNNING EASTBOUND

WESTBOUND BRT OPERATIONS SUMMARY

- Same as previous scenario

EASTBOUND BRT OPERATIONS SUMMARY

- Eastbound BRT crosses East Bidwell Street to a right BAT lane using one of two options:
  - BRT transitions from center-running alignment to right-running west (TBD) of East Bidwell arriving at East Bidwell in right turn/queue jump lane and times with adjacent through phase reducing delay for vehicles and transit [shown]
  - BRT arrives at East Bidwell in center bus-only between through and left turn lanes. Requires significant and exclusive queue jump phase to transition two lanes to far-side right BAT lane. Results in increased delay for vehicles and transit [not shown]
- BAT lane allows only bus through movement and right turn access to driveways and intersections
- Far-side station at McCarthy Way with signalized crosswalk
- Station design can incorporate bike lane behind platform to eliminate bus/bike conflict
- Bus departs station in BAT positioned to make right turn at Westwood Drive
- Bus right turn from right lane at Westwood Drive allows bus to operate with progression of through vehicles minimizing delay for vehicles and transit
- Optional right turn lane at Westwood Drive (not shown) allows further vehicle and transit performance with right turn overlap phase
- No transit phase needed for right turn at Westwood Drive
- Transit signal priority can be used for early green or green extension to progress the BRT through the right turn at Westwood Drive as the BRT operates concurrent with the eastbound through phase
- BRT in right BAT lane avoids heavy traffic in left lane of Alder Creek Parkway

CONCLUSIONS FOR BRT INCLUSION

In summarizing the design implications of BRT on Alder Creek Parkway, the key considerations described above include consistency with the planned alignment west of East Bidwell Street, the ease of making a right-turn to and left-turn from the planned alignment along Westwood Drive, potential conflicts between transit and general traffic, and safety and accessibility for transit riders. Each scenario has associated advantages and disadvantages for each of the design scenarios.

The westbound center-running alignment provides consistency with the Specific Plan and adjacent design alignments while also providing a high level of transit performance with minimal conflicts with other vehicles. It is the preferred alignment in all scenarios.

Eastbound BRT operations have the option of either center-running or right-running. While center-running operations provides similar consistency with plans and adjacent designs, it results in lower transit performance due to requiring dedicated phases and conflicts with left-turning vehicles at McCarthy Way and Westwood Drive. The center-running conflicts stem from the BRT vehicle having to shift/merge right over two lanes of traffic after McCarthy Way in order to execute the right-turn at Westwood Drive. This merge would be in direct conflict with hospital-bound vehicles who must merge over to the dedicated left turn lane at Westwood Drive. Right-running operations in a Business Access Transit Lane (driveway and right-turn access only) improves transit operations, minimizes conflicts with heavy left-turn volumes, and results in a lower right-of-way impact. The right-running would however require a transition at East Bidwell Street using a dedicated transit queue jump phase and would increase crossing distance for eastbound passengers.

PROJECT SUMMARY

The project development will result in the impacts stated below:

VMT

IMPACT

- The proposed project's VMT per employee is greater than 85% of the regional average resulting in significant VMT impact.

MITIGATION MEASURE

- **Mitigation Measure 4.17-1 Participation in the Sacramento Council of Governments 50 Corridor Transportation Management Association.**
  During project operation, and consistent with Mitigation Measure 3A.15-2c listed above, the project applicant shall ensure on-going employer membership and participation by Dignity Health in the Sacramento Area Council of Governments (SACOG) 50 Corridor Transportation Management Association (U.S. 50 TMA). In addition, given that employee participation in the U.S. 50 TMA is voluntary, the project applicant shall be required to conduct biennial Dignity Health employee surveys to ensure that at a minimum a 4.5 percent reduction in

VMT (or 1,525 daily VMT) is achieved and maintained as part of project operations. Dignity Health shall be responsible for implementing biennial Dignity Health employee surveys to gauge participation with the various employee benefits offered by the U.S. 50 TMA. In order to ensure that the necessary reduction in VMT is being reported and achieved, the surveys shall include questions from which VMT reduction estimates can be estimated (e.g., how many days per week do you take alternative modes of transportation to work? How far do you live from your site of employment? etc). Surveys and survey results shall be coordinated through and submitted to the U.S. 50 TMA, SACOG, and the City. If the required level of VMT reduction is not achieved, the City of Folsom shall work with Dignity Health and the TMA to identify other demand management related strategies to increase participation in the program and achieve the required reduction in VMT.

TRANSIT

IMPACT

- The proposed project would not adversely affect public transportation operations. The project would not modify or impede any existing or planned transit facilities or routes.

MITIGATION MEASURE

- No mitigation required.

PEDESTRIAN

IMPACT

- The proposed project would not adversely affect any existing or planned pedestrian facilities.

MITIGATION MEASURE

- No mitigation required.

BICYCLE

IMPACT

- The proposed project would not adversely affect any existing or planned bicycle facilities.

MITIGATION MEASURE

- No mitigation required

The project development will result in the following operational and design deficiencies stated below:

INTERSECTION OPERATIONS

DEFICIENCY

- Microsimulation shows the intersection of Alder Creek Parkway & McCarthy Way to exceed General Plan thresholds for southbound queuing and delay under Cumulative Conditions (PM Peak).
- Operations at the remaining Study intersections do not exceed General Plan thresholds or criteria, nor do they degrade operations greater than the thresholds stated in the General Plan at any study intersections forecasted to be deficient without project trips.

IMPROVEMENT

- Addition of an additional 250 ft channelized southbound right-turn lane along McCarthy Way leading into an extended westbound right-turn lane at East Bidwell Street & Alder Creek Way. To minimize weaving, the southbound right-turn lane should be signed and/or striped for vehicles planning to go north on East Bidwell Street. This will reduce the queue to an acceptable length.

INTERSECTION DESIGNS

DEFICIENCY

- The proposed project would not include any design components inconsistent with City policies.

IMPROVEMENT

- No improvement needed.

FREEWAY OPERATIONS

DEFICIENCY

- The proposed project does not cause operations at any study freeway facility to become deficient based on General Plan criteria, however it degrades operations greater than the thresholds stated in the General Plan at the following two facilities forecasted to exceed thresholds under EPAP conditions:
    - US 50 Westbound mainline segment east of East Bidwell Street Interchange (EPAP AM)
    - East Bidwell Street to US 50 Westbound Slip On-Ramp Merge (EPAP AM)

IMPROVEMENT

- The programmed implementation of an US 50 interchange at Empire Ranch Road results in the deficiency threshold not to be exceeded. As a result, no additional improvements are necessary to address this deficiency.

CONDITIONS OF APPROVAL

To address the identified deficiencies and to provide safe and efficient operations, the following conditions of approval are recommended as part of the associated development phases.

PHASE 1 (2023) CONDITIONS OF APPROVAL

- Construction of McCarthy Way between Alder Creek Parkway and Placerville Road along with multiple access points to the site, consistent with City of Folsom design and operational standards.
- Construction of an additional 250-foot right-turn lane for southbound McCarthy Way approaching Alder Creek Parkway connecting to a right-turn pocket for westbound Alder Creek Parkway approaching East Bidwell Street; revised setback of the proposed parking lot curb along the south and east edge of the Project Site.
- Construction of a southbound emergency vehicle-only left-turn movement into the East Bidwell Street access point along with installation of a half-signal that will be triggered through emergency signal preemption to stop northbound traffic for enough time for the vehicle to safety complete the turning maneuver.

PHASE 2 (2028) CONDITIONS OF APPROVAL

- No conditions of approval required

PHASE 3 (2030) CONDITIONS OF APPROVAL

- Should the applicant desire to construct a traffic signal at Alder Creek/McCarthy as an element of Phase 3 development, applicant shall first be required to perform a supplemental traffic analysis to assess the operational impacts associated with signalization of the intersection.

PHASE 4 (2034) CONDITIONS OF APPROVAL

- No conditions of approval required

PHASE 5 (2040) BUILDOUT CONDITIONS OF APPROVAL

- If the intersection of Alder Creek Parkway and McCarthy Way remains two-way stop controlled, construction of a pedestrian-actuated midblock protected crossing (RRFB, or HAWK-signal) to coincide with implementation of BRT service to allow for safe pedestrian access to and from the eastbound BRT stop.

APPENDIX

DKS

8950 CAL CENTER DRIVE, SUITE 340, SACRAMENTO, CA 95826 • 916.368.2000 • DKSASSOCIATES.COM

APPENDIX

- Section 1. Synchro Analysis Results
- Section 2: HCS Analysis Results
- Section 3: Signal Warrant Analysis
- Section 4: Alternative Control at Alder Creek Parkway & McCarthy Way Scenario Analysis

Section 1. Synchro Analysis Results

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	69	240	469	246	113	599	1232	389	38	939	57
Future Volume (vph)	107	69	240	469	246	113	599	1232	389	38	939	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	109	70	245	479	251	115	611	1257	397	39	958	58
RTOR Reduction (vph)	0	0	38	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	109	70	207	479	251	115	611	1257	397	39	958	58
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	9.2	9.2	36.5	18.0	18.0	120.0	27.3	70.3	120.0	4.5	47.5	120.0
Effective Green, g (s)	9.2	9.2	36.5	18.0	18.0	120.0	27.3	70.3	120.0	4.5	47.5	120.0
Actuated g/C Ratio	0.08	0.08	0.30	0.15	0.15	1.00	0.23	0.59	1.00	0.04	0.40	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	260	268	553	510	755	1568	747	2950	1568	127	1993	1568
v/s Ratio Prot	0.03	0.02	c0.08	c0.14	0.05		c0.19	0.25		0.01	c0.19	
v/s Ratio Perm			0.04			0.07			0.25			0.04
v/c Ratio	0.42	0.26	0.37	0.94	0.33	0.07	0.82	0.43	0.25	0.31	0.48	0.04
Uniform Delay, d1	52.9	52.2	32.8	50.5	45.6	0.0	44.0	13.7	0.0	56.2	27.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.73	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.5	0.4	25.2	0.3	0.1	5.0	0.3	0.3	1.4	0.8	0.0
Delay (s)	53.9	52.7	33.2	75.7	45.9	0.1	48.0	10.4	0.3	57.6	27.9	0.0
Level of Service	D	D	C	E	D	A	D	B	A	E	C	A
Approach Delay (s)		41.8			56.5			18.7			27.4	
Approach LOS		D			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	335	0	1927	125	117	749	766	0	0
Future Volume (vph)	0	335	0	1927	125	117	749	766	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.92			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4654			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4654			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	353	0	2028	132	123	788	806	0	0
RTOR Reduction (vph)	0	31	0	0	56	0	0	0	0	0
Lane Group Flow (vph)	0	322	0	2028	76	123	1594	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		15.1		34.6	34.6	15.1	60.0			
Effective Green, g (s)		15.1		34.6	34.6	15.1	60.0			
Actuated g/C Ratio		0.25		0.58	0.58	0.25	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		401		2904	904	440	4654			
v/s Ratio Prot		c0.20		c0.40		0.07	0.34			
v/s Ratio Perm					0.05					
v/c Ratio		0.80		0.70	0.08	0.28	0.34			
Uniform Delay, d1		21.0		9.0	5.7	18.1	0.0			
Progression Factor		1.00		1.00	1.00	1.42	1.00			
Incremental Delay, d2		10.4		1.4	0.2	0.1	0.0			
Delay (s)		31.5		10.4	5.8	25.8	0.0			
Level of Service		C		B	A	C	A			
Approach Delay (s)	31.5			10.1			1.9		0.0	
Approach LOS	C			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

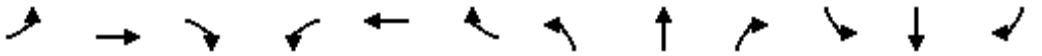
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	101	1053	951	81	0	749
Future Volume (vph)	101	1053	951	81	0	749
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.99			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3464			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3464			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	106	1108	1001	85	0	788
RTOR Reduction (vph)	0	95	10	0	0	0
Lane Group Flow (vph)	106	1013	1076	0	0	788
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.2	30.2	25.4			25.4
Effective Green, g (s)	30.2	30.2	25.4			25.4
Actuated g/C Ratio	0.46	0.46	0.39			0.39
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1567	1272	1343			1952
v/s Ratio Prot	0.03		c0.31			0.16
v/s Ratio Perm		c0.37				
v/c Ratio	0.07	0.80	0.80			0.40
Uniform Delay, d1	9.8	15.0	17.8			14.6
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	3.3	3.3			0.0
Delay (s)	9.8	18.3	21.1			14.6
Level of Service	A	B	C			B
Approach Delay (s)	17.6		21.1			14.6
Approach LOS	B		C			B

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	65.5	Sum of lost time (s)	9.9
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	732	0	87	0	0	0	0	300	118	0	308	542
Future Volume (vph)	732	0	87	0	0	0	0	300	118	0	308	542
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8			5.8	5.8
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					0.96			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3400		1568					3357			3505	1568
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3400		1568					3357			3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	771	0	92	0	0	0	0	316	124	0	324	571
RTOR Reduction (vph)	0	0	58	0	0	0	0	75	0	0	0	395
Lane Group Flow (vph)	771	0	34	0	0	0	0	365	0	0	324	176
Turn Type	Prot		Perm					NA			NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4									6
Actuated Green, G (s)	12.2		12.2					10.3			10.3	10.3
Effective Green, g (s)	12.2		12.2					10.3			10.3	10.3
Actuated g/C Ratio	0.37		0.37					0.31			0.31	0.31
Clearance Time (s)	5.1		5.1					5.8			5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0			2.0	2.0
Lane Grp Cap (vph)	1241		572					1035			1080	483
v/s Ratio Prot	c0.23							0.11			0.09	
v/s Ratio Perm			0.02									c0.11
v/c Ratio	0.62		0.06					0.35			0.30	0.36
Uniform Delay, d1	8.7		6.9					9.0			8.8	9.0
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	0.7		0.0					0.1			0.1	0.2
Delay (s)	9.4		6.9					9.0			8.9	9.2
Level of Service	A		A					A			A	A
Approach Delay (s)		9.1			0.0			9.0			9.1	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	33.4	Sum of lost time (s)	10.9
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

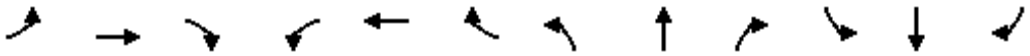
c Critical Lane Group



Movement	EBL	EBR	NBL2	NBL	SER	SER2
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	0

Direction, Lane #	EB 1	NB 1	NB 2	SE 1	SE 2
Volume Total (vph)	0	0	0	0	0
Volume Left (vph)	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	4.5	4.5	4.5	4.5
Degree Utilization, x	0.00	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	806	806	806	806
Control Delay (s)	6.9	6.3	6.3	6.3	6.3
Approach Delay (s)	0.0	0.0		0.0	
Approach LOS	A	A		A	

Intersection Summary				
Delay	0.0			
Level of Service	A			
Intersection Capacity Utilization	0.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	0	0	0
Volume Left (vph)	0	0	0	0
Volume Right (vph)	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	917	917	917
Control Delay (s)	6.9	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	0.0			
Level of Service	A			
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	0	0	0
Volume Left (vph)	0	0	0
Volume Right (vph)	0	0	0
Hadj (s)	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00
Capacity (veh/h)	917	917	917
Control Delay (s)	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A	A	A

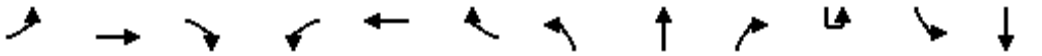
Intersection Summary			
Delay	0.0		
Level of Service	A		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	0	0	0
Volume Left (vph)	0	0	0
Volume Right (vph)	0	0	0
Hadj (s)	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00
Capacity (veh/h)	917	917	917
Control Delay (s)	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A	A	A

Intersection Summary			
Delay	0.0		
Level of Service	A		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		



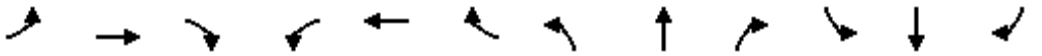
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	4	0	42	0	375	2	1	29	365
Future Volume (Veh/h)	0	0	0	4	0	42	0	375	2	1	29	365
Sign Control		Stop			Stop			Free				Free
Grade		0%			0%			0%				0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	4	0	44	0	395	2	0	31	384
Pedestrians		5			5			5				5
Lane Width (ft)		0.0			12.0			12.0				12.0
Walking Speed (ft/s)		3.5			3.5			3.5				3.5
Percent Blockage		0			0			0				0
Right turn flare (veh)												
Median type								None				None
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked										0.00		
vC, conflicting volume	896	853	394	852	852	406	389			0	402	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	896	853	394	852	852	406	389			0	402	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			0.0	4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			0.0	2.2	
p0 queue free %	100	100	100	99	100	93	100			0	97	
cM capacity (veh/h)	235	286	650	269	286	637	1164			0	1146	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	4	44	397	31	384
Volume Left	4	0	0	31	0
Volume Right	0	44	2	0	0
cSH	269	637	1700	1146	1700
Volume to Capacity	0.01	0.07	0.23	0.03	0.23
Queue Length 95th (ft)	1	6	0	2	0
Control Delay (s)	18.6	11.1	0.0	8.2	0.0
Lane LOS	C	B		A	
Approach Delay (s)	11.7		0.0	0.6	
Approach LOS	B				

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	36.5%	ICU Level of Service		A
Analysis Period (min)	15			



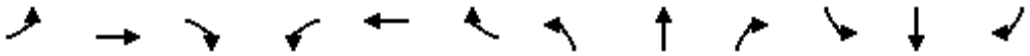
Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	0
Future Volume (Veh/h)	0
Sign Control	
Grade	
Peak Hour Factor	0.95
Hourly flow rate (vph)	0
Pedestrians	
Lane Width (ft)	
Walking Speed (ft/s)	
Percent Blockage	
Right turn flare (veh)	
Median type	
Median storage veh)	
Upstream signal (ft)	
pX, platoon unblocked	
vC, conflicting volume	
vC1, stage 1 conf vol	
vC2, stage 2 conf vol	
vCu, unblocked vol	
tC, single (s)	
tC, 2 stage (s)	
tF (s)	
p0 queue free %	
cM capacity (veh/h)	
Direction, Lane #	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	31	0	0	46	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	31	0	0	46	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	33	0	0	48	0	0	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	48			33			81	81	16	64	81	48
vC1, stage 1 conf vol							33	33		48	48	
vC2, stage 2 conf vol							48	48		16	33	
vCu, unblocked vol	48			33			81	81	16	64	81	48
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1550			1570			849	759	1055	862	759	1007

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	0	16	16	0	48	0	0
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.01	0.01	0.00	0.03	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						A	A
Approach Delay (s)	0.0			0.0		0.0	0.0
Approach LOS						A	A

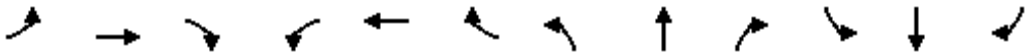
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	6.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	31	0	0	46	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	31	0	0	46	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	33	0	0	48	0	0	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	24	0	0	16	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	24	0	0	16	0	0	0			0		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	96	100	100	95	100	100			100		
cM capacity (veh/h)	941	893	1081	965	893	1081	1614			1614		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	0	22	11	0	48	0	0	0	0	0
Volume Left	0	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0	0	0	0
cSH	1700	893	893	1700	893	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.02	0.01	0.00	0.05	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	2	1	0	4	0	0	0	0	0
Control Delay (s)	0.0	9.1	9.1	0.0	9.3	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A	A	A	A					
Approach Delay (s)	9.1			9.3		0.0		0.0		
Approach LOS	A			A						

Intersection Summary				
Average Delay	9.2			
Intersection Capacity Utilization	6.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	15	0	16	0	0	0	23	10	0	0	10	23
Future Volume (vph)	15	0	16	0	0	0	23	10	0	0	10	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	0	17	0	0	0	24	11	0	0	11	24

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	33	0	24	11	0	35
Volume Left (vph)	16	0	24	0	0	0
Volume Right (vph)	17	0	0	0	0	24
Hadj (s)	-0.16	0.00	0.55	0.05	0.00	-0.43
Departure Headway (s)	3.9	4.1	5.1	4.6	4.6	4.2
Degree Utilization, x	0.04	0.00	0.03	0.01	0.00	0.04
Capacity (veh/h)	901	872	685	758	785	844
Control Delay (s)	7.0	7.1	7.1	6.5	6.4	6.1
Approach Delay (s)	7.0	0.0	6.9		6.1	
Approach LOS	A	A	A		A	

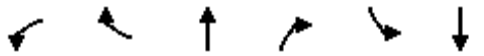
Intersection Summary				
Delay	6.7			
Level of Service	A			
Intersection Capacity Utilization	17.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	0	0	377	0	0	369
Future Volume (vph)	0	0	377	0	0	369
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	397	0	0	388

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	0	397	388
Volume Left (vph)	0	0	0
Volume Right (vph)	0	0	0
Hadj (s)	0.00	0.05	0.05
Departure Headway (s)	5.6	4.3	4.3
Degree Utilization, x	0.00	0.48	0.47
Capacity (veh/h)	570	818	813
Control Delay (s)	8.6	11.2	11.1
Approach Delay (s)	0.0	11.2	11.1
Approach LOS	A	B	B

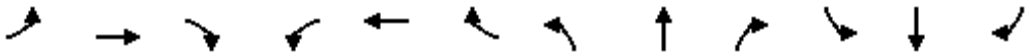
Intersection Summary			
Delay	11.2		
Level of Service	B		
Intersection Capacity Utilization	23.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	0	0	377	0	0	369
Future Volume (vph)	0	0	377	0	0	369
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	397	0	0	388

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	0	397	388
Volume Left (vph)	0	0	0
Volume Right (vph)	0	0	0
Hadj (s)	0.00	0.05	0.05
Departure Headway (s)	5.6	4.3	4.3
Degree Utilization, x	0.00	0.48	0.47
Capacity (veh/h)	570	818	813
Control Delay (s)	8.6	11.2	11.1
Approach Delay (s)	0.0	11.2	11.1
Approach LOS	A	B	B

Intersection Summary			
Delay	11.2		
Level of Service	B		
Intersection Capacity Utilization	23.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	0	0	0
Volume Left (vph)	0	0	0	0
Volume Right (vph)	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	917	917	917
Control Delay (s)	6.9	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A	A	A

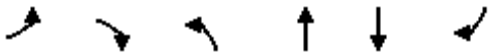
Intersection Summary				
Delay	0.0			
Level of Service	A			
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	24	41	335	19	31	337
Future Volume (vph)	24	41	335	19	31	337
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	1568	1845	1568	1752	1845
Flt Permitted	0.95	1.00	1.00	1.00	0.55	1.00
Satd. Flow (perm)	1752	1568	1845	1568	1014	1845
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	25	43	353	20	33	355
RTOR Reduction (vph)	0	40	0	7	0	0
Lane Group Flow (vph)	25	3	353	13	33	355
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Actuated Green, G (s)	2.3	2.3	21.3	21.3	21.3	21.3
Effective Green, g (s)	2.3	2.3	21.3	21.3	21.3	21.3
Actuated g/C Ratio	0.07	0.07	0.65	0.65	0.65	0.65
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	123	110	1205	1024	662	1205
v/s Ratio Prot	c0.01		0.19			c0.19
v/s Ratio Perm		0.00		0.01	0.03	
v/c Ratio	0.20	0.03	0.29	0.01	0.05	0.29
Uniform Delay, d1	14.3	14.1	2.4	2.0	2.0	2.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.1	0.1	0.0	0.0	0.1
Delay (s)	15.1	14.2	2.6	2.0	2.1	2.6
Level of Service	B	B	A	A	A	A
Approach Delay (s)	14.5		2.5			2.5
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	3.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	32.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	37.2%	ICU Level of Service	A
Analysis Period (min)	15		

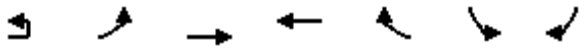
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	354	361	0
Future Volume (Veh/h)	0	0	0	354	361	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	373	380	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	753	380	380			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	753	380	380			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	376	665	1173			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	373	380
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1173	1700
Volume to Capacity	0.00	0.00	0.22
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

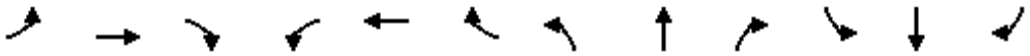
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	22.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Sign Control			Stop	Stop		Stop	
Traffic Volume (vph)	2	299	169	288	55	78	283
Future Volume (vph)	2	299	169	288	55	78	283
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	315	178	303	58	82	298

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	315	178	303	58	82	298
Volume Left (vph)	315	0	0	0	82	0
Volume Right (vph)	0	0	0	58	0	298
Hadj (s)	0.55	0.05	0.05	-0.55	0.25	-0.55
Departure Headway (s)	5.6	5.1	4.8	3.2	5.9	3.2
Degree Utilization, x	0.49	0.25	0.41	0.05	0.13	0.26
Capacity (veh/h)	636	695	723	1121	553	1112
Control Delay (s)	12.6	8.6	11.1	6.4	9.8	7.3
Approach Delay (s)	11.1		10.4		7.9	
Approach LOS	B		B		A	

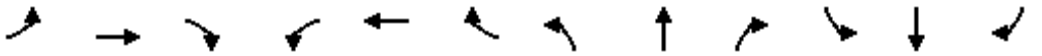
Intersection Summary			
Delay	9.9		
Level of Service	A		
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	247	0	0	343	33	0	0	0	26	0	0
Future Volume (Veh/h)	0	247	0	0	343	33	0	0	0	26	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	260	0	0	361	35	0	0	0	27	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	396			260			638	656	260	638	638	378
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	396			260			638	656	260	638	638	378
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	93	100	100
cM capacity (veh/h)	1157			1299			388	384	776	388	393	666

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	260	396	0	27
Volume Left	0	0	0	27
Volume Right	0	35	0	0
cSH	1157	1299	1700	388
Volume to Capacity	0.00	0.00	0.00	0.07
Queue Length 95th (ft)	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	15.0
Lane LOS			A	B
Approach Delay (s)	0.0	0.0	0.0	15.0
Approach LOS			A	B

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	30.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	344	351	471	205	160	771	1515	532	186	1794	162
Future Volume (vph)	131	344	351	471	205	160	771	1515	532	186	1794	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	146	382	390	523	228	178	857	1683	591	207	1993	180
RTOR Reduction (vph)	0	0	24	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	146	382	366	523	228	178	857	1683	591	207	1993	180
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	12.0	21.1	65.3	20.5	29.6	155.0	44.2	80.6	155.0	14.8	51.2	155.0
Effective Green, g (s)	12.0	21.1	65.3	20.5	29.6	155.0	44.2	80.6	155.0	14.8	51.2	155.0
Actuated g/C Ratio	0.08	0.14	0.42	0.13	0.19	1.00	0.29	0.52	1.00	0.10	0.33	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	263	477	729	449	961	1568	937	2618	1568	324	1663	1568
v/s Ratio Prot	0.04	c0.11	0.14	c0.15	0.05		c0.26	0.33		0.06	c0.40	
v/s Ratio Perm			0.08			0.11			0.38			0.11
v/c Ratio	0.56	0.80	0.50	1.16	0.24	0.11	0.91	0.64	0.38	0.64	1.20	0.11
Uniform Delay, d1	68.9	64.9	32.9	67.2	53.1	0.0	53.6	26.8	0.0	67.5	51.9	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	9.3	0.5	96.0	0.1	0.1	13.1	1.2	0.7	4.1	95.4	0.1
Delay (s)	71.5	74.3	33.5	163.3	53.3	0.1	66.7	28.1	0.7	71.6	147.3	0.1
Level of Service	E	E	C	F	D	A	E	C	A	E	F	A
Approach Delay (s)		56.5			105.0			33.5			129.6	
Approach LOS		E			F			C			F	

Intersection Summary			
HCM 2000 Control Delay	76.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	155.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	451	0	2180	97	287	1513	883	0	0
Future Volume (vph)	0	451	0	2180	97	287	1513	883	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.94			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4758			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4758			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	475	0	2295	102	302	1593	929	0	0
RTOR Reduction (vph)	0	21	0	0	39	0	0	0	0	0
Lane Group Flow (vph)	0	454	0	2295	63	302	2522	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		24.6		45.1	45.1	24.6	80.0			
Effective Green, g (s)		24.6		45.1	45.1	24.6	80.0			
Actuated g/C Ratio		0.31		0.56	0.56	0.31	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		490		2839	883	538	4758			
v/s Ratio Prot		c0.28		c0.46		0.17	0.53			
v/s Ratio Perm					0.04					
v/c Ratio		0.93		0.81	0.07	0.56	0.53			
Uniform Delay, d1		26.8		14.0	7.9	23.2	0.0			
Progression Factor		1.00		1.00	1.00	1.00	1.00			
Incremental Delay, d2		23.1		2.6	0.2	0.8	0.1			
Delay (s)		49.9		16.6	8.1	24.0	0.1			
Level of Service		D		B	A	C	A			
Approach Delay (s)	49.9			16.2			2.6		0.0	
Approach LOS	D			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		

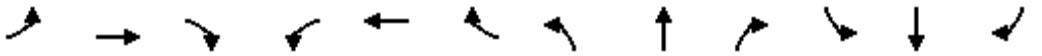
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	57	1128	1344	96	0	1513
Future Volume (vph)	57	1128	1344	96	0	1513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.99			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3470			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3470			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	60	1187	1415	101	0	1593
RTOR Reduction (vph)	0	39	7	0	0	0
Lane Group Flow (vph)	60	1148	1509	0	0	1593
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.3	30.3	40.1			40.1
Effective Green, g (s)	30.3	30.3	40.1			40.1
Actuated g/C Ratio	0.38	0.38	0.50			0.50
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1282	1041	1732			2514
v/s Ratio Prot	0.02		c0.44			0.32
v/s Ratio Perm		c0.42				
v/c Ratio	0.05	1.10	0.87			0.63
Uniform Delay, d1	15.8	25.0	17.8			14.7
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	60.6	5.0			0.4
Delay (s)	15.9	85.6	22.8			15.1
Level of Service	B	F	C			B
Approach Delay (s)	82.2		22.8			15.1
Approach LOS	F		C			B

Intersection Summary			
HCM 2000 Control Delay	37.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	80.3	Sum of lost time (s)	9.9
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1029	0	51	0	0	0	0	411	323	0	389	1181
Future Volume (vph)	1029	0	51	0	0	0	0	411	323	0	389	1181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8			5.8	5.8
Lane Util. Factor	0.97		1.00					0.95			0.95	1.00
Frt	1.00		0.85					0.93			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3400		1568					3274			3505	1568
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3400		1568					3274			3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1083	0	54	0	0	0	0	433	340	0	409	1243
RTOR Reduction (vph)	0	0	32	0	0	0	0	210	0	0	0	674
Lane Group Flow (vph)	1083	0	22	0	0	0	0	563	0	0	409	569
Turn Type	Prot		Perm					NA			NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4									6
Actuated Green, G (s)	20.1		20.1					19.2			19.2	19.2
Effective Green, g (s)	20.1		20.1					19.2			19.2	19.2
Actuated g/C Ratio	0.40		0.40					0.38			0.38	0.38
Clearance Time (s)	5.1		5.1					5.8			5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0			2.0	2.0
Lane Grp Cap (vph)	1361		627					1252			1340	599
v/s Ratio Prot	c0.32							0.17			0.12	
v/s Ratio Perm			0.01									c0.36
v/c Ratio	0.80		0.03					0.45			0.31	0.95
Uniform Delay, d1	13.2		9.2					11.6			10.8	15.0
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	3.1		0.0					0.1			0.0	24.8
Delay (s)	16.3		9.2					11.7			10.9	39.8
Level of Service	B		A					B			B	D
Approach Delay (s)		16.0			0.0			11.7			32.7	
Approach LOS		B			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	50.2	Sum of lost time (s)	10.9
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		

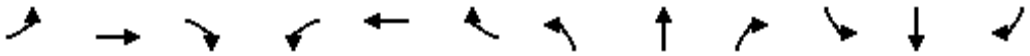
c Critical Lane Group



Movement	EBL	EBR	NBL2	NBL	SER	SER2
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	0

Direction, Lane #	EB 1	NB 1	NB 2	SE 1	SE 2
Volume Total (vph)	0	0	0	0	0
Volume Left (vph)	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	4.5	4.5	4.5	4.5
Degree Utilization, x	0.00	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	806	806	806	806
Control Delay (s)	6.9	6.3	6.3	6.3	6.3
Approach Delay (s)	0.0	0.0		0.0	
Approach LOS	A	A		A	

Intersection Summary				
Delay	0.0			
Level of Service	A			
Intersection Capacity Utilization	0.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	0	0	0
Volume Left (vph)	0	0	0	0
Volume Right (vph)	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	917	917	917
Control Delay (s)	6.9	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	0.0			
Level of Service	A			
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	0	0	0
Volume Left (vph)	0	0	0
Volume Right (vph)	0	0	0
Hadj (s)	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00
Capacity (veh/h)	917	917	917
Control Delay (s)	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A	A	A

Intersection Summary			
Delay	0.0		
Level of Service	A		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	0	0	0
Volume Left (vph)	0	0	0
Volume Right (vph)	0	0	0
Hadj (s)	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00
Capacity (veh/h)	917	917	917
Control Delay (s)	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A	A	A

Intersection Summary			
Delay	0.0		
Level of Service	A		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		



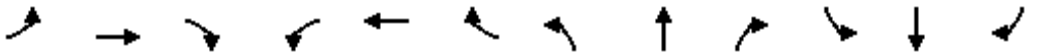
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	3	0	46	1	0	685	2	3	46
Future Volume (Veh/h)	0	0	0	3	0	46	1	0	685	2	3	46
Sign Control		Stop			Stop				Free			
Grade		0%			0%				0%			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	3	0	48	0	0	721	2	0	48
Pedestrians		5			5				5			
Lane Width (ft)		0.0			12.0				12.0			
Walking Speed (ft/s)		3.5			3.5				3.5			
Percent Blockage		0			0				0			
Right turn flare (veh)												
Median type									None			
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked							0.00				0.00	
vC, conflicting volume	1288	1241	422	1240	1240	732	0	417			0	728
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1288	1241	422	1240	1240	732	0	417			0	728
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	0.0	4.1			0.0	4.1
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	0.0	2.2			0.0	2.2
p0 queue free %	100	100	100	98	100	88	0	100			0	94
cM capacity (veh/h)	118	164	627	143	164	416	0	1137			0	867

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	3	48	723	48	412
Volume Left	3	0	0	48	0
Volume Right	0	48	2	0	0
cSH	143	416	1700	867	1700
Volume to Capacity	0.02	0.12	0.43	0.06	0.24
Queue Length 95th (ft)	2	10	0	4	0
Control Delay (s)	30.7	14.8	0.0	9.4	0.0
Lane LOS	D	B		A	
Approach Delay (s)	15.7		0.0	1.0	
Approach LOS	C				

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	51.4%	ICU Level of Service	A	
Analysis Period (min)	15			



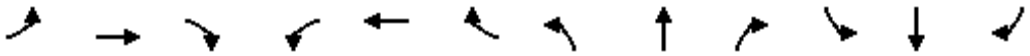
Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	391	0
Future Volume (Veh/h)	391	0
Sign Control	Free	
Grade	0%	
Peak Hour Factor	0.95	0.95
Hourly flow rate (vph)	412	0
Pedestrians	5	
Lane Width (ft)	12.0	
Walking Speed (ft/s)	3.5	
Percent Blockage	0	
Right turn flare (veh)		
Median type	None	
Median storage veh)		
Upstream signal (ft)		
pX, platoon unblocked		
vC, conflicting volume		
vC1, stage 1 conf vol		
vC2, stage 2 conf vol		
vCu, unblocked vol		
tC, single (s)		
tC, 2 stage (s)		
tF (s)		
p0 queue free %		
cM capacity (veh/h)		
Direction, Lane #		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	48	0	0	49	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	48	0	0	49	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	51	0	0	52	0	0	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	52			51			103	103	26	78	103	52
vC1, stage 1 conf vol							51	51		52	52	
vC2, stage 2 conf vol							52	52		26	51	
vCu, unblocked vol	52			51			103	103	26	78	103	52
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1545			1546			829	745	1041	851	745	1001

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	0	26	26	0	52	0	0
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.01	0.01	0.00	0.03	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						A	A
Approach Delay (s)	0.0			0.0		0.0	0.0
Approach LOS						A	A

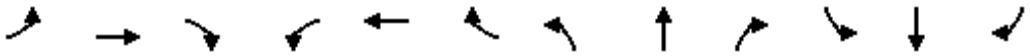
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	6.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	48	0	0	49	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	48	0	0	49	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	51	0	0	52	0	0	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	26	0	0	26	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	26	0	0	26	0	0	0			0		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	94	100	100	94	100	100			100		
cM capacity (veh/h)	934	893	1081	936	893	1081	1614			1614		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	0	34	17	0	52	0	0	0	0	0
Volume Left	0	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0	0	0	0
cSH	1700	893	893	1700	893	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.04	0.02	0.00	0.06	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	3	1	0	5	0	0	0	0	0
Control Delay (s)	0.0	9.2	9.1	0.0	9.3	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A	A	A	A					
Approach Delay (s)	9.2			9.3		0.0		0.0		
Approach LOS	A			A						

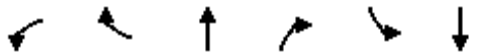
Intersection Summary				
Average Delay	9.2			
Intersection Capacity Utilization	6.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	24	0	24	0	0	0	25	10	0	0	10	24
Future Volume (vph)	24	0	24	0	0	0	25	10	0	0	10	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	25	0	25	0	0	0	26	11	0	0	11	25

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	50	0	26	11	0	36
Volume Left (vph)	25	0	26	0	0	0
Volume Right (vph)	25	0	0	0	0	25
Hadj (s)	-0.15	0.00	0.55	0.05	0.00	-0.44
Departure Headway (s)	3.9	4.1	5.2	4.7	4.6	4.2
Degree Utilization, x	0.05	0.00	0.04	0.01	0.00	0.04
Capacity (veh/h)	896	867	678	750	776	835
Control Delay (s)	7.1	7.1	7.2	6.5	6.4	6.2
Approach Delay (s)	7.1	0.0	7.0		6.2	
Approach LOS	A	A	A		A	

Intersection Summary				
Delay	6.8			
Level of Service	A			
Intersection Capacity Utilization	18.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	0	0	688	0	0	395
Future Volume (vph)	0	0	688	0	0	395
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	724	0	0	416

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	0	724	416
Volume Left (vph)	0	0	0
Volume Right (vph)	0	0	0
Hadj (s)	0.00	0.05	0.05
Departure Headway (s)	6.3	4.4	4.7
Degree Utilization, x	0.00	0.88	0.54
Capacity (veh/h)	538	812	755
Control Delay (s)	9.3	30.5	13.0
Approach Delay (s)	0.0	30.5	13.0
Approach LOS	A	D	B

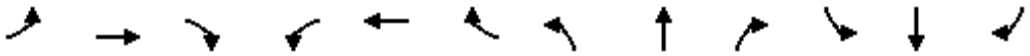
Intersection Summary			
Delay	24.2		
Level of Service	C		
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	0	0	688	0	0	395
Future Volume (vph)	0	0	688	0	0	395
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	724	0	0	416

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	0	724	416
Volume Left (vph)	0	0	0
Volume Right (vph)	0	0	0
Hadj (s)	0.00	0.05	0.05
Departure Headway (s)	6.3	4.4	4.7
Degree Utilization, x	0.00	0.88	0.54
Capacity (veh/h)	538	812	755
Control Delay (s)	9.3	30.5	13.0
Approach Delay (s)	0.0	30.5	13.0
Approach LOS	A	D	B

Intersection Summary			
Delay	24.2		
Level of Service	C		
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	0	0	0
Volume Left (vph)	0	0	0	0
Volume Right (vph)	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	917	917	917
Control Delay (s)	6.9	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A	A	A

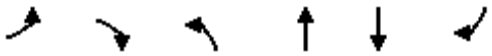
Intersection Summary				
Delay	0.0			
Level of Service	A			
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	4	78	3	609	11	1	40	354
Future Volume (vph)	4	78	3	609	11	1	40	354
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	0.85		1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568		1844	1568		1752	1845
Flt Permitted	0.95	1.00		1.00	1.00		0.38	1.00
Satd. Flow (perm)	1752	1568		1842	1568		699	1845
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	82	3	641	12	1	42	373
RTOR Reduction (vph)	0	74	0	0	4	0	0	0
Lane Group Flow (vph)	4	8	0	644	8	0	43	373
Turn Type	Prot	Perm	Perm	NA	Perm	Perm	Perm	NA
Protected Phases	8			2				6
Permitted Phases		8	2		2	6	6	
Actuated Green, G (s)	3.6	3.6		25.5	25.5		25.5	25.5
Effective Green, g (s)	3.6	3.6		25.5	25.5		25.5	25.5
Actuated g/C Ratio	0.09	0.09		0.67	0.67		0.67	0.67
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	165	148		1232	1049		467	1234
v/s Ratio Prot	0.00							0.20
v/s Ratio Perm		c0.00		c0.35	0.01		0.06	
v/c Ratio	0.02	0.05		0.52	0.01		0.09	0.30
Uniform Delay, d1	15.7	15.7		3.2	2.1		2.2	2.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.1		0.4	0.0		0.1	0.1
Delay (s)	15.7	15.8		3.6	2.1		2.3	2.8
Level of Service	B	B		A	A		A	A
Approach Delay (s)	15.8			3.6				2.7
Approach LOS	B			A				A

Intersection Summary			
HCM 2000 Control Delay	4.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	38.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	623	361	0
Future Volume (Veh/h)	0	0	0	623	361	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	656	380	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1036	380	380			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1036	380	380			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	255	665	1173			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	656	380
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1173	1700
Volume to Capacity	0.00	0.00	0.22
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

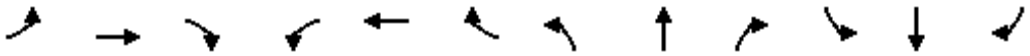
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	36.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBU	SBL	SBR
Lane Configurations							
Sign Control		Stop	Stop			Stop	
Traffic Volume (vph)	532	323	253	90	1	150	210
Future Volume (vph)	532	323	253	90	1	150	210
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	560	340	266	95	0	158	221

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	560	340	266	95	158	221
Volume Left (vph)	560	0	0	0	158	0
Volume Right (vph)	0	0	0	95	0	221
Hadj (s)	0.55	0.05	0.05	-0.55	0.25	-0.55
Departure Headway (s)	5.9	5.4	5.5	3.2	6.5	3.2
Degree Utilization, x	0.92	0.51	0.41	0.08	0.29	0.20
Capacity (veh/h)	596	660	634	1121	537	1121
Control Delay (s)	42.5	12.7	12.2	6.5	12.1	7.0
Approach Delay (s)	31.3		10.7		9.1	
Approach LOS	D		B		A	

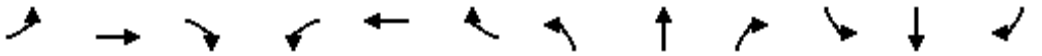
Intersection Summary			
Delay	21.6		
Level of Service	C		
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	473	0	0	343	35	0	0	0	34	0	0
Future Volume (Veh/h)	0	473	0	0	343	35	0	0	0	34	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	498	0	0	361	37	0	0	0	36	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	398			498			878	896	498	878	878	380
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	398			498			878	896	498	878	878	380
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	87	100	100
cM capacity (veh/h)	1155			1061			268	279	570	268	286	665

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	498	398	0	36
Volume Left	0	0	0	36
Volume Right	0	37	0	0
cSH	1155	1061	1700	268
Volume to Capacity	0.00	0.00	0.00	0.13
Queue Length 95th (ft)	0	0	0	11
Control Delay (s)	0.0	0.0	0.0	20.5
Lane LOS			A	C
Approach Delay (s)	0.0	0.0	0.0	20.5
Approach LOS			A	C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	69	240	469	246	113	599	1695	389	38	1122	57
Future Volume (vph)	107	69	240	469	246	113	599	1695	389	38	1122	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	109	70	245	479	251	115	611	1730	397	39	1145	58
RTOR Reduction (vph)	0	0	224	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	109	70	21	479	251	115	611	1730	397	39	1145	58
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	9.2	10.5	10.5	17.5	18.8	120.0	26.8	69.5	120.0	4.5	47.2	120.0
Effective Green, g (s)	9.2	10.5	10.5	17.5	18.8	120.0	26.8	69.5	120.0	4.5	47.2	120.0
Actuated g/C Ratio	0.08	0.09	0.09	0.15	0.16	1.00	0.22	0.58	1.00	0.04	0.39	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	260	306	141	495	788	1568	733	2916	1568	127	1980	1568
v/s Ratio Prot	0.03	0.02		c0.14	c0.05		c0.19	c0.34		0.01	0.23	
v/s Ratio Perm			0.01			0.07			0.25			0.04
v/c Ratio	0.42	0.23	0.15	0.97	0.32	0.07	0.83	0.59	0.25	0.31	0.58	0.04
Uniform Delay, d1	52.9	51.0	50.6	51.0	44.9	0.0	44.5	16.2	0.0	56.2	28.6	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.17	1.22	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.4	0.5	31.9	0.2	0.1	4.3	0.5	0.2	1.4	1.2	0.0
Delay (s)	53.9	51.4	51.1	82.9	45.1	0.1	56.1	20.2	0.2	57.6	29.8	0.0
Level of Service	D	D	D	F	D	A	E	C	A	E	C	A
Approach Delay (s)		51.9			60.4			25.3			29.3	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	34.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	335	0	2390	125	117	916	782	0	0
Future Volume (vph)	0	335	0	2390	125	117	916	782	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.93			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4688			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4688			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	353	0	2516	132	123	964	823	0	0
RTOR Reduction (vph)	0	31	0	0	56	0	0	0	0	0
Lane Group Flow (vph)	0	322	0	2516	76	123	1787	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		15.1		34.6	34.6	15.1	60.0			
Effective Green, g (s)		15.1		34.6	34.6	15.1	60.0			
Actuated g/C Ratio		0.25		0.58	0.58	0.25	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		401		2904	904	440	4688			
v/s Ratio Prot		c0.20		c0.50		0.07	0.38			
v/s Ratio Perm					0.05					
v/c Ratio		0.80		0.87	0.08	0.28	0.38			
Uniform Delay, d1		21.0		10.7	5.7	18.1	0.0			
Progression Factor		1.00		1.00	1.00	0.73	1.00			
Incremental Delay, d2		10.4		3.8	0.2	0.1	0.0			
Delay (s)		31.5		14.5	5.8	13.2	0.0			
Level of Service		C		B	A	B	A			
Approach Delay (s)	31.5			14.1			0.9		0.0	
Approach LOS	C			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

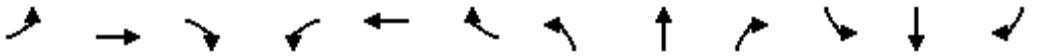
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	166	1067	1400	551	0	916
Future Volume (vph)	166	1067	1400	551	0	916
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.96			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3356			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3356			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	175	1123	1474	580	0	964
RTOR Reduction (vph)	0	35	46	0	0	0
Lane Group Flow (vph)	175	1088	2008	0	0	964
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1866			2800
v/s Ratio Prot	0.05		c0.60			0.19
v/s Ratio Perm		c0.39				
v/c Ratio	0.15	1.18	1.08			0.34
Uniform Delay, d1	21.0	30.0	20.0			11.0
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	92.7	44.7			0.0
Delay (s)	21.1	122.6	64.6			11.0
Level of Service	C	F	E			B
Approach Delay (s)	108.9		64.6			11.0
Approach LOS	F		E			B

Intersection Summary			
HCM 2000 Control Delay	66.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		

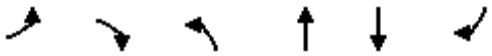
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	732	0	290	0	0	0	0	1219	170	0	540	542
Future Volume (vph)	732	0	290	0	0	0	0	1219	170	0	540	542
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	771	0	305	0	0	0	0	1283	179	0	568	571
RTOR Reduction (vph)	0	0	77	0	0	0	0	0	105	0	0	336
Lane Group Flow (vph)	771	0	228	0	0	0	0	1283	74	0	568	235
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	13.9		13.9					17.3	17.3		17.3	17.3
Effective Green, g (s)	13.9		13.9					17.3	17.3		17.3	17.3
Actuated g/C Ratio	0.33		0.33					0.41	0.41		0.41	0.41
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1122		517					1440	644		1440	644
v/s Ratio Prot	c0.23							c0.37			0.16	
v/s Ratio Perm			0.15						0.05			0.15
v/c Ratio	0.69		0.44					0.89	0.11		0.39	0.36
Uniform Delay, d1	12.2		11.1					11.5	7.7		8.7	8.6
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	1.4		0.2					7.2	0.0		0.1	0.1
Delay (s)	13.6		11.3					18.7	7.7		8.8	8.7
Level of Service	B		B					B	A		A	A
Approach Delay (s)		13.0			0.0			17.3			8.8	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	42.1	Sum of lost time (s)	10.9
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	0	0	25	33	0
Future Volume (vph)	0	0	0	25	33	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	26	35	0

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	26	35	0
Volume Left (vph)	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0
Hadj (s)	0.00	0.00	0.05	0.05	0.00
Departure Headway (s)	4.0	4.5	4.6	4.6	4.5
Degree Utilization, x	0.00	0.00	0.03	0.04	0.00
Capacity (veh/h)	882	802	775	784	803
Control Delay (s)	7.0	6.3	6.5	6.6	6.3
Approach Delay (s)	0.0	6.5		6.6	
Approach LOS	A	A		A	

Intersection Summary			
Delay	6.6		
Level of Service	A		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	0	0	0	26	0	252	15	0	1346	19	1	130
Future Volume (vph)	0	0	0	26	0	252	15	0	1346	19	1	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5		4.5		4.5	4.5	4.5		4.5
Lane Util. Factor				0.97		1.00		0.97	0.91	1.00		0.97
Frpb, ped/bikes				1.00		0.98		1.00	1.00	0.98		1.00
Flpb, ped/bikes				1.00		1.00		1.00	1.00	1.00		1.00
Frt				1.00		0.85		1.00	1.00	0.85		1.00
Flt Protected				0.95		1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)				3400		1539		3400	5036	1541		3400
Flt Permitted				0.95		1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)				3400		1539		3400	5036	1541		3400
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	27	0	265	16	0	1417	20	1	137
RTOR Reduction (vph)	0	0	0	0	0	211	0	0	0	11	0	0
Lane Group Flow (vph)	0	0	0	27	0	54	0	16	1417	9	0	138
Confl. Peds. (#/hr)			5			5				5		
Confl. Bikes (#/hr)			2			2				2		
Turn Type	Prot		Perm	Prot		Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)				1.4		10.4		1.0	23.1	23.1		3.9
Effective Green, g (s)				1.4		10.4		1.0	23.1	23.1		3.9
Actuated g/C Ratio				0.03		0.20		0.02	0.45	0.45		0.08
Clearance Time (s)				4.5		4.5		4.5	4.5	4.5		4.5
Vehicle Extension (s)				3.0		3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)				93		314		66	2285	699		260
v/s Ratio Prot				0.01				0.00	c0.28			c0.04
v/s Ratio Perm						c0.04				0.01		
v/c Ratio				0.29		0.17		0.24	0.62	0.01		0.53
Uniform Delay, d1				24.3		16.7		24.6	10.6	7.6		22.6
Progression Factor				1.00		1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2				1.7		0.3		1.9	0.5	0.0		2.1
Delay (s)				26.0		17.0		26.5	11.1	7.6		24.7
Level of Service				C		B		C	B	A		C
Approach Delay (s)		0.0			17.8				11.2			
Approach LOS		A			B				B			

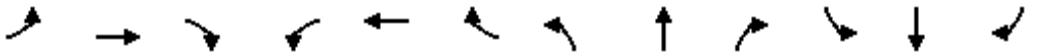
Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	50.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	700	0
Future Volume (vph)	700	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	
Lane Util. Factor	0.91	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	5036	
Flt Permitted	1.00	
Satd. Flow (perm)	5036	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	737	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	737	0
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		2
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	26.0	
Effective Green, g (s)	26.0	
Actuated g/C Ratio	0.51	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2572	
v/s Ratio Prot	c0.15	
v/s Ratio Perm		
v/c Ratio	0.29	
Uniform Delay, d1	7.1	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	7.2	
Level of Service	A	
Approach Delay (s)	10.0	
Approach LOS	A	

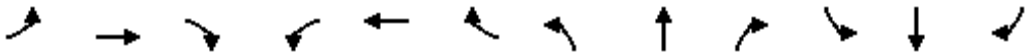
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	48	101	0	146	0	132	0	0	0	0	0
Future Volume (Veh/h)	0	48	101	0	146	0	132	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	51	106	0	154	0	139	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	154			157			181	258	78	180	311	77
vC1, stage 1 conf vol							104	104		154	154	
vC2, stage 2 conf vol							77	154		26	157	
vCu, unblocked vol	154			157			181	258	78	180	311	77
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			82	100	100	100	100	100
cM capacity (veh/h)	1417			1413			759	651	963	743	623	965

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	0	34	123	0	77	77	139	0
Volume Left	0	0	0	0	0	0	139	0
Volume Right	0	0	106	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	759	1700
Volume to Capacity	0.00	0.02	0.07	0.00	0.05	0.05	0.18	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	17	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.8	0.0
Lane LOS							B	A
Approach Delay (s)	0.0			0.0			10.8	0.0
Approach LOS							B	A

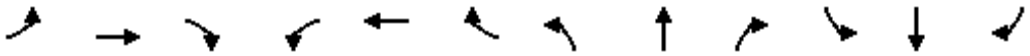
Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	18.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	31	17	0	46	0	100	0	0	0	0	0
Future Volume (Veh/h)	0	31	17	0	46	0	100	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	33	18	0	48	0	105	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	234	210	0	244	210	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	234	210	0	244	210	0	0			0		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	95	98	100	92	100	93			100		
cM capacity (veh/h)	626	639	1081	616	639	1081	1614			1614		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	0	22	29	0	32	16	105	0	0	0	0	0
Volume Left	0	0	0	0	0	0	105	0	0	0	0	0
Volume Right	0	0	18	0	0	0	0	0	0	0	0	0
cSH	1700	639	857	1700	639	639	1614	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.03	0.03	0.00	0.05	0.03	0.07	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	3	3	0	4	2	5	0	0	0	0	0
Control Delay (s)	0.0	10.8	9.4	0.0	10.9	10.8	7.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	B	A	A	B	B	A					
Approach Delay (s)	10.0			10.9			7.4			0.0		
Approach LOS	A			B								

Intersection Summary					
Average Delay	8.9				
Intersection Capacity Utilization	15.5%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	15	0	16	0	0	0	23	10	0	0	10	23
Future Volume (vph)	15	0	16	0	0	0	23	10	0	0	10	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	0	17	0	0	0	24	11	0	0	11	24

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	16	17	0	0	24	11	0	35
Volume Left (vph)	16	0	0	0	24	0	0	0
Volume Right (vph)	0	17	0	0	0	0	0	24
Hadj (s)	0.55	-0.65	0.00	0.00	0.55	0.05	0.00	-0.43
Departure Headway (s)	5.2	4.0	4.7	4.7	5.2	4.7	4.6	4.2
Degree Utilization, x	0.02	0.02	0.00	0.00	0.03	0.01	0.00	0.04
Capacity (veh/h)	678	870	765	765	684	757	783	843
Control Delay (s)	7.1	5.9	6.5	6.5	7.1	6.5	6.4	6.2
Approach Delay (s)	6.5		0.0		6.9		6.2	
Approach LOS	A		A		A		A	

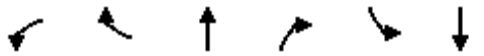
Intersection Summary				
Delay	6.5			
Level of Service	A			
Intersection Capacity Utilization	17.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	98	1277	7	17	723
Future Volume (Veh/h)	0	98	1277	7	17	723
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	103	1344	7	18	761
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						840
pX, platoon unblocked	0.97					
vC, conflicting volume	1637	452			1351	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1552	452			1351	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	81			96	
cM capacity (veh/h)	97	552			500	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	103	538	538	276	170	304	304
Volume Left	0	0	0	0	18	0	0
Volume Right	103	0	0	7	0	0	0
cSH	552	1700	1700	1700	500	1700	1700
Volume to Capacity	0.19	0.32	0.32	0.16	0.04	0.18	0.18
Queue Length 95th (ft)	17	0	0	0	3	0	0
Control Delay (s)	13.0	0.0	0.0	0.0	1.8	0.0	0.0
Lane LOS	B				A		
Approach Delay (s)	13.0	0.0			0.4		
Approach LOS	B						

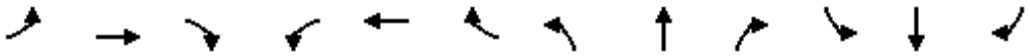
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	38.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	45	1239	1	15	708
Future Volume (Veh/h)	11	45	1239	1	15	708
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	12	47	1304	1	16	745
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1585	435			1305	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1585	435			1305	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	92			97	
cM capacity (veh/h)	95	566			521	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	59	522	522	262	165	298	298
Volume Left	12	0	0	0	16	0	0
Volume Right	47	0	0	1	0	0	0
cSH	282	1700	1700	1700	521	1700	1700
Volume to Capacity	0.21	0.31	0.31	0.15	0.03	0.18	0.18
Queue Length 95th (ft)	19	0	0	0	2	0	0
Control Delay (s)	21.1	0.0	0.0	0.0	1.5	0.0	0.0
Lane LOS	C				A		
Approach Delay (s)	21.1	0.0			0.3		
Approach LOS	C						

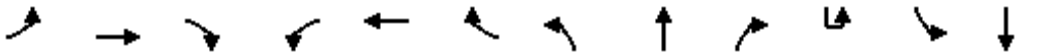
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	0	0	0
Volume Left (vph)	0	0	0	0
Volume Right (vph)	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	917	917	917
Control Delay (s)	6.9	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	0.0			
Level of Service	A			
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	239	0	32	119	0	353	4	648	51	1	134	491
Future Volume (vph)	239	0	32	119	0	353	4	648	51	1	134	491
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00		1.00	0.95
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)		1752	1568		1752	1568	1752	3505	1568		1752	3505
Flt Permitted		0.95	1.00		0.95	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)		1752	1568		1752	1568	1752	3505	1568		1752	3505
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	252	0	34	125	0	372	4	682	54	1	141	517
RTOR Reduction (vph)	0	0	27	0	0	206	0	0	39	0	0	0
Lane Group Flow (vph)	0	252	7	0	125	166	4	682	15	0	142	517
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	4	4		8	8		5	2		1	1	6
Permitted Phases			4			8			2			
Actuated Green, G (s)		14.4	14.4		12.3	12.3	0.9	21.0	21.0		7.7	27.8
Effective Green, g (s)		14.4	14.4		12.3	12.3	0.9	21.0	21.0		7.7	27.8
Actuated g/C Ratio		0.20	0.20		0.17	0.17	0.01	0.29	0.29		0.10	0.38
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		343	307		293	262	21	1002	448		183	1327
v/s Ratio Prot		c0.14			0.07		0.00	c0.19			c0.08	0.15
v/s Ratio Perm			0.00			c0.11			0.01			
v/c Ratio		0.73	0.02		0.43	0.63	0.19	0.68	0.03		0.78	0.39
Uniform Delay, d1		27.7	23.8		27.4	28.4	35.9	23.2	18.9		32.0	16.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		7.9	0.0		1.0	4.9	4.4	1.9	0.0		18.4	0.2
Delay (s)		35.6	23.8		28.4	33.3	40.3	25.1	18.9		50.4	16.8
Level of Service		D	C		C	C	D	C	B		D	B
Approach Delay (s)		34.2			32.1			24.8				22.8
Approach LOS		C			C			C				C

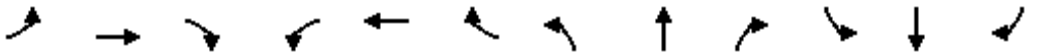
Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	94
Future Volume (vph)	94
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	99
RTOR Reduction (vph)	62
Lane Group Flow (vph)	37
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	27.8
Effective Green, g (s)	27.8
Actuated g/C Ratio	0.38
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	593
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.06
Uniform Delay, d1	14.5
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	14.6
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	0	14	19	0	168	15	450	6	53	519	40
Future Volume (vph)	83	0	14	19	0	168	15	450	6	53	519	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.88		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1734			1613		1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.95		0.44	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)		1734			1545		819	3505	1568	1720	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	87	0	15	20	0	177	16	474	6	56	546	42
RTOR Reduction (vph)	0	85	0	0	145	0	0	0	4	0	0	26
Lane Group Flow (vph)	0	17	0	0	52	0	16	474	2	56	546	16
Turn Type	Split	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2		2	6		6
Actuated Green, G (s)		3.7			7.2		15.5	15.5	15.5	15.5	15.5	15.5
Effective Green, g (s)		3.7			7.2		15.5	15.5	15.5	15.5	15.5	15.5
Actuated g/C Ratio		0.09			0.18		0.39	0.39	0.39	0.39	0.39	0.39
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		160			278		318	1361	609	668	1361	609
v/s Ratio Prot		c0.01						0.14			c0.16	
v/s Ratio Perm					c0.03		0.02		0.00	0.03		0.01
v/c Ratio		0.10			0.19		0.05	0.35	0.00	0.08	0.40	0.03
Uniform Delay, d1		16.6			13.9		7.6	8.6	7.5	7.7	8.8	7.5
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.3			0.3		0.1	0.2	0.0	0.1	0.2	0.0
Delay (s)		16.9			14.2		7.7	8.8	7.5	7.8	9.0	7.6
Level of Service		B			B		A	A	A	A	A	A
Approach Delay (s)		16.9			14.2			8.7			8.8	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	39.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	328	179	0	0	323	141	0	0	0	223	0
Future Volume (vph)	2	328	179	0	0	323	141	0	0	0	223	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5			4.5	4.5					4.5
Lane Util. Factor		0.97	0.95			1.00	1.00					1.00
Frt		1.00	1.00			1.00	0.85					1.00
Flt Protected		0.95	1.00			1.00	1.00					0.95
Satd. Flow (prot)		3400	3505			1845	1568					1752
Flt Permitted		0.47	1.00			1.00	1.00					0.95
Satd. Flow (perm)		1690	3505			1845	1568					1752
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	345	188	0	0	340	148	0	0	0	235	0
RTOR Reduction (vph)	0	0	0	0	0	0	93	0	0	0	0	0
Lane Group Flow (vph)	0	347	188	0	0	340	55	0	0	0	0	235
Turn Type	Perm	Perm	NA	Perm		NA	Perm				Split	NA
Protected Phases			4			8			2		6	6
Permitted Phases	4	4		4	8		8	2				
Actuated Green, G (s)		18.9	18.9			18.9	18.9					12.5
Effective Green, g (s)		18.9	18.9			18.9	18.9					12.5
Actuated g/C Ratio		0.37	0.37			0.37	0.37					0.25
Clearance Time (s)		4.5	4.5			4.5	4.5					4.5
Vehicle Extension (s)		3.0	3.0			3.0	3.0					3.0
Lane Grp Cap (vph)		632	1311			690	586					433
v/s Ratio Prot			0.05			0.18						c0.13
v/s Ratio Perm		c0.21					0.04					
v/c Ratio		0.55	0.14			0.49	0.09					0.54
Uniform Delay, d1		12.4	10.4			12.1	10.2					16.5
Progression Factor		1.00	1.00			1.00	1.00					1.00
Incremental Delay, d2		1.0	0.1			0.6	0.1					1.4
Delay (s)		13.4	10.5			12.7	10.3					17.9
Level of Service		B	B			B	B					B
Approach Delay (s)			12.4			12.0			0.0			16.1
Approach LOS			B			B			A			B

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	50.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



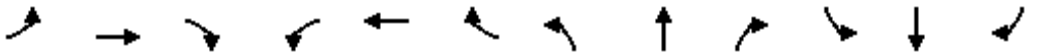
Movement	SBR
Lane Configurations	
Traffic Volume (vph)	352
Future Volume (vph)	352
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	0.88
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	2760
Flt Permitted	1.00
Satd. Flow (perm)	2760
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	371
RTOR Reduction (vph)	279
Lane Group Flow (vph)	92
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	12.5
Effective Green, g (s)	12.5
Actuated g/C Ratio	0.25
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	683
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.13
Uniform Delay, d1	14.8
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	14.9
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	402	0	0	456	35	0	0	0	34	0	8
Future Volume (Veh/h)	2	402	0	0	456	35	0	0	0	34	0	8
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2	423	0	0	480	37	0	0	0	36	0	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	517			423			934	944	423	926	926	498
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	517			423			934	944	423	926	926	498
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	85	100	99
cM capacity (veh/h)	1044			1131			241	261	629	248	267	570

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	425	517	0	44
Volume Left	2	0	0	36
Volume Right	0	37	0	8
cSH	1044	1131	1700	276
Volume to Capacity	0.00	0.00	0.00	0.16
Queue Length 95th (ft)	0	0	0	14
Control Delay (s)	0.1	0.0	0.0	20.5
Lane LOS	A		A	C
Approach Delay (s)	0.1	0.0	0.0	20.5
Approach LOS			A	C

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	36.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	344	351	471	205	160	771	1817	532	186	2292	162
Future Volume (vph)	131	344	351	471	205	160	771	1817	532	186	2292	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	146	382	390	523	228	178	857	2019	591	207	2547	180
RTOR Reduction (vph)	0	0	24	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	146	382	366	523	228	178	857	2019	591	207	2547	180
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	12.0	21.1	65.3	20.5	29.6	155.0	44.2	80.6	155.0	14.8	51.2	155.0
Effective Green, g (s)	12.0	21.1	65.3	20.5	29.6	155.0	44.2	80.6	155.0	14.8	51.2	155.0
Actuated g/C Ratio	0.08	0.14	0.42	0.13	0.19	1.00	0.29	0.52	1.00	0.10	0.33	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	263	477	729	449	961	1568	937	2618	1568	324	1663	1568
v/s Ratio Prot	0.04	c0.11	0.14	c0.15	0.05		c0.26	0.40		0.06	c0.51	
v/s Ratio Perm			0.08			0.11			0.38			0.11
v/c Ratio	0.56	0.80	0.50	1.16	0.24	0.11	0.91	0.77	0.38	0.64	1.53	0.11
Uniform Delay, d1	68.9	64.9	32.9	67.2	53.1	0.0	53.6	29.8	0.0	67.5	51.9	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	9.3	0.5	96.0	0.1	0.1	13.1	2.3	0.7	4.1	242.3	0.1
Delay (s)	71.5	74.3	33.5	163.3	53.3	0.1	66.7	32.1	0.7	71.6	294.2	0.1
Level of Service	E	E	C	F	D	A	E	C	A	E	F	A
Approach Delay (s)		56.5			105.0			35.3			260.4	
Approach LOS		E			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	125.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	155.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	451	0	2482	97	287	1998	896	0	0
Future Volume (vph)	0	451	0	2482	97	287	1998	896	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.95			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4802			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4802			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	475	0	2613	102	302	2103	943	0	0
RTOR Reduction (vph)	0	21	0	0	34	0	0	0	0	0
Lane Group Flow (vph)	0	454	0	2613	68	302	3046	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		24.6		45.1	45.1	24.6	80.0			
Effective Green, g (s)		24.6		45.1	45.1	24.6	80.0			
Actuated g/C Ratio		0.31		0.56	0.56	0.31	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		490		2839	883	538	4802			
v/s Ratio Prot		c0.28		c0.52		0.17	0.63			
v/s Ratio Perm					0.04					
v/c Ratio		0.93		0.92	0.08	0.56	0.63			
Uniform Delay, d1		26.8		15.8	8.0	23.2	0.0			
Progression Factor		1.00		1.00	1.00	1.00	1.00			
Incremental Delay, d2		23.1		6.2	0.2	0.8	0.2			
Delay (s)		49.9		22.1	8.1	24.0	0.2			
Level of Service		D		C	A	C	A			
Approach Delay (s)	49.9			21.5			2.3		0.0	
Approach LOS	D			C			A		A	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

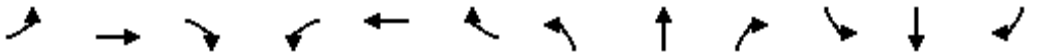
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	246	1144	1630	397	0	1998
Future Volume (vph)	246	1144	1630	397	0	1998
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3402			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3402			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	259	1204	1716	418	0	2103
RTOR Reduction (vph)	0	19	24	0	0	0
Lane Group Flow (vph)	259	1185	2110	0	0	2103
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1892			2800
v/s Ratio Prot	0.08		c0.62			0.42
v/s Ratio Perm		c0.43				
v/c Ratio	0.23	1.29	1.12			0.75
Uniform Delay, d1	21.6	30.0	20.0			15.2
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	137.4	59.9			1.0
Delay (s)	21.6	167.3	79.9			16.2
Level of Service	C	F	E			B
Approach Delay (s)	141.6		79.9			16.2
Approach LOS	F		E			B

Intersection Summary			
HCM 2000 Control Delay	72.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	106.0%	ICU Level of Service	G
Analysis Period (min)	15		

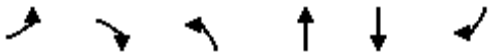
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1029	0	651	0	0	0	0	998	481	0	1063	1181
Future Volume (vph)	1029	0	651	0	0	0	0	998	481	0	1063	1181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1083	0	685	0	0	0	0	1051	506	0	1119	1243
RTOR Reduction (vph)	0	0	29	0	0	0	0	0	331	0	0	713
Lane Group Flow (vph)	1083	0	656	0	0	0	0	1051	175	0	1119	530
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	25.2		25.2					19.1	19.1		19.1	19.1
Effective Green, g (s)	25.2		25.2					19.1	19.1		19.1	19.1
Actuated g/C Ratio	0.46		0.46					0.35	0.35		0.35	0.35
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1552		715					1212	542		1212	542
v/s Ratio Prot	0.32							0.30			0.32	
v/s Ratio Perm			c0.42						0.11			c0.34
v/c Ratio	0.70		0.92					0.87	0.32		0.92	0.98
Uniform Delay, d1	12.0		14.0					16.9	13.3		17.3	17.8
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	1.1		16.2					6.5	0.1		11.5	32.3
Delay (s)	13.1		30.3					23.4	13.4		28.8	50.2
Level of Service	B		C					C	B		C	D
Approach Delay (s)		19.7			0.0			20.2			40.1	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	55.2	Sum of lost time (s)	10.9
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	0	0	34	34	0
Future Volume (vph)	0	0	0	34	34	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	36	36	0

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	36	36	0
Volume Left (vph)	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0
Hadj (s)	0.00	0.00	0.05	0.05	0.00
Departure Headway (s)	4.1	4.5	4.6	4.6	4.5
Degree Utilization, x	0.00	0.00	0.05	0.05	0.00
Capacity (veh/h)	876	802	775	783	802
Control Delay (s)	7.1	6.3	6.6	6.6	6.3
Approach Delay (s)	0.0	6.6		6.6	
Approach LOS	A	A		A	

Intersection Summary			
Delay	6.6		
Level of Service	A		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	0	0	0	18	0	161	9	0	1321	28	3	289
Future Volume (vph)	0	0	0	18	0	161	9	0	1321	28	3	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5		4.5		4.5	4.5	4.5		4.5
Lane Util. Factor				0.97		1.00		0.97	0.91	1.00		0.97
Frpb, ped/bikes				1.00		0.98		1.00	1.00	0.98		1.00
Flpb, ped/bikes				1.00		1.00		1.00	1.00	1.00		1.00
Frt				1.00		0.85		1.00	1.00	0.85		1.00
Flt Protected				0.95		1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)				3400		1538		3400	5036	1541		3400
Flt Permitted				0.95		1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)				3400		1538		3400	5036	1541		3400
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	19	0	169	9	0	1391	29	3	304
RTOR Reduction (vph)	0	0	0	0	0	142	0	0	0	16	0	0
Lane Group Flow (vph)	0	0	0	19	0	27	0	9	1391	13	0	307
Confl. Peds. (#/hr)			5			5				5		
Confl. Bikes (#/hr)			2			2				2		
Turn Type	Prot		Perm	Prot		Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)				1.0		8.6		0.9	24.6	24.6		7.6
Effective Green, g (s)				1.0		8.6		0.9	24.6	24.6		7.6
Actuated g/C Ratio				0.02		0.16		0.02	0.45	0.45		0.14
Clearance Time (s)				4.5		4.5		4.5	4.5	4.5		4.5
Vehicle Extension (s)				3.0		3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)				62		243		56	2281	698		475
v/s Ratio Prot				0.01				0.00	c0.28			c0.09
v/s Ratio Perm						c0.02				0.01		
v/c Ratio				0.31		0.11		0.16	0.61	0.02		0.65
Uniform Delay, d1				26.3		19.6		26.3	11.2	8.2		22.1
Progression Factor				1.00		1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2				2.8		0.2		1.3	0.5	0.0		3.0
Delay (s)				29.1		19.8		27.7	11.7	8.2		25.1
Level of Service				C		B		C	B	A		C
Approach Delay (s)		0.0			20.7				11.7			
Approach LOS		A			C				B			

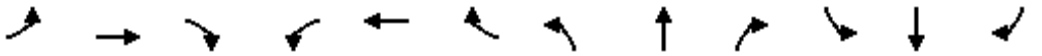
Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	54.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1421	0
Future Volume (vph)	1421	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	
Lane Util. Factor	0.91	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	5036	
Flt Permitted	1.00	
Satd. Flow (perm)	5036	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	1496	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	1496	0
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		2
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	31.3	
Effective Green, g (s)	31.3	
Actuated g/C Ratio	0.58	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2902	
v/s Ratio Prot	0.30	
v/s Ratio Perm		
v/c Ratio	0.52	
Uniform Delay, d1	6.9	
Progression Factor	1.00	
Incremental Delay, d2	0.2	
Delay (s)	7.1	
Level of Service	A	
Approach Delay (s)	10.2	
Approach LOS	B	

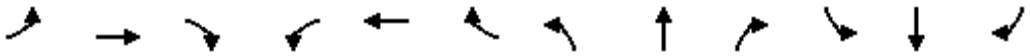
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	74	243	0	114	0	65	0	0	0	0	0
Future Volume (Veh/h)	0	74	243	0	114	0	65	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	78	256	0	120	0	68	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	120			334			266	326	167	159	454	60
vC1, stage 1 conf vol							206	206		120	120	
vC2, stage 2 conf vol							60	120		39	334	
vCu, unblocked vol	120			334			266	326	167	159	454	60
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			90	100	100	100	100	100
cM capacity (veh/h)	1458			1215			677	613	845	770	542	990

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	0	52	282	0	60	60	68	0
Volume Left	0	0	0	0	0	0	68	0
Volume Right	0	0	256	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	677	1700
Volume to Capacity	0.00	0.03	0.17	0.00	0.04	0.04	0.10	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	8	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.9	0.0
Lane LOS							B	A
Approach Delay (s)	0.0			0.0			10.9	0.0
Approach LOS							B	A

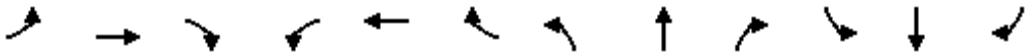
Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	20.2%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	48	26	0	49	0	65	0	0	0	0	0
Future Volume (Veh/h)	0	48	26	0	49	0	65	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	51	27	0	52	0	68	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	162	136	0	188	136	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	162	136	0	188	136	0	0			0		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	93	98	100	93	100	96			100		
cM capacity (veh/h)	718	720	1081	671	720	1081	1614			1614		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	0	34	44	0	35	17	68	0	0	0	0	0
Volume Left	0	0	0	0	0	0	68	0	0	0	0	0
Volume Right	0	0	27	0	0	0	0	0	0	0	0	0
cSH	1700	720	906	1700	720	720	1614	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.05	0.05	0.00	0.05	0.02	0.04	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	4	4	0	4	2	3	0	0	0	0	0
Control Delay (s)	0.0	10.2	9.2	0.0	10.3	10.1	7.3	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	B	A	A	B	B	A					
Approach Delay (s)	9.6			10.2			7.3			0.0		
Approach LOS	A			B								

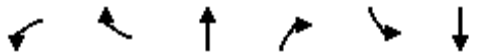
Intersection Summary					
Average Delay	9.0				
Intersection Capacity Utilization	13.6%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	24	0	24	0	0	0	25	10	0	0	10	24
Future Volume (vph)	24	0	24	0	0	0	25	10	0	0	10	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	25	0	25	0	0	0	26	11	0	0	11	25

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	25	25	0	0	26	11	0	36
Volume Left (vph)	25	0	0	0	26	0	0	0
Volume Right (vph)	0	25	0	0	0	0	0	25
Hadj (s)	0.55	-0.65	0.00	0.00	0.55	0.05	0.00	-0.44
Departure Headway (s)	5.2	4.0	4.7	4.7	5.2	4.7	4.7	4.2
Degree Utilization, x	0.04	0.03	0.00	0.00	0.04	0.01	0.00	0.04
Capacity (veh/h)	676	868	761	761	677	748	774	832
Control Delay (s)	7.2	5.9	6.5	6.5	7.2	6.6	6.5	6.2
Approach Delay (s)	6.6		0.0		7.0		6.2	
Approach LOS	A		A		A		A	

Intersection Summary				
Delay	6.6			
Level of Service	A			
Intersection Capacity Utilization	18.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	61	1297	17	56	1393
Future Volume (Veh/h)	0	61	1297	17	56	1393
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	64	1365	18	59	1466
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						840
pX, platoon unblocked	0.83					
vC, conflicting volume	1981	464			1383	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1473	464			1383	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	88			88	
cM capacity (veh/h)	85	542			486	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	64	546	546	291	352	586	586
Volume Left	0	0	0	0	59	0	0
Volume Right	64	0	0	18	0	0	0
cSH	542	1700	1700	1700	486	1700	1700
Volume to Capacity	0.12	0.32	0.32	0.17	0.12	0.34	0.34
Queue Length 95th (ft)	10	0	0	0	10	0	0
Control Delay (s)	12.5	0.0	0.0	0.0	3.9	0.0	0.0
Lane LOS	B				A		
Approach Delay (s)	12.5	0.0			0.9		
Approach LOS	B						

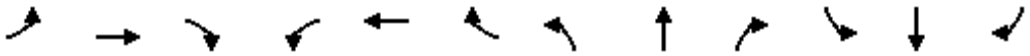
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	28	1286	6	50	1343
Future Volume (Veh/h)	7	28	1286	6	50	1343
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	7	29	1354	6	53	1414
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1934	454			1360	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1934	454			1360	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	95			89	
cM capacity (veh/h)	51	550			496	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	36	542	542	277	336	566	566
Volume Left	7	0	0	0	53	0	0
Volume Right	29	0	0	6	0	0	0
cSH	189	1700	1700	1700	496	1700	1700
Volume to Capacity	0.19	0.32	0.32	0.16	0.11	0.33	0.33
Queue Length 95th (ft)	17	0	0	0	9	0	0
Control Delay (s)	28.4	0.0	0.0	0.0	3.5	0.0	0.0
Lane LOS	D				A		
Approach Delay (s)	28.4	0.0			0.8		
Approach LOS	D						

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	0	0	0
Volume Left (vph)	0	0	0	0
Volume Right (vph)	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	917	917	917
Control Delay (s)	6.9	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	0.0			
Level of Service	A			
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			

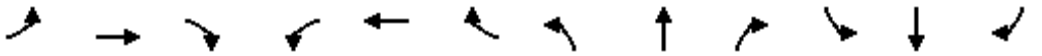
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	164	0	22	66	0	279	3	14	848	117	1	384
Future Volume (vph)	164	0	22	66	0	279	3	14	848	117	1	384
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00	0.95	1.00		1.00
Frt		1.00	0.85		1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected		0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)		1752	1568		1752	1568		1752	3505	1568		1752
Flt Permitted		0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)		1752	1568		1752	1568		1752	3505	1568		1752
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	173	0	23	69	0	294	3	15	893	123	1	404
RTOR Reduction (vph)	0	0	20	0	0	263	0	0	0	86	0	0
Lane Group Flow (vph)	0	173	3	0	69	31	0	18	893	37	0	405
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	4	4		8	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)		13.4	13.4		9.5	9.5		2.0	27.3	27.3		21.9
Effective Green, g (s)		13.4	13.4		9.5	9.5		2.0	27.3	27.3		21.9
Actuated g/C Ratio		0.15	0.15		0.11	0.11		0.02	0.30	0.30		0.24
Clearance Time (s)		4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		260	233		184	165		38	1062	475		425
v/s Ratio Prot		c0.10			c0.04			0.01	c0.25			c0.23
v/s Ratio Perm			0.00			0.02				0.02		
v/c Ratio		0.67	0.01		0.38	0.19		0.47	0.84	0.08		0.95
Uniform Delay, d1		36.2	32.7		37.5	36.8		43.5	29.4	22.4		33.6
Progression Factor		1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2		6.3	0.0		1.3	0.6		9.0	6.1	0.1		31.6
Delay (s)		42.5	32.7		38.8	37.3		52.6	35.5	22.5		65.2
Level of Service		D	C		D	D		D	D	C		E
Approach Delay (s)		41.4			37.6				34.3			
Approach LOS		D			D				C			

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	695	271
Future Volume (vph)	695	271
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	4.5
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3505	1568
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3505	1568
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	732	285
RTOR Reduction (vph)	0	107
Lane Group Flow (vph)	732	178
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	47.2	47.2
Effective Green, g (s)	47.2	47.2
Actuated g/C Ratio	0.52	0.52
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1836	821
v/s Ratio Prot	0.21	
v/s Ratio Perm		0.11
v/c Ratio	0.40	0.22
Uniform Delay, d1	12.9	11.5
Progression Factor	1.00	1.00
Incremental Delay, d2	0.1	0.1
Delay (s)	13.1	11.7
Level of Service	B	B
Approach Delay (s)	27.6	
Approach LOS	C	

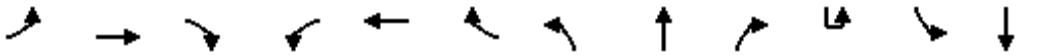
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	0	10	12	0	104	32	811	20	178	512	90
Future Volume (vph)	60	0	10	12	0	104	32	811	20	178	512	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.88		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1734			1614		1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.95		0.45	1.00	1.00	0.30	1.00	1.00
Satd. Flow (perm)		1734			1542		832	3505	1568	1063	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	63	0	11	13	0	109	34	854	21	187	539	95
RTOR Reduction (vph)	0	69	0	0	98	0	0	0	9	0	0	42
Lane Group Flow (vph)	0	5	0	0	24	0	34	854	12	187	539	53
Turn Type	Split	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2		2	6		6
Actuated Green, G (s)		3.3			5.2		27.4	27.4	27.4	27.4	27.4	27.4
Effective Green, g (s)		3.3			5.2		27.4	27.4	27.4	27.4	27.4	27.4
Actuated g/C Ratio		0.07			0.11		0.55	0.55	0.55	0.55	0.55	0.55
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		115			162		461	1944	869	589	1944	869
v/s Ratio Prot		c0.00						c0.24			0.15	
v/s Ratio Perm					c0.02		0.04		0.01	0.18		0.03
v/c Ratio		0.04			0.15		0.07	0.44	0.01	0.32	0.28	0.06
Uniform Delay, d1		21.6			20.1		5.1	6.5	4.9	5.9	5.8	5.1
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.2			0.4		0.1	0.2	0.0	0.3	0.1	0.0
Delay (s)		21.7			20.5		5.2	6.6	4.9	6.3	5.9	5.1
Level of Service		C			C		A	A	A	A	A	A
Approach Delay (s)		21.7			20.5			6.5			5.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	49.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	621	355	0	0	289	244	0	0	0	1	279	0
Future Volume (vph)	621	355	0	0	289	244	0	0	0	1	279	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5						4.5
Lane Util. Factor	0.97	0.95			1.00	1.00						1.00
Frt	1.00	1.00			1.00	0.85						1.00
Flt Protected	0.95	1.00			1.00	1.00						0.95
Satd. Flow (prot)	3400	3505			1845	1568						1752
Flt Permitted	0.53	1.00			1.00	1.00						0.95
Satd. Flow (perm)	1884	3505			1845	1568						1752
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	654	374	0	0	304	257	0	0	0	1	294	0
RTOR Reduction (vph)	0	0	0	0	0	135	0	0	0	0	0	0
Lane Group Flow (vph)	654	374	0	0	304	122	0	0	0	0	0	295
Turn Type	Perm	NA	Perm		NA	Perm				Perm	Split	NA
Protected Phases		4			8			2			6	6
Permitted Phases	4		4			8	2			6		
Actuated Green, G (s)	32.4	32.4			32.4	32.4						16.5
Effective Green, g (s)	32.4	32.4			32.4	32.4						16.5
Actuated g/C Ratio	0.48	0.48			0.48	0.48						0.24
Clearance Time (s)	4.5	4.5			4.5	4.5						4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0						3.0
Lane Grp Cap (vph)	897	1670			879	747						425
v/s Ratio Prot		0.11			0.16							c0.17
v/s Ratio Perm	c0.35					0.08						
v/c Ratio	0.73	0.22			0.35	0.16						0.69
Uniform Delay, d1	14.3	10.4			11.2	10.1						23.5
Progression Factor	1.00	1.00			1.00	1.00						1.00
Incremental Delay, d2	3.0	0.1			0.2	0.1						4.9
Delay (s)	17.3	10.5			11.4	10.2						28.3
Level of Service	B	B			B	B						C
Approach Delay (s)		14.8			10.9			0.0				24.4
Approach LOS		B			B			A				C

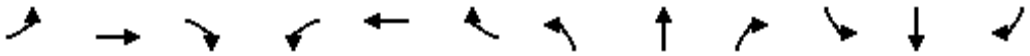
Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	68.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	257
Future Volume (vph)	257
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	0.88
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	2760
Flt Permitted	1.00
Satd. Flow (perm)	2760
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	271
RTOR Reduction (vph)	205
Lane Group Flow (vph)	66
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	16.5
Effective Green, g (s)	16.5
Actuated g/C Ratio	0.24
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	669
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.10
Uniform Delay, d1	20.0
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	20.0
Level of Service	C
Approach Delay (s)	
Approach LOS	

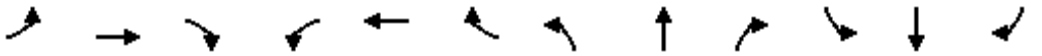
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	626	0	0	528	43	0	0	0	39	0	5
Future Volume (Veh/h)	8	626	0	0	528	43	0	0	0	39	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	659	0	0	556	45	0	0	0	41	0	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	601			659			1258	1276	659	1254	1254	578
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	601			659			1258	1276	659	1254	1254	578
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	72	100	99
cM capacity (veh/h)	971			924			145	165	462	147	170	513

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	667	601	0	46
Volume Left	8	0	0	41
Volume Right	0	45	0	5
cSH	971	924	1700	159
Volume to Capacity	0.01	0.00	0.00	0.29
Queue Length 95th (ft)	1	0	0	28
Control Delay (s)	0.2	0.0	0.0	36.5
Lane LOS	A		A	E
Approach Delay (s)	0.2	0.0	0.0	36.5
Approach LOS			A	E

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	49.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	69	240	469	246	113	599	1711	389	38	1178	57
Future Volume (vph)	107	69	240	469	246	113	599	1711	389	38	1178	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	109	70	245	479	251	115	611	1746	397	39	1202	58
RTOR Reduction (vph)	0	0	224	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	109	70	21	479	251	115	611	1746	397	39	1202	58
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	9.2	10.5	10.5	17.5	18.8	120.0	26.8	69.5	120.0	4.5	47.2	120.0
Effective Green, g (s)	9.2	10.5	10.5	17.5	18.8	120.0	26.8	69.5	120.0	4.5	47.2	120.0
Actuated g/C Ratio	0.08	0.09	0.09	0.15	0.16	1.00	0.22	0.58	1.00	0.04	0.39	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	260	306	141	495	788	1568	733	2916	1568	127	1980	1568
v/s Ratio Prot	0.03	0.02		c0.14	c0.05		c0.19	c0.35		0.01	0.24	
v/s Ratio Perm			0.01			0.07			0.25			0.04
v/c Ratio	0.42	0.23	0.15	0.97	0.32	0.07	0.83	0.60	0.25	0.31	0.61	0.04
Uniform Delay, d1	52.9	51.0	50.6	51.0	44.9	0.0	44.5	16.3	0.0	56.2	29.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.17	1.22	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.4	0.5	31.9	0.2	0.1	4.2	0.5	0.2	1.4	1.4	0.0
Delay (s)	53.9	51.4	51.1	82.9	45.1	0.1	56.1	20.3	0.2	57.6	30.4	0.0
Level of Service	D	D	D	F	D	A	E	C	A	E	C	A
Approach Delay (s)		51.9			60.4			25.4			29.9	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	34.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	335	0	2406	125	117	972	782	0	0
Future Volume (vph)	0	335	0	2406	125	117	972	782	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.93			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4699			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4699			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	353	0	2533	132	123	1023	823	0	0
RTOR Reduction (vph)	0	31	0	0	56	0	0	0	0	0
Lane Group Flow (vph)	0	322	0	2533	76	123	1846	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		15.1		34.6	34.6	15.1	60.0			
Effective Green, g (s)		15.1		34.6	34.6	15.1	60.0			
Actuated g/C Ratio		0.25		0.58	0.58	0.25	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		401		2904	904	440	4699			
v/s Ratio Prot		c0.20		c0.50		0.07	0.39			
v/s Ratio Perm					0.05					
v/c Ratio		0.80		0.87	0.08	0.28	0.39			
Uniform Delay, d1		21.0		10.8	5.7	18.1	0.0			
Progression Factor		1.00		1.00	1.00	0.73	1.00			
Incremental Delay, d2		10.4		4.0	0.2	0.1	0.0			
Delay (s)		31.5		14.8	5.8	13.3	0.0			
Level of Service		C		B	A	B	A			
Approach Delay (s)	31.5			14.3			0.8		0.0	
Approach LOS	C			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		

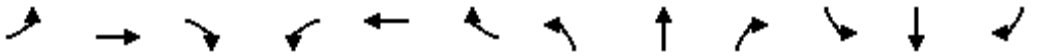
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	180	1067	1416	557	0	972
Future Volume (vph)	180	1067	1416	557	0	972
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.96			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3357			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3357			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	189	1123	1491	586	0	1023
RTOR Reduction (vph)	0	34	46	0	0	0
Lane Group Flow (vph)	189	1089	2031	0	0	1023
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1867			2800
v/s Ratio Prot	0.06		c0.61			0.20
v/s Ratio Perm		c0.39				
v/c Ratio	0.17	1.18	1.09			0.37
Uniform Delay, d1	21.1	30.0	20.0			11.1
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	93.2	49.1			0.0
Delay (s)	21.2	123.2	69.1			11.1
Level of Service	C	F	E			B
Approach Delay (s)	108.5		69.1			11.1
Approach LOS	F		E			B

Intersection Summary			
HCM 2000 Control Delay	67.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	102.5%	ICU Level of Service	G
Analysis Period (min)	15		

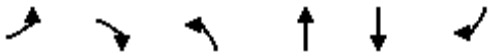
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	732	0	311	0	0	0	0	1241	174	0	611	542
Future Volume (vph)	732	0	311	0	0	0	0	1241	174	0	611	542
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	771	0	327	0	0	0	0	1306	183	0	643	571
RTOR Reduction (vph)	0	0	56	0	0	0	0	0	109	0	0	339
Lane Group Flow (vph)	771	0	271	0	0	0	0	1306	74	0	643	232
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	14.4		14.4					17.3	17.3		17.3	17.3
Effective Green, g (s)	14.4		14.4					17.3	17.3		17.3	17.3
Actuated g/C Ratio	0.34		0.34					0.41	0.41		0.41	0.41
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1149		530					1423	636		1423	636
v/s Ratio Prot	c0.23							c0.37			0.18	
v/s Ratio Perm			0.17						0.05			0.15
v/c Ratio	0.67		0.51					0.92	0.12		0.45	0.36
Uniform Delay, d1	12.1		11.3					12.0	7.9		9.2	8.8
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	1.2		0.3					9.4	0.0		0.1	0.1
Delay (s)	13.3		11.6					21.4	7.9		9.3	8.9
Level of Service	B		B					C	A		A	A
Approach Delay (s)		12.8			0.0			19.7			9.1	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	42.6	Sum of lost time (s)	10.9
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	0	0	26	33	0
Future Volume (vph)	0	0	0	26	33	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	27	35	0

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	27	35	0
Volume Left (vph)	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0
Hadj (s)	0.00	0.00	0.05	0.05	0.00
Departure Headway (s)	4.1	4.5	4.6	4.6	4.5
Degree Utilization, x	0.00	0.00	0.03	0.04	0.00
Capacity (veh/h)	882	802	775	784	803
Control Delay (s)	7.1	6.3	6.5	6.6	6.3
Approach Delay (s)	0.0	6.5		6.6	
Approach LOS	A	A		A	

Intersection Summary				
Delay	6.6			
Level of Service	A			
Intersection Capacity Utilization	6.7%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	0	0	0	39	0	262	15	0	1346	61	36	186
Future Volume (vph)	0	0	0	39	0	262	15	0	1346	61	36	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5		4.5		4.5	4.5	4.5		4.5
Lane Util. Factor				0.97		1.00		0.97	0.91	1.00		0.97
Frpb, ped/bikes				1.00		0.98		1.00	1.00	0.98		1.00
Flpb, ped/bikes				1.00		1.00		1.00	1.00	1.00		1.00
Frt				1.00		0.85		1.00	1.00	0.85		1.00
Flt Protected				0.95		1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)				3400		1539		3400	5036	1540		3400
Flt Permitted				0.95		1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)				3400		1539		3400	5036	1540		3400
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	41	0	276	16	0	1417	64	38	196
RTOR Reduction (vph)	0	0	0	0	0	214	0	0	0	36	0	0
Lane Group Flow (vph)	0	0	0	41	0	62	0	16	1417	28	0	234
Confl. Peds. (#/hr)			5			5				5		
Confl. Bikes (#/hr)			2			2				2		
Turn Type	Prot		Perm	Prot		Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)				3.7		11.7		0.9	25.1	25.1		6.5
Effective Green, g (s)				3.7		11.7		0.9	25.1	25.1		6.5
Actuated g/C Ratio				0.07		0.21		0.02	0.44	0.44		0.11
Clearance Time (s)				4.5		4.5		4.5	4.5	4.5		4.5
Vehicle Extension (s)				3.0		3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)				221		317		53	2225	680		389
v/s Ratio Prot				0.01				0.00	c0.28			c0.07
v/s Ratio Perm						c0.04				0.02		
v/c Ratio				0.19		0.20		0.30	0.64	0.04		0.60
Uniform Delay, d1				25.1		18.7		27.6	12.3	9.0		23.9
Progression Factor				1.00		1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2				0.4		0.3		3.2	0.6	0.0		2.6
Delay (s)				25.5		19.0		30.8	12.9	9.0		26.5
Level of Service				C		B		C	B	A		C
Approach Delay (s)		0.0			19.8				12.9			
Approach LOS		A			B				B			

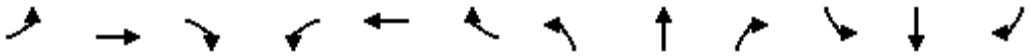
Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	56.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	700	0
Future Volume (vph)	700	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	
Lane Util. Factor	0.91	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	5036	
Flt Permitted	1.00	
Satd. Flow (perm)	5036	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	737	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	737	0
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		2
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	30.7	
Effective Green, g (s)	30.7	
Actuated g/C Ratio	0.54	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2721	
v/s Ratio Prot	0.15	
v/s Ratio Perm		
v/c Ratio	0.27	
Uniform Delay, d1	7.0	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	7.1	
Level of Service	A	
Approach Delay (s)	11.8	
Approach LOS	B	

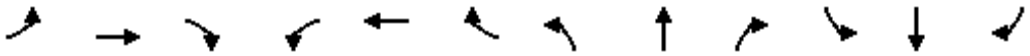
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	48	101	0	146	6	132	0	0	2	0	26
Future Volume (Veh/h)	99	48	101	0	146	6	132	0	0	2	0	26
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	104	51	106	0	154	6	139	0	0	2	0	27
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	160			157			389	472	78	390	522	80
vC1, stage 1 conf vol							312	312		157	157	
vC2, stage 2 conf vol							77	160		234	365	
vCu, unblocked vol	160			157			389	472	78	390	522	80
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			100			74	100	100	100	100	97
cM capacity (veh/h)	1409			1413			533	492	963	571	481	961

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	104	34	123	0	103	57	139	29
Volume Left	104	0	0	0	0	0	139	2
Volume Right	0	0	106	0	0	6	0	27
cSH	1409	1700	1700	1700	1700	1700	533	918
Volume to Capacity	0.07	0.02	0.07	0.00	0.06	0.03	0.26	0.03
Queue Length 95th (ft)	6	0	0	0	0	0	26	2
Control Delay (s)	7.8	0.0	0.0	0.0	0.0	0.0	14.1	9.1
Lane LOS	A						B	A
Approach Delay (s)	3.1			0.0			14.1	9.1
Approach LOS							B	A

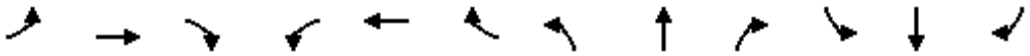
Intersection Summary				
Average Delay	5.1			
Intersection Capacity Utilization	33.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	32	17	0	50	0	101	0	0	0	0	0
Future Volume (Veh/h)	0	32	17	0	50	0	101	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	34	18	0	53	0	106	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	238	212	0	247	212	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	238	212	0	247	212	0	0			0		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	95	98	100	92	100	93			100		
cM capacity (veh/h)	617	637	1081	613	637	1081	1614			1614		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	0	23	29	0	35	18	106	0	0	0	0	0
Volume Left	0	0	0	0	0	0	106	0	0	0	0	0
Volume Right	0	0	18	0	0	0	0	0	0	0	0	0
cSH	1700	637	852	1700	637	637	1614	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.04	0.03	0.00	0.06	0.03	0.07	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	3	3	0	4	2	5	0	0	0	0	0
Control Delay (s)	0.0	10.9	9.4	0.0	11.0	10.8	7.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	B	A	A	B	B	A					
Approach Delay (s)	10.0			10.9			7.4			0.0		
Approach LOS	B			B								

Intersection Summary					
Average Delay	8.9				
Intersection Capacity Utilization	15.6%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	15	1	16	0	3	0	24	11	0	0	10	23
Future Volume (vph)	15	1	16	0	3	0	24	11	0	0	10	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	1	17	0	3	0	25	12	0	0	11	24

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	16	18	0	3	25	12	0	35
Volume Left (vph)	16	0	0	0	25	0	0	0
Volume Right (vph)	0	17	0	0	0	0	0	24
Hadj (s)	0.55	-0.61	0.00	0.05	0.55	0.05	0.00	-0.43
Departure Headway (s)	5.2	4.1	4.7	4.7	5.2	4.7	4.6	4.2
Degree Utilization, x	0.02	0.02	0.00	0.00	0.04	0.02	0.00	0.04
Capacity (veh/h)	676	860	764	736	683	755	781	840
Control Delay (s)	7.1	5.9	6.5	6.6	7.2	6.5	6.4	6.2
Approach Delay (s)	6.5		6.6		7.0		6.2	
Approach LOS	A		A		A		A	

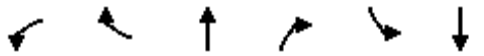
Intersection Summary				
Delay	6.6			
Level of Service	A			
Intersection Capacity Utilization	22.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	105	1312	7	19	733
Future Volume (Veh/h)	0	105	1312	7	19	733
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	111	1381	7	20	772
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						840
pX, platoon unblocked	0.97					
vC, conflicting volume	1682	464			1388	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1590	464			1388	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	80			96	
cM capacity (veh/h)	90	542			484	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	111	552	552	283	174	309	309
Volume Left	0	0	0	0	20	0	0
Volume Right	111	0	0	7	0	0	0
cSH	542	1700	1700	1700	484	1700	1700
Volume to Capacity	0.20	0.32	0.32	0.17	0.04	0.18	0.18
Queue Length 95th (ft)	19	0	0	0	3	0	0
Control Delay (s)	13.3	0.0	0.0	0.0	2.0	0.0	0.0
Lane LOS	B				A		
Approach Delay (s)	13.3	0.0			0.4		
Approach LOS	B						

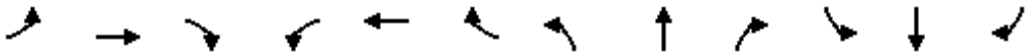
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	52	1267	1	17	716
Future Volume (Veh/h)	11	52	1267	1	17	716
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	12	55	1334	1	18	754
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1622	445			1335	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1622	445			1335	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	90			96	
cM capacity (veh/h)	89	558			507	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	67	534	534	268	169	302	302
Volume Left	12	0	0	0	18	0	0
Volume Right	55	0	0	1	0	0	0
cSH	288	1700	1700	1700	507	1700	1700
Volume to Capacity	0.23	0.31	0.31	0.16	0.04	0.18	0.18
Queue Length 95th (ft)	22	0	0	0	3	0	0
Control Delay (s)	21.3	0.0	0.0	0.0	1.7	0.0	0.0
Lane LOS	C				A		
Approach Delay (s)	21.3	0.0			0.4		
Approach LOS	C						

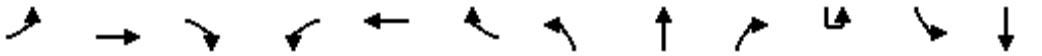
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	0	0	0
Volume Left (vph)	0	0	0	0
Volume Right (vph)	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	917	917	917
Control Delay (s)	6.9	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	0.0			
Level of Service	A			
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	246	0	32	119	0	360	4	662	51	1	136	495
Future Volume (vph)	246	0	32	119	0	360	4	662	51	1	136	495
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00		1.00	0.95
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)		1752	1568		1752	1568	1752	3505	1568		1752	3505
Flt Permitted		0.95	1.00		0.95	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)		1752	1568		1752	1568	1752	3505	1568		1752	3505
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	259	0	34	125	0	379	4	697	54	1	143	521
RTOR Reduction (vph)	0	0	27	0	0	202	0	0	39	0	0	0
Lane Group Flow (vph)	0	259	7	0	125	177	4	697	15	0	144	521
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	4	4		8	8		5	2		1	1	6
Permitted Phases			4			8			2			
Actuated Green, G (s)		14.6	14.6		12.6	12.6	0.9	21.2	21.2		7.8	28.1
Effective Green, g (s)		14.6	14.6		12.6	12.6	0.9	21.2	21.2		7.8	28.1
Actuated g/C Ratio		0.20	0.20		0.17	0.17	0.01	0.29	0.29		0.11	0.38
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		344	308		297	266	21	1001	448		184	1327
v/s Ratio Prot		c0.15			0.07		0.00	c0.20			c0.08	0.15
v/s Ratio Perm			0.00			c0.11			0.01			
v/c Ratio		0.75	0.02		0.42	0.67	0.19	0.70	0.03		0.78	0.39
Uniform Delay, d1		28.1	24.0		27.5	28.8	36.3	23.6	19.1		32.4	16.8
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		9.0	0.0		1.0	6.2	4.4	2.1	0.0		19.2	0.2
Delay (s)		37.1	24.1		28.5	35.0	40.7	25.8	19.1		51.6	17.0
Level of Service		D	C		C	D	D	C	B		D	B
Approach Delay (s)		35.6			33.4			25.4				23.2
Approach LOS		D			C			C				C

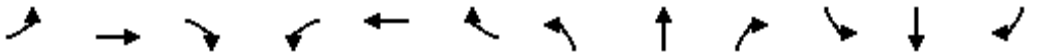
Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	74.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	96
Future Volume (vph)	96
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	101
RTOR Reduction (vph)	63
Lane Group Flow (vph)	38
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	28.1
Effective Green, g (s)	28.1
Actuated g/C Ratio	0.38
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	593
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.06
Uniform Delay, d1	14.7
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	14.7
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	0	14	19	0	168	15	458	6	53	521	42
Future Volume (vph)	89	0	14	19	0	168	15	458	6	53	521	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.88		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1736			1613		1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.95		0.44	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)		1736			1544		816	3505	1568	1707	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	94	0	15	20	0	177	16	482	6	56	548	44
RTOR Reduction (vph)	0	85	0	0	145	0	0	0	4	0	0	27
Lane Group Flow (vph)	0	24	0	0	52	0	16	482	2	56	548	17
Turn Type	Split	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2		2	6		6
Actuated Green, G (s)		3.8			7.2		15.5	15.5	15.5	15.5	15.5	15.5
Effective Green, g (s)		3.8			7.2		15.5	15.5	15.5	15.5	15.5	15.5
Actuated g/C Ratio		0.09			0.18		0.39	0.39	0.39	0.39	0.39	0.39
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		164			277		316	1358	607	661	1358	607
v/s Ratio Prot		c0.01						0.14			c0.16	
v/s Ratio Perm					c0.03		0.02		0.00	0.03		0.01
v/c Ratio		0.15			0.19		0.05	0.35	0.00	0.08	0.40	0.03
Uniform Delay, d1		16.6			13.9		7.7	8.7	7.5	7.8	8.9	7.6
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.4			0.3		0.1	0.2	0.0	0.1	0.2	0.0
Delay (s)		17.0			14.2		7.7	8.9	7.5	7.8	9.1	7.6
Level of Service		B			B		A	A	A	A	A	A
Approach Delay (s)		17.0			14.2			8.8			8.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	332	179	0	0	323	145	0	0	0	224	0
Future Volume (vph)	2	332	179	0	0	323	145	0	0	0	224	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5			4.5	4.5					4.5
Lane Util. Factor		0.97	0.95			1.00	1.00					1.00
Frt		1.00	1.00			1.00	0.85					1.00
Flt Protected		0.95	1.00			1.00	1.00					0.95
Satd. Flow (prot)		3400	3505			1845	1568					1752
Flt Permitted		0.47	1.00			1.00	1.00					0.95
Satd. Flow (perm)		1693	3505			1845	1568					1752
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	349	188	0	0	340	153	0	0	0	236	0
RTOR Reduction (vph)	0	0	0	0	0	0	95	0	0	0	0	0
Lane Group Flow (vph)	0	351	188	0	0	340	58	0	0	0	0	236
Turn Type	Perm	Perm	NA	Perm		NA	Perm				Split	NA
Protected Phases			4			8			2		6	6
Permitted Phases	4	4		4	8		8	2				
Actuated Green, G (s)		19.1	19.1			19.1	19.1					12.5
Effective Green, g (s)		19.1	19.1			19.1	19.1					12.5
Actuated g/C Ratio		0.38	0.38			0.38	0.38					0.25
Clearance Time (s)		4.5	4.5			4.5	4.5					4.5
Vehicle Extension (s)		3.0	3.0			3.0	3.0					3.0
Lane Grp Cap (vph)		637	1320			695	590					431
v/s Ratio Prot			0.05			0.18						c0.13
v/s Ratio Perm		c0.21					0.04					
v/c Ratio		0.55	0.14			0.49	0.10					0.55
Uniform Delay, d1		12.4	10.4			12.1	10.2					16.6
Progression Factor		1.00	1.00			1.00	1.00					1.00
Incremental Delay, d2		1.0	0.0			0.5	0.1					1.4
Delay (s)		13.5	10.5			12.6	10.3					18.1
Level of Service		B	B			B	B					B
Approach Delay (s)			12.4			11.9			0.0			16.2
Approach LOS			B			B			A			B

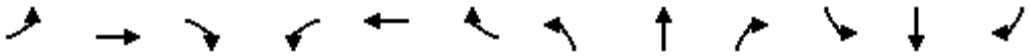
Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	50.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	353
Future Volume (vph)	353
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	0.88
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	2760
Flt Permitted	1.00
Satd. Flow (perm)	2760
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	372
RTOR Reduction (vph)	280
Lane Group Flow (vph)	92
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	12.5
Effective Green, g (s)	12.5
Actuated g/C Ratio	0.25
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	680
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.13
Uniform Delay, d1	14.9
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	15.0
Level of Service	B
Approach Delay (s)	
Approach LOS	

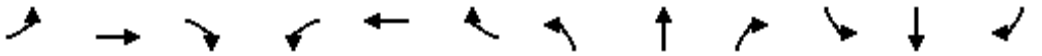
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	402	0	0	456	36	0	0	0	34	0	8
Future Volume (Veh/h)	2	402	0	0	456	36	0	0	0	34	0	8
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2	423	0	0	480	38	0	0	0	36	0	8
Pedestrians								457				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								3.5				
Percent Blockage								44				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	518			880			1391	1402	880	926	1383	499
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	518			880			1391	1402	880	926	1383	499
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	78	100	99
cM capacity (veh/h)	1043			431			44	78	195	163	81	570

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	425	518	0	44
Volume Left	2	0	0	36
Volume Right	0	38	0	8
cSH	1043	431	1700	188
Volume to Capacity	0.00	0.00	0.00	0.23
Queue Length 95th (ft)	0	0	0	22
Control Delay (s)	0.1	0.0	0.0	29.9
Lane LOS	A		A	D
Approach Delay (s)	0.1	0.0	0.0	29.9
Approach LOS			A	D

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	36.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	344	351	471	205	160	771	1882	532	186	2317	162
Future Volume (vph)	131	344	351	471	205	160	771	1882	532	186	2317	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	146	382	390	523	228	178	857	2091	591	207	2574	180
RTOR Reduction (vph)	0	0	24	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	146	382	366	523	228	178	857	2091	591	207	2574	180
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	12.0	21.1	65.3	20.5	29.6	155.0	44.2	80.6	155.0	14.8	51.2	155.0
Effective Green, g (s)	12.0	21.1	65.3	20.5	29.6	155.0	44.2	80.6	155.0	14.8	51.2	155.0
Actuated g/C Ratio	0.08	0.14	0.42	0.13	0.19	1.00	0.29	0.52	1.00	0.10	0.33	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	263	477	729	449	961	1568	937	2618	1568	324	1663	1568
v/s Ratio Prot	0.04	c0.11	0.14	c0.15	0.05		c0.26	0.42		0.06	c0.51	
v/s Ratio Perm			0.08			0.11			0.38			0.11
v/c Ratio	0.56	0.80	0.50	1.16	0.24	0.11	0.91	0.80	0.38	0.64	1.55	0.11
Uniform Delay, d1	68.9	64.9	32.9	67.2	53.1	0.0	53.6	30.5	0.0	67.5	51.9	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	9.3	0.5	96.0	0.1	0.1	13.1	2.7	0.7	4.1	249.5	0.1
Delay (s)	71.5	74.3	33.5	163.3	53.3	0.1	66.7	33.2	0.7	71.6	301.4	0.1
Level of Service	E	E	C	F	D	A	E	C	A	E	F	A
Approach Delay (s)		56.5			105.0			35.9			267.1	
Approach LOS		E			F			D			F	

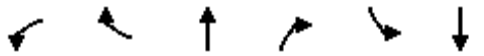
Intersection Summary			
HCM 2000 Control Delay	127.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	155.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	104.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	451	0	2547	97	287	2023	896	0	0
Future Volume (vph)	0	451	0	2547	97	287	2023	896	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.95			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4804			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4804			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	475	0	2681	102	302	2129	943	0	0
RTOR Reduction (vph)	0	21	0	0	33	0	0	0	0	0
Lane Group Flow (vph)	0	454	0	2681	69	302	3072	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		24.6		45.1	45.1	24.6	80.0			
Effective Green, g (s)		24.6		45.1	45.1	24.6	80.0			
Actuated g/C Ratio		0.31		0.56	0.56	0.31	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		490		2839	883	538	4804			
v/s Ratio Prot		c0.28		c0.53		0.17	0.64			
v/s Ratio Perm					0.04					
v/c Ratio		0.93		0.94	0.08	0.56	0.64			
Uniform Delay, d1		26.8		16.3	8.0	23.2	0.0			
Progression Factor		1.00		1.00	1.00	1.00	1.00			
Incremental Delay, d2		23.1		8.1	0.2	0.8	0.2			
Delay (s)		49.9		24.4	8.1	24.0	0.2			
Level of Service		D		C	A	C	A			
Approach Delay (s)	49.9			23.8			2.3		0.0	
Approach LOS	D			C			A		A	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

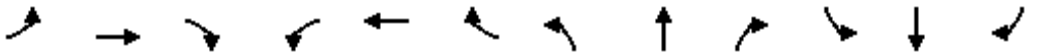
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	252	1144	1695	421	0	2023
Future Volume (vph)	252	1144	1695	421	0	2023
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3400			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3400			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	265	1204	1784	443	0	2129
RTOR Reduction (vph)	0	16	24	0	0	0
Lane Group Flow (vph)	265	1188	2203	0	0	2129
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1890			2800
v/s Ratio Prot	0.08		c0.65			0.42
v/s Ratio Perm		c0.43				
v/c Ratio	0.23	1.29	1.17			0.76
Uniform Delay, d1	21.6	30.0	20.0			15.3
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	138.6	80.6			1.1
Delay (s)	21.7	168.6	100.6			16.5
Level of Service	C	F	F			B
Approach Delay (s)	142.1		100.6			16.5
Approach LOS	F		F			B

Intersection Summary			
HCM 2000 Control Delay	80.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	108.6%	ICU Level of Service	G
Analysis Period (min)	15		

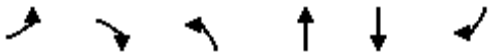
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1029	0	660	0	0	0	0	1087	497	0	1095	1181
Future Volume (vph)	1029	0	660	0	0	0	0	1087	497	0	1095	1181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1083	0	695	0	0	0	0	1144	523	0	1153	1243
RTOR Reduction (vph)	0	0	29	0	0	0	0	0	343	0	0	715
Lane Group Flow (vph)	1083	0	666	0	0	0	0	1144	180	0	1153	528
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	25.4		25.4					19.1	19.1		19.1	19.1
Effective Green, g (s)	25.4		25.4					19.1	19.1		19.1	19.1
Actuated g/C Ratio	0.46		0.46					0.34	0.34		0.34	0.34
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1558		718					1208	540		1208	540
v/s Ratio Prot	0.32							0.33			0.33	
v/s Ratio Perm			c0.42						0.11			c0.34
v/c Ratio	0.70		0.93					0.95	0.33		0.95	0.98
Uniform Delay, d1	11.9		14.1					17.7	13.4		17.7	17.9
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	1.1		17.7					14.7	0.1		16.0	32.6
Delay (s)	13.0		31.9					32.4	13.6		33.7	50.6
Level of Service	B		C					C	B		C	D
Approach Delay (s)		20.4			0.0			26.5			42.5	
Approach LOS		C			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	55.4	Sum of lost time (s)	10.9
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	0	0	35	36	0
Future Volume (vph)	0	0	0	35	36	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	37	38	0

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	0	37	38	0
Volume Left (vph)	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0
Hadj (s)	0.00	0.00	0.05	0.05	0.00
Departure Headway (s)	4.1	4.5	4.6	4.6	4.5
Degree Utilization, x	0.00	0.00	0.05	0.05	0.00
Capacity (veh/h)	874	802	774	782	802
Control Delay (s)	7.1	6.3	6.6	6.6	6.3
Approach Delay (s)	0.0	6.6		6.6	
Approach LOS	A	A		A	

Intersection Summary			
Delay	6.6		
Level of Service	A		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.



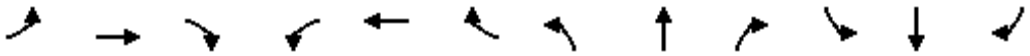
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	0	0	0	67	0	202	9	0	1321	47	3	314
Future Volume (vph)	0	0	0	67	0	202	9	0	1321	47	3	314
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5		4.5		4.5	4.5	4.5		4.5
Lane Util. Factor				0.97		1.00		0.97	0.91	1.00		0.97
Frpb, ped/bikes				1.00		0.98		1.00	1.00	0.98		1.00
Flpb, ped/bikes				1.00		1.00		1.00	1.00	1.00		1.00
Frt				1.00		0.85		1.00	1.00	0.85		1.00
Flt Protected				0.95		1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)				3400		1538		3400	5036	1540		3400
Flt Permitted				0.95		1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)				3400		1538		3400	5036	1540		3400
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	71	0	213	9	0	1391	49	3	331
RTOR Reduction (vph)	0	0	0	0	0	174	0	0	0	28	0	0
Lane Group Flow (vph)	0	0	0	71	0	39	0	9	1391	21	0	334
Confl. Peds. (#/hr)			5			5				5		
Confl. Bikes (#/hr)			2			2				2		
Turn Type	Prot		Perm	Prot		Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)				3.3		10.1		1.0	24.0	24.0		7.9
Effective Green, g (s)				3.3		10.1		1.0	24.0	24.0		7.9
Actuated g/C Ratio				0.06		0.18		0.02	0.43	0.43		0.14
Clearance Time (s)				4.5		4.5		4.5	4.5	4.5		4.5
Vehicle Extension (s)				3.0		3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)				202		279		61	2177	665		483
v/s Ratio Prot				c0.02				0.00	c0.28			c0.10
v/s Ratio Perm						c0.03				0.01		
v/c Ratio				0.35		0.14		0.15	0.64	0.03		0.69
Uniform Delay, d1				25.1		19.1		26.8	12.4	9.1		22.6
Progression Factor				1.00		1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2				1.1		0.2		1.1	0.6	0.0		4.2
Delay (s)				26.1		19.3		28.0	13.0	9.1		26.9
Level of Service				C		B		C	B	A		C
Approach Delay (s)		0.0			21.0				12.9			
Approach LOS		A			C				B			

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	55.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1421	0
Future Volume (vph)	1421	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	
Lane Util. Factor	0.91	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	5036	
Flt Permitted	1.00	
Satd. Flow (perm)	5036	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	1496	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	1496	0
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		2
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	30.9	
Effective Green, g (s)	30.9	
Actuated g/C Ratio	0.56	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2803	
v/s Ratio Prot	0.30	
v/s Ratio Perm		
v/c Ratio	0.53	
Uniform Delay, d1	7.8	
Progression Factor	1.00	
Incremental Delay, d2	0.2	
Delay (s)	8.0	
Level of Service	A	
Approach Delay (s)	11.4	
Approach LOS	B	

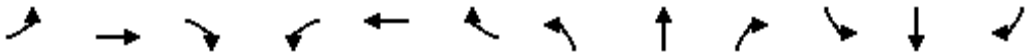
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	74	243	0	114	3	65	0	0	6	0	105
Future Volume (Veh/h)	44	74	243	0	114	3	65	0	0	6	0	105
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	46	78	256	0	120	3	68	0	0	6	0	111
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	123			334			358	421	167	252	548	62
vC1, stage 1 conf vol							298	298		122	122	
vC2, stage 2 conf vol							60	123		131	426	
vCu, unblocked vol	123			334			358	421	167	252	548	62
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			88	100	100	99	100	89
cM capacity (veh/h)	1454			1215			549	540	845	688	480	987

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	46	52	282	0	80	43	68	117
Volume Left	46	0	0	0	0	0	68	6
Volume Right	0	0	256	0	0	3	0	111
cSH	1454	1700	1700	1700	1700	1700	549	966
Volume to Capacity	0.03	0.03	0.17	0.00	0.05	0.03	0.12	0.12
Queue Length 95th (ft)	2	0	0	0	0	0	11	10
Control Delay (s)	7.6	0.0	0.0	0.0	0.0	0.0	12.5	9.2
Lane LOS	A						B	A
Approach Delay (s)	0.9			0.0			12.5	9.2
Approach LOS							B	A

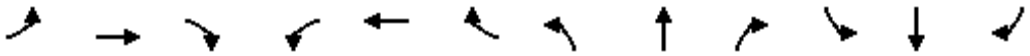
Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	26.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	53	28	0	51	0	66	0	0	0	0	0
Future Volume (Veh/h)	0	53	28	0	51	0	66	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	56	29	0	54	0	69	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	165	138	0	195	138	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	165	138	0	195	138	0	0			0		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	92	97	100	92	100	96			100		
cM capacity (veh/h)	712	718	1081	659	718	1081	1614			1614		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	0	37	48	0	36	18	69	0	0	0	0	0
Volume Left	0	0	0	0	0	0	69	0	0	0	0	0
Volume Right	0	0	29	0	0	0	0	0	0	0	0	0
cSH	1700	718	902	1700	718	718	1614	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.05	0.05	0.00	0.05	0.03	0.04	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	4	4	0	4	2	3	0	0	0	0	0
Control Delay (s)	0.0	10.3	9.2	0.0	10.3	10.1	7.3	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	B	A	A	B	B	A					
Approach Delay (s)	9.7			10.2			7.3			0.0		
Approach LOS	A			B								

Intersection Summary					
Average Delay	9.0				
Intersection Capacity Utilization	13.7%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	24	3	26	0	0	0	26	11	0	0	12	24
Future Volume (vph)	24	3	26	0	0	0	26	11	0	0	12	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	25	3	27	0	0	0	27	12	0	0	13	25

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	25	30	0	0	27	12	0	38
Volume Left (vph)	25	0	0	0	27	0	0	0
Volume Right (vph)	0	27	0	0	0	0	0	25
Hadj (s)	0.55	-0.58	0.00	0.00	0.55	0.05	0.00	-0.41
Departure Headway (s)	5.2	4.1	4.7	4.7	5.2	4.7	4.7	4.3
Degree Utilization, x	0.04	0.03	0.00	0.00	0.04	0.02	0.00	0.04
Capacity (veh/h)	675	851	758	758	675	745	771	824
Control Delay (s)	7.2	6.0	6.5	6.5	7.2	6.6	6.5	6.3
Approach Delay (s)	6.6		0.0		7.0		6.3	
Approach LOS	A		A		A		A	

Intersection Summary				
Delay	6.6			
Level of Service	A			
Intersection Capacity Utilization	18.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	64	1313	17	64	1434
Future Volume (Veh/h)	0	64	1313	17	64	1434
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	67	1382	18	67	1509
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						840
pX, platoon unblocked	0.82					
vC, conflicting volume	2028	470			1400	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1495	470			1400	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	88			86	
cM capacity (veh/h)	80	538			479	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	67	553	553	294	369	604	604
Volume Left	0	0	0	0	67	0	0
Volume Right	67	0	0	18	0	0	0
cSH	538	1700	1700	1700	479	1700	1700
Volume to Capacity	0.12	0.33	0.33	0.17	0.14	0.36	0.36
Queue Length 95th (ft)	11	0	0	0	12	0	0
Control Delay (s)	12.6	0.0	0.0	0.0	4.4	0.0	0.0
Lane LOS	B				A		
Approach Delay (s)	12.6	0.0			1.0		
Approach LOS	B						

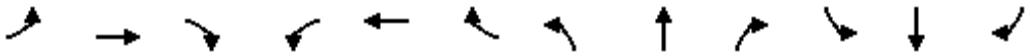
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	31	1299	6	58	1375
Future Volume (Veh/h)	7	31	1299	6	58	1375
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	7	33	1367	6	61	1447
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1974	459			1373	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1974	459			1373	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	94			88	
cM capacity (veh/h)	47	547			490	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	40	547	547	279	350	579	579
Volume Left	7	0	0	0	61	0	0
Volume Right	33	0	0	6	0	0	0
cSH	191	1700	1700	1700	490	1700	1700
Volume to Capacity	0.21	0.32	0.32	0.16	0.12	0.34	0.34
Queue Length 95th (ft)	19	0	0	0	11	0	0
Control Delay (s)	28.8	0.0	0.0	0.0	4.0	0.0	0.0
Lane LOS	D				A		
Approach Delay (s)	28.8	0.0			0.9		
Approach LOS	D						

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	0	0	0
Volume Left (vph)	0	0	0	0
Volume Right (vph)	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	917	917	917
Control Delay (s)	6.9	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	0.0			
Level of Service	A			
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			



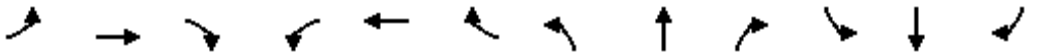
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	167	0	22	66	0	282	3	14	854	117	1	392
Future Volume (vph)	167	0	22	66	0	282	3	14	854	117	1	392
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00	0.95	1.00		1.00
Frt		1.00	0.85		1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected		0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)		1752	1568		1752	1568		1752	3505	1568		1752
Flt Permitted		0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)		1752	1568		1752	1568		1752	3505	1568		1752
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	176	0	23	69	0	297	3	15	899	123	1	413
RTOR Reduction (vph)	0	0	20	0	0	268	0	0	0	84	0	0
Lane Group Flow (vph)	0	176	3	0	69	29	0	18	899	39	0	414
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	4	4		8	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)		14.3	14.3		9.9	9.9		2.0	31.6	31.6		26.5
Effective Green, g (s)		14.3	14.3		9.9	9.9		2.0	31.6	31.6		26.5
Actuated g/C Ratio		0.14	0.14		0.10	0.10		0.02	0.32	0.32		0.26
Clearance Time (s)		4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		249	223		172	154		34	1104	494		462
v/s Ratio Prot		c0.10			c0.04			0.01	c0.26			c0.24
v/s Ratio Perm			0.00			0.02				0.02		
v/c Ratio		0.71	0.01		0.40	0.19		0.53	0.81	0.08		0.90
Uniform Delay, d1		41.0	36.9		42.4	41.5		48.7	31.6	24.1		35.6
Progression Factor		1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2		8.8	0.0		1.5	0.6		14.1	4.7	0.1		19.5
Delay (s)		49.8	37.0		44.0	42.1		62.8	36.4	24.2		55.1
Level of Service		D	D		D	D		E	D	C		E
Approach Delay (s)		48.3			42.5				35.4			
Approach LOS		D			D				D			

Intersection Summary			
HCM 2000 Control Delay	31.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	711	279
Future Volume (vph)	711	279
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	4.5
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3505	1568
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3505	1568
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	748	294
RTOR Reduction (vph)	0	100
Lane Group Flow (vph)	748	194
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	56.1	56.1
Effective Green, g (s)	56.1	56.1
Actuated g/C Ratio	0.56	0.56
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1960	877
v/s Ratio Prot	0.21	
v/s Ratio Perm		0.12
v/c Ratio	0.38	0.22
Uniform Delay, d1	12.4	11.1
Progression Factor	1.00	1.00
Incremental Delay, d2	0.1	0.1
Delay (s)	12.5	11.2
Level of Service	B	B
Approach Delay (s)	24.4	
Approach LOS	C	

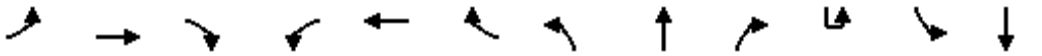
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	0	10	12	0	104	32	815	20	178	522	96
Future Volume (vph)	63	0	10	12	0	104	32	815	20	178	522	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.88		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1735			1614		1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.95		0.45	1.00	1.00	0.30	1.00	1.00
Satd. Flow (perm)		1735			1541		824	3505	1568	1057	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	66	0	11	13	0	109	34	858	21	187	549	101
RTOR Reduction (vph)	0	72	0	0	98	0	0	0	9	0	0	45
Lane Group Flow (vph)	0	5	0	0	24	0	34	858	12	187	549	56
Turn Type	Split	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2		2	6		6
Actuated Green, G (s)		3.4			5.2		27.7	27.7	27.7	27.7	27.7	27.7
Effective Green, g (s)		3.4			5.2		27.7	27.7	27.7	27.7	27.7	27.7
Actuated g/C Ratio		0.07			0.10		0.56	0.56	0.56	0.56	0.56	0.56
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		118			160		458	1949	872	587	1949	872
v/s Ratio Prot		c0.00						c0.24			0.16	
v/s Ratio Perm					c0.02		0.04		0.01	0.18		0.04
v/c Ratio		0.04			0.15		0.07	0.44	0.01	0.32	0.28	0.06
Uniform Delay, d1		21.7			20.3		5.1	6.5	4.9	6.0	5.8	5.1
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.2			0.4		0.1	0.2	0.0	0.3	0.1	0.0
Delay (s)		21.8			20.7		5.2	6.7	4.9	6.3	5.9	5.1
Level of Service		C			C		A	A	A	A	A	A
Approach Delay (s)		21.8			20.7			6.6			5.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	49.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	623	355	0	0	289	246	0	0	0	1	284	0
Future Volume (vph)	623	355	0	0	289	246	0	0	0	1	284	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5						4.5
Lane Util. Factor	0.97	0.95			1.00	1.00						1.00
Frt	1.00	1.00			1.00	0.85						1.00
Flt Protected	0.95	1.00			1.00	1.00						0.95
Satd. Flow (prot)	3400	3505			1845	1568						1752
Flt Permitted	0.53	1.00			1.00	1.00						0.95
Satd. Flow (perm)	1886	3505			1845	1568						1752
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	656	374	0	0	304	259	0	0	0	1	299	0
RTOR Reduction (vph)	0	0	0	0	0	134	0	0	0	0	0	0
Lane Group Flow (vph)	656	374	0	0	304	125	0	0	0	0	0	300
Turn Type	Perm	NA	Perm		NA	Perm				Perm	Split	NA
Protected Phases		4			8			2			6	6
Permitted Phases	4		4			8	2			6		
Actuated Green, G (s)	33.3	33.3			33.3	33.3						16.7
Effective Green, g (s)	33.3	33.3			33.3	33.3						16.7
Actuated g/C Ratio	0.48	0.48			0.48	0.48						0.24
Clearance Time (s)	4.5	4.5			4.5	4.5						4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0						3.0
Lane Grp Cap (vph)	908	1689			889	755						423
v/s Ratio Prot		0.11			0.16							c0.17
v/s Ratio Perm	c0.35					0.08						
v/c Ratio	0.72	0.22			0.34	0.17						0.71
Uniform Delay, d1	14.2	10.4			11.1	10.1						24.0
Progression Factor	1.00	1.00			1.00	1.00						1.00
Incremental Delay, d2	2.9	0.1			0.2	0.1						5.4
Delay (s)	17.1	10.4			11.3	10.2						29.4
Level of Service	B	B			B	B						C
Approach Delay (s)		14.7			10.8			0.0				25.1
Approach LOS		B			B			A				C

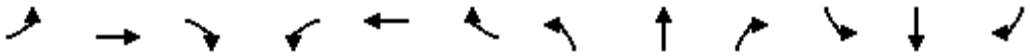
Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	69.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	262
Future Volume (vph)	262
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	0.88
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	2760
Flt Permitted	1.00
Satd. Flow (perm)	2760
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	276
RTOR Reduction (vph)	209
Lane Group Flow (vph)	67
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	16.7
Effective Green, g (s)	16.7
Actuated g/C Ratio	0.24
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	667
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.10
Uniform Delay, d1	20.4
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	20.4
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	628	0	0	529	44	0	0	0	41	0	5
Future Volume (Veh/h)	8	628	0	0	529	44	0	0	0	41	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	661	0	0	557	46	0	0	0	43	0	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	603			661			1262	1280	661	1257	1257	580
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	603			661			1262	1280	661	1257	1257	580
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	71	100	99
cM capacity (veh/h)	970			923			144	164	461	146	169	512

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	669	603	0	48
Volume Left	8	0	0	43
Volume Right	0	46	0	5
cSH	970	923	1700	158
Volume to Capacity	0.01	0.00	0.00	0.30
Queue Length 95th (ft)	1	0	0	30
Control Delay (s)	0.2	0.0	0.0	37.4
Lane LOS	A		A	E
Approach Delay (s)	0.2	0.0	0.0	37.4
Approach LOS			A	E

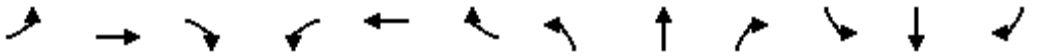
Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	49.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	252	1144	1695	421	0	2023
Future Volume (vph)	252	1144	1695	421	0	2023
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3400			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3400			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	265	1204	1784	443	0	2129
RTOR Reduction (vph)	0	21	18	0	0	0
Lane Group Flow (vph)	265	1183	2209	0	0	2129
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	39.4	39.4	70.7			70.7
Effective Green, g (s)	39.4	39.4	70.7			70.7
Actuated g/C Ratio	0.33	0.33	0.59			0.59
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1116	906	2003			2967
v/s Ratio Prot	0.08		c0.65			0.42
v/s Ratio Perm		c0.43				
v/c Ratio	0.24	1.31	1.10			0.72
Uniform Delay, d1	29.4	40.3	24.6			17.5
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	145.7	54.5			0.7
Delay (s)	29.4	186.0	79.1			18.2
Level of Service	C	F	E			B
Approach Delay (s)	157.7		79.1			18.2
Approach LOS	F		E			B

Intersection Summary			
HCM 2000 Control Delay	76.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	108.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	92	222	452	281	166	561	1624	397	95	1034	57
Future Volume (vph)	109	92	222	452	281	166	561	1624	397	95	1034	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	111	94	227	461	287	169	572	1657	405	97	1055	58
RTOR Reduction (vph)	0	0	38	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	111	94	189	461	287	169	572	1657	405	97	1055	58
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	9.3	10.9	36.2	17.5	19.1	120.0	25.3	64.8	120.0	8.8	48.3	120.0
Effective Green, g (s)	9.3	10.9	36.2	17.5	19.1	120.0	25.3	64.8	120.0	8.8	48.3	120.0
Actuated g/C Ratio	0.08	0.09	0.30	0.15	0.16	1.00	0.21	0.54	1.00	0.07	0.40	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	263	318	549	495	801	1568	692	2719	1568	249	2026	1568
v/s Ratio Prot	0.03	0.03	0.07	c0.14	c0.06		c0.17	c0.33		0.03	0.21	
v/s Ratio Perm			0.04			0.11			0.26			0.04
v/c Ratio	0.42	0.30	0.34	0.93	0.36	0.11	0.83	0.61	0.26	0.39	0.52	0.04
Uniform Delay, d1	52.8	51.0	32.6	50.7	45.0	0.0	45.3	18.9	0.0	53.0	27.1	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.20	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.5	0.4	24.4	0.3	0.1	4.5	0.6	0.2	1.0	1.0	0.0
Delay (s)	53.9	51.5	33.0	75.1	45.3	0.1	58.2	23.2	0.2	54.0	28.1	0.0
Level of Service	D	D	C	E	D	A	E	C	A	D	C	A
Approach Delay (s)		42.4			51.9			27.3			28.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	345	0	2295	123	115	879	711	0	0
Future Volume (vph)	0	345	0	2295	123	115	879	711	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.93			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4698			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4698			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	363	0	2416	129	121	925	748	0	0
RTOR Reduction (vph)	0	31	0	0	55	0	0	0	0	0
Lane Group Flow (vph)	0	332	0	2416	74	121	1673	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		15.4		34.3	34.3	15.4	60.0			
Effective Green, g (s)		15.4		34.3	34.3	15.4	60.0			
Actuated g/C Ratio		0.26		0.57	0.57	0.26	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		409		2878	896	449	4698			
v/s Ratio Prot		c0.21		c0.48		0.07	0.36			
v/s Ratio Perm					0.05					
v/c Ratio		0.81		0.84	0.08	0.27	0.36			
Uniform Delay, d1		20.9		10.6	5.8	17.8	0.0			
Progression Factor		1.00		1.00	1.00	0.69	1.00			
Incremental Delay, d2		11.0		3.1	0.2	0.1	0.0			
Delay (s)		31.9		13.7	6.0	12.4	0.0			
Level of Service		C		B	A	B	A			
Approach Delay (s)	31.9			13.3			0.8		0.0	
Approach LOS	C			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		

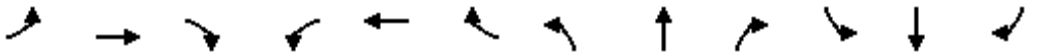
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	155	1048	1402	519	0	914
Future Volume (vph)	155	1048	1402	519	0	914
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.96			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3363			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3363			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	163	1103	1476	546	0	962
RTOR Reduction (vph)	0	35	42	0	0	0
Lane Group Flow (vph)	163	1068	1980	0	0	962
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1870			2800
v/s Ratio Prot	0.05		c0.59			0.19
v/s Ratio Perm		c0.39				
v/c Ratio	0.14	1.16	1.06			0.34
Uniform Delay, d1	21.0	30.0	20.0			10.9
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	83.8	38.4			0.0
Delay (s)	21.0	113.8	58.3			11.0
Level of Service	C	F	E			B
Approach Delay (s)	101.8		58.3			11.0
Approach LOS	F		E			B

Intersection Summary			
HCM 2000 Control Delay	60.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	100.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	761	0	264	0	0	0	0	1166	242	0	610	499
Future Volume (vph)	761	0	264	0	0	0	0	1166	242	0	610	499
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	801	0	278	0	0	0	0	1227	255	0	642	525
RTOR Reduction (vph)	0	0	56	0	0	0	0	0	151	0	0	312
Lane Group Flow (vph)	801	0	222	0	0	0	0	1227	104	0	642	213
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	14.4		14.4					17.3	17.3		17.3	17.3
Effective Green, g (s)	14.4		14.4					17.3	17.3		17.3	17.3
Actuated g/C Ratio	0.34		0.34					0.41	0.41		0.41	0.41
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1149		530					1423	636		1423	636
v/s Ratio Prot	c0.24							c0.35			0.18	
v/s Ratio Perm			0.14						0.07			0.14
v/c Ratio	0.70		0.42					0.86	0.16		0.45	0.34
Uniform Delay, d1	12.2		10.9					11.6	8.0		9.2	8.7
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	1.5		0.2					5.4	0.0		0.1	0.1
Delay (s)	13.7		11.1					17.0	8.1		9.3	8.8
Level of Service	B		B					B	A		A	A
Approach Delay (s)		13.0			0.0			15.5			9.1	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	42.6	Sum of lost time (s)	10.9
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		

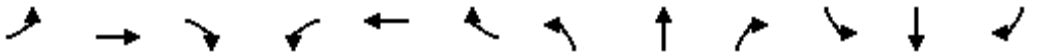
c Critical Lane Group



Movement	EBL	EBR	NBL2	NBL	SER	SER2
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	6	7	5	19	13	13
Future Volume (vph)	6	7	5	19	13	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	6	7	5	20	14	14

Direction, Lane #	EB 1	NB 1	NB 2	SE 1	SE 2
Volume Total (vph)	13	5	20	14	14
Volume Left (vph)	6	5	0	0	0
Volume Right (vph)	7	0	0	0	14
Hadj (s)	-0.18	0.55	0.05	0.05	-0.65
Departure Headway (s)	3.8	5.1	4.6	4.6	3.9
Degree Utilization, x	0.01	0.01	0.03	0.02	0.02
Capacity (veh/h)	920	694	769	777	917
Control Delay (s)	6.9	6.9	6.5	6.5	5.8
Approach Delay (s)	6.9	6.6		6.1	
Approach LOS	A	A		A	

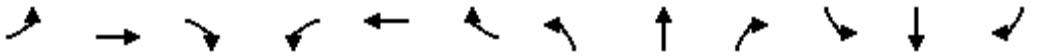
Intersection Summary			
Delay	6.5		
Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	91	0	0	156	43	1	1	1	7	0	29
Future Volume (vph)	47	91	0	0	156	43	1	1	1	7	0	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5		4.5		4.5
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00		1.00		1.00
Frt	1.00	1.00			1.00	0.85		0.95		1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00		0.98		0.95		1.00
Satd. Flow (prot)	3400	3505			3505	1568		1733		1752		1568
Flt Permitted	1.00	1.00			1.00	1.00		0.94		0.76		1.00
Satd. Flow (perm)	3579	3505			3505	1568		1662		1394		1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	49	96	0	0	164	45	1	1	1	7	0	31
RTOR Reduction (vph)	0	0	0	0	0	37	0	1	0	0	0	18
Lane Group Flow (vph)	49	96	0	0	164	8	0	2	0	7	0	13
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	3.8	3.8			3.8	3.8		9.5		9.5		9.5
Effective Green, g (s)	3.8	3.8			3.8	3.8		9.5		9.5		9.5
Actuated g/C Ratio	0.17	0.17			0.17	0.17		0.43		0.43		0.43
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5		4.5		4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0		3.0		3.0
Lane Grp Cap (vph)	609	597			597	267		708		593		667
v/s Ratio Prot		0.03			c0.05							
v/s Ratio Perm	0.01					0.00		0.00		0.01		c0.01
v/c Ratio	0.08	0.16			0.27	0.03		0.00		0.01		0.02
Uniform Delay, d1	7.8	7.9			8.1	7.7		3.7		3.7		3.7
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00		1.00
Incremental Delay, d2	0.1	0.1			0.3	0.0		0.0		0.0		0.0
Delay (s)	7.8	8.0			8.3	7.8		3.7		3.7		3.7
Level of Service	A	A			A	A		A		A		A
Approach Delay (s)		8.0			8.2			3.7			3.7	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.09		
Actuated Cycle Length (s)	22.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	23.9%	ICU Level of Service	A
Analysis Period (min)	15		

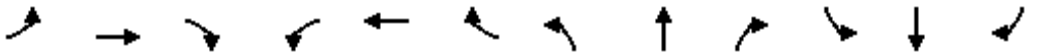
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	59	16	2	138	25	50	24	5	9	12	12
Future Volume (vph)	23	59	16	2	138	25	50	24	5	9	12	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	1845	1568	1752	1845	2760
Flt Permitted	0.83	1.00	1.00	0.83	1.00	1.00	0.95	1.00	1.00	0.74	1.00	1.00
Satd. Flow (perm)	1537	3505	1568	1537	5036	1568	3400	1845	1568	1367	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	24	62	17	2	145	26	53	25	5	9	13	13
RTOR Reduction (vph)	0	0	14	0	0	22	0	0	4	0	0	10
Lane Group Flow (vph)	24	62	3	2	145	4	53	25	1	9	13	3
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	4.8	4.8	4.8	4.8	4.8	4.8	6.1	6.1	6.1	6.0	6.0	6.0
Effective Green, g (s)	4.8	4.8	4.8	4.8	4.8	4.8	6.1	6.1	6.1	6.0	6.0	6.0
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.20	0.20	0.20	0.20	0.20	0.20
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	242	553	247	242	795	247	682	370	314	269	364	544
v/s Ratio Prot		0.02			c0.03		c0.02	0.01			c0.01	
v/s Ratio Perm	0.02		0.00	0.00		0.00			0.00	0.01		0.00
v/c Ratio	0.10	0.11	0.01	0.01	0.18	0.02	0.08	0.07	0.00	0.03	0.04	0.00
Uniform Delay, d1	11.0	11.0	10.8	10.8	11.1	10.8	9.9	9.8	9.7	9.9	9.9	9.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0
Delay (s)	11.1	11.1	10.8	10.8	11.2	10.8	9.9	9.9	9.7	9.9	9.9	9.8
Level of Service	B	B	B	B	B	B	A	A	A	A	A	A
Approach Delay (s)		11.0			11.1			9.9			9.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.09		
Actuated Cycle Length (s)	30.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	27.7%	ICU Level of Service	A
Analysis Period (min)	15		

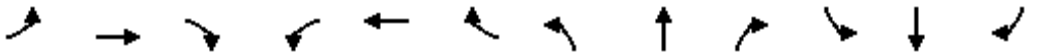
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	38	1	2	156	25	6	1	3	9	0	12
Future Volume (vph)	22	38	1	2	156	25	6	1	3	9	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00		0.88
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1752	5017		1752	5036	1568	1752	1845	1568	1752		2760
Flt Permitted	0.82	1.00		0.82	1.00	1.00	0.95	1.00	1.00	0.76		1.00
Satd. Flow (perm)	1506	5017		1506	5036	1568	1752	1845	1568	1397		2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	23	40	1	2	164	26	6	1	3	9	0	13
RTOR Reduction (vph)	0	1	0	0	0	22	0	0	2	0	0	10
Lane Group Flow (vph)	23	40	0	2	164	4	6	1	1	9	0	3
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm		Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	4.9	4.9		4.9	4.9	4.9	5.8	5.8	5.8	5.9		5.9
Effective Green, g (s)	4.9	4.9		4.9	4.9	4.9	5.8	5.8	5.8	5.9		5.9
Actuated g/C Ratio	0.16	0.16		0.16	0.16	0.16	0.19	0.19	0.19	0.20		0.20
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	245	816		245	819	255	337	355	302	273		540
v/s Ratio Prot		0.01			c0.03		c0.00	0.00				
v/s Ratio Perm	0.02			0.00		0.00			0.00	c0.01		0.00
v/c Ratio	0.09	0.05		0.01	0.20	0.02	0.02	0.00	0.00	0.03		0.00
Uniform Delay, d1	10.7	10.6		10.6	10.9	10.6	9.8	9.8	9.8	9.8		9.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.2	0.0		0.0	0.1	0.0	0.0	0.0	0.0	0.0		0.0
Delay (s)	10.9	10.7		10.6	11.0	10.6	9.9	9.8	9.8	9.8		9.7
Level of Service	B	B		B	B	B	A	A	A	A		A
Approach Delay (s)		10.7			11.0			9.8			9.8	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.08		
Actuated Cycle Length (s)	30.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	26.7%	ICU Level of Service	A
Analysis Period (min)	15		

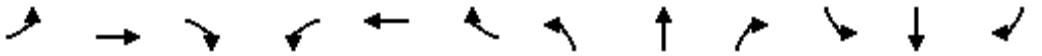
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	6	7	41	64	252	53	1326	22	135	715	57
Future Volume (vph)	32	6	7	41	64	252	53	1326	22	135	715	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	5036	1536	3400	5036	1538	3400	5036	1541	3400	5036	1541
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	5036	1536	3400	5036	1538	3400	5036	1541	3400	5036	1541
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	34	6	7	43	67	265	56	1396	23	142	753	60
RTOR Reduction (vph)	0	0	6	0	0	226	0	0	13	0	0	32
Lane Group Flow (vph)	34	6	1	43	67	39	56	1396	10	142	753	28
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	1.7	5.9	5.9	3.9	8.1	8.1	1.7	22.8	22.8	3.9	25.0	25.0
Effective Green, g (s)	1.7	5.9	5.9	3.9	8.1	8.1	1.7	22.8	22.8	3.9	25.0	25.0
Actuated g/C Ratio	0.03	0.11	0.11	0.07	0.15	0.15	0.03	0.42	0.42	0.07	0.46	0.46
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	106	545	166	243	748	228	106	2106	644	243	2310	706
v/s Ratio Prot	0.01	0.00		c0.01	0.01		0.02	c0.28		c0.04	0.15	
v/s Ratio Perm			0.00			c0.03			0.01			0.02
v/c Ratio	0.32	0.01	0.00	0.18	0.09	0.17	0.53	0.66	0.01	0.58	0.33	0.04
Uniform Delay, d1	25.8	21.7	21.7	23.8	20.0	20.3	26.0	12.8	9.3	24.5	9.4	8.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.0	0.0	0.4	0.1	0.4	4.7	0.8	0.0	3.6	0.1	0.0
Delay (s)	27.6	21.7	21.7	24.1	20.1	20.6	30.7	13.6	9.3	28.1	9.5	8.2
Level of Service	C	C	C	C	C	C	C	B	A	C	A	A
Approach Delay (s)		26.0			20.9			14.1			12.2	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	54.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

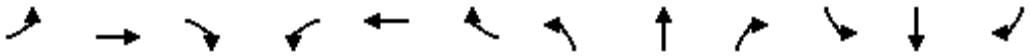
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	61	103	0	243	0	0	0	1	0	0	0
Future Volume (Veh/h)	0	61	103	0	243	0	0	0	1	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	64	108	0	256	0	0	0	1	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	256			172			246	374	86	289	428	128
vC1, stage 1 conf vol							118	118		256	256	
vC2, stage 2 conf vol							128	256		33	172	
vCu, unblocked vol	256			172			246	374	86	289	428	128
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1299			1395			707	585	952	644	563	895

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	0	43	129	0	128	128	1	0
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	108	0	0	0	1	0
cSH	1700	1700	1700	1700	1700	1700	952	1700
Volume to Capacity	0.00	0.03	0.08	0.00	0.08	0.08	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0
Lane LOS							A	A
Approach Delay (s)	0.0			0.0			8.8	0.0
Approach LOS							A	A

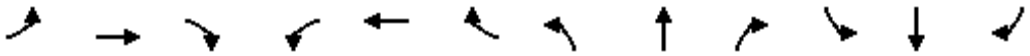
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	16.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	38	19	9	124	8	107	2	6	4	1	13
Future Volume (Veh/h)	4	38	19	9	124	8	107	2	6	4	1	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	40	20	9	131	8	113	2	6	4	1	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	318	250	8	276	251	2	15			8		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	318	250	8	276	251	2	15			8		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	93	98	98	78	99	93			100		
cM capacity (veh/h)	476	602	1069	573	601	1078	1594			1603		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	4	27	33	9	87	52	113	2	6	4	1	14
Volume Left	4	0	0	9	0	0	113	0	0	4	0	0
Volume Right	0	0	20	0	0	8	0	0	6	0	0	14
cSH	476	602	816	573	601	645	1594	1700	1700	1603	1700	1700
Volume to Capacity	0.01	0.04	0.04	0.02	0.15	0.08	0.07	0.00	0.00	0.00	0.00	0.01
Queue Length 95th (ft)	1	3	3	1	13	7	6	0	0	0	0	0
Control Delay (s)	12.6	11.3	9.6	11.4	12.0	11.1	7.4	0.0	0.0	7.3	0.0	0.0
Lane LOS	B	B	A	B	B	B	A			A		
Approach Delay (s)	10.5			11.6			6.9			1.5		
Approach LOS	B			B								

Intersection Summary					
Average Delay	9.3				
Intersection Capacity Utilization	26.4%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	23	10	24	1	72	1	34	21	1	3	11	34
Future Volume (vph)	23	10	24	1	72	1	34	21	1	3	11	34
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	24	11	25	1	76	1	36	22	1	3	12	36

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	24	36	1	77	36	23	3	48
Volume Left (vph)	24	0	1	0	36	0	3	0
Volume Right (vph)	0	25	0	1	0	1	0	36
Hadj (s)	0.55	-0.44	0.55	0.04	0.55	0.02	0.55	-0.47
Departure Headway (s)	5.4	4.4	5.4	4.9	5.4	4.9	5.4	4.4
Degree Utilization, x	0.04	0.04	0.00	0.10	0.05	0.03	0.00	0.06
Capacity (veh/h)	653	791	647	718	642	709	636	785
Control Delay (s)	7.4	6.4	7.2	7.2	7.5	6.8	7.3	6.5
Approach Delay (s)	6.8		7.2		7.3		6.5	
Approach LOS	A		A		A		A	

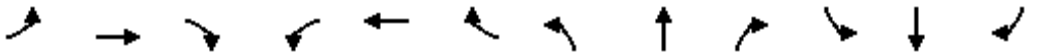
Intersection Summary				
Delay	7.0			
Level of Service	A			
Intersection Capacity Utilization	23.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	90	1313	8	16	763
Future Volume (Veh/h)	0	90	1313	8	16	763
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	95	1382	8	17	803
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			540			840
pX, platoon unblocked	0.89	0.87			0.87	
vC, conflicting volume	1688	465			1390	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	980	0			916	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	90			97	
cM capacity (veh/h)	213	938			637	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	95	553	553	284	17	268	268	268
Volume Left	0	0	0	0	17	0	0	0
Volume Right	95	0	0	8	0	0	0	0
cSH	938	1700	1700	1700	637	1700	1700	1700
Volume to Capacity	0.10	0.33	0.33	0.17	0.03	0.16	0.16	0.16
Queue Length 95th (ft)	8	0	0	0	2	0	0	0
Control Delay (s)	9.3	0.0	0.0	0.0	10.8	0.0	0.0	0.0
Lane LOS	A				B			
Approach Delay (s)	9.3	0.0			0.2			
Approach LOS	A							

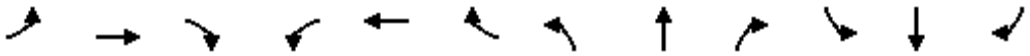
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	37.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	1	1	19	1	43	1	1262	5	15	743	5
Future Volume (vph)	16	1	1	19	1	43	1	1262	5	15	743	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1706		1752	1574		1752	5036	1568	1752	5036	1568
Flt Permitted	1.00	1.00		0.95	1.00		0.34	1.00	1.00	0.18	1.00	1.00
Satd. Flow (perm)	1845	1706		1752	1574		634	5036	1568	327	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	17	1	1	20	1	45	1	1328	5	16	782	5
RTOR Reduction (vph)	0	1	0	0	42	0	0	0	2	0	0	2
Lane Group Flow (vph)	17	1	0	20	4	0	1	1328	3	16	782	3
Turn Type	Perm	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2		2	6		6
Actuated Green, G (s)	1.9	1.9		3.5	3.5		28.1	28.1	28.1	28.1	28.1	28.1
Effective Green, g (s)	1.9	1.9		3.5	3.5		28.1	28.1	28.1	28.1	28.1	28.1
Actuated g/C Ratio	0.04	0.04		0.07	0.07		0.60	0.60	0.60	0.60	0.60	0.60
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	74	68		130	117		379	3010	937	195	3010	937
v/s Ratio Prot		0.00		c0.01	0.00			c0.26			0.16	
v/s Ratio Perm	c0.01						0.00		0.00	0.05		0.00
v/c Ratio	0.23	0.02		0.15	0.04		0.00	0.44	0.00	0.08	0.26	0.00
Uniform Delay, d1	21.8	21.7		20.4	20.2		3.8	5.2	3.8	4.0	4.5	3.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.1		0.6	0.1		0.0	0.1	0.0	0.2	0.0	0.0
Delay (s)	23.4	21.7		20.9	20.3		3.8	5.3	3.8	4.2	4.5	3.8
Level of Service	C	C		C	C		A	A	A	A	A	A
Approach Delay (s)		23.3			20.5			5.3			4.5	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	47.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	39.6%	ICU Level of Service	A
Analysis Period (min)	15		

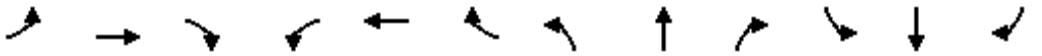
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	2	2	1	5	13	5	13	1	5	5	9
Future Volume (vph)	2	2	2	1	5	13	5	13	1	5	5	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2	2	2	1	5	14	5	14	1	5	5	9

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	2	4	1	19	5	15	5	14
Volume Left (vph)	2	0	1	0	5	0	5	0
Volume Right (vph)	0	2	0	14	0	1	0	9
Hadj (s)	0.55	-0.30	0.55	-0.46	0.55	0.00	0.55	-0.40
Departure Headway (s)	5.2	4.3	5.1	4.1	5.1	4.6	5.1	4.2
Degree Utilization, x	0.00	0.00	0.00	0.02	0.01	0.02	0.01	0.02
Capacity (veh/h)	689	817	692	852	689	771	696	845
Control Delay (s)	7.0	6.1	7.0	6.0	7.0	6.5	7.0	6.0
Approach Delay (s)	6.4		6.1		6.6		6.3	
Approach LOS	A		A		A		A	

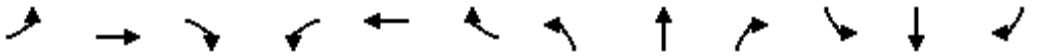
Intersection Summary				
Delay	6.3			
Level of Service	A			
Intersection Capacity Utilization	14.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	8	30	0	10	358	5	619	46	144	477	104
Future Volume (vph)	220	8	30	0	10	358	5	619	46	144	477	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1845	1568		1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	1845	1568		1845	1568	1752	3505	1568	1752	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	232	8	32	0	11	377	5	652	48	152	502	109
RTOR Reduction (vph)	0	0	26	0	0	225	0	0	34	0	0	67
Lane Group Flow (vph)	232	8	6	0	11	152	5	652	14	152	502	42
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	13.7	13.7	13.7		11.1	11.1	0.8	20.4	20.4	8.1	27.7	27.7
Effective Green, g (s)	13.7	13.7	13.7		11.1	11.1	0.8	20.4	20.4	8.1	27.7	27.7
Actuated g/C Ratio	0.19	0.19	0.19		0.16	0.16	0.01	0.29	0.29	0.11	0.39	0.39
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	336	354	301		287	244	19	1002	448	199	1361	609
v/s Ratio Prot	c0.13	0.00			0.01		0.00	c0.19		c0.09	0.14	
v/s Ratio Perm			0.00			c0.10			0.01			0.03
v/c Ratio	0.69	0.02	0.02		0.04	0.62	0.26	0.65	0.03	0.76	0.37	0.07
Uniform Delay, d1	26.8	23.4	23.4		25.6	28.1	35.0	22.3	18.3	30.7	15.6	13.7
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.0	0.0	0.0		0.1	4.8	7.3	1.5	0.0	15.9	0.2	0.0
Delay (s)	32.8	23.4	23.4		25.6	33.0	42.2	23.8	18.4	46.6	15.7	13.7
Level of Service	C	C	C		C	C	D	C	B	D	B	B
Approach Delay (s)		31.4			32.8			23.6			21.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	71.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

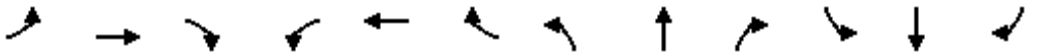
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	1	13	39	1	199	14	446	14	74	500	38
Future Volume (vph)	77	1	13	39	1	199	14	446	14	74	500	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.90	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1735			1551	1490	1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.86	1.00	0.46	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)		1735			1350	1490	843	3505	1568	1728	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	81	1	14	41	1	209	15	469	15	78	526	40
RTOR Reduction (vph)	0	11	0	0	73	105	0	0	9	0	0	24
Lane Group Flow (vph)	0	85	0	0	55	18	15	469	6	78	526	16
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		4.4			6.0	6.0	16.7	16.7	16.7	16.7	16.7	16.7
Effective Green, g (s)		4.4			6.0	6.0	16.7	16.7	16.7	16.7	16.7	16.7
Actuated g/C Ratio		0.11			0.15	0.15	0.41	0.41	0.41	0.41	0.41	0.41
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		188			199	220	346	1441	644	710	1441	644
v/s Ratio Prot		c0.05						0.13			c0.15	
v/s Ratio Perm					c0.04	0.01	0.02		0.00	0.05		0.01
v/c Ratio		0.45			0.27	0.08	0.04	0.33	0.01	0.11	0.37	0.03
Uniform Delay, d1		17.0			15.4	14.9	7.2	8.1	7.1	7.4	8.3	7.1
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.7			0.8	0.2	0.1	0.1	0.0	0.1	0.2	0.0
Delay (s)		18.7			16.1	15.1	7.2	8.3	7.1	7.4	8.4	7.1
Level of Service		B			B	B	A	A	A	A	A	A
Approach Delay (s)		18.7			15.6			8.2			8.2	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	40.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

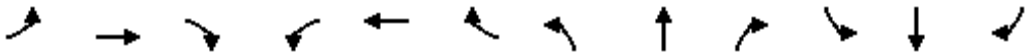
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	347	212	0	0	395	123	0	2	0	197	0	375
Future Volume (vph)	347	212	0	0	395	123	0	2	0	197	0	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95			1.00	1.00		1.00			1.00	0.88
Frt	1.00	1.00			1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		1.00			0.95	1.00
Satd. Flow (prot)	3400	3505			1845	1568		1845			1752	2760
Flt Permitted	0.40	1.00			1.00	1.00		1.00			0.95	1.00
Satd. Flow (perm)	1422	3505			1845	1568		1845			1752	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	365	223	0	0	416	129	0	2	0	207	0	395
RTOR Reduction (vph)	0	0	0	0	0	78	0	0	0	0	0	304
Lane Group Flow (vph)	365	223	0	0	416	52	0	2	0	0	207	91
Turn Type	Perm	NA	Perm		NA	Perm		NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	20.6	20.6			20.6	20.6		5.6			11.9	11.9
Effective Green, g (s)	20.6	20.6			20.6	20.6		5.6			11.9	11.9
Actuated g/C Ratio	0.40	0.40			0.40	0.40		0.11			0.23	0.23
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	567	1399			736	625		200			404	636
v/s Ratio Prot		0.06			0.23			c0.00			c0.12	
v/s Ratio Perm	c0.26					0.03						0.03
v/c Ratio	0.64	0.16			0.57	0.08		0.01			0.51	0.14
Uniform Delay, d1	12.5	9.9			12.0	9.6		20.5			17.3	15.8
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	2.5	0.1			1.0	0.1		0.0			1.1	0.1
Delay (s)	15.0	10.0			13.0	9.7		20.5			18.4	15.9
Level of Service	B	A			B	A		C			B	B
Approach Delay (s)		13.1			12.2			20.5			16.8	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	51.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		

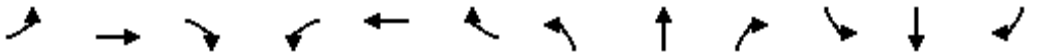
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	395	1	1	503	43	1	1	1	36	1	13
Future Volume (Veh/h)	15	395	1	1	503	43	1	1	1	36	1	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	416	1	1	529	45	1	1	1	38	1	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	574			417			1016	1024	416	1004	1002	552
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	574			417			1016	1024	416	1004	1002	552
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			100	100	100	82	100	97
cM capacity (veh/h)	994			1137			206	230	634	216	237	532

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	433	575	3	53
Volume Left	16	1	1	38
Volume Right	1	45	1	14
cSH	994	1137	279	257
Volume to Capacity	0.02	0.00	0.01	0.21
Queue Length 95th (ft)	1	0	1	19
Control Delay (s)	0.5	0.0	18.1	22.7
Lane LOS	A	A	C	C
Approach Delay (s)	0.5	0.0	18.1	22.7
Approach LOS			C	C

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	44.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	372	336	482	311	241	706	1730	560	247	2205	166
Future Volume (vph)	133	372	336	482	311	241	706	1730	560	247	2205	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	148	413	373	536	346	268	784	1922	622	274	2450	184
RTOR Reduction (vph)	0	0	25	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	148	413	348	536	346	268	784	1922	622	274	2450	184
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	12.1	22.0	64.0	20.5	30.4	155.0	42.0	76.7	155.0	17.8	52.5	155.0
Effective Green, g (s)	12.1	22.0	64.0	20.5	30.4	155.0	42.0	76.7	155.0	17.8	52.5	155.0
Actuated g/C Ratio	0.08	0.14	0.41	0.13	0.20	1.00	0.27	0.49	1.00	0.11	0.34	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	265	497	715	449	987	1568	890	2492	1568	390	1705	1568
v/s Ratio Prot	0.04	c0.12	0.13	c0.16	0.07		c0.24	0.38		0.08	c0.49	
v/s Ratio Perm			0.08			0.17			0.40			0.12
v/c Ratio	0.56	0.83	0.49	1.19	0.35	0.17	0.88	0.77	0.40	0.70	1.44	0.12
Uniform Delay, d1	68.9	64.7	33.4	67.2	53.8	0.0	54.1	32.0	0.0	66.1	51.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	11.3	0.5	107.3	0.2	0.2	10.2	2.4	0.8	5.6	200.0	0.2
Delay (s)	71.4	76.0	34.0	174.5	54.0	0.2	64.3	34.4	0.8	71.7	251.3	0.2
Level of Service	E	E	C	F	D	A	E	C	A	E	F	A
Approach Delay (s)		58.5			97.6			35.1			218.5	
Approach LOS		E			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	110.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	155.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	101.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	449	0	2378	94	290	1943	844	0	0
Future Volume (vph)	0	449	0	2378	94	290	1943	844	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.95			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4807			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4807			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	473	0	2503	99	305	2045	888	0	0
RTOR Reduction (vph)	0	22	0	0	34	0	0	0	0	0
Lane Group Flow (vph)	0	451	0	2503	65	305	2933	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		24.5		45.2	45.2	24.5	80.0			
Effective Green, g (s)		24.5		45.2	45.2	24.5	80.0			
Actuated g/C Ratio		0.31		0.57	0.57	0.31	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		488		2845	885	536	4807			
v/s Ratio Prot		c0.28		c0.50		0.17	0.61			
v/s Ratio Perm					0.04					
v/c Ratio		0.93		0.88	0.07	0.57	0.61			
Uniform Delay, d1		26.9		15.1	7.9	23.3	0.0			
Progression Factor		1.00		1.00	1.00	1.00	1.00			
Incremental Delay, d2		23.1		4.3	0.2	0.8	0.2			
Delay (s)		50.0		19.3	8.1	24.1	0.2			
Level of Service		D		B	A	C	A			
Approach Delay (s)	50.0			18.9			2.4		0.0	
Approach LOS	D			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		

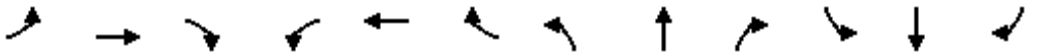
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	217	1112	1633	371	0	2001
Future Volume (vph)	217	1112	1633	371	0	2001
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3407			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3407			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	228	1171	1719	391	0	2106
RTOR Reduction (vph)	0	19	22	0	0	0
Lane Group Flow (vph)	228	1152	2088	0	0	2106
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1894			2800
v/s Ratio Prot	0.07		c0.61			0.42
v/s Ratio Perm		c0.42				
v/c Ratio	0.20	1.25	1.10			0.75
Uniform Delay, d1	21.4	30.0	20.0			15.2
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	122.1	54.8			1.0
Delay (s)	21.4	152.0	74.7			16.3
Level of Service	C	F	E			B
Approach Delay (s)	130.7		74.7			16.3
Approach LOS	F		E			B

Intersection Summary			
HCM 2000 Control Delay	66.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	104.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	996	0	564	0	0	0	0	1002	519	0	1138	1089
Future Volume (vph)	996	0	564	0	0	0	0	1002	519	0	1138	1089
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1048	0	594	0	0	0	0	1055	546	0	1198	1146
RTOR Reduction (vph)	0	0	31	0	0	0	0	0	345	0	0	690
Lane Group Flow (vph)	1048	0	563	0	0	0	0	1055	201	0	1198	456
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	22.1		22.1					19.2	19.2		19.2	19.2
Effective Green, g (s)	22.1		22.1					19.2	19.2		19.2	19.2
Actuated g/C Ratio	0.42		0.42					0.37	0.37		0.37	0.37
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1439		663					1289	576		1289	576
v/s Ratio Prot	0.31							0.30			c0.34	
v/s Ratio Perm			c0.36						0.13			0.29
v/c Ratio	0.73		0.85					0.82	0.35		0.93	0.79
Uniform Delay, d1	12.5		13.5					14.9	12.0		15.8	14.7
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	1.6		9.5					4.0	0.1		11.5	6.9
Delay (s)	14.1		23.1					18.9	12.1		27.4	21.6
Level of Service	B		C					B	B		C	C
Approach Delay (s)		17.4			0.0			16.6			24.6	
Approach LOS		B			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	52.2	Sum of lost time (s)	10.9
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

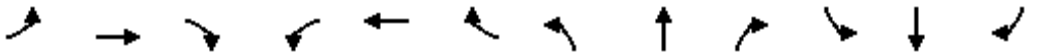
c Critical Lane Group



Movement	EBL	EBR	NBL2	NBL	SER	SER2
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	8	8	10	30	14	10
Future Volume (vph)	8	8	10	30	14	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	8	11	32	15	11

Direction, Lane #	EB 1	NB 1	NB 2	SE 1	SE 2
Volume Total (vph)	16	11	32	15	11
Volume Left (vph)	8	11	0	0	0
Volume Right (vph)	8	0	0	0	11
Hadj (s)	-0.15	0.55	0.05	0.05	-0.65
Departure Headway (s)	3.9	5.1	4.6	4.6	3.9
Degree Utilization, x	0.02	0.02	0.04	0.02	0.01
Capacity (veh/h)	901	693	768	773	912
Control Delay (s)	7.0	7.0	6.6	6.5	5.8
Approach Delay (s)	7.0	6.7		6.2	
Approach LOS	A	A		A	

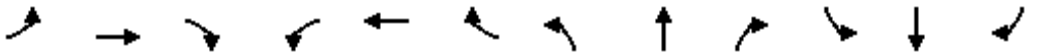
Intersection Summary				
Delay	6.6			
Level of Service	A			
Intersection Capacity Utilization	13.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	144	1	1	81	14	0	1	1	22	1	22
Future Volume (vph)	23	144	1	1	81	14	0	1	1	22	1	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00		0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568		1720		1752	1845	1568
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00		1.00		0.76	1.00	1.00
Satd. Flow (perm)	3579	3505	1568	1845	3505	1568		1720		1396	1845	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	24	152	1	1	85	15	0	1	1	23	1	23
RTOR Reduction (vph)	0	0	1	0	0	12	0	1	0	0	0	13
Lane Group Flow (vph)	24	152	0	1	85	3	0	1	0	23	1	10
Turn Type	Perm	NA	Perm	Perm	NA	Perm		NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	3.9	3.9	3.9	3.9	3.9	3.9		10.3		10.3	10.3	10.3
Effective Green, g (s)	3.9	3.9	3.9	3.9	3.9	3.9		10.3		10.3	10.3	10.3
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.17	0.17		0.44		0.44	0.44	0.44
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	601	589	263	310	589	263		763		619	819	696
v/s Ratio Prot		c0.04			0.02			0.00			0.00	
v/s Ratio Perm	0.01		0.00	0.00		0.00				c0.02		0.01
v/c Ratio	0.04	0.26	0.00	0.00	0.14	0.01		0.00		0.04	0.00	0.01
Uniform Delay, d1	8.1	8.4	8.0	8.0	8.2	8.0		3.6		3.6	3.6	3.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.2	0.0	0.0	0.1	0.0		0.0		0.0	0.0	0.0
Delay (s)	8.1	8.6	8.0	8.0	8.3	8.1		3.6		3.7	3.6	3.6
Level of Service	A	A	A	A	A	A		A		A	A	A
Approach Delay (s)		8.6			8.3			3.6			3.6	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.10		
Actuated Cycle Length (s)	23.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		

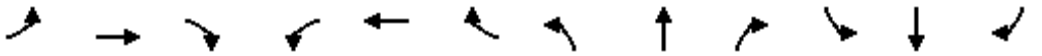
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	90	50	3	54	16	21	20	3	16	16	19
Future Volume (vph)	26	90	50	3	54	16	21	20	3	16	16	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	1845	1568	1752	1845	2760
Flt Permitted	0.83	1.00	1.00	0.83	1.00	1.00	0.95	1.00	1.00	0.74	1.00	1.00
Satd. Flow (perm)	1537	3505	1568	1537	5036	1568	3400	1845	1568	1372	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	27	95	53	3	57	17	22	21	3	17	17	20
RTOR Reduction (vph)	0	0	45	0	0	14	0	0	2	0	0	16
Lane Group Flow (vph)	27	95	8	3	57	3	22	21	1	17	17	4
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	4.8	4.8	4.8	4.8	4.8	4.8	6.0	6.0	6.0	6.1	6.1	6.1
Effective Green, g (s)	4.8	4.8	4.8	4.8	4.8	4.8	6.0	6.0	6.0	6.1	6.1	6.1
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.20	0.20	0.20	0.20	0.20	0.20
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	242	553	247	242	795	247	671	364	309	275	370	553
v/s Ratio Prot		c0.03			0.01		0.01	c0.01			0.01	
v/s Ratio Perm	0.02		0.01	0.00		0.00			0.00	c0.01		0.00
v/c Ratio	0.11	0.17	0.03	0.01	0.07	0.01	0.03	0.06	0.00	0.06	0.05	0.01
Uniform Delay, d1	11.0	11.1	10.8	10.8	10.9	10.8	9.9	9.9	9.8	9.8	9.8	9.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0
Delay (s)	11.2	11.2	10.9	10.8	10.9	10.8	9.9	10.0	9.8	9.9	9.9	9.7
Level of Service	B	B	B	B	B	B	A	A	A	A	A	A
Approach Delay (s)		11.1			10.9			9.9			9.8	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.09		
Actuated Cycle Length (s)	30.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		

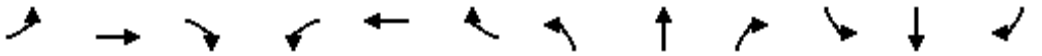
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	68	3	4	52	16	2	1	3	16	1	19
Future Volume (vph)	26	68	3	4	52	16	2	1	3	16	1	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	5006		1752	5036	1568	1752	1845	1568	1752	1845	2760
Flt Permitted	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.76	1.00	1.00
Satd. Flow (perm)	1845	5006		1845	5036	1568	1752	1845	1568	1397	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	27	72	3	4	55	17	2	1	3	17	1	20
RTOR Reduction (vph)	0	3	0	0	0	15	0	0	2	0	0	16
Lane Group Flow (vph)	27	72	0	4	55	2	2	1	1	17	1	4
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	3.3	3.3		3.3	3.3	3.3	5.8	5.8	5.8	6.1	6.1	6.1
Effective Green, g (s)	3.3	3.3		3.3	3.3	3.3	5.8	5.8	5.8	6.1	6.1	6.1
Actuated g/C Ratio	0.11	0.11		0.11	0.11	0.11	0.20	0.20	0.20	0.21	0.21	0.21
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	212	575		212	579	180	354	372	316	296	392	586
v/s Ratio Prot		0.01			0.01		c0.00	0.00			0.00	
v/s Ratio Perm	c0.01			0.00		0.00			0.00	c0.01		0.00
v/c Ratio	0.13	0.13		0.02	0.09	0.01	0.01	0.00	0.00	0.06	0.00	0.01
Uniform Delay, d1	11.4	11.4		11.3	11.4	11.3	9.1	9.1	9.1	9.0	8.9	8.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Delay (s)	11.7	11.5		11.3	11.4	11.3	9.2	9.1	9.1	9.1	8.9	8.9
Level of Service	B	B		B	B	B	A	A	A	A	A	A
Approach Delay (s)		11.6			11.4			9.1			9.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.05		
Actuated Cycle Length (s)	28.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		

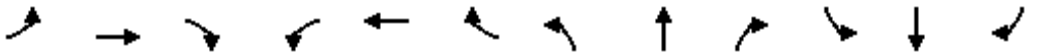
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	21	19	26	12	167	11	1273	39	302	1394	46
Future Volume (vph)	38	21	19	26	12	167	11	1273	39	302	1394	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	5036	1534	3400	5036	1534	3400	5036	1540	3400	5036	1541
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	5036	1534	3400	5036	1534	3400	5036	1540	3400	5036	1541
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	40	22	20	27	13	176	12	1340	41	318	1467	48
RTOR Reduction (vph)	0	0	18	0	0	160	0	0	23	0	0	21
Lane Group Flow (vph)	40	22	2	27	13	16	12	1340	18	318	1467	27
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	1.6	5.3	5.3	1.6	5.3	5.3	0.8	24.8	24.8	7.9	31.9	31.9
Effective Green, g (s)	1.6	5.3	5.3	1.6	5.3	5.3	0.8	24.8	24.8	7.9	31.9	31.9
Actuated g/C Ratio	0.03	0.09	0.09	0.03	0.09	0.09	0.01	0.43	0.43	0.14	0.55	0.55
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	94	463	141	94	463	141	47	2168	663	466	2789	853
v/s Ratio Prot	c0.01	0.00		0.01	0.00		0.00	c0.27		c0.09	0.29	
v/s Ratio Perm			0.00			c0.01			0.01			0.02
v/c Ratio	0.43	0.05	0.01	0.29	0.03	0.11	0.26	0.62	0.03	0.68	0.53	0.03
Uniform Delay, d1	27.5	23.8	23.8	27.4	23.8	24.0	28.1	12.7	9.4	23.7	8.1	5.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	0.0	0.0	1.7	0.0	0.4	2.9	0.5	0.0	4.1	0.2	0.0
Delay (s)	30.6	23.9	23.8	29.1	23.8	24.4	31.0	13.3	9.5	27.8	8.3	5.8
Level of Service	C	C	C	C	C	C	C	B	A	C	A	A
Approach Delay (s)		27.2			24.9			13.3			11.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	57.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

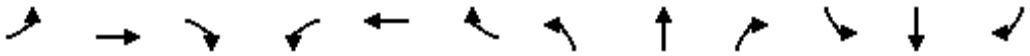
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	134	228	0	150	0	0	0	1	0	0	0
Future Volume (Veh/h)	0	134	228	0	150	0	0	0	1	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	141	240	0	158	0	0	0	1	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	158			381			340	419	190	230	539	79
vC1, stage 1 conf vol							261	261		158	158	
vC2, stage 2 conf vol							79	158		72	381	
vCu, unblocked vol	158			381			340	419	190	230	539	79
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1412			1167			622	566	816	714	505	962

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	0	94	287	0	79	79	1	0
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	240	0	0	0	1	0
cSH	1700	1700	1700	1700	1700	1700	816	1700
Volume to Capacity	0.00	0.06	0.17	0.00	0.05	0.05	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.4	0.0
Lane LOS							A	A
Approach Delay (s)	0.0			0.0			9.4	0.0
Approach LOS							A	A

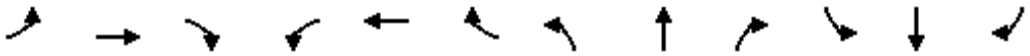
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	21.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	87	39	12	73	6	69	3	14	9	3	8
Future Volume (Veh/h)	8	87	39	12	73	6	69	3	14	9	3	8
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	92	41	13	77	6	73	3	15	9	3	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	218	189	6	256	178	3	11			18		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	218	189	6	256	178	3	11			18		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	86	96	98	89	99	95			99		
cM capacity (veh/h)	625	667	1072	558	676	1076	1599			1590		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	8	61	72	13	51	32	73	3	15	9	2	9
Volume Left	8	0	0	13	0	0	73	0	0	9	0	0
Volume Right	0	0	41	0	0	6	0	0	15	0	0	8
cSH	625	667	851	558	676	727	1599	1700	1700	1590	1700	1700
Volume to Capacity	0.01	0.09	0.08	0.02	0.08	0.04	0.05	0.00	0.01	0.01	0.00	0.01
Queue Length 95th (ft)	1	8	7	2	6	3	4	0	0	0	0	0
Control Delay (s)	10.8	10.9	9.6	11.6	10.8	10.2	7.4	0.0	0.0	7.3	0.0	0.0
Lane LOS	B	B	A	B	B	B	A			A		
Approach Delay (s)	10.3			10.7			5.9			3.3		
Approach LOS	B			B								

Intersection Summary				
Average Delay	8.8			
Intersection Capacity Utilization	27.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	43	23	43	3	26	3	33	23	11	3	17	32
Future Volume (vph)	43	23	43	3	26	3	33	23	11	3	17	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	45	24	45	3	27	3	35	24	12	3	18	34

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	45	69	3	30	35	36	3	52
Volume Left (vph)	45	0	3	0	35	0	3	0
Volume Right (vph)	0	45	0	3	0	12	0	34
Hadj (s)	0.55	-0.41	0.55	-0.02	0.55	-0.18	0.55	-0.41
Departure Headway (s)	5.4	4.4	5.4	4.9	5.4	4.7	5.5	4.5
Degree Utilization, x	0.07	0.08	0.00	0.04	0.05	0.05	0.00	0.07
Capacity (veh/h)	653	786	635	711	639	735	632	767
Control Delay (s)	7.6	6.6	7.3	6.9	7.5	6.7	7.3	6.6
Approach Delay (s)	7.0		6.9		7.1		6.7	
Approach LOS	A		A		A		A	

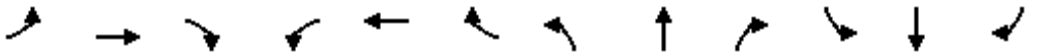
Intersection Summary				
Delay	7.0			
Level of Service	A			
Intersection Capacity Utilization	24.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	55	1272	18	53	1403
Future Volume (Veh/h)	0	55	1272	18	53	1403
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	58	1339	19	56	1477
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			540			840
pX, platoon unblocked	0.89	0.88			0.88	
vC, conflicting volume	1953	456			1358	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	759	0			937	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	94			91	
cM capacity (veh/h)	278	953			635	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	58	536	536	287	56	492	492	492
Volume Left	0	0	0	0	56	0	0	0
Volume Right	58	0	0	19	0	0	0	0
cSH	953	1700	1700	1700	635	1700	1700	1700
Volume to Capacity	0.06	0.32	0.32	0.17	0.09	0.29	0.29	0.29
Queue Length 95th (ft)	5	0	0	0	7	0	0	0
Control Delay (s)	9.0	0.0	0.0	0.0	11.2	0.0	0.0	0.0
Lane LOS	A				B			
Approach Delay (s)	9.0	0.0			0.4			
Approach LOS	A							

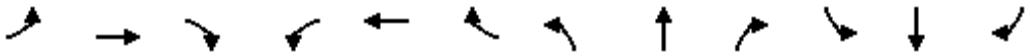
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	35.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	1	1	10	2	27	3	1247	9	50	1343	5
Future Volume (vph)	16	1	1	10	2	27	3	1247	9	50	1343	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.86		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1706		1752	1586		1752	5036	1568	1752	5036	1568
Flt Permitted	1.00	1.00		0.95	1.00		0.16	1.00	1.00	0.18	1.00	1.00
Satd. Flow (perm)	1845	1706		1752	1586		299	5036	1568	341	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	17	1	1	11	2	28	3	1313	9	53	1414	5
RTOR Reduction (vph)	0	1	0	0	27	0	0	0	3	0	0	2
Lane Group Flow (vph)	17	1	0	11	3	0	3	1313	6	53	1414	3
Turn Type	Perm	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2		2	6		6
Actuated Green, G (s)	1.9	1.9		2.3	2.3		29.8	29.8	29.8	29.8	29.8	29.8
Effective Green, g (s)	1.9	1.9		2.3	2.3		29.8	29.8	29.8	29.8	29.8	29.8
Actuated g/C Ratio	0.04	0.04		0.05	0.05		0.63	0.63	0.63	0.63	0.63	0.63
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	73	68		84	76		187	3159	983	213	3159	983
v/s Ratio Prot		0.00		c0.01	0.00			0.26			c0.28	
v/s Ratio Perm	c0.01						0.01		0.00	0.16		0.00
v/c Ratio	0.23	0.02		0.13	0.04		0.02	0.42	0.01	0.25	0.45	0.00
Uniform Delay, d1	22.1	21.9		21.6	21.6		3.3	4.5	3.3	3.9	4.6	3.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.1		0.7	0.2		0.0	0.1	0.0	0.6	0.1	0.0
Delay (s)	23.7	22.0		22.4	21.8		3.4	4.6	3.3	4.5	4.7	3.3
Level of Service	C	C		C	C		A	A	A	A	A	A
Approach Delay (s)		23.5			21.9			4.5			4.7	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	47.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

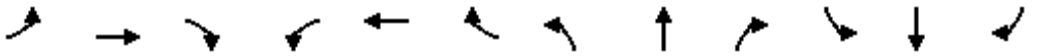
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	2	1	1	1	11	1	10	1	13	13	9
Future Volume (vph)	9	2	1	1	1	11	1	10	1	13	13	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	2	1	1	1	12	1	11	1	14	14	9

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	9	3	1	13	1	12	14	23
Volume Left (vph)	9	0	1	0	1	0	14	0
Volume Right (vph)	0	1	0	12	0	1	0	9
Hadj (s)	0.55	-0.18	0.55	-0.60	0.55	-0.01	0.55	-0.22
Departure Headway (s)	5.2	4.4	5.2	4.0	5.1	4.6	5.1	4.3
Degree Utilization, x	0.01	0.00	0.00	0.01	0.00	0.02	0.02	0.03
Capacity (veh/h)	685	790	676	870	687	770	687	812
Control Delay (s)	7.0	6.3	7.0	5.9	6.9	6.4	7.0	6.3
Approach Delay (s)	6.8		6.0		6.5		6.6	
Approach LOS	A		A		A		A	

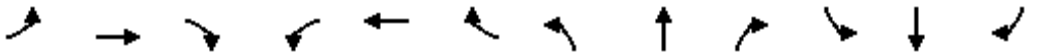
Intersection Summary				
Delay	6.5			
Level of Service	A			
Intersection Capacity Utilization	21.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	10	21	57	9	271	15	791	105	380	655	248
Future Volume (vph)	160	10	21	57	9	271	15	791	105	380	655	248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	168	11	22	60	9	285	16	833	111	400	689	261
RTOR Reduction (vph)	0	0	19	0	0	256	0	0	78	0	0	103
Lane Group Flow (vph)	168	11	3	60	9	29	16	833	33	400	689	158
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	13.2	13.2	13.2	9.1	9.1	9.1	1.9	26.6	26.6	22.6	47.3	47.3
Effective Green, g (s)	13.2	13.2	13.2	9.1	9.1	9.1	1.9	26.6	26.6	22.6	47.3	47.3
Actuated g/C Ratio	0.15	0.15	0.15	0.10	0.10	0.10	0.02	0.30	0.30	0.25	0.53	0.53
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	258	272	231	178	187	159	37	1041	466	442	1852	828
v/s Ratio Prot	c0.10	0.01		c0.03	0.00		0.01	c0.24		c0.23	0.20	
v/s Ratio Perm			0.00			0.02			0.02			0.10
v/c Ratio	0.65	0.04	0.01	0.34	0.05	0.18	0.43	0.80	0.07	0.90	0.37	0.19
Uniform Delay, d1	36.0	32.7	32.6	37.4	36.3	36.8	43.3	29.0	22.6	32.4	12.4	11.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.8	0.1	0.0	1.1	0.1	0.6	7.9	4.5	0.1	21.6	0.1	0.1
Delay (s)	41.8	32.8	32.6	38.5	36.4	37.3	51.2	33.5	22.6	54.0	12.5	11.2
Level of Service	D	C	C	D	D	D	D	C	C	D	B	B
Approach Delay (s)		40.3			37.5			32.5			24.6	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	89.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		

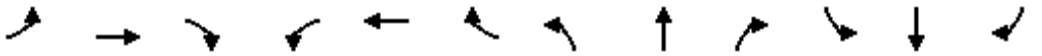
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	1	10	17	1	120	29	761	35	203	493	85
Future Volume (vph)	57	1	10	17	1	120	29	761	35	203	493	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.89	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1734			1539	1490	1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.89	1.00	0.46	1.00	1.00	0.32	1.00	1.00
Satd. Flow (perm)		1734			1392	1490	849	3505	1568	1132	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	60	1	11	18	1	126	31	801	37	214	519	89
RTOR Reduction (vph)	0	10	0	0	48	65	0	0	17	0	0	41
Lane Group Flow (vph)	0	62	0	0	25	7	31	801	20	214	519	48
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		4.3			5.2	5.2	27.0	27.0	27.0	27.0	27.0	27.0
Effective Green, g (s)		4.3			5.2	5.2	27.0	27.0	27.0	27.0	27.0	27.0
Actuated g/C Ratio		0.09			0.10	0.10	0.54	0.54	0.54	0.54	0.54	0.54
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		149			144	154	458	1892	846	611	1892	846
v/s Ratio Prot		c0.04						c0.23			0.15	
v/s Ratio Perm					c0.02	0.01	0.04		0.01	0.19		0.03
v/c Ratio		0.42			0.17	0.05	0.07	0.42	0.02	0.35	0.27	0.06
Uniform Delay, d1		21.7			20.4	20.2	5.5	6.9	5.4	6.5	6.2	5.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.9			0.6	0.1	0.1	0.2	0.0	0.3	0.1	0.0
Delay (s)		23.5			21.0	20.3	5.6	7.0	5.4	6.9	6.3	5.5
Level of Service		C			C	C	A	A	A	A	A	A
Approach Delay (s)		23.5			20.7			6.9			6.4	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

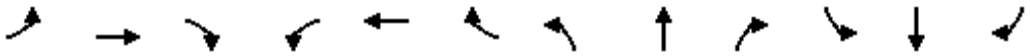
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	611	399	0	0	301	215	0	1	0	244	2	276
Future Volume (vph)	611	399	0	0	301	215	0	1	0	244	2	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95			1.00	1.00		1.00			1.00	0.88
Frt	1.00	1.00			1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		1.00			0.95	1.00
Satd. Flow (prot)	3400	3505			1845	1568		1845			1757	2760
Flt Permitted	0.52	1.00			1.00	1.00		1.00			0.95	1.00
Satd. Flow (perm)	1855	3505			1845	1568		1845			1757	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	643	420	0	0	317	226	0	1	0	257	2	291
RTOR Reduction (vph)	0	0	0	0	0	116	0	0	0	0	0	225
Lane Group Flow (vph)	643	420	0	0	317	110	0	1	0	0	259	66
Turn Type	Perm	NA	Perm		NA	Perm		NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	32.6	32.6			32.6	32.6		5.7			15.2	15.2
Effective Green, g (s)	32.6	32.6			32.6	32.6		5.7			15.2	15.2
Actuated g/C Ratio	0.49	0.49			0.49	0.49		0.09			0.23	0.23
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	902	1705			897	762		156			398	626
v/s Ratio Prot		0.12			0.17			c0.00			c0.15	
v/s Ratio Perm	c0.35					0.07						0.02
v/c Ratio	0.71	0.25			0.35	0.14		0.01			0.65	0.11
Uniform Delay, d1	13.5	10.0			10.7	9.5		28.1			23.5	20.5
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	2.7	0.1			0.2	0.1		0.0			3.8	0.1
Delay (s)	16.2	10.1			10.9	9.6		28.1			27.3	20.6
Level of Service	B	B			B	A		C			C	C
Approach Delay (s)		13.8			10.4			28.1			23.7	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	67.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	614	1	1	494	51	1	1	1	50	1	21
Future Volume (Veh/h)	28	614	1	1	494	51	1	1	1	50	1	21
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	29	646	1	1	520	54	1	1	1	53	1	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	574			647			1276	1280	646	1255	1254	547
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	574			647			1276	1280	646	1255	1254	547
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			99	99	100	63	99	96
cM capacity (veh/h)	994			934			133	160	470	143	166	535

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	676	575	3	76
Volume Left	29	1	1	53
Volume Right	1	54	1	22
cSH	994	934	189	182
Volume to Capacity	0.03	0.00	0.02	0.42
Queue Length 95th (ft)	2	0	1	47
Control Delay (s)	0.8	0.0	24.4	38.2
Lane LOS	A	A	C	E
Approach Delay (s)	0.8	0.0	24.4	38.2
Approach LOS			C	E

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	68.6%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	92	222	452	281	166	561	1652	397	95	1116	57
Future Volume (vph)	109	92	222	452	281	166	561	1652	397	95	1116	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	111	94	227	461	287	169	572	1686	405	97	1139	58
RTOR Reduction (vph)	0	0	38	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	111	94	189	461	287	169	572	1686	405	97	1139	58
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	9.3	10.9	36.2	17.5	19.1	120.0	25.3	64.8	120.0	8.8	48.3	120.0
Effective Green, g (s)	9.3	10.9	36.2	17.5	19.1	120.0	25.3	64.8	120.0	8.8	48.3	120.0
Actuated g/C Ratio	0.08	0.09	0.30	0.15	0.16	1.00	0.21	0.54	1.00	0.07	0.40	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	263	318	549	495	801	1568	692	2719	1568	249	2026	1568
v/s Ratio Prot	0.03	0.03	0.07	c0.14	c0.06		c0.17	c0.33		0.03	0.23	
v/s Ratio Perm			0.04			0.11			0.26			0.04
v/c Ratio	0.42	0.30	0.34	0.93	0.36	0.11	0.83	0.62	0.26	0.39	0.56	0.04
Uniform Delay, d1	52.8	51.0	32.6	50.7	45.0	0.0	45.3	19.1	0.0	53.0	27.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.20	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.5	0.4	24.4	0.3	0.1	4.4	0.6	0.2	1.0	1.1	0.0
Delay (s)	53.9	51.5	33.0	75.1	45.3	0.1	58.0	23.4	0.2	54.0	28.8	0.0
Level of Service	D	D	C	E	D	A	E	C	A	D	C	A
Approach Delay (s)		42.4			51.9			27.3			29.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	345	0	2323	123	115	961	711	0	0
Future Volume (vph)	0	345	0	2323	123	115	961	711	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.94			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4715			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4715			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	363	0	2445	129	121	1012	748	0	0
RTOR Reduction (vph)	0	31	0	0	55	0	0	0	0	0
Lane Group Flow (vph)	0	332	0	2445	74	121	1760	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		15.4		34.3	34.3	15.4	60.0			
Effective Green, g (s)		15.4		34.3	34.3	15.4	60.0			
Actuated g/C Ratio		0.26		0.57	0.57	0.26	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		409		2878	896	449	4715			
v/s Ratio Prot		c0.21		c0.49		0.07	0.37			
v/s Ratio Perm					0.05					
v/c Ratio		0.81		0.85	0.08	0.27	0.37			
Uniform Delay, d1		20.9		10.7	5.8	17.8	0.0			
Progression Factor		1.00		1.00	1.00	0.70	1.00			
Incremental Delay, d2		11.0		3.4	0.2	0.1	0.0			
Delay (s)		31.9		14.1	6.0	12.6	0.0			
Level of Service		C		B	A	B	A			
Approach Delay (s)	31.9			13.7			0.8		0.0	
Approach LOS	C			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

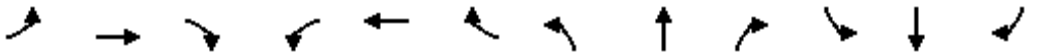
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	169	1048	1430	528	0	996
Future Volume (vph)	169	1048	1430	528	0	996
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.96			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3363			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3363			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	178	1103	1505	556	0	1048
RTOR Reduction (vph)	0	33	42	0	0	0
Lane Group Flow (vph)	178	1070	2019	0	0	1048
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1870			2800
v/s Ratio Prot	0.05		c0.60			0.21
v/s Ratio Perm		c0.39				
v/c Ratio	0.16	1.16	1.08			0.37
Uniform Delay, d1	21.1	30.0	20.0			11.2
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	85.0	46.0			0.0
Delay (s)	21.1	114.9	65.9			11.2
Level of Service	C	F	E			B
Approach Delay (s)	101.9		65.9			11.2
Approach LOS	F		E			B

Intersection Summary			
HCM 2000 Control Delay	63.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	101.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	761	0	291	0	0	0	0	1203	247	0	706	499
Future Volume (vph)	761	0	291	0	0	0	0	1203	247	0	706	499
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	801	0	306	0	0	0	0	1266	260	0	743	525
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	155	0	0	313
Lane Group Flow (vph)	801	0	270	0	0	0	0	1266	105	0	743	212
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	15.0		15.0					17.6	17.6		17.6	17.6
Effective Green, g (s)	15.0		15.0					17.6	17.6		17.6	17.6
Actuated g/C Ratio	0.34		0.34					0.40	0.40		0.40	0.40
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1172		540					1418	634		1418	634
v/s Ratio Prot	c0.24							c0.36			0.21	
v/s Ratio Perm			0.17						0.07			0.14
v/c Ratio	0.68		0.50					0.89	0.17		0.52	0.34
Uniform Delay, d1	12.2		11.3					12.1	8.3		9.8	8.9
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	1.3		0.3					7.4	0.0		0.2	0.1
Delay (s)	13.5		11.5					19.4	8.3		9.9	9.0
Level of Service	B		B					B	A		A	A
Approach Delay (s)		13.0			0.0			17.5			9.6	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	43.5	Sum of lost time (s)	10.9
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

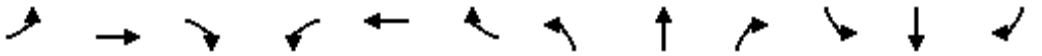
c Critical Lane Group



Movement	EBL	EBR	NBL2	NBL	SER	SER2
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	6	7	5	22	14	13
Future Volume (vph)	6	7	5	22	14	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	6	7	5	23	15	14

Direction, Lane #	EB 1	NB 1	NB 2	SE 1	SE 2
Volume Total (vph)	13	5	23	15	14
Volume Left (vph)	6	5	0	0	0
Volume Right (vph)	7	0	0	0	14
Hadj (s)	-0.18	0.55	0.05	0.05	-0.65
Departure Headway (s)	3.8	5.1	4.6	4.6	3.9
Degree Utilization, x	0.01	0.01	0.03	0.02	0.02
Capacity (veh/h)	917	694	769	777	917
Control Delay (s)	6.9	6.9	6.5	6.5	5.8
Approach Delay (s)	6.9	6.6		6.1	
Approach LOS	A	A		A	

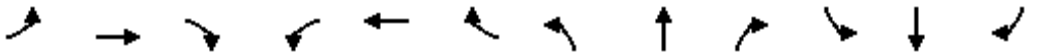
Intersection Summary			
Delay	6.5		
Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	113	0	0	163	45	1	1	1	12	0	29
Future Volume (vph)	47	113	0	0	163	45	1	1	1	12	0	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5		4.5		4.5
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00		1.00		1.00
Frt	1.00	1.00			1.00	0.85		0.95		1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00		0.98		0.95		1.00
Satd. Flow (prot)	3400	3505			3505	1568		1733		1752		1568
Flt Permitted	1.00	1.00			1.00	1.00		0.94		0.76		1.00
Satd. Flow (perm)	3579	3505			3505	1568		1661		1394		1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	49	119	0	0	172	47	1	1	1	13	0	31
RTOR Reduction (vph)	0	0	0	0	0	39	0	1	0	0	0	18
Lane Group Flow (vph)	49	119	0	0	172	8	0	2	0	13	0	13
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	3.8	3.8			3.8	3.8		9.4		9.4		9.4
Effective Green, g (s)	3.8	3.8			3.8	3.8		9.4		9.4		9.4
Actuated g/C Ratio	0.17	0.17			0.17	0.17		0.42		0.42		0.42
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5		4.5		4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0		3.0		3.0
Lane Grp Cap (vph)	612	599			599	268		703		590		663
v/s Ratio Prot		0.03			c0.05							
v/s Ratio Perm	0.01					0.01		0.00		c0.01		0.01
v/c Ratio	0.08	0.20			0.29	0.03		0.00		0.02		0.02
Uniform Delay, d1	7.7	7.9			8.0	7.7		3.7		3.7		3.7
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00		1.00
Incremental Delay, d2	0.1	0.2			0.3	0.0		0.0		0.0		0.0
Delay (s)	7.8	8.1			8.3	7.7		3.7		3.7		3.7
Level of Service	A	A			A	A		A		A		A
Approach Delay (s)		8.0			8.2			3.7			3.7	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.10		
Actuated Cycle Length (s)	22.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	24.1%	ICU Level of Service	A
Analysis Period (min)	15		

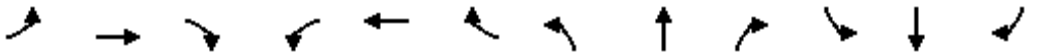
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	86	16	7	147	25	50	24	19	9	12	12
Future Volume (vph)	23	86	16	7	147	25	50	24	19	9	12	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	1845	1568	1752	1845	2760
Flt Permitted	0.82	1.00	1.00	0.82	1.00	1.00	0.95	1.00	1.00	0.74	1.00	1.00
Satd. Flow (perm)	1506	3505	1568	1506	5036	1568	3400	1845	1568	1367	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	24	91	17	7	155	26	53	25	20	9	13	13
RTOR Reduction (vph)	0	0	14	0	0	22	0	0	16	0	0	10
Lane Group Flow (vph)	24	91	3	7	155	4	53	25	4	9	13	3
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	4.9	4.9	4.9	4.9	4.9	4.9	6.1	6.1	6.1	6.0	6.0	6.0
Effective Green, g (s)	4.9	4.9	4.9	4.9	4.9	4.9	6.1	6.1	6.1	6.0	6.0	6.0
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.20	0.20	0.20	0.20	0.20	0.20
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	241	563	251	241	809	251	680	369	313	268	362	542
v/s Ratio Prot		0.03			c0.03		c0.02	0.01			c0.01	
v/s Ratio Perm	0.02		0.00	0.00		0.00			0.00	0.01		0.00
v/c Ratio	0.10	0.16	0.01	0.03	0.19	0.02	0.08	0.07	0.01	0.03	0.04	0.00
Uniform Delay, d1	10.9	11.0	10.8	10.8	11.1	10.8	9.9	9.9	9.8	9.9	9.9	9.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0
Delay (s)	11.1	11.2	10.8	10.8	11.2	10.8	10.0	10.0	9.8	10.0	10.0	9.9
Level of Service	B	B	B	B	B	B	A	A	A	A	A	A
Approach Delay (s)		11.1			11.1			9.9			9.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.10		
Actuated Cycle Length (s)	30.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	27.7%	ICU Level of Service	A
Analysis Period (min)	15		

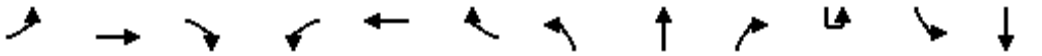
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	79	1	7	170	25	6	1	17	9	0	12
Future Volume (vph)	22	79	1	7	170	25	6	1	17	9	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00		0.88
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1752	5027		1752	5036	1568	1752	1845	1568	1752		2760
Flt Permitted	0.82	1.00		0.82	1.00	1.00	0.95	1.00	1.00	0.76		1.00
Satd. Flow (perm)	1506	5027		1506	5036	1568	1752	1845	1568	1397		2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	23	83	1	7	179	26	6	1	18	9	0	13
RTOR Reduction (vph)	0	1	0	0	0	22	0	0	15	0	0	10
Lane Group Flow (vph)	23	83	0	7	179	4	6	1	3	9	0	3
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm		Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	4.9	4.9		4.9	4.9	4.9	5.8	5.8	5.8	5.9		5.9
Effective Green, g (s)	4.9	4.9		4.9	4.9	4.9	5.8	5.8	5.8	5.9		5.9
Actuated g/C Ratio	0.16	0.16		0.16	0.16	0.16	0.19	0.19	0.19	0.20		0.20
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	245	818		245	819	255	337	355	302	273		540
v/s Ratio Prot		0.02			c0.04		c0.00	0.00				
v/s Ratio Perm	0.02			0.00		0.00			0.00	c0.01		0.00
v/c Ratio	0.09	0.10		0.03	0.22	0.02	0.02	0.00	0.01	0.03		0.00
Uniform Delay, d1	10.7	10.7		10.6	10.9	10.6	9.8	9.8	9.8	9.8		9.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.2	0.1		0.0	0.1	0.0	0.0	0.0	0.0	0.0		0.0
Delay (s)	10.9	10.8		10.6	11.1	10.6	9.9	9.8	9.8	9.8		9.7
Level of Service	B	B		B	B	B	A	A	A	A		A
Approach Delay (s)		10.8			11.0			9.8			9.8	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.08		
Actuated Cycle Length (s)	30.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	26.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	32	61	7	69	82	266	53	1408	22	41	217	715
Future Volume (vph)	32	61	7	69	82	266	53	1408	22	41	217	715
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00		0.97	0.91
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3400	5036	1537	3400	5036	1537	3400	5036	1539		3400	5036
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3400	5036	1537	3400	5036	1537	3400	5036	1539		3400	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	34	64	7	73	86	280	56	1482	23	43	228	753
RTOR Reduction (vph)	0	0	6	0	0	152	0	0	14	0	0	0
Lane Group Flow (vph)	34	64	1	73	86	128	56	1482	9	0	271	753
Confl. Peds. (#/hr)			5			5			5			
Confl. Bikes (#/hr)			2			2			2			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases			4			8			2			
Actuated Green, G (s)	1.7	10.2	10.2	2.7	11.2	11.2	2.7	24.4	24.4		6.8	28.5
Effective Green, g (s)	1.7	10.2	10.2	2.7	11.2	11.2	2.7	24.4	24.4		6.8	28.5
Actuated g/C Ratio	0.03	0.16	0.16	0.04	0.18	0.18	0.04	0.39	0.39		0.11	0.46
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	93	827	252	147	908	277	147	1978	604		372	2311
v/s Ratio Prot	0.01	0.01		c0.02	0.02		0.02	c0.29			c0.08	c0.15
v/s Ratio Perm			0.00			c0.08			0.01			
v/c Ratio	0.37	0.08	0.00	0.50	0.09	0.46	0.38	0.75	0.01		0.73	0.33
Uniform Delay, d1	29.7	22.0	21.7	29.0	21.2	22.7	28.9	16.2	11.5		26.8	10.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.4	0.0	0.0	2.6	0.0	1.2	1.6	1.6	0.0		7.0	0.1
Delay (s)	32.1	22.0	21.7	31.7	21.3	24.0	30.5	17.8	11.5		33.7	10.8
Level of Service	C	C	C	C	C	C	C	B	B		C	B
Approach Delay (s)		25.3			24.7			18.2				16.4
Approach LOS		C			C			B				B

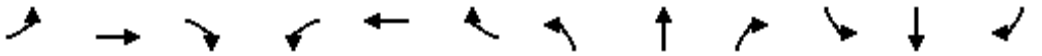
Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	62.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	57
Future Volume (vph)	57
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1540
Flt Permitted	1.00
Satd. Flow (perm)	1540
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	60
RTOR Reduction (vph)	32
Lane Group Flow (vph)	28
Confl. Peds. (#/hr)	5
Confl. Bikes (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	28.5
Effective Green, g (s)	28.5
Actuated g/C Ratio	0.46
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	706
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.04
Uniform Delay, d1	9.3
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	9.3
Level of Service	A
Approach Delay (s)	
Approach LOS	

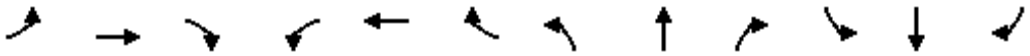
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	61	103	0	243	11	0	0	1	4	0	60
Future Volume (Veh/h)	137	61	103	0	243	11	0	0	1	4	0	60
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	144	64	108	0	256	12	0	0	1	4	0	63
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	268			172			534	674	86	583	722	134
vC1, stage 1 conf vol							406	406		262	262	
vC2, stage 2 conf vol							128	268		321	460	
vCu, unblocked vol	268			172			534	674	86	583	722	134
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			100			100	100	100	99	100	93
cM capacity (veh/h)	1285			1395			426	394	952	455	398	887

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	144	43	129	0	171	97	1	67
Volume Left	144	0	0	0	0	0	0	4
Volume Right	0	0	108	0	0	12	1	63
cSH	1285	1700	1700	1700	1700	1700	952	840
Volume to Capacity	0.11	0.03	0.08	0.00	0.10	0.06	0.00	0.08
Queue Length 95th (ft)	9	0	0	0	0	0	0	6
Control Delay (s)	8.2	0.0	0.0	0.0	0.0	0.0	8.8	9.7
Lane LOS	A						A	A
Approach Delay (s)	3.7			0.0			8.8	9.7
Approach LOS							A	A

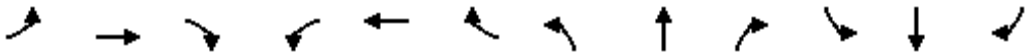
Intersection Summary				
Average Delay	2.8			
Intersection Capacity Utilization	Err%	ICU Level of Service		H
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	41	20	9	132	8	110	2	6	4	1	13
Future Volume (Veh/h)	4	41	20	9	132	8	110	2	6	4	1	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	43	21	9	139	8	116	2	6	4	1	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	328	256	8	285	257	2	15			8		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	328	256	8	285	257	2	15			8		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	93	98	98	77	99	93			100		
cM capacity (veh/h)	461	596	1069	561	595	1078	1594			1603		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	4	29	35	9	93	54	116	2	6	4	1	14
Volume Left	4	0	0	9	0	0	116	0	0	4	0	0
Volume Right	0	0	21	0	0	8	0	0	6	0	0	14
cSH	461	596	809	561	595	637	1594	1700	1700	1603	1700	1700
Volume to Capacity	0.01	0.05	0.04	0.02	0.16	0.09	0.07	0.00	0.00	0.00	0.00	0.01
Queue Length 95th (ft)	1	4	3	1	14	7	6	0	0	0	0	0
Control Delay (s)	12.9	11.3	9.7	11.5	12.2	11.2	7.4	0.0	0.0	7.3	0.0	0.0
Lane LOS	B	B	A	B	B	B	A			A		
Approach Delay (s)	10.6			11.8			7.0			1.5		
Approach LOS	B			B								

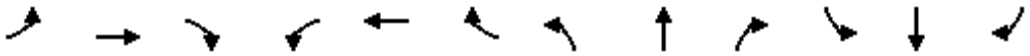
Intersection Summary					
Average Delay	9.4				
Intersection Capacity Utilization	26.6%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	23	12	25	1	77	1	37	21	1	3	12	34
Future Volume (vph)	23	12	25	1	77	1	37	21	1	3	12	34
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	24	13	26	1	81	1	39	22	1	3	13	36

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	24	39	1	82	39	23	3	49
Volume Left (vph)	24	0	1	0	39	0	3	0
Volume Right (vph)	0	26	0	1	0	1	0	36
Hadj (s)	0.55	-0.42	0.55	0.04	0.55	0.02	0.55	-0.46
Departure Headway (s)	5.4	4.4	5.4	4.9	5.4	4.9	5.5	4.4
Degree Utilization, x	0.04	0.05	0.00	0.11	0.06	0.03	0.00	0.06
Capacity (veh/h)	651	784	645	716	639	705	633	777
Control Delay (s)	7.4	6.5	7.2	7.3	7.6	6.9	7.3	6.5
Approach Delay (s)	6.8		7.3		7.3		6.6	
Approach LOS	A		A		A		A	

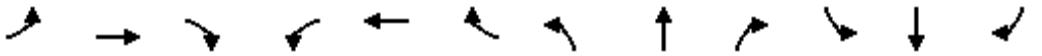
Intersection Summary				
Delay	7.0			
Level of Service	A			
Intersection Capacity Utilization	23.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	90	0	1395	8	16	786	5
Future Volume (Veh/h)	0	0	0	0	0	90	0	1395	8	16	786	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	95	0	1468	8	17	827	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								540			840	
pX, platoon unblocked	0.87	0.87	0.94	0.87	0.87	0.84	0.94			0.84		
vC, conflicting volume	1448	2340	278	1782	2338	493	832			1476		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	533	1559	15	917	1557	0	603			900		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	90	100			97		
cM capacity (veh/h)	326	93	996	192	93	908	907			625		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	0	95	587	587	302	17	331	331	170
Volume Left	0	0	0	0	0	17	0	0	0
Volume Right	0	95	0	0	8	0	0	0	5
cSH	1700	908	1700	1700	1700	625	1700	1700	1700
Volume to Capacity	0.00	0.10	0.35	0.35	0.18	0.03	0.19	0.19	0.10
Queue Length 95th (ft)	0	9	0	0	0	2	0	0	0
Control Delay (s)	0.0	9.4	0.0	0.0	0.0	10.9	0.0	0.0	0.0
Lane LOS	A	A				B			
Approach Delay (s)	0.0	9.4	0.0			0.2			
Approach LOS	A	A							

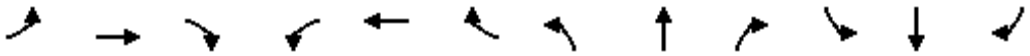
Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	39.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	1	1	19	1	43	1	1317	5	15	761	10
Future Volume (vph)	43	1	1	19	1	43	1	1317	5	15	761	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1706		1752	1574		1752	5036	1568	1752	5036	1568
Flt Permitted	0.78	1.00		0.95	1.00		0.34	1.00	1.00	0.16	1.00	1.00
Satd. Flow (perm)	1447	1706		1752	1574		622	5036	1568	287	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	45	1	1	20	1	45	1	1386	5	16	801	11
RTOR Reduction (vph)	0	1	0	0	42	0	0	0	2	0	0	5
Lane Group Flow (vph)	45	1	0	20	4	0	1	1386	3	16	801	6
Turn Type	Perm	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2		2	6		6
Actuated Green, G (s)	5.1	5.1		3.5	3.5		28.0	28.0	28.0	28.0	28.0	28.0
Effective Green, g (s)	5.1	5.1		3.5	3.5		28.0	28.0	28.0	28.0	28.0	28.0
Actuated g/C Ratio	0.10	0.10		0.07	0.07		0.56	0.56	0.56	0.56	0.56	0.56
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	147	173		122	109		347	2814	876	160	2814	876
v/s Ratio Prot		0.00		c0.01	0.00			c0.28			0.16	
v/s Ratio Perm	c0.03						0.00		0.00	0.06		0.00
v/c Ratio	0.31	0.01		0.16	0.04		0.00	0.49	0.00	0.10	0.28	0.01
Uniform Delay, d1	20.9	20.2		21.9	21.7		4.9	6.7	4.9	5.2	5.8	4.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.0		0.6	0.1		0.0	0.1	0.0	0.3	0.1	0.0
Delay (s)	22.0	20.2		22.6	21.9		4.9	6.9	4.9	5.4	5.9	4.9
Level of Service	C	C		C	C		A	A	A	A	A	A
Approach Delay (s)		22.0			22.1			6.9			5.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	50.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	42.0%	ICU Level of Service	A
Analysis Period (min)	15		

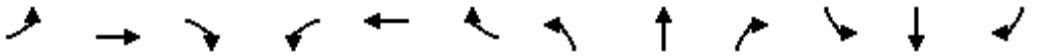
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	2	2	1	5	13	5	16	1	5	23	9
Future Volume (vph)	2	2	2	1	5	13	5	16	1	5	23	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2	2	2	1	5	14	5	17	1	5	24	9

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	2	4	1	19	5	18	5	33
Volume Left (vph)	2	0	1	0	5	0	5	0
Volume Right (vph)	0	2	0	14	0	1	0	9
Hadj (s)	0.55	-0.30	0.55	-0.46	0.55	0.01	0.55	-0.14
Departure Headway (s)	5.2	4.4	5.2	4.2	5.1	4.6	5.1	4.4
Degree Utilization, x	0.00	0.00	0.00	0.02	0.01	0.02	0.01	0.04
Capacity (veh/h)	680	804	672	838	687	768	696	796
Control Delay (s)	7.0	6.2	7.0	6.1	7.0	6.5	7.0	6.4
Approach Delay (s)	6.5		6.1		6.6		6.5	
Approach LOS	A		A		A		A	

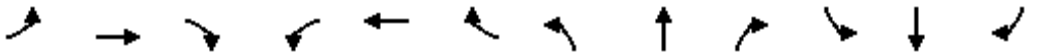
Intersection Summary				
Delay	6.4			
Level of Service	A			
Intersection Capacity Utilization	14.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	8	30	0	10	372	5	646	46	149	486	109
Future Volume (vph)	234	8	30	0	10	372	5	646	46	149	486	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1845	1568		1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	1845	1568		1845	1568	1752	3505	1568	1752	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	246	8	32	0	11	392	5	680	48	157	512	115
RTOR Reduction (vph)	0	0	26	0	0	213	0	0	34	0	0	71
Lane Group Flow (vph)	246	8	6	0	11	179	5	680	14	157	512	44
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	14.2	14.2	14.2		12.2	12.2	0.9	20.9	20.9	8.0	28.0	28.0
Effective Green, g (s)	14.2	14.2	14.2		12.2	12.2	0.9	20.9	20.9	8.0	28.0	28.0
Actuated g/C Ratio	0.19	0.19	0.19		0.17	0.17	0.01	0.29	0.29	0.11	0.38	0.38
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	339	357	303		307	260	21	999	447	191	1338	598
v/s Ratio Prot	c0.14	0.00			0.01		0.00	c0.19		c0.09	0.15	
v/s Ratio Perm			0.00			c0.11			0.01			0.03
v/c Ratio	0.73	0.02	0.02		0.04	0.69	0.24	0.68	0.03	0.82	0.38	0.07
Uniform Delay, d1	27.7	23.9	23.9		25.6	28.8	35.9	23.2	18.9	32.0	16.4	14.4
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.5	0.0	0.0		0.0	7.7	5.8	1.9	0.0	23.9	0.2	0.1
Delay (s)	35.2	24.0	23.9		25.7	36.4	41.7	25.2	18.9	55.8	16.6	14.5
Level of Service	D	C	C		C	D	D	C	B	E	B	B
Approach Delay (s)		33.7			36.1			24.9			24.1	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

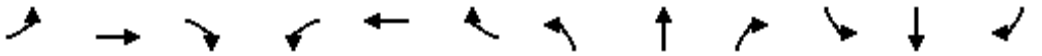
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	1	13	39	1	199	14	462	14	74	506	42
Future Volume (vph)	88	1	13	39	1	199	14	462	14	74	506	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.90	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1738			1551	1490	1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.85	1.00	0.45	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)		1738			1342	1490	837	3505	1568	1700	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	93	1	14	41	1	209	15	486	15	78	533	44
RTOR Reduction (vph)	0	9	0	0	73	105	0	0	9	0	0	26
Lane Group Flow (vph)	0	99	0	0	55	18	15	486	6	78	533	18
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		4.6			6.1	6.1	16.9	16.9	16.9	16.9	16.9	16.9
Effective Green, g (s)		4.6			6.1	6.1	16.9	16.9	16.9	16.9	16.9	16.9
Actuated g/C Ratio		0.11			0.15	0.15	0.41	0.41	0.41	0.41	0.41	0.41
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		194			199	221	344	1441	644	699	1441	644
v/s Ratio Prot		c0.06						0.14			c0.15	
v/s Ratio Perm					c0.04	0.01	0.02		0.00	0.05		0.01
v/c Ratio		0.51			0.28	0.08	0.04	0.34	0.01	0.11	0.37	0.03
Uniform Delay, d1		17.2			15.5	15.1	7.3	8.3	7.2	7.5	8.4	7.2
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.3			0.8	0.2	0.1	0.1	0.0	0.1	0.2	0.0
Delay (s)		19.5			16.3	15.2	7.3	8.4	7.2	7.5	8.6	7.2
Level of Service		B			B	B	A	A	A	A	A	A
Approach Delay (s)		19.5			15.8			8.3			8.4	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	41.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		

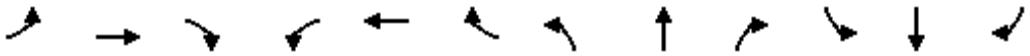
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	355	212	0	0	395	131	0	2	0	200	0	378
Future Volume (vph)	355	212	0	0	395	131	0	2	0	200	0	378
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95			1.00	1.00		1.00			1.00	0.88
Frt	1.00	1.00			1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		1.00			0.95	1.00
Satd. Flow (prot)	3400	3505			1845	1568		1845			1752	2760
Flt Permitted	0.40	1.00			1.00	1.00		1.00			0.95	1.00
Satd. Flow (perm)	1420	3505			1845	1568		1845			1752	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	374	223	0	0	416	138	0	2	0	211	0	398
RTOR Reduction (vph)	0	0	0	0	0	83	0	0	0	0	0	306
Lane Group Flow (vph)	374	223	0	0	416	55	0	2	0	0	211	92
Turn Type	Perm	NA	Perm		NA	Perm		NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	20.6	20.6			20.6	20.6		5.6			12.0	12.0
Effective Green, g (s)	20.6	20.6			20.6	20.6		5.6			12.0	12.0
Actuated g/C Ratio	0.40	0.40			0.40	0.40		0.11			0.23	0.23
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	565	1396			735	624		199			406	640
v/s Ratio Prot		0.06			0.23			c0.00			c0.12	
v/s Ratio Perm	c0.26					0.04						0.03
v/c Ratio	0.66	0.16			0.57	0.09		0.01			0.52	0.14
Uniform Delay, d1	12.7	10.0			12.1	9.7		20.6			17.3	15.8
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	2.9	0.1			1.0	0.1		0.0			1.1	0.1
Delay (s)	15.6	10.0			13.1	9.8		20.6			18.5	15.9
Level of Service	B	B			B	A		C			B	B
Approach Delay (s)		13.5			12.3			20.6			16.8	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	51.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

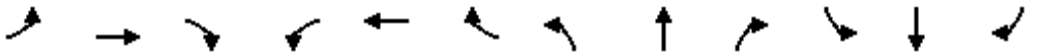
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	396	1	1	506	46	1	1	1	37	1	13
Future Volume (Veh/h)	15	396	1	1	506	46	1	1	1	37	1	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	417	1	1	533	48	1	1	1	39	1	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	581			418			1023	1032	418	1010	1009	557
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	581			418			1023	1032	418	1010	1009	557
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			100	100	100	82	100	97
cM capacity (veh/h)	988			1136			204	228	633	214	235	528

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	434	582	3	54
Volume Left	16	1	1	39
Volume Right	1	48	1	14
cSH	988	1136	276	253
Volume to Capacity	0.02	0.00	0.01	0.21
Queue Length 95th (ft)	1	0	1	20
Control Delay (s)	0.5	0.0	18.2	23.0
Lane LOS	A	A	C	C
Approach Delay (s)	0.5	0.0	18.2	23.0
Approach LOS			C	C

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	44.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	372	336	482	311	241	706	1819	560	247	2240	166
Future Volume (vph)	133	372	336	482	311	241	706	1819	560	247	2240	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	148	413	373	536	346	268	784	2021	622	274	2489	184
RTOR Reduction (vph)	0	0	25	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	148	413	348	536	346	268	784	2021	622	274	2489	184
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	12.1	22.0	64.0	20.5	30.4	155.0	42.0	76.7	155.0	17.8	52.5	155.0
Effective Green, g (s)	12.1	22.0	64.0	20.5	30.4	155.0	42.0	76.7	155.0	17.8	52.5	155.0
Actuated g/C Ratio	0.08	0.14	0.41	0.13	0.20	1.00	0.27	0.49	1.00	0.11	0.34	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	265	497	715	449	987	1568	890	2492	1568	390	1705	1568
v/s Ratio Prot	0.04	c0.12	0.13	c0.16	0.07		c0.24	0.40		0.08	c0.49	
v/s Ratio Perm			0.08			0.17			0.40			0.12
v/c Ratio	0.56	0.83	0.49	1.19	0.35	0.17	0.88	0.81	0.40	0.70	1.46	0.12
Uniform Delay, d1	68.9	64.7	33.4	67.2	53.8	0.0	54.1	33.0	0.0	66.1	51.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	11.3	0.5	107.3	0.2	0.2	10.2	3.0	0.8	5.6	210.2	0.2
Delay (s)	71.4	76.0	34.0	174.5	54.0	0.2	64.3	36.0	0.8	71.7	261.5	0.2
Level of Service	E	E	C	F	D	A	E	D	A	E	F	A
Approach Delay (s)		58.5			97.6			36.1			227.5	
Approach LOS		E			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	113.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	155.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	102.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	449	0	2467	94	290	1978	844	0	0
Future Volume (vph)	0	449	0	2467	94	290	1978	844	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.96			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4810			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4810			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	473	0	2597	99	305	2082	888	0	0
RTOR Reduction (vph)	0	22	0	0	33	0	0	0	0	0
Lane Group Flow (vph)	0	451	0	2597	66	305	2970	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		24.5		45.2	45.2	24.5	80.0			
Effective Green, g (s)		24.5		45.2	45.2	24.5	80.0			
Actuated g/C Ratio		0.31		0.57	0.57	0.31	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		488		2845	885	536	4810			
v/s Ratio Prot		c0.28		c0.52		0.17	0.62			
v/s Ratio Perm					0.04					
v/c Ratio		0.93		0.91	0.07	0.57	0.62			
Uniform Delay, d1		26.9		15.6	7.9	23.3	0.0			
Progression Factor		1.00		1.00	1.00	1.00	1.00			
Incremental Delay, d2		23.1		5.8	0.2	0.8	0.2			
Delay (s)		50.0		21.4	8.1	24.1	0.2			
Level of Service		D		C	A	C	A			
Approach Delay (s)	50.0			20.9			2.4		0.0	
Approach LOS	D			C			A		A	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		

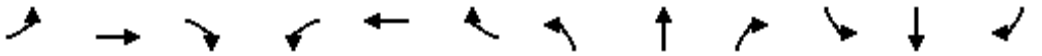
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	223	1112	1722	401	0	2036
Future Volume (vph)	223	1112	1722	401	0	2036
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3406			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3406			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	235	1171	1813	422	0	2143
RTOR Reduction (vph)	0	15	22	0	0	0
Lane Group Flow (vph)	235	1156	2213	0	0	2143
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1894			2800
v/s Ratio Prot	0.07		c0.65			0.43
v/s Ratio Perm		c0.42				
v/c Ratio	0.21	1.26	1.17			0.77
Uniform Delay, d1	21.4	30.0	20.0			15.4
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	123.9	81.9			1.2
Delay (s)	21.5	153.8	101.8			16.6
Level of Service	C	F	F			B
Approach Delay (s)	131.7		101.8			16.6
Approach LOS	F		F			B

Intersection Summary			
HCM 2000 Control Delay	77.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	107.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	996	0	576	0	0	0	0	1121	534	0	1179	1089
Future Volume (vph)	996	0	576	0	0	0	0	1121	534	0	1179	1089
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1048	0	606	0	0	0	0	1180	562	0	1241	1146
RTOR Reduction (vph)	0	0	31	0	0	0	0	0	357	0	0	693
Lane Group Flow (vph)	1048	0	575	0	0	0	0	1180	205	0	1241	453
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	22.5		22.5					19.2	19.2		19.2	19.2
Effective Green, g (s)	22.5		22.5					19.2	19.2		19.2	19.2
Actuated g/C Ratio	0.43		0.43					0.37	0.37		0.37	0.37
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1454		670					1279	572		1279	572
v/s Ratio Prot	0.31							0.34			c0.35	
v/s Ratio Perm			c0.37						0.13			0.29
v/c Ratio	0.72		0.86					0.92	0.36		0.97	0.79
Uniform Delay, d1	12.5		13.6					16.0	12.2		16.4	14.9
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	1.5		10.2					10.9	0.1		18.3	6.9
Delay (s)	14.0		23.8					26.9	12.3		34.8	21.9
Level of Service	B		C					C	B		C	C
Approach Delay (s)		17.6			0.0			22.2			28.6	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	52.6	Sum of lost time (s)	10.9
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		

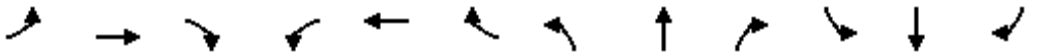
c Critical Lane Group



Movement	EBL	EBR	NBL2	NBL	SER	SER2
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	8	8	10	31	17	10
Future Volume (vph)	8	8	10	31	17	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	8	11	33	18	11

Direction, Lane #	EB 1	NB 1	NB 2	SE 1	SE 2
Volume Total (vph)	16	11	33	18	11
Volume Left (vph)	8	11	0	0	0
Volume Right (vph)	8	0	0	0	11
Hadj (s)	-0.15	0.55	0.05	0.05	-0.65
Departure Headway (s)	3.9	5.1	4.6	4.6	3.9
Degree Utilization, x	0.02	0.02	0.04	0.02	0.01
Capacity (veh/h)	898	692	768	773	912
Control Delay (s)	7.0	7.0	6.6	6.5	5.8
Approach Delay (s)	7.0	6.7		6.2	
Approach LOS	A	A		A	

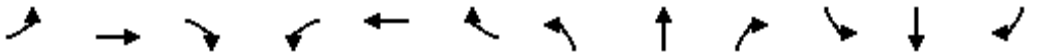
Intersection Summary				
Delay	6.6			
Level of Service	A			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	153	1	1	105	20	0	1	1	24	1	22
Future Volume (vph)	23	153	1	1	105	20	0	1	1	24	1	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00		0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568		1720		1752	1845	1568
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00		1.00		0.76	1.00	1.00
Satd. Flow (perm)	3579	3505	1568	1845	3505	1568		1720		1396	1845	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	24	161	1	1	111	21	0	1	1	25	1	23
RTOR Reduction (vph)	0	0	1	0	0	17	0	1	0	0	0	13
Lane Group Flow (vph)	24	161	0	1	111	4	0	1	0	25	1	10
Turn Type	Perm	NA	Perm	Perm	NA	Perm		NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	3.9	3.9	3.9	3.9	3.9	3.9		10.0		10.0	10.0	10.0
Effective Green, g (s)	3.9	3.9	3.9	3.9	3.9	3.9		10.0		10.0	10.0	10.0
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.17	0.17		0.44		0.44	0.44	0.44
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	609	596	267	314	596	267		751		609	805	684
v/s Ratio Prot		c0.05			0.03			0.00			0.00	
v/s Ratio Perm	0.01		0.00	0.00		0.00				c0.02		0.01
v/c Ratio	0.04	0.27	0.00	0.00	0.19	0.01		0.00		0.04	0.00	0.01
Uniform Delay, d1	7.9	8.3	7.9	7.9	8.1	7.9		3.6		3.7	3.6	3.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.2	0.0	0.0	0.2	0.0		0.0		0.0	0.0	0.0
Delay (s)	8.0	8.5	7.9	7.9	8.3	7.9		3.6		3.7	3.6	3.7
Level of Service	A	A	A	A	A	A		A		A	A	A
Approach Delay (s)		8.4			8.2			3.6			3.7	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.11		
Actuated Cycle Length (s)	22.9	Sum of lost time (s)	9.0
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		

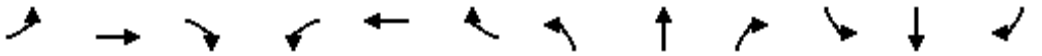
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	102	50	18	84	16	21	20	9	16	16	19
Future Volume (vph)	26	102	50	18	84	16	21	20	9	16	16	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	1845	1568	1752	1845	2760
Flt Permitted	0.82	1.00	1.00	0.82	1.00	1.00	0.95	1.00	1.00	0.74	1.00	1.00
Satd. Flow (perm)	1506	3505	1568	1506	5036	1568	3400	1845	1568	1372	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	27	107	53	19	88	17	22	21	9	17	17	20
RTOR Reduction (vph)	0	0	44	0	0	14	0	0	7	0	0	16
Lane Group Flow (vph)	27	107	9	19	88	3	22	21	2	17	17	4
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	4.9	4.9	4.9	4.9	4.9	4.9	6.0	6.0	6.0	6.1	6.1	6.1
Effective Green, g (s)	4.9	4.9	4.9	4.9	4.9	4.9	6.0	6.0	6.0	6.1	6.1	6.1
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.20	0.20	0.20	0.20	0.20	0.20
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	241	563	251	241	809	251	668	362	308	274	369	552
v/s Ratio Prot		c0.03			0.02		0.01	c0.01			0.01	
v/s Ratio Perm	0.02		0.01	0.01		0.00			0.00	c0.01		0.00
v/c Ratio	0.11	0.19	0.03	0.08	0.11	0.01	0.03	0.06	0.01	0.06	0.05	0.01
Uniform Delay, d1	10.9	11.1	10.8	10.9	10.9	10.8	9.9	10.0	9.9	9.9	9.9	9.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0
Delay (s)	11.1	11.2	10.9	11.0	11.0	10.8	9.9	10.0	9.9	10.0	9.9	9.8
Level of Service	B	B	B	B	B	B	A	B	A	A	A	A
Approach Delay (s)		11.1			11.0			10.0			9.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.10		
Actuated Cycle Length (s)	30.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		

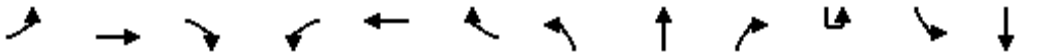
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	85	3	19	97	16	2	1	9	16	1	19
Future Volume (vph)	26	85	3	19	97	16	2	1	9	16	1	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	5011		1752	5036	1568	1752	1845	1568	1752	1845	2760
Flt Permitted	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.76	1.00	1.00
Satd. Flow (perm)	1845	5011		1845	5036	1568	1752	1845	1568	1397	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	27	89	3	20	102	17	2	1	9	17	1	20
RTOR Reduction (vph)	0	3	0	0	0	15	0	0	7	0	0	16
Lane Group Flow (vph)	27	89	0	20	102	2	2	1	2	17	1	4
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	3.4	3.4		3.4	3.4	3.4	5.8	5.8	5.8	6.1	6.1	6.1
Effective Green, g (s)	3.4	3.4		3.4	3.4	3.4	5.8	5.8	5.8	6.1	6.1	6.1
Actuated g/C Ratio	0.12	0.12		0.12	0.12	0.12	0.20	0.20	0.20	0.21	0.21	0.21
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	217	591		217	594	185	352	371	315	295	390	584
v/s Ratio Prot		0.02			c0.02		0.00	0.00			0.00	
v/s Ratio Perm	0.01			0.01		0.00			c0.00	c0.01		0.00
v/c Ratio	0.12	0.15		0.09	0.17	0.01	0.01	0.00	0.01	0.06	0.00	0.01
Uniform Delay, d1	11.4	11.4		11.3	11.4	11.2	9.2	9.2	9.2	9.1	9.0	9.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1		0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Delay (s)	11.6	11.5		11.5	11.6	11.2	9.2	9.2	9.2	9.1	9.0	9.0
Level of Service	B	B		B	B	B	A	A	A	A	A	A
Approach Delay (s)		11.5			11.5			9.2			9.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.06		
Actuated Cycle Length (s)	28.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	38	44	19	115	72	212	11	1308	39	17	337	1394
Future Volume (vph)	38	44	19	115	72	212	11	1308	39	17	337	1394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00		0.97	0.91
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3400	5036	1534	3400	5036	1536	3400	5036	1539		3400	5036
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3400	5036	1534	3400	5036	1536	3400	5036	1539		3400	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	40	46	20	121	76	223	12	1377	41	18	355	1467
RTOR Reduction (vph)	0	0	18	0	0	192	0	0	25	0	0	0
Lane Group Flow (vph)	40	46	2	121	76	31	12	1377	16	0	373	1467
Confl. Peds. (#/hr)			5			5			5			
Confl. Bikes (#/hr)			2			2			2			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases			4			8			2			
Actuated Green, G (s)	1.8	7.0	7.0	4.0	9.2	9.2	0.8	25.9	25.9		10.3	35.4
Effective Green, g (s)	1.8	7.0	7.0	4.0	9.2	9.2	0.8	25.9	25.9		10.3	35.4
Actuated g/C Ratio	0.03	0.11	0.11	0.06	0.14	0.14	0.01	0.40	0.40		0.16	0.54
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	93	540	164	208	710	216	41	2000	611		537	2734
v/s Ratio Prot	0.01	0.01		c0.04	0.02		0.00	c0.27			c0.11	0.29
v/s Ratio Perm			0.00			c0.02			0.01			
v/c Ratio	0.43	0.09	0.01	0.58	0.11	0.15	0.29	0.69	0.03		0.69	0.54
Uniform Delay, d1	31.2	26.2	26.0	29.8	24.4	24.6	31.9	16.3	12.0		26.0	9.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.2	0.1	0.0	4.1	0.1	0.3	3.9	1.0	0.0		3.9	0.2
Delay (s)	34.4	26.3	26.0	33.9	24.5	24.9	35.9	17.3	12.0		29.8	9.8
Level of Service	C	C	C	C	C	C	D	B	B		C	A
Approach Delay (s)		29.3			27.4			17.3				13.7
Approach LOS		C			C			B				B

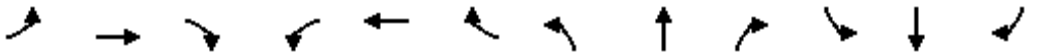
Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	65.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	46
Future Volume (vph)	46
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1540
Flt Permitted	1.00
Satd. Flow (perm)	1540
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	48
RTOR Reduction (vph)	22
Lane Group Flow (vph)	26
Confl. Peds. (#/hr)	5
Confl. Bikes (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	35.4
Effective Green, g (s)	35.4
Actuated g/C Ratio	0.54
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	836
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.03
Uniform Delay, d1	6.9
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	6.9
Level of Service	A
Approach Delay (s)	
Approach LOS	

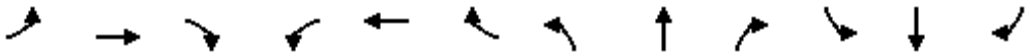
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	134	228	0	150	5	0	0	1	12	0	194
Future Volume (Veh/h)	58	134	228	0	150	5	0	0	1	12	0	194
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	61	141	240	0	158	5	0	0	1	13	0	204
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	163			381			462	546	190	354	664	82
vC1, stage 1 conf vol							383	383		160	160	
vC2, stage 2 conf vol							79	163		194	503	
vCu, unblocked vol	163			381			462	546	190	354	664	82
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			100	100	100	98	100	79
cM capacity (veh/h)	1406			1167			448	478	816	610	431	959

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	61	94	287	0	105	58	1	13	204
Volume Left	61	0	0	0	0	0	0	13	0
Volume Right	0	0	240	0	0	5	1	0	204
cSH	1406	1700	1700	1700	1700	1700	816	610	959
Volume to Capacity	0.04	0.06	0.17	0.00	0.06	0.03	0.00	0.02	0.21
Queue Length 95th (ft)	3	0	0	0	0	0	0	2	20
Control Delay (s)	7.7	0.0	0.0	0.0	0.0	0.0	9.4	11.0	9.8
Lane LOS	A						A	B	A
Approach Delay (s)	1.1			0.0			9.4	9.8	
Approach LOS							A	A	

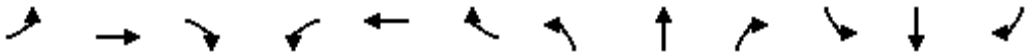
Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	31.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	96	42	12	76	6	70	3	14	9	3	8
Future Volume (Veh/h)	8	96	42	12	76	6	70	3	14	9	3	8
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	101	44	13	80	6	74	3	15	9	3	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	222	191	6	265	180	3	11			18		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	222	191	6	265	180	3	11			18		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	85	96	98	88	99	95			99		
cM capacity (veh/h)	619	664	1072	541	674	1076	1599			1590		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	8	67	78	13	53	33	74	3	15	9	2	9
Volume Left	8	0	0	13	0	0	74	0	0	9	0	0
Volume Right	0	0	44	0	0	6	0	0	15	0	0	8
cSH	619	664	847	541	674	723	1599	1700	1700	1590	1700	1700
Volume to Capacity	0.01	0.10	0.09	0.02	0.08	0.05	0.05	0.00	0.01	0.01	0.00	0.01
Queue Length 95th (ft)	1	8	8	2	6	4	4	0	0	0	0	0
Control Delay (s)	10.9	11.0	9.7	11.8	10.8	10.2	7.4	0.0	0.0	7.3	0.0	0.0
Lane LOS	B	B	A	B	B	B	A			A		
Approach Delay (s)	10.3			10.7			5.9			3.3		
Approach LOS	B			B								

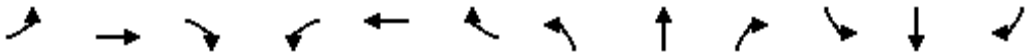
Intersection Summary					
Average Delay	8.9				
Intersection Capacity Utilization	27.2%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	43	29	46	3	28	3	34	23	11	3	20	32
Future Volume (vph)	43	29	46	3	28	3	34	23	11	3	20	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	45	31	48	3	29	3	36	24	12	3	21	34

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	45	79	3	32	36	36	3	55
Volume Left (vph)	45	0	3	0	36	0	3	0
Volume Right (vph)	0	48	0	3	0	12	0	34
Hadj (s)	0.55	-0.37	0.55	-0.01	0.55	-0.18	0.55	-0.38
Departure Headway (s)	5.4	4.5	5.5	4.9	5.5	4.7	5.5	4.6
Degree Utilization, x	0.07	0.10	0.00	0.04	0.05	0.05	0.00	0.07
Capacity (veh/h)	651	778	633	707	634	728	627	756
Control Delay (s)	7.6	6.8	7.3	6.9	7.6	6.8	7.3	6.7
Approach Delay (s)	7.1		7.0		7.2		6.7	
Approach LOS	A		A		A		A	

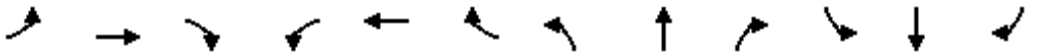
Intersection Summary				
Delay	7.0			
Level of Service	A			
Intersection Capacity Utilization	24.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	55	0	1307	18	53	1478	15
Future Volume (Veh/h)	0	0	0	0	0	55	0	1307	18	53	1478	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	58	0	1376	19	56	1556	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								540			840	
pX, platoon unblocked	0.89	0.89	0.83	0.89	0.89	0.87	0.83			0.87		
vC, conflicting volume	2193	3071	527	2016	3070	468	1572			1395		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	946	1934	0	748	1933	0	955			947		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	94	100			91		
cM capacity (veh/h)	167	52	893	248	52	945	586			624		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	0	58	550	550	294	56	622	622	327
Volume Left	0	0	0	0	0	56	0	0	0
Volume Right	0	58	0	0	19	0	0	0	16
cSH	1700	945	1700	1700	1700	624	1700	1700	1700
Volume to Capacity	0.00	0.06	0.32	0.32	0.17	0.09	0.37	0.37	0.19
Queue Length 95th (ft)	0	5	0	0	0	7	0	0	0
Control Delay (s)	0.0	9.1	0.0	0.0	0.0	11.3	0.0	0.0	0.0
Lane LOS	A	A				B			
Approach Delay (s)	0.0	9.1	0.0			0.4			
Approach LOS	A	A							

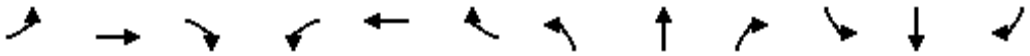
Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	35.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	1	1	10	2	27	3	1270	9	50	1403	20
Future Volume (vph)	28	1	1	10	2	27	3	1270	9	50	1403	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.86		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1706		1752	1586		1752	5036	1568	1752	5036	1568
Flt Permitted	1.00	1.00		0.95	1.00		0.15	1.00	1.00	0.18	1.00	1.00
Satd. Flow (perm)	1845	1706		1752	1586		272	5036	1568	328	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	29	1	1	11	2	28	3	1337	9	53	1477	21
RTOR Reduction (vph)	0	1	0	0	27	0	0	0	3	0	0	8
Lane Group Flow (vph)	29	1	0	11	3	0	3	1337	6	53	1477	13
Turn Type	Perm	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2		2	6		6
Actuated Green, G (s)	2.3	2.3		2.4	2.4		29.4	29.4	29.4	29.4	29.4	29.4
Effective Green, g (s)	2.3	2.3		2.4	2.4		29.4	29.4	29.4	29.4	29.4	29.4
Actuated g/C Ratio	0.05	0.05		0.05	0.05		0.62	0.62	0.62	0.62	0.62	0.62
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	89	82		88	79		168	3110	968	202	3110	968
v/s Ratio Prot		0.00		c0.01	0.00			0.27			c0.29	
v/s Ratio Perm	c0.02						0.01		0.00	0.16		0.01
v/c Ratio	0.33	0.01		0.12	0.04		0.02	0.43	0.01	0.26	0.47	0.01
Uniform Delay, d1	21.9	21.6		21.6	21.5		3.5	4.7	3.5	4.2	4.9	3.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.1		0.6	0.2		0.0	0.1	0.0	0.7	0.1	0.0
Delay (s)	24.0	21.6		22.2	21.7		3.6	4.8	3.5	4.8	5.0	3.5
Level of Service	C	C		C	C		A	A	A	A	A	A
Approach Delay (s)		23.9			21.9			4.8			5.0	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	47.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		

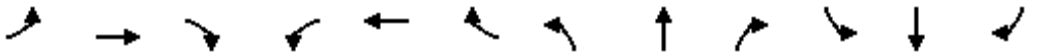
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	2	1	1	1	11	1	11	1	13	73	9
Future Volume (vph)	9	2	1	1	1	11	1	11	1	13	73	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	2	1	1	1	12	1	12	1	14	77	9

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	9	3	1	13	1	13	14	86
Volume Left (vph)	9	0	1	0	1	0	14	0
Volume Right (vph)	0	1	0	12	0	1	0	9
Hadj (s)	0.55	-0.18	0.55	-0.60	0.55	0.00	0.55	-0.02
Departure Headway (s)	5.3	4.6	5.3	4.2	5.2	4.6	5.1	4.5
Degree Utilization, x	0.01	0.00	0.00	0.02	0.00	0.02	0.02	0.11
Capacity (veh/h)	660	756	651	830	681	762	686	777
Control Delay (s)	7.2	6.4	7.1	6.0	7.0	6.5	7.0	6.9
Approach Delay (s)	7.0		6.1		6.5		6.9	
Approach LOS	A		A		A		A	

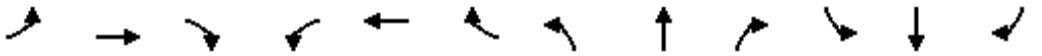
Intersection Summary				
Delay	6.8			
Level of Service	A			
Intersection Capacity Utilization	21.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	10	21	57	9	277	15	803	105	395	685	263
Future Volume (vph)	166	10	21	57	9	277	15	803	105	395	685	263
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	175	11	22	60	9	292	16	845	111	416	721	277
RTOR Reduction (vph)	0	0	19	0	0	262	0	0	78	0	0	105
Lane Group Flow (vph)	175	11	3	60	9	30	16	845	33	416	721	172
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	13.4	13.4	13.4	9.1	9.1	9.1	1.9	26.6	26.6	22.6	47.3	47.3
Effective Green, g (s)	13.4	13.4	13.4	9.1	9.1	9.1	1.9	26.6	26.6	22.6	47.3	47.3
Actuated g/C Ratio	0.15	0.15	0.15	0.10	0.10	0.10	0.02	0.30	0.30	0.25	0.53	0.53
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	261	275	234	177	187	159	37	1039	464	441	1848	826
v/s Ratio Prot	c0.10	0.01		c0.03	0.00		0.01	c0.24		c0.24	0.21	
v/s Ratio Perm			0.00			0.02			0.02			0.11
v/c Ratio	0.67	0.04	0.01	0.34	0.05	0.19	0.43	0.81	0.07	0.94	0.39	0.21
Uniform Delay, d1	36.1	32.6	32.5	37.5	36.4	36.9	43.4	29.2	22.7	32.9	12.6	11.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.6	0.1	0.0	1.1	0.1	0.6	7.9	5.0	0.1	28.8	0.1	0.1
Delay (s)	42.7	32.7	32.5	38.6	36.5	37.5	51.3	34.2	22.7	61.7	12.8	11.4
Level of Service	D	C	C	D	D	D	D	C	C	E	B	B
Approach Delay (s)		41.1			37.6			33.2			26.9	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	89.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

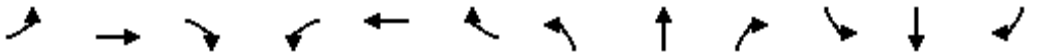
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	1	10	17	1	120	29	768	35	203	511	97
Future Volume (vph)	62	1	10	17	1	120	29	768	35	203	511	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.89	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1736			1539	1490	1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.89	1.00	0.45	1.00	1.00	0.31	1.00	1.00
Satd. Flow (perm)		1736			1389	1490	833	3505	1568	1121	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	65	1	11	18	1	126	31	808	37	214	538	102
RTOR Reduction (vph)	0	10	0	0	48	65	0	0	17	0	0	46
Lane Group Flow (vph)	0	67	0	0	25	7	31	808	20	214	538	56
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		4.5			5.2	5.2	27.7	27.7	27.7	27.7	27.7	27.7
Effective Green, g (s)		4.5			5.2	5.2	27.7	27.7	27.7	27.7	27.7	27.7
Actuated g/C Ratio		0.09			0.10	0.10	0.54	0.54	0.54	0.54	0.54	0.54
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		153			141	152	453	1907	853	610	1907	853
v/s Ratio Prot		c0.04						c0.23			0.15	
v/s Ratio Perm					c0.02	0.00	0.04		0.01	0.19		0.04
v/c Ratio		0.44			0.17	0.05	0.07	0.42	0.02	0.35	0.28	0.07
Uniform Delay, d1		22.0			20.9	20.6	5.5	6.9	5.4	6.5	6.2	5.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.0			0.6	0.1	0.1	0.2	0.0	0.4	0.1	0.0
Delay (s)		24.0			21.5	20.7	5.6	7.0	5.4	6.9	6.3	5.5
Level of Service		C			C	C	A	A	A	A	A	A
Approach Delay (s)		24.0			21.1			6.9			6.4	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	50.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

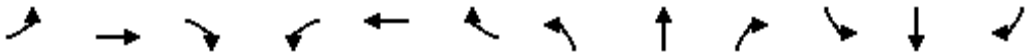
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	614	399	0	0	301	218	0	1	0	253	2	285
Future Volume (vph)	614	399	0	0	301	218	0	1	0	253	2	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95			1.00	1.00		1.00			1.00	0.88
Frt	1.00	1.00			1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		1.00			0.95	1.00
Satd. Flow (prot)	3400	3505			1845	1568		1845			1757	2760
Flt Permitted	0.52	1.00			1.00	1.00		1.00			0.95	1.00
Satd. Flow (perm)	1850	3505			1845	1568		1845			1757	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	646	420	0	0	317	229	0	1	0	266	2	300
RTOR Reduction (vph)	0	0	0	0	0	118	0	0	0	0	0	231
Lane Group Flow (vph)	646	420	0	0	317	111	0	1	0	0	268	69
Turn Type	Perm	NA	Perm		NA	Perm		NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	32.9	32.9			32.9	32.9		5.7			15.7	15.7
Effective Green, g (s)	32.9	32.9			32.9	32.9		5.7			15.7	15.7
Actuated g/C Ratio	0.49	0.49			0.49	0.49		0.08			0.23	0.23
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	897	1700			895	760		155			406	639
v/s Ratio Prot		0.12			0.17			c0.00			c0.15	
v/s Ratio Perm	c0.35					0.07						0.03
v/c Ratio	0.72	0.25			0.35	0.15		0.01			0.66	0.11
Uniform Delay, d1	13.8	10.2			10.8	9.7		28.5			23.6	20.5
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	2.9	0.1			0.2	0.1		0.0			4.0	0.1
Delay (s)	16.7	10.3			11.1	9.8		28.5			27.6	20.6
Level of Service	B	B			B	A		C			C	C
Approach Delay (s)		14.2			10.5			28.5			23.9	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	67.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	617	1	1	495	52	1	1	1	53	1	21
Future Volume (Veh/h)	28	617	1	1	495	52	1	1	1	53	1	21
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	29	649	1	1	521	55	1	1	1	56	1	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	576			650			1280	1286	650	1260	1258	548
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	576			650			1280	1286	650	1260	1258	548
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			99	99	100	61	99	96
cM capacity (veh/h)	992			931			132	159	468	142	165	534

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	679	577	3	79
Volume Left	29	1	1	56
Volume Right	1	55	1	22
cSH	992	931	188	179
Volume to Capacity	0.03	0.00	0.02	0.44
Queue Length 95th (ft)	2	0	1	51
Control Delay (s)	0.8	0.0	24.5	40.0
Lane LOS	A	A	C	E
Approach Delay (s)	0.8	0.0	24.5	40.0
Approach LOS			C	E

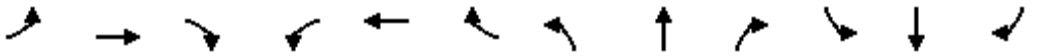
Intersection Summary				
Average Delay	2.8			
Intersection Capacity Utilization	69.2%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	223	1112	1722	401	0	2036
Future Volume (vph)	223	1112	1722	401	0	2036
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	3439			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	3439			5085
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	235	1171	1813	422	0	2143
RTOR Reduction (vph)	0	21	17	0	0	0
Lane Group Flow (vph)	235	1150	2218	0	0	2143
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	38.4	38.4	71.7			71.7
Effective Green, g (s)	38.4	38.4	71.7			71.7
Actuated g/C Ratio	0.32	0.32	0.60			0.60
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1098	891	2054			3038
v/s Ratio Prot	0.07		c0.64			0.42
v/s Ratio Perm		c0.41				
v/c Ratio	0.21	1.29	1.08			0.71
Uniform Delay, d1	29.8	40.8	24.1			16.8
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	139.2	45.3			0.6
Delay (s)	29.8	180.0	69.5			17.4
Level of Service	C	F	E			B
Approach Delay (s)	154.9		69.5			17.4
Approach LOS	F		E			B

Intersection Summary			
HCM 2000 Control Delay	71.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	107.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	114	205	435	317	218	523	1553	405	152	946	56
Future Volume (vph)	110	114	205	435	317	218	523	1553	405	152	946	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	112	116	209	444	323	222	534	1585	413	155	965	57
RTOR Reduction (vph)	0	0	39	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	112	116	170	444	323	222	534	1585	413	155	965	57
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	9.3	11.5	35.3	17.4	19.6	120.0	23.8	62.3	120.0	10.8	49.3	120.0
Effective Green, g (s)	9.3	11.5	35.3	17.4	19.6	120.0	23.8	62.3	120.0	10.8	49.3	120.0
Actuated g/C Ratio	0.08	0.10	0.29	0.14	0.16	1.00	0.20	0.52	1.00	0.09	0.41	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	263	335	537	493	822	1568	651	2614	1568	306	2068	1568
v/s Ratio Prot	0.03	0.03	0.06	c0.13	c0.06		c0.16	c0.31		0.05	0.19	
v/s Ratio Perm			0.04			0.14			0.26			0.04
v/c Ratio	0.43	0.35	0.32	0.90	0.39	0.14	0.82	0.61	0.26	0.51	0.47	0.04
Uniform Delay, d1	52.8	50.7	33.0	50.4	44.9	0.0	46.1	20.2	0.0	52.1	25.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.18	1.19	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.6	0.3	19.4	0.3	0.2	4.9	0.6	0.2	1.3	0.8	0.0
Delay (s)	53.9	51.4	33.3	69.8	45.2	0.2	59.4	24.8	0.2	53.4	26.5	0.0
Level of Service	D	D	C	E	D	A	E	C	A	D	C	A
Approach Delay (s)		43.4			46.2			28.1			28.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	354	0	2199	121	113	843	641	0	0
Future Volume (vph)	0	354	0	2199	121	113	843	641	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.94			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4709			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4709			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	373	0	2315	127	119	887	675	0	0
RTOR Reduction (vph)	0	31	0	0	55	0	0	0	0	0
Lane Group Flow (vph)	0	342	0	2315	72	119	1562	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		15.7		34.0	34.0	15.7	60.0			
Effective Green, g (s)		15.7		34.0	34.0	15.7	60.0			
Actuated g/C Ratio		0.26		0.57	0.57	0.26	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		417		2853	888	458	4709			
v/s Ratio Prot		c0.21		c0.46		0.07	0.33			
v/s Ratio Perm					0.05					
v/c Ratio		0.82		0.81	0.08	0.26	0.33			
Uniform Delay, d1		20.8		10.4	5.9	17.5	0.0			
Progression Factor		1.00		1.00	1.00	0.70	1.00			
Incremental Delay, d2		11.6		2.6	0.2	0.1	0.0			
Delay (s)		32.5		13.1	6.1	12.4	0.0			
Level of Service		C		B	A	B	A			
Approach Delay (s)	32.5			12.7			0.9		0.0	
Approach LOS	C			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		

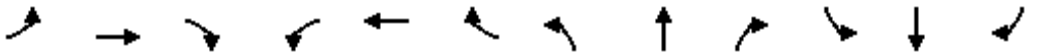
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	144	1030	1404	488	0	913
Future Volume (vph)	144	1030	1404	488	0	913
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.96			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3369			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3369			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	152	1084	1478	514	0	961
RTOR Reduction (vph)	0	35	39	0	0	0
Lane Group Flow (vph)	152	1049	1953	0	0	961
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1873			2800
v/s Ratio Prot	0.04		c0.58			0.19
v/s Ratio Perm		c0.38				
v/c Ratio	0.13	1.14	1.04			0.34
Uniform Delay, d1	20.9	30.0	20.0			10.9
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	75.6	33.0			0.0
Delay (s)	20.9	105.6	52.9			11.0
Level of Service	C	F	D			B
Approach Delay (s)	95.2		52.9			11.0
Approach LOS	F		D			B

Intersection Summary			
HCM 2000 Control Delay	55.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	98.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	0	239	0	0	0	0	1114	313	0	680	456
Future Volume (vph)	790	0	239	0	0	0	0	1114	313	0	680	456
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	832	0	252	0	0	0	0	1173	329	0	716	480
RTOR Reduction (vph)	0	0	40	0	0	0	0	0	197	0	0	288
Lane Group Flow (vph)	832	0	212	0	0	0	0	1173	132	0	716	192
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	15.2		15.2					17.4	17.4		17.4	17.4
Effective Green, g (s)	15.2		15.2					17.4	17.4		17.4	17.4
Actuated g/C Ratio	0.35		0.35					0.40	0.40		0.40	0.40
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1188		547					1402	627		1402	627
v/s Ratio Prot	c0.24							c0.33			0.20	
v/s Ratio Perm			0.13						0.08			0.12
v/c Ratio	0.70		0.39					0.84	0.21		0.51	0.31
Uniform Delay, d1	12.2		10.6					11.8	8.5		9.8	8.9
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	1.5		0.2					4.3	0.1		0.1	0.1
Delay (s)	13.7		10.8					16.1	8.6		10.0	9.0
Level of Service	B		B					B	A		A	A
Approach Delay (s)		13.1			0.0			14.4			9.6	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	43.5	Sum of lost time (s)	10.9
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

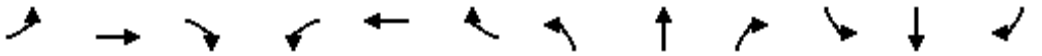
c Critical Lane Group



Movement	EBL	EBR	NBL2	NBL	SER	SER2
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	13	13	10	37	27	27
Future Volume (vph)	13	13	10	37	27	27
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	14	14	11	39	28	28

Direction, Lane #	EB 1	NB 1	NB 2	SE 1	SE 2
Volume Total (vph)	28	11	39	28	28
Volume Left (vph)	14	11	0	0	0
Volume Right (vph)	14	0	0	0	28
Hadj (s)	-0.15	0.55	0.05	0.05	-0.65
Departure Headway (s)	4.0	5.1	4.6	4.6	3.9
Degree Utilization, x	0.03	0.02	0.05	0.04	0.03
Capacity (veh/h)	877	685	758	766	892
Control Delay (s)	7.1	7.0	6.7	6.6	5.9
Approach Delay (s)	7.1	6.8		6.2	
Approach LOS	A	A		A	

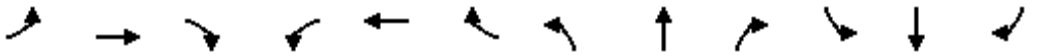
Intersection Summary			
Delay	6.6		
Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	181	1	1	312	86	1	2	2	13	1	57
Future Volume (vph)	95	181	1	1	312	86	1	2	2	13	1	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568		1728		1752	1845	1568
Flt Permitted	0.55	1.00	1.00	0.63	1.00	1.00		0.94		0.75	1.00	1.00
Satd. Flow (perm)	1981	3505	1568	1165	3505	1568		1646		1392	1845	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	100	191	1	1	328	91	1	2	2	14	1	60
RTOR Reduction (vph)	0	0	1	0	0	60	0	1	0	0	0	44
Lane Group Flow (vph)	100	191	0	1	328	31	0	4	0	14	1	16
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	7.5	7.5	7.5	7.5	7.5	7.5		5.8		5.8	5.8	5.8
Effective Green, g (s)	7.5	7.5	7.5	7.5	7.5	7.5		5.8		5.8	5.8	5.8
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34	0.34		0.26		0.26	0.26	0.26
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	666	1178	527	391	1178	527		428		362	479	407
v/s Ratio Prot		0.05			c0.09						0.00	
v/s Ratio Perm	0.05		0.00	0.00		0.02		0.00		c0.01		0.01
v/c Ratio	0.15	0.16	0.00	0.00	0.28	0.06		0.01		0.04	0.00	0.04
Uniform Delay, d1	5.2	5.2	4.9	4.9	5.4	5.0		6.1		6.2	6.1	6.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.1	0.0	0.0	0.1	0.0		0.0		0.0	0.0	0.0
Delay (s)	5.3	5.3	4.9	4.9	5.5	5.1		6.1		6.2	6.1	6.2
Level of Service	A	A	A	A	A	A		A		A	A	A
Approach Delay (s)		5.3			5.4			6.1			6.2	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	22.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		

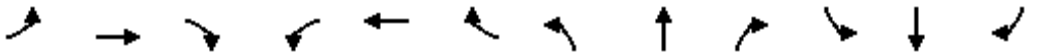
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	118	31	5	276	50	99	48	10	18	23	24
Future Volume (vph)	45	118	31	5	276	50	99	48	10	18	23	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	1845	1568	1752	1845	2760
Flt Permitted	0.57	1.00	1.00	0.67	1.00	1.00	0.95	1.00	1.00	0.72	1.00	1.00
Satd. Flow (perm)	1045	3505	1568	1242	5036	1568	3400	1845	1568	1335	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	47	124	33	5	291	53	104	51	11	19	24	25
RTOR Reduction (vph)	0	0	26	0	0	41	0	0	9	0	0	20
Lane Group Flow (vph)	47	124	7	5	291	12	104	51	2	19	24	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	7.5	7.5	7.5	7.5	7.5	7.5	6.6	6.6	6.6	6.1	6.1	6.1
Effective Green, g (s)	7.5	7.5	7.5	7.5	7.5	7.5	6.6	6.6	6.6	6.1	6.1	6.1
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.20	0.20	0.20	0.18	0.18	0.18
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	232	780	348	276	1120	348	665	361	307	241	333	499
v/s Ratio Prot		0.04			c0.06		c0.03	0.03			0.01	
v/s Ratio Perm	0.04		0.00	0.00		0.01			0.00	c0.01		0.00
v/c Ratio	0.20	0.16	0.02	0.02	0.26	0.03	0.16	0.14	0.01	0.08	0.07	0.01
Uniform Delay, d1	10.7	10.6	10.2	10.2	10.8	10.3	11.2	11.2	10.9	11.5	11.5	11.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1	0.0	0.0	0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.0
Delay (s)	11.1	10.7	10.3	10.3	10.9	10.3	11.4	11.4	10.9	11.6	11.5	11.3
Level of Service	B	B	B	B	B	B	B	B	B	B	B	B
Approach Delay (s)		10.7			10.8			11.3			11.5	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	33.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	30.2%	ICU Level of Service	A
Analysis Period (min)	15		

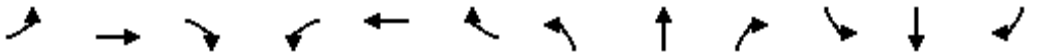
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	76	2	4	312	50	11	1	7	18	0	24
Future Volume (vph)	45	76	2	4	312	50	11	1	7	18	0	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00		0.88
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1752	5017		1752	5036	1568	1752	1845	1568	1752		2760
Flt Permitted	0.55	1.00		0.70	1.00	1.00	0.95	1.00	1.00	0.76		1.00
Satd. Flow (perm)	1007	5017		1289	5036	1568	1752	1845	1568	1397		2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	47	80	2	4	328	53	12	1	7	19	0	25
RTOR Reduction (vph)	0	2	0	0	0	41	0	0	6	0	0	20
Lane Group Flow (vph)	47	80	0	4	328	12	12	1	1	19	0	5
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm		Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	7.7	7.7		7.7	7.7	7.7	5.8	5.8	5.8	6.0		6.0
Effective Green, g (s)	7.7	7.7		7.7	7.7	7.7	5.8	5.8	5.8	6.0		6.0
Actuated g/C Ratio	0.23	0.23		0.23	0.23	0.23	0.18	0.18	0.18	0.18		0.18
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	234	1170		300	1175	365	307	324	275	254		501
v/s Ratio Prot		0.02			c0.07		c0.01	0.00				
v/s Ratio Perm	0.05			0.00		0.01			0.00	c0.01		0.00
v/c Ratio	0.20	0.07		0.01	0.28	0.03	0.04	0.00	0.00	0.07		0.01
Uniform Delay, d1	10.2	9.9		9.7	10.4	9.8	11.3	11.2	11.2	11.2		11.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.4	0.0		0.0	0.1	0.0	0.1	0.0	0.0	0.1		0.0
Delay (s)	10.6	9.9		9.7	10.5	9.8	11.3	11.2	11.2	11.3		11.1
Level of Service	B	A		A	B	A	B	B	B	B		B
Approach Delay (s)		10.1			10.4			11.3			11.2	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	33.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		

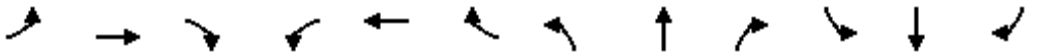
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	12	14	55	127	253	107	1306	25	141	730	115
Future Volume (vph)	65	12	14	55	127	253	107	1306	25	141	730	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	5036	1539	3400	5036	1538	3400	5036	1540	3400	5036	1540
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	5036	1539	3400	5036	1538	3400	5036	1540	3400	5036	1540
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	68	13	15	58	134	266	113	1375	26	148	768	121
RTOR Reduction (vph)	0	0	12	0	0	211	0	0	16	0	0	76
Lane Group Flow (vph)	68	13	3	58	134	55	113	1375	10	148	768	45
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	2.6	9.7	9.7	1.7	8.8	8.8	4.1	20.0	20.0	3.8	19.7	19.7
Effective Green, g (s)	2.6	9.7	9.7	1.7	8.8	8.8	4.1	20.0	20.0	3.8	19.7	19.7
Actuated g/C Ratio	0.05	0.18	0.18	0.03	0.17	0.17	0.08	0.38	0.38	0.07	0.37	0.37
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	166	918	280	108	833	254	262	1893	578	242	1864	570
v/s Ratio Prot	c0.02	0.00		0.02	0.03		0.03	c0.27		c0.04	0.15	
v/s Ratio Perm			0.00			c0.04			0.01			0.03
v/c Ratio	0.41	0.01	0.01	0.54	0.16	0.22	0.43	0.73	0.02	0.61	0.41	0.08
Uniform Delay, d1	24.6	17.8	17.8	25.4	19.0	19.2	23.4	14.3	10.4	24.0	12.4	10.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.0	0.0	5.1	0.1	0.4	1.1	1.4	0.0	4.5	0.1	0.1
Delay (s)	26.2	17.8	17.8	30.4	19.1	19.6	24.6	15.7	10.4	28.5	12.6	10.9
Level of Service	C	B	B	C	B	B	C	B	B	C	B	B
Approach Delay (s)		23.8			20.9			16.2			14.7	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	53.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

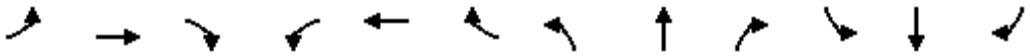
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	73	104	0	341	0	0	0	2	0	0	0
Future Volume (Veh/h)	0	73	104	0	341	0	0	0	2	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	77	109	0	359	0	0	0	2	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	359			186			311	490	93	400	545	180
vC1, stage 1 conf vol							132	132		359	359	
vC2, stage 2 conf vol							180	359		40	186	
vCu, unblocked vol	359			186			311	490	93	400	545	180
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1189			1379			658	525	943	558	507	829

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	0	51	135	0	180	180	2	0
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	109	0	0	0	2	0
cSH	1700	1700	1700	1700	1700	1700	943	1700
Volume to Capacity	0.00	0.03	0.08	0.00	0.11	0.11	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0
Lane LOS							A	A
Approach Delay (s)	0.0			0.0			8.8	0.0
Approach LOS							A	A

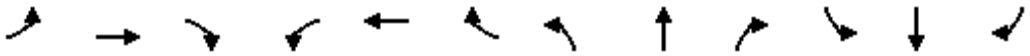
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	19.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	45	21	19	201	15	113	4	12	7	3	27
Future Volume (Veh/h)	7	45	21	19	201	15	113	4	12	7	3	27
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	7	47	22	20	212	16	119	4	13	7	3	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	395	286	16	303	287	4	31			17		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	395	286	16	303	287	4	31			17		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	92	98	96	63	99	92			100		
cM capacity (veh/h)	354	570	1057	538	570	1075	1573			1591		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	7	31	38	20	141	87	119	4	13	7	2	29
Volume Left	7	0	0	20	0	0	119	0	0	7	0	0
Volume Right	0	0	22	0	0	16	0	0	13	0	0	28
cSH	354	570	780	538	570	624	1573	1700	1700	1591	1700	1700
Volume to Capacity	0.02	0.05	0.05	0.04	0.25	0.14	0.08	0.00	0.01	0.00	0.00	0.02
Queue Length 95th (ft)	2	4	4	3	24	12	6	0	0	0	0	0
Control Delay (s)	15.4	11.7	9.8	12.0	13.4	11.7	7.5	0.0	0.0	7.3	0.0	0.0
Lane LOS	C	B	A	B	B	B	A			A		
Approach Delay (s)	11.1			12.7			6.5			1.3		
Approach LOS	B			B								

Intersection Summary					
Average Delay	9.9				
Intersection Capacity Utilization	27.3%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	31	21	31	3	145	3	45	32	3	6	13	45
Future Volume (vph)	31	21	31	3	145	3	45	32	3	6	13	45
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	33	22	33	3	153	3	47	34	3	6	14	47

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	33	55	3	156	47	37	6	61
Volume Left (vph)	33	0	3	0	47	0	6	0
Volume Right (vph)	0	33	0	3	0	3	0	47
Hadj (s)	0.55	-0.37	0.55	0.04	0.55	-0.01	0.55	-0.49
Departure Headway (s)	5.6	4.7	5.5	5.0	5.7	5.2	5.7	4.7
Degree Utilization, x	0.05	0.07	0.00	0.22	0.07	0.05	0.01	0.08
Capacity (veh/h)	626	741	627	696	601	662	593	723
Control Delay (s)	7.7	6.8	7.3	8.2	8.0	7.3	7.6	6.9
Approach Delay (s)	7.1		8.2		7.7		7.0	
Approach LOS	A		A		A		A	

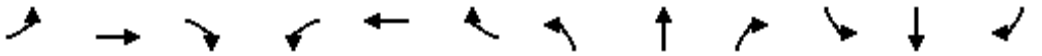
Intersection Summary				
Delay	7.6			
Level of Service	A			
Intersection Capacity Utilization	30.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	81	1349	9	14	804
Future Volume (Veh/h)	0	81	1349	9	14	804
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	85	1420	9	15	846
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			540			840
pX, platoon unblocked	0.88	0.85			0.85	
vC, conflicting volume	1736	478			1429	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	820	0			876	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	91			98	
cM capacity (veh/h)	268	916			644	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	85	568	568	293	15	282	282	282
Volume Left	0	0	0	0	15	0	0	0
Volume Right	85	0	0	9	0	0	0	0
cSH	916	1700	1700	1700	644	1700	1700	1700
Volume to Capacity	0.09	0.33	0.33	0.17	0.02	0.17	0.17	0.17
Queue Length 95th (ft)	8	0	0	0	2	0	0	0
Control Delay (s)	9.3	0.0	0.0	0.0	10.7	0.0	0.0	0.0
Lane LOS	A				B			
Approach Delay (s)	9.3	0.0			0.2			
Approach LOS	A							

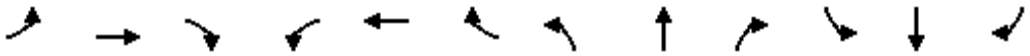
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	37.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	1	1	26	3	41	3	1286	9	14	778	11
Future Volume (vph)	32	1	1	26	3	41	3	1286	9	14	778	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.86		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1706		1752	1586		1752	5036	1568	1752	5036	1568
Flt Permitted	0.85	1.00		0.95	1.00		0.33	1.00	1.00	0.16	1.00	1.00
Satd. Flow (perm)	1570	1706		1752	1586		610	5036	1568	302	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	34	1	1	27	3	43	3	1354	9	15	819	12
RTOR Reduction (vph)	0	1	0	0	40	0	0	0	4	0	0	5
Lane Group Flow (vph)	34	1	0	27	6	0	3	1354	5	15	819	7
Turn Type	Perm	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2		2	6		6
Actuated Green, G (s)	4.7	4.7		3.5	3.5		27.7	27.7	27.7	27.7	27.7	27.7
Effective Green, g (s)	4.7	4.7		3.5	3.5		27.7	27.7	27.7	27.7	27.7	27.7
Actuated g/C Ratio	0.10	0.10		0.07	0.07		0.56	0.56	0.56	0.56	0.56	0.56
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	149	162		124	112		342	2823	879	169	2823	879
v/s Ratio Prot		0.00		c0.02	0.00			c0.27			0.16	
v/s Ratio Perm	c0.02						0.00		0.00	0.05		0.00
v/c Ratio	0.23	0.01		0.22	0.05		0.01	0.48	0.01	0.09	0.29	0.01
Uniform Delay, d1	20.7	20.2		21.7	21.4		4.8	6.5	4.8	5.0	5.7	4.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.0		0.9	0.2		0.0	0.1	0.0	0.2	0.1	0.0
Delay (s)	21.5	20.3		22.5	21.6		4.8	6.6	4.8	5.2	5.7	4.8
Level of Service	C	C		C	C		A	A	A	A	A	A
Approach Delay (s)		21.4			22.0			6.6			5.7	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	49.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

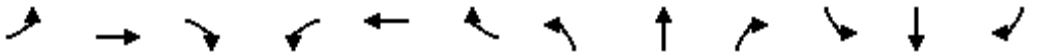
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	4	4	3	10	27	10	26	3	10	10	14
Future Volume (vph)	4	4	4	3	10	27	10	26	3	10	10	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	4	4	3	11	28	11	27	3	11	11	15

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	4	8	3	39	11	30	11	26
Volume Left (vph)	4	0	3	0	11	0	11	0
Volume Right (vph)	0	4	0	28	0	3	0	15
Hadj (s)	0.55	-0.30	0.55	-0.45	0.55	-0.02	0.55	-0.35
Departure Headway (s)	5.3	4.4	5.2	4.2	5.2	4.6	5.2	4.3
Degree Utilization, x	0.01	0.01	0.00	0.05	0.02	0.04	0.02	0.03
Capacity (veh/h)	671	791	665	824	676	759	673	816
Control Delay (s)	7.1	6.3	7.1	6.2	7.1	6.6	7.1	6.2
Approach Delay (s)	6.5		6.3		6.7		6.5	
Approach LOS	A		A		A		A	

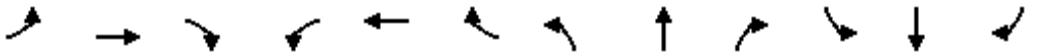
Intersection Summary				
Delay	6.5			
Level of Service	A			
Intersection Capacity Utilization	17.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	16	27	0	20	362	5	589	40	153	464	115
Future Volume (vph)	200	16	27	0	20	362	5	589	40	153	464	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1845	1568		1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	1845	1568		1845	1568	1752	3505	1568	1752	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	211	17	28	0	21	381	5	620	42	161	488	121
RTOR Reduction (vph)	0	0	23	0	0	242	0	0	30	0	0	74
Lane Group Flow (vph)	211	17	5	0	21	139	5	620	12	161	488	47
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	13.0	13.0	13.0		10.7	10.7	0.8	19.8	19.8	8.2	27.2	27.2
Effective Green, g (s)	13.0	13.0	13.0		10.7	10.7	0.8	19.8	19.8	8.2	27.2	27.2
Actuated g/C Ratio	0.19	0.19	0.19		0.15	0.15	0.01	0.28	0.28	0.12	0.39	0.39
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	326	344	292		283	240	20	995	445	206	1367	611
v/s Ratio Prot	c0.12	0.01			0.01		0.00	c0.18		c0.09	0.14	
v/s Ratio Perm			0.00			c0.09			0.01			0.03
v/c Ratio	0.65	0.05	0.02		0.07	0.58	0.25	0.62	0.03	0.78	0.36	0.08
Uniform Delay, d1	26.2	23.3	23.1		25.3	27.4	34.2	21.7	18.0	29.9	15.1	13.4
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	0.1	0.0		0.1	3.4	6.5	1.2	0.0	17.3	0.2	0.1
Delay (s)	30.6	23.3	23.2		25.4	30.8	40.6	22.9	18.0	47.2	15.2	13.4
Level of Service	C	C	C		C	C	D	C	B	D	B	B
Approach Delay (s)		29.3			30.5			22.8			21.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	69.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

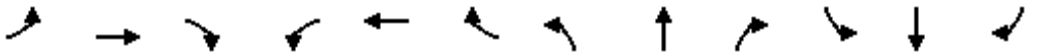
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	1	12	60	1	230	12	443	22	96	480	36
Future Volume (vph)	71	1	12	60	1	230	12	443	22	96	480	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.91	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1735			1566	1490	1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.83	1.00	0.46	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)		1735			1324	1490	855	3505	1568	1733	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	75	1	13	63	1	242	13	466	23	101	505	38
RTOR Reduction (vph)	0	11	0	0	74	120	0	0	14	0	0	24
Lane Group Flow (vph)	0	78	0	0	82	30	13	466	9	101	505	14
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		4.5			8.5	8.5	15.9	15.9	15.9	15.9	15.9	15.9
Effective Green, g (s)		4.5			8.5	8.5	15.9	15.9	15.9	15.9	15.9	15.9
Actuated g/C Ratio		0.11			0.20	0.20	0.38	0.38	0.38	0.38	0.38	0.38
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		184			265	298	320	1314	588	649	1314	588
v/s Ratio Prot		c0.05						0.13			c0.14	
v/s Ratio Perm					c0.06	0.02	0.02		0.01	0.06		0.01
v/c Ratio		0.43			0.31	0.10	0.04	0.35	0.01	0.16	0.38	0.02
Uniform Delay, d1		17.7			14.5	13.8	8.4	9.6	8.3	8.8	9.7	8.4
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.6			0.7	0.1	0.1	0.2	0.0	0.1	0.2	0.0
Delay (s)		19.3			15.1	14.0	8.5	9.7	8.3	8.9	9.9	8.4
Level of Service		B			B	B	A	A	A	A	A	A
Approach Delay (s)		19.3			14.6			9.6			9.6	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	42.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	40.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	367	246	0	0	466	105	1	3	1	170	1	398
Future Volume (vph)	367	246	0	0	466	105	1	3	1	170	1	398
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95			1.00	1.00		1.00			1.00	0.88
Frt	1.00	1.00			1.00	0.85		0.97			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		0.99			0.95	1.00
Satd. Flow (prot)	3400	3505			1845	1568		1777			1757	2760
Flt Permitted	0.32	1.00			1.00	1.00		0.41			0.95	1.00
Satd. Flow (perm)	1152	3505			1845	1568		743			1757	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	386	259	0	0	491	111	1	3	1	179	1	419
RTOR Reduction (vph)	0	0	0	0	0	66	0	1	0	0	0	328
Lane Group Flow (vph)	386	259	0	0	491	45	0	4	0	0	180	91
Turn Type	Perm	NA	Perm		NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	20.6	20.6			20.6	20.6		5.8			11.1	11.1
Effective Green, g (s)	20.6	20.6			20.6	20.6		5.8			11.1	11.1
Actuated g/C Ratio	0.40	0.40			0.40	0.40		0.11			0.22	0.22
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	465	1415			745	633		84			382	600
v/s Ratio Prot		0.07			0.27						c0.10	
v/s Ratio Perm	c0.34					0.03		c0.01				0.03
v/c Ratio	0.83	0.18			0.66	0.07		0.05			0.47	0.15
Uniform Delay, d1	13.6	9.8			12.3	9.3		20.1			17.4	16.1
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	11.9	0.1			2.1	0.0		0.2			0.9	0.1
Delay (s)	25.5	9.8			14.5	9.4		20.4			18.3	16.3
Level of Service	C	A			B	A		C			B	B
Approach Delay (s)		19.2			13.5			20.4			16.9	
Approach LOS		B			B			C			B	

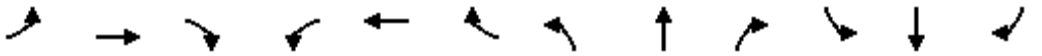
Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	51.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	387	3	3	550	52	3	3	3	37	3	19
Future Volume (Veh/h)	28	387	3	3	550	52	3	3	3	37	3	19
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	29	407	3	3	579	55	3	3	3	39	3	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	634			410			1100	1106	408	1084	1080	606
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	634			410			1100	1106	408	1084	1080	606
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			98	99	100	79	99	96
cM capacity (veh/h)	944			1143			174	202	641	186	210	495

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	439	637	9	62
Volume Left	29	3	3	39
Volume Right	3	55	3	20
cSH	944	1143	245	234
Volume to Capacity	0.03	0.00	0.04	0.26
Queue Length 95th (ft)	2	0	3	26
Control Delay (s)	0.9	0.1	20.2	25.8
Lane LOS	A	A	C	D
Approach Delay (s)	0.9	0.1	20.2	25.8
Approach LOS			C	D

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	53.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	399	321	494	416	321	641	1644	587	309	2119	169
Future Volume (vph)	136	399	321	494	416	321	641	1644	587	309	2119	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	151	443	357	549	462	357	712	1827	652	343	2354	188
RTOR Reduction (vph)	0	0	25	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	151	443	332	549	462	357	712	1827	652	343	2354	188
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	12.2	22.6	62.2	20.5	30.9	155.0	39.6	73.0	155.0	20.9	54.3	155.0
Effective Green, g (s)	12.2	22.6	62.2	20.5	30.9	155.0	39.6	73.0	155.0	20.9	54.3	155.0
Actuated g/C Ratio	0.08	0.15	0.40	0.13	0.20	1.00	0.26	0.47	1.00	0.13	0.35	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	267	511	697	449	1003	1568	839	2371	1568	458	1764	1568
v/s Ratio Prot	0.04	c0.13	0.12	c0.16	0.09		c0.22	0.36		0.10	c0.47	
v/s Ratio Perm			0.08			0.23			0.42			0.12
v/c Ratio	0.57	0.87	0.48	1.22	0.46	0.23	0.85	0.77	0.42	0.75	1.33	0.12
Uniform Delay, d1	68.8	64.7	34.3	67.2	54.7	0.0	54.9	34.0	0.0	64.5	50.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.7	14.4	0.5	118.8	0.3	0.3	8.0	2.5	0.8	6.6	154.5	0.2
Delay (s)	71.6	79.1	34.9	186.0	55.0	0.3	62.9	36.5	0.8	71.1	204.8	0.2
Level of Service	E	E	C	F	E	A	E	D	A	E	F	A
Approach Delay (s)		61.3			93.3			35.1			175.6	
Approach LOS		E			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	95.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	155.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	446	0	2273	92	292	1888	793	0	0
Future Volume (vph)	0	446	0	2273	92	292	1888	793	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.96			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4812			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4812			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	469	0	2393	97	307	1987	835	0	0
RTOR Reduction (vph)	0	22	0	0	35	0	0	0	0	0
Lane Group Flow (vph)	0	447	0	2393	62	307	2822	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		24.4		45.3	45.3	24.4	80.0			
Effective Green, g (s)		24.4		45.3	45.3	24.4	80.0			
Actuated g/C Ratio		0.30		0.57	0.57	0.30	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		486		2851	887	534	4812			
v/s Ratio Prot		c0.28		c0.48		0.18	0.59			
v/s Ratio Perm					0.04					
v/c Ratio		0.92		0.84	0.07	0.57	0.59			
Uniform Delay, d1		26.9		14.3	7.8	23.4	0.0			
Progression Factor		1.00		1.00	1.00	1.00	1.00			
Incremental Delay, d2		22.6		3.2	0.2	0.9	0.1			
Delay (s)		49.4		17.5	8.0	24.4	0.1			
Level of Service		D		B	A	C	A			
Approach Delay (s)	49.4			17.1			2.5		0.0	
Approach LOS	D			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

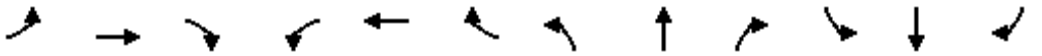
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	189	1080	1635	346	0	2003
Future Volume (vph)	189	1080	1635	346	0	2003
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3413			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3413			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	199	1137	1721	364	0	2108
RTOR Reduction (vph)	0	19	20	0	0	0
Lane Group Flow (vph)	199	1118	2065	0	0	2108
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1898			2800
v/s Ratio Prot	0.06		c0.61			0.42
v/s Ratio Perm		c0.41				
v/c Ratio	0.18	1.21	1.09			0.75
Uniform Delay, d1	21.2	30.0	20.0			15.2
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	106.5	49.1			1.0
Delay (s)	21.2	136.4	69.0			16.3
Level of Service	C	F	E			B
Approach Delay (s)	119.2		69.0			16.3
Approach LOS	F		E			B

Intersection Summary			
HCM 2000 Control Delay	61.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	102.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	963	0	476	0	0	0	0	1005	557	0	1214	996
Future Volume (vph)	963	0	476	0	0	0	0	1005	557	0	1214	996
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1014	0	501	0	0	0	0	1058	586	0	1278	1048
RTOR Reduction (vph)	0	0	33	0	0	0	0	0	360	0	0	644
Lane Group Flow (vph)	1014	0	468	0	0	0	0	1058	226	0	1278	404
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	19.7		19.7					19.2	19.2		19.2	19.2
Effective Green, g (s)	19.7		19.7					19.2	19.2		19.2	19.2
Actuated g/C Ratio	0.40		0.40					0.39	0.39		0.39	0.39
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1344		620					1351	604		1351	604
v/s Ratio Prot	0.30							0.30			c0.36	
v/s Ratio Perm			c0.30						0.14			0.26
v/c Ratio	0.75		0.76					0.78	0.37		0.95	0.67
Uniform Delay, d1	13.0		13.0					13.5	11.0		14.8	12.7
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	2.2		4.6					2.8	0.1		13.4	2.2
Delay (s)	15.1		17.6					16.3	11.1		28.2	14.9
Level of Service	B		B					B	B		C	B
Approach Delay (s)		16.0			0.0			14.4			22.2	
Approach LOS		B			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	49.8	Sum of lost time (s)	10.9
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

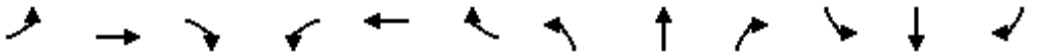
c Critical Lane Group



Movement	EBL	EBR	NBL2	NBL	SER	SER2
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	17	17	20	60	29	21
Future Volume (vph)	17	17	20	60	29	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	18	18	21	63	31	22

Direction, Lane #	EB 1	NB 1	NB 2	SE 1	SE 2
Volume Total (vph)	36	21	63	31	22
Volume Left (vph)	18	21	0	0	0
Volume Right (vph)	18	0	0	0	22
Hadj (s)	-0.15	0.55	0.05	0.05	-0.65
Departure Headway (s)	4.1	5.2	4.7	4.7	4.0
Degree Utilization, x	0.04	0.03	0.08	0.04	0.02
Capacity (veh/h)	855	682	755	757	880
Control Delay (s)	7.2	7.1	6.9	6.7	5.9
Approach Delay (s)	7.2	6.9		6.4	
Approach LOS	A	A		A	

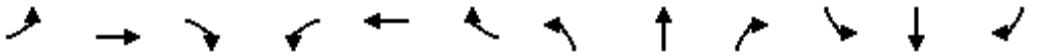
Intersection Summary			
Delay	6.8		
Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	287	1	2	162	28	1	1	1	45	2	44
Future Volume (vph)	46	287	1	2	162	28	1	1	1	45	2	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568		1733		1752	1845	1568
Flt Permitted	0.64	1.00	1.00	0.57	1.00	1.00		0.92		0.76	1.00	1.00
Satd. Flow (perm)	2304	3505	1568	1047	3505	1568		1614		1394	1845	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	48	302	1	2	171	29	1	1	1	47	2	46
RTOR Reduction (vph)	0	0	1	0	0	19	0	1	0	0	0	33
Lane Group Flow (vph)	48	302	0	2	171	10	0	2	0	47	2	13
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	7.5	7.5	7.5	7.5	7.5	7.5		6.3		6.3	6.3	6.3
Effective Green, g (s)	7.5	7.5	7.5	7.5	7.5	7.5		6.3		6.3	6.3	6.3
Actuated g/C Ratio	0.33	0.33	0.33	0.33	0.33	0.33		0.28		0.28	0.28	0.28
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	757	1152	515	344	1152	515		445		385	509	433
v/s Ratio Prot		c0.09			0.05						0.00	
v/s Ratio Perm	0.02		0.00	0.00		0.01		0.00		c0.03		0.01
v/c Ratio	0.06	0.26	0.00	0.01	0.15	0.02		0.01		0.12	0.00	0.03
Uniform Delay, d1	5.2	5.6	5.1	5.1	5.4	5.2		6.0		6.2	6.0	6.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.0	0.0	0.1	0.0		0.0		0.1	0.0	0.0
Delay (s)	5.3	5.7	5.1	5.2	5.5	5.2		6.0		6.3	6.0	6.0
Level of Service	A	A	A	A	A	A		A		A	A	A
Approach Delay (s)		5.7			5.4			6.0			6.2	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	22.8	Sum of lost time (s)	9.0
Intersection Capacity Utilization	29.6%	ICU Level of Service	A
Analysis Period (min)	15		

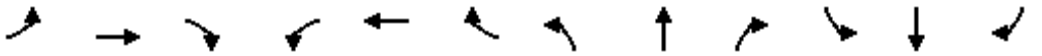
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	180	101	6	109	33	43	40	7	32	31	38
Future Volume (vph)	51	180	101	6	109	33	43	40	7	32	31	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	1845	1568	1752	1845	2760
Flt Permitted	0.68	1.00	1.00	0.63	1.00	1.00	0.95	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	1247	3505	1568	1167	5036	1568	3400	1845	1568	1346	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	54	189	106	6	115	35	45	42	7	34	33	40
RTOR Reduction (vph)	0	0	82	0	0	27	0	0	6	0	0	32
Lane Group Flow (vph)	54	189	24	6	115	8	45	42	1	34	33	8
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	7.5	7.5	7.5	7.5	7.5	7.5	6.3	6.3	6.3	6.4	6.4	6.4
Effective Green, g (s)	7.5	7.5	7.5	7.5	7.5	7.5	6.3	6.3	6.3	6.4	6.4	6.4
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.19	0.19	0.19	0.19	0.19	0.19
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	277	780	348	259	1120	348	635	344	293	255	350	524
v/s Ratio Prot		c0.05			0.02		0.01	c0.02			0.02	
v/s Ratio Perm	0.04		0.02	0.01		0.00			0.00	c0.03		0.00
v/c Ratio	0.19	0.24	0.07	0.02	0.10	0.02	0.07	0.12	0.00	0.13	0.09	0.01
Uniform Delay, d1	10.6	10.8	10.3	10.2	10.4	10.2	11.3	11.4	11.1	11.3	11.3	11.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.1	0.0
Delay (s)	11.0	10.9	10.4	10.3	10.5	10.3	11.3	11.6	11.2	11.6	11.4	11.1
Level of Service	B	B	B	B	B	B	B	B	B	B	B	B
Approach Delay (s)		10.8			10.4			11.4			11.3	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	33.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	25.8%	ICU Level of Service	A
Analysis Period (min)	15		

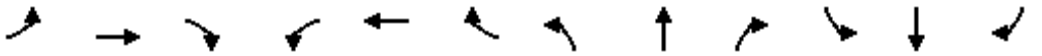
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	136	7	8	104	33	3	1	5	32	1	38
Future Volume (vph)	51	136	7	8	104	33	3	1	5	32	1	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	5001		1752	5036	1568	1752	1845	1568	1752	1845	2760
Flt Permitted	0.75	1.00		0.75	1.00	1.00	0.95	1.00	1.00	0.76	1.00	1.00
Satd. Flow (perm)	1392	5001		1392	5036	1568	1752	1845	1568	1397	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	54	143	7	8	109	35	3	1	5	34	1	40
RTOR Reduction (vph)	0	6	0	0	0	29	0	0	4	0	0	32
Lane Group Flow (vph)	54	144	0	8	109	6	3	1	1	34	1	8
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	5.3	5.3		5.3	5.3	5.3	5.8	5.8	5.8	6.5	6.5	6.5
Effective Green, g (s)	5.3	5.3		5.3	5.3	5.3	5.8	5.8	5.8	6.5	6.5	6.5
Actuated g/C Ratio	0.17	0.17		0.17	0.17	0.17	0.19	0.19	0.19	0.21	0.21	0.21
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	237	852		237	858	267	326	344	292	291	385	576
v/s Ratio Prot		0.03			0.02		c0.00	0.00			0.00	
v/s Ratio Perm	c0.04			0.01		0.00			0.00	c0.02		0.00
v/c Ratio	0.23	0.17		0.03	0.13	0.02	0.01	0.00	0.00	0.12	0.00	0.01
Uniform Delay, d1	11.1	11.0		10.8	10.9	10.7	10.3	10.3	10.3	10.0	9.7	9.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.1		0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Delay (s)	11.6	11.1		10.8	11.0	10.8	10.3	10.3	10.3	10.2	9.7	9.8
Level of Service	B	B		B	B	B	B	B	B	B	A	A
Approach Delay (s)		11.2			10.9			10.3			9.9	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.11		
Actuated Cycle Length (s)	31.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	25.4%	ICU Level of Service	A
Analysis Period (min)	15		

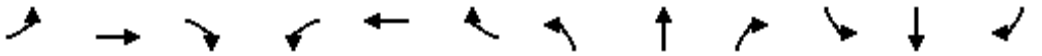
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	42	39	35	24	174	23	1224	49	316	1368	93
Future Volume (vph)	76	42	39	35	24	174	23	1224	49	316	1368	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	5036	1537	3400	5036	1536	3400	5036	1540	3400	5036	1540
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	5036	1537	3400	5036	1536	3400	5036	1540	3400	5036	1540
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	80	44	41	37	25	183	24	1288	52	333	1440	98
RTOR Reduction (vph)	0	0	35	0	0	159	0	0	32	0	0	47
Lane Group Flow (vph)	80	44	6	37	25	24	24	1288	20	333	1440	51
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	2.7	8.8	8.8	1.8	7.9	7.9	0.9	23.7	23.7	8.6	31.4	31.4
Effective Green, g (s)	2.7	8.8	8.8	1.8	7.9	7.9	0.9	23.7	23.7	8.6	31.4	31.4
Actuated g/C Ratio	0.04	0.14	0.14	0.03	0.13	0.13	0.01	0.39	0.39	0.14	0.52	0.52
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	150	727	222	100	653	199	50	1959	599	480	2596	794
v/s Ratio Prot	c0.02	0.01		0.01	0.00		0.01	c0.26		c0.10	0.29	
v/s Ratio Perm			0.00			c0.02			0.01			0.03
v/c Ratio	0.53	0.06	0.03	0.37	0.04	0.12	0.48	0.66	0.03	0.69	0.55	0.06
Uniform Delay, d1	28.5	22.5	22.4	29.0	23.2	23.4	29.8	15.3	11.5	24.9	10.0	7.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.6	0.0	0.0	2.3	0.0	0.3	7.1	0.8	0.0	4.3	0.3	0.0
Delay (s)	32.1	22.5	22.4	31.3	23.2	23.7	36.9	16.1	11.5	29.2	10.3	7.4
Level of Service	C	C	C	C	C	C	D	B	B	C	B	A
Approach Delay (s)		27.1			24.8			16.3			13.5	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	60.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

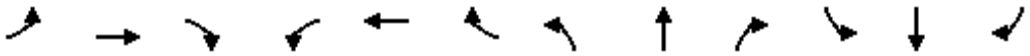
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	193	214	0	186	0	0	0	3	0	0	0
Future Volume (Veh/h)	0	193	214	0	186	0	0	0	3	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	203	225	0	196	0	0	0	3	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	196			428			414	512	214	300	624	98
vC1, stage 1 conf vol							316	316		196	196	
vC2, stage 2 conf vol							98	196		104	428	
vCu, unblocked vol	196			428			414	512	214	300	624	98
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1367			1121			571	524	788	660	471	936

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	0	135	293	0	98	98	3	0
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	225	0	0	0	3	0
cSH	1700	1700	1700	1700	1700	1700	788	1700
Volume to Capacity	0.00	0.08	0.17	0.00	0.06	0.06	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.6	0.0
Lane LOS							A	A
Approach Delay (s)	0.0			0.0			9.6	0.0
Approach LOS							A	A

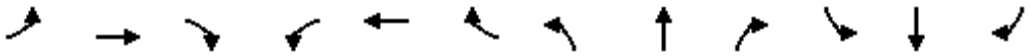
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	22.2%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	125	52	24	97	12	72	5	28	18	7	17
Future Volume (Veh/h)	16	125	52	24	97	12	72	5	28	18	7	17
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	17	132	55	25	102	13	76	5	29	19	7	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	275	240	12	320	220	5	25			34		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	275	240	12	320	220	5	25			34		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	79	95	95	84	99	95			99		
cM capacity (veh/h)	541	619	1061	460	635	1073	1581			1569		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	17	88	99	25	68	47	76	5	29	19	5	20
Volume Left	17	0	0	25	0	0	76	0	0	19	0	0
Volume Right	0	0	55	0	0	13	0	0	29	0	0	18
cSH	541	619	805	460	635	716	1581	1700	1700	1569	1700	1700
Volume to Capacity	0.03	0.14	0.12	0.05	0.11	0.07	0.05	0.00	0.02	0.01	0.00	0.01
Queue Length 95th (ft)	2	12	10	4	9	5	4	0	0	1	0	0
Control Delay (s)	11.9	11.8	10.1	13.3	11.4	10.4	7.4	0.0	0.0	7.3	0.0	0.0
Lane LOS	B	B	B	B	B	B	A			A		
Approach Delay (s)	11.0			11.4			5.1			3.2		
Approach LOS	B			B								

Intersection Summary				
Average Delay	9.1			
Intersection Capacity Utilization	29.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	63	46	63	6	52	6	41	36	23	6	24	40
Future Volume (vph)	63	46	63	6	52	6	41	36	23	6	24	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	66	48	66	6	55	6	43	38	24	6	25	42

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	66	114	6	61	43	62	6	67
Volume Left (vph)	66	0	6	0	43	0	6	0
Volume Right (vph)	0	66	0	6	0	24	0	42
Hadj (s)	0.55	-0.35	0.55	-0.02	0.55	-0.22	0.55	-0.39
Departure Headway (s)	5.6	4.7	5.7	5.1	5.7	4.9	5.8	4.8
Degree Utilization, x	0.10	0.15	0.01	0.09	0.07	0.09	0.01	0.09
Capacity (veh/h)	619	743	607	676	602	691	593	708
Control Delay (s)	8.0	7.3	7.5	7.4	7.9	7.2	7.6	7.1
Approach Delay (s)	7.5		7.4		7.5		7.1	
Approach LOS	A		A		A		A	

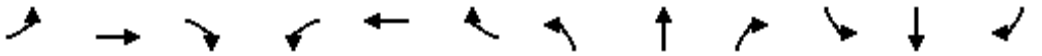
Intersection Summary				
Delay	7.4			
Level of Service	A			
Intersection Capacity Utilization	25.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	49	1247	18	51	1414
Future Volume (Veh/h)	0	49	1247	18	51	1414
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	52	1313	19	54	1488
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			540			840
pX, platoon unblocked	0.89	0.87			0.87	
vC, conflicting volume	1926	447			1332	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	625	0			871	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	94			92	
cM capacity (veh/h)	337	944			666	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	52	525	525	282	54	496	496	496
Volume Left	0	0	0	0	54	0	0	0
Volume Right	52	0	0	19	0	0	0	0
cSH	944	1700	1700	1700	666	1700	1700	1700
Volume to Capacity	0.06	0.31	0.31	0.17	0.08	0.29	0.29	0.29
Queue Length 95th (ft)	4	0	0	0	7	0	0	0
Control Delay (s)	9.0	0.0	0.0	0.0	10.9	0.0	0.0	0.0
Lane LOS	A				B			
Approach Delay (s)	9.0	0.0			0.4			
Approach LOS	A							

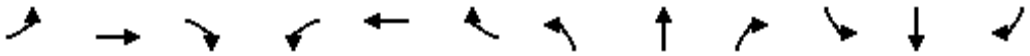
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	1	1	14	3	25	5	1208	13	49	1343	10
Future Volume (vph)	33	1	1	14	3	25	5	1208	13	49	1343	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.87		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1706		1752	1597		1752	5036	1568	1752	5036	1568
Flt Permitted	0.83	1.00		0.95	1.00		0.15	1.00	1.00	0.19	1.00	1.00
Satd. Flow (perm)	1537	1706		1752	1597		286	5036	1568	346	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	35	1	1	15	3	26	5	1272	14	52	1414	11
RTOR Reduction (vph)	0	1	0	0	25	0	0	0	6	0	0	5
Lane Group Flow (vph)	35	1	0	15	4	0	5	1272	8	52	1414	6
Turn Type	Perm	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2		2	6		6
Actuated Green, G (s)	4.8	4.8		2.2	2.2		29.4	29.4	29.4	29.4	29.4	29.4
Effective Green, g (s)	4.8	4.8		2.2	2.2		29.4	29.4	29.4	29.4	29.4	29.4
Actuated g/C Ratio	0.10	0.10		0.04	0.04		0.59	0.59	0.59	0.59	0.59	0.59
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	147	164		77	70		168	2967	923	203	2967	923
v/s Ratio Prot		0.00		c0.01	0.00			0.25			c0.28	
v/s Ratio Perm	c0.02						0.02		0.01	0.15		0.00
v/c Ratio	0.24	0.01		0.19	0.06		0.03	0.43	0.01	0.26	0.48	0.01
Uniform Delay, d1	20.9	20.4		23.0	22.9		4.3	5.6	4.2	5.0	5.9	4.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.0		1.2	0.4		0.1	0.1	0.0	0.7	0.1	0.0
Delay (s)	21.7	20.4		24.2	23.2		4.4	5.7	4.2	5.6	6.0	4.2
Level of Service	C	C		C	C		A	A	A	A	A	A
Approach Delay (s)		21.6			23.6			5.7			6.0	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	49.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		

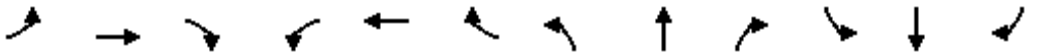
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	3	3	3	3	22	3	20	3	26	27	14
Future Volume (vph)	17	3	3	3	3	22	3	20	3	26	27	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	18	3	3	3	3	23	3	21	3	27	28	15

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	18	6	3	26	3	24	27	43
Volume Left (vph)	18	0	3	0	3	0	27	0
Volume Right (vph)	0	3	0	23	0	3	0	15
Hadj (s)	0.55	-0.30	0.55	-0.57	0.55	-0.04	0.55	-0.19
Departure Headway (s)	5.3	4.4	5.3	4.2	5.2	4.6	5.2	4.4
Degree Utilization, x	0.03	0.01	0.00	0.03	0.00	0.03	0.04	0.05
Capacity (veh/h)	665	782	656	833	672	756	674	789
Control Delay (s)	7.2	6.3	7.1	6.1	7.0	6.6	7.2	6.5
Approach Delay (s)	7.0		6.2		6.6		6.8	
Approach LOS	A		A		A		A	

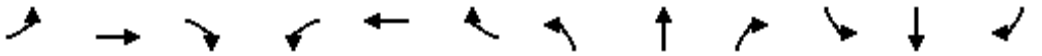
Intersection Summary				
Delay	6.7			
Level of Service	A			
Intersection Capacity Utilization	22.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	21	19	48	19	262	17	733	92	376	616	225
Future Volume (vph)	156	21	19	48	19	262	17	733	92	376	616	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	164	22	20	51	20	276	18	772	97	396	648	237
RTOR Reduction (vph)	0	0	17	0	0	248	0	0	69	0	0	100
Lane Group Flow (vph)	164	22	3	51	20	28	18	772	28	396	648	137
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	12.9	12.9	12.9	8.8	8.8	8.8	1.9	25.7	25.7	22.7	46.5	46.5
Effective Green, g (s)	12.9	12.9	12.9	8.8	8.8	8.8	1.9	25.7	25.7	22.7	46.5	46.5
Actuated g/C Ratio	0.15	0.15	0.15	0.10	0.10	0.10	0.02	0.29	0.29	0.26	0.53	0.53
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	256	270	229	175	184	156	37	1022	457	451	1849	827
v/s Ratio Prot	c0.09	0.01		c0.03	0.01		0.01	c0.22		c0.23	0.18	
v/s Ratio Perm			0.00			0.02			0.02			0.09
v/c Ratio	0.64	0.08	0.01	0.29	0.11	0.18	0.49	0.76	0.06	0.88	0.35	0.17
Uniform Delay, d1	35.4	32.5	32.2	36.8	36.1	36.3	42.6	28.3	22.5	31.4	12.1	10.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.4	0.1	0.0	0.9	0.3	0.5	9.7	3.2	0.1	17.3	0.1	0.1
Delay (s)	40.8	32.6	32.2	37.7	36.3	36.9	52.3	31.6	22.6	48.7	12.2	10.9
Level of Service	D	C	C	D	D	D	D	C	C	D	B	B
Approach Delay (s)		39.1			37.0			31.0			23.2	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	88.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		

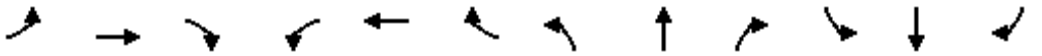
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	1	10	22	1	137	26	711	50	229	474	79
Future Volume (vph)	54	1	10	22	1	137	26	711	50	229	474	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.89	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1733			1542	1490	1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.89	1.00	0.47	1.00	1.00	0.34	1.00	1.00
Satd. Flow (perm)		1733			1385	1490	865	3505	1568	1216	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	57	1	11	23	1	144	27	748	53	241	499	83
RTOR Reduction (vph)	0	10	0	0	55	73	0	0	25	0	0	39
Lane Group Flow (vph)	0	59	0	0	31	9	27	748	28	241	499	44
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		4.2			5.4	5.4	25.8	25.8	25.8	25.8	25.8	25.8
Effective Green, g (s)		4.2			5.4	5.4	25.8	25.8	25.8	25.8	25.8	25.8
Actuated g/C Ratio		0.09			0.11	0.11	0.53	0.53	0.53	0.53	0.53	0.53
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		148			152	164	456	1849	827	641	1849	827
v/s Ratio Prot		c0.03						c0.21			0.14	
v/s Ratio Perm					c0.02	0.01	0.03		0.02	0.20		0.03
v/c Ratio		0.40			0.20	0.06	0.06	0.40	0.03	0.38	0.27	0.05
Uniform Delay, d1		21.2			19.8	19.5	5.6	6.9	5.6	6.8	6.4	5.6
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.8			0.7	0.1	0.1	0.1	0.0	0.4	0.1	0.0
Delay (s)		22.9			20.5	19.6	5.7	7.1	5.6	7.2	6.4	5.6
Level of Service		C			C	B	A	A	A	A	A	A
Approach Delay (s)		22.9			20.0			6.9			6.6	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	48.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

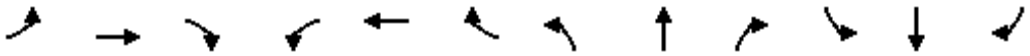
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	600	444	1	1	313	185	0	2	1	208	4	296
Future Volume (vph)	600	444	1	1	313	185	0	2	1	208	4	296
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95	1.00		1.00	1.00		1.00			1.00	0.88
Frt	1.00	1.00	0.85		1.00	0.85		0.95			1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00		1.00			0.95	1.00
Satd. Flow (prot)	3400	3505	1568		1844	1568		1762			1758	2760
Flt Permitted	0.51	1.00	1.00		1.00	1.00		1.00			0.95	1.00
Satd. Flow (perm)	1827	3505	1568		1843	1568		1762			1758	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	632	467	1	1	329	195	0	2	1	219	4	312
RTOR Reduction (vph)	0	0	1	0	0	99	0	1	0	0	0	246
Lane Group Flow (vph)	632	467	0	0	330	96	0	2	0	0	223	66
Turn Type	Perm	NA	Perm	Perm	NA	Perm		NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	32.5	32.5	32.5		32.5	32.5		5.8			13.9	13.9
Effective Green, g (s)	32.5	32.5	32.5		32.5	32.5		5.8			13.9	13.9
Actuated g/C Ratio	0.49	0.49	0.49		0.49	0.49		0.09			0.21	0.21
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	903	1733	775		911	775		155			371	583
v/s Ratio Prot		0.13						c0.00			c0.13	
v/s Ratio Perm	c0.35		0.00		0.18	0.06						0.02
v/c Ratio	0.70	0.27	0.00		0.36	0.12		0.01			0.60	0.11
Uniform Delay, d1	12.8	9.7	8.4		10.2	8.9		27.3			23.4	20.9
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	2.4	0.1	0.0		0.2	0.1		0.0			2.7	0.1
Delay (s)	15.2	9.8	8.4		10.5	9.0		27.4			26.1	21.0
Level of Service	B	A	A		B	A		C			C	C
Approach Delay (s)		12.9			9.9			27.4			23.1	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	65.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		

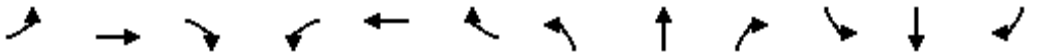
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	601	3	3	460	59	3	3	3	60	3	36
Future Volume (Veh/h)	49	601	3	3	460	59	3	3	3	60	3	36
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	52	633	3	3	484	62	3	3	3	63	3	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	546			636			1299	1290	634	1264	1261	515
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	546			636			1299	1290	634	1264	1261	515
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			98	98	99	54	98	93
cM capacity (veh/h)	1018			943			121	154	477	137	160	558

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	688	549	9	104
Volume Left	52	3	3	63
Volume Right	3	62	3	38
cSH	1018	943	178	190
Volume to Capacity	0.05	0.00	0.05	0.55
Queue Length 95th (ft)	4	0	4	72
Control Delay (s)	1.3	0.1	26.3	44.8
Lane LOS	A	A	D	E
Approach Delay (s)	1.3	0.1	26.3	44.8
Approach LOS			D	E

Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	82.5%	ICU Level of Service	E	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	114	205	435	317	218	523	1593	405	152	1070	56
Future Volume (vph)	110	114	205	435	317	218	523	1593	405	152	1070	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	112	116	209	444	323	222	534	1626	413	155	1092	57
RTOR Reduction (vph)	0	0	39	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	112	116	170	444	323	222	534	1626	413	155	1092	57
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	9.3	11.5	35.3	17.4	19.6	120.0	23.8	62.3	120.0	10.8	49.3	120.0
Effective Green, g (s)	9.3	11.5	35.3	17.4	19.6	120.0	23.8	62.3	120.0	10.8	49.3	120.0
Actuated g/C Ratio	0.08	0.10	0.29	0.14	0.16	1.00	0.20	0.52	1.00	0.09	0.41	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	263	335	537	493	822	1568	651	2614	1568	306	2068	1568
v/s Ratio Prot	0.03	0.03	0.06	c0.13	c0.06		c0.16	c0.32		0.05	0.22	
v/s Ratio Perm			0.04			0.14			0.26			0.04
v/c Ratio	0.43	0.35	0.32	0.90	0.39	0.14	0.82	0.62	0.26	0.51	0.53	0.04
Uniform Delay, d1	52.8	50.7	33.0	50.4	44.9	0.0	46.1	20.5	0.0	52.1	26.6	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.18	1.19	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.6	0.3	19.4	0.3	0.2	4.7	0.6	0.2	1.3	1.0	0.0
Delay (s)	53.9	51.4	33.3	69.8	45.2	0.2	59.2	25.1	0.2	53.4	27.6	0.0
Level of Service	D	D	C	E	D	A	E	C	A	D	C	A
Approach Delay (s)		43.4			46.2			28.2			29.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	354	0	2239	121	113	967	641	0	0
Future Volume (vph)	0	354	0	2239	121	113	967	641	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.94			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4735			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4735			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	373	0	2357	127	119	1018	675	0	0
RTOR Reduction (vph)	0	31	0	0	55	0	0	0	0	0
Lane Group Flow (vph)	0	342	0	2357	72	119	1693	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		15.7		34.0	34.0	15.7	60.0			
Effective Green, g (s)		15.7		34.0	34.0	15.7	60.0			
Actuated g/C Ratio		0.26		0.57	0.57	0.26	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		417		2853	888	458	4735			
v/s Ratio Prot		c0.21		c0.47		0.07	0.36			
v/s Ratio Perm					0.05					
v/c Ratio		0.82		0.83	0.08	0.26	0.36			
Uniform Delay, d1		20.8		10.6	5.9	17.5	0.0			
Progression Factor		1.00		1.00	1.00	0.72	1.00			
Incremental Delay, d2		11.6		2.9	0.2	0.1	0.0			
Delay (s)		32.5		13.5	6.1	12.8	0.0			
Level of Service		C		B	A	B	A			
Approach Delay (s)	32.5			13.1			0.9		0.0	
Approach LOS	C			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

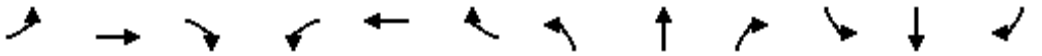
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	165	1030	1444	501	0	1037
Future Volume (vph)	165	1030	1444	501	0	1037
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.96			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3370			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3370			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	174	1084	1520	527	0	1092
RTOR Reduction (vph)	0	31	38	0	0	0
Lane Group Flow (vph)	174	1053	2009	0	0	1092
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1874			2800
v/s Ratio Prot	0.05		c0.60			0.22
v/s Ratio Perm		c0.38				
v/c Ratio	0.15	1.14	1.07			0.39
Uniform Delay, d1	21.0	30.0	20.0			11.3
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	77.3	43.1			0.0
Delay (s)	21.1	107.3	63.1			11.3
Level of Service	C	F	E			B
Approach Delay (s)	95.4		63.1			11.3
Approach LOS	F		E			B

Intersection Summary			
HCM 2000 Control Delay	59.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		

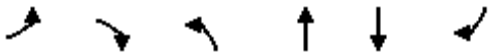
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	0	280	0	0	0	0	1167	320	0	825	456
Future Volume (vph)	790	0	280	0	0	0	0	1167	320	0	825	456
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	832	0	295	0	0	0	0	1228	337	0	868	480
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	202	0	0	287
Lane Group Flow (vph)	832	0	260	0	0	0	0	1228	135	0	868	193
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	15.6		15.6					17.8	17.8		17.8	17.8
Effective Green, g (s)	15.6		15.6					17.8	17.8		17.8	17.8
Actuated g/C Ratio	0.35		0.35					0.40	0.40		0.40	0.40
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1197		552					1408	630		1408	630
v/s Ratio Prot	c0.24							c0.35			0.25	
v/s Ratio Perm			0.17						0.09			0.12
v/c Ratio	0.70		0.47					0.87	0.21		0.62	0.31
Uniform Delay, d1	12.3		11.1					12.2	8.7		10.5	9.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	1.4		0.2					6.0	0.1		0.6	0.1
Delay (s)	13.7		11.4					18.2	8.7		11.1	9.1
Level of Service	B		B					B	A		B	A
Approach Delay (s)		13.1			0.0			16.2			10.4	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	44.3	Sum of lost time (s)	10.9
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

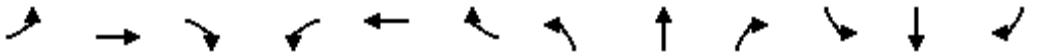
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	13	13	10	41	28	27
Future Volume (vph)	13	13	10	41	28	27
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	14	14	11	43	29	28

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	28	11	43	29	28
Volume Left (vph)	14	11	0	0	0
Volume Right (vph)	14	0	0	0	28
Hadj (s)	-0.15	0.55	0.05	0.05	-0.65
Departure Headway (s)	4.0	5.1	4.6	4.6	3.9
Degree Utilization, x	0.03	0.02	0.06	0.04	0.03
Capacity (veh/h)	873	685	758	765	891
Control Delay (s)	7.1	7.0	6.7	6.6	5.9
Approach Delay (s)	7.1	6.8		6.3	
Approach LOS	A	A		A	

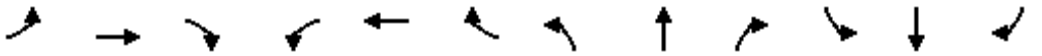
Intersection Summary			
Delay	6.6		
Level of Service	A		
Intersection Capacity Utilization	17.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	214	1	1	323	89	1	2	2	21	1	57
Future Volume (vph)	95	214	1	1	323	89	1	2	2	21	1	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568		1728		1752	1845	1568
Flt Permitted	0.55	1.00	1.00	0.61	1.00	1.00		0.94		0.75	1.00	1.00
Satd. Flow (perm)	1958	3505	1568	1128	3505	1568		1648		1392	1845	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	100	225	1	1	340	94	1	2	2	22	1	60
RTOR Reduction (vph)	0	0	1	0	0	62	0	1	0	0	0	44
Lane Group Flow (vph)	100	225	0	1	340	32	0	4	0	22	1	16
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	7.8	7.8	7.8	7.8	7.8	7.8		5.9		5.9	5.9	5.9
Effective Green, g (s)	7.8	7.8	7.8	7.8	7.8	7.8		5.9		5.9	5.9	5.9
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34	0.34		0.26		0.26	0.26	0.26
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	672	1204	538	387	1204	538		428		361	479	407
v/s Ratio Prot		0.06			c0.10						0.00	
v/s Ratio Perm	0.05		0.00	0.00		0.02		0.00		c0.02		0.01
v/c Ratio	0.15	0.19	0.00	0.00	0.28	0.06		0.01		0.06	0.00	0.04
Uniform Delay, d1	5.2	5.2	4.9	4.9	5.4	5.0		6.2		6.3	6.2	6.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.1	0.0	0.0	0.1	0.0		0.0		0.1	0.0	0.0
Delay (s)	5.3	5.3	4.9	4.9	5.5	5.0		6.2		6.4	6.2	6.3
Level of Service	A	A	A	A	A	A		A		A	A	A
Approach Delay (s)		5.3			5.4			6.2			6.3	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.19		
Actuated Cycle Length (s)	22.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	28.7%	ICU Level of Service	A
Analysis Period (min)	15		

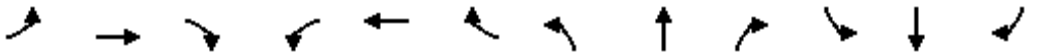
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	159	31	12	289	50	99	48	31	18	23	24
Future Volume (vph)	45	159	31	12	289	50	99	48	31	18	23	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	1845	1568	1752	1845	2760
Flt Permitted	0.56	1.00	1.00	0.65	1.00	1.00	0.95	1.00	1.00	0.72	1.00	1.00
Satd. Flow (perm)	1032	3505	1568	1192	5036	1568	3400	1845	1568	1335	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	47	167	33	13	304	53	104	51	33	19	24	25
RTOR Reduction (vph)	0	0	26	0	0	41	0	0	27	0	0	20
Lane Group Flow (vph)	47	167	7	13	304	12	104	51	6	19	24	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	7.6	7.6	7.6	7.6	7.6	7.6	6.6	6.6	6.6	6.1	6.1	6.1
Effective Green, g (s)	7.6	7.6	7.6	7.6	7.6	7.6	6.6	6.6	6.6	6.1	6.1	6.1
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.20	0.20	0.20	0.18	0.18	0.18
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	232	788	352	268	1132	352	663	360	306	240	332	498
v/s Ratio Prot		0.05			c0.06		c0.03	0.03			0.01	
v/s Ratio Perm	0.05		0.00	0.01		0.01			0.00	c0.01		0.00
v/c Ratio	0.20	0.21	0.02	0.05	0.27	0.03	0.16	0.14	0.02	0.08	0.07	0.01
Uniform Delay, d1	10.6	10.7	10.2	10.3	10.8	10.2	11.3	11.3	11.0	11.5	11.5	11.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1	0.0	0.1	0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.0
Delay (s)	11.1	10.8	10.2	10.3	10.9	10.3	11.4	11.4	11.0	11.7	11.6	11.4
Level of Service	B	B	B	B	B	B	B	B	B	B	B	B
Approach Delay (s)		10.8			10.8			11.3			11.5	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	33.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	30.5%	ICU Level of Service	A
Analysis Period (min)	15		

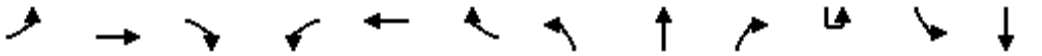
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	138	2	11	332	50	11	1	28	18	0	24
Future Volume (vph)	45	138	2	11	332	50	11	1	28	18	0	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00		0.88
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1752	5026		1752	5036	1568	1752	1845	1568	1752		2760
Flt Permitted	0.53	1.00		0.65	1.00	1.00	0.95	1.00	1.00	0.76		1.00
Satd. Flow (perm)	986	5026		1208	5036	1568	1752	1845	1568	1397		2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	47	145	2	12	349	53	12	1	29	19	0	25
RTOR Reduction (vph)	0	2	0	0	0	41	0	0	24	0	0	20
Lane Group Flow (vph)	47	145	0	12	349	12	12	1	5	19	0	5
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm		Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	7.8	7.8		7.8	7.8	7.8	5.8	5.8	5.8	6.0		6.0
Effective Green, g (s)	7.8	7.8		7.8	7.8	7.8	5.8	5.8	5.8	6.0		6.0
Actuated g/C Ratio	0.24	0.24		0.24	0.24	0.24	0.18	0.18	0.18	0.18		0.18
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	232	1184		284	1186	369	306	323	274	253		500
v/s Ratio Prot		0.03			c0.07		c0.01	0.00				
v/s Ratio Perm	0.05			0.01		0.01			0.00	c0.01		0.00
v/c Ratio	0.20	0.12		0.04	0.29	0.03	0.04	0.00	0.02	0.08		0.01
Uniform Delay, d1	10.2	10.0		9.8	10.4	9.7	11.3	11.3	11.3	11.2		11.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.4	0.0		0.1	0.1	0.0	0.1	0.0	0.0	0.1		0.0
Delay (s)	10.6	10.0		9.8	10.5	9.8	11.4	11.3	11.3	11.4		11.1
Level of Service	B	B		A	B	A	B	B	B	B		B
Approach Delay (s)		10.1			10.4			11.3			11.2	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.15		
Actuated Cycle Length (s)	33.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	29.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	65	95	14	95	153	273	107	1430	25	63	265	730
Future Volume (vph)	65	95	14	95	153	273	107	1430	25	63	265	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00		0.97	0.91
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3400	5036	1536	3400	5036	1537	3400	5036	1539		3400	5036
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3400	5036	1536	3400	5036	1537	3400	5036	1539		3400	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	68	100	15	100	161	287	113	1505	26	66	279	768
RTOR Reduction (vph)	0	0	12	0	0	124	0	0	16	0	0	0
Lane Group Flow (vph)	68	100	3	100	161	163	113	1505	10	0	345	768
Confl. Peds. (#/hr)			5			5			5			
Confl. Bikes (#/hr)			2			2			2			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases			4			8			2			
Actuated Green, G (s)	2.7	11.9	11.9	3.8	13.0	13.0	4.4	25.7	25.7		8.8	30.1
Effective Green, g (s)	2.7	11.9	11.9	3.8	13.0	13.0	4.4	25.7	25.7		8.8	30.1
Actuated g/C Ratio	0.04	0.17	0.17	0.06	0.19	0.19	0.06	0.38	0.38		0.13	0.44
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	134	878	268	189	959	292	219	1897	579		438	2222
v/s Ratio Prot	0.02	0.02		c0.03	0.03		0.03	c0.30			c0.10	c0.15
v/s Ratio Perm			0.00			c0.11			0.01			
v/c Ratio	0.51	0.11	0.01	0.53	0.17	0.56	0.52	0.79	0.02		0.79	0.35
Uniform Delay, d1	32.1	23.7	23.3	31.3	23.1	25.0	30.9	18.9	13.3		28.8	12.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.0	0.1	0.0	2.7	0.1	2.3	2.0	2.4	0.0		9.1	0.1
Delay (s)	35.1	23.8	23.3	34.0	23.2	27.3	32.9	21.3	13.3		37.9	12.7
Level of Service	D	C	C	C	C	C	C	C	B		D	B
Approach Delay (s)		27.9			27.3			21.9				19.5
Approach LOS		C			C			C				B

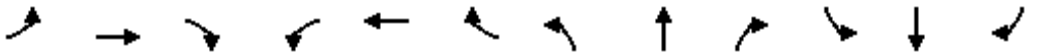
Intersection Summary					
HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.70				
Actuated Cycle Length (s)	68.2	Sum of lost time (s)	18.0		
Intersection Capacity Utilization	73.6%	ICU Level of Service	D		
Analysis Period (min)	15				

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	115
Future Volume (vph)	115
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1539
Flt Permitted	1.00
Satd. Flow (perm)	1539
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	121
RTOR Reduction (vph)	68
Lane Group Flow (vph)	53
Confl. Peds. (#/hr)	5
Confl. Bikes (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	30.1
Effective Green, g (s)	30.1
Actuated g/C Ratio	0.44
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	679
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.08
Uniform Delay, d1	11.0
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	11.1
Level of Service	B
Approach Delay (s)	
Approach LOS	

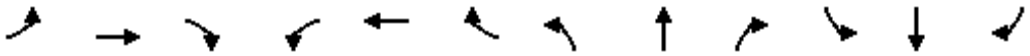
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	73	104	0	341	17	94	0	2	5	0	86
Future Volume (Veh/h)	207	73	104	0	341	17	94	0	2	5	0	86
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	218	77	109	0	359	18	99	0	2	5	0	91
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	377			186			747	944	93	844	990	188
vC1, stage 1 conf vol							568	568		368	368	
vC2, stage 2 conf vol							180	377		476	622	
vCu, unblocked vol	377			186			747	944	93	844	990	188
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	81			100			67	100	100	98	100	89
cM capacity (veh/h)	1171			1379			298	279	943	328	299	818

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	218	51	135	0	239	138	101	5	91
Volume Left	218	0	0	0	0	0	99	5	0
Volume Right	0	0	109	0	0	18	2	0	91
cSH	1171	1700	1700	1700	1700	1700	302	328	818
Volume to Capacity	0.19	0.03	0.08	0.00	0.14	0.08	0.33	0.02	0.11
Queue Length 95th (ft)	17	0	0	0	0	0	36	1	9
Control Delay (s)	8.8	0.0	0.0	0.0	0.0	0.0	22.8	16.2	9.9
Lane LOS	A						C	C	A
Approach Delay (s)	4.7			0.0			22.8	10.3	
Approach LOS							C	B	

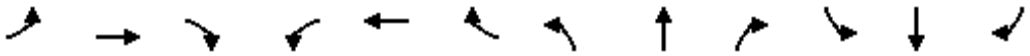
Intersection Summary				
Average Delay	5.3			
Intersection Capacity Utilization	43.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	49	22	19	213	15	117	4	12	7	3	27
Future Volume (Veh/h)	7	49	22	19	213	15	117	4	12	7	3	27
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	7	52	23	20	224	16	123	4	13	7	3	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	409	294	16	314	295	4	31			17		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	409	294	16	314	295	4	31			17		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	91	98	96	60	99	92			100		
cM capacity (veh/h)	335	563	1057	522	562	1075	1573			1591		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	7	35	40	20	149	91	123	4	13	7	2	29
Volume Left	7	0	0	20	0	0	123	0	0	7	0	0
Volume Right	0	0	23	0	0	16	0	0	13	0	0	28
cSH	335	563	768	522	562	614	1573	1700	1700	1591	1700	1700
Volume to Capacity	0.02	0.06	0.05	0.04	0.27	0.15	0.08	0.00	0.01	0.00	0.00	0.02
Queue Length 95th (ft)	2	5	4	3	27	13	6	0	0	0	0	0
Control Delay (s)	16.0	11.8	10.0	12.2	13.7	11.9	7.5	0.0	0.0	7.3	0.0	0.0
Lane LOS	C	B	A	B	B	B	A			A		
Approach Delay (s)	11.3			12.9			6.6			1.3		
Approach LOS	B			B								

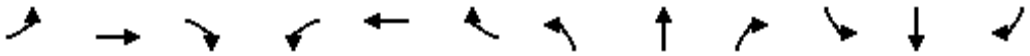
Intersection Summary				
Average Delay	10.1			
Intersection Capacity Utilization	27.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	31	24	32	3	153	3	49	32	3	6	14	45
Future Volume (vph)	31	24	32	3	153	3	49	32	3	6	14	45
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	33	25	34	3	161	3	52	34	3	6	15	47

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	33	59	3	164	52	37	6	62
Volume Left (vph)	33	0	3	0	52	0	6	0
Volume Right (vph)	0	34	0	3	0	3	0	47
Hadj (s)	0.55	-0.35	0.55	0.04	0.55	-0.01	0.55	-0.48
Departure Headway (s)	5.6	4.7	5.5	5.0	5.8	5.2	5.8	4.8
Degree Utilization, x	0.05	0.08	0.00	0.23	0.08	0.05	0.01	0.08
Capacity (veh/h)	623	734	624	693	596	656	588	714
Control Delay (s)	7.7	6.9	7.4	8.3	8.1	7.3	7.6	7.0
Approach Delay (s)	7.2		8.3		7.7		7.0	
Approach LOS	A		A		A		A	

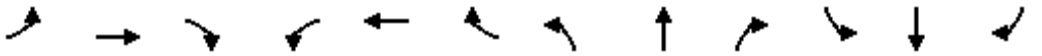
Intersection Summary				
Delay	7.7			
Level of Service	A			
Intersection Capacity Utilization	30.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	81	0	1473	9	14	837	7
Future Volume (Veh/h)	0	0	0	0	0	81	0	1473	9	14	837	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	85	0	1551	9	15	881	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								540			840	
pX, platoon unblocked	0.83	0.83	0.93	0.83	0.83	0.79	0.93			0.79		
vC, conflicting volume	1516	2474	297	1879	2474	522	888			1560		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	321	1475	0	758	1474	0	608			797		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	90	100			98		
cM capacity (veh/h)	445	101	1003	240	101	858	890			646		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	0	85	620	620	319	15	352	352	183
Volume Left	0	0	0	0	0	15	0	0	0
Volume Right	0	85	0	0	9	0	0	0	7
cSH	1700	858	1700	1700	1700	646	1700	1700	1700
Volume to Capacity	0.00	0.10	0.36	0.36	0.19	0.02	0.21	0.21	0.11
Queue Length 95th (ft)	0	8	0	0	0	2	0	0	0
Control Delay (s)	0.0	9.7	0.0	0.0	0.0	10.7	0.0	0.0	0.0
Lane LOS	A	A				B			
Approach Delay (s)	0.0	9.7	0.0			0.2			
Approach LOS	A	A							

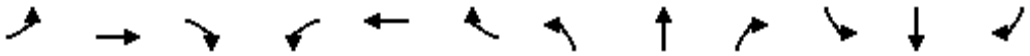
Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	40.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	1	1	26	3	41	3	1369	9	14	804	18
Future Volume (vph)	73	1	1	26	3	41	3	1369	9	14	804	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.86		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1706		1752	1586		1752	5036	1568	1752	5036	1568
Flt Permitted	0.32	1.00		0.95	1.00		0.30	1.00	1.00	0.15	1.00	1.00
Satd. Flow (perm)	586	1706		1752	1586		556	5036	1568	270	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	77	1	1	27	3	43	3	1441	9	15	846	19
RTOR Reduction (vph)	0	1	0	0	40	0	0	0	5	0	0	10
Lane Group Flow (vph)	77	1	0	27	6	0	3	1441	4	15	846	9
Turn Type	Perm	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2		2	6		6
Actuated Green, G (s)	12.6	12.6		3.9	3.9		27.3	27.3	27.3	27.3	27.3	27.3
Effective Green, g (s)	12.6	12.6		3.9	3.9		27.3	27.3	27.3	27.3	27.3	27.3
Actuated g/C Ratio	0.22	0.22		0.07	0.07		0.48	0.48	0.48	0.48	0.48	0.48
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	128	375		119	107		264	2399	747	128	2399	747
v/s Ratio Prot		0.00		c0.02	0.00			c0.29			0.17	
v/s Ratio Perm	c0.13						0.01		0.00	0.06		0.01
v/c Ratio	0.60	0.00		0.23	0.06		0.01	0.60	0.01	0.12	0.35	0.01
Uniform Delay, d1	20.1	17.4		25.3	25.0		7.9	11.0	7.9	8.3	9.4	7.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.7	0.0		1.0	0.2		0.0	0.4	0.0	0.4	0.1	0.0
Delay (s)	27.8	17.5		26.2	25.2		7.9	11.4	7.9	8.7	9.5	7.9
Level of Service	C	B		C	C		A	B	A	A	A	A
Approach Delay (s)		27.6			25.6			11.4			9.5	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	57.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

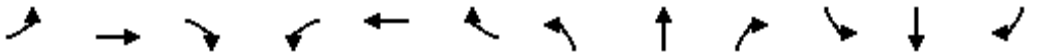
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	4	4	3	10	27	10	30	3	10	36	14
Future Volume (vph)	4	4	4	3	10	27	10	30	3	10	36	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	4	4	3	11	28	11	32	3	11	38	15

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	4	8	3	39	11	35	11	53
Volume Left (vph)	4	0	3	0	11	0	11	0
Volume Right (vph)	0	4	0	28	0	3	0	15
Hadj (s)	0.55	-0.30	0.55	-0.45	0.55	-0.01	0.55	-0.15
Departure Headway (s)	5.3	4.5	5.3	4.3	5.2	4.7	5.2	4.5
Degree Utilization, x	0.01	0.01	0.00	0.05	0.02	0.05	0.02	0.07
Capacity (veh/h)	658	774	653	806	673	754	672	779
Control Delay (s)	7.2	6.3	7.1	6.3	7.1	6.7	7.1	6.6
Approach Delay (s)	6.6		6.4		6.8		6.7	
Approach LOS	A		A		A		A	

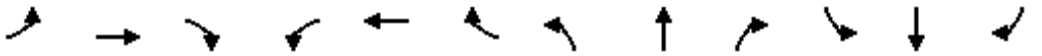
Intersection Summary				
Delay	6.6			
Level of Service	A			
Intersection Capacity Utilization	17.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	16	27	85	20	383	5	630	40	160	477	122
Future Volume (vph)	221	16	27	85	20	383	5	630	40	160	477	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	233	17	28	89	21	403	5	663	42	168	502	128
RTOR Reduction (vph)	0	0	23	0	0	221	0	0	30	0	0	79
Lane Group Flow (vph)	233	17	5	89	21	182	5	663	12	168	502	49
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	14.0	14.0	14.0	12.4	12.4	12.4	0.9	20.6	20.6	8.1	27.8	27.8
Effective Green, g (s)	14.0	14.0	14.0	12.4	12.4	12.4	0.9	20.6	20.6	8.1	27.8	27.8
Actuated g/C Ratio	0.19	0.19	0.19	0.17	0.17	0.17	0.01	0.28	0.28	0.11	0.38	0.38
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	335	353	300	297	312	265	21	987	441	194	1332	596
v/s Ratio Prot	c0.13	0.01		0.05	0.01		0.00	c0.19		c0.10	0.14	
v/s Ratio Perm			0.00			c0.12			0.01			0.03
v/c Ratio	0.70	0.05	0.02	0.30	0.07	0.69	0.24	0.67	0.03	0.87	0.38	0.08
Uniform Delay, d1	27.6	24.1	24.0	26.6	25.5	28.5	35.8	23.3	19.0	32.0	16.4	14.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.2	0.1	0.0	0.6	0.1	7.2	5.8	1.8	0.0	30.8	0.2	0.1
Delay (s)	33.7	24.2	24.0	27.1	25.6	35.7	41.6	25.1	19.0	62.8	16.6	14.5
Level of Service	C	C	C	C	C	D	D	C	B	E	B	B
Approach Delay (s)		32.2			33.8			24.8			26.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	73.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

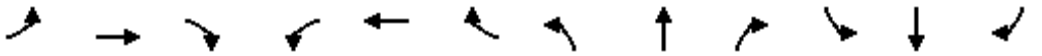
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	1	12	60	1	230	12	468	22	96	488	41
Future Volume (vph)	88	1	12	60	1	230	12	468	22	96	488	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.91	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1739			1566	1490	1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.82	1.00	0.45	1.00	1.00	0.47	1.00	1.00
Satd. Flow (perm)		1739			1311	1490	838	3505	1568	1684	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	93	1	13	63	1	242	13	493	23	101	514	43
RTOR Reduction (vph)	0	9	0	0	74	120	0	0	14	0	0	27
Lane Group Flow (vph)	0	98	0	0	82	30	13	493	9	101	514	16
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		4.9			8.6	8.6	16.2	16.2	16.2	16.2	16.2	16.2
Effective Green, g (s)		4.9			8.6	8.6	16.2	16.2	16.2	16.2	16.2	16.2
Actuated g/C Ratio		0.11			0.20	0.20	0.37	0.37	0.37	0.37	0.37	0.37
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		197			260	296	314	1314	588	631	1314	588
v/s Ratio Prot		c0.06						0.14			c0.15	
v/s Ratio Perm					c0.06	0.02	0.02		0.01	0.06		0.01
v/c Ratio		0.50			0.32	0.10	0.04	0.38	0.01	0.16	0.39	0.03
Uniform Delay, d1		18.0			14.8	14.1	8.6	9.8	8.5	9.0	9.9	8.5
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.0			0.7	0.2	0.1	0.2	0.0	0.1	0.2	0.0
Delay (s)		20.0			15.5	14.3	8.6	10.0	8.5	9.1	10.1	8.5
Level of Service		B			B	B	A	A	A	A	B	A
Approach Delay (s)		20.0			14.9			9.9			9.8	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	43.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		

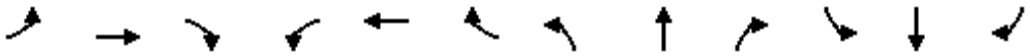
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	379	246	0	0	466	117	1	3	1	174	1	402
Future Volume (vph)	379	246	0	0	466	117	1	3	1	174	1	402
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95			1.00	1.00		1.00			1.00	0.88
Frt	1.00	1.00			1.00	0.85		0.97			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		0.99			0.95	1.00
Satd. Flow (prot)	3400	3505			1845	1568		1777			1757	2760
Flt Permitted	0.32	1.00			1.00	1.00		0.41			0.95	1.00
Satd. Flow (perm)	1149	3505			1845	1568		743			1757	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	399	259	0	0	491	123	1	3	1	183	1	423
RTOR Reduction (vph)	0	0	0	0	0	73	0	1	0	0	0	330
Lane Group Flow (vph)	399	259	0	0	491	50	0	4	0	0	184	93
Turn Type	Perm	NA	Perm		NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	20.6	20.6			20.6	20.6		5.8			11.2	11.2
Effective Green, g (s)	20.6	20.6			20.6	20.6		5.8			11.2	11.2
Actuated g/C Ratio	0.40	0.40			0.40	0.40		0.11			0.22	0.22
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	463	1412			743	632		84			385	604
v/s Ratio Prot		0.07			0.27						c0.10	
v/s Ratio Perm	c0.35					0.03		c0.01				0.03
v/c Ratio	0.86	0.18			0.66	0.08		0.05			0.48	0.15
Uniform Delay, d1	13.9	9.8			12.4	9.4		20.2			17.4	16.1
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	15.1	0.1			2.2	0.1		0.2			0.9	0.1
Delay (s)	29.1	9.9			14.6	9.5		20.4			18.3	16.2
Level of Service	C	A			B	A		C			B	B
Approach Delay (s)		21.5			13.6			20.4			16.9	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	51.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

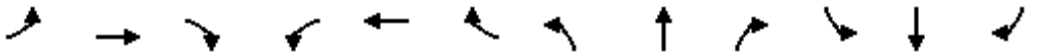
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	388	3	3	554	56	3	3	3	38	3	19
Future Volume (Veh/h)	28	388	3	3	554	56	3	3	3	38	3	19
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	29	408	3	3	583	59	3	3	3	40	3	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	642			411			1108	1116	410	1090	1088	612
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	642			411			1108	1116	410	1090	1088	612
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			98	98	100	78	99	96
cM capacity (veh/h)	938			1142			172	200	640	184	208	491

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	440	645	9	63
Volume Left	29	3	3	40
Volume Right	3	59	3	20
cSH	938	1142	243	231
Volume to Capacity	0.03	0.00	0.04	0.27
Queue Length 95th (ft)	2	0	3	27
Control Delay (s)	0.9	0.1	20.4	26.3
Lane LOS	A	A	C	D
Approach Delay (s)	0.9	0.1	20.4	26.3
Approach LOS			C	D

Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	53.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	399	321	494	416	321	641	1782	587	309	2173	169
Future Volume (vph)	136	399	321	494	416	321	641	1782	587	309	2173	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	151	443	357	549	462	357	712	1980	652	343	2414	188
RTOR Reduction (vph)	0	0	25	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	151	443	332	549	462	357	712	1980	652	343	2414	188
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	12.2	22.6	62.2	20.5	30.9	155.0	39.6	73.0	155.0	20.9	54.3	155.0
Effective Green, g (s)	12.2	22.6	62.2	20.5	30.9	155.0	39.6	73.0	155.0	20.9	54.3	155.0
Actuated g/C Ratio	0.08	0.15	0.40	0.13	0.20	1.00	0.26	0.47	1.00	0.13	0.35	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	267	511	697	449	1003	1568	839	2371	1568	458	1764	1568
v/s Ratio Prot	0.04	c0.13	0.12	c0.16	0.09		c0.22	0.39		0.10	c0.48	
v/s Ratio Perm			0.08			0.23			0.42			0.12
v/c Ratio	0.57	0.87	0.48	1.22	0.46	0.23	0.85	0.84	0.42	0.75	1.37	0.12
Uniform Delay, d1	68.8	64.7	34.3	67.2	54.7	0.0	54.9	35.8	0.0	64.5	50.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.7	14.4	0.5	118.8	0.3	0.3	8.0	3.7	0.8	6.6	169.5	0.2
Delay (s)	71.6	79.1	34.9	186.0	55.0	0.3	62.9	39.4	0.8	71.1	219.9	0.2
Level of Service	E	E	C	F	E	A	E	D	A	E	F	A
Approach Delay (s)		61.3			93.3			36.9			188.5	
Approach LOS		E			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	100.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	155.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	100.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	446	0	2411	92	292	1942	793	0	0
Future Volume (vph)	0	446	0	2411	92	292	1942	793	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.96			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4817			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4817			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	469	0	2538	97	307	2044	835	0	0
RTOR Reduction (vph)	0	22	0	0	33	0	0	0	0	0
Lane Group Flow (vph)	0	447	0	2538	64	307	2879	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		24.4		45.3	45.3	24.4	80.0			
Effective Green, g (s)		24.4		45.3	45.3	24.4	80.0			
Actuated g/C Ratio		0.30		0.57	0.57	0.30	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		486		2851	887	534	4817			
v/s Ratio Prot		c0.28		c0.50		0.18	0.60			
v/s Ratio Perm					0.04					
v/c Ratio		0.92		0.89	0.07	0.57	0.60			
Uniform Delay, d1		26.9		15.2	7.8	23.4	0.0			
Progression Factor		1.00		1.00	1.00	1.00	1.00			
Incremental Delay, d2		22.6		4.7	0.2	0.9	0.1			
Delay (s)		49.4		19.9	8.0	24.4	0.1			
Level of Service		D		B	A	C	A			
Approach Delay (s)	49.4			19.4			2.5		0.0	
Approach LOS	D			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		

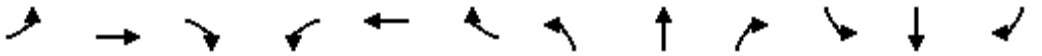
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	198	1080	1773	392	0	2057
Future Volume (vph)	198	1080	1773	392	0	2057
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3410			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3410			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	208	1137	1866	413	0	2165
RTOR Reduction (vph)	0	13	21	0	0	0
Lane Group Flow (vph)	208	1124	2258	0	0	2165
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1896			2800
v/s Ratio Prot	0.06		c0.66			0.43
v/s Ratio Perm		c0.41				
v/c Ratio	0.18	1.22	1.19			0.77
Uniform Delay, d1	21.3	30.0	20.0			15.5
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	109.2	91.5			1.3
Delay (s)	21.3	139.1	111.5			16.8
Level of Service	C	F	F			B
Approach Delay (s)	120.9		111.5			16.8
Approach LOS	F		F			B

Intersection Summary			
HCM 2000 Control Delay	78.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	107.5%	ICU Level of Service	G
Analysis Period (min)	15		

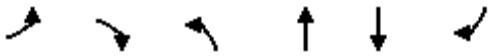
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	963	0	494	0	0	0	0	1189	580	0	1277	996
Future Volume (vph)	963	0	494	0	0	0	0	1189	580	0	1277	996
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1014	0	520	0	0	0	0	1252	611	0	1344	1048
RTOR Reduction (vph)	0	0	32	0	0	0	0	0	377	0	0	646
Lane Group Flow (vph)	1014	0	488	0	0	0	0	1252	234	0	1344	402
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	20.0		20.0					19.2	19.2		19.2	19.2
Effective Green, g (s)	20.0		20.0					19.2	19.2		19.2	19.2
Actuated g/C Ratio	0.40		0.40					0.38	0.38		0.38	0.38
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1357		625					1343	600		1343	600
v/s Ratio Prot	0.30							0.36			c0.38	
v/s Ratio Perm			c0.31						0.15			0.26
v/c Ratio	0.75		0.78					0.93	0.39		1.00	0.67
Uniform Delay, d1	12.9		13.1					14.8	11.2		15.5	12.8
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	2.0		5.8					11.7	0.2		24.7	2.2
Delay (s)	14.9		18.9					26.5	11.4		40.2	15.0
Level of Service	B		B					C	B		D	B
Approach Delay (s)		16.3			0.0			21.5			29.2	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	50.1	Sum of lost time (s)	10.9
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	17	17	20	62	34	21
Future Volume (vph)	17	17	20	62	34	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	18	18	21	65	36	22

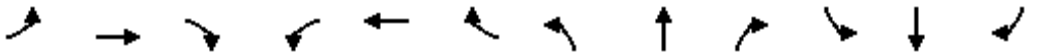
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	36	21	65	36	22
Volume Left (vph)	18	21	0	0	0
Volume Right (vph)	18	0	0	0	22
Hadj (s)	-0.15	0.55	0.05	0.05	-0.65
Departure Headway (s)	4.1	5.2	4.7	4.7	4.0
Degree Utilization, x	0.04	0.03	0.08	0.05	0.02
Capacity (veh/h)	851	681	754	757	879
Control Delay (s)	7.2	7.1	6.9	6.7	5.9
Approach Delay (s)	7.2	7.0		6.4	
Approach LOS	A	A		A	

Intersection Summary			
Delay	6.8		
Level of Service	A		
Intersection Capacity Utilization	17.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	301	1	2	199	37	1	1	1	49	2	44
Future Volume (vph)	46	301	1	2	199	37	1	1	1	49	2	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568		1733		1752	1845	1568
Flt Permitted	0.62	1.00	1.00	0.56	1.00	1.00		0.92		0.76	1.00	1.00
Satd. Flow (perm)	2222	3505	1568	1032	3505	1568		1616		1394	1845	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	48	317	1	2	209	39	1	1	1	52	2	46
RTOR Reduction (vph)	0	0	1	0	0	26	0	1	0	0	0	33
Lane Group Flow (vph)	48	317	0	2	209	13	0	2	0	52	2	13
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	7.6	7.6	7.6	7.6	7.6	7.6		6.4		6.4	6.4	6.4
Effective Green, g (s)	7.6	7.6	7.6	7.6	7.6	7.6		6.4		6.4	6.4	6.4
Actuated g/C Ratio	0.33	0.33	0.33	0.33	0.33	0.33		0.28		0.28	0.28	0.28
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	734	1158	518	341	1158	518		449		387	513	436
v/s Ratio Prot		c0.09			0.06						0.00	
v/s Ratio Perm	0.02		0.00	0.00		0.01		0.00		c0.04		0.01
v/c Ratio	0.07	0.27	0.00	0.01	0.18	0.02		0.01		0.13	0.00	0.03
Uniform Delay, d1	5.3	5.7	5.2	5.2	5.5	5.2		6.0		6.2	6.0	6.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.0	0.0	0.1	0.0		0.0		0.2	0.0	0.0
Delay (s)	5.3	5.8	5.2	5.2	5.6	5.2		6.0		6.4	6.0	6.1
Level of Service	A	A	A	A	A	A		A		A	A	A
Approach Delay (s)		5.7			5.5			6.0			6.2	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	23.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	30.5%	ICU Level of Service	A
Analysis Period (min)	15		

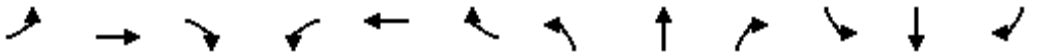
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	198	101	29	155	33	43	40	16	32	31	38
Future Volume (vph)	51	198	101	29	155	33	43	40	16	32	31	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	1845	1568	1752	1845	2760
Flt Permitted	0.64	1.00	1.00	0.62	1.00	1.00	0.95	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	1189	3505	1568	1146	5036	1568	3400	1845	1568	1346	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	54	208	106	31	163	35	45	42	17	34	33	40
RTOR Reduction (vph)	0	0	82	0	0	27	0	0	14	0	0	32
Lane Group Flow (vph)	54	208	24	31	163	8	45	42	3	34	33	8
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	7.7	7.7	7.7	7.7	7.7	7.7	6.3	6.3	6.3	6.5	6.5	6.5
Effective Green, g (s)	7.7	7.7	7.7	7.7	7.7	7.7	6.3	6.3	6.3	6.5	6.5	6.5
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23	0.23	0.19	0.19	0.19	0.19	0.19	0.19
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	269	793	355	259	1140	355	630	341	290	257	352	527
v/s Ratio Prot		c0.06			0.03		0.01	c0.02			0.02	
v/s Ratio Perm	0.05		0.02	0.03		0.01			0.00	c0.03		0.00
v/c Ratio	0.20	0.26	0.07	0.12	0.14	0.02	0.07	0.12	0.01	0.13	0.09	0.01
Uniform Delay, d1	10.7	10.8	10.3	10.5	10.5	10.2	11.4	11.5	11.3	11.4	11.3	11.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.2	0.1	0.2	0.1	0.0	0.0	0.2	0.0	0.2	0.1	0.0
Delay (s)	11.0	11.0	10.4	10.7	10.6	10.2	11.5	11.7	11.3	11.6	11.4	11.2
Level of Service	B	B	B	B	B	B	B	B	B	B	B	B
Approach Delay (s)		10.8			10.5			11.5			11.4	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	34.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	29.3%	ICU Level of Service	A
Analysis Period (min)	15		

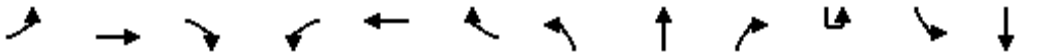
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	163	7	31	173	33	3	1	14	32	1	38
Future Volume (vph)	51	163	7	31	173	33	3	1	14	32	1	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	5006		1752	5036	1568	1752	1845	1568	1752	1845	2760
Flt Permitted	0.74	1.00		0.74	1.00	1.00	0.95	1.00	1.00	0.76	1.00	1.00
Satd. Flow (perm)	1366	5006		1366	5036	1568	1752	1845	1568	1397	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	54	172	7	33	182	35	3	1	15	34	1	40
RTOR Reduction (vph)	0	6	0	0	0	29	0	0	12	0	0	32
Lane Group Flow (vph)	54	173	0	33	182	6	3	1	3	34	1	8
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	5.4	5.4		5.4	5.4	5.4	5.8	5.8	5.8	6.5	6.5	6.5
Effective Green, g (s)	5.4	5.4		5.4	5.4	5.4	5.8	5.8	5.8	6.5	6.5	6.5
Actuated g/C Ratio	0.17	0.17		0.17	0.17	0.17	0.19	0.19	0.19	0.21	0.21	0.21
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	236	866		236	871	271	325	342	291	291	384	575
v/s Ratio Prot		0.03			0.04		0.00	0.00			0.00	
v/s Ratio Perm	c0.04			0.02		0.00			c0.00	c0.02		0.00
v/c Ratio	0.23	0.20		0.14	0.21	0.02	0.01	0.00	0.01	0.12	0.00	0.01
Uniform Delay, d1	11.1	11.0		10.9	11.1	10.7	10.4	10.3	10.4	10.0	9.8	9.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.1		0.3	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Delay (s)	11.6	11.2		11.2	11.2	10.7	10.4	10.3	10.4	10.2	9.8	9.8
Level of Service	B	B		B	B	B	B	B	B	B	A	A
Approach Delay (s)		11.3			11.1			10.4			10.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.12		
Actuated Cycle Length (s)	31.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	28.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	76	78	39	173	116	243	23	1278	49	29	370	1368
Future Volume (vph)	76	78	39	173	116	243	23	1278	49	29	370	1368
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00		0.97	0.91
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3400	5036	1534	3400	5036	1535	3400	5036	1538		3400	5036
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3400	5036	1534	3400	5036	1535	3400	5036	1538		3400	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	80	82	41	182	122	256	24	1345	52	31	389	1440
RTOR Reduction (vph)	0	0	37	0	0	178	0	0	32	0	0	0
Lane Group Flow (vph)	80	82	4	182	122	78	24	1345	20	0	420	1440
Confl. Peds. (#/hr)			5			5			5			
Confl. Bikes (#/hr)			2			2			2			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases			4			8			2			
Actuated Green, G (s)	3.9	7.5	7.5	5.8	9.4	9.4	1.8	27.2	27.2		12.0	37.4
Effective Green, g (s)	3.9	7.5	7.5	5.8	9.4	9.4	1.8	27.2	27.2		12.0	37.4
Actuated g/C Ratio	0.06	0.11	0.11	0.08	0.13	0.13	0.03	0.39	0.39		0.17	0.53
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	188	535	163	279	671	204	86	1942	593		578	2671
v/s Ratio Prot	0.02	0.02		c0.05	0.02		0.01	c0.27			c0.12	0.29
v/s Ratio Perm			0.00			c0.05			0.01			
v/c Ratio	0.43	0.15	0.03	0.65	0.18	0.38	0.28	0.69	0.03		0.73	0.54
Uniform Delay, d1	32.2	28.6	28.2	31.4	27.1	27.9	33.7	18.1	13.5		27.7	10.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.6	0.1	0.1	5.4	0.1	1.2	1.8	1.1	0.0		4.5	0.2
Delay (s)	33.8	28.7	28.3	36.8	27.3	29.1	35.5	19.2	13.5		32.2	11.1
Level of Service	C	C	C	D	C	C	D	B	B		C	B
Approach Delay (s)		30.6			31.2			19.3				15.5
Approach LOS		C			C			B				B

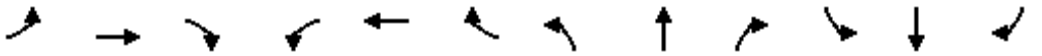
Intersection Summary			
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	70.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	93
Future Volume (vph)	93
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1539
Flt Permitted	1.00
Satd. Flow (perm)	1539
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	98
RTOR Reduction (vph)	46
Lane Group Flow (vph)	52
Confl. Peds. (#/hr)	5
Confl. Bikes (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	37.4
Effective Green, g (s)	37.4
Actuated g/C Ratio	0.53
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	816
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.06
Uniform Delay, d1	8.0
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	8.1
Level of Service	A
Approach Delay (s)	
Approach LOS	

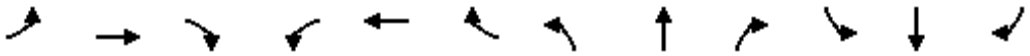
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	193	214	0	186	7	46	0	3	18	0	299
Future Volume (Veh/h)	90	193	214	0	186	7	46	0	3	18	0	299
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	95	203	225	0	196	7	48	0	3	19	0	315
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	203			428			604	708	214	494	818	102
vC1, stage 1 conf vol							506	506		200	200	
vC2, stage 2 conf vol							98	203		294	618	
vCu, unblocked vol	203			428			604	708	214	494	818	102
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			100			86	100	100	96	100	66
cM capacity (veh/h)	1359			1121			331	401	788	511	367	931

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	95	135	293	0	131	72	51	19	315
Volume Left	95	0	0	0	0	0	48	19	0
Volume Right	0	0	225	0	0	7	3	0	315
cSH	1359	1700	1700	1700	1700	1700	343	511	931
Volume to Capacity	0.07	0.08	0.17	0.00	0.08	0.04	0.15	0.04	0.34
Queue Length 95th (ft)	6	0	0	0	0	0	13	3	38
Control Delay (s)	7.8	0.0	0.0	0.0	0.0	0.0	17.3	12.3	10.8
Lane LOS	A						C	B	B
Approach Delay (s)	1.4			0.0			17.3	10.9	
Approach LOS							C	B	

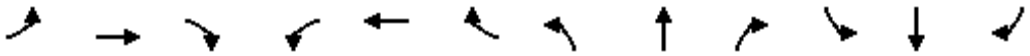
Intersection Summary				
Average Delay	4.7			
Intersection Capacity Utilization	37.2%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	139	57	24	102	12	74	5	28	18	7	17
Future Volume (Veh/h)	16	139	57	24	102	12	74	5	28	18	7	17
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	17	146	60	25	107	13	78	5	29	19	7	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	282	244	12	336	224	5	25			34		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	282	244	12	336	224	5	25			34		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	76	94	94	83	99	95			99		
cM capacity (veh/h)	530	615	1061	436	631	1073	1581			1569		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	17	97	109	25	71	49	78	5	29	19	5	20
Volume Left	17	0	0	25	0	0	78	0	0	19	0	0
Volume Right	0	0	60	0	0	13	0	0	29	0	0	18
cSH	530	615	801	436	631	709	1581	1700	1700	1569	1700	1700
Volume to Capacity	0.03	0.16	0.14	0.06	0.11	0.07	0.05	0.00	0.02	0.01	0.00	0.01
Queue Length 95th (ft)	2	14	12	5	10	6	4	0	0	1	0	0
Control Delay (s)	12.0	12.0	10.2	13.8	11.4	10.5	7.4	0.0	0.0	7.3	0.0	0.0
Lane LOS	B	B	B	B	B	B	A			A		
Approach Delay (s)	11.1			11.5			5.2			3.2		
Approach LOS	B			B								

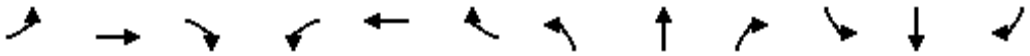
Intersection Summary					
Average Delay	9.3				
Intersection Capacity Utilization	29.8%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	63	55	68	6	56	6	43	36	23	6	29	40
Future Volume (vph)	63	55	68	6	56	6	43	36	23	6	29	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	66	58	72	6	59	6	45	38	24	6	31	42

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	66	130	6	65	45	62	6	73
Volume Left (vph)	66	0	6	0	45	0	6	0
Volume Right (vph)	0	72	0	6	0	24	0	42
Hadj (s)	0.55	-0.34	0.55	-0.01	0.55	-0.22	0.55	-0.35
Departure Headway (s)	5.6	4.7	5.7	5.1	5.8	5.0	5.8	4.9
Degree Utilization, x	0.10	0.17	0.01	0.09	0.07	0.09	0.01	0.10
Capacity (veh/h)	615	736	601	669	595	682	586	694
Control Delay (s)	8.0	7.5	7.6	7.5	8.0	7.3	7.7	7.2
Approach Delay (s)	7.6		7.5		7.6		7.3	
Approach LOS	A		A		A		A	

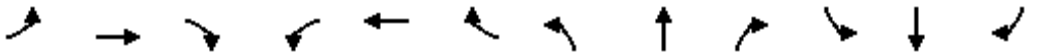
Intersection Summary				
Delay	7.5			
Level of Service	A			
Intersection Capacity Utilization	25.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	49	0	1301	18	51	1529	23
Future Volume (Veh/h)	0	0	0	0	0	49	0	1301	18	51	1529	23
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	52	0	1369	19	54	1609	24
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								540			840	
pX, platoon unblocked	0.90	0.90	0.82	0.90	0.90	0.85	0.82			0.85		
vC, conflicting volume	2237	3117	548	2023	3120	466	1633			1388		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	851	1829	0	613	1832	0	1021			834		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	94	100			92		
cM capacity (veh/h)	200	62	891	316	62	918	552			669		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	0	52	548	548	293	54	644	644	346
Volume Left	0	0	0	0	0	54	0	0	0
Volume Right	0	52	0	0	19	0	0	0	24
cSH	1700	918	1700	1700	1700	669	1700	1700	1700
Volume to Capacity	0.00	0.06	0.32	0.32	0.17	0.08	0.38	0.38	0.20
Queue Length 95th (ft)	0	4	0	0	0	7	0	0	0
Control Delay (s)	0.0	9.2	0.0	0.0	0.0	10.9	0.0	0.0	0.0
Lane LOS	A	A				B			
Approach Delay (s)	0.0	9.2	0.0			0.3			
Approach LOS	A	A							

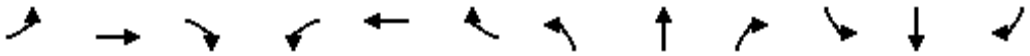
Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	35.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	1	1	14	3	25	5	1244	13	49	1435	33
Future Volume (vph)	51	1	1	14	3	25	5	1244	13	49	1435	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.87		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1706		1752	1597		1752	5036	1568	1752	5036	1568
Flt Permitted	0.49	1.00		0.95	1.00		0.14	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)	900	1706		1752	1597		254	5036	1568	312	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	54	1	1	15	3	26	5	1309	14	52	1511	35
RTOR Reduction (vph)	0	1	0	0	25	0	0	0	6	0	0	16
Lane Group Flow (vph)	54	1	0	15	4	0	5	1309	8	52	1511	19
Turn Type	Perm	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2		2	6		6
Actuated Green, G (s)	8.2	8.2		2.4	2.4		29.0	29.0	29.0	29.0	29.0	29.0
Effective Green, g (s)	8.2	8.2		2.4	2.4		29.0	29.0	29.0	29.0	29.0	29.0
Actuated g/C Ratio	0.15	0.15		0.05	0.05		0.55	0.55	0.55	0.55	0.55	0.55
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	138	263		79	72		138	2750	856	170	2750	856
v/s Ratio Prot		0.00		c0.01	0.00			0.26			c0.30	
v/s Ratio Perm	c0.06						0.02		0.00	0.17		0.01
v/c Ratio	0.39	0.00		0.19	0.06		0.04	0.48	0.01	0.31	0.55	0.02
Uniform Delay, d1	20.2	19.0		24.4	24.3		5.6	7.4	5.5	6.6	7.8	5.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.0		1.2	0.3		0.1	0.1	0.0	1.0	0.2	0.0
Delay (s)	22.0	19.0		25.6	24.6		5.7	7.5	5.5	7.6	8.0	5.5
Level of Service	C	B		C	C		A	A	A	A	A	A
Approach Delay (s)		21.9			24.9			7.5			8.0	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	53.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

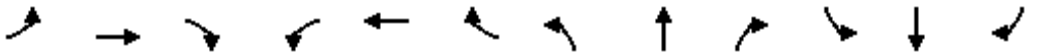
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	3	3	3	3	22	3	22	3	26	119	14
Future Volume (vph)	17	3	3	3	3	22	3	22	3	26	119	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	18	3	3	3	3	23	3	23	3	27	125	15

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	18	6	3	26	3	26	27	140
Volume Left (vph)	18	0	3	0	3	0	27	0
Volume Right (vph)	0	3	0	23	0	3	0	15
Hadj (s)	0.55	-0.30	0.55	-0.57	0.55	-0.03	0.55	-0.02
Departure Headway (s)	5.5	4.7	5.5	4.4	5.3	4.7	5.2	4.6
Degree Utilization, x	0.03	0.01	0.00	0.03	0.00	0.03	0.04	0.18
Capacity (veh/h)	618	732	620	775	662	742	674	762
Control Delay (s)	7.5	6.5	7.4	6.4	7.1	6.7	7.2	7.4
Approach Delay (s)	7.2		6.5		6.7		7.4	
Approach LOS	A		A		A		A	

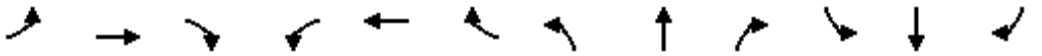
Intersection Summary				
Delay	7.2			
Level of Service	A			
Intersection Capacity Utilization	22.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	21	19	48	19	271	17	751	92	399	662	248
Future Volume (vph)	165	21	19	48	19	271	17	751	92	399	662	248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	174	22	20	51	20	285	18	791	97	420	697	261
RTOR Reduction (vph)	0	0	17	0	0	257	0	0	69	0	0	102
Lane Group Flow (vph)	174	22	3	51	20	28	18	791	28	420	697	159
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	13.4	13.4	13.4	8.8	8.8	8.8	2.0	25.6	25.6	23.6	47.2	47.2
Effective Green, g (s)	13.4	13.4	13.4	8.8	8.8	8.8	2.0	25.6	25.6	23.6	47.2	47.2
Actuated g/C Ratio	0.15	0.15	0.15	0.10	0.10	0.10	0.02	0.29	0.29	0.26	0.53	0.53
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	262	276	235	172	181	154	39	1003	449	462	1850	827
v/s Ratio Prot	c0.10	0.01		c0.03	0.01		0.01	c0.23		c0.24	0.20	
v/s Ratio Perm			0.00			0.02			0.02			0.10
v/c Ratio	0.66	0.08	0.01	0.30	0.11	0.18	0.46	0.79	0.06	0.91	0.38	0.19
Uniform Delay, d1	35.9	32.7	32.4	37.4	36.7	37.0	43.2	29.4	23.2	31.9	12.4	11.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.2	0.1	0.0	1.0	0.3	0.6	8.4	4.2	0.1	21.5	0.1	0.1
Delay (s)	42.1	32.8	32.4	38.4	37.0	37.6	51.6	33.6	23.2	53.3	12.6	11.2
Level of Service	D	C	C	D	D	D	D	C	C	D	B	B
Approach Delay (s)		40.2			37.7			32.8			24.7	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	89.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

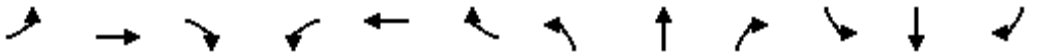
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	1	10	22	1	137	26	722	50	229	502	97
Future Volume (vph)	61	1	10	22	1	137	26	722	50	229	502	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.89	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1736			1542	1490	1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.88	1.00	0.46	1.00	1.00	0.33	1.00	1.00
Satd. Flow (perm)		1736			1381	1490	841	3505	1568	1197	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	64	1	11	23	1	144	27	760	53	241	528	102
RTOR Reduction (vph)	0	10	0	0	55	73	0	0	25	0	0	47
Lane Group Flow (vph)	0	66	0	0	31	9	27	760	28	241	528	55
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		4.4			5.4	5.4	27.1	27.1	27.1	27.1	27.1	27.1
Effective Green, g (s)		4.4			5.4	5.4	27.1	27.1	27.1	27.1	27.1	27.1
Actuated g/C Ratio		0.09			0.11	0.11	0.54	0.54	0.54	0.54	0.54	0.54
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		151			147	159	452	1884	843	643	1884	843
v/s Ratio Prot		c0.04						c0.22			0.15	
v/s Ratio Perm					c0.02	0.01	0.03		0.02	0.20		0.03
v/c Ratio		0.44			0.21	0.06	0.06	0.40	0.03	0.37	0.28	0.07
Uniform Delay, d1		21.8			20.5	20.2	5.6	6.9	5.5	6.7	6.3	5.6
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.0			0.7	0.1	0.1	0.1	0.0	0.4	0.1	0.0
Delay (s)		23.8			21.3	20.4	5.6	7.0	5.5	7.1	6.4	5.6
Level of Service		C			C	C	A	A	A	A	A	A
Approach Delay (s)		23.8			20.8			6.9			6.5	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	50.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	605	444	1	1	313	190	0	2	1	222	4	310
Future Volume (vph)	605	444	1	1	313	190	0	2	1	222	4	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95	1.00		1.00	1.00		1.00			1.00	0.88
Frt	1.00	1.00	0.85		1.00	0.85		0.95			1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00		1.00			0.95	1.00
Satd. Flow (prot)	3400	3505	1568		1844	1568		1762			1758	2760
Flt Permitted	0.51	1.00	1.00		1.00	1.00		1.00			0.95	1.00
Satd. Flow (perm)	1821	3505	1568		1843	1568		1762			1758	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	637	467	1	1	329	200	0	2	1	234	4	326
RTOR Reduction (vph)	0	0	1	0	0	101	0	1	0	0	0	255
Lane Group Flow (vph)	637	467	0	0	330	99	0	2	0	0	238	71
Turn Type	Perm	NA	Perm	Perm	NA	Perm		NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	33.2	33.2	33.2		33.2	33.2		5.8			14.6	14.6
Effective Green, g (s)	33.2	33.2	33.2		33.2	33.2		5.8			14.6	14.6
Actuated g/C Ratio	0.49	0.49	0.49		0.49	0.49		0.09			0.22	0.22
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	901	1734	775		911	775		152			382	600
v/s Ratio Prot		0.13						c0.00			c0.14	
v/s Ratio Perm	c0.35		0.00		0.18	0.06						0.03
v/c Ratio	0.71	0.27	0.00		0.36	0.13		0.01			0.62	0.12
Uniform Delay, d1	13.2	9.9	8.6		10.4	9.1		28.0			23.8	21.1
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	2.6	0.1	0.0		0.2	0.1		0.0			3.2	0.1
Delay (s)	15.7	10.0	8.6		10.7	9.2		28.1			26.9	21.2
Level of Service	B	A	A		B	A		C			C	C
Approach Delay (s)		13.3			10.1			28.1			23.6	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	67.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	606	3	3	462	61	3	3	3	65	3	36
Future Volume (Veh/h)	49	606	3	3	462	61	3	3	3	65	3	36
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	52	638	3	3	486	64	3	3	3	68	3	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	550			641			1307	1300	640	1272	1269	518
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	550			641			1307	1300	640	1272	1269	518
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			97	98	99	50	98	93
cM capacity (veh/h)	1015			939			120	152	474	135	158	556

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	693	553	9	109
Volume Left	52	3	3	68
Volume Right	3	64	3	38
cSH	1015	939	176	184
Volume to Capacity	0.05	0.00	0.05	0.59
Queue Length 95th (ft)	4	0	4	81
Control Delay (s)	1.3	0.1	26.6	49.4
Lane LOS	A	A	D	E
Approach Delay (s)	1.3	0.1	26.6	49.4
Approach LOS			D	E

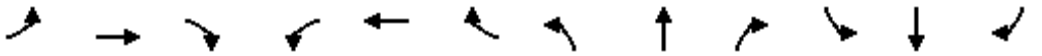
Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	198	1080	1773	392	0	2057
Future Volume (vph)	198	1080	1773	392	0	2057
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3502	2842	3512			5187
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3502	2842	3512			5187
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	208	1137	1866	413	0	2165
RTOR Reduction (vph)	0	18	17	0	0	0
Lane Group Flow (vph)	208	1119	2262	0	0	2165
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	36.4	36.4	68.7			68.7
Effective Green, g (s)	36.4	36.4	68.7			68.7
Actuated g/C Ratio	0.32	0.32	0.60			0.60
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1108	899	2098			3098
v/s Ratio Prot	0.06		c0.64			0.42
v/s Ratio Perm		c0.39				
v/c Ratio	0.19	1.24	1.08			0.70
Uniform Delay, d1	28.6	39.3	23.1			16.0
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	119.3	44.6			0.6
Delay (s)	28.6	158.6	67.8			16.6
Level of Service	C	F	E			B
Approach Delay (s)	138.5		67.8			16.6
Approach LOS	F		E			B

Intersection Summary			
HCM 2000 Control Delay	65.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	107.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	159	170	401	387	323	447	1410	422	266	771	56
Future Volume (vph)	114	159	170	401	387	323	447	1410	422	266	771	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	116	162	173	409	395	330	456	1439	431	271	787	57
RTOR Reduction (vph)	0	0	39	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	116	162	134	409	395	330	456	1439	431	271	787	57
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	9.5	12.7	33.9	17.0	20.2	120.0	21.2	57.5	120.0	14.8	51.1	120.0
Effective Green, g (s)	9.5	12.7	33.9	17.0	20.2	120.0	21.2	57.5	120.0	14.8	51.1	120.0
Actuated g/C Ratio	0.08	0.11	0.28	0.14	0.17	1.00	0.18	0.48	1.00	0.12	0.43	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	269	370	518	481	847	1568	580	2413	1568	419	2144	1568
v/s Ratio Prot	0.03	0.05	0.05	c0.12	c0.08		c0.14	c0.29		0.08	0.16	
v/s Ratio Perm			0.04			0.21			0.27			0.04
v/c Ratio	0.43	0.44	0.26	0.85	0.47	0.21	0.79	0.60	0.27	0.65	0.37	0.04
Uniform Delay, d1	52.7	50.3	33.3	50.3	45.0	0.0	47.2	22.8	0.0	50.1	23.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.15	1.19	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.8	0.3	13.5	0.4	0.3	4.5	0.7	0.3	3.4	0.5	0.0
Delay (s)	53.8	51.1	33.6	63.7	45.4	0.3	58.9	27.8	0.3	53.5	23.9	0.0
Level of Service	D	D	C	E	D	A	E	C	A	D	C	A
Approach Delay (s)		45.1			38.9			28.8			29.9	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	374	0	2008	118	109	770	500	0	0
Future Volume (vph)	0	374	0	2008	118	109	770	500	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.94			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4739			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4739			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	394	0	2114	124	115	811	526	0	0
RTOR Reduction (vph)	0	31	0	0	55	0	0	0	0	0
Lane Group Flow (vph)	0	363	0	2114	69	115	1337	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		16.1		33.6	33.6	16.1	60.0			
Effective Green, g (s)		16.1		33.6	33.6	16.1	60.0			
Actuated g/C Ratio		0.27		0.56	0.56	0.27	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		428		2820	878	470	4739			
v/s Ratio Prot		c0.23		c0.42		0.07	0.28			
v/s Ratio Perm					0.04					
v/c Ratio		0.85		0.75	0.08	0.24	0.28			
Uniform Delay, d1		20.8		10.0	6.1	17.2	0.0			
Progression Factor		1.00		1.00	1.00	0.71	1.00			
Incremental Delay, d2		13.9		1.9	0.2	0.1	0.0			
Delay (s)		34.7		11.9	6.3	12.3	0.0			
Level of Service		C		B	A	B	A			
Approach Delay (s)	34.7			11.6			1.0		0.0	
Approach LOS	C			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		

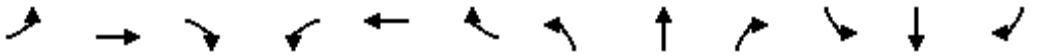
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	123	993	1407	425	0	910
Future Volume (vph)	123	993	1407	425	0	910
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3383			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3383			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	129	1045	1481	447	0	958
RTOR Reduction (vph)	0	35	32	0	0	0
Lane Group Flow (vph)	129	1010	1896	0	0	958
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1881			2800
v/s Ratio Prot	0.04		c0.56			0.19
v/s Ratio Perm		c0.37				
v/c Ratio	0.11	1.10	1.01			0.34
Uniform Delay, d1	20.7	30.0	20.0			10.9
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	59.8	22.8			0.0
Delay (s)	20.8	89.7	42.7			11.0
Level of Service	C	F	D			B
Approach Delay (s)	82.2		42.7			11.0
Approach LOS	F		D			B

Intersection Summary			
HCM 2000 Control Delay	46.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	847	0	188	0	0	0	0	1008	456	0	820	370
Future Volume (vph)	847	0	188	0	0	0	0	1008	456	0	820	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	892	0	198	0	0	0	0	1061	480	0	863	389
RTOR Reduction (vph)	0	0	34	0	0	0	0	0	293	0	0	238
Lane Group Flow (vph)	892	0	164	0	0	0	0	1061	187	0	863	151
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	16.4		16.4					17.4	17.4		17.4	17.4
Effective Green, g (s)	16.4		16.4					17.4	17.4		17.4	17.4
Actuated g/C Ratio	0.37		0.37					0.39	0.39		0.39	0.39
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1247		575					1364	610		1364	610
v/s Ratio Prot	c0.26							c0.30			0.25	
v/s Ratio Perm			0.10						0.12			0.10
v/c Ratio	0.72		0.28					0.78	0.31		0.63	0.25
Uniform Delay, d1	12.1		10.0					12.0	9.5		11.1	9.2
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	1.6		0.1					2.6	0.1		0.7	0.1
Delay (s)	13.8		10.1					14.6	9.6		11.8	9.3
Level of Service	B		B					B	A		B	A
Approach Delay (s)		13.1			0.0			13.0			11.0	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	44.7	Sum of lost time (s)	10.9
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

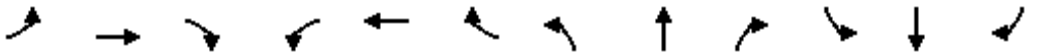
c Critical Lane Group



Movement	EBL	EBR	NBL2	NBL	SER	SER2
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	26	26	20	75	54	54
Future Volume (vph)	26	26	20	75	54	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	27	27	21	79	57	57

Direction, Lane #	EB 1	NB 1	NB 2	SE 1	SE 2
Volume Total (vph)	54	21	79	57	57
Volume Left (vph)	27	21	0	0	0
Volume Right (vph)	27	0	0	0	57
Hadj (s)	-0.15	0.55	0.05	0.05	-0.65
Departure Headway (s)	4.2	5.3	4.8	4.8	4.1
Degree Utilization, x	0.06	0.03	0.10	0.08	0.06
Capacity (veh/h)	812	668	738	735	865
Control Delay (s)	7.5	7.2	7.1	6.9	6.1
Approach Delay (s)	7.5	7.1		6.5	
Approach LOS	A	A		A	

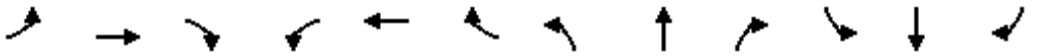
Intersection Summary			
Delay	7.0		
Level of Service	A		
Intersection Capacity Utilization	14.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	363	1	2	625	172	3	3	4	27	2	114
Future Volume (vph)	189	363	1	2	625	172	3	3	4	27	2	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568		1719		1752	1845	1568
Flt Permitted	0.40	1.00	1.00	0.53	1.00	1.00		0.92		0.75	1.00	1.00
Satd. Flow (perm)	1437	3505	1568	969	3505	1568		1605		1385	1845	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	199	382	1	2	658	181	3	3	4	28	2	120
RTOR Reduction (vph)	0	0	1	0	0	102	0	3	0	0	0	92
Lane Group Flow (vph)	199	382	0	2	658	79	0	7	0	28	2	28
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	11.9	11.9	11.9	11.9	11.9	11.9		6.3		6.3	6.3	6.3
Effective Green, g (s)	11.9	11.9	11.9	11.9	11.9	11.9		6.3		6.3	6.3	6.3
Actuated g/C Ratio	0.44	0.44	0.44	0.44	0.44	0.44		0.23		0.23	0.23	0.23
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	628	1533	686	423	1533	686		371		320	427	363
v/s Ratio Prot		0.11			c0.19						0.00	
v/s Ratio Perm	0.14		0.00	0.00		0.05		0.00		c0.02		0.02
v/c Ratio	0.32	0.25	0.00	0.00	0.43	0.12		0.02		0.09	0.00	0.08
Uniform Delay, d1	5.0	4.8	4.3	4.3	5.3	4.5		8.1		8.2	8.0	8.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1	0.0	0.0	0.2	0.1		0.0		0.1	0.0	0.1
Delay (s)	5.3	4.9	4.3	4.3	5.5	4.6		8.1		8.3	8.0	8.3
Level of Service	A	A	A	A	A	A		A		A	A	A
Approach Delay (s)		5.0			5.3			8.1			8.3	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	27.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

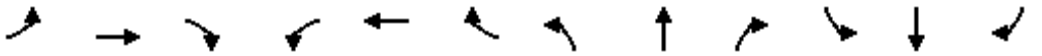
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	237	63	10	551	99	198	96	21	36	47	49
Future Volume (vph)	90	237	63	10	551	99	198	96	21	36	47	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	1845	1568	1752	1845	2760
Flt Permitted	0.42	1.00	1.00	0.60	1.00	1.00	0.95	1.00	1.00	0.69	1.00	1.00
Satd. Flow (perm)	780	3505	1568	1102	5036	1568	3400	1845	1568	1276	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	95	249	66	11	580	104	208	101	22	38	49	52
RTOR Reduction (vph)	0	0	46	0	0	73	0	0	17	0	0	43
Lane Group Flow (vph)	95	249	20	11	580	31	208	101	5	38	49	9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	12.3	12.3	12.3	12.3	12.3	12.3	8.5	8.5	8.5	7.1	7.1	7.1
Effective Green, g (s)	12.3	12.3	12.3	12.3	12.3	12.3	8.5	8.5	8.5	7.1	7.1	7.1
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30	0.30	0.21	0.21	0.21	0.17	0.17	0.17
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	231	1041	465	327	1496	465	698	378	321	218	316	473
v/s Ratio Prot		0.07			0.12		c0.06	0.05			0.03	
v/s Ratio Perm	c0.12		0.01	0.01		0.02			0.00	c0.03		0.00
v/c Ratio	0.41	0.24	0.04	0.03	0.39	0.07	0.30	0.27	0.01	0.17	0.16	0.02
Uniform Delay, d1	11.7	11.0	10.4	10.3	11.6	10.4	13.9	13.8	13.1	14.6	14.6	14.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.1	0.0	0.0	0.2	0.1	0.2	0.4	0.0	0.4	0.2	0.0
Delay (s)	12.8	11.1	10.4	10.4	11.7	10.5	14.2	14.2	13.1	15.0	14.8	14.3
Level of Service	B	B	B	B	B	B	B	B	B	B	B	B
Approach Delay (s)		11.4			11.5			14.1			14.7	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	41.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		

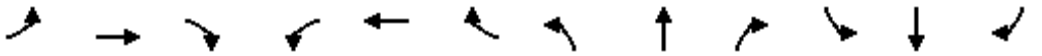
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	152	3	7	623	100	22	3	13	36	1	48
Future Volume (vph)	90	152	3	7	623	100	22	3	13	36	1	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	5022		1752	5036	1568	1752	1845	1568	1752	1845	2760
Flt Permitted	0.39	1.00		0.64	1.00	1.00	0.95	1.00	1.00	0.76	1.00	1.00
Satd. Flow (perm)	722	5022		1189	5036	1568	1752	1845	1568	1394	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	95	160	3	7	656	105	23	3	14	38	1	51
RTOR Reduction (vph)	0	2	0	0	0	72	0	0	12	0	0	42
Lane Group Flow (vph)	95	161	0	7	656	33	23	3	2	38	1	9
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	12.3	12.3		12.3	12.3	12.3	6.2	6.2	6.2	6.9	6.9	6.9
Effective Green, g (s)	12.3	12.3		12.3	12.3	12.3	6.2	6.2	6.2	6.9	6.9	6.9
Actuated g/C Ratio	0.32	0.32		0.32	0.32	0.32	0.16	0.16	0.16	0.18	0.18	0.18
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	228	1587		375	1592	495	279	294	249	247	327	489
v/s Ratio Prot		0.03			0.13		c0.01	0.00			0.00	
v/s Ratio Perm	c0.13			0.01		0.02			0.00	c0.03		0.00
v/c Ratio	0.42	0.10		0.02	0.41	0.07	0.08	0.01	0.01	0.15	0.00	0.02
Uniform Delay, d1	10.5	9.4		9.1	10.5	9.3	13.9	13.8	13.8	13.5	13.2	13.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.0		0.0	0.2	0.1	0.1	0.0	0.0	0.3	0.0	0.0
Delay (s)	11.7	9.4		9.2	10.6	9.3	14.1	13.8	13.8	13.8	13.2	13.2
Level of Service	B	A		A	B	A	B	B	B	B	B	B
Approach Delay (s)		10.3			10.4			13.9			13.5	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	38.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

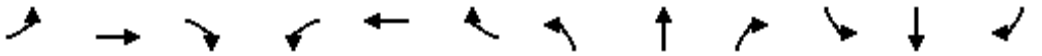
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	23	29	84	254	254	213	1265	31	151	759	229
Future Volume (vph)	129	23	29	84	254	254	213	1265	31	151	759	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	5036	1539	3400	5036	1538	3400	5036	1540	3400	5036	1540
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	5036	1539	3400	5036	1538	3400	5036	1540	3400	5036	1540
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	136	24	31	88	267	267	224	1332	33	159	799	241
RTOR Reduction (vph)	0	0	25	0	0	172	0	0	21	0	0	163
Lane Group Flow (vph)	136	24	6	88	267	95	224	1332	12	159	799	78
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	3.7	11.4	11.4	2.7	10.4	10.4	5.7	20.0	20.0	3.7	18.0	18.0
Effective Green, g (s)	3.7	11.4	11.4	2.7	10.4	10.4	5.7	20.0	20.0	3.7	18.0	18.0
Actuated g/C Ratio	0.07	0.20	0.20	0.05	0.19	0.19	0.10	0.36	0.36	0.07	0.32	0.32
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	225	1028	314	164	938	286	347	1805	551	225	1624	496
v/s Ratio Prot	c0.04	0.00		0.03	0.05		c0.07	c0.26		0.05	0.16	
v/s Ratio Perm			0.00			c0.06			0.01			0.05
v/c Ratio	0.60	0.02	0.02	0.54	0.28	0.33	0.65	0.74	0.02	0.71	0.49	0.16
Uniform Delay, d1	25.3	17.7	17.7	25.9	19.5	19.7	24.1	15.6	11.6	25.5	15.2	13.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.5	0.0	0.0	3.4	0.2	0.7	4.1	1.6	0.0	9.7	0.2	0.1
Delay (s)	29.9	17.8	17.8	29.3	19.7	20.4	28.2	17.2	11.6	35.2	15.5	13.6
Level of Service	C	B	B	C	B	C	C	B	B	D	B	B
Approach Delay (s)		26.4			21.3			18.7			17.7	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	55.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

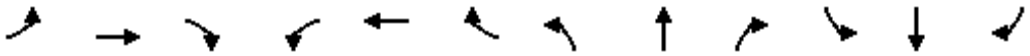
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	98	107	0	536	0	0	0	5	0	0	0
Future Volume (Veh/h)	0	98	107	0	536	0	0	0	5	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	103	113	0	564	0	0	0	5	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	564			216			442	724	108	620	780	282
vC1, stage 1 conf vol							160	160		564	564	
vC2, stage 2 conf vol							282	564		56	216	
vCu, unblocked vol	564			216			442	724	108	620	780	282
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	100	100	100
cM capacity (veh/h)	997			1344			567	421	922	418	409	712

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	0	69	147	0	282	282	5	0
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	113	0	0	0	5	0
cSH	1700	1700	1700	1700	1700	1700	922	1700
Volume to Capacity	0.00	0.04	0.09	0.00	0.17	0.17	0.01	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	8.9	0.0
Lane LOS							A	A
Approach Delay (s)	0.0			0.0			8.9	0.0
Approach LOS							A	A

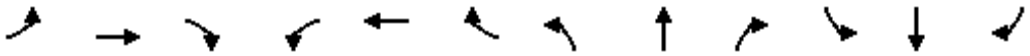
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	24.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	58	25	37	356	30	126	7	23	15	6	53
Future Volume (Veh/h)	14	58	25	37	356	30	126	7	23	15	6	53
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	61	26	39	375	32	133	7	24	16	6	56
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	558	363	31	364	367	7	62			31		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	558	363	31	364	367	7	62			31		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	88	97	92	26	97	91			99		
cM capacity (veh/h)	146	507	1033	463	504	1070	1532			1573		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	15	41	46	39	250	157	133	7	24	16	4	58
Volume Left	15	0	0	39	0	0	133	0	0	16	0	0
Volume Right	0	0	26	0	0	32	0	0	24	0	0	56
cSH	146	507	710	463	504	565	1532	1700	1700	1573	1700	1700
Volume to Capacity	0.10	0.08	0.07	0.08	0.50	0.28	0.09	0.00	0.01	0.01	0.00	0.03
Queue Length 95th (ft)	8	7	5	7	68	28	7	0	0	1	0	0
Control Delay (s)	32.4	12.7	10.4	13.5	18.9	13.8	7.6	0.0	0.0	7.3	0.0	0.0
Lane LOS	D	B	B	B	C	B	A			A		
Approach Delay (s)	14.6			16.7			6.1			1.5		
Approach LOS	B			C								

Intersection Summary					
Average Delay	12.7				
Intersection Capacity Utilization	31.9%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	46	42	47	6	290	6	67	53	6	11	16	67
Future Volume (vph)	46	42	47	6	290	6	67	53	6	11	16	67
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	48	44	49	6	305	6	71	56	6	12	17	71

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	48	93	6	311	71	62	12	88
Volume Left (vph)	48	0	6	0	71	0	12	0
Volume Right (vph)	0	49	0	6	0	6	0	71
Hadj (s)	0.55	-0.32	0.55	0.04	0.55	-0.02	0.55	-0.51
Departure Headway (s)	6.0	5.2	5.8	5.3	6.3	5.8	6.4	5.3
Degree Utilization, x	0.08	0.13	0.01	0.46	0.13	0.10	0.02	0.13
Capacity (veh/h)	564	662	588	654	532	580	519	621
Control Delay (s)	8.3	7.7	7.7	11.6	9.0	8.2	8.3	7.9
Approach Delay (s)	8.0		11.5		8.7		8.0	
Approach LOS	A		B		A		A	

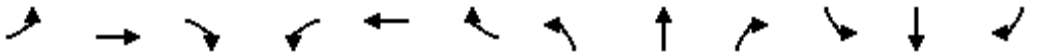
Intersection Summary				
Delay	9.7			
Level of Service	A			
Intersection Capacity Utilization	39.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	64	1421	12	12	885
Future Volume (Veh/h)	0	64	1421	12	12	885
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	67	1496	13	13	932
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			540			840
pX, platoon unblocked	0.87	0.82			0.82	
vC, conflicting volume	1839	505			1509	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	686	0			843	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	92			98	
cM capacity (veh/h)	321	884			640	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	67	598	598	312	13	311	311	311
Volume Left	0	0	0	0	13	0	0	0
Volume Right	67	0	0	13	0	0	0	0
cSH	884	1700	1700	1700	640	1700	1700	1700
Volume to Capacity	0.08	0.35	0.35	0.18	0.02	0.18	0.18	0.18
Queue Length 95th (ft)	6	0	0	0	2	0	0	0
Control Delay (s)	9.4	0.0	0.0	0.0	10.7	0.0	0.0	0.0
Lane LOS	A				B			
Approach Delay (s)	9.4	0.0			0.1			
Approach LOS	A							

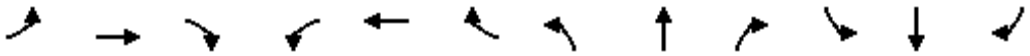
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	3	2	42	5	37	6	1333	16	13	847	22
Future Volume (vph)	64	3	2	42	5	37	6	1333	16	13	847	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.94		1.00	0.87		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1734		1752	1599		1752	5036	1568	1752	5036	1568
Flt Permitted	0.45	1.00		0.95	1.00		0.29	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	838	1734		1752	1599		539	5036	1568	264	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	67	3	2	44	5	39	6	1403	17	14	892	23
RTOR Reduction (vph)	0	2	0	0	36	0	0	0	8	0	0	11
Lane Group Flow (vph)	67	3	0	44	8	0	6	1403	9	14	892	12
Turn Type	Perm	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2		2	6		6
Actuated Green, G (s)	8.8	8.8		4.0	4.0		27.9	27.9	27.9	27.9	27.9	27.9
Effective Green, g (s)	8.8	8.8		4.0	4.0		27.9	27.9	27.9	27.9	27.9	27.9
Actuated g/C Ratio	0.16	0.16		0.07	0.07		0.51	0.51	0.51	0.51	0.51	0.51
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	136	281		129	118		277	2592	807	135	2592	807
v/s Ratio Prot		0.00		c0.03	0.00			c0.28			0.18	
v/s Ratio Perm	c0.08						0.01		0.01	0.05		0.01
v/c Ratio	0.49	0.01		0.34	0.07		0.02	0.54	0.01	0.10	0.34	0.01
Uniform Delay, d1	20.7	19.1		23.8	23.4		6.5	8.8	6.4	6.7	7.8	6.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	0.0		1.6	0.2		0.0	0.2	0.0	0.3	0.1	0.0
Delay (s)	23.5	19.1		25.4	23.6		6.5	9.1	6.4	7.1	7.8	6.4
Level of Service	C	B		C	C		A	A	A	A	A	A
Approach Delay (s)		23.2			24.5			9.0			7.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	54.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

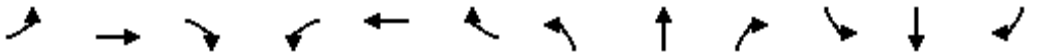
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	9	9	6	20	53	19	53	6	20	21	22
Future Volume (vph)	9	9	9	6	20	53	19	53	6	20	21	22
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	9	9	6	21	56	20	56	6	21	22	23

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	9	18	6	77	20	62	21	45
Volume Left (vph)	9	0	6	0	20	0	21	0
Volume Right (vph)	0	9	0	56	0	6	0	23
Hadj (s)	0.55	-0.30	0.55	-0.46	0.55	-0.02	0.55	-0.31
Departure Headway (s)	5.5	4.6	5.4	4.4	5.4	4.8	5.4	4.5
Degree Utilization, x	0.01	0.02	0.01	0.09	0.03	0.08	0.03	0.06
Capacity (veh/h)	639	746	637	784	652	728	647	771
Control Delay (s)	7.3	6.5	7.3	6.7	7.3	7.0	7.3	6.6
Approach Delay (s)	6.8		6.7		7.1		6.8	
Approach LOS	A		A		A		A	

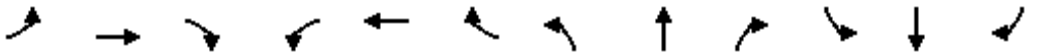
Intersection Summary				
Delay	6.9			
Level of Service	A			
Intersection Capacity Utilization	21.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	32	23	0	39	372	7	530	30	173	436	136
Future Volume (vph)	162	32	23	0	39	372	7	530	30	173	436	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1845	1568		1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	1845	1568		1845	1568	1752	3505	1568	1752	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	171	34	24	0	41	392	7	558	32	182	459	143
RTOR Reduction (vph)	0	0	20	0	0	279	0	0	23	0	0	87
Lane Group Flow (vph)	171	34	4	0	41	113	7	558	9	182	459	56
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	11.7	11.7	11.7		9.9	9.9	0.8	18.9	18.9	7.8	25.9	25.9
Effective Green, g (s)	11.7	11.7	11.7		9.9	9.9	0.8	18.9	18.9	7.8	25.9	25.9
Actuated g/C Ratio	0.18	0.18	0.18		0.15	0.15	0.01	0.29	0.29	0.12	0.39	0.39
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	309	325	276		275	234	21	999	446	206	1369	612
v/s Ratio Prot	c0.10	0.02			0.02		0.00	c0.16		c0.10	0.13	
v/s Ratio Perm			0.00			c0.07			0.01			0.04
v/c Ratio	0.55	0.10	0.02		0.15	0.48	0.33	0.56	0.02	0.88	0.34	0.09
Uniform Delay, d1	24.9	22.9	22.5		24.5	25.9	32.5	20.2	17.0	28.8	14.2	12.8
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.1	0.0		0.3	1.6	9.1	0.7	0.0	32.9	0.1	0.1
Delay (s)	27.1	23.0	22.6		24.8	27.4	41.6	20.8	17.1	61.7	14.3	12.8
Level of Service	C	C	C		C	C	D	C	B	E	B	B
Approach Delay (s)		26.0			27.2			20.9			25.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	66.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

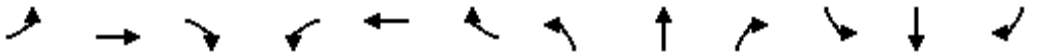
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	2	11	101	2	292	9	435	39	138	442	32
Future Volume (vph)	60	2	11	101	2	292	9	435	39	138	442	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.93	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1735			1584	1490	1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.80	1.00	0.48	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)		1735			1302	1490	892	3505	1568	1747	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	63	2	12	106	2	307	9	458	41	145	465	34
RTOR Reduction (vph)	0	11	0	0	50	150	0	0	28	0	0	23
Lane Group Flow (vph)	0	66	0	0	162	53	9	458	13	145	465	11
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		4.2			11.1	11.1	13.9	13.9	13.9	13.9	13.9	13.9
Effective Green, g (s)		4.2			11.1	11.1	13.9	13.9	13.9	13.9	13.9	13.9
Actuated g/C Ratio		0.10			0.26	0.26	0.33	0.33	0.33	0.33	0.33	0.33
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		170			338	387	290	1140	510	568	1140	510
v/s Ratio Prot		c0.04						0.13			c0.13	
v/s Ratio Perm					c0.12	0.04	0.01		0.01	0.08		0.01
v/c Ratio		0.39			0.48	0.14	0.03	0.40	0.03	0.26	0.41	0.02
Uniform Delay, d1		18.0			13.4	12.1	9.8	11.2	9.8	10.6	11.2	9.8
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.5			1.1	0.2	0.0	0.2	0.0	0.2	0.2	0.0
Delay (s)		19.5			14.4	12.3	9.9	11.4	9.8	10.8	11.4	9.8
Level of Service		B			B	B	A	B	A	B	B	A
Approach Delay (s)		19.5			13.4			11.3			11.2	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	42.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		

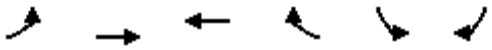
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	405	313	0	1	609	70	1	7	1	117	2	444
Future Volume (vph)	405	313	0	1	609	70	1	7	1	117	2	444
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		1.00			1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.95	1.00
Satd. Flow (prot)	3400	3505		1752	3505	1568		1807			1758	2760
Flt Permitted	0.37	1.00		0.55	1.00	1.00		0.37			0.95	1.00
Satd. Flow (perm)	1306	3505		1020	3505	1568		673			1758	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	426	329	0	1	641	74	1	7	1	123	2	467
RTOR Reduction (vph)	0	0	0	0	0	43	0	1	0	0	0	378
Lane Group Flow (vph)	426	329	0	1	641	31	0	8	0	0	125	89
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	20.6	20.6		20.6	20.6	20.6		6.0			9.5	9.5
Effective Green, g (s)	20.6	20.6		20.6	20.6	20.6		6.0			9.5	9.5
Actuated g/C Ratio	0.42	0.42		0.42	0.42	0.42		0.12			0.19	0.19
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	542	1455		423	1455	651		81			336	528
v/s Ratio Prot		0.09			0.18						c0.07	
v/s Ratio Perm	c0.33			0.00		0.02		c0.01				0.03
v/c Ratio	0.79	0.23		0.00	0.44	0.05		0.10			0.37	0.17
Uniform Delay, d1	12.6	9.4		8.5	10.4	8.6		19.4			17.5	16.8
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	7.4	0.1		0.0	0.2	0.0		0.5			0.7	0.2
Delay (s)	20.0	9.4		8.5	10.6	8.7		19.9			18.1	16.9
Level of Service	B	A		A	B	A		B			B	B
Approach Delay (s)		15.4			10.4			19.9			17.2	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	49.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

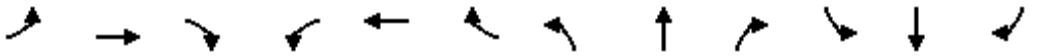
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	54	372	645	68	40	29
Future Volume (Veh/h)	54	372	645	68	40	29
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	57	392	679	72	42	31
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	751				989	340
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	751				989	340
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				81	95
cM capacity (veh/h)	848				226	653

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	57	196	196	340	340	72	73
Volume Left	57	0	0	0	0	0	42
Volume Right	0	0	0	0	0	72	31
cSH	848	1700	1700	1700	1700	1700	313
Volume to Capacity	0.07	0.12	0.12	0.20	0.20	0.04	0.23
Queue Length 95th (ft)	5	0	0	0	0	0	22
Control Delay (s)	9.6	0.0	0.0	0.0	0.0	0.0	20.0
Lane LOS	A						C
Approach Delay (s)	1.2			0.0			20.0
Approach LOS							C

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	454	290	516	627	483	511	1470	642	432	1946	177
Future Volume (vph)	140	454	290	516	627	483	511	1470	642	432	1946	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	156	504	322	573	697	537	568	1633	713	480	2162	197
RTOR Reduction (vph)	0	0	27	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	156	504	295	573	697	537	568	1633	713	480	2162	197
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	12.5	23.5	56.7	20.5	31.5	155.0	33.2	66.3	155.0	26.7	59.8	155.0
Effective Green, g (s)	12.5	23.5	56.7	20.5	31.5	155.0	33.2	66.3	155.0	26.7	59.8	155.0
Actuated g/C Ratio	0.08	0.15	0.37	0.13	0.20	1.00	0.21	0.43	1.00	0.17	0.39	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	274	531	639	449	1023	1568	703	2154	1568	585	1942	1568
v/s Ratio Prot	0.05	c0.14	0.10	c0.17	0.14		c0.17	0.32		0.14	c0.43	
v/s Ratio Perm			0.08			0.34			0.45			0.13
v/c Ratio	0.57	0.95	0.46	1.28	0.68	0.34	0.81	0.76	0.45	0.82	1.11	0.13
Uniform Delay, d1	68.7	65.2	37.5	67.2	57.1	0.0	57.9	37.6	0.0	61.8	47.6	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.7	26.5	0.5	140.6	1.9	0.6	6.8	2.6	1.0	9.0	58.9	0.2
Delay (s)	71.4	91.7	38.0	207.9	59.0	0.6	64.7	40.1	1.0	70.9	106.5	0.2
Level of Service	E	F	D	F	E	A	E	D	A	E	F	A
Approach Delay (s)		70.9			88.9			35.3			93.1	
Approach LOS		E			F			D			F	

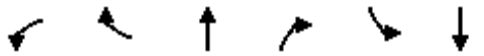
Intersection Summary			
HCM 2000 Control Delay	69.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	155.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	442	0	2065	86	298	1777	690	0	0
Future Volume (vph)	0	442	0	2065	86	298	1777	690	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.96			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4825			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4825			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	465	0	2174	91	314	1871	726	0	0
RTOR Reduction (vph)	0	22	0	0	36	0	0	0	0	0
Lane Group Flow (vph)	0	443	0	2174	55	314	2597	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		24.3		45.4	45.4	24.3	80.0			
Effective Green, g (s)		24.3		45.4	45.4	24.3	80.0			
Actuated g/C Ratio		0.30		0.57	0.57	0.30	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		484		2857	889	532	4825			
v/s Ratio Prot		c0.28		c0.43		0.18	0.54			
v/s Ratio Perm					0.03					
v/c Ratio		0.92		0.76	0.06	0.59	0.54			
Uniform Delay, d1		26.9		13.2	7.8	23.6	0.0			
Progression Factor		1.00		1.00	1.00	1.00	1.00			
Incremental Delay, d2		21.6		2.0	0.1	1.2	0.1			
Delay (s)		48.5		15.1	7.9	24.8	0.1			
Level of Service		D		B	A	C	A			
Approach Delay (s)	48.5			14.8			2.7		0.0	
Approach LOS	D			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		

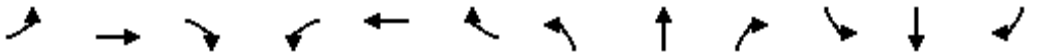
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	132	1015	1640	295	0	2009
Future Volume (vph)	132	1015	1640	295	0	2009
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.98			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3425			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3425			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	139	1068	1726	311	0	2115
RTOR Reduction (vph)	0	19	16	0	0	0
Lane Group Flow (vph)	139	1049	2021	0	0	2115
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1904			2800
v/s Ratio Prot	0.04		c0.59			0.42
v/s Ratio Perm		c0.38				
v/c Ratio	0.12	1.14	1.06			0.76
Uniform Delay, d1	20.8	30.0	20.0			15.3
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	75.9	39.1			1.1
Delay (s)	20.8	105.9	59.0			16.3
Level of Service	C	F	E			B
Approach Delay (s)	96.1		59.0			16.3
Approach LOS	F		E			B

Intersection Summary			
HCM 2000 Control Delay	50.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	98.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	896	0	301	0	0	0	0	1012	632	0	1365	812
Future Volume (vph)	896	0	301	0	0	0	0	1012	632	0	1365	812
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	943	0	317	0	0	0	0	1065	665	0	1437	855
RTOR Reduction (vph)	0	0	34	0	0	0	0	0	398	0	0	512
Lane Group Flow (vph)	943	0	283	0	0	0	0	1065	267	0	1437	343
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	17.7		17.7					19.2	19.2		19.2	19.2
Effective Green, g (s)	17.7		17.7					19.2	19.2		19.2	19.2
Actuated g/C Ratio	0.37		0.37					0.40	0.40		0.40	0.40
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1258		580					1407	629		1407	629
v/s Ratio Prot	c0.28							0.30			c0.41	
v/s Ratio Perm			0.18						0.17			0.22
v/c Ratio	0.75		0.49					0.76	0.42		1.02	0.55
Uniform Delay, d1	13.1		11.6					12.3	10.3		14.3	11.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	2.2		0.2					2.1	0.2		29.5	0.5
Delay (s)	15.3		11.8					14.4	10.5		43.8	11.5
Level of Service	B		B					B	B		D	B
Approach Delay (s)		14.4			0.0			12.9			31.8	
Approach LOS		B			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	47.8	Sum of lost time (s)	10.9
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

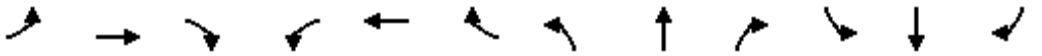
c Critical Lane Group



Movement	EBL	EBR	NBL2	NBL	SER	SER2
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	33	34	40	119	57	42
Future Volume (vph)	33	34	40	119	57	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	35	36	42	125	60	44

Direction, Lane #	EB 1	NB 1	NB 2	SE 1	SE 2
Volume Total (vph)	71	42	125	60	44
Volume Left (vph)	35	42	0	0	0
Volume Right (vph)	36	0	0	0	44
Hadj (s)	-0.15	0.55	0.05	0.05	-0.65
Departure Headway (s)	4.4	5.3	4.8	4.9	4.2
Degree Utilization, x	0.09	0.06	0.17	0.08	0.05
Capacity (veh/h)	782	662	731	717	839
Control Delay (s)	7.8	7.4	7.6	7.1	6.2
Approach Delay (s)	7.8	7.5		6.7	
Approach LOS	A	A		A	

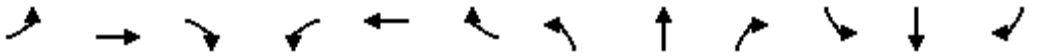
Intersection Summary			
Delay	7.3		
Level of Service	A		
Intersection Capacity Utilization	17.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	574	3	4	324	55	2	2	3	90	3	88
Future Volume (vph)	91	574	3	4	324	55	2	2	3	90	3	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568		1713		1752	1845	1568
Flt Permitted	0.55	1.00	1.00	0.42	1.00	1.00		0.94		0.75	1.00	1.00
Satd. Flow (perm)	1956	3505	1568	781	3505	1568		1628		1389	1845	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	96	604	3	4	341	58	2	2	3	95	3	93
RTOR Reduction (vph)	0	0	2	0	0	35	0	2	0	0	0	67
Lane Group Flow (vph)	96	604	1	4	341	23	0	5	0	95	3	26
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	11.3	11.3	11.3	11.3	11.3	11.3		7.7		7.7	7.7	7.7
Effective Green, g (s)	11.3	11.3	11.3	11.3	11.3	11.3		7.7		7.7	7.7	7.7
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40		0.28		0.28	0.28	0.28
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	789	1414	632	315	1414	632		447		381	507	431
v/s Ratio Prot		c0.17			0.10						0.00	
v/s Ratio Perm	0.05		0.00	0.01		0.01		0.00		c0.07		0.02
v/c Ratio	0.12	0.43	0.00	0.01	0.24	0.04		0.01		0.25	0.01	0.06
Uniform Delay, d1	5.2	6.0	5.0	5.0	5.5	5.1		7.4		7.9	7.4	7.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.2	0.0	0.0	0.1	0.0		0.0		0.3	0.0	0.1
Delay (s)	5.3	6.2	5.0	5.0	5.6	5.1		7.4		8.2	7.4	7.5
Level of Service	A	A	A	A	A	A		A		A	A	A
Approach Delay (s)		6.1			5.5			7.4			7.9	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	28.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

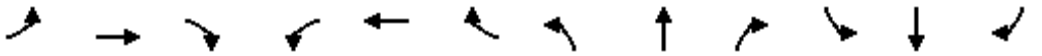
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	361	201	13	217	66	85	81	13	63	63	77
Future Volume (vph)	103	361	201	13	217	66	85	81	13	63	63	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	1845	1568	1752	1845	2760
Flt Permitted	0.60	1.00	1.00	0.53	1.00	1.00	0.95	1.00	1.00	0.70	1.00	1.00
Satd. Flow (perm)	1114	3505	1568	971	5036	1568	3400	1845	1568	1295	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	108	380	212	14	228	69	89	85	14	66	66	81
RTOR Reduction (vph)	0	0	152	0	0	49	0	0	11	0	0	65
Lane Group Flow (vph)	108	380	60	14	228	20	89	85	3	66	66	16
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	11.4	11.4	11.4	11.4	11.4	11.4	7.6	7.6	7.6	7.8	7.8	7.8
Effective Green, g (s)	11.4	11.4	11.4	11.4	11.4	11.4	7.6	7.6	7.6	7.8	7.8	7.8
Actuated g/C Ratio	0.28	0.28	0.28	0.28	0.28	0.28	0.19	0.19	0.19	0.19	0.19	0.19
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	315	991	443	274	1424	443	641	347	295	250	357	534
v/s Ratio Prot		c0.11			0.05		0.03	c0.05			0.04	
v/s Ratio Perm	0.10		0.04	0.01		0.01			0.00	c0.05		0.01
v/c Ratio	0.34	0.38	0.14	0.05	0.16	0.04	0.14	0.24	0.01	0.26	0.18	0.03
Uniform Delay, d1	11.5	11.6	10.8	10.5	10.9	10.5	13.6	13.9	13.3	13.8	13.6	13.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.2	0.1	0.1	0.1	0.0	0.1	0.4	0.0	0.6	0.3	0.0
Delay (s)	12.1	11.9	10.9	10.6	10.9	10.5	13.7	14.3	13.3	14.4	13.8	13.2
Level of Service	B	B	B	B	B	B	B	B	B	B	B	B
Approach Delay (s)		11.6			10.8			13.9			13.8	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	40.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	35.6%	ICU Level of Service	A
Analysis Period (min)	15		

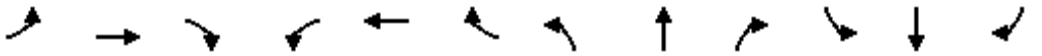
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	273	14	16	209	66	7	2	11	63	3	76
Future Volume (vph)	102	273	14	16	209	66	7	2	11	63	3	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	4998		1752	5036	1568	1752	1845	1568	1752	1845	2760
Flt Permitted	0.61	1.00		0.56	1.00	1.00	0.95	1.00	1.00	0.76	1.00	1.00
Satd. Flow (perm)	1123	4998		1034	5036	1568	1752	1845	1568	1396	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	107	287	15	17	220	69	7	2	12	66	3	80
RTOR Reduction (vph)	0	7	0	0	0	51	0	0	10	0	0	64
Lane Group Flow (vph)	107	295	0	17	220	18	7	2	2	66	3	16
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	9.1	9.1		9.1	9.1	9.1	5.8	5.8	5.8	7.3	7.3	7.3
Effective Green, g (s)	9.1	9.1		9.1	9.1	9.1	5.8	5.8	5.8	7.3	7.3	7.3
Actuated g/C Ratio	0.25	0.25		0.25	0.25	0.25	0.16	0.16	0.16	0.20	0.20	0.20
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	286	1274		263	1283	399	284	299	254	285	377	564
v/s Ratio Prot		0.06			0.04		c0.00	0.00			0.00	
v/s Ratio Perm	c0.10			0.02		0.01			0.00	c0.05		0.01
v/c Ratio	0.37	0.23		0.06	0.17	0.04	0.02	0.01	0.01	0.23	0.01	0.03
Uniform Delay, d1	11.0	10.5		10.1	10.4	10.0	12.6	12.5	12.5	11.9	11.3	11.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.1		0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Delay (s)	11.8	10.6		10.2	10.4	10.1	12.6	12.5	12.5	12.3	11.3	11.4
Level of Service	B	B		B	B	B	B	B	B	B	B	B
Approach Delay (s)		10.9			10.3			12.6			11.8	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	35.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		

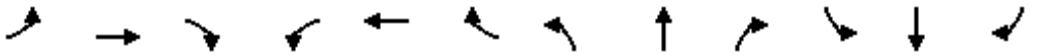
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	84	78	51	47	187	45	1127	71	342	1314	186
Future Volume (vph)	151	84	78	51	47	187	45	1127	71	342	1314	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	5036	1537	3400	5036	1536	3400	5036	1539	3400	5036	1540
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	5036	1537	3400	5036	1536	3400	5036	1539	3400	5036	1540
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	159	88	82	54	49	197	47	1186	75	360	1383	196
RTOR Reduction (vph)	0	0	67	0	0	167	0	0	50	0	0	110
Lane Group Flow (vph)	159	88	15	54	49	30	47	1186	25	360	1383	86
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	5.0	11.2	11.2	2.9	9.1	9.1	2.9	20.7	20.7	9.4	27.2	27.2
Effective Green, g (s)	5.0	11.2	11.2	2.9	9.1	9.1	2.9	20.7	20.7	9.4	27.2	27.2
Actuated g/C Ratio	0.08	0.18	0.18	0.05	0.15	0.15	0.05	0.33	0.33	0.15	0.44	0.44
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	273	906	276	158	736	224	158	1675	512	513	2202	673
v/s Ratio Prot	c0.05	0.02		0.02	0.01		0.01	c0.24		c0.11	0.27	
v/s Ratio Perm			0.01			c0.02			0.02			0.06
v/c Ratio	0.58	0.10	0.05	0.34	0.07	0.13	0.30	0.71	0.05	0.70	0.63	0.13
Uniform Delay, d1	27.6	21.3	21.1	28.7	22.9	23.1	28.7	18.1	14.1	25.1	13.6	10.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	0.0	0.1	1.3	0.0	0.3	1.1	1.4	0.0	4.3	0.6	0.1
Delay (s)	30.7	21.3	21.2	30.0	22.9	23.4	29.7	19.5	14.1	29.4	14.1	10.5
Level of Service	C	C	C	C	C	C	C	B	B	C	B	B
Approach Delay (s)		25.8			24.5			19.6			16.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	62.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

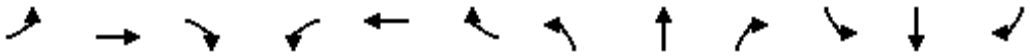
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	313	184	0	257	0	0	0	6	0	0	0
Future Volume (Veh/h)	0	313	184	0	257	0	0	0	6	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	329	194	0	271	0	0	0	6	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	271			523			562	697	262	442	794	136
vC1, stage 1 conf vol							426	426		271	271	
vC2, stage 2 conf vol							136	271		170	523	
vCu, unblocked vol	271			523			562	697	262	442	794	136
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	100	100	100
cM capacity (veh/h)	1282			1033			483	449	734	566	411	885

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	0	219	304	0	136	136	6	0
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	194	0	0	0	6	0
cSH	1700	1700	1700	1700	1700	1700	734	1700
Volume to Capacity	0.00	0.13	0.18	0.00	0.08	0.08	0.01	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	1	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.9	0.0
Lane LOS							A	A
Approach Delay (s)	0.0			0.0			9.9	0.0
Approach LOS							A	A

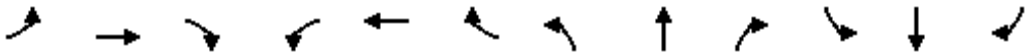
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	24.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	203	77	48	144	24	80	10	56	35	13	33
Future Volume (Veh/h)	33	203	77	48	144	24	80	10	56	35	13	33
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	35	214	81	51	152	25	84	11	59	37	14	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	386	344	24	448	302	11	49			70		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	386	344	24	448	302	11	49			70		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	91	60	92	83	73	98	95			98		
cM capacity (veh/h)	397	531	1043	294	560	1064	1549			1521		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	35	143	152	51	101	76	84	11	59	37	9	40
Volume Left	35	0	0	51	0	0	84	0	0	37	0	0
Volume Right	0	0	81	0	0	25	0	0	59	0	0	35
cSH	397	531	718	294	560	664	1549	1700	1700	1521	1700	1700
Volume to Capacity	0.09	0.27	0.21	0.17	0.18	0.11	0.05	0.01	0.03	0.02	0.01	0.02
Queue Length 95th (ft)	7	27	20	15	16	10	4	0	0	2	0	0
Control Delay (s)	14.9	14.3	11.4	19.8	12.8	11.1	7.5	0.0	0.0	7.4	0.0	0.0
Lane LOS	B	B	B	C	B	B	A			A		
Approach Delay (s)	13.0			13.8			4.1			3.2		
Approach LOS	B			B								

Intersection Summary					
Average Delay	10.4				
Intersection Capacity Utilization	32.5%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	101	92	101	11	104	11	56	61	46	11	38	56
Future Volume (vph)	101	92	101	11	104	11	56	61	46	11	38	56
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	106	97	106	12	109	12	59	64	48	12	40	59

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	106	203	12	121	59	112	12	99
Volume Left (vph)	106	0	12	0	59	0	12	0
Volume Right (vph)	0	106	0	12	0	48	0	59
Hadj (s)	0.55	-0.31	0.55	-0.02	0.55	-0.25	0.55	-0.37
Departure Headway (s)	6.0	5.1	6.1	5.6	6.3	5.5	6.4	5.5
Degree Utilization, x	0.18	0.29	0.02	0.19	0.10	0.17	0.02	0.15
Capacity (veh/h)	575	677	552	611	540	615	527	615
Control Delay (s)	9.0	8.9	8.1	8.7	8.8	8.4	8.3	8.2
Approach Delay (s)	9.0		8.6		8.6		8.2	
Approach LOS	A		A		A		A	

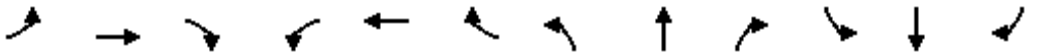
Intersection Summary				
Delay	8.7			
Level of Service	A			
Intersection Capacity Utilization	28.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	37	1196	20	46	1435
Future Volume (Veh/h)	0	37	1196	20	46	1435
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	39	1259	21	48	1511
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			540			840
pX, platoon unblocked	0.87	0.86			0.86	
vC, conflicting volume	1869	430			1280	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	392	0			752	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			93	
cM capacity (veh/h)	474	929			728	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	39	504	504	273	48	504	504	504
Volume Left	0	0	0	0	48	0	0	0
Volume Right	39	0	0	21	0	0	0	0
cSH	929	1700	1700	1700	728	1700	1700	1700
Volume to Capacity	0.04	0.30	0.30	0.16	0.07	0.30	0.30	0.30
Queue Length 95th (ft)	3	0	0	0	5	0	0	0
Control Delay (s)	9.0	0.0	0.0	0.0	10.3	0.0	0.0	0.0
Lane LOS	A				B			
Approach Delay (s)	9.0	0.0			0.3			
Approach LOS	A							

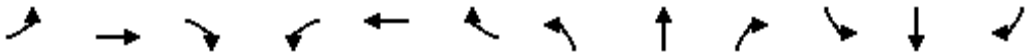
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	33.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	3	2	20	6	23	10	1131	20	48	1343	20
Future Volume (vph)	66	3	2	20	6	23	10	1131	20	48	1343	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.94		1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1734		1752	1623		1752	5036	1568	1752	5036	1568
Flt Permitted	0.44	1.00		0.95	1.00		0.15	1.00	1.00	0.19	1.00	1.00
Satd. Flow (perm)	820	1734		1752	1623		272	5036	1568	356	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	69	3	2	21	6	24	11	1191	21	51	1414	21
RTOR Reduction (vph)	0	2	0	0	22	0	0	0	10	0	0	10
Lane Group Flow (vph)	69	3	0	21	8	0	11	1191	11	51	1414	11
Turn Type	Perm	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2		2	6		6
Actuated Green, G (s)	9.0	9.0		3.5	3.5		27.1	27.1	27.1	27.1	27.1	27.1
Effective Green, g (s)	9.0	9.0		3.5	3.5		27.1	27.1	27.1	27.1	27.1	27.1
Actuated g/C Ratio	0.17	0.17		0.07	0.07		0.51	0.51	0.51	0.51	0.51	0.51
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	138	293		115	106		138	2570	800	181	2570	800
v/s Ratio Prot		0.00		c0.01	0.00			0.24			c0.28	
v/s Ratio Perm	c0.08						0.04		0.01	0.14		0.01
v/c Ratio	0.50	0.01		0.18	0.07		0.08	0.46	0.01	0.28	0.55	0.01
Uniform Delay, d1	20.0	18.3		23.4	23.3		6.6	8.3	6.4	7.4	8.9	6.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	0.0		0.8	0.3		0.2	0.1	0.0	0.9	0.3	0.0
Delay (s)	22.8	18.4		24.2	23.6		6.9	8.5	6.4	8.3	9.1	6.4
Level of Service	C	B		C	C		A	A	A	A	A	A
Approach Delay (s)		22.5			23.8			8.4			9.0	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	53.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		

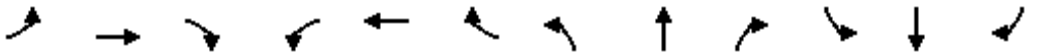
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	34	7	6	6	6	44	6	40	6	51	53	25
Future Volume (vph)	34	7	6	6	6	44	6	40	6	51	53	25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	7	6	6	6	46	6	42	6	54	56	26

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	36	13	6	52	6	48	54	82
Volume Left (vph)	36	0	6	0	6	0	54	0
Volume Right (vph)	0	6	0	46	0	6	0	26
Hadj (s)	0.55	-0.27	0.55	-0.57	0.55	-0.04	0.55	-0.17
Departure Headway (s)	5.6	4.7	5.6	4.4	5.4	4.8	5.4	4.6
Degree Utilization, x	0.06	0.02	0.01	0.06	0.01	0.06	0.08	0.11
Capacity (veh/h)	617	725	618	773	643	720	650	753
Control Delay (s)	7.7	6.6	7.4	6.5	7.3	7.0	7.6	7.0
Approach Delay (s)	7.4		6.6		7.0		7.2	
Approach LOS	A		A		A		A	

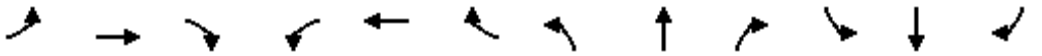
Intersection Summary				
Delay	7.1			
Level of Service	A			
Intersection Capacity Utilization	24.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	42	17	29	37	245	19	618	67	368	536	180
Future Volume (vph)	147	42	17	29	37	245	19	618	67	368	536	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	155	44	18	31	39	258	20	651	71	387	564	189
RTOR Reduction (vph)	0	0	15	0	0	231	0	0	52	0	0	99
Lane Group Flow (vph)	155	44	3	31	39	27	20	651	19	387	564	90
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	11.8	11.8	11.8	8.1	8.1	8.1	1.9	20.6	20.6	17.7	36.4	36.4
Effective Green, g (s)	11.8	11.8	11.8	8.1	8.1	8.1	1.9	20.6	20.6	17.7	36.4	36.4
Actuated g/C Ratio	0.15	0.15	0.15	0.11	0.11	0.11	0.02	0.27	0.27	0.23	0.48	0.48
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	271	285	242	186	196	166	43	947	423	406	1674	749
v/s Ratio Prot	c0.09	0.02		0.02	c0.02		0.01	c0.19		c0.22	0.16	
v/s Ratio Perm			0.00			0.02			0.01			0.06
v/c Ratio	0.57	0.15	0.01	0.17	0.20	0.17	0.47	0.69	0.05	0.95	0.34	0.12
Uniform Delay, d1	29.9	27.9	27.3	31.0	31.1	31.0	36.6	24.9	20.5	28.8	12.4	11.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9	0.3	0.0	0.4	0.5	0.5	7.8	2.1	0.0	32.6	0.1	0.1
Delay (s)	32.8	28.1	27.3	31.4	31.6	31.4	44.4	27.0	20.6	61.4	12.5	11.1
Level of Service	C	C	C	C	C	C	D	C	C	E	B	B
Approach Delay (s)		31.4			31.5			26.9			28.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	76.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		

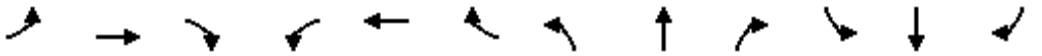
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	3	9	33	3	170	19	611	80	279	437	68
Future Volume (vph)	48	3	9	33	3	170	19	611	80	279	437	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.90	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1739			1555	1490	1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.87	1.00	0.49	1.00	1.00	0.39	1.00	1.00
Satd. Flow (perm)		1739			1375	1490	899	3505	1568	1403	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	51	3	9	35	3	179	20	643	84	294	460	72
RTOR Reduction (vph)	0	8	0	0	64	93	0	0	41	0	0	36
Lane Group Flow (vph)	0	55	0	0	47	13	20	643	43	294	460	36
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		4.0			5.9	5.9	24.0	24.0	24.0	24.0	24.0	24.0
Effective Green, g (s)		4.0			5.9	5.9	24.0	24.0	24.0	24.0	24.0	24.0
Actuated g/C Ratio		0.08			0.12	0.12	0.51	0.51	0.51	0.51	0.51	0.51
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		146			171	185	455	1774	793	710	1774	793
v/s Ratio Prot		c0.03						0.18			0.13	
v/s Ratio Perm					c0.03	0.01	0.02		0.03	c0.21		0.02
v/c Ratio		0.38			0.28	0.07	0.04	0.36	0.05	0.41	0.26	0.05
Uniform Delay, d1		20.5			18.8	18.3	5.9	7.1	5.9	7.3	6.6	5.9
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.6			0.9	0.2	0.0	0.1	0.0	0.4	0.1	0.0
Delay (s)		22.1			19.7	18.5	5.9	7.2	6.0	7.7	6.7	5.9
Level of Service		C			B	B	A	A	A	A	A	A
Approach Delay (s)		22.1			19.1			7.0			7.0	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	47.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

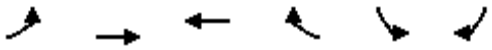
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	580	533	1	1	336	127	1	4	1	137	8	335
Future Volume (vph)	580	533	1	1	336	127	1	4	1	137	8	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00			1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.98			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99			0.95	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568		1788			1761	2760
Flt Permitted	0.54	1.00	1.00	0.41	1.00	1.00		0.38			0.95	1.00
Satd. Flow (perm)	1932	3505	1568	765	3505	1568		679			1761	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	611	561	1	1	354	134	1	4	1	144	8	353
RTOR Reduction (vph)	0	0	1	0	0	73	0	1	0	0	0	283
Lane Group Flow (vph)	611	561	0	1	354	61	0	5	0	0	152	70
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	26.3	26.3	26.3	26.3	26.3	26.3		6.2			11.4	11.4
Effective Green, g (s)	26.3	26.3	26.3	26.3	26.3	26.3		6.2			11.4	11.4
Actuated g/C Ratio	0.46	0.46	0.46	0.46	0.46	0.46		0.11			0.20	0.20
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	885	1605	718	350	1605	718		73			349	548
v/s Ratio Prot		0.16			0.10						c0.09	
v/s Ratio Perm	c0.32		0.00	0.00		0.04		c0.01				0.03
v/c Ratio	0.69	0.35	0.00	0.00	0.22	0.09		0.07			0.44	0.13
Uniform Delay, d1	12.3	10.0	8.4	8.4	9.4	8.8		23.0			20.2	18.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	2.3	0.1	0.0	0.0	0.1	0.1		0.4			0.9	0.1
Delay (s)	14.7	10.2	8.4	8.4	9.4	8.8		23.4			21.0	19.0
Level of Service	B	B	A	A	A	A		C			C	B
Approach Delay (s)		12.5			9.3			23.4			19.6	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	57.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

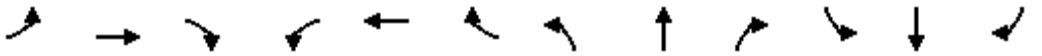
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	89	576	391	76	82	67
Future Volume (Veh/h)	89	576	391	76	82	67
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	94	606	412	80	86	71
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	492				903	206
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	492				903	206
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				66	91
cM capacity (veh/h)	1061				251	797

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	94	303	303	206	206	80	157
Volume Left	94	0	0	0	0	0	86
Volume Right	0	0	0	0	0	80	71
cSH	1061	1700	1700	1700	1700	1700	363
Volume to Capacity	0.09	0.18	0.18	0.12	0.12	0.05	0.43
Queue Length 95th (ft)	7	0	0	0	0	0	53
Control Delay (s)	8.7	0.0	0.0	0.0	0.0	0.0	22.2
Lane LOS	A						C
Approach Delay (s)	1.2			0.0			22.2
Approach LOS							C

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	159	170	401	387	323	447	1465	422	266	935	56
Future Volume (vph)	114	159	170	401	387	323	447	1465	422	266	935	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	116	162	173	409	395	330	456	1495	431	271	954	57
RTOR Reduction (vph)	0	0	39	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	116	162	134	409	395	330	456	1495	431	271	954	57
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	9.5	12.7	33.9	17.0	20.2	120.0	21.2	57.5	120.0	14.8	51.1	120.0
Effective Green, g (s)	9.5	12.7	33.9	17.0	20.2	120.0	21.2	57.5	120.0	14.8	51.1	120.0
Actuated g/C Ratio	0.08	0.11	0.28	0.14	0.17	1.00	0.18	0.48	1.00	0.12	0.43	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	269	370	518	481	847	1568	580	2413	1568	419	2144	1568
v/s Ratio Prot	0.03	0.05	0.05	c0.12	c0.08		c0.14	c0.30		0.08	0.19	
v/s Ratio Perm			0.04			0.21			0.27			0.04
v/c Ratio	0.43	0.44	0.26	0.85	0.47	0.21	0.79	0.62	0.27	0.65	0.44	0.04
Uniform Delay, d1	52.7	50.3	33.3	50.3	45.0	0.0	47.2	23.1	0.0	50.1	24.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.15	1.19	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.8	0.3	13.5	0.4	0.3	4.4	0.7	0.3	3.4	0.7	0.0
Delay (s)	53.8	51.1	33.6	63.7	45.4	0.3	58.8	28.2	0.3	53.5	25.1	0.0
Level of Service	D	D	C	E	D	A	E	C	A	D	C	A
Approach Delay (s)		45.1			38.9			29.0			30.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	374	0	2063	118	109	934	500	0	0
Future Volume (vph)	0	374	0	2063	118	109	934	500	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.95			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4773			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4773			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	394	0	2172	124	115	983	526	0	0
RTOR Reduction (vph)	0	31	0	0	55	0	0	0	0	0
Lane Group Flow (vph)	0	363	0	2172	69	115	1509	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		16.1		33.6	33.6	16.1	60.0			
Effective Green, g (s)		16.1		33.6	33.6	16.1	60.0			
Actuated g/C Ratio		0.27		0.56	0.56	0.27	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		428		2820	878	470	4773			
v/s Ratio Prot		c0.23		c0.43		0.07	0.32			
v/s Ratio Perm					0.04					
v/c Ratio		0.85		0.77	0.08	0.24	0.32			
Uniform Delay, d1		20.8		10.2	6.1	17.2	0.0			
Progression Factor		1.00		1.00	1.00	0.75	1.00			
Incremental Delay, d2		13.9		2.1	0.2	0.1	0.0			
Delay (s)		34.7		12.3	6.3	12.9	0.0			
Level of Service		C		B	A	B	A			
Approach Delay (s)	34.7			12.0			0.9		0.0	
Approach LOS	C			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

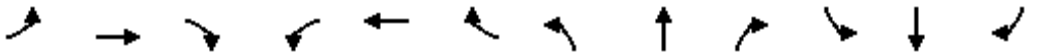
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	150	993	1462	443	0	1074
Future Volume (vph)	150	993	1462	443	0	1074
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3383			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3383			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	158	1045	1539	466	0	1131
RTOR Reduction (vph)	0	30	32	0	0	0
Lane Group Flow (vph)	158	1015	1973	0	0	1131
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1881			2800
v/s Ratio Prot	0.05		c0.58			0.22
v/s Ratio Perm		c0.37				
v/c Ratio	0.14	1.10	1.05			0.40
Uniform Delay, d1	20.9	30.0	20.0			11.4
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	61.7	35.0			0.0
Delay (s)	20.9	91.6	55.0			11.5
Level of Service	C	F	D			B
Approach Delay (s)	82.3		55.0			11.5
Approach LOS	F		D			B

Intersection Summary			
HCM 2000 Control Delay	51.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
Analysis Period (min)	15		

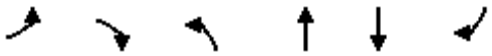
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	847	0	243	0	0	0	0	1082	465	0	1011	370
Future Volume (vph)	847	0	243	0	0	0	0	1082	465	0	1011	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	892	0	256	0	0	0	0	1139	489	0	1064	389
RTOR Reduction (vph)	0	0	34	0	0	0	0	0	292	0	0	232
Lane Group Flow (vph)	892	0	222	0	0	0	0	1139	197	0	1064	157
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	16.8		16.8					18.7	18.7		18.7	18.7
Effective Green, g (s)	16.8		16.8					18.7	18.7		18.7	18.7
Actuated g/C Ratio	0.36		0.36					0.40	0.40		0.40	0.40
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1231		567					1412	631		1412	631
v/s Ratio Prot	c0.26							c0.32			0.30	
v/s Ratio Perm			0.14						0.13			0.10
v/c Ratio	0.72		0.39					0.81	0.31		0.75	0.25
Uniform Delay, d1	12.8		11.0					12.3	9.5		11.9	9.2
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	1.8		0.2					3.3	0.1		2.1	0.1
Delay (s)	14.6		11.2					15.5	9.6		13.9	9.3
Level of Service	B		B					B	A		B	A
Approach Delay (s)		13.8			0.0			13.7			12.7	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	46.4	Sum of lost time (s)	10.9
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	26	26	20	80	56	54
Future Volume (vph)	26	26	20	80	56	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	27	27	21	84	59	57

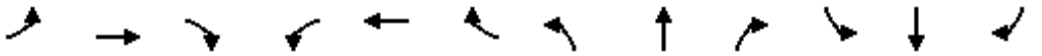
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	54	21	84	59	57
Volume Left (vph)	27	21	0	0	0
Volume Right (vph)	27	0	0	0	57
Hadj (s)	-0.15	0.55	0.05	0.05	-0.65
Departure Headway (s)	4.2	5.3	4.8	4.8	4.1
Degree Utilization, x	0.06	0.03	0.11	0.08	0.06
Capacity (veh/h)	808	668	738	735	864
Control Delay (s)	7.5	7.2	7.2	7.0	6.1
Approach Delay (s)	7.5	7.2		6.6	
Approach LOS	A	A		A	

Intersection Summary			
Delay	7.0		
Level of Service	A		
Intersection Capacity Utilization	17.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	407	1	2	640	176	3	3	4	38	1	114
Future Volume (vph)	189	407	1	2	640	176	3	3	4	38	1	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568		1719		1752	1845	1568
Flt Permitted	0.40	1.00	1.00	0.50	1.00	1.00		0.92		0.75	1.00	1.00
Satd. Flow (perm)	1415	3505	1568	927	3505	1568		1609		1385	1845	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	199	428	1	2	674	185	3	3	4	40	1	120
RTOR Reduction (vph)	0	0	1	0	0	102	0	3	0	0	0	92
Lane Group Flow (vph)	199	428	0	2	674	83	0	7	0	40	1	28
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	12.5	12.5	12.5	12.5	12.5	12.5		6.5		6.5	6.5	6.5
Effective Green, g (s)	12.5	12.5	12.5	12.5	12.5	12.5		6.5		6.5	6.5	6.5
Actuated g/C Ratio	0.45	0.45	0.45	0.45	0.45	0.45		0.23		0.23	0.23	0.23
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	631	1564	700	413	1564	700		373		321	428	364
v/s Ratio Prot		0.12			c0.19						0.00	
v/s Ratio Perm	0.14		0.00	0.00		0.05		0.00		c0.03		0.02
v/c Ratio	0.32	0.27	0.00	0.00	0.43	0.12		0.02		0.12	0.00	0.08
Uniform Delay, d1	5.0	4.9	4.3	4.3	5.3	4.5		8.3		8.5	8.3	8.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1	0.0	0.0	0.2	0.1		0.0		0.2	0.0	0.1
Delay (s)	5.3	5.0	4.3	4.3	5.5	4.6		8.3		8.7	8.3	8.5
Level of Service	A	A	A	A	A	A		A		A	A	A
Approach Delay (s)		5.1			5.3			8.3			8.5	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	28.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		

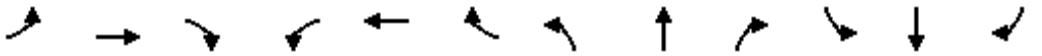
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	292	63	19	569	99	198	96	48	36	47	49
Future Volume (vph)	90	292	63	19	569	99	198	96	48	36	47	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	1845	1568	1752	1845	2760
Flt Permitted	0.41	1.00	1.00	0.56	1.00	1.00	0.95	1.00	1.00	0.69	1.00	1.00
Satd. Flow (perm)	765	3505	1568	1042	5036	1568	3400	1845	1568	1276	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	95	307	66	20	599	104	208	101	51	38	49	52
RTOR Reduction (vph)	0	0	46	0	0	72	0	0	41	0	0	43
Lane Group Flow (vph)	95	307	20	20	599	32	208	101	10	38	49	9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	13.0	13.0	13.0	13.0	13.0	13.0	8.6	8.6	8.6	7.1	7.1	7.1
Effective Green, g (s)	13.0	13.0	13.0	13.0	13.0	13.0	8.6	8.6	8.6	7.1	7.1	7.1
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31	0.31	0.20	0.20	0.20	0.17	0.17	0.17
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	235	1079	483	320	1551	483	692	375	319	214	310	464
v/s Ratio Prot		0.09			0.12		c0.06	0.05			0.03	
v/s Ratio Perm	c0.12		0.01	0.02		0.02			0.01	c0.03		0.00
v/c Ratio	0.40	0.28	0.04	0.06	0.39	0.07	0.30	0.27	0.03	0.18	0.16	0.02
Uniform Delay, d1	11.5	11.1	10.2	10.3	11.5	10.3	14.2	14.2	13.5	15.0	15.0	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.1	0.0	0.1	0.2	0.1	0.2	0.4	0.0	0.4	0.2	0.0
Delay (s)	12.7	11.2	10.3	10.4	11.6	10.4	14.5	14.5	13.5	15.4	15.2	14.7
Level of Service	B	B	B	B	B	B	B	B	B	B	B	B
Approach Delay (s)		11.4			11.4			14.4			15.1	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	42.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		

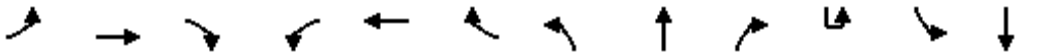
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	234	3	16	651	100	22	3	40	36	1	48
Future Volume (vph)	90	234	3	16	651	100	22	3	40	36	1	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	5027		1752	5036	1568	1752	1845	1568	1752	1845	2760
Flt Permitted	0.38	1.00		0.59	1.00	1.00	0.95	1.00	1.00	0.76	1.00	1.00
Satd. Flow (perm)	701	5027		1090	5036	1568	1752	1845	1568	1394	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	95	246	3	17	685	105	23	3	42	38	1	51
RTOR Reduction (vph)	0	1	0	0	0	71	0	0	35	0	0	42
Lane Group Flow (vph)	95	248	0	17	685	34	23	3	7	38	1	9
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	12.8	12.8		12.8	12.8	12.8	6.3	6.3	6.3	6.9	6.9	6.9
Effective Green, g (s)	12.8	12.8		12.8	12.8	12.8	6.3	6.3	6.3	6.9	6.9	6.9
Actuated g/C Ratio	0.32	0.32		0.32	0.32	0.32	0.16	0.16	0.16	0.17	0.17	0.17
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	227	1629		353	1631	508	279	294	250	243	322	482
v/s Ratio Prot		0.05			c0.14		c0.01	0.00			0.00	
v/s Ratio Perm	0.14			0.02		0.02			0.00	c0.03		0.00
v/c Ratio	0.42	0.15		0.05	0.42	0.07	0.08	0.01	0.03	0.16	0.00	0.02
Uniform Delay, d1	10.4	9.5		9.2	10.4	9.2	14.1	14.0	14.0	13.8	13.5	13.5
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.0		0.1	0.2	0.1	0.1	0.0	0.0	0.3	0.0	0.0
Delay (s)	11.7	9.5		9.2	10.6	9.3	14.3	14.0	14.1	14.1	13.5	13.5
Level of Service	B	A		A	B	A	B	B	B	B	B	B
Approach Delay (s)		10.1			10.4			14.1			13.8	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	39.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	129	132	29	139	291	282	213	1429	31	82	315	759
Future Volume (vph)	129	132	29	139	291	282	213	1429	31	82	315	759
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00		0.97	0.91
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3400	5036	1534	3400	5036	1534	3400	5036	1541		3400	5036
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3400	5036	1534	3400	5036	1534	3400	5036	1541		3400	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	136	139	31	146	306	297	224	1504	33	86	332	799
RTOR Reduction (vph)	0	0	27	0	0	219	0	0	21	0	0	0
Lane Group Flow (vph)	136	139	4	146	306	78	224	1504	12	0	418	799
Confl. Peds. (#/hr)			5			5			5			
Confl. Bikes (#/hr)			2			2			2			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	1		2	2	6
Permitted Phases			4			8			1			
Actuated Green, G (s)	5.6	11.1	11.1	5.6	11.1	11.1	9.8	28.6	28.6		14.7	33.5
Effective Green, g (s)	5.6	11.1	11.1	5.6	11.1	11.1	9.8	28.6	28.6		14.7	33.5
Actuated g/C Ratio	0.07	0.14	0.14	0.07	0.14	0.14	0.13	0.37	0.37		0.19	0.43
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	244	716	218	244	716	218	427	1846	565		640	2162
v/s Ratio Prot	0.04	0.03		c0.04	c0.06		0.07	c0.30			c0.12	0.16
v/s Ratio Perm			0.00			0.05			0.01			
v/c Ratio	0.56	0.19	0.02	0.60	0.43	0.36	0.52	0.81	0.02		0.65	0.37
Uniform Delay, d1	35.0	29.5	28.8	35.1	30.5	30.2	31.9	22.3	15.8		29.3	15.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.7	0.1	0.0	3.9	0.4	1.0	1.2	2.9	0.0		2.4	0.1
Delay (s)	37.8	29.6	28.8	39.0	31.0	31.2	33.1	25.2	15.8		31.7	15.2
Level of Service	D	C	C	D	C	C	C	C	B		C	B
Approach Delay (s)		33.2			32.6			26.0				19.7
Approach LOS		C			C			C				B

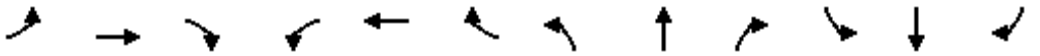
Intersection Summary					
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.68				
Actuated Cycle Length (s)	78.0	Sum of lost time (s)	18.0		
Intersection Capacity Utilization	76.1%	ICU Level of Service	D		
Analysis Period (min)	15				

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	229
Future Volume (vph)	229
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1538
Flt Permitted	1.00
Satd. Flow (perm)	1538
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	241
RTOR Reduction (vph)	137
Lane Group Flow (vph)	104
Confl. Peds. (#/hr)	5
Confl. Bikes (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	33.5
Effective Green, g (s)	33.5
Actuated g/C Ratio	0.43
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	660
v/s Ratio Prot	
v/s Ratio Perm	0.07
v/c Ratio	0.16
Uniform Delay, d1	13.6
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	13.7
Level of Service	B
Approach Delay (s)	
Approach LOS	

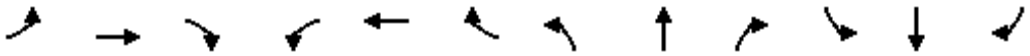
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	273	98	107	0	536	22	57	0	5	7	0	120
Future Volume (Veh/h)	273	98	107	0	536	22	57	0	5	7	0	120
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	287	103	113	0	564	23	60	0	5	7	0	126
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	587			216			1016	1320	108	1206	1366	294
vC1, stage 1 conf vol							734	734		576	576	
vC2, stage 2 conf vol							282	587		630	790	
vCu, unblocked vol	587			216			1016	1320	108	1206	1366	294
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	71			100			67	100	99	97	100	82
cM capacity (veh/h)	977			1344			181	158	922	214	206	700

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	287	69	147	0	376	211	65	7	126
Volume Left	287	0	0	0	0	0	60	7	0
Volume Right	0	0	113	0	0	23	5	0	126
cSH	977	1700	1700	1700	1700	1700	193	214	700
Volume to Capacity	0.29	0.04	0.09	0.00	0.22	0.12	0.34	0.03	0.18
Queue Length 95th (ft)	31	0	0	0	0	0	35	3	16
Control Delay (s)	10.2	0.0	0.0	0.0	0.0	0.0	32.9	22.4	11.3
Lane LOS	B						D	C	B
Approach Delay (s)	5.8			0.0			32.9	11.9	
Approach LOS							D	B	

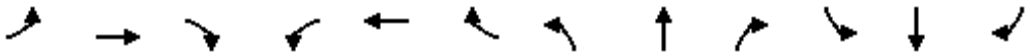
Intersection Summary				
Average Delay	5.2			
Intersection Capacity Utilization	50.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	64	27	37	372	30	131	7	23	15	6	53
Future Volume (Veh/h)	14	64	27	37	372	30	131	7	23	15	6	53
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	67	28	39	392	32	138	7	24	16	6	56
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	577	373	31	380	377	7	62			31		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	577	373	31	380	377	7	62			31		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	88	87	97	91	21	97	91			99		
cM capacity (veh/h)	125	499	1033	445	496	1070	1532			1573		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	15	45	50	39	261	163	138	7	24	16	4	58
Volume Left	15	0	0	39	0	0	138	0	0	16	0	0
Volume Right	0	0	28	0	0	32	0	0	24	0	0	56
cSH	125	499	700	445	496	555	1532	1700	1700	1573	1700	1700
Volume to Capacity	0.12	0.09	0.07	0.09	0.53	0.29	0.09	0.00	0.01	0.01	0.00	0.03
Queue Length 95th (ft)	10	7	6	7	76	30	7	0	0	1	0	0
Control Delay (s)	37.6	12.9	10.5	13.9	20.0	14.2	7.6	0.0	0.0	7.3	0.0	0.0
Lane LOS	E	B	B	B	C	B	A			A		
Approach Delay (s)	15.2			17.5			6.2			1.5		
Approach LOS	C			C								

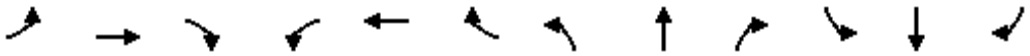
Intersection Summary					
Average Delay	13.3				
Intersection Capacity Utilization	32.2%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	46	46	49	6	301	6	72	53	6	11	18	67
Future Volume (vph)	46	46	49	6	301	6	72	53	6	11	18	67
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	48	48	52	6	317	6	76	56	6	12	19	71

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	48	100	6	323	76	62	12	90
Volume Left (vph)	48	0	6	0	76	0	12	0
Volume Right (vph)	0	52	0	6	0	6	0	71
Hadj (s)	0.55	-0.31	0.55	0.04	0.55	-0.02	0.55	-0.50
Departure Headway (s)	6.1	5.2	5.9	5.4	6.4	5.8	6.5	5.4
Degree Utilization, x	0.08	0.14	0.01	0.48	0.14	0.10	0.02	0.14
Capacity (veh/h)	560	656	584	650	526	572	513	611
Control Delay (s)	8.4	7.9	7.7	12.1	9.2	8.3	8.4	8.1
Approach Delay (s)	8.0		12.0		8.8		8.1	
Approach LOS	A		B		A		A	

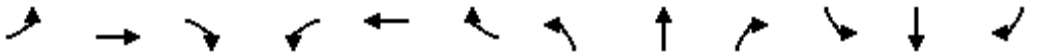
Intersection Summary				
Delay	10.0			
Level of Service	A			
Intersection Capacity Utilization	40.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	64	0	1585	12	12	931	9
Future Volume (Veh/h)	0	0	0	0	0	64	0	1585	12	12	931	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	67	0	1668	13	13	980	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								540			840	
pX, platoon unblocked	0.79	0.79	0.91	0.79	0.79	0.75	0.91			0.75		
vC, conflicting volume	1634	2692	331	2027	2690	562	989			1681		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	147	1481	0	644	1478	0	654			741		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	92	100			98		
cM capacity (veh/h)	576	96	987	278	96	811	842			641		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	0	67	667	667	347	13	392	392	205
Volume Left	0	0	0	0	0	13	0	0	0
Volume Right	0	67	0	0	13	0	0	0	9
cSH	1700	811	1700	1700	1700	641	1700	1700	1700
Volume to Capacity	0.00	0.08	0.39	0.39	0.20	0.02	0.23	0.23	0.12
Queue Length 95th (ft)	0	7	0	0	0	2	0	0	0
Control Delay (s)	0.0	9.8	0.0	0.0	0.0	10.7	0.0	0.0	0.0
Lane LOS	A	A				B			
Approach Delay (s)	0.0	9.8	0.0			0.1			
Approach LOS	A	A							

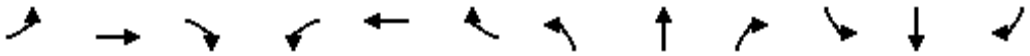
Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	41.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	3	2	42	5	37	6	1442	16	13	884	31
Future Volume (vph)	119	3	2	42	5	37	6	1442	16	13	884	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.94		1.00	0.87		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1734		1752	1599		1752	5036	1568	1752	5036	1568
Flt Permitted	0.22	1.00		0.95	1.00		0.25	1.00	1.00	0.16	1.00	1.00
Satd. Flow (perm)	410	1734		1752	1599		460	5036	1568	286	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	125	3	2	44	5	39	6	1518	17	14	931	33
RTOR Reduction (vph)	0	1	0	0	36	0	0	0	10	0	0	19
Lane Group Flow (vph)	125	4	0	44	8	0	6	1518	7	14	931	14
Turn Type	Perm	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2		2	6		6
Actuated Green, G (s)	18.0	18.0		4.7	4.7		25.8	25.8	25.8	25.8	25.8	25.8
Effective Green, g (s)	18.0	18.0		4.7	4.7		25.8	25.8	25.8	25.8	25.8	25.8
Actuated g/C Ratio	0.29	0.29		0.08	0.08		0.42	0.42	0.42	0.42	0.42	0.42
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	119	503		132	121		191	2095	652	119	2095	652
v/s Ratio Prot		0.00		c0.03	0.00			c0.30			0.18	
v/s Ratio Perm	c0.30						0.01		0.00	0.05		0.01
v/c Ratio	1.05	0.01		0.33	0.07		0.03	0.72	0.01	0.12	0.44	0.02
Uniform Delay, d1	22.0	15.6		27.2	26.6		10.7	15.1	10.6	11.1	13.0	10.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	96.7	0.0		1.5	0.2		0.1	1.3	0.0	0.4	0.2	0.0
Delay (s)	118.7	15.7		28.7	26.8		10.8	16.4	10.6	11.6	13.1	10.7
Level of Service	F	B		C	C		B	B	B	B	B	B
Approach Delay (s)		114.7			27.7			16.3			13.0	
Approach LOS		F			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	62.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

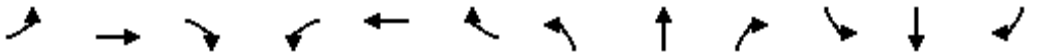
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	9	9	6	20	53	19	58	6	20	58	22
Future Volume (vph)	9	9	9	6	20	53	19	58	6	20	58	22
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	9	9	6	21	56	20	61	6	21	61	23

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	9	18	6	77	20	67	21	84
Volume Left (vph)	9	0	6	0	20	0	21	0
Volume Right (vph)	0	9	0	56	0	6	0	23
Hadj (s)	0.55	-0.30	0.55	-0.46	0.55	-0.01	0.55	-0.14
Departure Headway (s)	5.6	4.7	5.5	4.5	5.4	4.8	5.4	4.7
Degree Utilization, x	0.01	0.02	0.01	0.10	0.03	0.09	0.03	0.11
Capacity (veh/h)	612	724	621	760	647	721	646	743
Control Delay (s)	7.5	6.6	7.4	6.8	7.4	7.1	7.4	7.1
Approach Delay (s)	6.9		6.9		7.2		7.1	
Approach LOS	A		A		A		A	

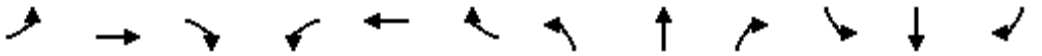
Intersection Summary				
Delay	7.0			
Level of Service	A			
Intersection Capacity Utilization	21.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	32	23	51	39	399	7	585	30	182	454	145
Future Volume (vph)	189	32	23	51	39	399	7	585	30	182	454	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	199	34	24	54	41	420	7	616	32	192	478	153
RTOR Reduction (vph)	0	0	20	0	0	244	0	0	23	0	0	95
Lane Group Flow (vph)	199	34	4	54	41	176	7	616	9	192	478	58
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	12.8	12.8	12.8	12.1	12.1	12.1	0.8	20.0	20.0	7.7	26.9	26.9
Effective Green, g (s)	12.8	12.8	12.8	12.1	12.1	12.1	0.8	20.0	20.0	7.7	26.9	26.9
Actuated g/C Ratio	0.18	0.18	0.18	0.17	0.17	0.17	0.01	0.28	0.28	0.11	0.38	0.38
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	317	334	284	300	316	268	19	992	444	191	1335	597
v/s Ratio Prot	c0.11	0.02		0.03	0.02		0.00	c0.18		c0.11	0.14	
v/s Ratio Perm			0.00			c0.11			0.01			0.04
v/c Ratio	0.63	0.10	0.02	0.18	0.13	0.66	0.37	0.62	0.02	1.01	0.36	0.10
Uniform Delay, d1	26.7	24.1	23.7	25.0	24.8	27.3	34.6	22.0	18.2	31.4	15.7	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.9	0.1	0.0	0.3	0.2	5.7	11.7	1.2	0.0	66.5	0.2	0.1
Delay (s)	30.6	24.2	23.7	25.3	25.0	33.0	46.3	23.2	18.3	97.9	15.8	14.1
Level of Service	C	C	C	C	C	C	D	C	B	F	B	B
Approach Delay (s)		29.1			31.5			23.2			34.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	70.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		

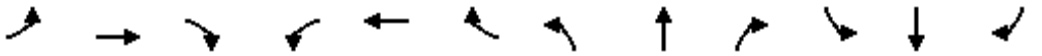
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	2	11	101	2	292	9	468	39	138	453	39
Future Volume (vph)	82	2	11	101	2	292	9	468	39	138	453	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.93	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1740			1584	1490	1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.79	1.00	0.47	1.00	1.00	0.46	1.00	1.00
Satd. Flow (perm)		1740			1283	1490	865	3505	1568	1630	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	86	2	12	106	2	307	9	493	41	145	477	41
RTOR Reduction (vph)	0	8	0	0	50	150	0	0	28	0	0	28
Lane Group Flow (vph)	0	92	0	0	162	53	9	493	13	145	477	13
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		4.7			11.5	11.5	14.4	14.4	14.4	14.4	14.4	14.4
Effective Green, g (s)		4.7			11.5	11.5	14.4	14.4	14.4	14.4	14.4	14.4
Actuated g/C Ratio		0.11			0.26	0.26	0.33	0.33	0.33	0.33	0.33	0.33
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		185			334	388	282	1144	512	532	1144	512
v/s Ratio Prot		c0.05						c0.14			0.14	
v/s Ratio Perm					c0.13	0.04	0.01		0.01	0.09		0.01
v/c Ratio		0.50			0.49	0.14	0.03	0.43	0.03	0.27	0.42	0.03
Uniform Delay, d1		18.6			13.8	12.5	10.1	11.6	10.1	11.0	11.6	10.1
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.1			1.1	0.2	0.0	0.3	0.0	0.3	0.2	0.0
Delay (s)		20.7			14.9	12.7	10.2	11.9	10.1	11.3	11.8	10.1
Level of Service		C			B	B	B	B	B	B	B	B
Approach Delay (s)		20.7			13.8			11.7			11.6	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	44.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		

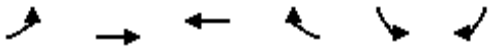
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	421	313	0	1	609	86	1	7	1	123	2	450
Future Volume (vph)	421	313	0	1	609	86	1	7	1	123	2	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		1.00			1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.95	1.00
Satd. Flow (prot)	3400	3505		1752	3505	1568		1807			1758	2760
Flt Permitted	0.36	1.00		0.55	1.00	1.00		0.37			0.95	1.00
Satd. Flow (perm)	1303	3505		1020	3505	1568		673			1758	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	443	329	0	1	641	91	1	7	1	129	2	474
RTOR Reduction (vph)	0	0	0	0	0	53	0	1	0	0	0	382
Lane Group Flow (vph)	443	329	0	1	641	38	0	8	0	0	131	92
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	20.6	20.6		20.6	20.6	20.6		6.0			9.7	9.7
Effective Green, g (s)	20.6	20.6		20.6	20.6	20.6		6.0			9.7	9.7
Actuated g/C Ratio	0.41	0.41		0.41	0.41	0.41		0.12			0.19	0.19
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	538	1449		421	1449	648		81			342	537
v/s Ratio Prot		0.09			0.18						c0.07	
v/s Ratio Perm	c0.34			0.00		0.02		c0.01				0.03
v/c Ratio	0.82	0.23		0.00	0.44	0.06		0.10			0.38	0.17
Uniform Delay, d1	13.0	9.4		8.6	10.5	8.8		19.5			17.4	16.7
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	9.9	0.1		0.0	0.2	0.0		0.5			0.7	0.2
Delay (s)	22.9	9.5		8.6	10.7	8.8		20.0			18.2	16.9
Level of Service	C	A		A	B	A		C			B	B
Approach Delay (s)		17.2			10.5			20.0			17.1	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	49.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

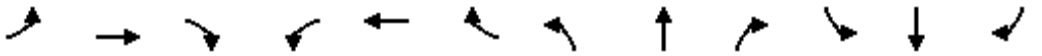
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	54	374	650	73	42	29
Future Volume (Veh/h)	54	374	650	73	42	29
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	57	394	684	77	44	31
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	761				995	342
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	761				995	342
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				80	95
cM capacity (veh/h)	840				224	651

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	57	197	197	342	342	77	75
Volume Left	57	0	0	0	0	0	44
Volume Right	0	0	0	0	0	77	31
cSH	840	1700	1700	1700	1700	1700	307
Volume to Capacity	0.07	0.12	0.12	0.20	0.20	0.05	0.24
Queue Length 95th (ft)	5	0	0	0	0	0	24
Control Delay (s)	9.6	0.0	0.0	0.0	0.0	0.0	20.5
Lane LOS	A						C
Approach Delay (s)	1.2			0.0			20.5
Approach LOS							C

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	35.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	454	290	516	627	483	511	1649	642	432	2016	177
Future Volume (vph)	140	454	290	516	627	483	511	1649	642	432	2016	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	156	504	322	573	697	537	568	1832	713	480	2240	197
RTOR Reduction (vph)	0	0	27	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	156	504	295	573	697	537	568	1832	713	480	2240	197
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	12.5	23.5	56.7	20.5	31.5	155.0	33.2	66.3	155.0	26.7	59.8	155.0
Effective Green, g (s)	12.5	23.5	56.7	20.5	31.5	155.0	33.2	66.3	155.0	26.7	59.8	155.0
Actuated g/C Ratio	0.08	0.15	0.37	0.13	0.20	1.00	0.21	0.43	1.00	0.17	0.39	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	274	531	639	449	1023	1568	703	2154	1568	585	1942	1568
v/s Ratio Prot	0.05	c0.14	0.10	c0.17	0.14		c0.17	0.36		0.14	c0.44	
v/s Ratio Perm			0.08			0.34			0.45			0.13
v/c Ratio	0.57	0.95	0.46	1.28	0.68	0.34	0.81	0.85	0.45	0.82	1.15	0.13
Uniform Delay, d1	68.7	65.2	37.5	67.2	57.1	0.0	57.9	39.9	0.0	61.8	47.6	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.7	26.5	0.5	140.6	1.9	0.6	6.8	4.5	1.0	9.0	75.4	0.2
Delay (s)	71.4	91.7	38.0	207.9	59.0	0.6	64.7	44.4	1.0	70.9	123.0	0.2
Level of Service	E	F	D	F	E	A	E	D	A	E	F	A
Approach Delay (s)		70.9			88.9			38.1			106.1	
Approach LOS		E			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	74.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	155.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	442	0	2244	86	298	1847	690	0	0
Future Volume (vph)	0	442	0	2244	86	298	1847	690	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.96			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4831			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4831			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	465	0	2362	91	314	1944	726	0	0
RTOR Reduction (vph)	0	22	0	0	33	0	0	0	0	0
Lane Group Flow (vph)	0	443	0	2362	58	314	2670	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		24.3		45.4	45.4	24.3	80.0			
Effective Green, g (s)		24.3		45.4	45.4	24.3	80.0			
Actuated g/C Ratio		0.30		0.57	0.57	0.30	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		484		2857	889	532	4831			
v/s Ratio Prot		c0.28		c0.47		0.18	0.55			
v/s Ratio Perm					0.04					
v/c Ratio		0.92		0.83	0.06	0.59	0.55			
Uniform Delay, d1		26.9		14.1	7.8	23.6	0.0			
Progression Factor		1.00		1.00	1.00	1.00	1.00			
Incremental Delay, d2		21.6		2.9	0.1	1.2	0.1			
Delay (s)		48.5		17.0	7.9	24.8	0.1			
Level of Service		D		B	A	C	A			
Approach Delay (s)	48.5			16.7			2.7		0.0	
Approach LOS	D			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

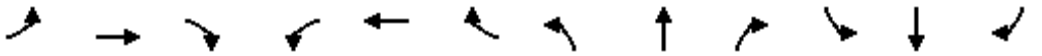
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	144	1015	1819	355	0	2079
Future Volume (vph)	144	1015	1819	355	0	2079
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.98			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3419			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3419			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	152	1068	1915	374	0	2188
RTOR Reduction (vph)	0	11	18	0	0	0
Lane Group Flow (vph)	152	1057	2271	0	0	2188
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1901			2800
v/s Ratio Prot	0.04		c0.66			0.43
v/s Ratio Perm		c0.38				
v/c Ratio	0.13	1.15	1.19			0.78
Uniform Delay, d1	20.9	30.0	20.0			15.7
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	79.1	93.0			1.4
Delay (s)	20.9	109.0	113.0			17.0
Level of Service	C	F	F			B
Approach Delay (s)	98.0		113.0			17.0
Approach LOS	F		F			B

Intersection Summary			
HCM 2000 Control Delay	72.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		

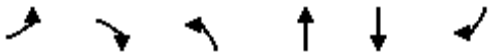
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	896	0	324	0	0	0	0	1250	662	0	1446	812
Future Volume (vph)	896	0	324	0	0	0	0	1250	662	0	1446	812
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	943	0	341	0	0	0	0	1316	697	0	1522	855
RTOR Reduction (vph)	0	0	34	0	0	0	0	0	417	0	0	512
Lane Group Flow (vph)	943	0	307	0	0	0	0	1316	280	0	1522	343
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	17.7		17.7					19.2	19.2		19.2	19.2
Effective Green, g (s)	17.7		17.7					19.2	19.2		19.2	19.2
Actuated g/C Ratio	0.37		0.37					0.40	0.40		0.40	0.40
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1258		580					1407	629		1407	629
v/s Ratio Prot	c0.28							0.38			c0.43	
v/s Ratio Perm			0.20						0.18			0.22
v/c Ratio	0.75		0.53					0.94	0.45		1.08	0.55
Uniform Delay, d1	13.1		11.8					13.7	10.4		14.3	11.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	2.2		0.4					11.6	0.2		49.4	0.5
Delay (s)	15.3		12.2					25.3	10.6		63.7	11.5
Level of Service	B		B					C	B		E	B
Approach Delay (s)		14.5			0.0			20.2			44.9	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	47.8	Sum of lost time (s)	10.9
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	33	34	40	121	63	42
Future Volume (vph)	33	34	40	121	63	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	35	36	42	127	66	44

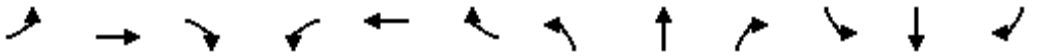
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	71	42	127	66	44
Volume Left (vph)	35	42	0	0	0
Volume Right (vph)	36	0	0	0	44
Hadj (s)	-0.15	0.55	0.05	0.05	-0.65
Departure Headway (s)	4.4	5.3	4.8	4.9	4.2
Degree Utilization, x	0.09	0.06	0.17	0.09	0.05
Capacity (veh/h)	768	661	731	717	839
Control Delay (s)	7.8	7.5	7.6	7.1	6.2
Approach Delay (s)	7.8	7.6		6.8	
Approach LOS	A	A		A	

Intersection Summary			
Delay	7.3		
Level of Service	A		
Intersection Capacity Utilization	19.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	593	3	4	372	67	2	2	3	95	3	88
Future Volume (vph)	91	593	3	4	372	67	2	2	3	95	3	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568		1713		1752	1845	1568
Flt Permitted	0.52	1.00	1.00	0.42	1.00	1.00		0.94		0.75	1.00	1.00
Satd. Flow (perm)	1862	3505	1568	766	3505	1568		1632		1389	1845	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	96	624	3	4	392	71	2	2	3	100	3	93
RTOR Reduction (vph)	0	0	2	0	0	42	0	2	0	0	0	67
Lane Group Flow (vph)	96	624	1	4	392	29	0	5	0	100	3	26
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	11.9	11.9	11.9	11.9	11.9	11.9		8.0		8.0	8.0	8.0
Effective Green, g (s)	11.9	11.9	11.9	11.9	11.9	11.9		8.0		8.0	8.0	8.0
Actuated g/C Ratio	0.41	0.41	0.41	0.41	0.41	0.41		0.28		0.28	0.28	0.28
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	766	1443	645	315	1443	645		451		384	510	434
v/s Ratio Prot		c0.18			0.11						0.00	
v/s Ratio Perm	0.05		0.00	0.01		0.02		0.00		c0.07		0.02
v/c Ratio	0.13	0.43	0.00	0.01	0.27	0.05		0.01		0.26	0.01	0.06
Uniform Delay, d1	5.3	6.1	5.0	5.0	5.6	5.1		7.6		8.1	7.6	7.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.2	0.0	0.0	0.1	0.0		0.0		0.4	0.0	0.1
Delay (s)	5.3	6.3	5.0	5.0	5.7	5.1		7.6		8.5	7.6	7.7
Level of Service	A	A	A	A	A	A		A		A	A	A
Approach Delay (s)		6.2			5.6			7.6			8.1	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	28.9	Sum of lost time (s)	9.0
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

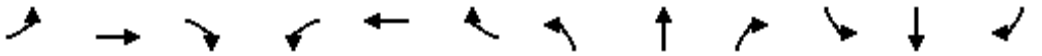
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	384	201	43	277	66	85	81	25	63	63	77
Future Volume (vph)	103	384	201	43	277	66	85	81	25	63	63	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	1845	1568	1752	1845	2760
Flt Permitted	0.57	1.00	1.00	0.51	1.00	1.00	0.95	1.00	1.00	0.70	1.00	1.00
Satd. Flow (perm)	1044	3505	1568	949	5036	1568	3400	1845	1568	1295	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	108	404	212	45	292	69	89	85	26	66	66	81
RTOR Reduction (vph)	0	0	150	0	0	49	0	0	21	0	0	65
Lane Group Flow (vph)	108	404	62	45	292	20	89	85	5	66	66	16
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	11.9	11.9	11.9	11.9	11.9	11.9	7.6	7.6	7.6	7.9	7.9	7.9
Effective Green, g (s)	11.9	11.9	11.9	11.9	11.9	11.9	7.6	7.6	7.6	7.9	7.9	7.9
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29	0.29	0.19	0.19	0.19	0.19	0.19	0.19
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	303	1019	456	276	1465	456	631	342	291	250	356	533
v/s Ratio Prot		c0.12			0.06		0.03	c0.05			0.04	
v/s Ratio Perm	0.10		0.04	0.05		0.01			0.00	c0.05		0.01
v/c Ratio	0.36	0.40	0.14	0.16	0.20	0.04	0.14	0.25	0.02	0.26	0.19	0.03
Uniform Delay, d1	11.5	11.6	10.7	10.8	10.9	10.4	13.9	14.2	13.6	14.0	13.8	13.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.3	0.1	0.3	0.1	0.0	0.1	0.4	0.0	0.6	0.3	0.0
Delay (s)	12.2	11.9	10.8	11.1	11.0	10.5	14.0	14.6	13.6	14.6	14.1	13.4
Level of Service	B	B	B	B	B	B	B	B	B	B	B	B
Approach Delay (s)		11.6			10.9			14.2			14.0	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	40.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	36.2%	ICU Level of Service	A
Analysis Period (min)	15		

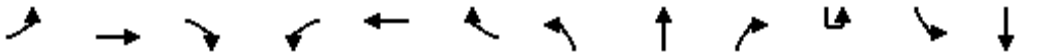
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	308	14	46	298	66	7	2	23	63	3	76
Future Volume (vph)	102	308	14	46	298	66	7	2	23	63	3	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	5002		1752	5036	1568	1752	1845	1568	1752	1845	2760
Flt Permitted	0.55	1.00		0.54	1.00	1.00	0.95	1.00	1.00	0.76	1.00	1.00
Satd. Flow (perm)	1021	5002		996	5036	1568	1752	1845	1568	1396	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	107	324	15	48	314	69	7	2	24	66	3	80
RTOR Reduction (vph)	0	6	0	0	0	51	0	0	20	0	0	64
Lane Group Flow (vph)	107	333	0	48	314	18	7	2	4	66	3	16
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	9.7	9.7		9.7	9.7	9.7	5.8	5.8	5.8	7.4	7.4	7.4
Effective Green, g (s)	9.7	9.7		9.7	9.7	9.7	5.8	5.8	5.8	7.4	7.4	7.4
Actuated g/C Ratio	0.27	0.27		0.27	0.27	0.27	0.16	0.16	0.16	0.20	0.20	0.20
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	272	1332		265	1342	417	279	293	249	283	375	561
v/s Ratio Prot		0.07			0.06		c0.00	0.00			0.00	
v/s Ratio Perm	c0.10			0.05		0.01			0.00	c0.05		0.01
v/c Ratio	0.39	0.25		0.18	0.23	0.04	0.03	0.01	0.02	0.23	0.01	0.03
Uniform Delay, d1	10.9	10.5		10.3	10.4	9.9	12.9	12.9	12.9	12.1	11.6	11.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.1		0.3	0.1	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Delay (s)	11.9	10.6		10.6	10.5	10.0	13.0	12.9	12.9	12.6	11.6	11.6
Level of Service	B	B		B	B	A	B	B	B	B	B	B
Approach Delay (s)		10.9			10.5			12.9			12.0	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	36.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	32.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	151	130	78	230	166	276	45	1197	71	36	412	1314
Future Volume (vph)	151	130	78	230	166	276	45	1197	71	36	412	1314
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00		0.97	0.91
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3400	5036	1533	3400	5036	1535	3400	5036	1538		3400	5036
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3400	5036	1533	3400	5036	1535	3400	5036	1538		3400	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	159	137	82	242	175	291	47	1260	75	38	434	1383
RTOR Reduction (vph)	0	0	74	0	0	251	0	0	54	0	0	0
Lane Group Flow (vph)	159	137	8	242	175	40	47	1260	21	0	472	1383
Confl. Peds. (#/hr)			5			5			5			
Confl. Bikes (#/hr)			2			2			2			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	1		2	2	6
Permitted Phases			4			8			1			
Actuated Green, G (s)	6.0	7.1	7.1	8.5	9.6	9.6	2.8	19.6	19.6		16.6	33.4
Effective Green, g (s)	6.0	7.1	7.1	8.5	9.6	9.6	2.8	19.6	19.6		16.6	33.4
Actuated g/C Ratio	0.09	0.10	0.10	0.12	0.14	0.14	0.04	0.28	0.28		0.24	0.48
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	292	512	155	414	692	211	136	1414	431		808	2409
v/s Ratio Prot	0.05	0.03		c0.07	c0.03		0.01	c0.25			0.14	c0.27
v/s Ratio Perm			0.01			0.03			0.01			
v/c Ratio	0.54	0.27	0.05	0.58	0.25	0.19	0.35	0.89	0.05		0.58	0.57
Uniform Delay, d1	30.6	28.9	28.3	29.0	26.9	26.7	32.6	24.1	18.3		23.5	13.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.1	0.3	0.1	2.1	0.2	0.4	1.5	7.4	0.0		1.1	0.3
Delay (s)	32.7	29.2	28.5	31.1	27.1	27.1	34.1	31.5	18.4		24.6	13.4
Level of Service	C	C	C	C	C	C	C	C	B		C	B
Approach Delay (s)		30.5			28.5			30.9				15.7
Approach LOS		C			C			C				B

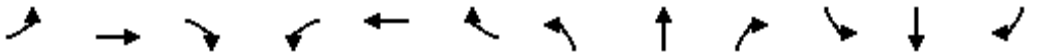
Intersection Summary					
HCM 2000 Control Delay	23.6	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.69				
Actuated Cycle Length (s)	69.8	Sum of lost time (s)		18.0	
Intersection Capacity Utilization	72.8%	ICU Level of Service		C	
Analysis Period (min)	15				

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	186
Future Volume (vph)	186
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1539
Flt Permitted	1.00
Satd. Flow (perm)	1539
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	196
RTOR Reduction (vph)	102
Lane Group Flow (vph)	94
Confl. Peds. (#/hr)	5
Confl. Bikes (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	33.4
Effective Green, g (s)	33.4
Actuated g/C Ratio	0.48
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	736
v/s Ratio Prot	
v/s Ratio Perm	0.06
v/c Ratio	0.13
Uniform Delay, d1	10.1
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	10.2
Level of Service	B
Approach Delay (s)	
Approach LOS	

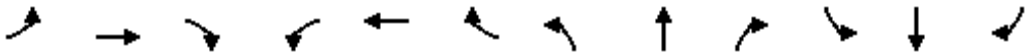
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	313	184	0	257	9	28	0	6	24	0	387
Future Volume (Veh/h)	116	313	184	0	257	9	28	0	6	24	0	387
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	122	329	194	0	271	9	29	0	6	25	0	407
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700										
pX, platoon unblocked												
vC, conflicting volume	280			523			806	950	262	690	1042	140
vC1, stage 1 conf vol							670	670		276	276	
vC2, stage 2 conf vol							136	280		414	767	
vCu, unblocked vol	280			523			806	950	262	690	1042	140
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			100			87	100	99	94	100	54
cM capacity (veh/h)	1272			1033			222	316	734	406	298	879

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	122	219	304	0	181	99	35	432
Volume Left	122	0	0	0	0	0	29	25
Volume Right	0	0	194	0	0	9	6	407
cSH	1272	1700	1700	1700	1700	1700	252	824
Volume to Capacity	0.10	0.13	0.18	0.00	0.11	0.06	0.14	0.52
Queue Length 95th (ft)	8	0	0	0	0	0	12	78
Control Delay (s)	8.1	0.0	0.0	0.0	0.0	0.0	21.6	14.1
Lane LOS	A						C	B
Approach Delay (s)	1.5			0.0			21.6	14.1
Approach LOS							C	B

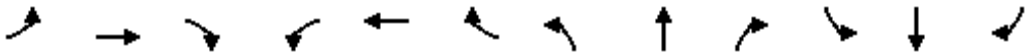
Intersection Summary				
Average Delay	5.6			
Intersection Capacity Utilization	Err%	ICU Level of Service		H
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	221	83	48	151	24	82	10	56	35	13	33
Future Volume (Veh/h)	33	221	83	48	151	24	82	10	56	35	13	33
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	35	233	87	51	159	25	86	11	59	37	14	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	393	348	24	468	306	11	49			70		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	393	348	24	468	306	11	49			70		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	91	56	92	81	71	98	94			98		
cM capacity (veh/h)	386	528	1043	270	557	1064	1549			1521		

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	35	155	165	51	106	78	86	11	59	37	9	40
Volume Left	35	0	0	51	0	0	86	0	0	37	0	0
Volume Right	0	0	87	0	0	25	0	0	59	0	0	35
cSH	386	528	714	270	557	657	1549	1700	1700	1521	1700	1700
Volume to Capacity	0.09	0.29	0.23	0.19	0.19	0.12	0.06	0.01	0.03	0.02	0.01	0.02
Queue Length 95th (ft)	7	31	22	17	17	10	4	0	0	2	0	0
Control Delay (s)	15.2	14.6	11.5	21.4	13.0	11.2	7.5	0.0	0.0	7.4	0.0	0.0
Lane LOS	C	B	B	C	B	B	A			A		
Approach Delay (s)	13.3			14.2			4.1			3.2		
Approach LOS	B			B								

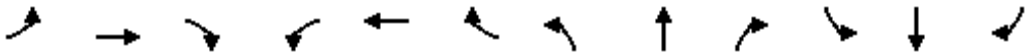
Intersection Summary					
Average Delay	10.8				
Intersection Capacity Utilization	33.3%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	101	104	107	11	109	11	58	61	46	11	44	56
Future Volume (vph)	101	104	107	11	109	11	58	61	46	11	44	56
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	106	109	113	12	115	12	61	64	48	12	46	59

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	106	222	12	127	61	112	12	105
Volume Left (vph)	106	0	12	0	61	0	12	0
Volume Right (vph)	0	113	0	12	0	48	0	59
Hadj (s)	0.55	-0.31	0.55	-0.02	0.55	-0.25	0.55	-0.34
Departure Headway (s)	6.0	5.1	6.2	5.6	6.4	5.6	6.4	5.6
Degree Utilization, x	0.18	0.32	0.02	0.20	0.11	0.17	0.02	0.16
Capacity (veh/h)	571	671	547	605	533	606	520	602
Control Delay (s)	9.1	9.3	8.1	8.8	8.9	8.5	8.4	8.4
Approach Delay (s)	9.2		8.8		8.7		8.4	
Approach LOS	A		A		A		A	

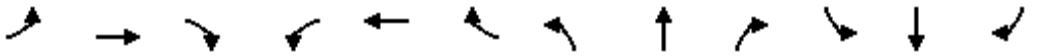
Intersection Summary				
Delay	8.9			
Level of Service	A			
Intersection Capacity Utilization	28.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	37	0	1266	20	46	1584	30
Future Volume (Veh/h)	0	0	0	0	0	37	0	1266	20	46	1584	30
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	39	0	1333	21	48	1667	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								540			840	
pX, platoon unblocked	0.91	0.91	0.81	0.91	0.91	0.81	0.81			0.81		
vC, conflicting volume	2262	3133	572	1995	3138	455	1699			1354		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	655	1614	0	360	1621	0	1061			639		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	96	100			94		
cM capacity (veh/h)	288	87	881	491	86	881	526			761		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	0	39	533	533	288	48	667	667	365
Volume Left	0	0	0	0	0	48	0	0	0
Volume Right	0	39	0	0	21	0	0	0	32
cSH	1700	881	1700	1700	1700	761	1700	1700	1700
Volume to Capacity	0.00	0.04	0.31	0.31	0.17	0.06	0.39	0.39	0.21
Queue Length 95th (ft)	0	3	0	0	0	5	0	0	0
Control Delay (s)	0.0	9.3	0.0	0.0	0.0	10.0	0.0	0.0	0.0
Lane LOS	A	A				B			
Approach Delay (s)	0.0	9.3	0.0			0.3			
Approach LOS	A	A							

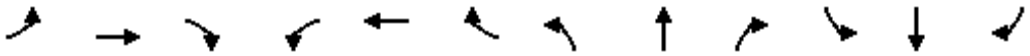
Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	34.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	3	2	20	6	23	10	1177	20	48	1462	50
Future Volume (vph)	89	3	2	20	6	23	10	1177	20	48	1462	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.94		1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1734		1752	1623		1752	5036	1568	1752	5036	1568
Flt Permitted	0.24	1.00		0.95	1.00		0.17	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)	437	1734		1752	1623		307	5036	1568	307	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	94	3	2	21	6	24	11	1239	21	51	1539	53
RTOR Reduction (vph)	0	1	0	0	22	0	0	0	12	0	0	31
Lane Group Flow (vph)	94	4	0	21	8	0	11	1239	9	51	1539	22
Turn Type	Perm	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2		2	6		6
Actuated Green, G (s)	16.9	16.9		4.1	4.1		24.0	24.0	24.0	24.0	24.0	24.0
Effective Green, g (s)	16.9	16.9		4.1	4.1		24.0	24.0	24.0	24.0	24.0	24.0
Actuated g/C Ratio	0.29	0.29		0.07	0.07		0.41	0.41	0.41	0.41	0.41	0.41
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	126	500		122	113		125	2066	643	125	2066	643
v/s Ratio Prot		0.00		c0.01	0.00			0.25			c0.31	
v/s Ratio Perm	c0.22						0.04		0.01	0.17		0.01
v/c Ratio	0.75	0.01		0.17	0.07		0.09	0.60	0.01	0.41	0.74	0.03
Uniform Delay, d1	18.9	14.8		25.6	25.4		10.6	13.5	10.2	12.2	14.7	10.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	21.1	0.0		0.7	0.3		0.3	0.5	0.0	2.2	1.5	0.0
Delay (s)	40.0	14.8		26.3	25.7		10.9	14.0	10.2	14.4	16.1	10.3
Level of Service	D	B		C	C		B	B	B	B	B	B
Approach Delay (s)		38.7			25.9			13.9			15.9	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	58.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

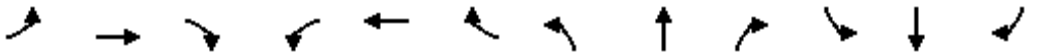
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	34	7	6	6	6	44	6	42	6	51	172	25
Future Volume (vph)	34	7	6	6	6	44	6	42	6	51	172	25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	7	6	6	6	46	6	44	6	54	181	26

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	36	13	6	52	6	50	54	207
Volume Left (vph)	36	0	6	0	6	0	54	0
Volume Right (vph)	0	6	0	46	0	6	0	26
Hadj (s)	0.55	-0.27	0.55	-0.57	0.55	-0.03	0.55	-0.04
Departure Headway (s)	5.9	5.0	5.9	4.7	5.5	5.0	5.4	4.8
Degree Utilization, x	0.06	0.02	0.01	0.07	0.01	0.07	0.08	0.28
Capacity (veh/h)	578	671	578	712	627	699	649	734
Control Delay (s)	8.0	6.9	7.7	6.9	7.4	7.1	7.6	8.4
Approach Delay (s)	7.7		7.0		7.2		8.2	
Approach LOS	A		A		A		A	

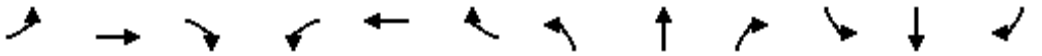
Intersection Summary				
Delay	7.9			
Level of Service	A			
Intersection Capacity Utilization	25.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	159	42	17	29	37	257	19	641	67	398	596	210
Future Volume (vph)	159	42	17	29	37	257	19	641	67	398	596	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	1845	1568	1752	1845	1568	1752	3505	1568	1752	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	167	44	18	31	39	271	20	675	71	419	627	221
RTOR Reduction (vph)	0	0	15	0	0	242	0	0	52	0	0	106
Lane Group Flow (vph)	167	44	3	31	39	29	20	675	19	419	627	115
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	12.3	12.3	12.3	8.2	8.2	8.2	1.9	20.9	20.9	17.7	36.7	36.7
Effective Green, g (s)	12.3	12.3	12.3	8.2	8.2	8.2	1.9	20.9	20.9	17.7	36.7	36.7
Actuated g/C Ratio	0.16	0.16	0.16	0.11	0.11	0.11	0.02	0.27	0.27	0.23	0.48	0.48
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	279	294	250	186	196	166	43	950	425	402	1668	746
v/s Ratio Prot	c0.10	0.02		0.02	c0.02		0.01	c0.19		c0.24	0.18	
v/s Ratio Perm			0.00			0.02			0.01			0.07
v/c Ratio	0.60	0.15	0.01	0.17	0.20	0.17	0.47	0.71	0.05	1.04	0.38	0.15
Uniform Delay, d1	30.1	27.9	27.3	31.3	31.5	31.4	37.1	25.4	20.7	29.7	12.9	11.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.4	0.2	0.0	0.4	0.5	0.5	7.8	2.5	0.0	56.3	0.1	0.1
Delay (s)	33.5	28.1	27.3	31.8	32.0	31.9	44.9	27.9	20.8	86.0	13.0	11.5
Level of Service	C	C	C	C	C	C	D	C	C	F	B	B
Approach Delay (s)		32.0			31.9			27.7			36.9	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	77.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		

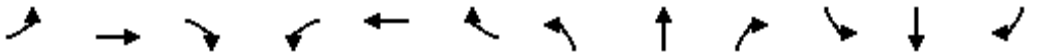
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	3	9	33	3	170	19	625	80	279	473	92
Future Volume (vph)	57	3	9	33	3	170	19	625	80	279	473	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.90	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1741			1555	1490	1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.87	1.00	0.47	1.00	1.00	0.38	1.00	1.00
Satd. Flow (perm)		1741			1370	1490	866	3505	1568	1372	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	60	3	9	35	3	179	20	658	84	294	498	97
RTOR Reduction (vph)	0	8	0	0	64	93	0	0	41	0	0	47
Lane Group Flow (vph)	0	64	0	0	47	13	20	658	43	294	498	50
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		4.2			5.9	5.9	24.6	24.6	24.6	24.6	24.6	24.6
Effective Green, g (s)		4.2			5.9	5.9	24.6	24.6	24.6	24.6	24.6	24.6
Actuated g/C Ratio		0.09			0.12	0.12	0.51	0.51	0.51	0.51	0.51	0.51
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		151			167	182	441	1788	800	700	1788	800
v/s Ratio Prot		c0.04						0.19			0.14	
v/s Ratio Perm					c0.03	0.01	0.02		0.03	c0.21		0.03
v/c Ratio		0.42			0.28	0.07	0.05	0.37	0.05	0.42	0.28	0.06
Uniform Delay, d1		20.9			19.2	18.7	5.9	7.1	5.9	7.4	6.7	6.0
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.9			0.9	0.2	0.0	0.1	0.0	0.4	0.1	0.0
Delay (s)		22.8			20.1	18.9	6.0	7.2	6.0	7.8	6.8	6.0
Level of Service		C			C	B	A	A	A	A	A	A
Approach Delay (s)		22.8			19.5			7.1			7.0	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	48.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

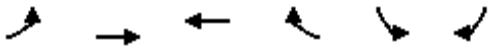
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	587	533	1	1	336	134	1	4	1	155	8	353
Future Volume (vph)	587	533	1	1	336	134	1	4	1	155	8	353
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00			1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.98			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99			0.95	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568		1788			1761	2760
Flt Permitted	0.54	1.00	1.00	0.41	1.00	1.00		0.38			0.95	1.00
Satd. Flow (perm)	1932	3505	1568	763	3505	1568		679			1761	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	618	561	1	1	354	141	1	4	1	163	8	372
RTOR Reduction (vph)	0	0	1	0	0	76	0	1	0	0	0	296
Lane Group Flow (vph)	618	561	0	1	354	65	0	5	0	0	171	76
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	27.0	27.0	27.0	27.0	27.0	27.0		6.2			12.0	12.0
Effective Green, g (s)	27.0	27.0	27.0	27.0	27.0	27.0		6.2			12.0	12.0
Actuated g/C Ratio	0.46	0.46	0.46	0.46	0.46	0.46		0.11			0.20	0.20
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	888	1612	721	350	1612	721		71			360	564
v/s Ratio Prot		0.16			0.10						c0.10	
v/s Ratio Perm	c0.32		0.00	0.00		0.04		c0.01				0.03
v/c Ratio	0.70	0.35	0.00	0.00	0.22	0.09		0.07			0.47	0.13
Uniform Delay, d1	12.6	10.2	8.6	8.6	9.5	8.9		23.7			20.6	19.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	2.4	0.1	0.0	0.0	0.1	0.1		0.4			1.0	0.1
Delay (s)	15.0	10.3	8.6	8.6	9.6	9.0		24.1			21.6	19.2
Level of Service	B	B	A	A	A	A		C			C	B
Approach Delay (s)		12.8			9.4			24.1			20.0	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	58.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	89	582	393	78	88	67
Future Volume (Veh/h)	89	582	393	78	88	67
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	94	613	414	82	93	71
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	496				908	207
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	496				908	207
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				63	91
cM capacity (veh/h)	1057				249	796

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	94	306	306	207	207	82	164
Volume Left	94	0	0	0	0	0	93
Volume Right	0	0	0	0	0	82	71
cSH	1057	1700	1700	1700	1700	1700	354
Volume to Capacity	0.09	0.18	0.18	0.12	0.12	0.05	0.46
Queue Length 95th (ft)	7	0	0	0	0	0	59
Control Delay (s)	8.7	0.0	0.0	0.0	0.0	0.0	23.7
Lane LOS	A						C
Approach Delay (s)	1.2			0.0			23.7
Approach LOS							C

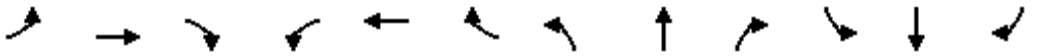
Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	34.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	144	1015	1819	355	0	2079
Future Volume (vph)	144	1015	1819	355	0	2079
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.98			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3618	2937	3639			5360
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3618	2937	3639			5360
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	152	1068	1915	374	0	2188
RTOR Reduction (vph)	0	25	13	0	0	0
Lane Group Flow (vph)	152	1043	2276	0	0	2188
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	35.4	35.4	82.6			82.6
Effective Green, g (s)	35.4	35.4	82.6			82.6
Actuated g/C Ratio	0.28	0.28	0.65			0.65
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1001	812	2350			3461
v/s Ratio Prot	0.04		c0.63			0.41
v/s Ratio Perm		c0.36				
v/c Ratio	0.15	1.28	0.97			0.63
Uniform Delay, d1	34.9	46.2	21.4			13.6
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	137.2	11.9			0.3
Delay (s)	34.9	183.4	33.3			13.8
Level of Service	C	F	C			B
Approach Delay (s)	164.9		33.3			13.8
Approach LOS	F		C			B

Intersection Summary			
HCM 2000 Control Delay	54.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	127.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	227	117	350	493	481	333	1197	446	437	507	55
Future Volume (vph)	119	227	117	350	493	481	333	1197	446	437	507	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	121	232	119	357	503	491	340	1221	455	446	517	56
RTOR Reduction (vph)	0	0	75	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	121	232	44	357	503	491	340	1221	455	446	517	56
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	9.6	14.4	32.0	16.3	21.1	120.0	17.6	51.5	120.0	19.8	53.7	120.0
Effective Green, g (s)	9.6	14.4	32.0	16.3	21.1	120.0	17.6	51.5	120.0	19.8	53.7	120.0
Actuated g/C Ratio	0.08	0.12	0.27	0.14	0.18	1.00	0.15	0.43	1.00	0.17	0.45	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	272	420	492	461	885	1568	481	2161	1568	561	2253	1568
v/s Ratio Prot	0.04	0.07	0.01	c0.11	c0.10		0.10	c0.24		c0.13	0.10	
v/s Ratio Perm			0.01			c0.31			0.29			0.04
v/c Ratio	0.44	0.55	0.09	0.77	0.57	0.31	0.71	0.57	0.29	0.80	0.23	0.04
Uniform Delay, d1	52.7	49.8	33.1	50.1	45.3	0.0	48.7	25.8	0.0	48.1	20.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.11	1.19	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	1.6	0.1	7.9	0.8	0.5	3.4	0.8	0.3	7.7	0.2	0.0
Delay (s)	53.8	51.3	33.1	58.0	46.1	0.5	57.7	31.4	0.3	55.8	20.6	0.0
Level of Service	D	D	C	E	D	A	E	C	A	E	C	A
Approach Delay (s)		47.4			32.7			28.8			34.9	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	403	0	1722	112	103	660	288	0	0
Future Volume (vph)	0	403	0	1722	112	103	660	288	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.95			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4807			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4807			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	424	0	1813	118	108	695	303	0	0
RTOR Reduction (vph)	0	30	0	0	53	0	0	0	0	0
Lane Group Flow (vph)	0	394	0	1813	65	108	998	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		16.8		32.9	32.9	16.8	60.0			
Effective Green, g (s)		16.8		32.9	32.9	16.8	60.0			
Actuated g/C Ratio		0.28		0.55	0.55	0.28	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		446		2761	859	490	4807			
v/s Ratio Prot		c0.25		c0.36		0.06	0.21			
v/s Ratio Perm					0.04					
v/c Ratio		0.88		0.66	0.08	0.22	0.21			
Uniform Delay, d1		20.7		9.6	6.4	16.6	0.0			
Progression Factor		1.00		1.00	1.00	0.84	1.00			
Incremental Delay, d2		17.8		1.2	0.2	0.1	0.0			
Delay (s)		38.5		10.8	6.6	14.1	0.0			
Level of Service		D		B	A	B	A			
Approach Delay (s)	38.5			10.5			1.4		0.0	
Approach LOS	D			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		

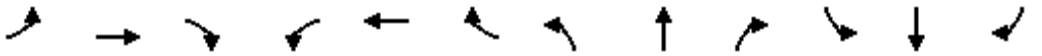
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	90	937	1413	330	0	905
Future Volume (vph)	90	937	1413	330	0	905
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3405			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3405			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	95	986	1487	347	0	953
RTOR Reduction (vph)	0	34	23	0	0	0
Lane Group Flow (vph)	95	952	1811	0	0	953
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	49.1			49.1
Effective Green, g (s)	30.0	30.0	49.1			49.1
Actuated g/C Ratio	0.34	0.34	0.55			0.55
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1146	930	1878			2778
v/s Ratio Prot	0.03		c0.53			0.19
v/s Ratio Perm		c0.35				
v/c Ratio	0.08	1.02	0.96			0.34
Uniform Delay, d1	20.1	29.5	19.1			11.0
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	35.7	13.2			0.0
Delay (s)	20.1	65.2	32.3			11.1
Level of Service	C	E	C			B
Approach Delay (s)	61.2		32.3			11.1
Approach LOS	E		C			B

Intersection Summary			
HCM 2000 Control Delay	35.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

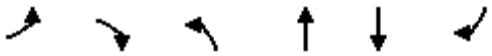
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	934	0	111	0	0	0	0	850	671	0	1030	241
Future Volume (vph)	934	0	111	0	0	0	0	850	671	0	1030	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	983	0	117	0	0	0	0	895	706	0	1084	254
RTOR Reduction (vph)	0	0	33	0	0	0	0	0	435	0	0	156
Lane Group Flow (vph)	983	0	84	0	0	0	0	895	271	0	1084	98
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	18.3		18.3					18.2	18.2		18.2	18.2
Effective Green, g (s)	18.3		18.3					18.2	18.2		18.2	18.2
Actuated g/C Ratio	0.39		0.39					0.38	0.38		0.38	0.38
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1312		605					1345	602		1345	602
v/s Ratio Prot	c0.29							0.26			c0.31	
v/s Ratio Perm			0.05						0.17			0.06
v/c Ratio	0.75		0.14					0.67	0.45		0.81	0.16
Uniform Delay, d1	12.6		9.4					12.1	10.9		13.0	9.6
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	2.1		0.0					1.0	0.2		3.4	0.0
Delay (s)	14.7		9.5					13.1	11.1		16.4	9.6
Level of Service	B		A					B	B		B	A
Approach Delay (s)		14.1			0.0			12.2			15.2	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	47.4	Sum of lost time (s)	10.9
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		

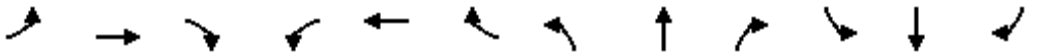
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	45	46	35	131	94	94
Future Volume (vph)	45	46	35	131	94	94
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	47	48	37	138	99	99

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	95	37	138	99	99
Volume Left (vph)	47	37	0	0	0
Volume Right (vph)	48	0	0	0	99
Hadj (s)	-0.15	0.55	0.05	0.05	-0.65
Departure Headway (s)	4.6	5.5	4.9	4.9	4.2
Degree Utilization, x	0.12	0.06	0.19	0.14	0.12
Capacity (veh/h)	730	641	706	704	821
Control Delay (s)	8.2	7.6	7.9	7.5	6.6
Approach Delay (s)	8.2	7.8		7.1	
Approach LOS	A	A		A	

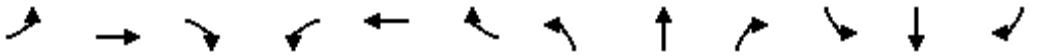
Intersection Summary				
Delay	7.6			
Level of Service	A			
Intersection Capacity Utilization	20.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	331	635	2	3	1093	301	5	6	7	47	2	200
Future Volume (vph)	331	635	2	3	1093	301	5	6	7	47	2	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568		1724		1665	1675	1568
Flt Permitted	0.21	1.00	1.00	0.39	1.00	1.00		0.94		0.75	0.79	1.00
Satd. Flow (perm)	750	3505	1568	722	3505	1568		1651		1307	1392	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	348	668	2	3	1151	317	5	6	7	49	2	211
RTOR Reduction (vph)	0	0	1	0	0	66	0	6	0	0	0	31
Lane Group Flow (vph)	348	668	1	3	1151	251	0	12	0	25	26	180
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	42.0	42.0	42.0	42.0	42.0	42.0		12.3		12.3	12.3	12.3
Effective Green, g (s)	42.0	42.0	42.0	42.0	42.0	42.0		12.3		12.3	12.3	12.3
Actuated g/C Ratio	0.66	0.66	0.66	0.66	0.66	0.66		0.19		0.19	0.19	0.19
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	497	2325	1040	479	2325	1040		320		253	270	304
v/s Ratio Prot		0.19			0.33							
v/s Ratio Perm	c0.46		0.00	0.00		0.16		0.01		0.02	0.02	c0.11
v/c Ratio	0.70	0.29	0.00	0.01	0.50	0.24		0.04		0.10	0.10	0.59
Uniform Delay, d1	6.7	4.4	3.6	3.6	5.3	4.3		20.7		20.9	20.9	23.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	4.4	0.1	0.0	0.0	0.2	0.1		0.0		0.2	0.2	3.1
Delay (s)	11.1	4.5	3.6	3.6	5.5	4.4		20.8		21.1	21.1	26.3
Level of Service	B	A	A	A	A	A		C		C	C	C
Approach Delay (s)		6.8			5.3			20.8			25.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	63.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		

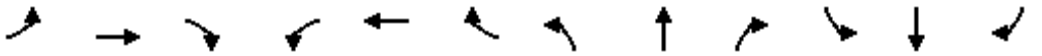
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	414	110	17	965	174	347	168	36	63	82	85
Future Volume (vph)	158	414	110	17	965	174	347	168	36	63	82	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	1845	1568	1752	1845	2760
Flt Permitted	0.23	1.00	1.00	0.49	1.00	1.00	0.95	1.00	1.00	0.65	1.00	1.00
Satd. Flow (perm)	430	3505	1568	898	5036	1568	3400	1845	1568	1191	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	166	436	116	18	1016	183	365	177	38	66	86	89
RTOR Reduction (vph)	0	0	57	0	0	88	0	0	31	0	0	78
Lane Group Flow (vph)	166	436	59	18	1016	95	365	177	7	66	86	11
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	38.0	38.0	38.0	38.0	38.0	38.0	13.9	13.9	13.9	9.7	9.7	9.7
Effective Green, g (s)	38.0	38.0	38.0	38.0	38.0	38.0	13.9	13.9	13.9	9.7	9.7	9.7
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.51	0.51	0.19	0.19	0.19	0.13	0.13	0.13
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	217	1773	793	454	2548	793	629	341	290	153	238	356
v/s Ratio Prot		0.12			0.20		c0.11	0.10			0.05	
v/s Ratio Perm	c0.39		0.04	0.02		0.06			0.00	c0.06		0.00
v/c Ratio	0.76	0.25	0.07	0.04	0.40	0.12	0.58	0.52	0.02	0.43	0.36	0.03
Uniform Delay, d1	15.0	10.5	9.5	9.4	11.5	9.8	27.9	27.6	25.0	30.2	29.9	28.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.8	0.1	0.0	0.0	0.1	0.1	1.4	1.3	0.0	1.9	0.9	0.0
Delay (s)	29.7	10.5	9.6	9.4	11.6	9.8	29.3	28.9	25.1	32.1	30.8	28.6
Level of Service	C	B	A	A	B	A	C	C	C	C	C	C
Approach Delay (s)		14.8			11.3			28.9			30.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	75.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

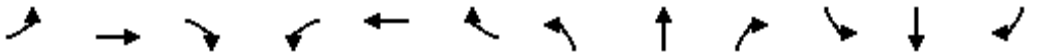
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	266	6	13	1091	175	39	5	23	63	1	84
Future Volume (vph)	157	266	6	13	1091	175	39	5	23	63	1	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	5020		1752	5036	1568	1752	1845	1568	1752	1845	2760
Flt Permitted	0.21	1.00		0.57	1.00	1.00	0.95	1.00	1.00	0.75	1.00	1.00
Satd. Flow (perm)	386	5020		1051	5036	1568	1752	1845	1568	1392	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	165	280	6	14	1148	184	41	5	24	66	1	88
RTOR Reduction (vph)	0	2	0	0	0	67	0	0	22	0	0	77
Lane Group Flow (vph)	165	284	0	14	1148	117	41	5	2	66	1	11
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	40.6	40.6		40.6	40.6	40.6	7.1	7.1	7.1	8.7	8.7	8.7
Effective Green, g (s)	40.6	40.6		40.6	40.6	40.6	7.1	7.1	7.1	8.7	8.7	8.7
Actuated g/C Ratio	0.58	0.58		0.58	0.58	0.58	0.10	0.10	0.10	0.12	0.12	0.12
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	224	2915		610	2925	910	177	187	159	173	229	343
v/s Ratio Prot		0.06			0.23		c0.02	0.00			0.00	
v/s Ratio Perm	c0.43			0.01		0.07			0.00	c0.05		0.00
v/c Ratio	0.74	0.10		0.02	0.39	0.13	0.23	0.03	0.02	0.38	0.00	0.03
Uniform Delay, d1	10.7	6.5		6.2	8.0	6.6	28.9	28.3	28.3	28.1	26.8	26.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.9	0.0		0.0	0.1	0.1	0.7	0.1	0.0	1.4	0.0	0.0
Delay (s)	22.6	6.5		6.2	8.0	6.7	29.6	28.3	28.3	29.5	26.8	26.9
Level of Service	C	A		A	A	A	C	C	C	C	C	C
Approach Delay (s)		12.4			7.8			29.0			28.0	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	69.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

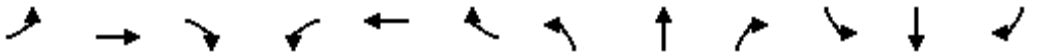
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	226	41	50	128	445	255	373	1205	40	167	804	401
Future Volume (vph)	226	41	50	128	445	255	373	1205	40	167	804	401
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	5036	1538	3400	5036	1538	3400	5036	1539	3400	5036	1538
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	5036	1538	3400	5036	1538	3400	5036	1539	3400	5036	1538
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	238	43	53	135	468	268	393	1268	42	176	846	422
RTOR Reduction (vph)	0	0	41	0	0	175	0	0	28	0	0	183
Lane Group Flow (vph)	238	43	12	135	468	93	393	1268	14	176	846	239
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	5.9	14.8	14.8	3.9	12.8	12.8	9.5	21.3	21.3	5.7	17.5	17.5
Effective Green, g (s)	5.9	14.8	14.8	3.9	12.8	12.8	9.5	21.3	21.3	5.7	17.5	17.5
Actuated g/C Ratio	0.09	0.23	0.23	0.06	0.20	0.20	0.15	0.33	0.33	0.09	0.27	0.27
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	314	1170	357	208	1011	309	507	1683	514	304	1383	422
v/s Ratio Prot	c0.07	0.01		0.04	c0.09		c0.12	c0.25		0.05	0.17	
v/s Ratio Perm			0.01			0.06			0.01			0.16
v/c Ratio	0.76	0.04	0.03	0.65	0.46	0.30	0.78	0.75	0.03	0.58	0.61	0.57
Uniform Delay, d1	28.2	18.9	18.9	29.2	22.4	21.6	26.1	18.9	14.2	27.8	20.1	19.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.0	0.0	0.0	6.8	0.3	0.6	7.3	2.0	0.0	2.7	0.8	1.7
Delay (s)	38.2	18.9	19.0	36.0	22.8	22.2	33.4	20.8	14.3	30.5	20.9	21.6
Level of Service	D	B	B	D	C	C	C	C	B	C	C	C
Approach Delay (s)		32.7			24.6			23.6			22.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	63.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

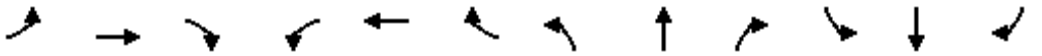
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	136	112	0	828	0	0	0	8	0	0	0
Future Volume (Veh/h)	0	136	112	0	828	0	0	0	8	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	143	118	0	872	0	0	0	8	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700			640							
pX, platoon unblocked	0.88						0.88	0.88		0.88	0.88	0.88
vC, conflicting volume	872			261			638	1074	130	952	1133	436
vC1, stage 1 conf vol							202	202		872	872	
vC2, stage 2 conf vol							436	872		80	261	
vCu, unblocked vol	592			261			328	821	130	682	888	99
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	100	100	100
cM capacity (veh/h)	860			1293			599	356	892	353	345	826

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	0	95	166	0	581	291	8	0	0
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	0	0	118	0	0	0	8	0	0
cSH	1700	1700	1700	1700	1700	1700	892	1700	1700
Volume to Capacity	0.00	0.06	0.10	0.00	0.34	0.17	0.01	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	1	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0
Lane LOS							A	A	A
Approach Delay (s)	0.0			0.0			9.1	0.0	
Approach LOS							A	A	

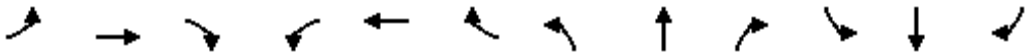
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	32.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	79	31	65	589	53	146	13	41	26	10	93
Future Volume (vph)	25	79	31	65	589	53	146	13	41	26	10	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.0		4.5	5.0		4.5	4.6		4.5	4.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.99		1.00	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3355		1752	3461		1752	3108		1752	3032	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1752	3355		1752	3461		1752	3108		1752	3032	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	26	83	33	68	620	56	154	14	43	27	11	98
RTOR Reduction (vph)	0	19	0	0	6	0	0	32	0	0	81	0
Lane Group Flow (vph)	26	97	0	68	670	0	154	25	0	27	28	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	1.8	30.9		3.9	33.0		8.7	18.6		2.7	12.6	
Effective Green, g (s)	1.8	30.9		3.9	33.0		8.7	18.6		2.7	12.6	
Actuated g/C Ratio	0.02	0.41		0.05	0.44		0.12	0.25		0.04	0.17	
Clearance Time (s)	4.5	5.0		4.5	5.0		4.5	4.6		4.5	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	42	1387		91	1528		204	773		63	511	
v/s Ratio Prot	0.01	0.03		c0.04	c0.19		c0.09	0.01		0.02	c0.01	
v/s Ratio Perm												
v/c Ratio	0.62	0.07		0.75	0.44		0.75	0.03		0.43	0.05	
Uniform Delay, d1	36.1	13.2		34.9	14.4		32.0	21.2		35.2	26.0	
Progression Factor	1.01	1.06		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	24.2	0.1		28.0	0.9		14.6	0.0		4.6	0.0	
Delay (s)	60.5	14.2		62.9	15.4		46.6	21.3		39.9	26.1	
Level of Service	E	B		E	B		D	C		D	C	
Approach Delay (s)		22.6			19.7			39.8			28.8	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	74.7	Sum of lost time (s)	18.6
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

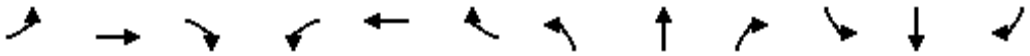
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	70	73	70	10	507	10	100	86	10	20	20	100
Future Volume (vph)	70	73	70	10	507	10	100	86	10	20	20	100
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	74	77	74	11	534	11	105	91	11	21	21	105

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	74	151	11	545	105	102	21	126
Volume Left (vph)	74	0	11	0	105	0	21	0
Volume Right (vph)	0	74	0	11	0	11	0	105
Hadj (s)	0.55	-0.29	0.55	0.04	0.55	-0.02	0.55	-0.53
Departure Headway (s)	7.0	6.1	6.5	6.0	7.5	6.9	7.6	6.5
Degree Utilization, x	0.14	0.26	0.02	0.91	0.22	0.20	0.04	0.23
Capacity (veh/h)	489	557	532	593	458	493	445	516
Control Delay (s)	9.9	10.0	8.4	40.5	11.4	10.4	9.8	10.3
Approach Delay (s)	10.0		39.9		10.9		10.2	
Approach LOS	A		E		B		B	

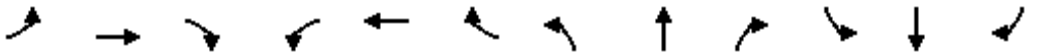
Intersection Summary				
Delay	24.8			
Level of Service	C			
Intersection Capacity Utilization	53.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	39	0	1529	15	8	1006	0
Future Volume (Veh/h)	0	0	0	0	0	39	0	1529	15	8	1006	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	41	0	1609	16	8	1059	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								540			840	
pX, platoon unblocked	0.85	0.85	0.88	0.85	0.85	0.79	0.88			0.79		
vC, conflicting volume	1652	2700	353	1986	2692	544	1059			1625		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	163	1395	0	555	1385	0	569			853		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	95	100			99		
cM capacity (veh/h)	628	117	946	347	118	852	869			612		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	0	41	644	644	338	8	424	424	212
Volume Left	0	0	0	0	0	8	0	0	0
Volume Right	0	41	0	0	16	0	0	0	0
cSH	1700	852	1700	1700	1700	612	1700	1700	1700
Volume to Capacity	0.00	0.05	0.38	0.38	0.20	0.01	0.25	0.25	0.12
Queue Length 95th (ft)	0	4	0	0	0	1	0	0	0
Control Delay (s)	0.0	9.4	0.0	0.0	0.0	11.0	0.0	0.0	0.0
Lane LOS	A	A				B			
Approach Delay (s)	0.0	9.4	0.0			0.1			
Approach LOS	A	A							

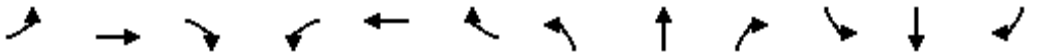
Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	39.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	5	4	65	9	31	10	1403	28	12	952	38
Future Volume (vph)	112	5	4	65	9	31	10	1403	28	12	952	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1722		1752	1627		1752	5036	1568	1752	5036	1568
Flt Permitted	0.95	1.00		0.95	1.00		0.25	1.00	1.00	0.16	1.00	1.00
Satd. Flow (perm)	1752	1722		1752	1627		457	5036	1568	300	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	118	5	4	68	9	33	11	1477	29	13	1002	40
RTOR Reduction (vph)	0	3	0	0	29	0	0	0	15	0	0	21
Lane Group Flow (vph)	118	6	0	68	13	0	11	1477	14	13	1002	19
Turn Type	Split	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	7.2	7.2		6.0	6.0		24.6	24.6	24.6	24.6	24.6	24.6
Effective Green, g (s)	7.2	7.2		6.0	6.0		24.6	24.6	24.6	24.6	24.6	24.6
Actuated g/C Ratio	0.14	0.14		0.12	0.12		0.48	0.48	0.48	0.48	0.48	0.48
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	245	241		204	190		219	2414	751	143	2414	751
v/s Ratio Prot	c0.07	0.00		c0.04	0.01			c0.29			0.20	
v/s Ratio Perm							0.02		0.01	0.04		0.01
v/c Ratio	0.48	0.02		0.33	0.07		0.05	0.61	0.02	0.09	0.42	0.03
Uniform Delay, d1	20.3	19.0		20.8	20.2		7.1	9.8	7.0	7.3	8.7	7.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.0		1.0	0.2		0.1	0.5	0.0	0.3	0.1	0.0
Delay (s)	21.8	19.1		21.8	20.3		7.2	10.3	7.0	7.5	8.8	7.0
Level of Service	C	B		C	C		A	B	A	A	A	A
Approach Delay (s)		21.6			21.2			10.2			8.7	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	51.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

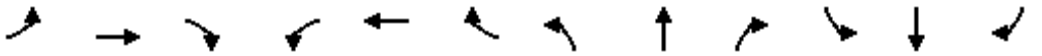
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	15	10	35	93	34	92	10	35	36	35
Future Volume (vph)	15	15	15	10	35	93	34	92	10	35	36	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.89		1.00	0.98		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1706		1752	1644		1752	1816		1752	1708	
Flt Permitted	0.95	1.00		0.95	1.00		0.71	1.00		0.69	1.00	
Satd. Flow (perm)	1757	1706		1757	1644		1306	1816		1268	1708	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	16	16	11	37	98	36	97	11	37	38	37
RTOR Reduction (vph)	0	13	0	0	82	0	0	6	0	0	19	0
Lane Group Flow (vph)	16	19	0	11	53	0	36	102	0	37	56	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	4.2	4.2		4.2	4.2		12.7	12.7		12.7	12.7	
Effective Green, g (s)	4.2	4.2		4.2	4.2		12.7	12.7		12.7	12.7	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.49	0.49		0.49	0.49	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	284	276		284	266		640	890		621	837	
v/s Ratio Prot		0.01			c0.03			c0.06			0.03	
v/s Ratio Perm	0.01			0.01			0.03			0.03		
v/c Ratio	0.06	0.07		0.04	0.20		0.06	0.12		0.06	0.07	
Uniform Delay, d1	9.2	9.2		9.1	9.4		3.5	3.6		3.5	3.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.1	0.4		0.0	0.1		0.0	0.0	
Delay (s)	9.3	9.3		9.2	9.8		3.5	3.6		3.5	3.5	
Level of Service	A	A		A	A		A	A		A	A	
Approach Delay (s)		9.3			9.7			3.6			3.5	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	25.9	Sum of lost time (s)	9.0
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		

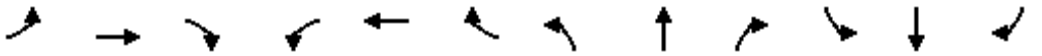
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	56	16	0	69	386	9	442	14	202	395	167
Future Volume (vph)	104	56	16	0	69	386	9	442	14	202	395	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1845	1568		1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	1845	1568		1845	1568	1752	3505	1568	1752	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	109	59	17	0	73	406	9	465	15	213	416	176
RTOR Reduction (vph)	0	0	15	0	0	342	0	0	11	0	0	104
Lane Group Flow (vph)	109	59	2	0	73	64	9	465	4	213	416	72
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	7.4	7.4	7.4		9.4	9.4	0.7	17.1	17.1	8.0	24.4	24.4
Effective Green, g (s)	7.4	7.4	7.4		9.4	9.4	0.7	17.1	17.1	8.0	24.4	24.4
Actuated g/C Ratio	0.12	0.12	0.12		0.16	0.16	0.01	0.29	0.29	0.13	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	216	227	193		289	246	20	1000	447	233	1427	638
v/s Ratio Prot	c0.06	0.03			0.04		0.01	c0.13		c0.12	0.12	
v/s Ratio Perm			0.00			c0.04			0.00			0.05
v/c Ratio	0.50	0.26	0.01		0.25	0.26	0.45	0.47	0.01	0.91	0.29	0.11
Uniform Delay, d1	24.5	23.8	23.0		22.2	22.2	29.4	17.6	15.3	25.6	11.9	11.0
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	0.6	0.0		0.5	0.6	15.3	0.3	0.0	36.3	0.1	0.1
Delay (s)	26.4	24.4	23.1		22.6	22.8	44.7	18.0	15.3	61.9	12.1	11.1
Level of Service	C	C	C		C	C	D	B	B	E	B	B
Approach Delay (s)		25.4			22.7			18.4			25.0	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	59.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

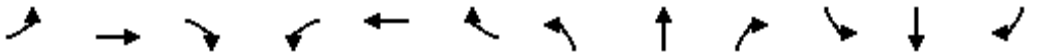
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	4	8	162	4	385	5	424	63	202	384	26
Future Volume (vph)	42	4	8	162	4	385	5	424	63	202	384	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.94	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1741			1597	1490	1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.79	1.00	0.51	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)		1741			1302	1490	949	3505	1568	1719	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	44	4	8	171	4	405	5	446	66	213	404	27
RTOR Reduction (vph)	0	7	0	0	34	187	0	0	47	0	0	19
Lane Group Flow (vph)	0	49	0	0	267	92	5	446	19	213	404	8
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		3.8			15.1	15.1	13.2	13.2	13.2	13.2	13.2	13.2
Effective Green, g (s)		3.8			15.1	15.1	13.2	13.2	13.2	13.2	13.2	13.2
Actuated g/C Ratio		0.08			0.33	0.33	0.29	0.29	0.29	0.29	0.29	0.29
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		145			431	493	274	1014	453	497	1014	453
v/s Ratio Prot		c0.03						c0.13			0.12	
v/s Ratio Perm					c0.20	0.06	0.01		0.01	0.12		0.00
v/c Ratio		0.34			0.62	0.19	0.02	0.44	0.04	0.43	0.40	0.02
Uniform Delay, d1		19.7			12.8	10.9	11.6	13.2	11.7	13.1	13.0	11.6
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.4			2.6	0.2	0.0	0.3	0.0	0.6	0.3	0.0
Delay (s)		21.1			15.5	11.1	11.6	13.5	11.7	13.7	13.3	11.6
Level of Service		C			B	B	B	B	B	B	B	B
Approach Delay (s)		21.1			13.4			13.2			13.4	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	45.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

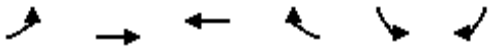
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	463	413	0	1	824	16	2	12	2	38	3	513
Future Volume (vph)	463	413	0	1	824	16	2	12	2	38	3	513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		1.00			1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.96	1.00
Satd. Flow (prot)	3400	3505		1752	3505	1568		1805			1763	2760
Flt Permitted	0.29	1.00		0.50	1.00	1.00		0.33			0.96	1.00
Satd. Flow (perm)	1047	3505		921	3505	1568		597			1763	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	487	435	0	1	867	17	2	13	2	40	3	540
RTOR Reduction (vph)	0	0	0	0	0	6	0	2	0	0	0	482
Lane Group Flow (vph)	487	435	0	1	867	11	0	15	0	0	43	58
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	50.6	50.6		50.6	50.6	50.6		6.8			8.6	8.6
Effective Green, g (s)	50.6	50.6		50.6	50.6	50.6		6.8			8.6	8.6
Actuated g/C Ratio	0.64	0.64		0.64	0.64	0.64		0.09			0.11	0.11
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	666	2230		586	2230	997		51			190	298
v/s Ratio Prot		0.12			0.25						c0.02	
v/s Ratio Perm	c0.47			0.00		0.01		c0.03				0.02
v/c Ratio	0.73	0.20		0.00	0.39	0.01		0.30			0.23	0.20
Uniform Delay, d1	9.8	6.0		5.3	7.0	5.3		34.1			32.4	32.3
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	4.1	0.0		0.0	0.1	0.0		3.3			0.6	0.3
Delay (s)	14.0	6.0		5.3	7.1	5.3		37.4			33.0	32.6
Level of Service	B	A		A	A	A		D			C	C
Approach Delay (s)		10.2			7.1			37.4			32.7	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	79.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

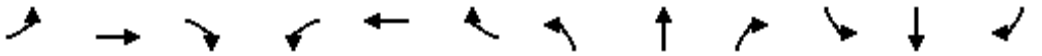
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	93	350	786	93	45	45
Future Volume (Veh/h)	93	350	786	93	45	45
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	98	368	827	98	47	47
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	925				1207	414
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	925				1207	414
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				69	92
cM capacity (veh/h)	728				151	585

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	98	184	184	414	414	98	94
Volume Left	98	0	0	0	0	0	47
Volume Right	0	0	0	0	0	98	47
cSH	728	1700	1700	1700	1700	1700	240
Volume to Capacity	0.13	0.11	0.11	0.24	0.24	0.06	0.39
Queue Length 95th (ft)	12	0	0	0	0	0	44
Control Delay (s)	10.7	0.0	0.0	0.0	0.0	0.0	29.3
Lane LOS	B						D
Approach Delay (s)	2.3			0.0			29.3
Approach LOS							D

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	537	245	550	944	725	316	1210	725	616	1686	188
Future Volume (vph)	147	537	245	550	944	725	316	1210	725	616	1686	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	155	565	258	579	994	763	333	1274	763	648	1775	198
RTOR Reduction (vph)	0	0	219	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	155	565	39	579	994	763	333	1274	763	648	1775	198
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	12.4	23.5	23.5	20.5	31.6	155.0	21.2	61.9	155.0	31.1	71.8	155.0
Effective Green, g (s)	12.4	23.5	23.5	20.5	31.6	155.0	21.2	61.9	155.0	31.1	71.8	155.0
Actuated g/C Ratio	0.08	0.15	0.15	0.13	0.20	1.00	0.14	0.40	1.00	0.20	0.46	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	272	531	245	449	1026	1568	449	2011	1568	682	2332	1568
v/s Ratio Prot	0.05	0.16		c0.17	c0.20		0.10	0.25		c0.19	c0.35	
v/s Ratio Perm			0.02			0.49			0.49			0.13
v/c Ratio	0.57	1.06	0.16	1.29	0.97	0.49	0.74	0.63	0.49	0.95	0.76	0.13
Uniform Delay, d1	68.7	65.8	57.2	67.2	61.2	0.0	64.3	37.4	0.0	61.2	34.5	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.7	57.2	0.3	146.2	20.6	1.1	6.5	1.5	1.1	22.9	2.4	0.2
Delay (s)	71.5	122.9	57.5	213.5	81.9	1.1	70.8	39.0	1.1	84.1	36.9	0.2
Level of Service	E	F	E	F	F	A	E	D	A	F	D	A
Approach Delay (s)		97.5			88.1			31.2			45.8	
Approach LOS		F			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	59.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	155.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	435	0	1752	78	306	1612	535	0	0
Future Volume (vph)	0	435	0	1752	78	306	1612	535	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.96			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1611		5085	1583	1770	4895			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1611		5085	1583	1770	4895			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	458	0	1844	82	322	1697	563	0	0
RTOR Reduction (vph)	0	22	0	0	35	0	0	0	0	0
Lane Group Flow (vph)	0	436	0	1844	47	322	2260	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		23.9		45.8	45.8	23.9	80.0			
Effective Green, g (s)		23.9		45.8	45.8	23.9	80.0			
Actuated g/C Ratio		0.30		0.57	0.57	0.30	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		481		2911	906	528	4895			
v/s Ratio Prot		c0.27		c0.36		0.18	0.46			
v/s Ratio Perm					0.03					
v/c Ratio		0.91		0.63	0.05	0.61	0.46			
Uniform Delay, d1		27.0		11.5	7.5	24.1	0.0			
Progression Factor		1.00		1.00	1.00	1.00	1.00			
Incremental Delay, d2		20.2		1.1	0.1	1.4	0.0			
Delay (s)		47.2		12.5	7.6	25.4	0.0			
Level of Service		D		B	A	C	A			
Approach Delay (s)	47.2			12.3			3.2		0.0	
Approach LOS	D			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

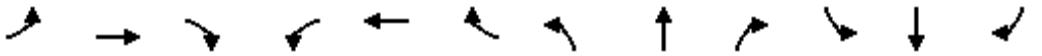
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	46	919	1648	218	0	2017
Future Volume (vph)	46	919	1648	218	0	2017
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.98			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	3477			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	3477			5085
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	48	967	1735	229	0	2123
RTOR Reduction (vph)	0	21	9	0	0	0
Lane Group Flow (vph)	48	946	1955	0	0	2123
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	36.7	36.7	63.1			63.1
Effective Green, g (s)	36.7	36.7	63.1			63.1
Actuated g/C Ratio	0.33	0.33	0.58			0.58
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1148	932	1999			2924
v/s Ratio Prot	0.01		c0.56			0.42
v/s Ratio Perm		c0.34				
v/c Ratio	0.04	1.01	0.98			0.73
Uniform Delay, d1	24.6	36.5	22.6			17.0
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	33.2	15.0			0.8
Delay (s)	24.6	69.7	37.6			17.8
Level of Service	C	E	D			B
Approach Delay (s)	67.6		37.6			17.8
Approach LOS	E		D			B

Intersection Summary			
HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	109.7	Sum of lost time (s)	9.9
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		

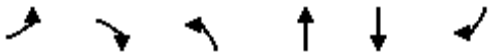
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	797	0	39	0	0	0	0	1023	746	0	1591	535
Future Volume (vph)	797	0	39	0	0	0	0	1023	746	0	1591	535
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		1583					3539	1583		3539	1583
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		1583					3539	1583		3539	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	839	0	41	0	0	0	0	1077	785	0	1675	563
RTOR Reduction (vph)	0	0	27	0	0	0	0	0	453	0	0	325
Lane Group Flow (vph)	839	0	14	0	0	0	0	1077	332	0	1675	238
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	15.2		15.2					19.1	19.1		19.1	19.1
Effective Green, g (s)	15.2		15.2					19.1	19.1		19.1	19.1
Actuated g/C Ratio	0.34		0.34					0.42	0.42		0.42	0.42
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1154		532					1495	668		1495	668
v/s Ratio Prot	c0.24							0.30			c0.47	
v/s Ratio Perm			0.01						0.21			0.15
v/c Ratio	0.73		0.03					0.72	0.50		1.12	0.36
Uniform Delay, d1	13.2		10.0					10.8	9.5		13.1	8.9
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	2.0		0.0					1.5	0.2		63.7	0.1
Delay (s)	15.1		10.1					12.3	9.7		76.8	9.0
Level of Service	B		B					B	A		E	A
Approach Delay (s)		14.9			0.0			11.2			59.7	
Approach LOS		B			A			B			E	

Intersection Summary			
HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	45.2	Sum of lost time (s)	10.9
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		

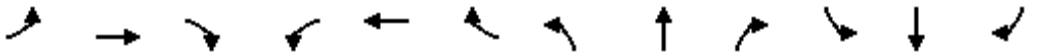
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	58	59	70	209	100	73
Future Volume (vph)	58	59	70	209	100	73
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	61	62	74	220	105	77

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	123	74	220	105	77
Volume Left (vph)	61	74	0	0	0
Volume Right (vph)	62	0	0	0	77
Hadj (s)	-0.17	0.53	0.03	0.03	-0.67
Departure Headway (s)	4.8	5.5	5.0	5.1	4.4
Degree Utilization, x	0.16	0.11	0.31	0.15	0.09
Capacity (veh/h)	692	633	698	673	778
Control Delay (s)	8.7	8.0	9.0	7.8	6.7
Approach Delay (s)	8.7	8.8		7.4	
Approach LOS	A	A		A	

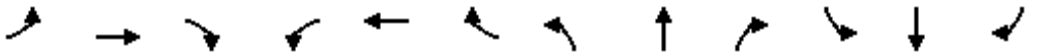
Intersection Summary				
Delay	8.3			
Level of Service	A			
Intersection Capacity Utilization	24.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	1005	5	7	567	97	3	4	5	157	6	154
Future Volume (vph)	160	1005	5	7	567	97	3	4	5	157	6	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583		1736		1681	1691	1583
Flt Permitted	0.43	1.00	1.00	0.23	1.00	1.00		0.93		0.75	0.73	1.00
Satd. Flow (perm)	1541	3539	1583	421	3539	1583		1635		1327	1296	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	168	1058	5	7	597	102	3	4	5	165	6	162
RTOR Reduction (vph)	0	0	2	0	0	47	0	4	0	0	0	125
Lane Group Flow (vph)	168	1058	3	7	597	55	0	8	0	86	85	37
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	20.5	20.5	20.5	20.5	20.5	20.5		8.6		8.6	8.6	8.6
Effective Green, g (s)	20.5	20.5	20.5	20.5	20.5	20.5		8.6		8.6	8.6	8.6
Actuated g/C Ratio	0.54	0.54	0.54	0.54	0.54	0.54		0.23		0.23	0.23	0.23
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	829	1904	851	226	1904	851		369		299	292	357
v/s Ratio Prot		c0.30			0.17							
v/s Ratio Perm	0.11		0.00	0.02		0.03		0.00		0.06	c0.07	0.02
v/c Ratio	0.20	0.56	0.00	0.03	0.31	0.06		0.02		0.29	0.29	0.10
Uniform Delay, d1	4.6	5.8	4.1	4.1	4.9	4.2		11.5		12.2	12.2	11.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.4	0.0	0.1	0.1	0.0		0.0		0.5	0.6	0.1
Delay (s)	4.7	6.2	4.1	4.2	5.0	4.2		11.5		12.7	12.8	11.8
Level of Service	A	A	A	A	A	A		B		B	B	B
Approach Delay (s)		5.9			4.9			11.5			12.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	38.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

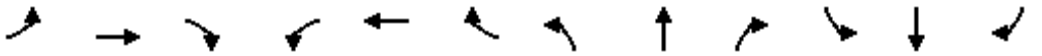
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	631	352	22	380	115	149	141	23	111	110	134
Future Volume (vph)	180	631	352	22	380	115	149	141	23	111	110	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5085	1583	3433	1863	1583	1770	1863	2787
Flt Permitted	0.51	1.00	1.00	0.32	1.00	1.00	0.95	1.00	1.00	0.66	1.00	1.00
Satd. Flow (perm)	946	3539	1583	602	5085	1583	3433	1863	1583	1235	1863	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	189	664	371	23	400	121	157	148	24	117	116	141
RTOR Reduction (vph)	0	0	218	0	0	75	0	0	20	0	0	112
Lane Group Flow (vph)	189	664	153	23	400	46	157	148	4	117	116	29
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	22.1	22.1	22.1	22.1	22.1	22.1	10.9	10.9	10.9	11.8	11.8	11.8
Effective Green, g (s)	22.1	22.1	22.1	22.1	22.1	22.1	10.9	10.9	10.9	11.8	11.8	11.8
Actuated g/C Ratio	0.38	0.38	0.38	0.38	0.38	0.38	0.19	0.19	0.19	0.20	0.20	0.20
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	358	1341	600	228	1927	600	641	348	295	249	377	564
v/s Ratio Prot		0.19			0.08		0.05	c0.08			0.06	
v/s Ratio Perm	c0.20		0.10	0.04		0.03			0.00	c0.09		0.01
v/c Ratio	0.53	0.50	0.26	0.10	0.21	0.08	0.24	0.43	0.02	0.47	0.31	0.05
Uniform Delay, d1	14.1	13.8	12.4	11.7	12.2	11.6	20.2	20.9	19.3	20.5	19.8	18.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	0.3	0.2	0.2	0.1	0.1	0.2	0.8	0.0	1.4	0.5	0.0
Delay (s)	15.5	14.1	12.7	11.9	12.3	11.6	20.4	21.8	19.3	21.9	20.2	18.8
Level of Service	B	B	B	B	B	B	C	C	B	C	C	B
Approach Delay (s)		13.9			12.1			20.9			20.2	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		

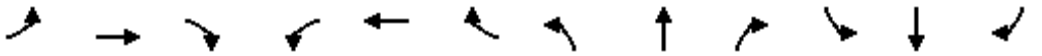
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	179	477	24	28	365	115	12	4	19	111	5	133
Future Volume (vph)	179	477	24	28	365	115	12	4	19	111	5	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5049		1770	5085	1583	1770	1863	1583	1770	1863	2787
Flt Permitted	0.52	1.00		0.45	1.00	1.00	0.95	1.00	1.00	0.76	1.00	1.00
Satd. Flow (perm)	961	5049		831	5085	1583	1770	1863	1583	1407	1863	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	188	502	25	29	384	121	13	4	20	117	5	140
RTOR Reduction (vph)	0	7	0	0	0	79	0	0	17	0	0	110
Lane Group Flow (vph)	188	520	0	29	384	42	13	4	3	117	5	30
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	15.5	15.5		15.5	15.5	15.5	6.2	6.2	6.2	9.7	9.7	9.7
Effective Green, g (s)	15.5	15.5		15.5	15.5	15.5	6.2	6.2	6.2	9.7	9.7	9.7
Actuated g/C Ratio	0.35	0.35		0.35	0.35	0.35	0.14	0.14	0.14	0.22	0.22	0.22
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	331	1742		286	1755	546	244	257	218	303	402	602
v/s Ratio Prot		0.10			0.08		c0.01	0.00			0.00	
v/s Ratio Perm	c0.20			0.03		0.03			0.00	c0.08		0.01
v/c Ratio	0.57	0.30		0.10	0.22	0.08	0.05	0.02	0.01	0.39	0.01	0.05
Uniform Delay, d1	12.0	10.7		10.0	10.4	9.9	16.8	16.7	16.7	15.1	13.8	13.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.2	0.1		0.2	0.1	0.1	0.1	0.0	0.0	0.8	0.0	0.0
Delay (s)	14.2	10.8		10.1	10.5	9.9	16.9	16.7	16.7	15.9	13.8	14.0
Level of Service	B	B		B	B	A	B	B	B	B	B	B
Approach Delay (s)		11.7			10.3			16.8			14.8	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	44.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

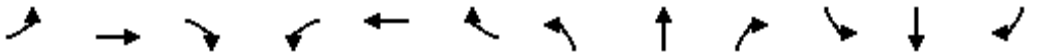
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	147	136	76	83	206	79	982	103	382	1234	325
Future Volume (vph)	265	147	136	76	83	206	79	982	103	382	1234	325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1553	3433	5085	1552	3433	5085	1554	3433	5085	1555
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1553	3433	5085	1552	3433	5085	1554	3433	5085	1555
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	279	155	143	80	87	217	83	1034	108	402	1299	342
RTOR Reduction (vph)	0	0	112	0	0	169	0	0	76	0	0	212
Lane Group Flow (vph)	279	155	31	80	87	48	83	1034	32	402	1299	130
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	6.7	13.4	13.4	2.9	9.6	9.6	3.9	18.2	18.2	9.2	23.5	23.5
Effective Green, g (s)	6.7	13.4	13.4	2.9	9.6	9.6	3.9	18.2	18.2	9.2	23.5	23.5
Actuated g/C Ratio	0.11	0.22	0.22	0.05	0.16	0.16	0.06	0.29	0.29	0.15	0.38	0.38
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	372	1104	337	161	791	241	216	1499	458	511	1936	592
v/s Ratio Prot	c0.08	c0.03		0.02	0.02		0.02	0.20		c0.12	c0.26	
v/s Ratio Perm			0.02			c0.03			0.02			0.08
v/c Ratio	0.75	0.14	0.09	0.50	0.11	0.20	0.38	0.69	0.07	0.79	0.67	0.22
Uniform Delay, d1	26.7	19.5	19.3	28.7	22.4	22.7	27.7	19.3	15.7	25.3	15.9	12.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.2	0.1	0.1	2.4	0.1	0.4	1.1	1.3	0.1	7.8	0.9	0.2
Delay (s)	34.9	19.6	19.4	31.1	22.4	23.1	28.9	20.6	15.7	33.1	16.8	13.1
Level of Service	C	B	B	C	C	C	C	C	B	C	B	B
Approach Delay (s)		27.0			24.6			20.7			19.4	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	61.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		

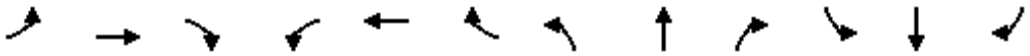
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	492	140	0	365	0	0	0	10	0	0	0
Future Volume (Veh/h)	0	492	140	0	365	0	0	0	10	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	518	147	0	384	0	0	0	11	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700			640							
pX, platoon unblocked												
vC, conflicting volume	384			665			784	976	332	654	1049	192
vC1, stage 1 conf vol							592	592		384	384	
vC2, stage 2 conf vol							192	384		270	665	
vCu, unblocked vol	384			665			784	976	332	654	1049	192
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	98	100	100	100
cM capacity (veh/h)	1171			920			378	360	663	454	338	817

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	0	345	320	0	256	128	11	0	0
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	0	0	147	0	0	0	11	0	0
cSH	1700	1700	1700	1700	1700	1700	663	1700	1700
Volume to Capacity	0.00	0.20	0.19	0.00	0.15	0.08	0.02	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	1	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.5	0.0	0.0
Lane LOS							B	A	A
Approach Delay (s)	0.0			0.0			10.5	0.0	
Approach LOS							B	A	

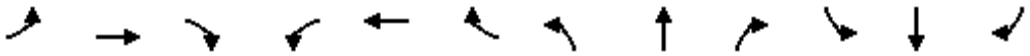
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	28.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	319	116	84	216	42	91	18	98	62	23	58
Future Volume (vph)	57	319	116	84	216	42	91	18	98	62	23	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.0		4.5	5.0		4.5	4.6		4.5	4.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	0.87		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3398		1770	3453		1770	3091		1770	3158	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3398		1770	3453		1770	3091		1770	3158	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	60	336	122	88	227	44	96	19	103	65	24	61
RTOR Reduction (vph)	0	34	0	0	15	0	0	87	0	0	52	0
Lane Group Flow (vph)	60	424	0	88	256	0	96	35	0	65	33	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	3.8	31.8		4.1	32.1		4.9	10.8		4.4	10.3	
Effective Green, g (s)	3.8	31.8		4.1	32.1		4.9	10.8		4.4	10.3	
Actuated g/C Ratio	0.05	0.46		0.06	0.46		0.07	0.15		0.06	0.15	
Clearance Time (s)	4.5	5.0		4.5	5.0		4.5	4.6		4.5	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	96	1550		104	1590		124	478		111	466	
v/s Ratio Prot	0.03	c0.12		c0.05	0.07		c0.05	c0.01		0.04	0.01	
v/s Ratio Perm												
v/c Ratio	0.62	0.27		0.85	0.16		0.77	0.07		0.59	0.07	
Uniform Delay, d1	32.3	11.8		32.5	11.0		31.9	25.2		31.8	25.6	
Progression Factor	0.99	1.09		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.0	0.4		43.5	0.2		25.4	0.1		7.7	0.1	
Delay (s)	44.0	13.2		76.0	11.2		57.3	25.2		39.4	25.6	
Level of Service	D	B		E	B		E	C		D	C	
Approach Delay (s)		16.8			27.1			39.3			31.6	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	69.7	Sum of lost time (s)	18.6
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		

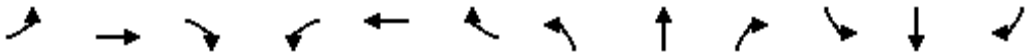
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	159	161	159	20	182	20	80	100	80	20	59	80
Future Volume (vph)	159	161	159	20	182	20	80	100	80	20	59	80
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	167	169	167	21	192	21	84	105	84	21	62	84

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	167	336	21	213	84	189	21	146
Volume Left (vph)	167	0	21	0	84	0	21	0
Volume Right (vph)	0	167	0	21	0	84	0	84
Hadj (s)	0.53	-0.31	0.53	-0.04	0.53	-0.28	0.53	-0.37
Departure Headway (s)	6.7	5.9	7.1	6.5	7.3	6.5	7.5	6.6
Degree Utilization, x	0.31	0.55	0.04	0.39	0.17	0.34	0.04	0.27
Capacity (veh/h)	513	583	477	525	466	524	446	509
Control Delay (s)	11.6	14.6	9.2	12.3	10.6	11.5	9.6	10.7
Approach Delay (s)	13.6		12.1		11.2		10.6	
Approach LOS	B		B		B		B	

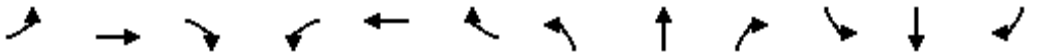
Intersection Summary				
Delay	12.3			
Level of Service	B			
Intersection Capacity Utilization	48.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	19	0	1121	22	38	1466	0
Future Volume (Veh/h)	0	0	0	0	0	19	0	1121	22	38	1466	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	20	0	1180	23	40	1543	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								540			840	
pX, platoon unblocked	0.86	0.86	0.80	0.86	0.86	0.89	0.80			0.89		
vC, conflicting volume	2036	2826	514	1786	2814	405	1543			1203		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	732	1653	0	440	1640	0	807			780		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	98	100			95		
cM capacity (veh/h)	249	79	868	411	81	961	651			738		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	0	20	472	472	259	40	617	617	309
Volume Left	0	0	0	0	0	40	0	0	0
Volume Right	0	20	0	0	23	0	0	0	0
cSH	1700	961	1700	1700	1700	738	1700	1700	1700
Volume to Capacity	0.00	0.02	0.28	0.28	0.15	0.05	0.36	0.36	0.18
Queue Length 95th (ft)	0	2	0	0	0	4	0	0	0
Control Delay (s)	0.0	8.8	0.0	0.0	0.0	10.2	0.0	0.0	0.0
Lane LOS	A	A				B			
Approach Delay (s)	0.0	8.8	0.0			0.3			
Approach LOS	A	A							

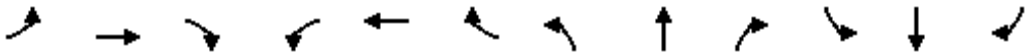
Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	32.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	5	4	30	11	19	18	1014	30	47	1343	35
Future Volume (vph)	115	5	4	30	11	19	18	1014	30	47	1343	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1739		1770	1688		1770	5085	1583	1770	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.15	1.00	1.00	0.23	1.00	1.00
Satd. Flow (perm)	1770	1739		1770	1688		283	5085	1583	435	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	121	5	4	32	12	20	19	1067	32	49	1414	37
RTOR Reduction (vph)	0	3	0	0	18	0	0	0	15	0	0	18
Lane Group Flow (vph)	121	6	0	32	14	0	19	1067	17	49	1414	19
Turn Type	Split	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	7.1	7.1		3.9	3.9		26.3	26.3	26.3	26.3	26.3	26.3
Effective Green, g (s)	7.1	7.1		3.9	3.9		26.3	26.3	26.3	26.3	26.3	26.3
Actuated g/C Ratio	0.14	0.14		0.08	0.08		0.52	0.52	0.52	0.52	0.52	0.52
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	247	243		135	129		146	2632	819	225	2632	819
v/s Ratio Prot	c0.07	0.00		c0.02	0.01			0.21			c0.28	
v/s Ratio Perm							0.07		0.01	0.11		0.01
v/c Ratio	0.49	0.02		0.24	0.10		0.13	0.41	0.02	0.22	0.54	0.02
Uniform Delay, d1	20.2	18.9		22.1	21.8		6.3	7.5	6.0	6.7	8.2	6.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.0		0.9	0.4		0.4	0.1	0.0	0.5	0.2	0.0
Delay (s)	21.7	18.9		23.0	22.2		6.7	7.6	6.0	7.1	8.4	6.0
Level of Service	C	B		C	C		A	A	A	A	A	A
Approach Delay (s)		21.5			22.6			7.5			8.3	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	50.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

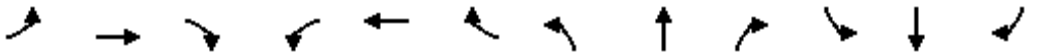
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	12	10	10	10	77	10	70	10	90	93	40
Future Volume (vph)	60	12	10	10	10	77	10	70	10	90	93	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.87		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1735		1770	1617		1770	1827		1770	1779	
Flt Permitted	1.00	1.00		1.00	1.00		0.67	1.00		0.70	1.00	
Satd. Flow (perm)	1863	1735		1863	1617		1244	1827		1307	1779	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	63	13	11	11	11	81	11	74	11	95	98	42
RTOR Reduction (vph)	0	10	0	0	72	0	0	5	0	0	19	0
Lane Group Flow (vph)	63	14	0	11	20	0	11	80	0	95	121	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	2.9	2.9		2.9	2.9		14.6	14.6		14.6	14.6	
Effective Green, g (s)	2.9	2.9		2.9	2.9		14.6	14.6		14.6	14.6	
Actuated g/C Ratio	0.11	0.11		0.11	0.11		0.55	0.55		0.55	0.55	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	203	189		203	176		685	1006		720	980	
v/s Ratio Prot		0.01			0.01			0.04			0.07	
v/s Ratio Perm	c0.03			0.01			0.01			c0.07		
v/c Ratio	0.31	0.08		0.05	0.11		0.02	0.08		0.13	0.12	
Uniform Delay, d1	10.9	10.6		10.6	10.6		2.7	2.8		2.9	2.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.2		0.1	0.3		0.0	0.0		0.1	0.1	
Delay (s)	11.8	10.8		10.7	10.9		2.7	2.8		3.0	2.9	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		11.5			10.9			2.8			2.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	26.5	Sum of lost time (s)	9.0
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		

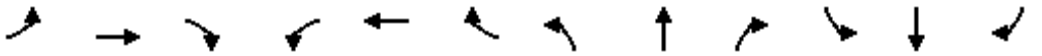
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	73	13	2	65	220	23	446	30	356	417	111
Future Volume (vph)	135	73	13	2	65	220	23	446	30	356	417	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	142	77	14	2	68	232	24	469	32	375	439	117
RTOR Reduction (vph)	0	0	12	0	0	205	0	0	24	0	0	63
Lane Group Flow (vph)	142	77	2	2	68	27	24	469	8	375	439	54
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	11.0	11.0	11.0	8.5	8.5	8.5	1.9	17.3	17.3	17.8	33.2	33.2
Effective Green, g (s)	11.0	11.0	11.0	8.5	8.5	8.5	1.9	17.3	17.3	17.8	33.2	33.2
Actuated g/C Ratio	0.15	0.15	0.15	0.12	0.12	0.12	0.03	0.24	0.24	0.25	0.46	0.46
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	268	282	239	207	218	185	46	843	377	433	1618	723
v/s Ratio Prot	c0.08	0.04		0.00	c0.04		0.01	c0.13		c0.21	0.12	
v/s Ratio Perm			0.00			0.02			0.00			0.03
v/c Ratio	0.53	0.27	0.01	0.01	0.31	0.15	0.52	0.56	0.02	0.87	0.27	0.07
Uniform Delay, d1	28.4	27.3	26.2	28.3	29.4	28.8	34.9	24.3	21.2	26.3	12.2	11.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	0.5	0.0	0.0	0.8	0.4	10.3	0.8	0.0	16.4	0.1	0.0
Delay (s)	30.3	27.8	26.2	28.3	30.2	29.2	45.2	25.1	21.2	42.7	12.3	11.1
Level of Service	C	C	C	C	C	C	D	C	C	D	B	B
Approach Delay (s)		29.2			29.4			25.8			24.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	72.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

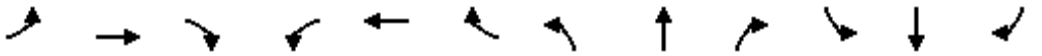
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	5	9	48	5	219	10	461	125	355	380	52
Future Volume (vph)	39	5	9	48	5	219	10	461	125	355	380	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.91	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1756			1578	1504	1770	3539	1583	3433	3539	1583
Flt Permitted		0.96			0.86	1.00	0.52	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)		1756			1385	1504	962	3539	1583	1718	3539	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	41	5	9	51	5	231	11	485	132	374	400	55
RTOR Reduction (vph)	0	8	0	0	67	115	0	0	72	0	0	30
Lane Group Flow (vph)	0	47	0	0	79	26	11	485	60	374	400	25
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		4.1			8.9	8.9	21.8	21.8	21.8	21.8	21.8	21.8
Effective Green, g (s)		4.1			8.9	8.9	21.8	21.8	21.8	21.8	21.8	21.8
Actuated g/C Ratio		0.08			0.18	0.18	0.45	0.45	0.45	0.45	0.45	0.45
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		149			255	277	434	1597	714	775	1597	714
v/s Ratio Prot		c0.03						0.14			0.11	
v/s Ratio Perm					c0.06	0.02	0.01		0.04	c0.22		0.02
v/c Ratio		0.31			0.31	0.09	0.03	0.30	0.08	0.48	0.25	0.03
Uniform Delay, d1		20.8			17.0	16.4	7.4	8.4	7.6	9.3	8.2	7.4
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.2			0.7	0.1	0.0	0.1	0.1	0.5	0.1	0.0
Delay (s)		22.0			17.7	16.5	7.4	8.5	7.6	9.8	8.3	7.4
Level of Service		C			B	B	A	A	A	A	A	A
Approach Delay (s)		22.0			17.1			8.3			8.9	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	48.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		

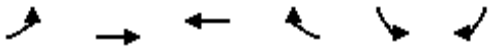
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	549	666	2	2	372	39	1	7	2	31	14	393
Future Volume (vph)	549	666	2	2	372	39	1	7	2	31	14	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00			1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.97			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00			0.97	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583		1803			1801	2787
Flt Permitted	0.52	1.00	1.00	0.34	1.00	1.00		0.35			0.97	1.00
Satd. Flow (perm)	1881	3539	1583	642	3539	1583		633			1801	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	578	701	2	2	392	41	1	7	2	33	15	414
RTOR Reduction (vph)	0	0	1	0	0	22	0	2	0	0	0	353
Lane Group Flow (vph)	578	701	1	2	392	19	0	8	0	0	48	61
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	24.8	24.8	24.8	24.8	24.8	24.8		6.3			7.7	7.7
Effective Green, g (s)	24.8	24.8	24.8	24.8	24.8	24.8		6.3			7.7	7.7
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47	0.47		0.12			0.15	0.15
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	891	1678	750	304	1678	750		76			265	410
v/s Ratio Prot		0.20			0.11						c0.03	
v/s Ratio Perm	c0.31		0.00	0.00		0.01		c0.01				0.02
v/c Ratio	0.65	0.42	0.00	0.01	0.23	0.03		0.11			0.18	0.15
Uniform Delay, d1	10.4	9.0	7.2	7.3	8.1	7.3		20.5			19.5	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	1.6	0.2	0.0	0.0	0.1	0.0		0.6			0.3	0.2
Delay (s)	12.1	9.2	7.2	7.3	8.2	7.3		21.1			19.9	19.6
Level of Service	B	A	A	A	A	A		C			B	B
Approach Delay (s)		10.5			8.1			21.1			19.6	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	52.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

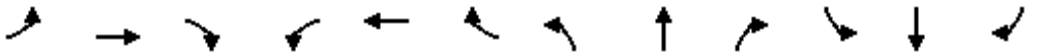
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	150	539	289	100	114	114
Future Volume (Veh/h)	150	539	289	100	114	114
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	158	567	304	105	120	120
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	409				904	152
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	409				904	152
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	86				50	86
cM capacity (veh/h)	1146				239	867

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	158	284	284	152	152	105	240
Volume Left	158	0	0	0	0	0	120
Volume Right	0	0	0	0	0	105	120
cSH	1146	1700	1700	1700	1700	1700	374
Volume to Capacity	0.14	0.17	0.17	0.09	0.09	0.06	0.64
Queue Length 95th (ft)	12	0	0	0	0	0	107
Control Delay (s)	8.6	0.0	0.0	0.0	0.0	0.0	30.3
Lane LOS	A						D
Approach Delay (s)	1.9			0.0			30.3
Approach LOS							D

Intersection Summary			
Average Delay	6.3		
Intersection Capacity Utilization	39.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	227	117	350	493	481	333	1268	446	437	710	55
Future Volume (vph)	119	227	117	350	493	481	333	1268	446	437	710	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	121	232	119	357	503	491	340	1294	455	446	724	56
RTOR Reduction (vph)	0	0	105	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	121	232	14	357	503	491	340	1294	455	446	724	56
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	9.6	14.4	14.4	16.3	21.1	120.0	17.6	51.5	120.0	19.8	53.7	120.0
Effective Green, g (s)	9.6	14.4	14.4	16.3	21.1	120.0	17.6	51.5	120.0	19.8	53.7	120.0
Actuated g/C Ratio	0.08	0.12	0.12	0.14	0.18	1.00	0.15	0.43	1.00	0.17	0.45	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	272	420	194	461	885	1568	481	2161	1568	561	2253	1568
v/s Ratio Prot	0.04	0.07		c0.11	c0.10		0.10	c0.26		c0.13	0.14	
v/s Ratio Perm			0.01			c0.31			0.29			0.04
v/c Ratio	0.44	0.55	0.07	0.77	0.57	0.31	0.71	0.60	0.29	0.80	0.32	0.04
Uniform Delay, d1	52.7	49.8	46.9	50.1	45.3	0.0	48.7	26.3	0.0	48.1	21.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.12	1.19	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	1.6	0.2	7.9	0.8	0.5	3.3	0.9	0.3	7.7	0.4	0.0
Delay (s)	53.8	51.3	47.0	58.0	46.1	0.5	57.7	32.1	0.3	55.8	21.8	0.0
Level of Service	D	D	D	E	D	A	E	C	A	E	C	A
Approach Delay (s)		50.9			32.7			29.3			33.2	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	403	0	1793	112	103	863	288	0	0
Future Volume (vph)	0	403	0	1793	112	103	863	288	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.96			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1596		5036	1568	1752	4847			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1596		5036	1568	1752	4847			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	424	0	1887	118	108	908	303	0	0
RTOR Reduction (vph)	0	30	0	0	53	0	0	0	0	0
Lane Group Flow (vph)	0	394	0	1887	65	108	1211	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		16.8		32.9	32.9	16.8	60.0			
Effective Green, g (s)		16.8		32.9	32.9	16.8	60.0			
Actuated g/C Ratio		0.28		0.55	0.55	0.28	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		446		2761	859	490	4847			
v/s Ratio Prot		c0.25		c0.37		0.06	0.25			
v/s Ratio Perm					0.04					
v/c Ratio		0.88		0.68	0.08	0.22	0.25			
Uniform Delay, d1		20.7		9.8	6.4	16.6	0.0			
Progression Factor		1.00		1.00	1.00	0.81	1.00			
Incremental Delay, d2		17.8		1.4	0.2	0.1	0.0			
Delay (s)		38.5		11.2	6.6	13.4	0.0			
Level of Service		D		B	A	B	A			
Approach Delay (s)	38.5			10.9			1.1		0.0	
Approach LOS	D			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

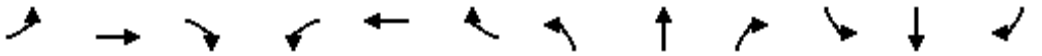
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	124	937	1484	354	0	1108
Future Volume (vph)	124	937	1484	354	0	1108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	2760	3404			5036
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	2760	3404			5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	131	986	1562	373	0	1166
RTOR Reduction (vph)	0	28	23	0	0	0
Lane Group Flow (vph)	131	958	1912	0	0	1166
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	30.0	30.0	50.0			50.0
Effective Green, g (s)	30.0	30.0	50.0			50.0
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1134	921	1893			2800
v/s Ratio Prot	0.04		c0.56			0.23
v/s Ratio Perm		c0.35				
v/c Ratio	0.12	1.04	1.01			0.42
Uniform Delay, d1	20.8	30.0	20.0			11.5
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	40.6	23.2			0.0
Delay (s)	20.8	70.6	43.1			11.6
Level of Service	C	E	D			B
Approach Delay (s)	64.7		43.1			11.6
Approach LOS	E		D			B

Intersection Summary			
HCM 2000 Control Delay	40.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.9
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		

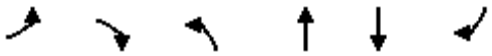
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	934	0	179	0	0	0	0	944	683	0	1267	241
Future Volume (vph)	934	0	179	0	0	0	0	944	683	0	1267	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3400		1568					3505	1568		3505	1568
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3400		1568					3505	1568		3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	983	0	188	0	0	0	0	994	719	0	1334	254
RTOR Reduction (vph)	0	0	33	0	0	0	0	0	435	0	0	154
Lane Group Flow (vph)	983	0	155	0	0	0	0	994	284	0	1334	100
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	18.5		18.5					19.2	19.2		19.2	19.2
Effective Green, g (s)	18.5		18.5					19.2	19.2		19.2	19.2
Actuated g/C Ratio	0.38		0.38					0.40	0.40		0.40	0.40
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1294		596					1384	619		1384	619
v/s Ratio Prot	c0.29							0.28			c0.38	
v/s Ratio Perm			0.10						0.18			0.06
v/c Ratio	0.76		0.26					0.72	0.46		0.96	0.16
Uniform Delay, d1	13.1		10.3					12.4	10.9		14.4	9.5
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	2.3		0.1					1.5	0.2		16.2	0.0
Delay (s)	15.4		10.4					13.9	11.1		30.5	9.5
Level of Service	B		B					B	B		C	A
Approach Delay (s)		14.6			0.0			12.7			27.2	
Approach LOS		B			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	48.6	Sum of lost time (s)	10.9
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

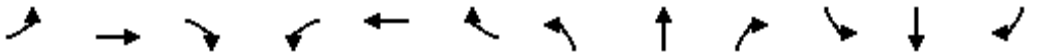
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	45	46	35	138	96	94
Future Volume (vph)	45	46	35	138	96	94
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	47	48	37	145	101	99

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	95	37	145	101	99
Volume Left (vph)	47	37	0	0	0
Volume Right (vph)	48	0	0	0	99
Hadj (s)	-0.15	0.55	0.05	0.05	-0.65
Departure Headway (s)	4.6	5.5	5.0	4.9	4.2
Degree Utilization, x	0.12	0.06	0.20	0.14	0.12
Capacity (veh/h)	726	640	706	703	820
Control Delay (s)	8.2	7.6	8.0	7.5	6.6
Approach Delay (s)	8.2	7.9		7.1	
Approach LOS	A	A		A	

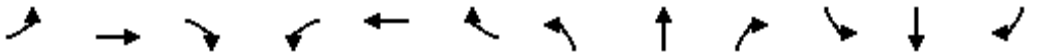
Intersection Summary				
Delay	7.6			
Level of Service	A			
Intersection Capacity Utilization	20.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	331	689	2	3	1112	306	5	6	7	61	2	200
Future Volume (vph)	331	689	2	3	1112	306	5	6	7	61	2	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568		1724		1665	1674	1568
Flt Permitted	0.20	1.00	1.00	0.36	1.00	1.00		0.94		0.75	0.78	1.00
Satd. Flow (perm)	727	3505	1568	673	3505	1568		1649		1307	1366	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	348	725	2	3	1171	322	5	6	7	64	2	211
RTOR Reduction (vph)	0	0	1	0	0	66	0	6	0	0	0	30
Lane Group Flow (vph)	348	725	1	3	1171	256	0	12	0	33	33	181
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	42.1	42.1	42.1	42.1	42.1	42.1		12.5		12.5	12.5	12.5
Effective Green, g (s)	42.1	42.1	42.1	42.1	42.1	42.1		12.5		12.5	12.5	12.5
Actuated g/C Ratio	0.66	0.66	0.66	0.66	0.66	0.66		0.20		0.20	0.20	0.20
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	481	2320	1037	445	2320	1037		324		256	268	308
v/s Ratio Prot		0.21			0.33							
v/s Ratio Perm	c0.48		0.00	0.00		0.16		0.01		0.03	0.02	c0.12
v/c Ratio	0.72	0.31	0.00	0.01	0.50	0.25		0.04		0.13	0.12	0.59
Uniform Delay, d1	7.0	4.6	3.6	3.7	5.5	4.3		20.7		21.1	21.0	23.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	5.3	0.1	0.0	0.0	0.2	0.1		0.0		0.2	0.2	2.9
Delay (s)	12.3	4.7	3.6	3.7	5.6	4.5		20.7		21.3	21.2	26.1
Level of Service	B	A	A	A	A	A		C		C	C	C
Approach Delay (s)		7.1			5.4			20.7			24.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	63.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		

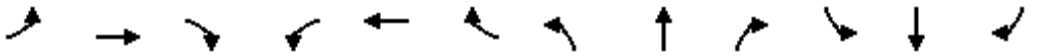
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	482	110	29	989	174	347	168	70	63	82	85
Future Volume (vph)	158	482	110	29	989	174	347	168	70	63	82	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	1845	1568	1752	1845	2760
Flt Permitted	0.23	1.00	1.00	0.44	1.00	1.00	0.95	1.00	1.00	0.65	1.00	1.00
Satd. Flow (perm)	417	3505	1568	815	5036	1568	3400	1845	1568	1191	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	166	507	116	31	1041	183	365	177	74	66	86	89
RTOR Reduction (vph)	0	0	56	0	0	85	0	0	60	0	0	78
Lane Group Flow (vph)	166	507	60	31	1041	98	365	177	14	66	86	11
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	39.7	39.7	39.7	39.7	39.7	39.7	14.2	14.2	14.2	9.8	9.8	9.8
Effective Green, g (s)	39.7	39.7	39.7	39.7	39.7	39.7	14.2	14.2	14.2	9.8	9.8	9.8
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.51	0.51	0.18	0.18	0.18	0.13	0.13	0.13
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	214	1802	806	419	2589	806	625	339	288	151	234	350
v/s Ratio Prot		0.14			0.21		c0.11	0.10			0.05	
v/s Ratio Perm	c0.40		0.04	0.04		0.06			0.01	c0.06		0.00
v/c Ratio	0.78	0.28	0.07	0.07	0.40	0.12	0.58	0.52	0.05	0.44	0.37	0.03
Uniform Delay, d1	15.2	10.6	9.5	9.5	11.5	9.7	28.8	28.4	25.9	31.2	30.9	29.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.0	0.1	0.0	0.1	0.1	0.1	1.4	1.5	0.1	2.0	1.0	0.0
Delay (s)	31.2	10.7	9.5	9.5	11.6	9.8	30.2	29.9	26.0	33.2	31.8	29.6
Level of Service	C	B	A	A	B	A	C	C	C	C	C	C
Approach Delay (s)		14.9			11.3			29.6			31.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	77.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

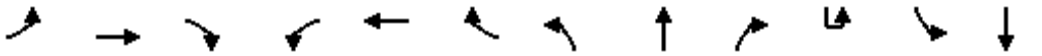
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	368	6	25	1126	175	39	5	57	63	1	84
Future Volume (vph)	157	368	6	25	1126	175	39	5	57	63	1	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	5024		1752	5036	1568	1752	1845	1568	1752	1845	2760
Flt Permitted	0.20	1.00		0.51	1.00	1.00	0.95	1.00	1.00	0.75	1.00	1.00
Satd. Flow (perm)	368	5024		943	5036	1568	1752	1845	1568	1392	1845	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	165	387	6	26	1185	184	41	5	60	66	1	88
RTOR Reduction (vph)	0	1	0	0	0	65	0	0	54	0	0	77
Lane Group Flow (vph)	165	392	0	26	1185	119	41	5	6	66	1	11
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	40.6	40.6		40.6	40.6	40.6	7.1	7.1	7.1	8.7	8.7	8.7
Effective Green, g (s)	40.6	40.6		40.6	40.6	40.6	7.1	7.1	7.1	8.7	8.7	8.7
Actuated g/C Ratio	0.58	0.58		0.58	0.58	0.58	0.10	0.10	0.10	0.12	0.12	0.12
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	213	2918		547	2925	910	177	187	159	173	229	343
v/s Ratio Prot		0.08			0.24		c0.02	0.00			0.00	
v/s Ratio Perm	c0.45			0.03		0.08			0.00	c0.05		0.00
v/c Ratio	0.77	0.13		0.05	0.41	0.13	0.23	0.03	0.04	0.38	0.00	0.03
Uniform Delay, d1	11.2	6.7		6.3	8.0	6.6	28.9	28.3	28.3	28.1	26.8	26.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.0	0.0		0.0	0.1	0.1	0.7	0.1	0.1	1.4	0.0	0.0
Delay (s)	27.2	6.7		6.4	8.1	6.7	29.6	28.3	28.4	29.5	26.8	26.9
Level of Service	C	A		A	A	A	C	C	C	C	C	C
Approach Delay (s)		12.7			7.9			28.9			28.0	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	69.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	226	177	50	199	492	290	373	1408	40	102	370	804
Future Volume (vph)	226	177	50	199	492	290	373	1408	40	102	370	804
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00		0.97	0.91
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3400	5036	1535	3400	5036	1534	3400	5036	1536		3400	5036
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3400	5036	1535	3400	5036	1534	3400	5036	1536		3400	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	238	186	53	209	518	305	393	1482	42	107	389	846
RTOR Reduction (vph)	0	0	43	0	0	131	0	0	28	0	0	0
Lane Group Flow (vph)	238	186	10	209	518	174	393	1482	14	0	496	846
Confl. Peds. (#/hr)			5			5			5			
Confl. Bikes (#/hr)			2			2			2			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases			4			8			2			
Actuated Green, G (s)	7.5	15.4	15.4	6.8	14.7	14.7	13.0	28.3	28.3		16.2	31.5
Effective Green, g (s)	7.5	15.4	15.4	6.8	14.7	14.7	13.0	28.3	28.3		16.2	31.5
Actuated g/C Ratio	0.09	0.18	0.18	0.08	0.17	0.17	0.15	0.33	0.33		0.19	0.37
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	301	915	279	272	874	266	521	1682	513		650	1872
v/s Ratio Prot	c0.07	0.04		0.06	0.10		0.12	c0.29			c0.15	0.17
v/s Ratio Perm			0.01			c0.11			0.01			
v/c Ratio	0.79	0.20	0.03	0.77	0.59	0.66	0.75	0.88	0.03		0.76	0.45
Uniform Delay, d1	37.8	29.4	28.5	38.2	32.2	32.6	34.3	26.6	19.0		32.4	20.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	13.2	0.1	0.1	12.3	1.1	5.7	6.1	5.8	0.0		5.3	0.2
Delay (s)	51.0	29.5	28.6	50.4	33.3	38.4	40.5	32.4	19.0		37.7	20.3
Level of Service	D	C	C	D	C	D	D	C	B		D	C
Approach Delay (s)		40.2			38.3			33.8				25.4
Approach LOS		D			D			C				C

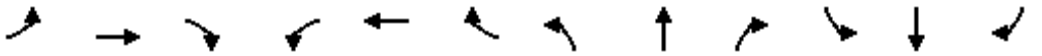
Intersection Summary					
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.78				
Actuated Cycle Length (s)	84.7	Sum of lost time (s)	18.0		
Intersection Capacity Utilization	80.6%	ICU Level of Service	D		
Analysis Period (min)	15				

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	401
Future Volume (vph)	401
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1536
Flt Permitted	1.00
Satd. Flow (perm)	1536
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	422
RTOR Reduction (vph)	138
Lane Group Flow (vph)	284
Confl. Peds. (#/hr)	5
Confl. Bikes (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	31.5
Effective Green, g (s)	31.5
Actuated g/C Ratio	0.37
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	571
v/s Ratio Prot	
v/s Ratio Perm	c0.19
v/c Ratio	0.50
Uniform Delay, d1	20.5
Progression Factor	1.00
Incremental Delay, d2	0.7
Delay (s)	21.2
Level of Service	C
Approach Delay (s)	
Approach LOS	

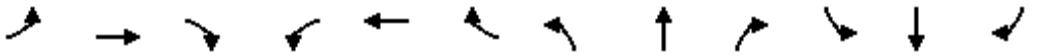
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	339	136	112	0	828	27	0	0	8	9	0	153
Future Volume (Veh/h)	339	136	112	0	828	27	0	0	8	9	0	153
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	357	143	118	0	872	28	0	0	8	9	0	161
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700			640							
pX, platoon unblocked	0.88						0.88	0.88		0.88	0.88	0.88
vC, conflicting volume	900			261			1352	1816	130	1680	1861	450
vC1, stage 1 conf vol							916	916		886	886	
vC2, stage 2 conf vol							436	900		794	975	
vCu, unblocked vol	607			261			1122	1651	130	1495	1702	95
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	58			100			100	100	99	94	100	80
cM capacity (veh/h)	843			1293			128	59	892	140	136	825

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	357	95	166	0	581	319	8	9	161
Volume Left	357	0	0	0	0	0	0	9	0
Volume Right	0	0	118	0	0	28	8	0	161
cSH	843	1700	1700	1700	1700	1700	892	140	825
Volume to Capacity	0.42	0.06	0.10	0.00	0.34	0.19	0.01	0.06	0.20
Queue Length 95th (ft)	53	0	0	0	0	0	1	5	18
Control Delay (s)	12.4	0.0	0.0	0.0	0.0	0.0	9.1	32.5	10.4
Lane LOS	B						A	D	B
Approach Delay (s)	7.1			0.0			9.1	11.6	
Approach LOS							A	B	

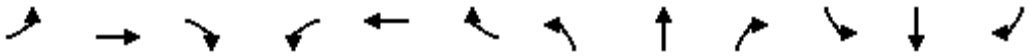
Intersection Summary				
Average Delay	3.8			
Intersection Capacity Utilization	59.7%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	86	33	65	609	53	153	13	41	26	10	93
Future Volume (vph)	25	86	33	65	609	53	153	13	41	26	10	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.0		4.5	5.0		4.5	4.6		4.5	4.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.99		1.00	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3359		1752	3463		1752	3108		1752	3032	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1752	3359		1752	3463		1752	3108		1752	3032	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	26	91	35	68	641	56	161	14	43	27	11	98
RTOR Reduction (vph)	0	21	0	0	6	0	0	32	0	0	81	0
Lane Group Flow (vph)	26	105	0	68	691	0	161	25	0	27	28	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	1.8	30.9		3.9	33.0		8.7	18.6		2.7	12.6	
Effective Green, g (s)	1.8	30.9		3.9	33.0		8.7	18.6		2.7	12.6	
Actuated g/C Ratio	0.02	0.41		0.05	0.44		0.12	0.25		0.04	0.17	
Clearance Time (s)	4.5	5.0		4.5	5.0		4.5	4.6		4.5	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	42	1389		91	1529		204	773		63	511	
v/s Ratio Prot	0.01	0.03		c0.04	c0.20		c0.09	0.01		0.02	c0.01	
v/s Ratio Perm												
v/c Ratio	0.62	0.08		0.75	0.45		0.79	0.03		0.43	0.05	
Uniform Delay, d1	36.1	13.3		34.9	14.5		32.1	21.2		35.2	26.0	
Progression Factor	1.01	1.04		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	24.2	0.1		28.0	1.0		18.1	0.0		4.6	0.0	
Delay (s)	60.5	13.9		62.9	15.5		50.2	21.3		39.9	26.1	
Level of Service	E	B		E	B		D	C		D	C	
Approach Delay (s)		21.9			19.7			42.6			28.8	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	24.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	74.7	Sum of lost time (s)	18.6
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		

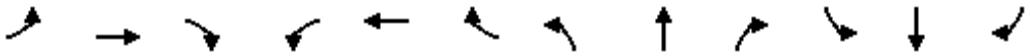
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	70	78	72	10	521	10	107	86	10	20	22	100
Future Volume (vph)	70	78	72	10	521	10	107	86	10	20	22	100
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	74	82	76	11	548	11	113	91	11	21	23	105

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	74	158	11	559	113	102	21	128
Volume Left (vph)	74	0	11	0	113	0	21	0
Volume Right (vph)	0	76	0	11	0	11	0	105
Hadj (s)	0.55	-0.29	0.55	0.04	0.55	-0.02	0.55	-0.52
Departure Headway (s)	7.0	6.2	6.6	6.1	7.6	7.0	7.7	6.7
Degree Utilization, x	0.14	0.27	0.02	0.94	0.24	0.20	0.05	0.24
Capacity (veh/h)	486	553	527	589	457	492	442	513
Control Delay (s)	10.0	10.3	8.5	46.6	11.7	10.5	9.9	10.5
Approach Delay (s)	10.2		45.9		11.1		10.4	
Approach LOS	B		E		B		B	

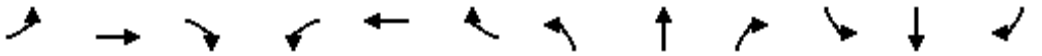
Intersection Summary				
Delay	27.9			
Level of Service	D			
Intersection Capacity Utilization	58.5%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	39	0	1732	15	8	1065	12
Future Volume (Veh/h)	0	0	0	0	0	39	0	1732	15	8	1065	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	41	0	1823	16	8	1121	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								540			840	
pX, platoon unblocked	0.80	0.80	0.89	0.80	0.80	0.75	0.89			0.75		
vC, conflicting volume	1792	2982	380	2221	2981	616	1134			1839		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	192	1672	0	725	1671	0	709			943		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	95	100			99		
cM capacity (veh/h)	564	74	960	247	75	809	780			536		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	0	41	729	729	381	8	448	448	237
Volume Left	0	0	0	0	0	8	0	0	0
Volume Right	0	41	0	0	16	0	0	0	13
cSH	1700	809	1700	1700	1700	536	1700	1700	1700
Volume to Capacity	0.00	0.05	0.43	0.43	0.22	0.01	0.26	0.26	0.14
Queue Length 95th (ft)	0	4	0	0	0	1	0	0	0
Control Delay (s)	0.0	9.7	0.0	0.0	0.0	11.8	0.0	0.0	0.0
Lane LOS	A	A				B			
Approach Delay (s)	0.0	9.7	0.0			0.1			
Approach LOS	A	A							

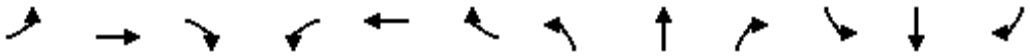
Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	43.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	5	4	65	9	31	10	1539	28	12	999	50
Future Volume (vph)	180	5	4	65	9	31	10	1539	28	12	999	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1722		1752	1627		1752	5036	1568	1752	5036	1568
Flt Permitted	0.95	1.00		0.95	1.00		0.22	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	1752	1722		1752	1627		409	5036	1568	266	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	189	5	4	68	9	33	11	1620	29	13	1052	53
RTOR Reduction (vph)	0	3	0	0	29	0	0	0	15	0	0	28
Lane Group Flow (vph)	189	6	0	68	13	0	11	1620	14	13	1052	25
Turn Type	Split	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	11.5	11.5		6.5	6.5		27.7	27.7	27.7	27.7	27.7	27.7
Effective Green, g (s)	11.5	11.5		6.5	6.5		27.7	27.7	27.7	27.7	27.7	27.7
Actuated g/C Ratio	0.19	0.19		0.11	0.11		0.47	0.47	0.47	0.47	0.47	0.47
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	340	334		192	178		191	2356	733	124	2356	733
v/s Ratio Prot	c0.11	0.00		c0.04	0.01			c0.32			0.21	
v/s Ratio Perm							0.03		0.01	0.05		0.02
v/c Ratio	0.56	0.02		0.35	0.07		0.06	0.69	0.02	0.10	0.45	0.03
Uniform Delay, d1	21.5	19.3		24.4	23.6		8.6	12.4	8.5	8.8	10.6	8.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.0		1.1	0.2		0.1	0.8	0.0	0.4	0.1	0.0
Delay (s)	23.5	19.3		25.5	23.8		8.7	13.2	8.5	9.2	10.7	8.5
Level of Service	C	B		C	C		A	B	A	A	B	A
Approach Delay (s)		23.3			24.9			13.1			10.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	59.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

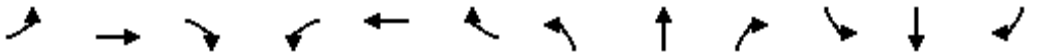
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	15	10	35	93	34	99	10	35	83	35
Future Volume (vph)	15	15	15	10	35	93	34	99	10	35	83	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.89		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1706		1752	1644		1752	1818		1752	1762	
Flt Permitted	0.95	1.00		0.95	1.00		0.68	1.00		0.68	1.00	
Satd. Flow (perm)	1757	1706		1757	1644		1250	1818		1260	1762	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	16	16	11	37	98	36	104	11	37	87	37
RTOR Reduction (vph)	0	13	0	0	82	0	0	6	0	0	19	0
Lane Group Flow (vph)	16	19	0	11	53	0	36	109	0	37	105	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	4.2	4.2		4.2	4.2		12.7	12.7		12.7	12.7	
Effective Green, g (s)	4.2	4.2		4.2	4.2		12.7	12.7		12.7	12.7	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.49	0.49		0.49	0.49	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	284	276		284	266		612	891		617	863	
v/s Ratio Prot		0.01			c0.03			c0.06			0.06	
v/s Ratio Perm	0.01			0.01			0.03			0.03		
v/c Ratio	0.06	0.07		0.04	0.20		0.06	0.12		0.06	0.12	
Uniform Delay, d1	9.2	9.2		9.1	9.4		3.5	3.6		3.5	3.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.1	0.4		0.0	0.1		0.0	0.1	
Delay (s)	9.3	9.3		9.2	9.8		3.5	3.6		3.5	3.6	
Level of Service	A	A		A	A		A	A		A	A	
Approach Delay (s)		9.3			9.7			3.6			3.6	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	25.9	Sum of lost time (s)	9.0
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		

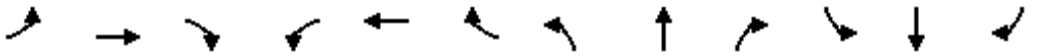
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	56	16	0	69	420	9	510	14	214	419	179
Future Volume (vph)	138	56	16	0	69	420	9	510	14	214	419	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1845	1568		1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	1845	1568		1845	1568	1752	3505	1568	1752	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	145	59	17	0	73	442	9	537	15	225	441	188
RTOR Reduction (vph)	0	0	15	0	0	299	0	0	11	0	0	111
Lane Group Flow (vph)	145	59	2	0	73	143	9	537	4	225	441	77
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	8.7	8.7	8.7		10.8	10.8	0.8	19.1	19.1	8.1	26.4	26.4
Effective Green, g (s)	8.7	8.7	8.7		10.8	10.8	0.8	19.1	19.1	8.1	26.4	26.4
Actuated g/C Ratio	0.13	0.13	0.13		0.17	0.17	0.01	0.30	0.30	0.13	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	235	248	210		307	261	21	1034	462	219	1430	639
v/s Ratio Prot	c0.08	0.03			0.04		0.01	c0.15		c0.13	0.13	
v/s Ratio Perm			0.00			c0.09			0.00			0.05
v/c Ratio	0.62	0.24	0.01		0.24	0.55	0.43	0.52	0.01	1.03	0.31	0.12
Uniform Delay, d1	26.4	25.0	24.3		23.4	24.7	31.7	19.0	16.1	28.3	13.0	11.9
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.8	0.5	0.0		0.4	2.3	13.4	0.4	0.0	68.1	0.1	0.1
Delay (s)	31.2	25.5	24.3		23.8	27.1	45.2	19.4	16.1	96.4	13.1	12.0
Level of Service	C	C	C		C	C	D	B	B	F	B	B
Approach Delay (s)		29.1			26.6			19.7			34.8	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	64.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

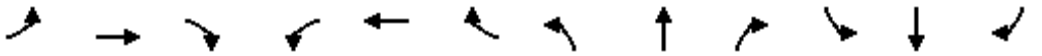
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	4	8	162	4	385	5	465	63	202	398	35
Future Volume (vph)	69	4	8	162	4	385	5	465	63	202	398	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.99			0.94	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1746			1597	1490	1752	3505	1568	3400	3505	1568
Flt Permitted		0.96			0.78	1.00	0.50	1.00	1.00	0.44	1.00	1.00
Satd. Flow (perm)		1746			1276	1490	921	3505	1568	1559	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	73	4	8	171	4	405	5	489	66	213	419	37
RTOR Reduction (vph)	0	6	0	0	34	187	0	0	46	0	0	26
Lane Group Flow (vph)	0	79	0	0	267	92	5	489	20	213	419	11
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		4.4			15.9	15.9	14.2	14.2	14.2	14.2	14.2	14.2
Effective Green, g (s)		4.4			15.9	15.9	14.2	14.2	14.2	14.2	14.2	14.2
Actuated g/C Ratio		0.09			0.33	0.33	0.30	0.30	0.30	0.30	0.30	0.30
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		160			422	493	272	1036	463	461	1036	463
v/s Ratio Prot		c0.05						c0.14			0.12	
v/s Ratio Perm					c0.21	0.06	0.01		0.01	0.14		0.01
v/c Ratio		0.49			0.63	0.19	0.02	0.47	0.04	0.46	0.40	0.02
Uniform Delay, d1		20.7			13.6	11.4	12.0	13.8	12.1	13.8	13.5	12.0
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.4			3.1	0.2	0.0	0.3	0.0	0.7	0.3	0.0
Delay (s)		23.1			16.7	11.6	12.0	14.2	12.1	14.5	13.8	12.0
Level of Service		C			B	B	B	B	B	B	B	B
Approach Delay (s)		23.1			14.2			13.9			13.9	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	48.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		

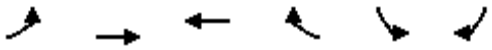
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	483	413	0	1	824	36	2	12	2	45	3	520
Future Volume (vph)	483	413	0	1	824	36	2	12	2	45	3	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00		1.00			1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.96	1.00
Satd. Flow (prot)	3400	3505		1752	3505	1568		1805			1762	2760
Flt Permitted	0.29	1.00		0.50	1.00	1.00		0.33			0.96	1.00
Satd. Flow (perm)	1046	3505		921	3505	1568		597			1762	2760
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	508	435	0	1	867	38	2	13	2	47	3	547
RTOR Reduction (vph)	0	0	0	0	0	14	0	2	0	0	0	487
Lane Group Flow (vph)	508	435	0	1	867	24	0	15	0	0	50	60
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	50.6	50.6		50.6	50.6	50.6		6.8			8.8	8.8
Effective Green, g (s)	50.6	50.6		50.6	50.6	50.6		6.8			8.8	8.8
Actuated g/C Ratio	0.63	0.63		0.63	0.63	0.63		0.09			0.11	0.11
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	664	2225		584	2225	995		50			194	304
v/s Ratio Prot		0.12			0.25						c0.03	
v/s Ratio Perm	c0.49			0.00		0.02		c0.03				0.02
v/c Ratio	0.77	0.20		0.00	0.39	0.02		0.30			0.26	0.20
Uniform Delay, d1	10.3	6.1		5.3	7.1	5.4		34.2			32.5	32.2
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	5.2	0.0		0.0	0.1	0.0		3.4			0.7	0.3
Delay (s)	15.6	6.1		5.3	7.2	5.4		37.6			33.2	32.6
Level of Service	B	A		A	A	A		D			C	C
Approach Delay (s)		11.2			7.1			37.6			32.6	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	79.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

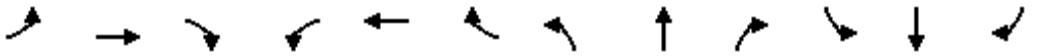
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	93	352	793	100	47	45
Future Volume (Veh/h)	93	352	793	100	47	45
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	98	371	835	105	49	47
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	940				1216	418
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	940				1216	418
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	86				67	92
cM capacity (veh/h)	719				148	581

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	98	186	186	418	418	105	96
Volume Left	98	0	0	0	0	0	49
Volume Right	0	0	0	0	0	105	47
cSH	719	1700	1700	1700	1700	1700	234
Volume to Capacity	0.14	0.11	0.11	0.25	0.25	0.06	0.41
Queue Length 95th (ft)	12	0	0	0	0	0	47
Control Delay (s)	10.8	0.0	0.0	0.0	0.0	0.0	30.7
Lane LOS	B						D
Approach Delay (s)	2.3			0.0			30.7
Approach LOS							D

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	537	245	550	944	725	316	1430	725	616	1772	188
Future Volume (vph)	147	537	245	550	944	725	316	1430	725	616	1772	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1620	3400	5036	1568	3286	5036	1568	3400	5036	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	155	565	258	579	994	763	333	1505	763	648	1865	198
RTOR Reduction (vph)	0	0	30	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	155	565	228	579	994	763	333	1505	763	648	1865	198
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	12.4	23.5	44.9	20.5	31.6	155.0	21.4	61.9	155.0	31.1	71.6	155.0
Effective Green, g (s)	12.4	23.5	44.9	20.5	31.6	155.0	21.4	61.9	155.0	31.1	71.6	155.0
Actuated g/C Ratio	0.08	0.15	0.29	0.13	0.20	1.00	0.14	0.40	1.00	0.20	0.46	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	272	531	516	449	1026	1568	453	2011	1568	682	2326	1568
v/s Ratio Prot	0.05	0.16	0.06	c0.17	c0.20		0.10	0.30		c0.19	c0.37	
v/s Ratio Perm			0.08			0.49			0.49			0.13
v/c Ratio	0.57	1.06	0.44	1.29	0.97	0.49	0.74	0.75	0.49	0.95	0.80	0.13
Uniform Delay, d1	68.7	65.8	44.8	67.2	61.2	0.0	64.1	39.9	0.0	61.2	35.6	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.7	57.2	0.6	146.2	20.6	1.1	6.1	2.6	1.1	22.9	3.0	0.2
Delay (s)	71.5	122.9	45.5	213.5	81.9	1.1	70.2	42.5	1.1	84.1	38.7	0.2
Level of Service	E	F	D	F	F	A	E	D	A	F	D	A
Approach Delay (s)		94.3			88.1			33.9			46.7	
Approach LOS		F			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	59.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	155.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations										
Traffic Volume (vph)	0	435	0	1972	78	306	1698	535	0	0
Future Volume (vph)	0	435	0	1972	78	306	1698	535	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.3	5.3	5.0	2.0			
Lane Util. Factor		1.00		0.91	1.00	1.00	0.91			
Frt		0.86		1.00	0.85	1.00	0.96			
Flt Protected		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1611		5085	1583	1770	4903			
Flt Permitted		1.00		1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1611		5085	1583	1770	4903			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	458	0	2076	82	322	1787	563	0	0
RTOR Reduction (vph)	0	22	0	0	34	0	0	0	0	0
Lane Group Flow (vph)	0	436	0	2076	48	322	2350	0	0	0
Turn Type		Over		NA	Perm	Prot	NA			
Protected Phases		1		2		1	6			
Permitted Phases					2					
Actuated Green, G (s)		23.9		45.8	45.8	23.9	80.0			
Effective Green, g (s)		23.9		45.8	45.8	23.9	80.0			
Actuated g/C Ratio		0.30		0.57	0.57	0.30	1.00			
Clearance Time (s)		5.0		5.3	5.3	5.0	2.0			
Vehicle Extension (s)		2.0		6.1	6.1	2.0	0.2			
Lane Grp Cap (vph)		481		2911	906	528	4903			
v/s Ratio Prot		c0.27		c0.41		0.18	0.48			
v/s Ratio Perm					0.03					
v/c Ratio		0.91		0.71	0.05	0.61	0.48			
Uniform Delay, d1		27.0		12.4	7.5	24.1	0.0			
Progression Factor		1.00		1.00	1.00	1.00	1.00			
Incremental Delay, d2		20.2		1.5	0.1	1.4	0.0			
Delay (s)		47.2		13.9	7.7	25.4	0.0			
Level of Service		D		B	A	C	A			
Approach Delay (s)	47.2			13.6			3.1		0.0	
Approach LOS	D			B			A		A	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.3
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

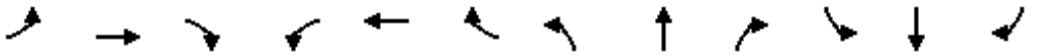
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	60	919	1868	291	0	2103
Future Volume (vph)	60	919	1868	291	0	2103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	5.3			5.3
Lane Util. Factor	0.97	0.88	0.95			0.91
Frt	1.00	0.85	0.98			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	3468			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	3468			5085
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	63	967	1966	306	0	2214
RTOR Reduction (vph)	0	17	10	0	0	0
Lane Group Flow (vph)	63	950	2262	0	0	2214
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	36.4	36.4	73.7			73.7
Effective Green, g (s)	36.4	36.4	73.7			73.7
Actuated g/C Ratio	0.30	0.30	0.61			0.61
Clearance Time (s)	4.6	4.6	5.3			5.3
Vehicle Extension (s)	2.0	2.0	2.0			2.0
Lane Grp Cap (vph)	1041	845	2129			3123
v/s Ratio Prot	0.02		c0.65			0.44
v/s Ratio Perm		c0.34				
v/c Ratio	0.06	1.12	1.06			0.71
Uniform Delay, d1	29.7	41.8	23.1			15.8
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.0	71.2	38.5			0.6
Delay (s)	29.7	113.0	61.7			16.4
Level of Service	C	F	E			B
Approach Delay (s)	107.9		61.7			16.4
Approach LOS	F		E			B

Intersection Summary			
HCM 2000 Control Delay	52.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	101.3%	ICU Level of Service	G
Analysis Period (min)	15		

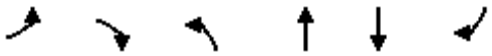
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	797	0	68	0	0	0	0	1316	783	0	1691	535
Future Volume (vph)	797	0	68	0	0	0	0	1316	783	0	1691	535
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Lane Util. Factor	0.97		1.00					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		1583					3539	1583		3539	1583
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		1583					3539	1583		3539	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	839	0	72	0	0	0	0	1385	824	0	1780	563
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	476	0	0	325
Lane Group Flow (vph)	839	0	36	0	0	0	0	1385	348	0	1780	238
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	4							2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	15.2		15.2					19.1	19.1		19.1	19.1
Effective Green, g (s)	15.2		15.2					19.1	19.1		19.1	19.1
Actuated g/C Ratio	0.34		0.34					0.42	0.42		0.42	0.42
Clearance Time (s)	5.1		5.1					5.8	5.8		5.8	5.8
Vehicle Extension (s)	2.0		2.0					2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1154		532					1495	668		1495	668
v/s Ratio Prot	c0.24							0.39			c0.50	
v/s Ratio Perm			0.02						0.22			0.15
v/c Ratio	0.73		0.07					0.93	0.52		1.19	0.36
Uniform Delay, d1	13.2		10.2					12.4	9.7		13.1	8.9
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	2.0		0.0					10.0	0.3		92.7	0.1
Delay (s)	15.1		10.2					22.4	10.0		105.8	9.0
Level of Service	B		B					C	B		F	A
Approach Delay (s)		14.8			0.0			17.7			82.5	
Approach LOS		B			A			B			F	

Intersection Summary			
HCM 2000 Control Delay	45.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	45.2	Sum of lost time (s)	10.9
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

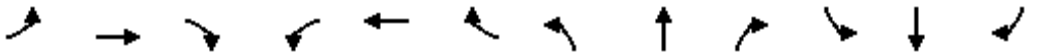
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	58	59	70	212	107	73
Future Volume (vph)	58	59	70	212	107	73
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	61	62	74	223	113	77

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	123	74	223	113	77
Volume Left (vph)	61	74	0	0	0
Volume Right (vph)	62	0	0	0	77
Hadj (s)	-0.17	0.53	0.03	0.03	-0.67
Departure Headway (s)	4.8	5.5	5.0	5.1	4.4
Degree Utilization, x	0.16	0.11	0.31	0.16	0.09
Capacity (veh/h)	688	632	697	673	777
Control Delay (s)	8.8	8.0	9.1	7.9	6.7
Approach Delay (s)	8.8	8.8		7.4	
Approach LOS	A	A		A	

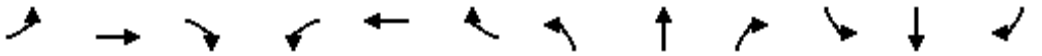
Intersection Summary			
Delay	8.4		
Level of Service	A		
Intersection Capacity Utilization	24.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	1028	5	7	626	112	3	4	5	163	6	154
Future Volume (vph)	160	1028	5	7	626	112	3	4	5	163	6	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	0.96	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583		1736		1681	1691	1583
Flt Permitted	0.40	1.00	1.00	0.22	1.00	1.00		0.93		0.75	0.73	1.00
Satd. Flow (perm)	1450	3539	1583	406	3539	1583		1635		1327	1295	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	168	1082	5	7	659	118	3	4	5	172	6	162
RTOR Reduction (vph)	0	0	2	0	0	54	0	4	0	0	0	126
Lane Group Flow (vph)	168	1082	3	7	659	64	0	8	0	89	89	36
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	21.3	21.3	21.3	21.3	21.3	21.3		8.8		8.8	8.8	8.8
Effective Green, g (s)	21.3	21.3	21.3	21.3	21.3	21.3		8.8		8.8	8.8	8.8
Actuated g/C Ratio	0.54	0.54	0.54	0.54	0.54	0.54		0.23		0.23	0.23	0.23
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	789	1927	862	221	1927	862		367		298	291	356
v/s Ratio Prot		c0.31			0.19							
v/s Ratio Perm	0.12		0.00	0.02		0.04		0.00		0.07	c0.07	0.02
v/c Ratio	0.21	0.56	0.00	0.03	0.34	0.07		0.02		0.30	0.31	0.10
Uniform Delay, d1	4.6	5.8	4.1	4.1	5.0	4.2		11.8		12.6	12.6	12.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.4	0.0	0.1	0.1	0.0		0.0		0.6	0.6	0.1
Delay (s)	4.7	6.2	4.1	4.2	5.1	4.3		11.8		13.2	13.2	12.1
Level of Service	A	A	A	A	A	A		B		B	B	B
Approach Delay (s)		6.0			5.0			11.8			12.7	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	39.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		

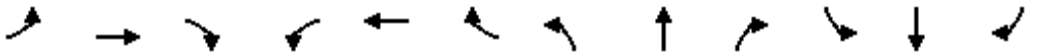
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	660	352	59	453	115	149	141	37	111	110	134
Future Volume (vph)	180	660	352	59	453	115	149	141	37	111	110	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5085	1583	3433	1863	1583	1770	1863	2787
Flt Permitted	0.47	1.00	1.00	0.31	1.00	1.00	0.95	1.00	1.00	0.66	1.00	1.00
Satd. Flow (perm)	875	3539	1583	572	5085	1583	3433	1863	1583	1235	1863	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	189	695	371	62	477	121	157	148	39	117	116	141
RTOR Reduction (vph)	0	0	205	0	0	74	0	0	32	0	0	113
Lane Group Flow (vph)	189	695	166	62	477	47	157	148	7	117	116	28
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4		4	8		8			2	6		6
Actuated Green, G (s)	23.2	23.2	23.2	23.2	23.2	23.2	11.0	11.0	11.0	12.0	12.0	12.0
Effective Green, g (s)	23.2	23.2	23.2	23.2	23.2	23.2	11.0	11.0	11.0	12.0	12.0	12.0
Actuated g/C Ratio	0.39	0.39	0.39	0.39	0.39	0.39	0.18	0.18	0.18	0.20	0.20	0.20
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	340	1375	615	222	1976	615	632	343	291	248	374	560
v/s Ratio Prot		0.20			0.09		0.05	c0.08			0.06	
v/s Ratio Perm	c0.22		0.10	0.11		0.03			0.00	c0.09		0.01
v/c Ratio	0.56	0.51	0.27	0.28	0.24	0.08	0.25	0.43	0.02	0.47	0.31	0.05
Uniform Delay, d1	14.2	13.9	12.5	12.5	12.3	11.5	20.8	21.6	20.0	21.1	20.3	19.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.3	0.2	0.7	0.1	0.1	0.2	0.9	0.0	1.4	0.5	0.0
Delay (s)	16.2	14.2	12.7	13.2	12.4	11.6	21.0	22.5	20.0	22.5	20.8	19.3
Level of Service	B	B	B	B	B	B	C	C	B	C	C	B
Approach Delay (s)		14.0			12.3			21.5			20.8	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	59.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		

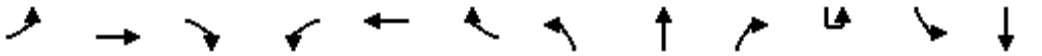
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	179	520	24	65	475	115	12	4	33	111	5	133
Future Volume (vph)	179	520	24	65	475	115	12	4	33	111	5	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5052		1770	5085	1583	1770	1863	1583	1770	1863	2787
Flt Permitted	0.46	1.00		0.43	1.00	1.00	0.95	1.00	1.00	0.76	1.00	1.00
Satd. Flow (perm)	854	5052		794	5085	1583	1770	1863	1583	1407	1863	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	188	547	25	68	500	121	13	4	35	117	5	140
RTOR Reduction (vph)	0	6	0	0	0	75	0	0	30	0	0	111
Lane Group Flow (vph)	188	566	0	68	500	46	13	4	5	117	5	29
Turn Type	Perm	NA		Perm	NA	Perm	Split	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2	2			6	
Permitted Phases	4			8		8			2	6		6
Actuated Green, G (s)	18.1	18.1		18.1	18.1	18.1	6.3	6.3	6.3	10.1	10.1	10.1
Effective Green, g (s)	18.1	18.1		18.1	18.1	18.1	6.3	6.3	6.3	10.1	10.1	10.1
Actuated g/C Ratio	0.38	0.38		0.38	0.38	0.38	0.13	0.13	0.13	0.21	0.21	0.21
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	322	1905		299	1917	596	232	244	207	296	392	586
v/s Ratio Prot		0.11			0.10		c0.01	0.00			0.00	
v/s Ratio Perm	c0.22			0.09		0.03			0.00	c0.08		0.01
v/c Ratio	0.58	0.30		0.23	0.26	0.08	0.06	0.02	0.02	0.40	0.01	0.05
Uniform Delay, d1	11.9	10.5		10.2	10.3	9.6	18.2	18.2	18.2	16.3	15.0	15.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.7	0.1		0.4	0.1	0.1	0.1	0.0	0.0	0.9	0.0	0.0
Delay (s)	14.6	10.6		10.6	10.4	9.6	18.3	18.2	18.2	17.2	15.0	15.2
Level of Service	B	B		B	B	A	B	B	B	B	B	B
Approach Delay (s)		11.6			10.3			18.2			16.1	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	48.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	265	204	136	296	229	316	79	1068	103	43	468	1234
Future Volume (vph)	265	204	136	296	229	316	79	1068	103	43	468	1234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00		0.97	0.91
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3433	5085	1550	3433	5085	1551	3433	5085	1552		3433	5085
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3433	5085	1550	3433	5085	1551	3433	5085	1552		3433	5085
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	279	215	143	312	241	333	83	1124	108	45	493	1299
RTOR Reduction (vph)	0	0	121	0	0	176	0	0	77	0	0	0
Lane Group Flow (vph)	279	215	22	312	241	157	83	1124	31	0	538	1299
Confl. Peds. (#/hr)			5			5			5			
Confl. Bikes (#/hr)			2			2			2			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases			4			8			2			
Actuated Green, G (s)	7.5	11.3	11.3	8.6	12.4	12.4	4.1	21.4	21.4		14.1	31.4
Effective Green, g (s)	7.5	11.3	11.3	8.6	12.4	12.4	4.1	21.4	21.4		14.1	31.4
Actuated g/C Ratio	0.10	0.15	0.15	0.12	0.17	0.17	0.06	0.29	0.29		0.19	0.43
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	350	782	238	402	859	262	191	1482	452		659	2175
v/s Ratio Prot	0.08	0.04		c0.09	0.05		0.02	c0.22			c0.16	0.26
v/s Ratio Perm			0.01			c0.10			0.02			
v/c Ratio	0.80	0.27	0.09	0.78	0.28	0.60	0.43	0.76	0.07		0.82	0.60
Uniform Delay, d1	32.2	27.4	26.6	31.5	26.6	28.2	33.5	23.6	18.8		28.4	16.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	11.9	0.2	0.2	9.1	0.2	3.7	1.6	2.3	0.1		7.7	0.4
Delay (s)	44.1	27.6	26.8	40.5	26.8	31.9	35.1	25.9	18.9		36.1	16.6
Level of Service	D	C	C	D	C	C	D	C	B		D	B
Approach Delay (s)		34.7			33.5			25.9				20.9
Approach LOS		C			C			C				C

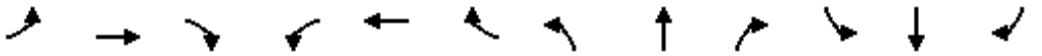
Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	325
Future Volume (vph)	325
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1553
Flt Permitted	1.00
Satd. Flow (perm)	1553
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	342
RTOR Reduction (vph)	196
Lane Group Flow (vph)	146
Confl. Peds. (#/hr)	5
Confl. Bikes (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	31.4
Effective Green, g (s)	31.4
Actuated g/C Ratio	0.43
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	664
v/s Ratio Prot	
v/s Ratio Perm	0.09
v/c Ratio	0.22
Uniform Delay, d1	13.3
Progression Factor	1.00
Incremental Delay, d2	0.2
Delay (s)	13.4
Level of Service	B
Approach Delay (s)	
Approach LOS	

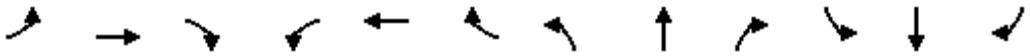
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	492	140	0	365	11	0	0	10	29	0	476
Future Volume (Veh/h)	143	492	140	0	365	11	0	0	10	29	0	476
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	151	518	147	0	384	12	0	0	11	31	0	501
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		700			640							
pX, platoon unblocked				0.99			0.99	0.99	0.99	0.99	0.99	
vC, conflicting volume	396			665			1086	1290	332	962	1357	198
vC1, stage 1 conf vol							894	894		390	390	
vC2, stage 2 conf vol							192	396		572	967	
vCu, unblocked vol	396			640			1065	1271	304	940	1339	198
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	87			100			100	100	98	90	100	38
cM capacity (veh/h)	1159			930			113	232	685	307	229	810

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	151	345	320	0	256	140	11	31	501
Volume Left	151	0	0	0	0	0	0	31	0
Volume Right	0	0	147	0	0	12	11	0	501
cSH	1159	1700	1700	1700	1700	1700	685	307	810
Volume to Capacity	0.13	0.20	0.19	0.00	0.15	0.08	0.02	0.10	0.62
Queue Length 95th (ft)	11	0	0	0	0	0	1	8	109
Control Delay (s)	8.6	0.0	0.0	0.0	0.0	0.0	10.3	18.0	16.4
Lane LOS	A						B	C	C
Approach Delay (s)	1.6			0.0			10.3	16.5	
Approach LOS							B	C	

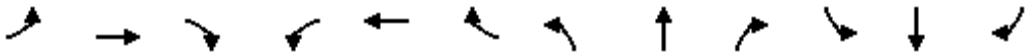
Intersection Summary				
Average Delay	5.8			
Intersection Capacity Utilization	53.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	341	123	84	225	42	94	18	98	62	23	58
Future Volume (vph)	57	341	123	84	225	42	94	18	98	62	23	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.0		4.5	5.0		4.5	4.6		4.5	4.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	0.87		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3399		1770	3456		1770	3091		1770	3158	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3399		1770	3456		1770	3091		1770	3158	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	60	359	129	88	237	44	99	19	103	65	24	61
RTOR Reduction (vph)	0	34	0	0	14	0	0	87	0	0	52	0
Lane Group Flow (vph)	60	454	0	88	267	0	99	35	0	65	33	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	3.8	31.8		4.1	32.1		4.9	10.8		4.4	10.3	
Effective Green, g (s)	3.8	31.8		4.1	32.1		4.9	10.8		4.4	10.3	
Actuated g/C Ratio	0.05	0.46		0.06	0.46		0.07	0.15		0.06	0.15	
Clearance Time (s)	4.5	5.0		4.5	5.0		4.5	4.6		4.5	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	96	1550		104	1591		124	478		111	466	
v/s Ratio Prot	0.03	c0.13		c0.05	0.08		c0.06	c0.01		0.04	0.01	
v/s Ratio Perm												
v/c Ratio	0.62	0.29		0.85	0.17		0.80	0.07		0.59	0.07	
Uniform Delay, d1	32.3	11.9		32.5	11.0		31.9	25.2		31.8	25.6	
Progression Factor	0.99	1.06		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.0	0.5		43.5	0.2		29.0	0.1		7.7	0.1	
Delay (s)	44.0	13.1		76.0	11.2		60.9	25.2		39.4	25.6	
Level of Service	D	B		E	B		E	C		D	C	
Approach Delay (s)		16.5			26.7			41.2			31.6	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	69.7	Sum of lost time (s)	18.6
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		

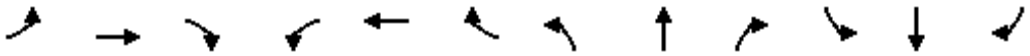
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	159	176	166	20	188	20	83	100	80	20	66	80
Future Volume (vph)	159	176	166	20	188	20	83	100	80	20	66	80
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	167	185	175	21	198	21	87	105	84	21	69	84

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	167	360	21	219	87	189	21	153
Volume Left (vph)	167	0	21	0	87	0	21	0
Volume Right (vph)	0	175	0	21	0	84	0	84
Hadj (s)	0.53	-0.31	0.53	-0.03	0.53	-0.28	0.53	-0.35
Departure Headway (s)	6.8	6.0	7.2	6.6	7.4	6.6	7.6	6.7
Degree Utilization, x	0.32	0.60	0.04	0.40	0.18	0.34	0.04	0.28
Capacity (veh/h)	507	576	471	518	459	515	440	500
Control Delay (s)	11.7	16.1	9.3	12.8	10.8	11.8	9.7	11.1
Approach Delay (s)	14.7		12.5		11.5		10.9	
Approach LOS	B		B		B		B	

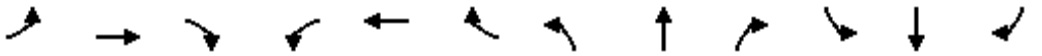
Intersection Summary					
Delay	13.0				
Level of Service	B				
Intersection Capacity Utilization	49.6%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	19	0	1207	22	38	1649	37
Future Volume (Veh/h)	0	0	0	0	0	19	0	1207	22	38	1649	37
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	0	0	20	0	1271	23	40	1736	39
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								540			840	
pX, platoon unblocked	0.87	0.87	0.81	0.87	0.87	0.88	0.81			0.88		
vC, conflicting volume	2279	3130	598	1941	3138	435	1775			1294		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1026	1999	0	639	2008	0	1151			854		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	98	100			94		
cM capacity (veh/h)	154	49	882	301	48	953	491			687		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	0	20	508	508	277	40	694	694	386
Volume Left	0	0	0	0	0	40	0	0	0
Volume Right	0	20	0	0	23	0	0	0	39
cSH	1700	953	1700	1700	1700	687	1700	1700	1700
Volume to Capacity	0.00	0.02	0.30	0.30	0.16	0.06	0.41	0.41	0.23
Queue Length 95th (ft)	0	2	0	0	0	5	0	0	0
Control Delay (s)	0.0	8.9	0.0	0.0	0.0	10.6	0.0	0.0	0.0
Lane LOS	A	A				B			
Approach Delay (s)	0.0	8.9	0.0			0.2			
Approach LOS	A	A							

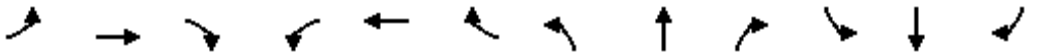
Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	36.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	5	4	30	11	19	18	1071	30	47	1489	72
Future Volume (vph)	144	5	4	30	11	19	18	1071	30	47	1489	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1739		1770	1688		1770	5085	1583	1770	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.13	1.00	1.00	0.22	1.00	1.00
Satd. Flow (perm)	1770	1739		1770	1688		251	5085	1583	401	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	152	5	4	32	12	20	19	1127	32	49	1567	76
RTOR Reduction (vph)	0	3	0	0	19	0	0	0	15	0	0	35
Lane Group Flow (vph)	152	6	0	32	13	0	19	1127	17	49	1567	41
Turn Type	Split	NA		Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	8.2	8.2		3.9	3.9		29.7	29.7	29.7	29.7	29.7	29.7
Effective Green, g (s)	8.2	8.2		3.9	3.9		29.7	29.7	29.7	29.7	29.7	29.7
Actuated g/C Ratio	0.15	0.15		0.07	0.07		0.54	0.54	0.54	0.54	0.54	0.54
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	262	257		124	119		134	2731	850	215	2731	850
v/s Ratio Prot	c0.09	0.00		c0.02	0.01			0.22			c0.31	
v/s Ratio Perm							0.08		0.01	0.12		0.03
v/c Ratio	0.58	0.02		0.26	0.11		0.14	0.41	0.02	0.23	0.57	0.05
Uniform Delay, d1	21.9	20.1		24.3	24.1		6.4	7.6	6.0	6.8	8.6	6.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.2	0.0		1.1	0.4		0.5	0.1	0.0	0.5	0.3	0.0
Delay (s)	25.2	20.2		25.4	24.5		6.9	7.7	6.0	7.3	8.9	6.1
Level of Service	C	C		C	C		A	A	A	A	A	A
Approach Delay (s)		24.9			25.0			7.7			8.7	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

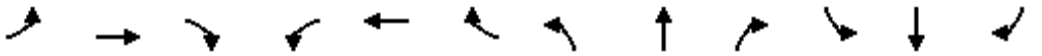
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	12	10	10	10	77	10	73	10	90	239	40
Future Volume (vph)	60	12	10	10	10	77	10	73	10	90	239	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.87		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1735		1770	1617		1770	1828		1770	1823	
Flt Permitted	1.00	1.00		1.00	1.00		0.58	1.00		0.70	1.00	
Satd. Flow (perm)	1863	1735		1863	1617		1081	1828		1304	1823	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	63	13	11	11	11	81	11	77	11	95	252	42
RTOR Reduction (vph)	0	10	0	0	73	0	0	4	0	0	9	0
Lane Group Flow (vph)	63	14	0	11	19	0	11	84	0	95	285	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	2.9	2.9		2.9	2.9		17.2	17.2		17.2	17.2	
Effective Green, g (s)	2.9	2.9		2.9	2.9		17.2	17.2		17.2	17.2	
Actuated g/C Ratio	0.10	0.10		0.10	0.10		0.59	0.59		0.59	0.59	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	185	172		185	161		638	1080		770	1077	
v/s Ratio Prot		0.01			0.01			0.05			c0.16	
v/s Ratio Perm	c0.03			0.01			0.01			0.07		
v/c Ratio	0.34	0.08		0.06	0.12		0.02	0.08		0.12	0.26	
Uniform Delay, d1	12.2	11.9		11.9	11.9		2.5	2.5		2.6	2.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.2		0.1	0.3		0.0	0.0		0.1	0.1	
Delay (s)	13.3	12.1		12.0	12.3		2.5	2.6		2.7	3.0	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		13.0			12.2			2.6			2.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	29.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		

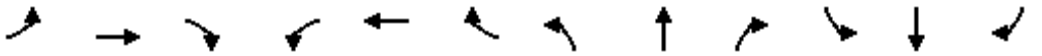
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	73	13	2	65	234	23	475	30	393	490	148
Future Volume (vph)	149	73	13	2	65	234	23	475	30	393	490	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	157	77	14	2	68	246	24	500	32	414	516	156
RTOR Reduction (vph)	0	0	12	0	0	217	0	0	24	0	0	85
Lane Group Flow (vph)	157	77	2	2	68	29	24	500	8	414	516	71
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	11.8	11.8	11.8	8.6	8.6	8.6	1.9	18.0	18.0	17.8	33.9	33.9
Effective Green, g (s)	11.8	11.8	11.8	8.6	8.6	8.6	1.9	18.0	18.0	17.8	33.9	33.9
Actuated g/C Ratio	0.16	0.16	0.16	0.12	0.12	0.12	0.03	0.24	0.24	0.24	0.46	0.46
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	281	296	251	205	215	183	45	858	384	424	1616	723
v/s Ratio Prot	c0.09	0.04		0.00	c0.04		0.01	c0.14		c0.23	0.15	
v/s Ratio Perm			0.00			0.02			0.00			0.05
v/c Ratio	0.56	0.26	0.01	0.01	0.32	0.16	0.53	0.58	0.02	0.98	0.32	0.10
Uniform Delay, d1	28.8	27.4	26.3	29.0	30.1	29.5	35.7	24.8	21.4	28.0	12.8	11.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	0.5	0.0	0.0	0.8	0.4	11.6	1.0	0.0	37.2	0.1	0.1
Delay (s)	31.2	27.8	26.3	29.1	31.0	29.9	47.3	25.8	21.4	65.2	12.9	11.5
Level of Service	C	C	C	C	C	C	D	C	C	E	B	B
Approach Delay (s)		29.9			30.1			26.5			32.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	74.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		

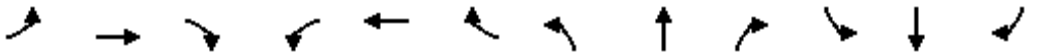
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	5	9	48	5	219	10	478	125	355	424	81
Future Volume (vph)	50	5	9	48	5	219	10	478	125	355	424	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.98			0.91	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96			0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1759			1578	1504	1770	3539	1583	3433	3539	1583
Flt Permitted		0.96			0.86	1.00	0.49	1.00	1.00	0.46	1.00	1.00
Satd. Flow (perm)		1759			1376	1504	920	3539	1583	1679	3539	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	5	9	51	5	231	11	503	132	374	446	85
RTOR Reduction (vph)	0	7	0	0	67	116	0	0	70	0	0	45
Lane Group Flow (vph)	0	60	0	0	79	25	11	503	62	374	446	40
Turn Type	Split	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8		8	2		2	6		6
Actuated Green, G (s)		4.4			9.0	9.0	23.7	23.7	23.7	23.7	23.7	23.7
Effective Green, g (s)		4.4			9.0	9.0	23.7	23.7	23.7	23.7	23.7	23.7
Actuated g/C Ratio		0.09			0.18	0.18	0.47	0.47	0.47	0.47	0.47	0.47
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		152			244	267	430	1657	741	786	1657	741
v/s Ratio Prot		c0.03						0.14			0.13	
v/s Ratio Perm					c0.06	0.02	0.01		0.04	c0.22		0.03
v/c Ratio		0.39			0.32	0.09	0.03	0.30	0.08	0.48	0.27	0.05
Uniform Delay, d1		21.8			18.1	17.4	7.2	8.3	7.4	9.2	8.2	7.3
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.7			0.8	0.2	0.0	0.1	0.0	0.5	0.1	0.0
Delay (s)		23.5			18.9	17.5	7.3	8.4	7.5	9.7	8.3	7.4
Level of Service		C			B	B	A	A	A	A	A	A
Approach Delay (s)		23.5			18.2			8.2			8.8	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	50.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		

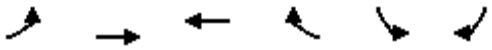
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	558	666	2	2	372	48	1	7	2	53	14	415
Future Volume (vph)	558	666	2	2	372	48	1	7	2	53	14	415
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00		1.00			1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.97			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00			0.96	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583		1803			1792	2787
Flt Permitted	0.52	1.00	1.00	0.34	1.00	1.00		0.35			0.96	1.00
Satd. Flow (perm)	1881	3539	1583	640	3539	1583		633			1792	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	587	701	2	2	392	51	1	7	2	56	15	437
RTOR Reduction (vph)	0	0	1	0	0	27	0	2	0	0	0	369
Lane Group Flow (vph)	587	701	1	2	392	24	0	8	0	0	71	68
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases		4			8			2		6	6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	25.6	25.6	25.6	25.6	25.6	25.6		6.3			8.3	8.3
Effective Green, g (s)	25.6	25.6	25.6	25.6	25.6	25.6		6.3			8.3	8.3
Actuated g/C Ratio	0.48	0.48	0.48	0.48	0.48	0.48		0.12			0.15	0.15
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	896	1687	754	305	1687	754		74			276	430
v/s Ratio Prot		0.20			0.11						c0.04	
v/s Ratio Perm	c0.31		0.00	0.00		0.02		c0.01				0.02
v/c Ratio	0.66	0.42	0.00	0.01	0.23	0.03		0.11			0.26	0.16
Uniform Delay, d1	10.7	9.2	7.4	7.4	8.3	7.5		21.2			20.0	19.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	1.7	0.2	0.0	0.0	0.1	0.0		0.7			0.5	0.2
Delay (s)	12.4	9.3	7.4	7.4	8.3	7.5		21.9			20.5	19.8
Level of Service	B	A	A	A	A	A		C			C	B
Approach Delay (s)		10.7			8.2			21.9			19.9	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	53.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	150	546	292	103	121	114
Future Volume (Veh/h)	150	546	292	103	121	114
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	158	575	307	108	127	120
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	415				910	154
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	415				910	154
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	86				46	86
cM capacity (veh/h)	1140				236	865

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	158	288	288	154	154	108	247
Volume Left	158	0	0	0	0	0	127
Volume Right	0	0	0	0	0	108	120
cSH	1140	1700	1700	1700	1700	1700	365
Volume to Capacity	0.14	0.17	0.17	0.09	0.09	0.06	0.68
Queue Length 95th (ft)	12	0	0	0	0	0	119
Control Delay (s)	8.7	0.0	0.0	0.0	0.0	0.0	33.2
Lane LOS	A						D
Approach Delay (s)	1.9			0.0			33.2
Approach LOS							D

Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	40.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↑↑↑		↰	↑↑↑
Traffic Volume (vph)	0	0	2099	0	100	2070
Future Volume (vph)	0	0	2099	0	100	2070
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	25				90	
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	5085	0	1770	5085
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	5085	0	1770	5085
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	302		592			865
Travel Time (s)	6.9		9.0			13.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	2209	0	105	2179
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	2209	0	105	2179
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors			2		1	2
Detector Template			Thru		Left	Thru
Leading Detector (ft)			100		20	100
Trailing Detector (ft)			0		0	0
Detector 1 Position(ft)			0		0	0
Detector 1 Size(ft)			6		20	6
Detector 1 Type			Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)			0.0		0.0	0.0
Detector 1 Queue (s)			0.0		0.0	0.0
Detector 1 Delay (s)			0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type			NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases						



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase			2		1	6
Switch Phase						
Minimum Initial (s)			5.0		5.0	5.0
Minimum Split (s)			22.5		9.5	22.5
Total Split (s)			60.0		20.0	80.0
Total Split (%)			75.0%		25.0%	100.0%
Maximum Green (s)			55.5		15.5	75.5
Yellow Time (s)			3.5		3.5	3.5
All-Red Time (s)			1.0		1.0	1.0
Lost Time Adjust (s)			0.0		0.0	0.0
Total Lost Time (s)			4.5		4.5	4.5
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)			3.0		3.0	3.0
Recall Mode			Max		Max	Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			11.0			11.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)			55.5		15.5	80.0
Actuated g/C Ratio			0.69		0.19	1.00
v/c Ratio			0.63		0.31	0.43
Control Delay			7.6		30.5	0.3
Queue Delay			0.2		0.0	0.0
Total Delay			7.8		30.5	0.3
LOS			A		C	A
Approach Delay			7.8			1.7
Approach LOS			A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 40			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 4.7		Intersection LOS: A	
Intersection Capacity Utilization 53.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 39: E Bidwell St & Emergency Access





Lane Group	NBT	SBL	SBT
Lane Group Flow (vph)	2209	105	2179
v/c Ratio	0.63	0.31	0.43
Control Delay	7.6	30.5	0.3
Queue Delay	0.2	0.0	0.0
Total Delay	7.8	30.5	0.3
Queue Length 50th (ft)	183	45	0
Queue Length 95th (ft)	223	90	0
Internal Link Dist (ft)	512		785
Turn Bay Length (ft)		100	
Base Capacity (vph)	3527	342	5085
Starvation Cap Reductn	446	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.72	0.31	0.43

Intersection Summary

3: E Bidwell St & Medical Center Driveway Performance by movement

Movement	NBT	NBR	All
Vehicles Entered	1608	296	1904
Vehicles Exited	1605	296	1901
Hourly Exit Rate	1605	296	1901
Input Volume	1619	305	1924
% of Volume	99	97	99

Total Network Performance

Vehicles Entered	1904
Vehicles Exited	1904
Hourly Exit Rate	1904
Input Volume	5467
% of Volume	35

Intersection: 3: E Bidwell St & Medical Center Driveway

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 0

Section 2: HCS Analysis Results

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_EXISTING_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2982	4800	0.62	71.5	20.9	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2982	871	7200	4000	0.41	0.22	65.9	58.5	15.1	9.1	A

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2093	4800	0.44	73.3	14.2	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2670	577	7200	2000	0.37	0.29	75.3	75.4	11.8	11.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2681	7200	0.37	73.6	12.1	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2807	126	9600	2000	0.29	0.06	74.5	75.4	9.3	9.3	A

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2809	7200	0.39	73.6	12.7	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	72.1	14.5	14.2	2.20	B

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	72.1	10.5	10.3	2.20	A

General Purpose Lane Overall Results

Space Mean Speed, mi/h	72.1	Density, veh/mi/ln	14.2
Average Travel Time, min	2.20	Density, pc/mi/ln	14.5

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

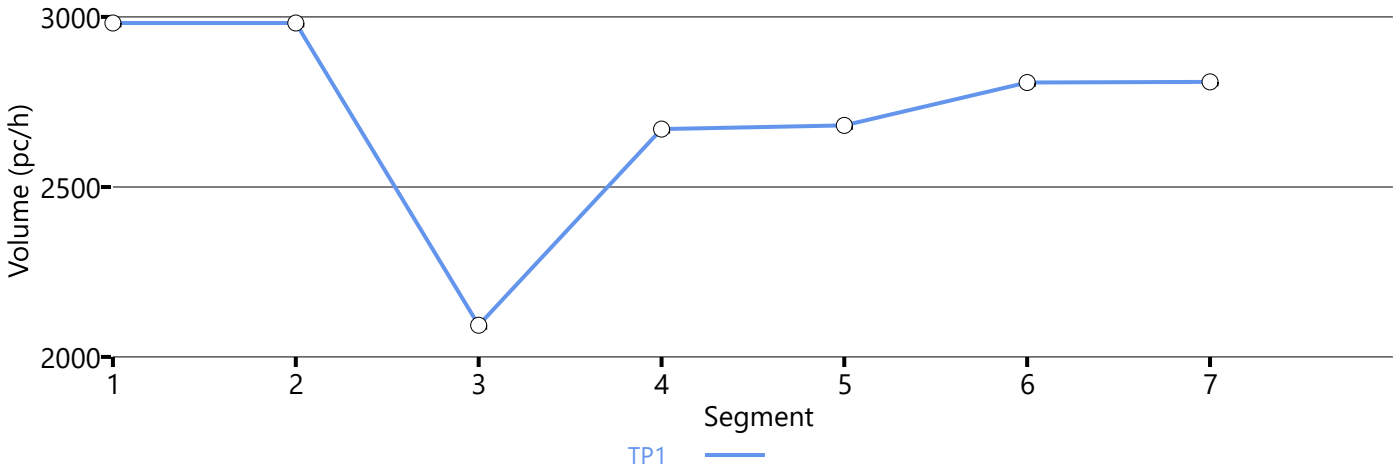
Facility Overall Results

Space Mean Speed, mi/h	72.1	Density, veh/mi/ln	10.3
Average Travel Time, min	2.20	Density, pc/mi/ln	10.5

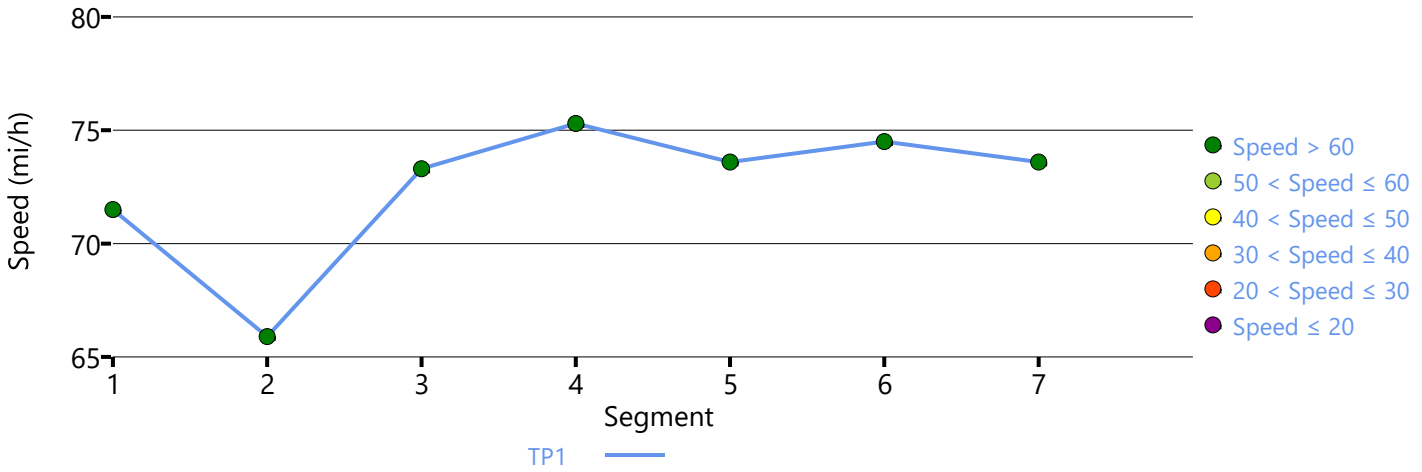
Messages

Comments

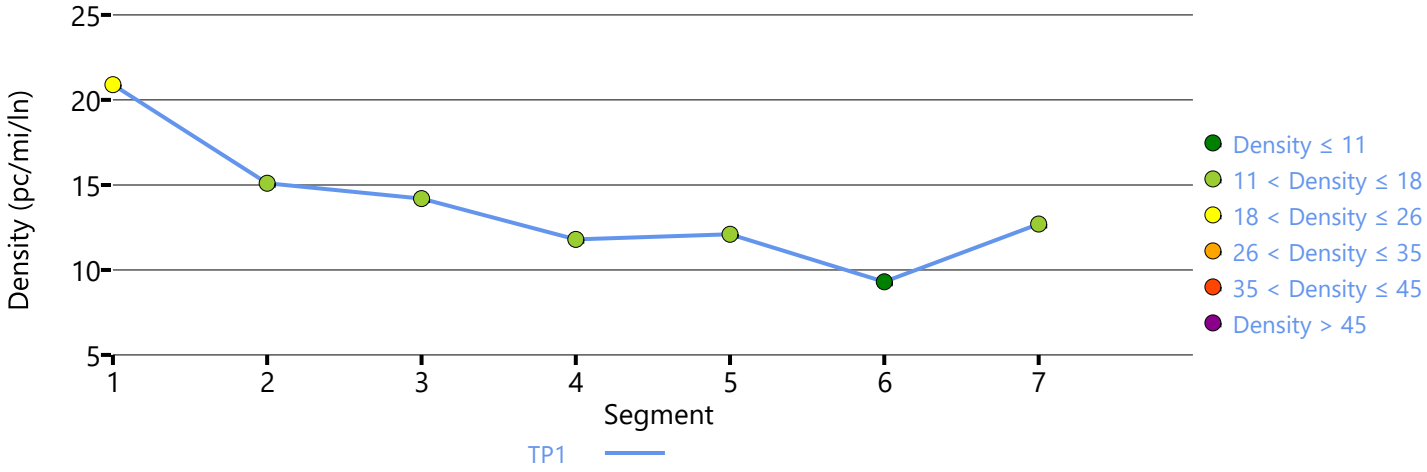
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_EXISTING_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4299	4800	0.90	60.2	35.7	E

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4299	1149	7200	4000	0.60	0.29	65.0	57.7	22.0	15.5	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3126	4800	0.65	70.7	22.1	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4382	1256	7200	2000	0.61	0.63	72.9	72.9	20.0	20.0	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4408	7200	0.61	71.7	20.5	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4752	344	9600	2000	0.50	0.17	73.6	74.9	15.9	15.9	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4759	7200	0.66	70.4	22.5	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.1	24.2	23.7	2.30	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.1	17.5	17.2	2.30	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	67.1	Density, veh/mi/ln	23.7
Average Travel Time, min	2.30	Density, pc/mi/ln	24.2

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

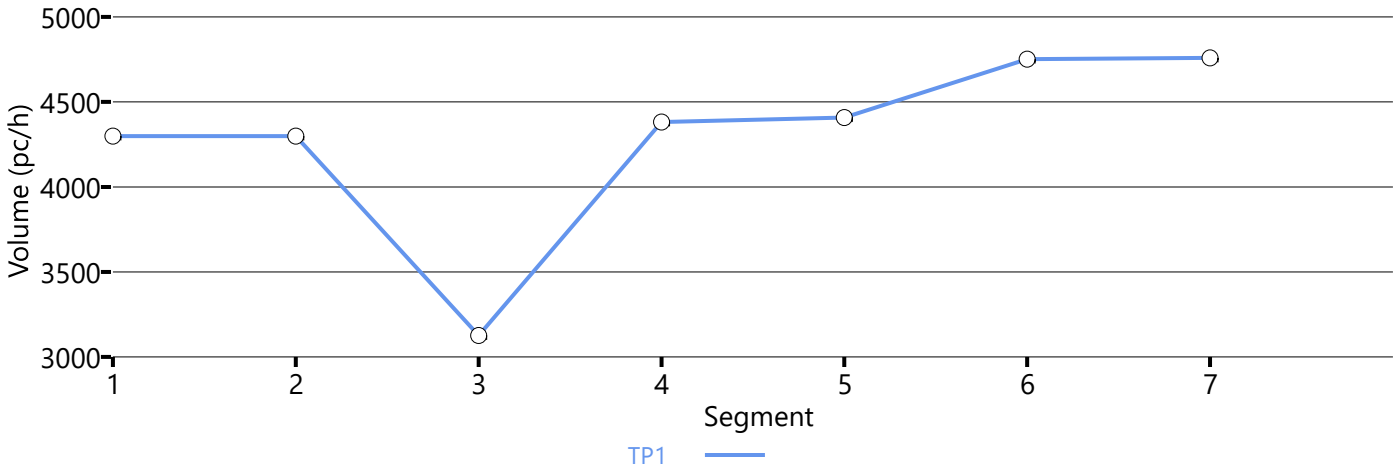
Facility Overall Results

Space Mean Speed, mi/h	67.1	Density, veh/mi/ln	17.2
Average Travel Time, min	2.30	Density, pc/mi/ln	17.5

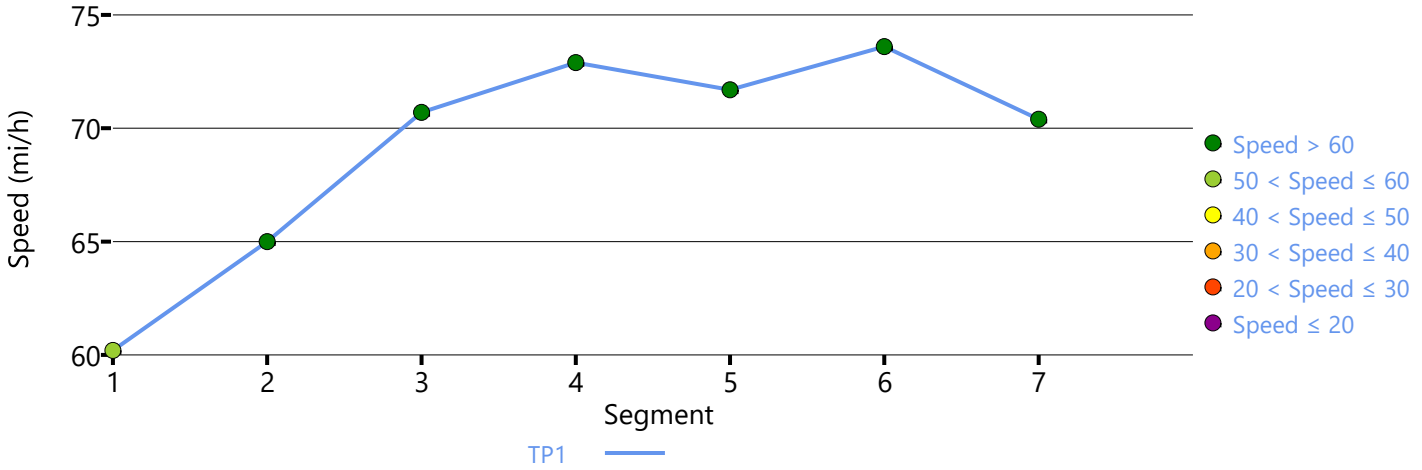
Messages

Comments

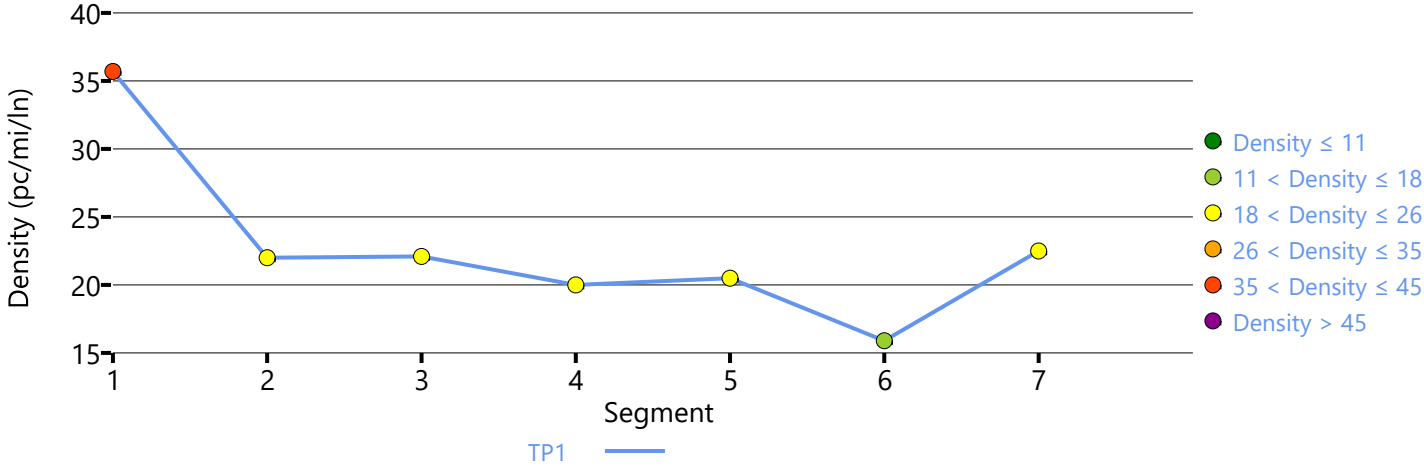
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_EXISTING_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4577	4800	0.95	56.6	40.4	E

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4577	1228	7200	4000	0.64	0.31	64.6	57.4	23.6	17.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3324	4800	0.69	69.5	23.9	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3410	86	7200	2000	0.47	0.04	74.6	75.1	15.1	15.1	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3412	4800	0.71	69.7	24.5	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4395	983	7200	2000	0.61	0.49	72.9	72.9	20.1	20.1	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4415	4800	0.92	58.7	37.6	E

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	61.9	30.7	30.0	2.50	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	61.9	21.1	20.7	2.50	C

General Purpose Lane Overall Results

Space Mean Speed, mi/h	61.9	Density, veh/mi/ln	30.0
Average Travel Time, min	2.50	Density, pc/mi/ln	30.7

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

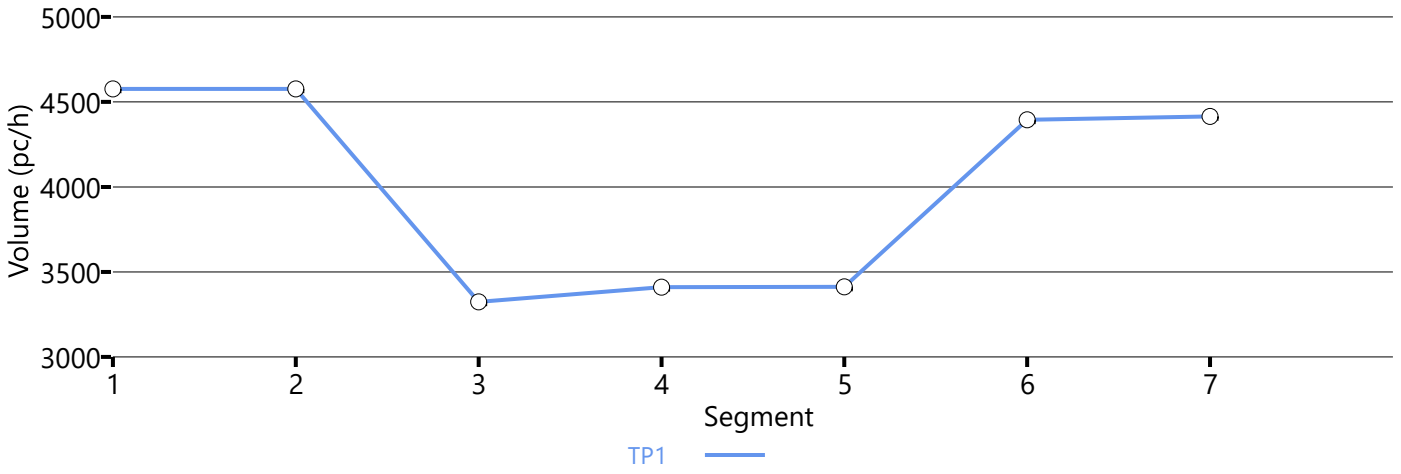
Space Mean Speed, mi/h	61.9	Density, veh/mi/ln	20.7
Average Travel Time, min	2.50	Density, pc/mi/ln	21.1

Messages

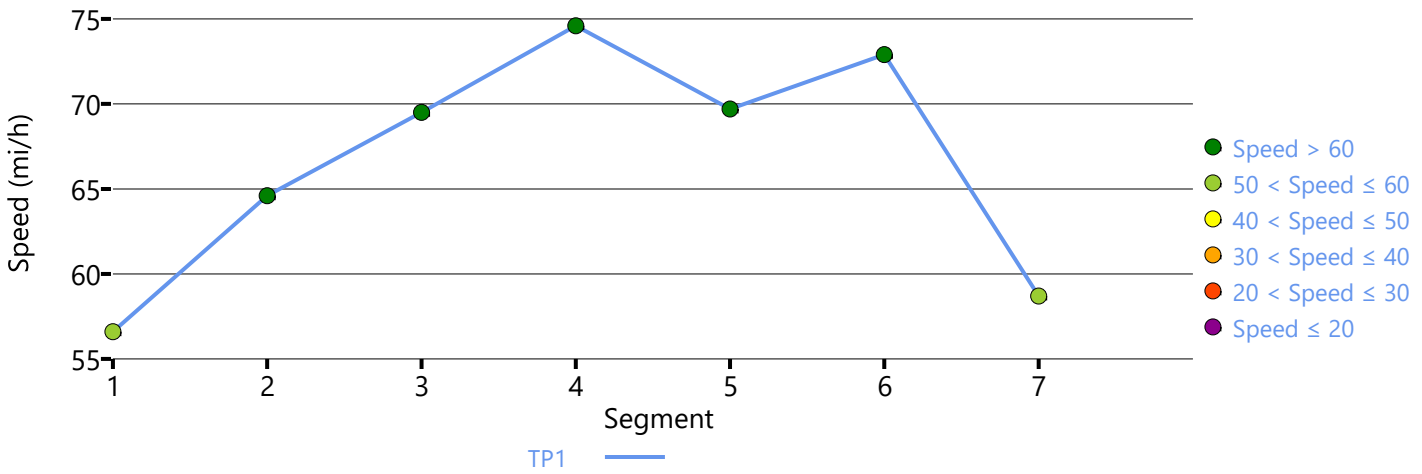
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.

Comments

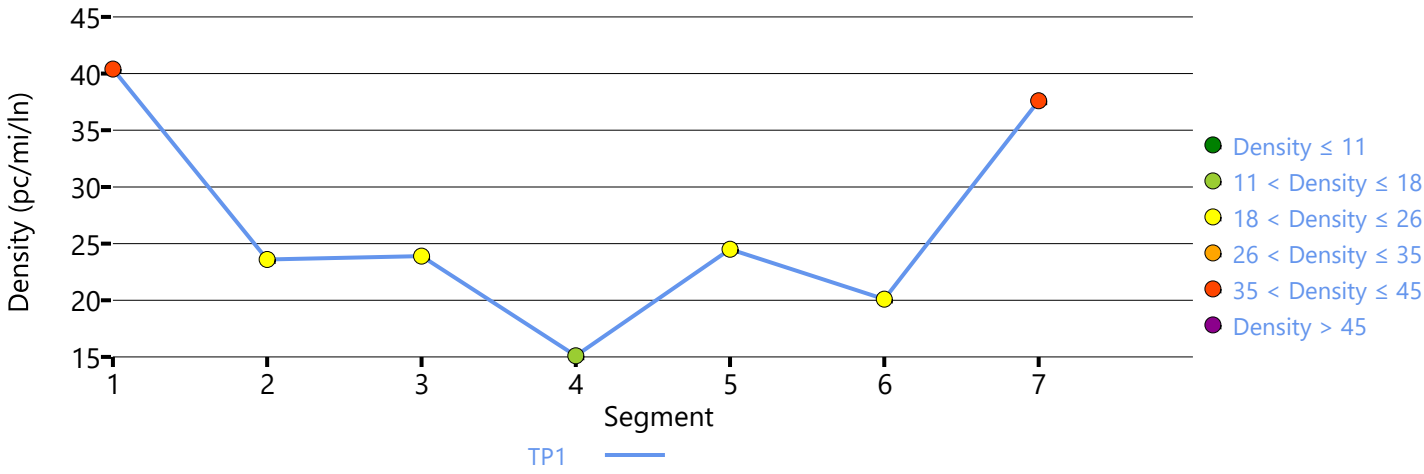
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_EXISTING_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3552	4800	0.74	67.8	26.2	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3552	1261	7200	4000	0.49	0.32	64.1	57.3	18.5	13.2	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2266	4800	0.47	73.0	15.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2368	102	7200	2000	0.33	0.05	75.1	75.4	10.5	10.5	A

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2370	4800	0.49	75.0	15.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3101	731	7200	2000	0.43	0.37	75.3	75.4	13.7	13.7	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3116	4800	0.65	70.8	22.0	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	70.0	19.8	19.4	2.20	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	70.0	13.6	13.4	2.20	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	70.0	Density, veh/mi/ln	19.4
Average Travel Time, min	2.20	Density, pc/mi/ln	19.8

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

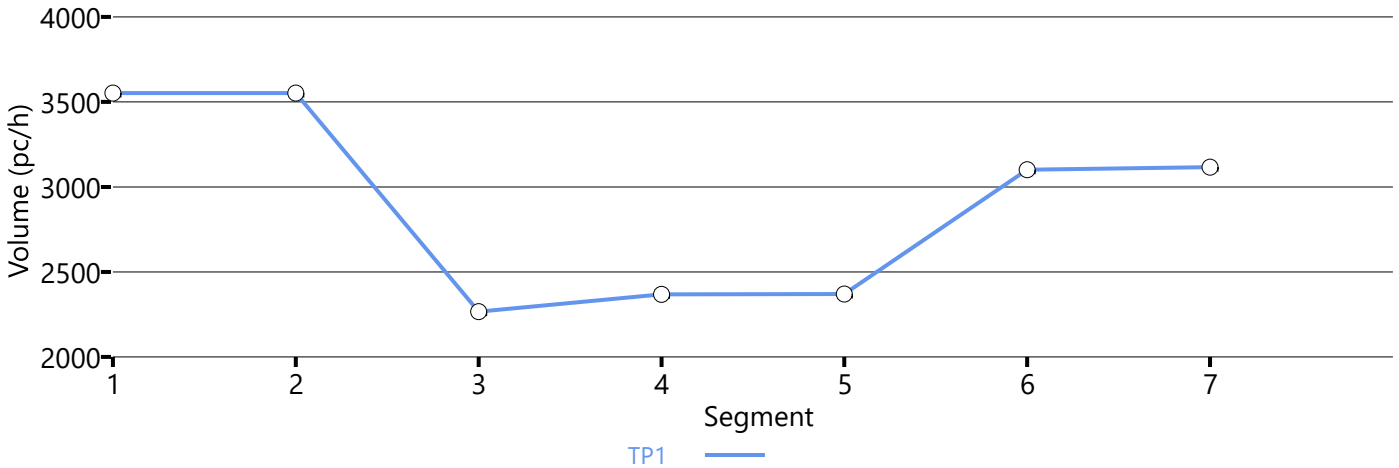
Space Mean Speed, mi/h	70.0	Density, veh/mi/ln	13.4
Average Travel Time, min	2.20	Density, pc/mi/ln	13.6

Messages

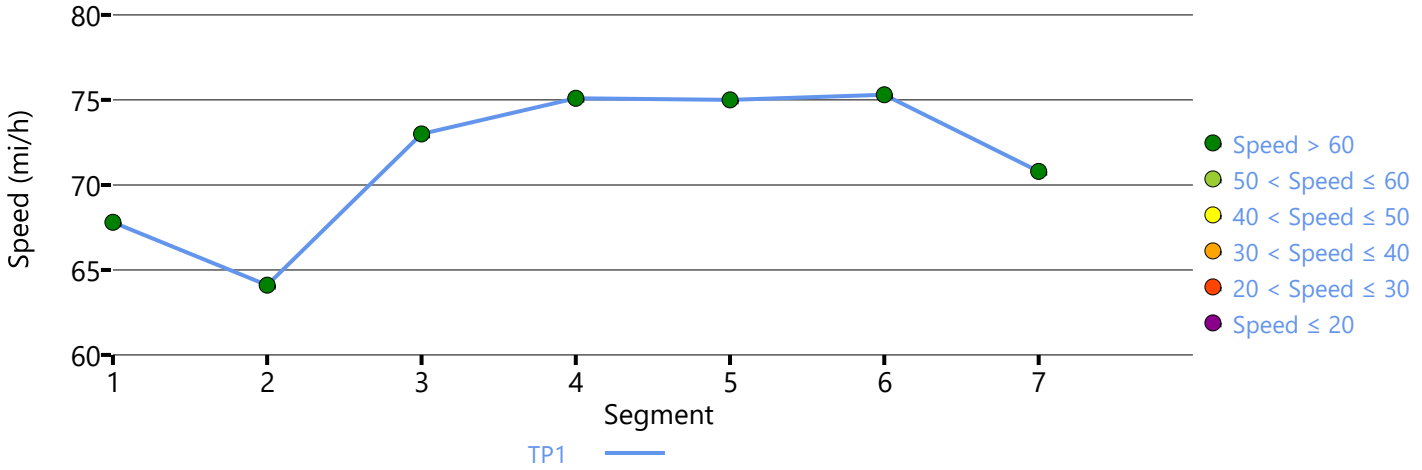
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.

Comments

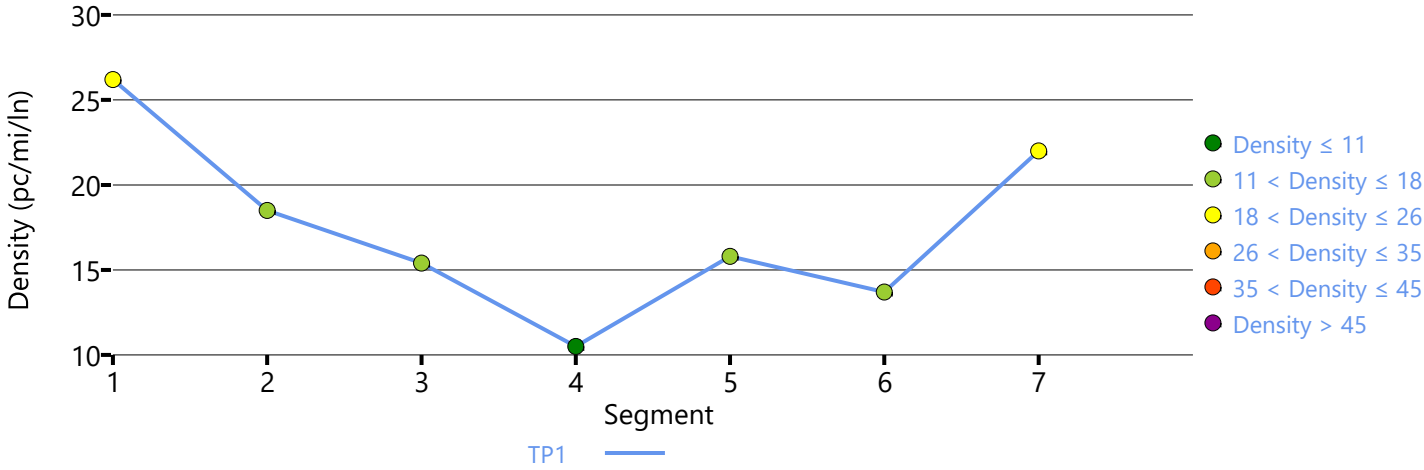
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_EPAP_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3202	4800	0.67	70.3	22.8	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3202	1087	7200	4000	0.44	0.27	64.8	57.8	16.5	11.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2093	4800	0.44	73.2	14.2	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2670	577	7200	2000	0.37	0.29	75.3	75.4	11.8	11.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2681	7200	0.37	73.6	12.1	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2862	181	9600	2000	0.30	0.09	74.5	75.4	9.5	9.5	A

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2866	7200	0.40	73.6	13.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	71.5	15.2	14.9	2.20	B

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	71.5	11.0	10.8	2.20	A

General Purpose Lane Overall Results

Space Mean Speed, mi/h	71.5	Density, veh/mi/ln	14.9
Average Travel Time, min	2.20	Density, pc/mi/ln	15.2

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

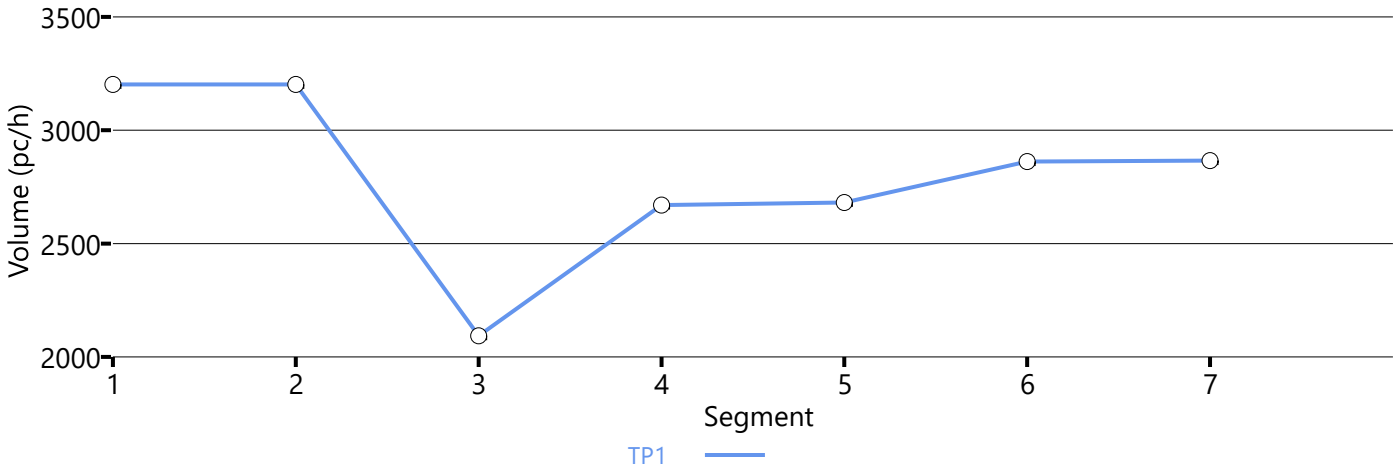
Facility Overall Results

Space Mean Speed, mi/h	71.5	Density, veh/mi/ln	10.8
Average Travel Time, min	2.20	Density, pc/mi/ln	11.0

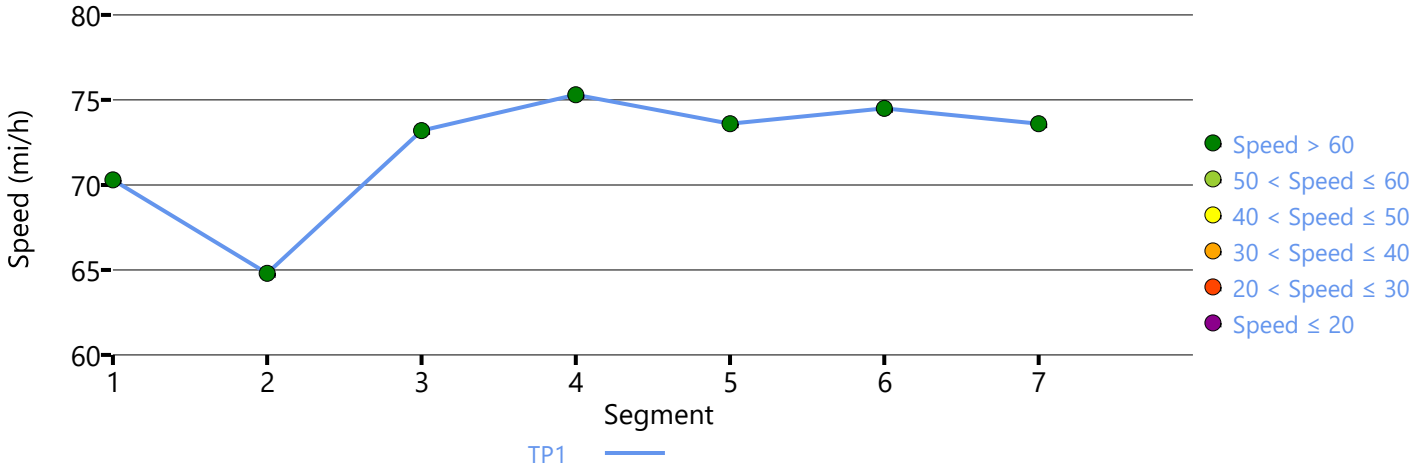
Messages

Comments

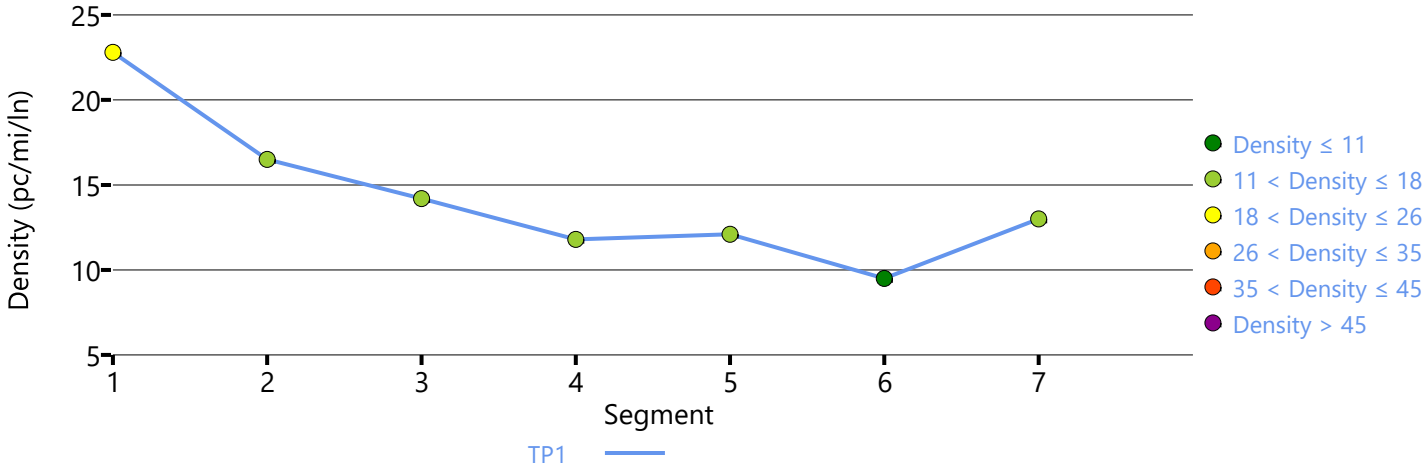
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_EPAP_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.03	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	1787	7200	4000	0.69	0.45	62.3	55.7	25.7	20.5	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3013	4800	0.65	71.3	21.1	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4269	1256	7200	2000	0.61	0.63	66.1	66.1	21.5	21.5	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4269	7200	0.61	71.1	19.7	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4781	512	9600	2000	0.51	0.26	69.0	69.0	17.3	17.3	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4781	7200	0.68	70.4	22.6	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.0	26.9	26.4	2.50	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.0	19.5	19.1	2.50	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	63.0	Density, veh/mi/ln	26.4
Average Travel Time, min	2.50	Density, pc/mi/ln	26.9

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

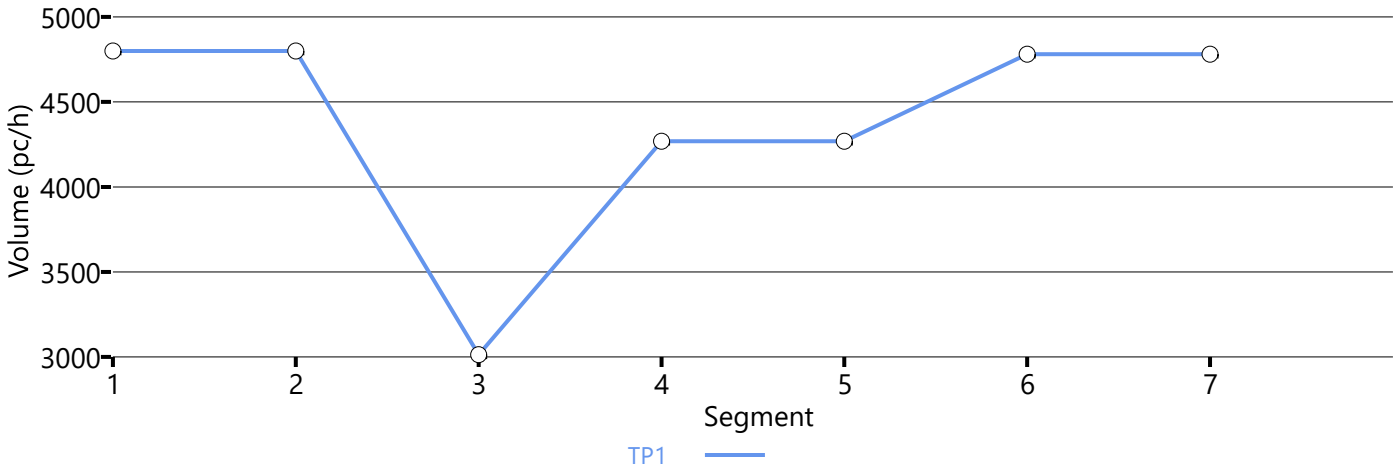
Space Mean Speed, mi/h	63.0	Density, veh/mi/ln	19.1
Average Travel Time, min	2.50	Density, pc/mi/ln	19.5

Messages

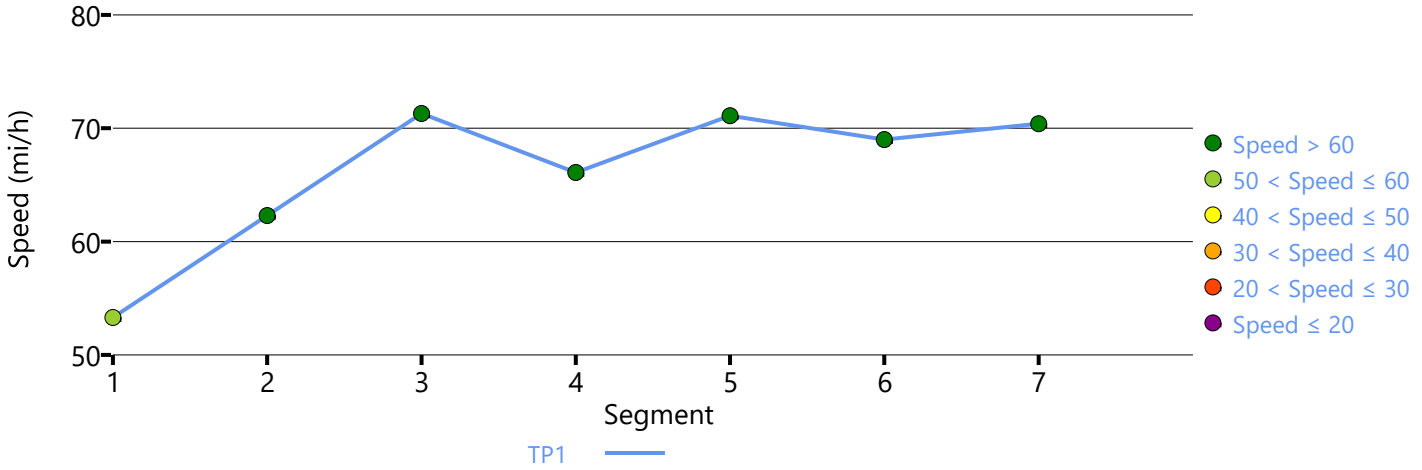
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist on segment 5, which is less than 300 feet. Due to time step size, these segments may produce unreliable results. Consider reviewing facility segmentation to resolve this warning.

Comments

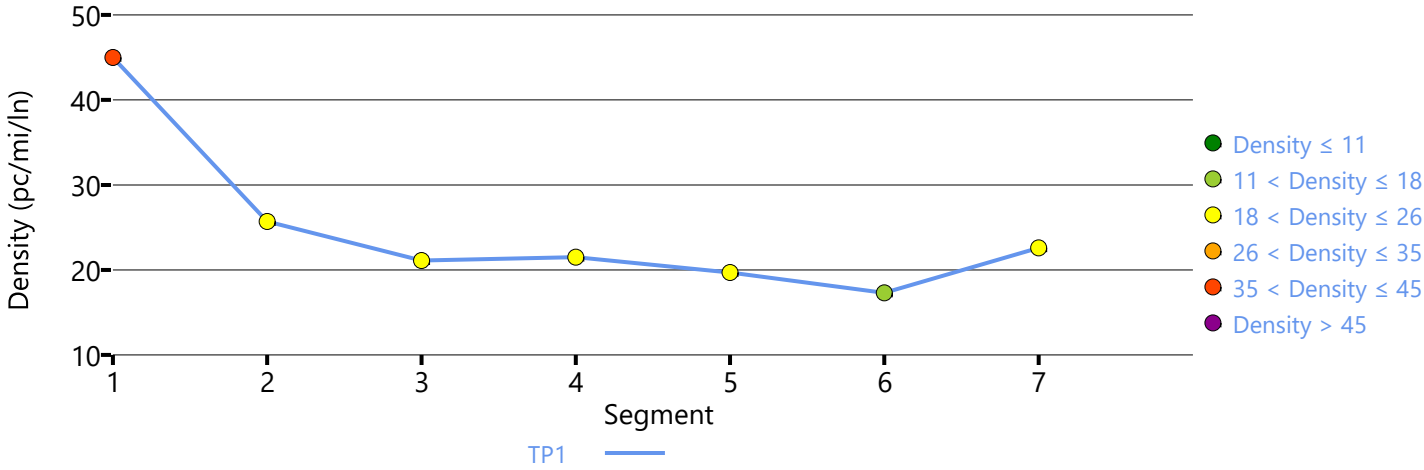
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_EPAP_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4662	4800	0.97	55.4	42.1	E

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4662	1312	7200	4000	0.65	0.33	64.3	57.2	24.2	17.7	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3273	4800	0.69	69.8	23.4	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3789	586	7200	2000	0.54	0.29	67.3	67.3	18.8	18.8	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3706	4800	0.82	35.2	52.7	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4470	1000	7200	2000	0.68	0.50	18.5	18.5	80.6	80.6	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4470	4800	1.03	58.0	38.5	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	46.7	41.4	40.6	3.30	E

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	46.7	28.5	28.0	3.30	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	46.7	Density, veh/mi/ln	40.6
Average Travel Time, min	3.30	Density, pc/mi/ln	41.4

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

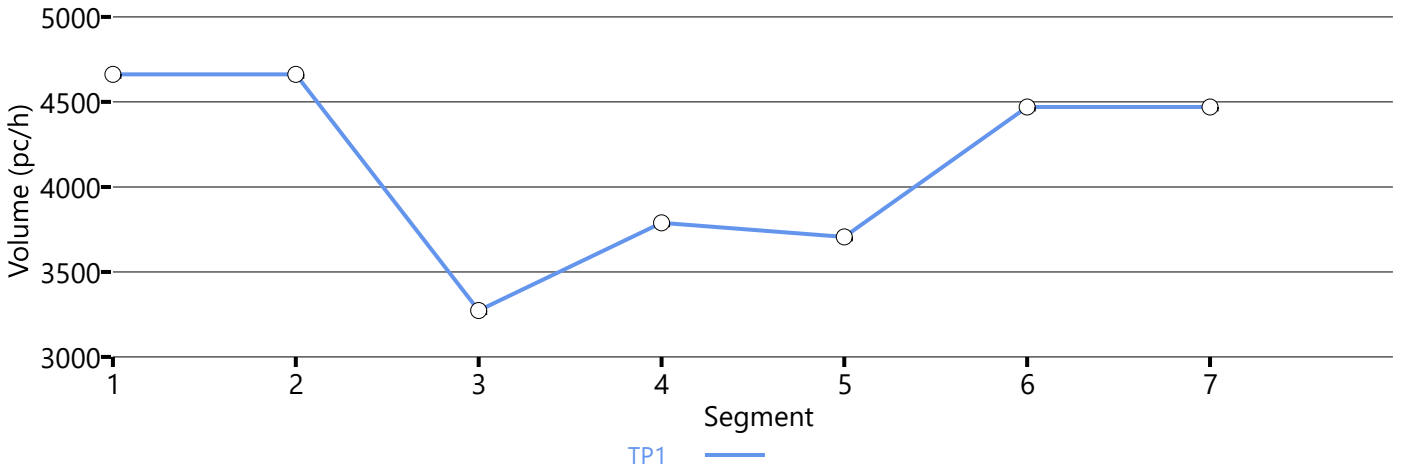
Space Mean Speed, mi/h	46.7	Density, veh/mi/ln	28.0
Average Travel Time, min	3.30	Density, pc/mi/ln	28.5

Messages

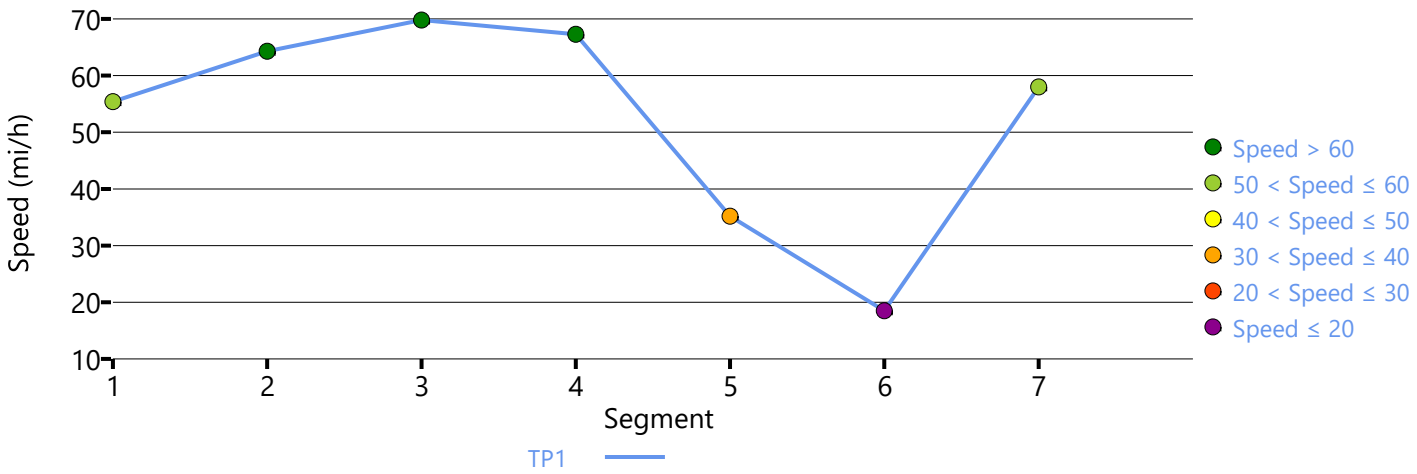
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.
WARNING 1	Oversaturated conditions currently exist in boundary segment 7. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.

Comments

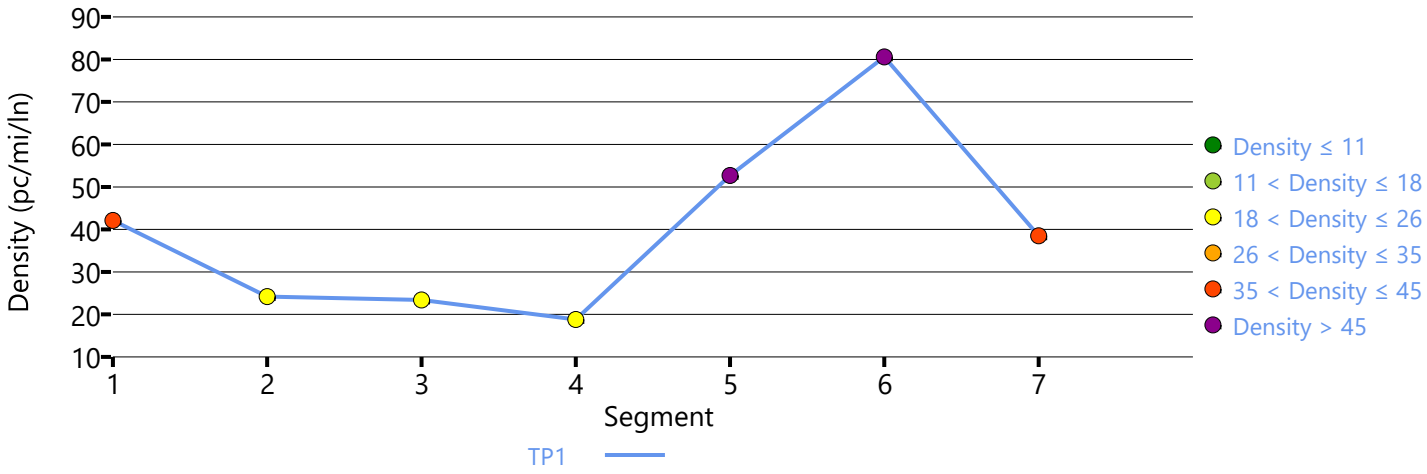
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_EPAP_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3774	4800	0.79	65.9	28.6	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3774	1479	7200	4000	0.52	0.37	63.2	56.7	19.9	15.1	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2266	4800	0.47	73.0	15.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2688	422	7200	2000	0.37	0.21	75.1	75.4	11.9	11.9	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2696	4800	0.56	73.9	18.2	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3441	745	7200	2000	0.48	0.37	75.1	75.1	15.3	15.3	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3456	4800	0.72	68.5	25.2	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	68.5	21.8	21.4	2.30	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	68.5	15.0	14.7	2.30	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	68.5	Density, veh/mi/ln	21.4
Average Travel Time, min	2.30	Density, pc/mi/ln	21.8

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

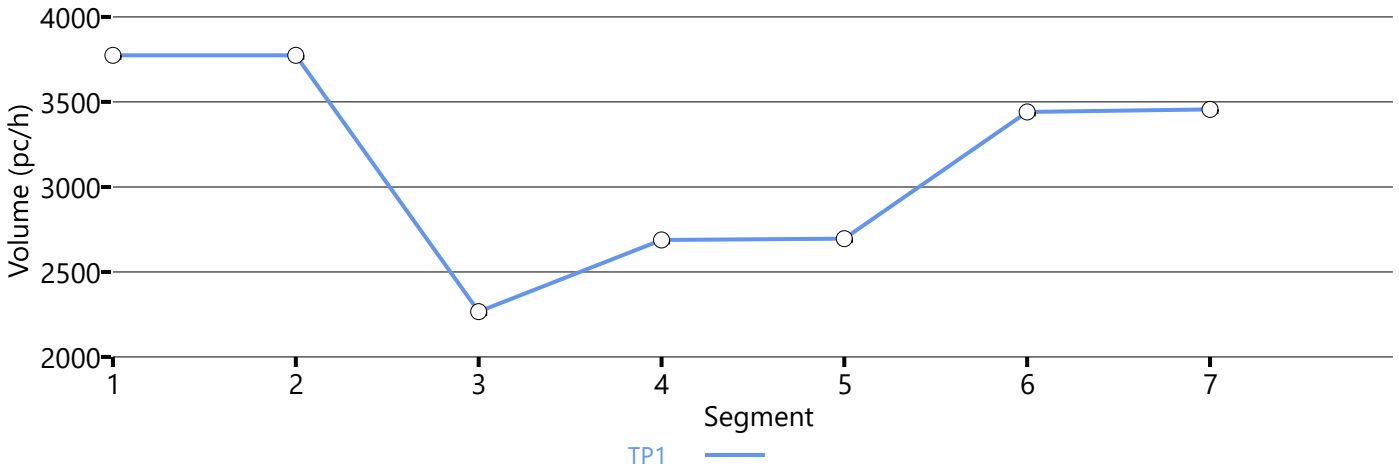
Space Mean Speed, mi/h	68.5	Density, veh/mi/ln	14.7
Average Travel Time, min	2.30	Density, pc/mi/ln	15.0

Messages

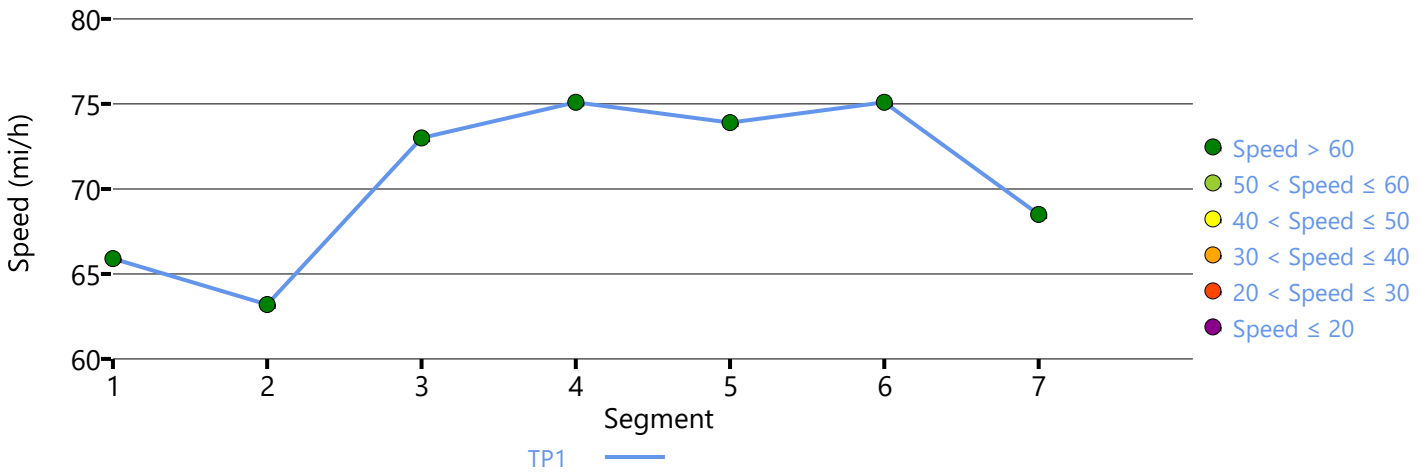
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.

Comments

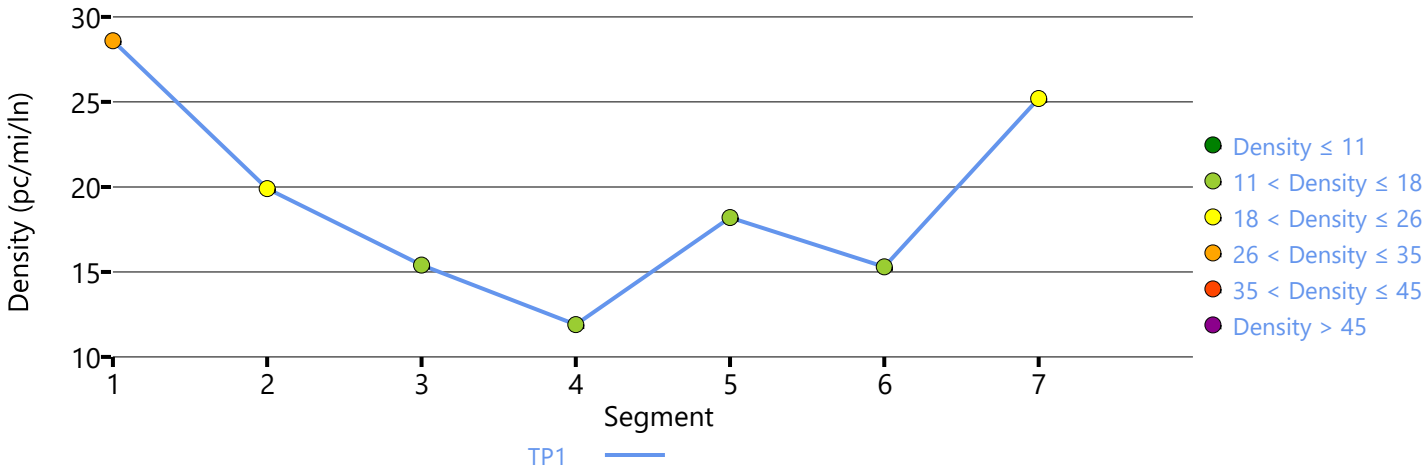
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_EPAP+PROJ_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3225	4800	0.67	70.1	23.0	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3225	1110	7200	4000	0.45	0.28	64.7	57.8	16.6	11.2	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2093	4800	0.44	73.2	14.2	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2670	577	7200	2000	0.37	0.29	75.3	75.4	11.8	11.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2681	7200	0.37	73.6	12.1	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2866	185	9600	2000	0.30	0.09	74.5	75.4	9.5	9.5	A

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2870	7200	0.40	73.6	13.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	71.4	15.2	14.9	2.20	B

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	71.4	11.0	10.8	2.20	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	71.4	Density, veh/mi/ln	14.9
Average Travel Time, min	2.20	Density, pc/mi/ln	15.2

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

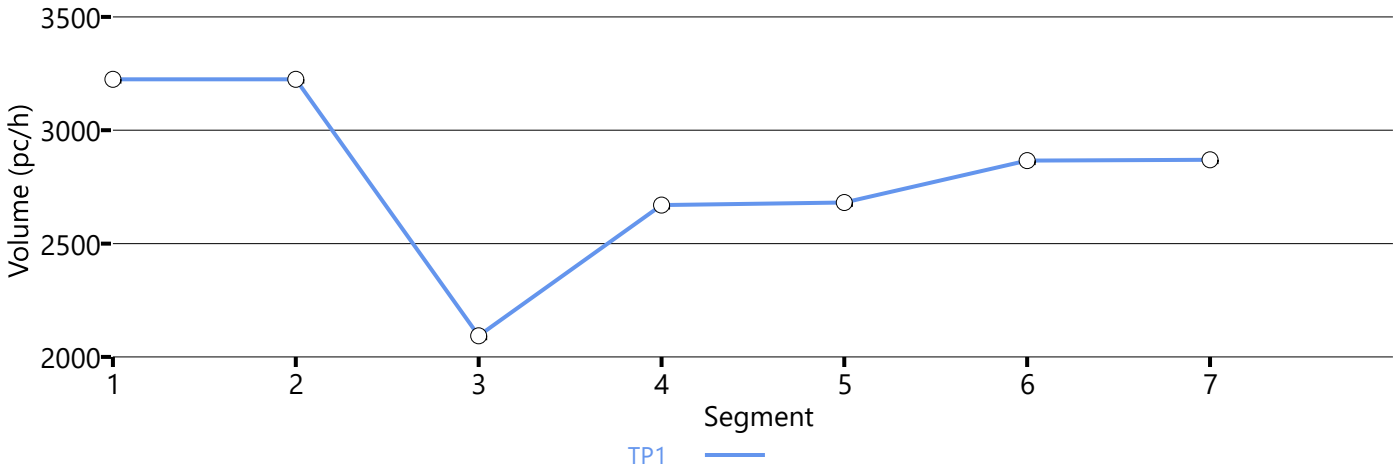
Facility Overall Results

Space Mean Speed, mi/h	71.4	Density, veh/mi/ln	10.8
Average Travel Time, min	2.20	Density, pc/mi/ln	11.0

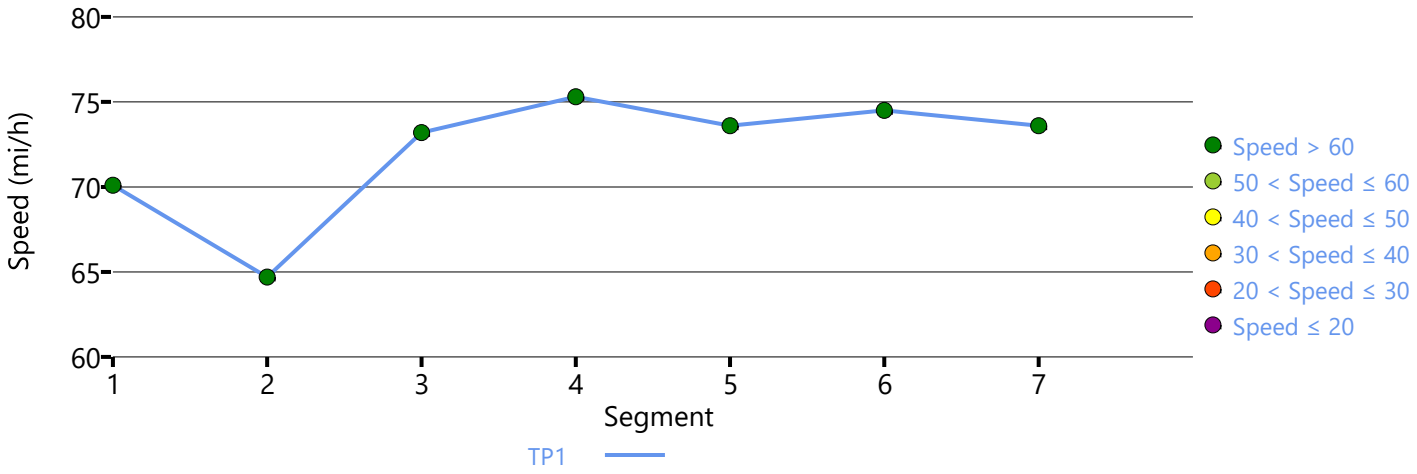
Messages

Comments

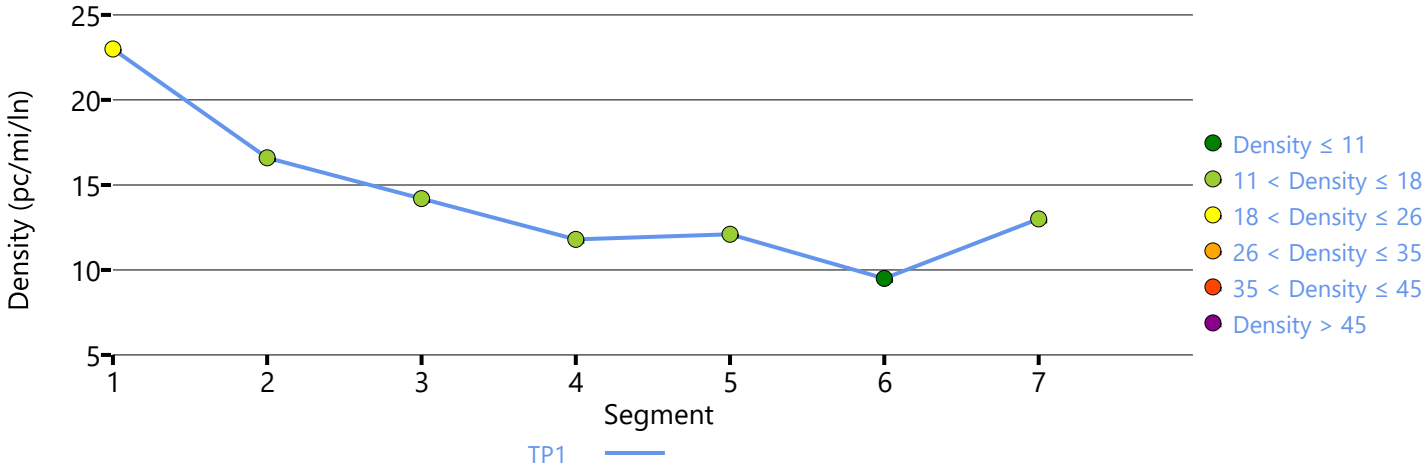
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_EPAP+PROJ_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.03	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	1797	7200	4000	0.69	0.45	62.2	55.7	25.7	20.5	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3003	4800	0.65	71.4	21.0	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4259	1256	7200	2000	0.61	0.63	66.1	66.1	21.5	21.5	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4259	7200	0.61	71.1	19.7	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4788	529	9600	2000	0.51	0.26	69.0	69.0	17.3	17.3	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4788	7200	0.69	70.3	22.7	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.0	26.9	26.4	2.50	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.0	19.5	19.1	2.50	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	63.0	Density, veh/mi/ln	26.4
Average Travel Time, min	2.50	Density, pc/mi/ln	26.9

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

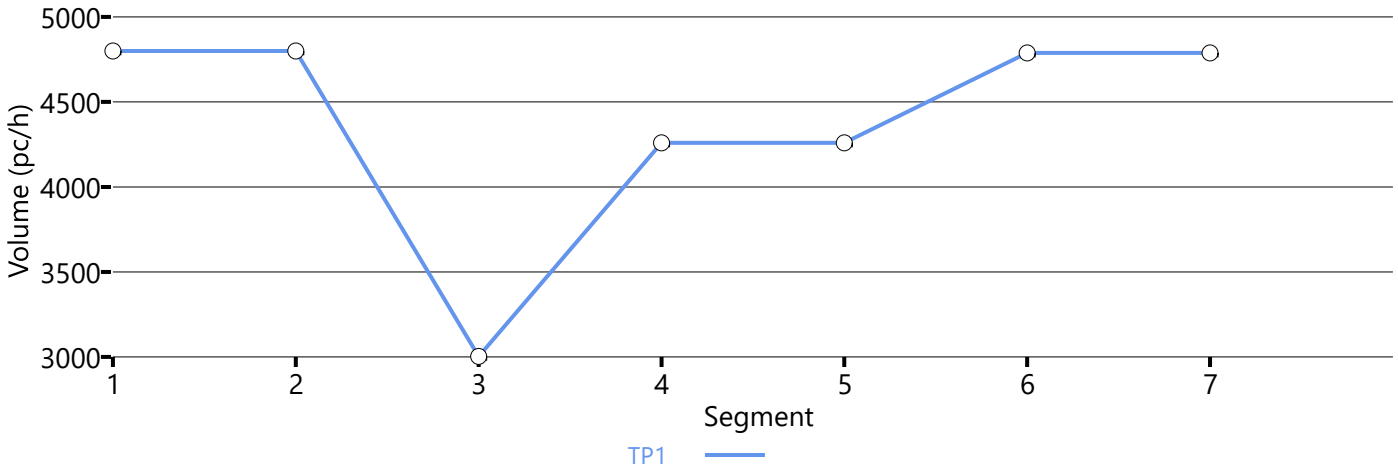
Space Mean Speed, mi/h	63.0	Density, veh/mi/ln	19.1
Average Travel Time, min	2.50	Density, pc/mi/ln	19.5

Messages

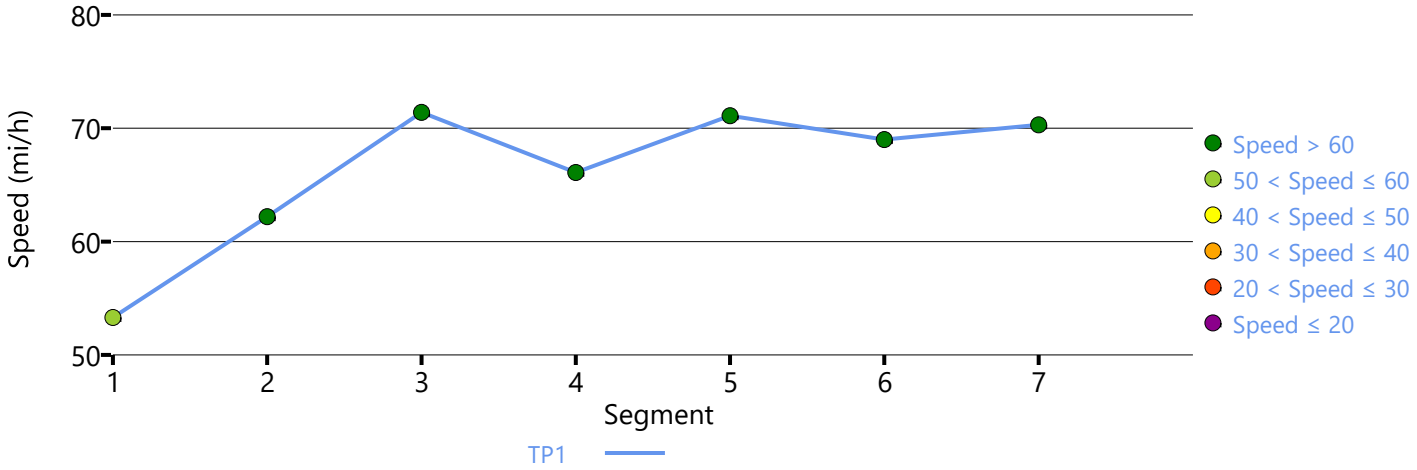
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist on segment 5, which is less than 300 feet. Due to time step size, these segments may produce unreliable results. Consider reviewing facility segmentation to resolve this warning.

Comments

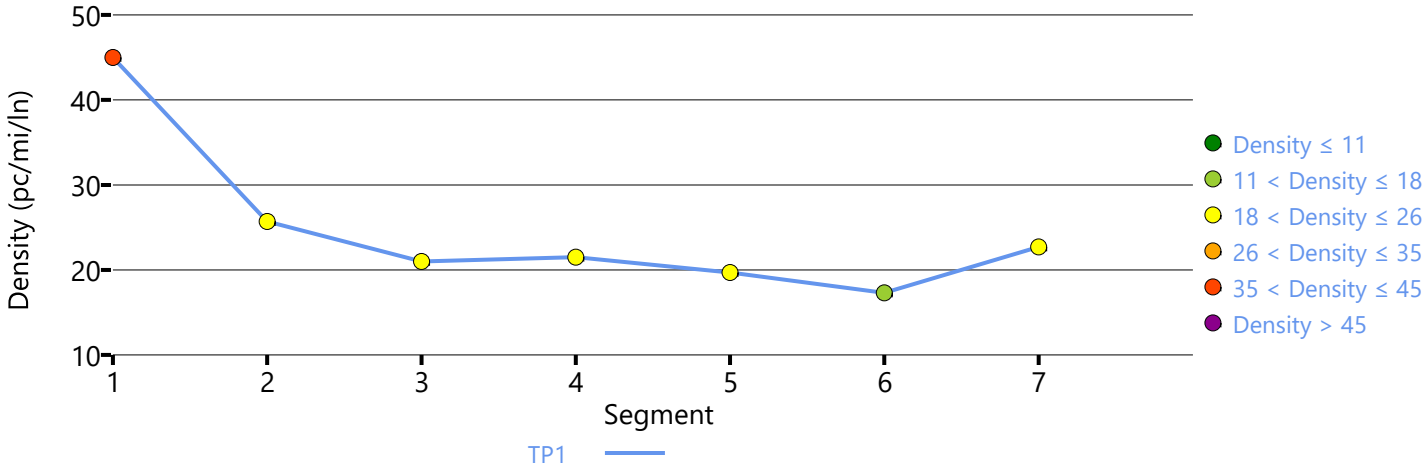
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_EPAP+PROJ_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4678	4800	0.97	55.1	42.5	E

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4678	1327	7200	4000	0.65	0.33	64.2	57.1	24.3	17.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3266	4800	0.69	69.9	23.4	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3789	593	7200	2000	0.54	0.30	67.3	67.3	18.8	18.8	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3705	4800	0.82	34.7	53.4	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4470	1000	7200	2000	0.68	0.50	18.4	18.4	81.0	81.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4470	4800	1.03	58.0	38.5	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	46.5	41.6	40.8	3.30	E

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	46.5	28.7	28.1	3.30	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	46.5	Density, veh/mi/ln	40.8
Average Travel Time, min	3.30	Density, pc/mi/ln	41.6

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

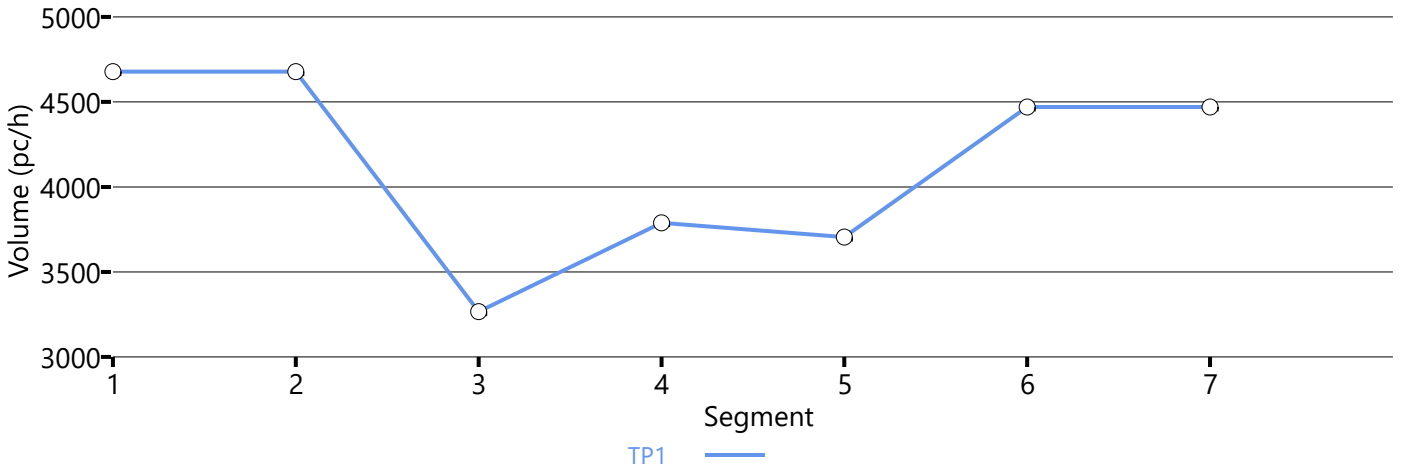
Space Mean Speed, mi/h	46.5	Density, veh/mi/ln	28.1
Average Travel Time, min	3.30	Density, pc/mi/ln	28.7

Messages

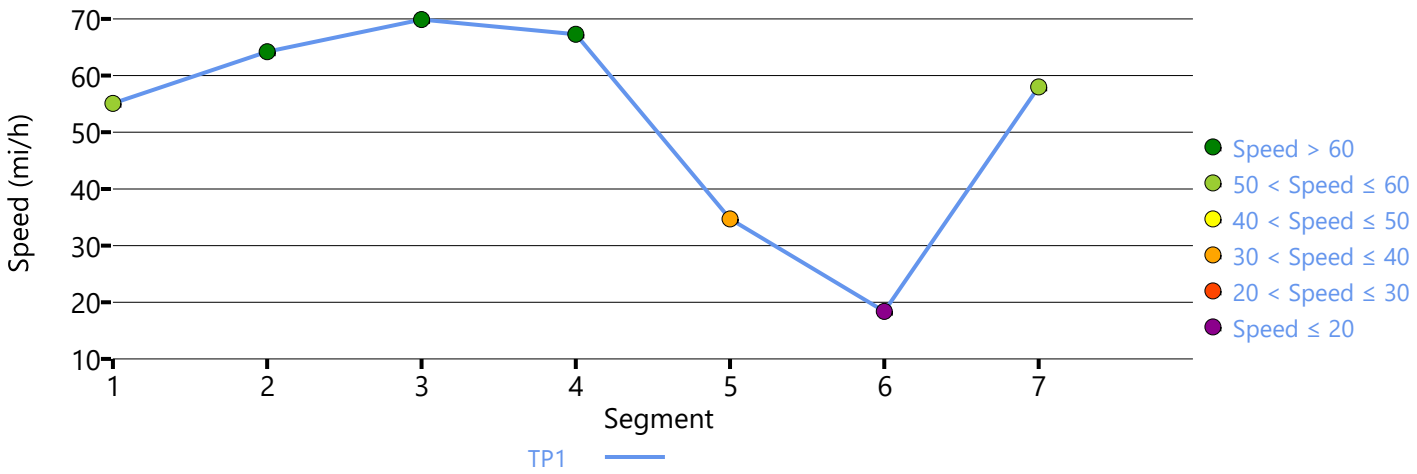
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.
WARNING 1	Oversaturated conditions currently exist in boundary segment 7. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.

Comments

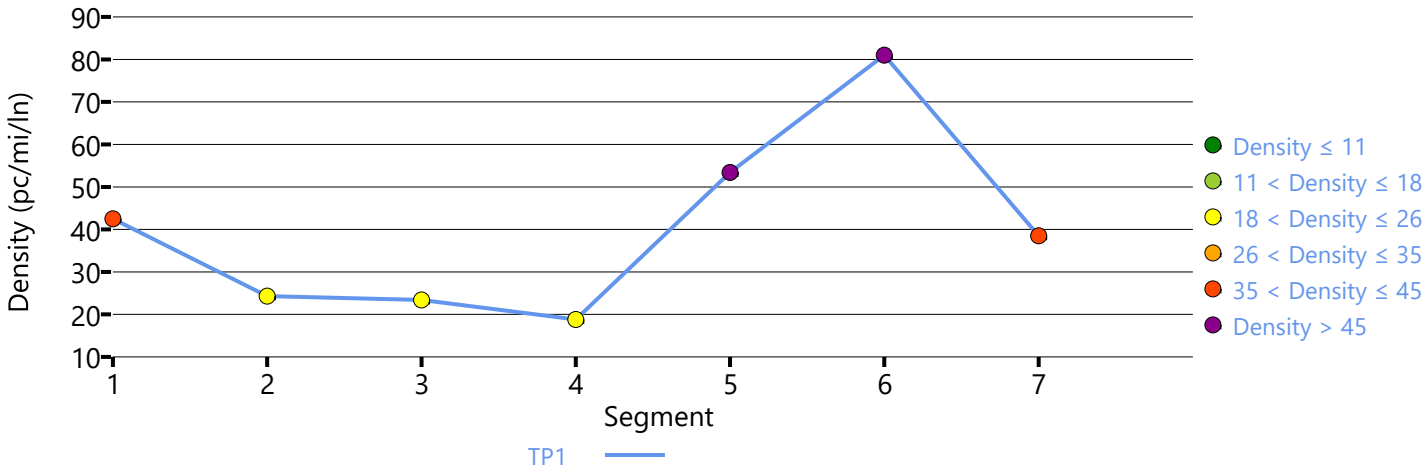
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_EPAP+PROJ_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3781	4800	0.79	65.8	28.7	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3781	1485	7200	4000	0.53	0.37	63.1	56.6	20.0	15.1	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2266	4800	0.47	73.0	15.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2714	448	7200	2000	0.38	0.22	75.1	75.4	12.0	12.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2723	4800	0.57	73.8	18.5	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3468	745	7200	2000	0.48	0.37	75.1	75.1	15.4	15.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3482	4800	0.73	68.3	25.5	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	68.4	21.9	21.5	2.30	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	68.4	15.1	14.8	2.30	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	68.4	Density, veh/mi/ln	21.5
Average Travel Time, min	2.30	Density, pc/mi/ln	21.9

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

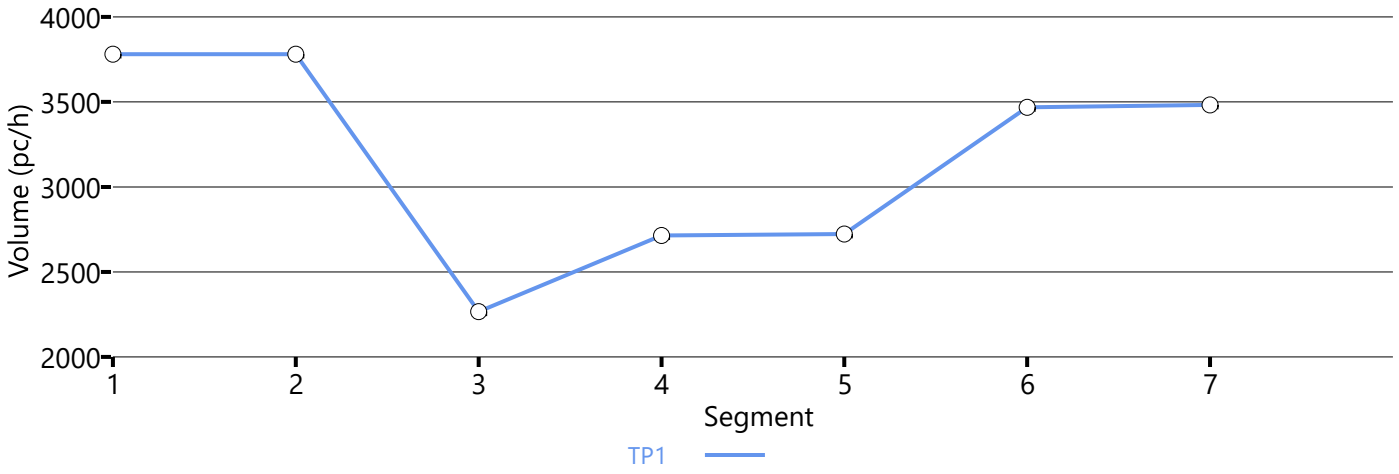
Space Mean Speed, mi/h	68.4	Density, veh/mi/ln	14.8
Average Travel Time, min	2.30	Density, pc/mi/ln	15.1

Messages

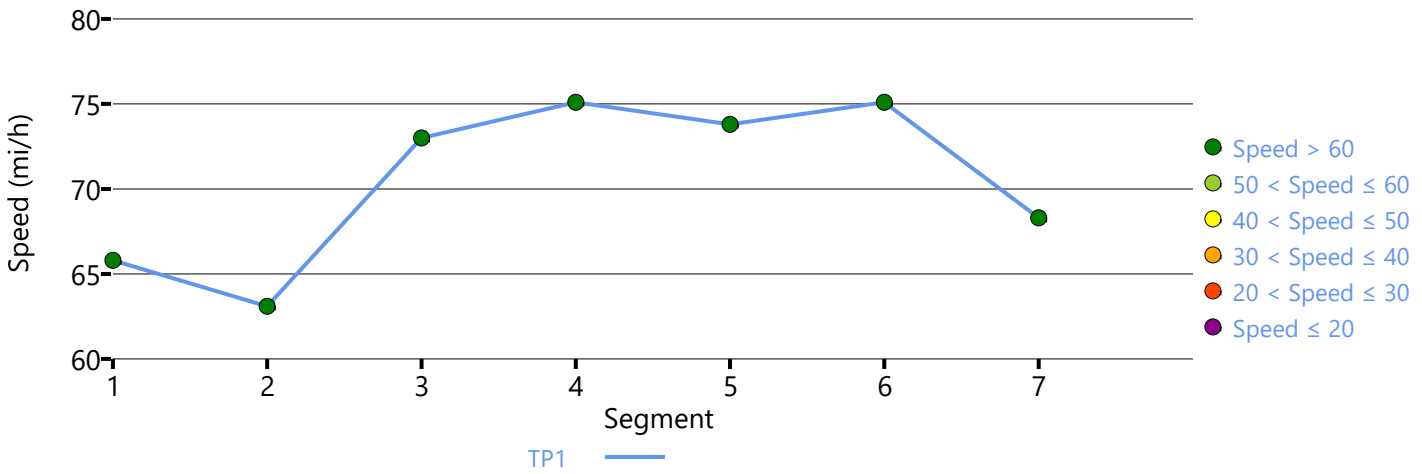
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.

Comments

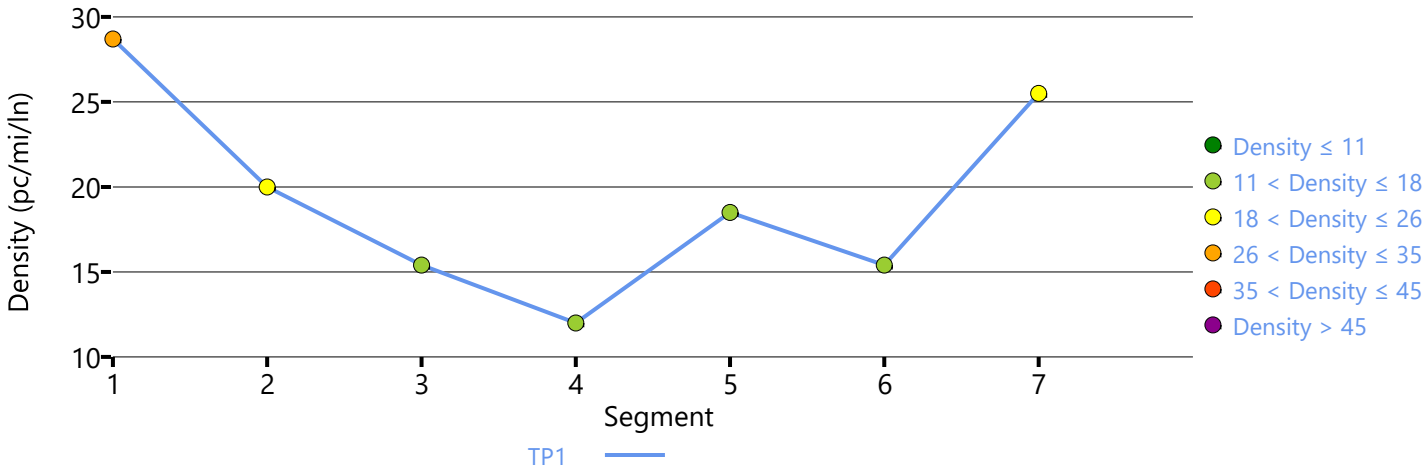
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_No-Build_2028_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3321	4800	0.69	69.5	23.9	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3321	1090	7200	4000	0.46	0.27	64.8	57.8	17.1	11.5	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2208	4800	0.46	73.2	15.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2739	531	7200	2000	0.38	0.27	75.3	75.4	12.1	12.1	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2750	7200	0.38	73.6	12.5	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3007	257	9600	2000	0.31	0.13	74.5	75.4	10.0	10.0	A

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3012	7200	0.42	73.6	13.6	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	71.3	15.9	15.6	2.20	B

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	71.3	11.5	11.3	2.20	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	71.3	Density, veh/mi/ln	15.6
Average Travel Time, min	2.20	Density, pc/mi/ln	15.9

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

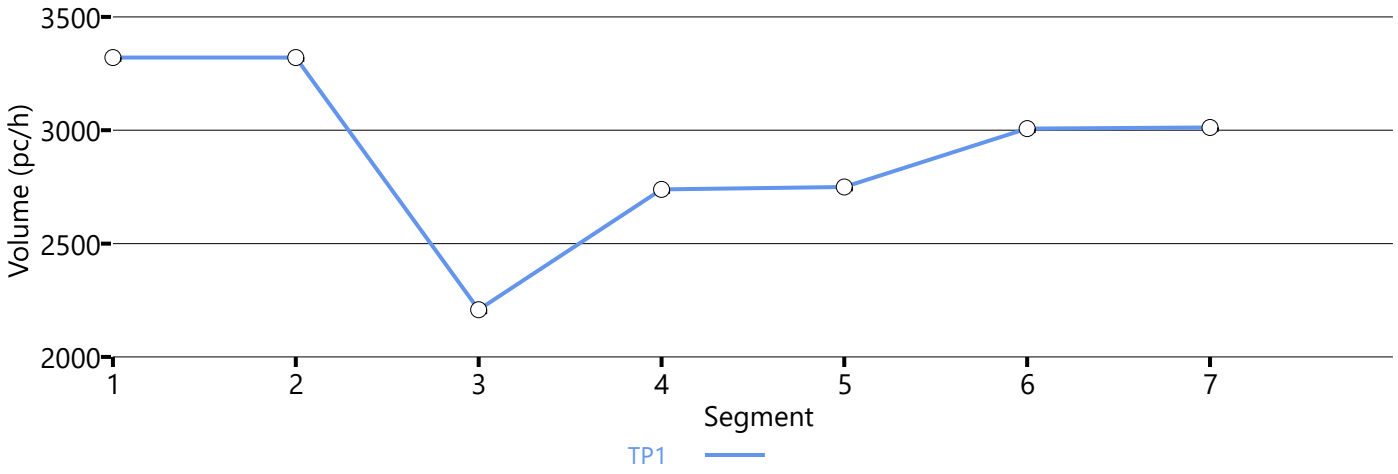
Facility Overall Results

Space Mean Speed, mi/h	71.3	Density, veh/mi/ln	11.3
Average Travel Time, min	2.20	Density, pc/mi/ln	11.5

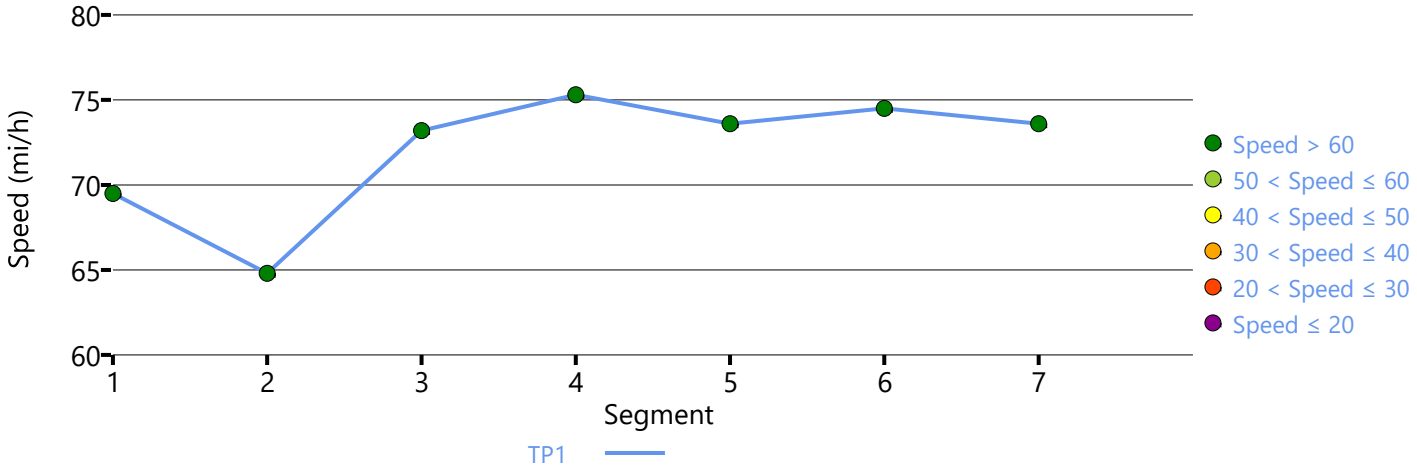
Messages

Comments

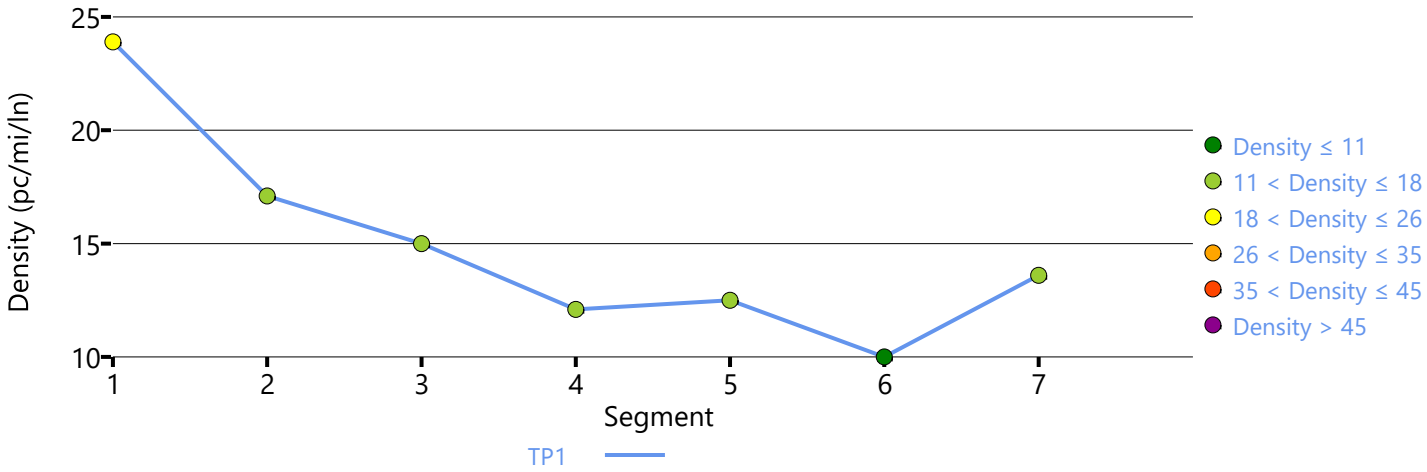
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_No-Build_2028_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.03	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	1660	7200	4000	0.69	0.42	62.8	56.1	25.5	19.9	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3140	4800	0.68	70.6	22.2	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4290	1150	7200	2000	0.61	0.58	66.2	66.2	21.6	21.6	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4290	7200	0.62	71.1	19.9	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4842	552	9600	2000	0.52	0.28	69.0	69.0	17.5	17.5	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4842	7200	0.70	70.1	23.0	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.0	27.2	26.6	2.50	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.0	19.7	19.3	2.50	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	63.0	Density, veh/mi/ln	26.6
Average Travel Time, min	2.50	Density, pc/mi/ln	27.2

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

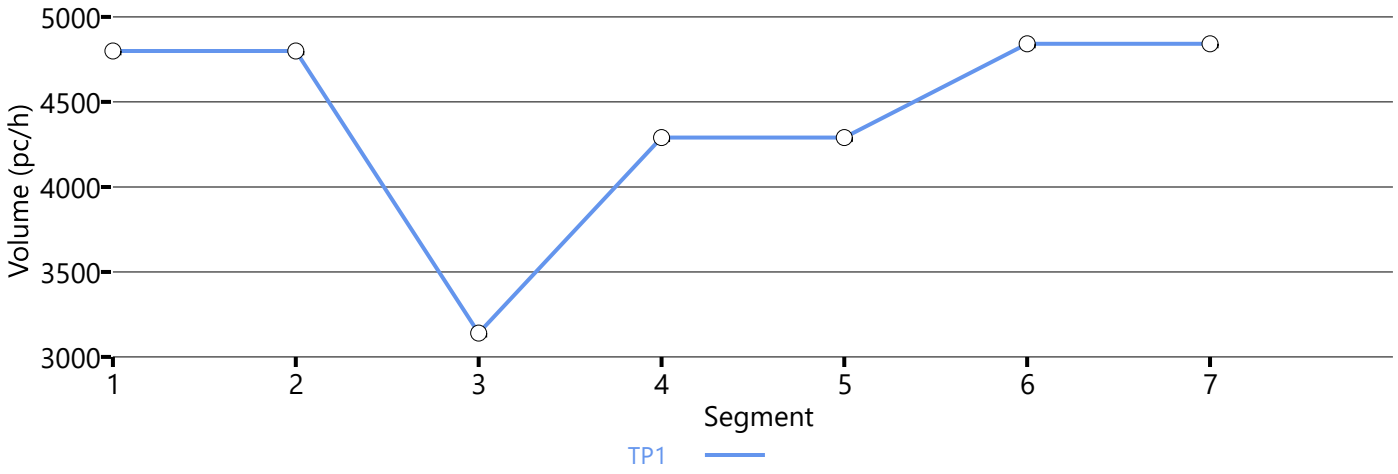
Space Mean Speed, mi/h	63.0	Density, veh/mi/ln	19.3
Average Travel Time, min	2.50	Density, pc/mi/ln	19.7

Messages

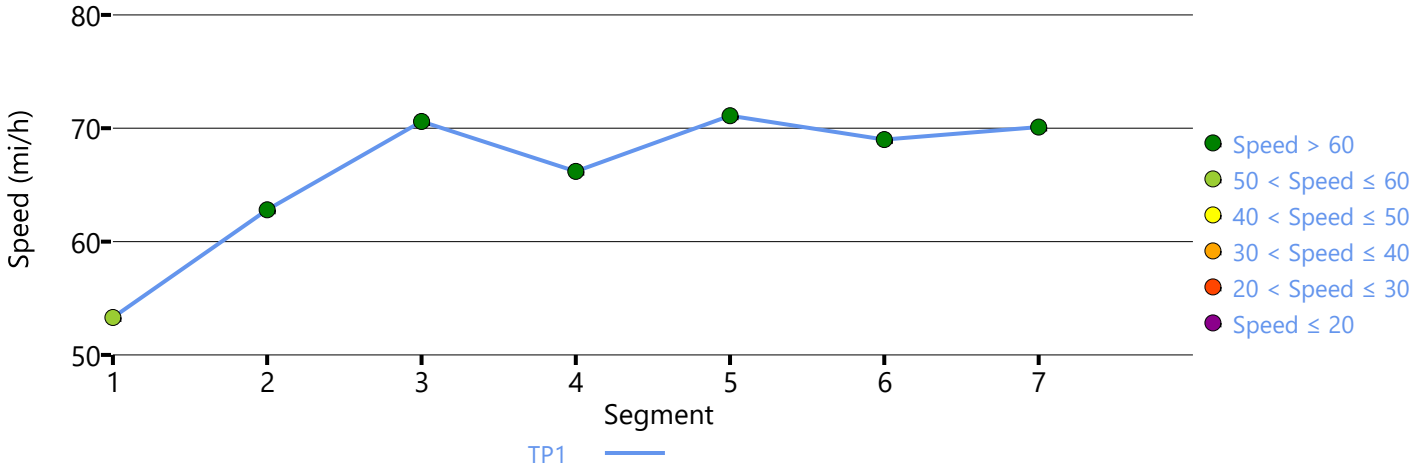
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist on segment 5, which is less than 300 feet. Due to time step size, these segments may produce unreliable results. Consider reviewing facility segmentation to resolve this warning.

Comments

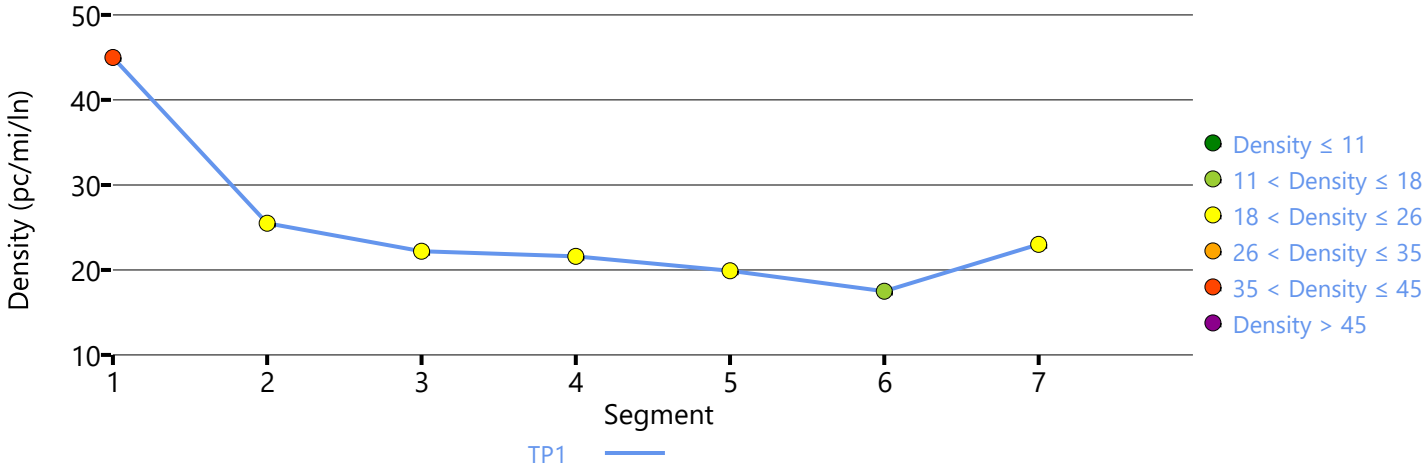
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_No-Build_2028_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4777	4800	1.00	53.7	44.5	E

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4777	1280	7200	4000	0.66	0.32	64.5	57.3	24.7	18.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3497	4800	0.72	68.2	25.6	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4022	552	7200	2000	0.56	0.28	67.1	67.1	20.0	20.0	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3952	4800	0.84	64.6	30.6	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4470	756	7200	2000	0.67	0.38	20.6	20.6	72.3	72.3	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4470	4800	1.00	58.0	38.5	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	49.6	39.9	39.1	3.10	E

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	49.6	27.5	26.9	3.10	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	49.6	Density, veh/mi/ln	39.1
Average Travel Time, min	3.10	Density, pc/mi/ln	39.9

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

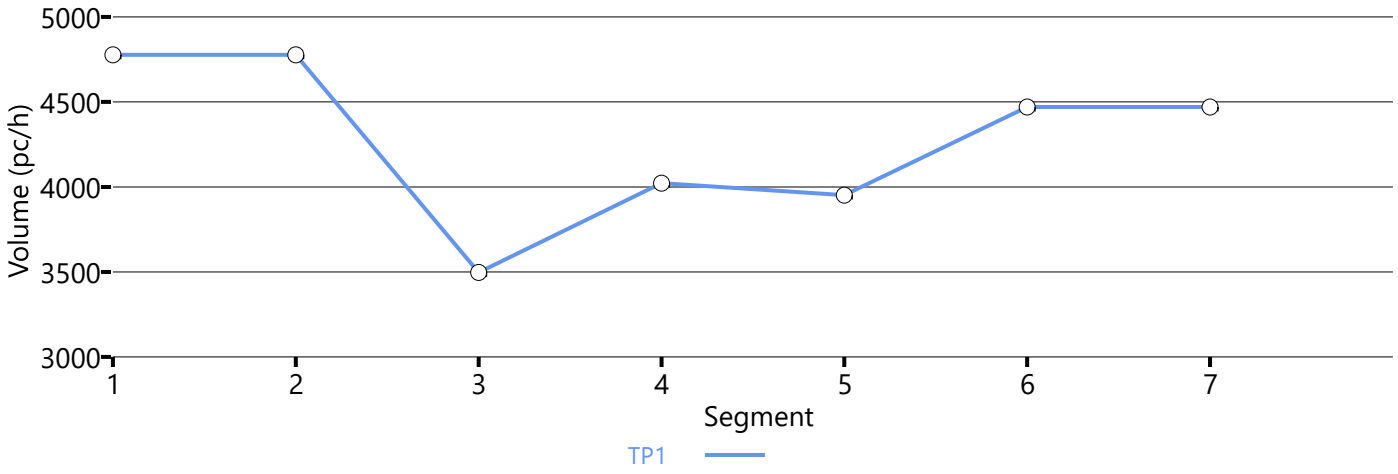
Space Mean Speed, mi/h	49.6	Density, veh/mi/ln	26.9
Average Travel Time, min	3.10	Density, pc/mi/ln	27.5

Messages

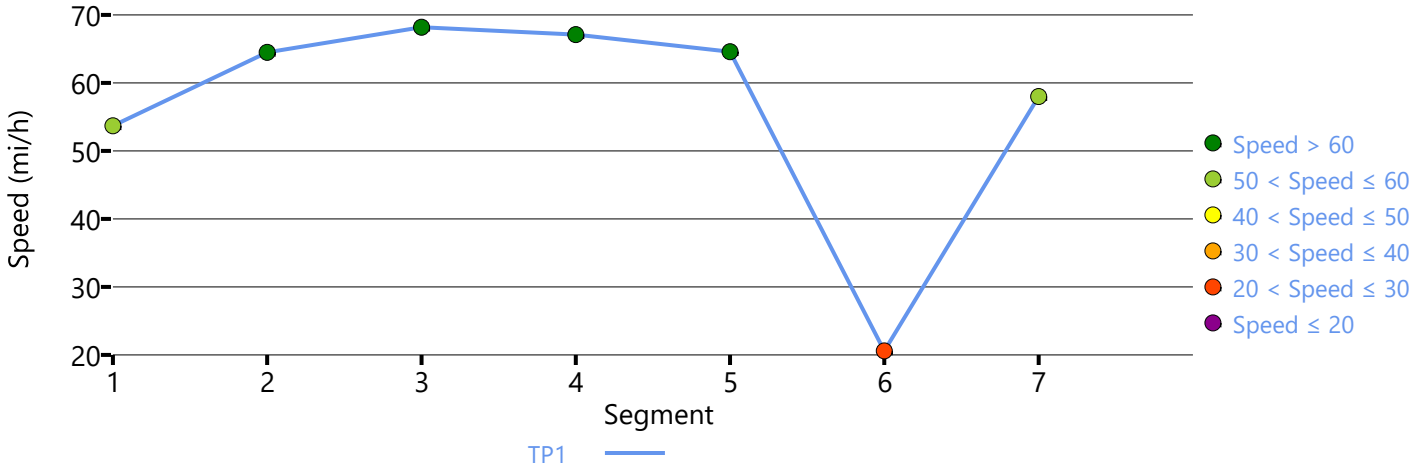
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.
WARNING 1	Oversaturated conditions currently exist in boundary segment 7. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.

Comments

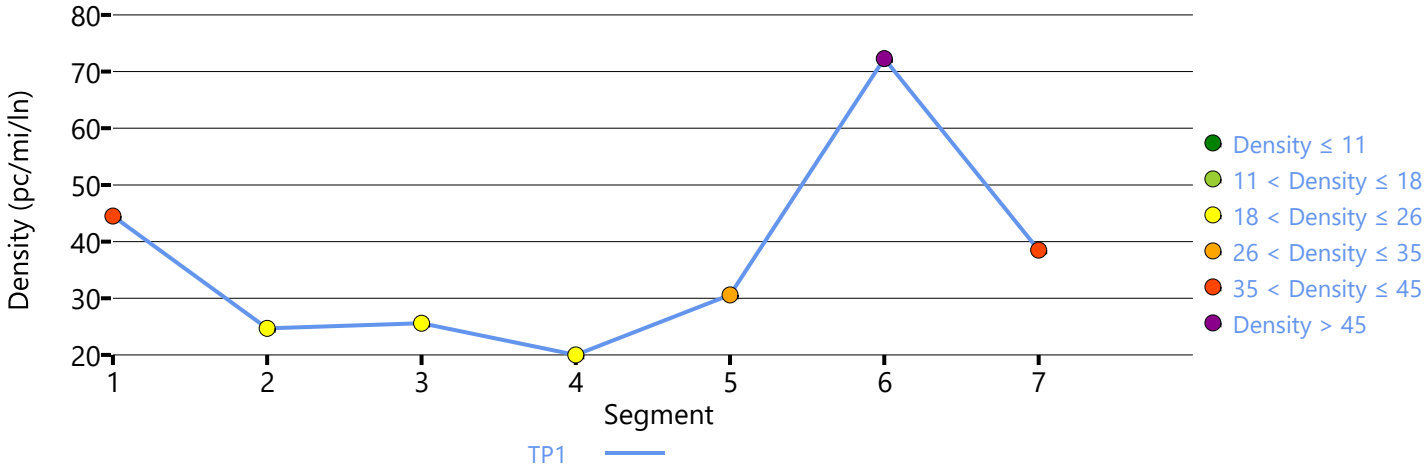
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_No-Build_2028_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3817	4800	0.80	65.5	29.1	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3817	1414	7200	4000	0.53	0.35	63.5	56.9	20.0	14.9	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2374	4800	0.49	73.0	16.2	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2769	395	7200	2000	0.38	0.20	75.1	75.4	12.2	12.2	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2777	4800	0.58	73.6	18.9	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3675	898	7200	2000	0.51	0.45	74.8	74.8	16.4	16.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3693	4800	0.77	66.6	27.7	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.9	22.9	22.4	2.30	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.9	15.8	15.4	2.30	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	67.9	Density, veh/mi/ln	22.4
Average Travel Time, min	2.30	Density, pc/mi/ln	22.9

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

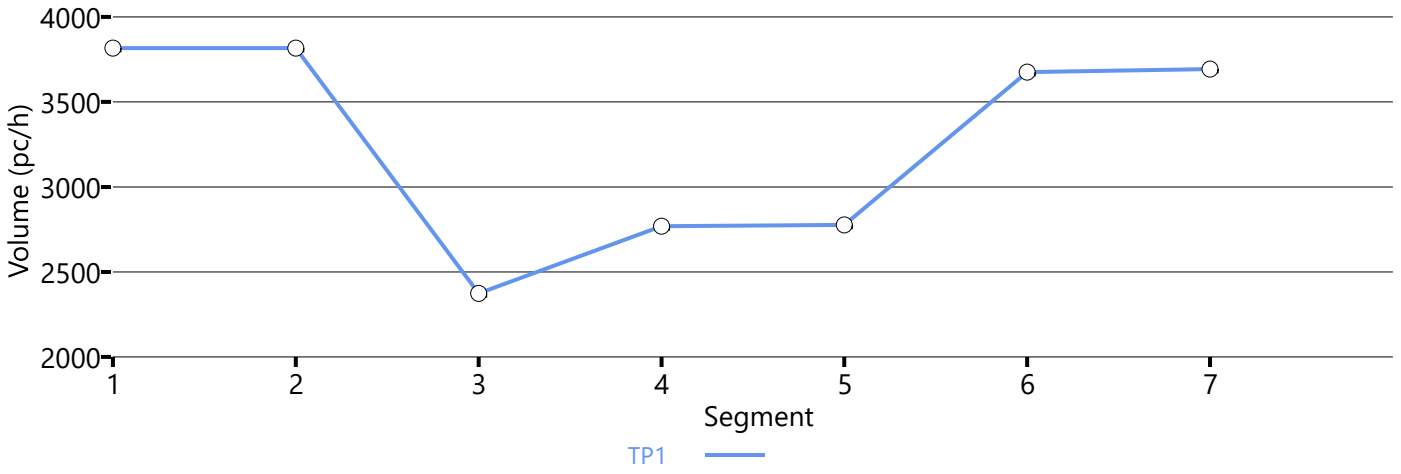
Space Mean Speed, mi/h	67.9	Density, veh/mi/ln	15.4
Average Travel Time, min	2.30	Density, pc/mi/ln	15.8

Messages

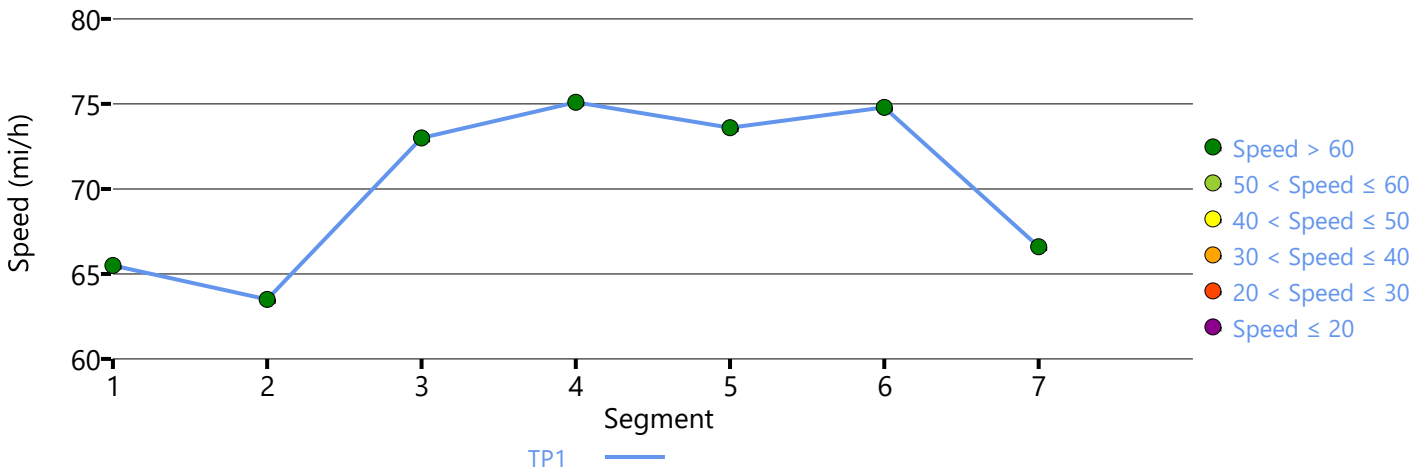
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.

Comments

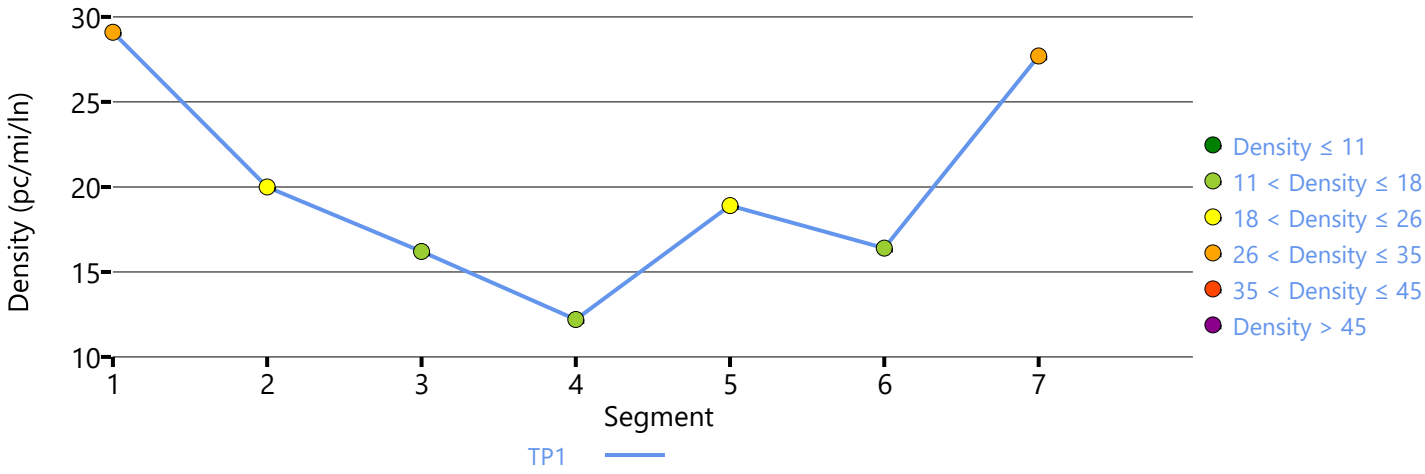
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_Build_2028_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3350	4800	0.70	69.3	24.2	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3350	1119	7200	4000	0.47	0.28	64.7	57.7	17.3	11.7	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2208	4800	0.46	73.2	15.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2739	531	7200	2000	0.38	0.27	75.3	75.4	12.1	12.1	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2750	7200	0.38	73.6	12.5	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3013	263	9600	2000	0.31	0.13	74.5	75.4	10.0	10.0	A

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3018	7200	0.42	73.6	13.7	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	71.2	16.0	15.7	2.20	B

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	71.2	11.6	11.3	2.20	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	71.2	Density, veh/mi/ln	15.7
Average Travel Time, min	2.20	Density, pc/mi/ln	16.0

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

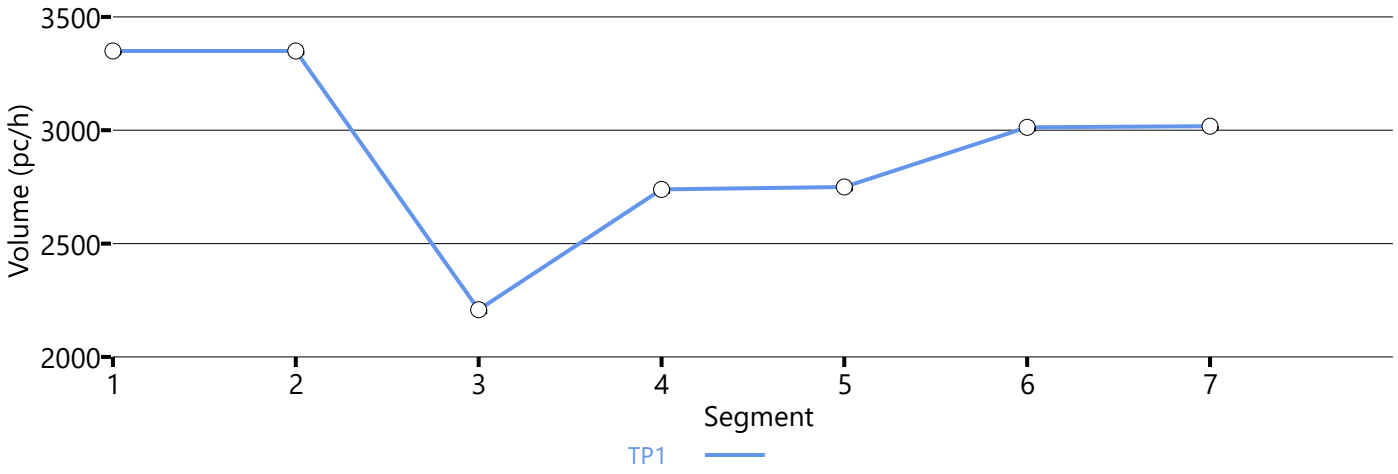
Facility Overall Results

Space Mean Speed, mi/h	71.2	Density, veh/mi/ln	11.3
Average Travel Time, min	2.20	Density, pc/mi/ln	11.6

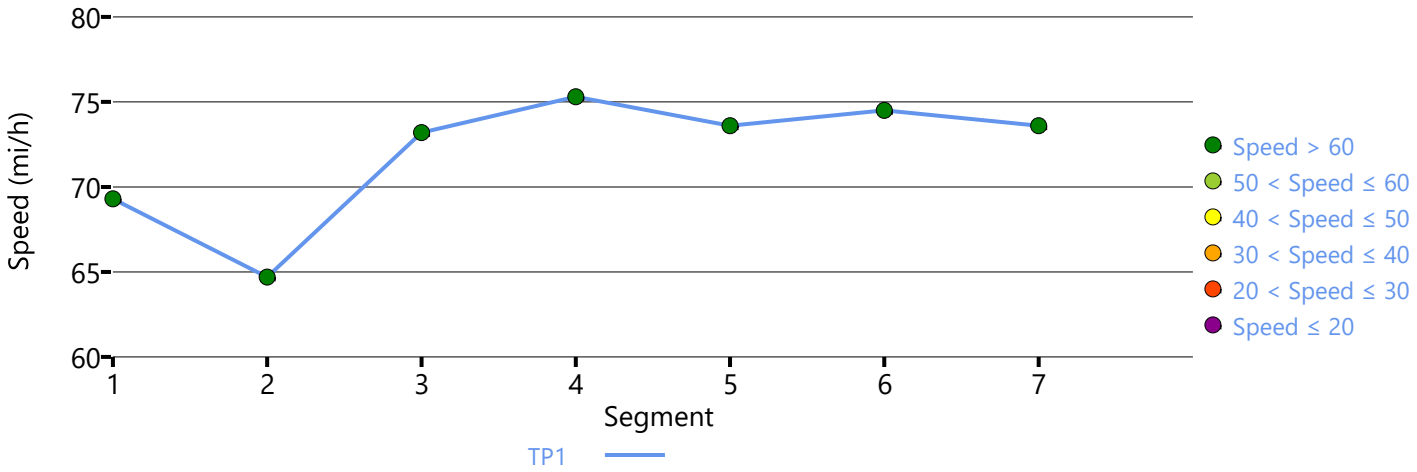
Messages

Comments

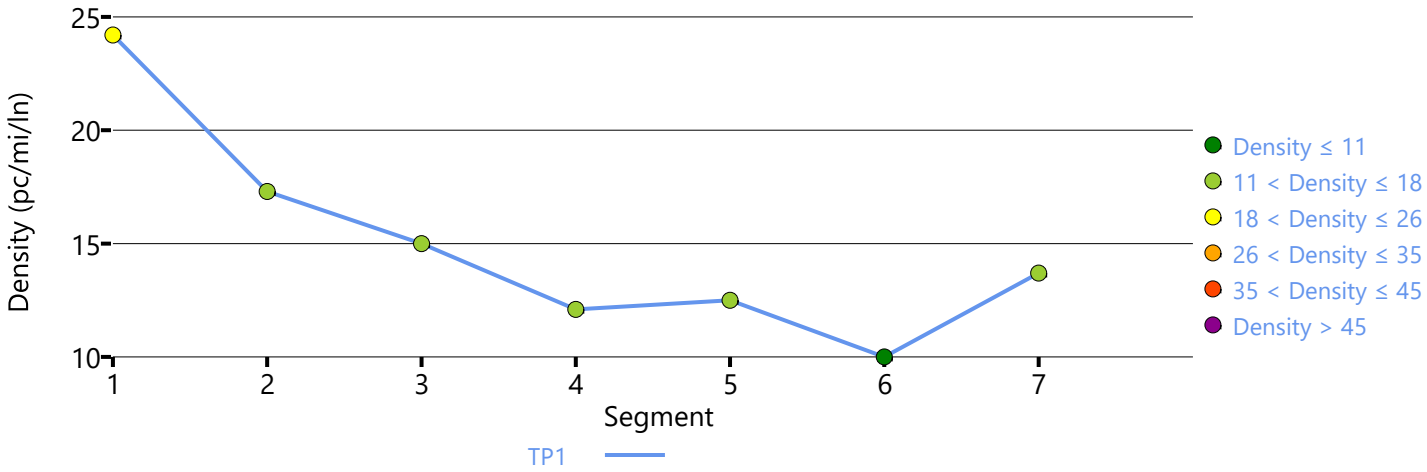
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_Build_2028_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.04	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	1672	7200	4000	0.69	0.42	62.8	56.1	25.5	19.9	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3128	4800	0.68	70.7	22.1	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4287	1159	7200	2000	0.62	0.58	66.2	66.2	21.6	21.6	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4287	7200	0.62	71.1	19.8	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4855	568	9600	2000	0.52	0.28	69.0	69.0	17.6	17.6	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4855	7200	0.70	70.1	23.1	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.0	27.2	26.6	2.50	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.0	19.7	19.3	2.50	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	63.0	Density, veh/mi/ln	26.6
Average Travel Time, min	2.50	Density, pc/mi/ln	27.2

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

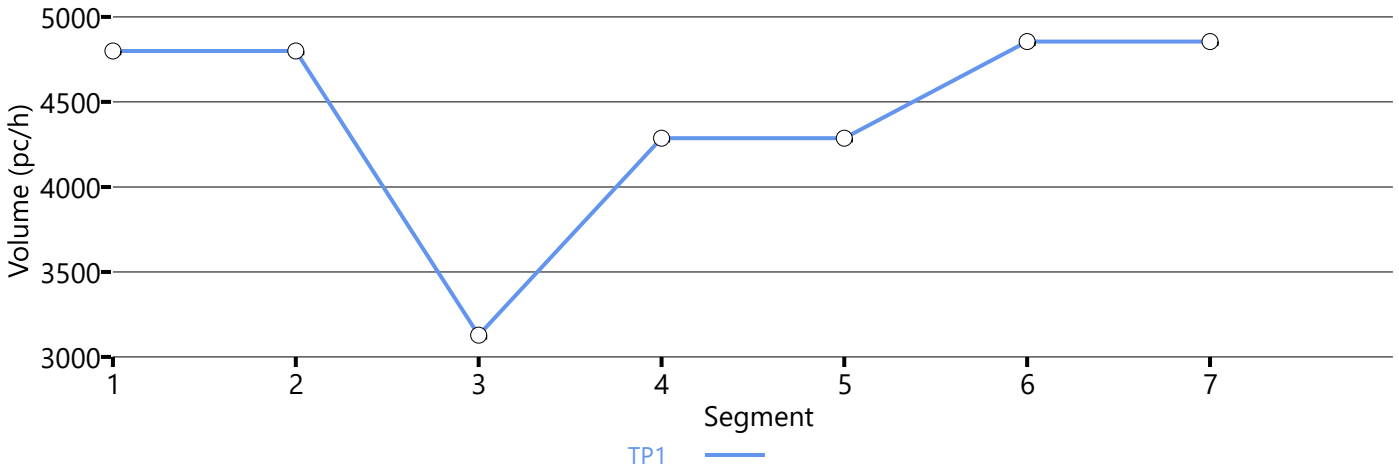
Space Mean Speed, mi/h	63.0	Density, veh/mi/ln	19.3
Average Travel Time, min	2.50	Density, pc/mi/ln	19.7

Messages

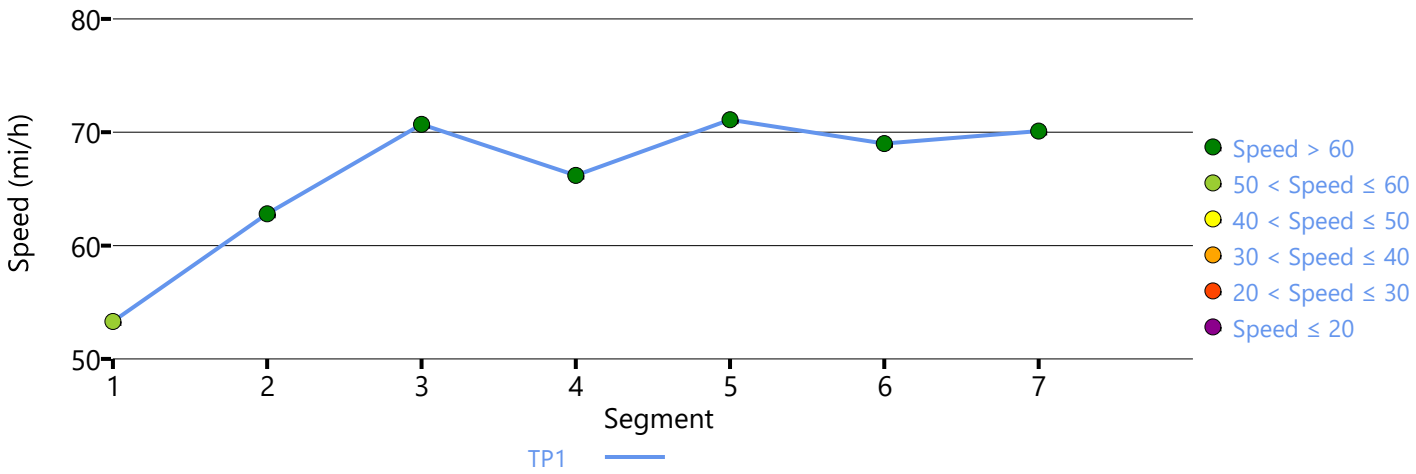
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist on segment 5, which is less than 300 feet. Due to time step size, these segments may produce unreliable results. Consider reviewing facility segmentation to resolve this warning.

Comments

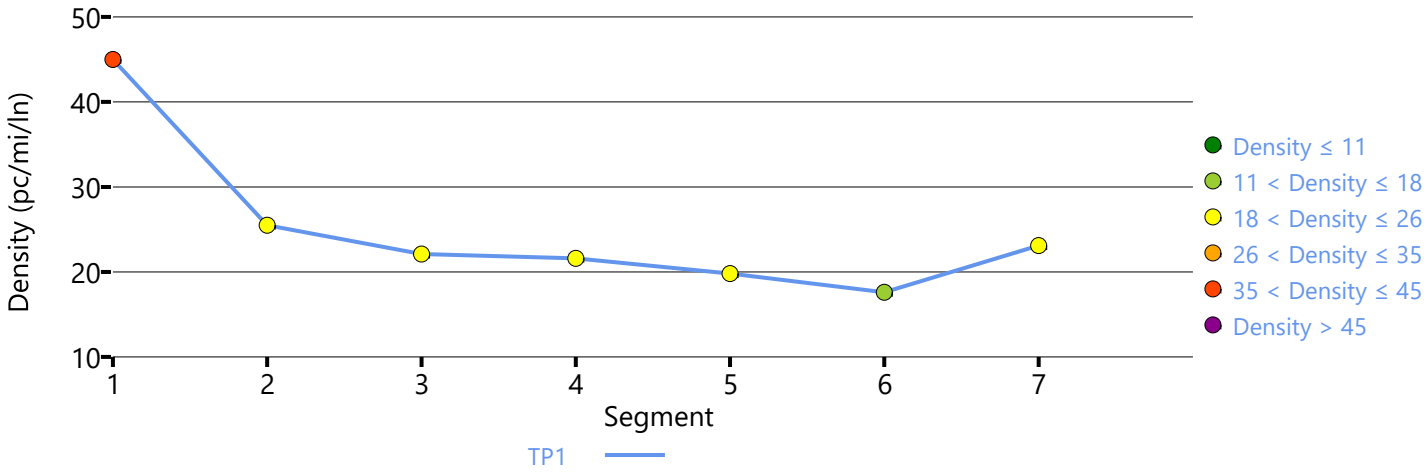
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_Build_2028_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4793	4800	1.00	53.4	44.9	E

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4793	1295	7200	4000	0.67	0.32	64.4	57.2	24.8	18.1	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3498	4800	0.72	68.2	25.6	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4022	562	7200	2000	0.56	0.28	67.1	67.1	20.0	20.0	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3952	4800	0.84	64.6	30.6	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4470	756	7200	2000	0.67	0.38	20.3	20.3	73.3	73.3	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4470	4800	1.00	58.0	38.5	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	49.4	40.1	39.3	3.10	E

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	49.4	27.6	27.1	3.10	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	49.4	Density, veh/mi/ln	39.3
Average Travel Time, min	3.10	Density, pc/mi/ln	40.1

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

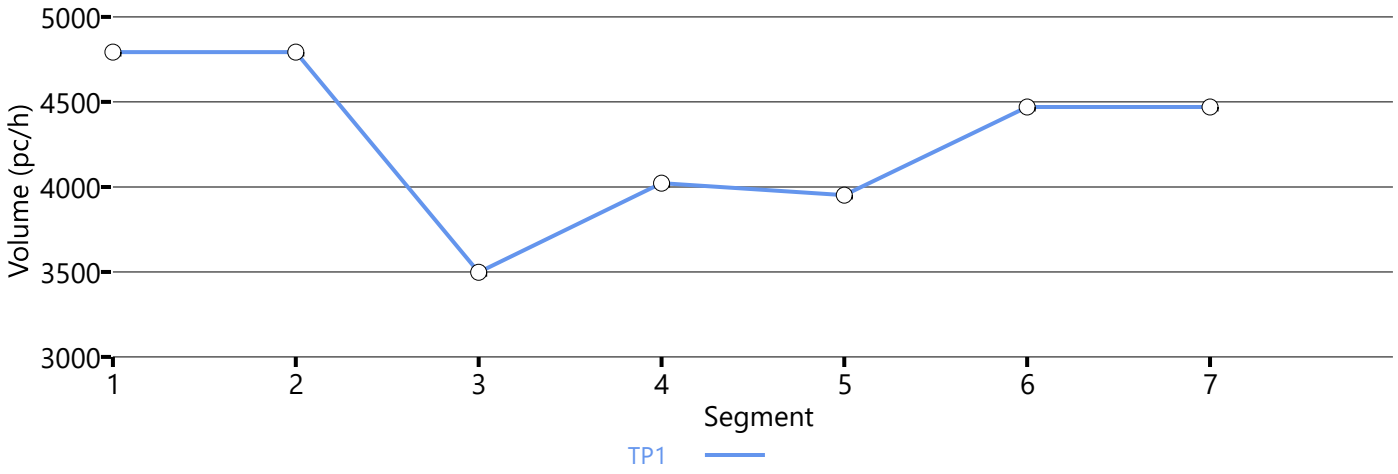
Space Mean Speed, mi/h	49.4	Density, veh/mi/ln	27.1
Average Travel Time, min	3.10	Density, pc/mi/ln	27.6

Messages

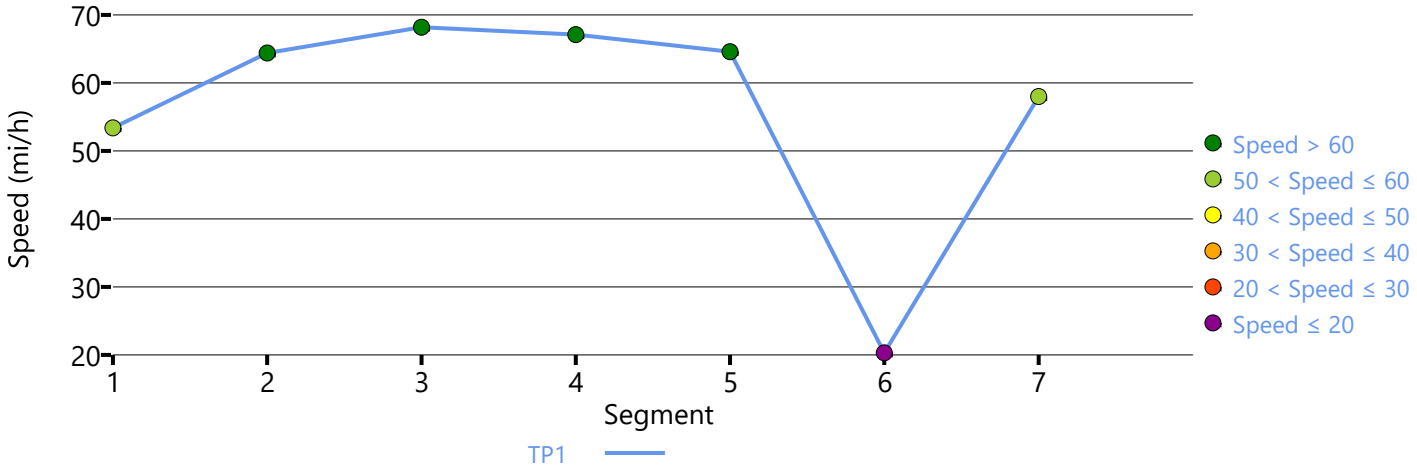
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.
WARNING 1	Oversaturated conditions currently exist in boundary segment 7. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.

Comments

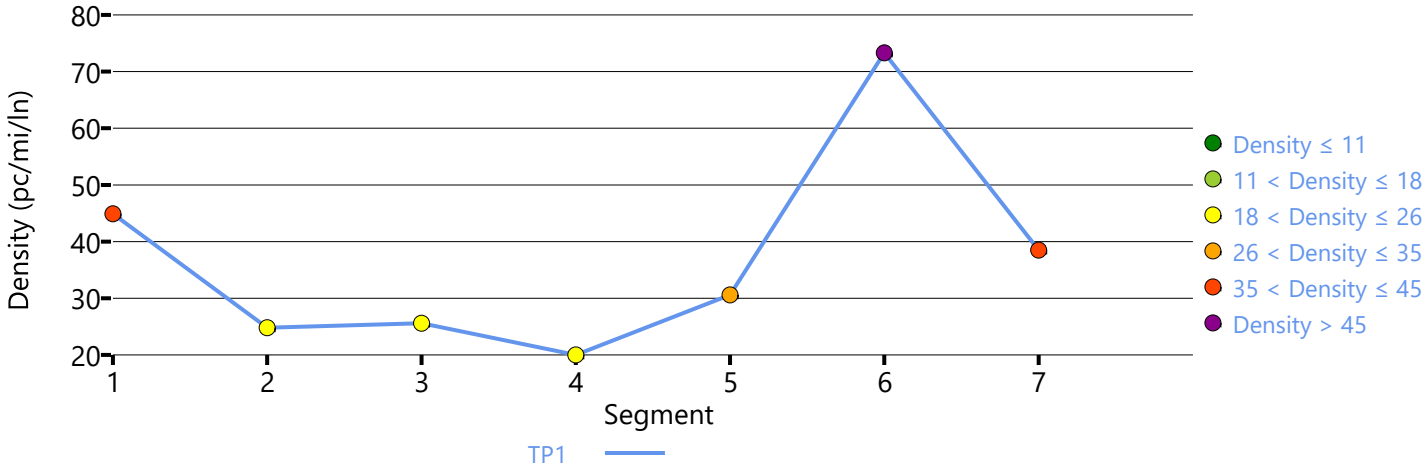
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_Build_2028_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3823	4800	0.80	65.4	29.2	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3823	1420	7200	4000	0.53	0.36	63.4	56.8	20.1	15.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2374	4800	0.49	73.0	16.2	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2801	427	7200	2000	0.39	0.21	75.1	75.4	12.4	12.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2809	4800	0.59	73.5	19.1	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3707	898	7200	2000	0.51	0.45	74.7	74.7	16.5	16.5	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3726	4800	0.78	66.3	28.1	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.7	23.0	22.6	2.30	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.7	15.9	15.6	2.30	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	67.7	Density, veh/mi/ln	22.6
Average Travel Time, min	2.30	Density, pc/mi/ln	23.0

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

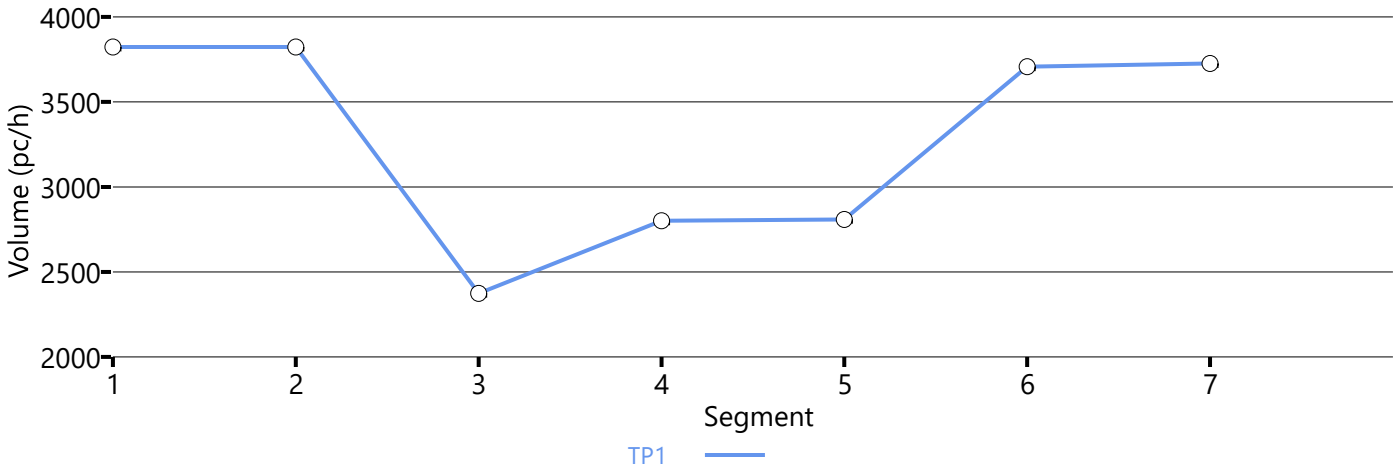
Space Mean Speed, mi/h	67.7	Density, veh/mi/ln	15.6
Average Travel Time, min	2.30	Density, pc/mi/ln	15.9

Messages

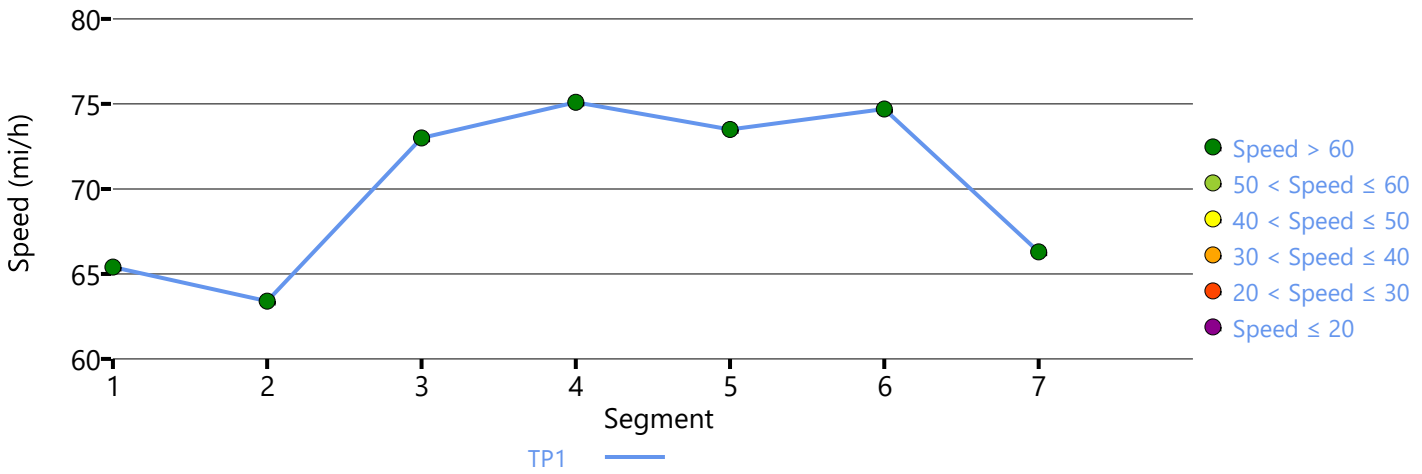
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.

Comments

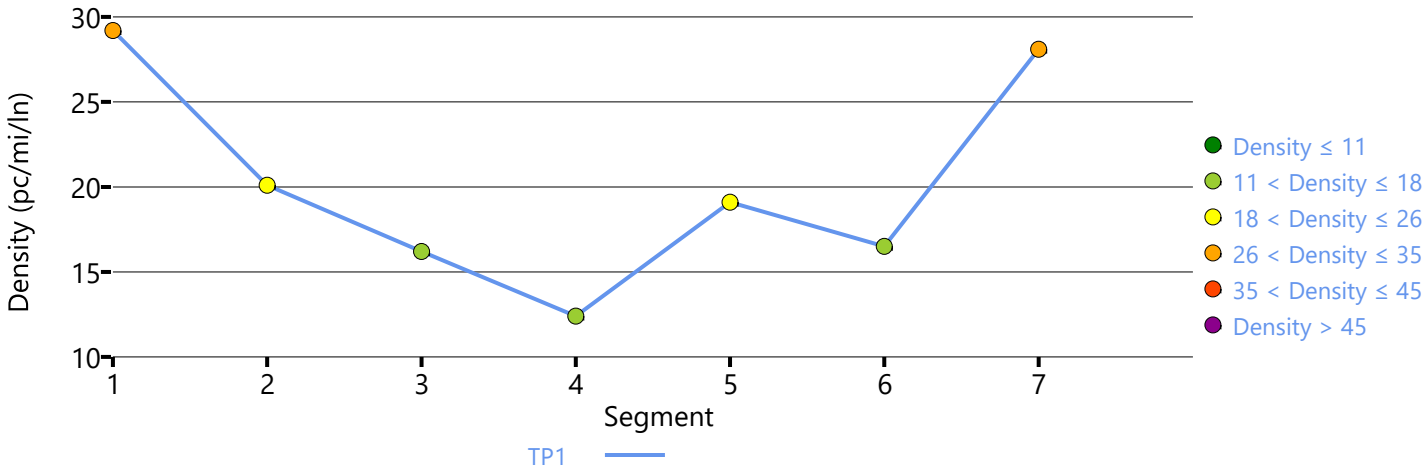
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_No-Build_2030_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3440	4800	0.72	68.7	25.0	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3440	1095	7200	4000	0.48	0.27	64.9	57.8	17.7	11.9	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2323	4800	0.48	73.2	15.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2808	485	7200	2000	0.39	0.24	75.3	75.4	12.4	12.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2818	7200	0.39	73.6	12.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3151	333	9600	2000	0.33	0.17	74.5	75.4	10.4	10.4	A

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3158	7200	0.44	73.6	14.3	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	71.0	16.6	16.3	2.20	B

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	71.0	12.0	11.8	2.20	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	71.0	Density, veh/mi/ln	16.3
Average Travel Time, min	2.20	Density, pc/mi/ln	16.6

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

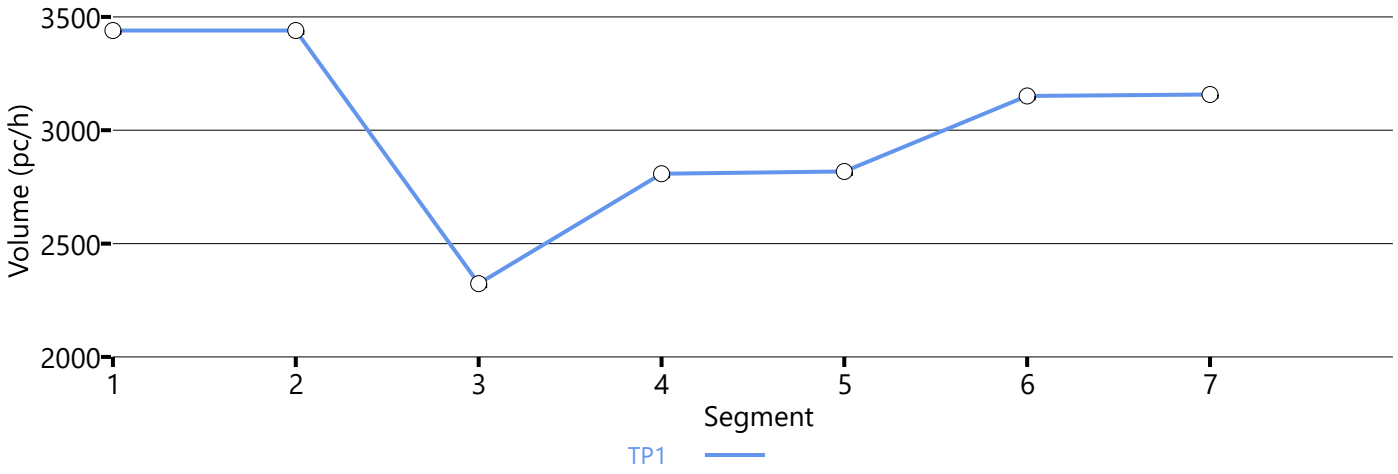
Facility Overall Results

Space Mean Speed, mi/h	71.0	Density, veh/mi/ln	11.8
Average Travel Time, min	2.20	Density, pc/mi/ln	12.0

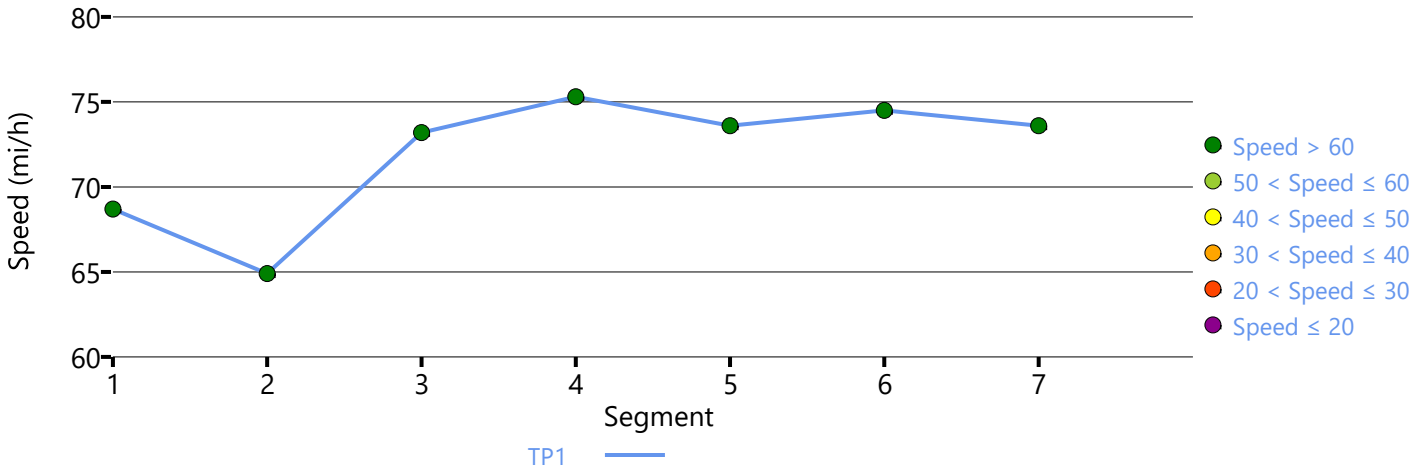
Messages

Comments

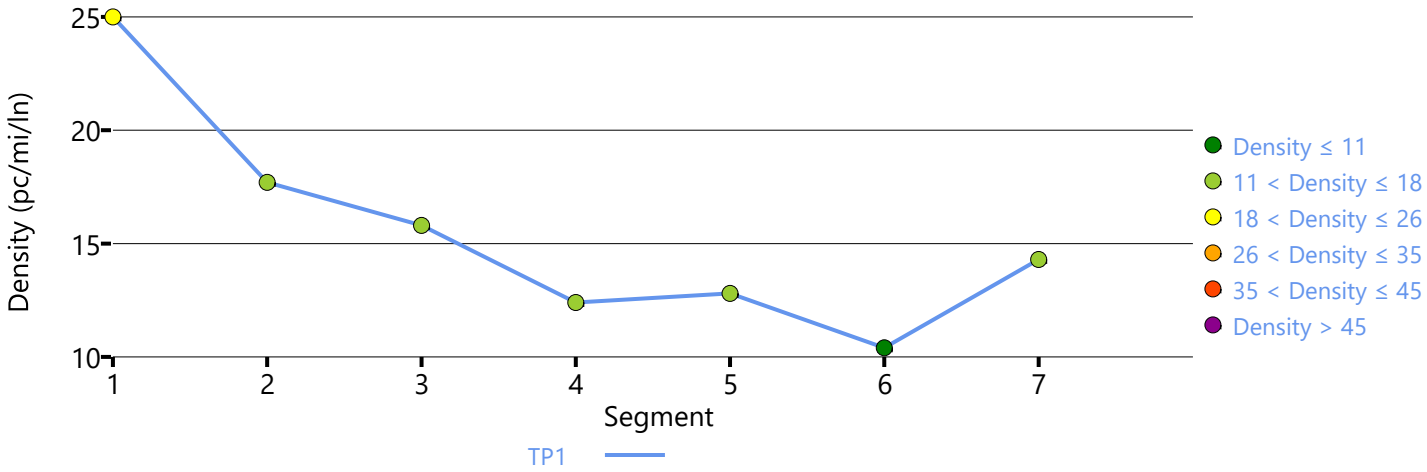
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_No-Build_2030_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.04	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	1531	7200	4000	0.69	0.38	63.4	56.5	25.2	19.3	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3269	4800	0.71	69.8	23.4	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4329	1060	7200	2000	0.62	0.53	66.3	66.3	21.8	21.8	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4329	7200	0.62	71.2	20.1	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4922	593	9600	2000	0.53	0.30	68.9	68.9	17.9	17.9	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4922	7200	0.71	69.8	23.5	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.0	27.5	27.0	2.50	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.0	19.9	19.5	2.50	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	63.0	Density, veh/mi/ln	27.0
Average Travel Time, min	2.50	Density, pc/mi/ln	27.5

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

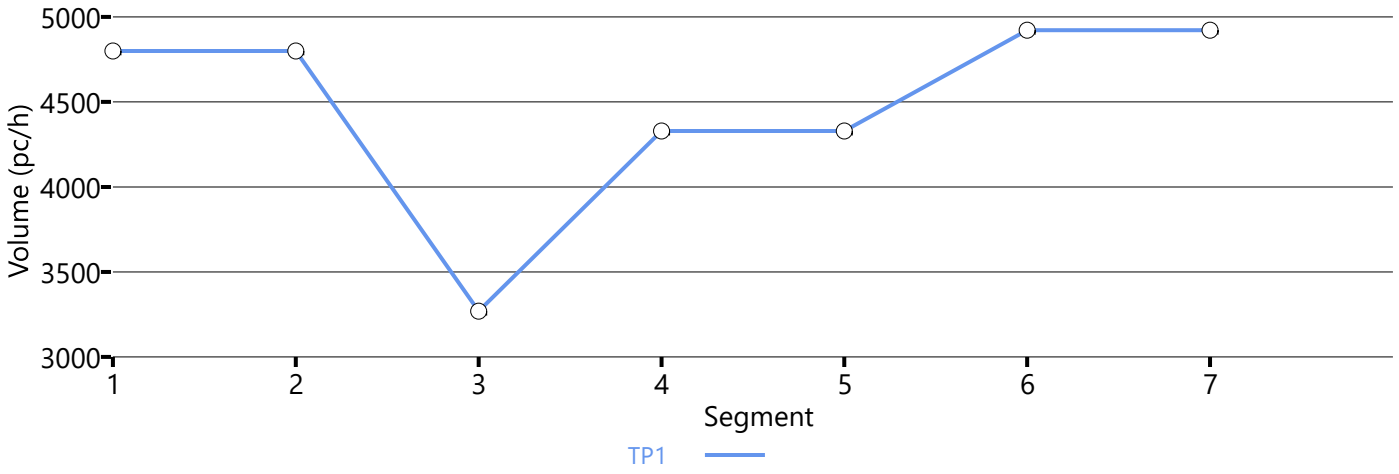
Space Mean Speed, mi/h	63.0	Density, veh/mi/ln	19.5
Average Travel Time, min	2.50	Density, pc/mi/ln	19.9

Messages

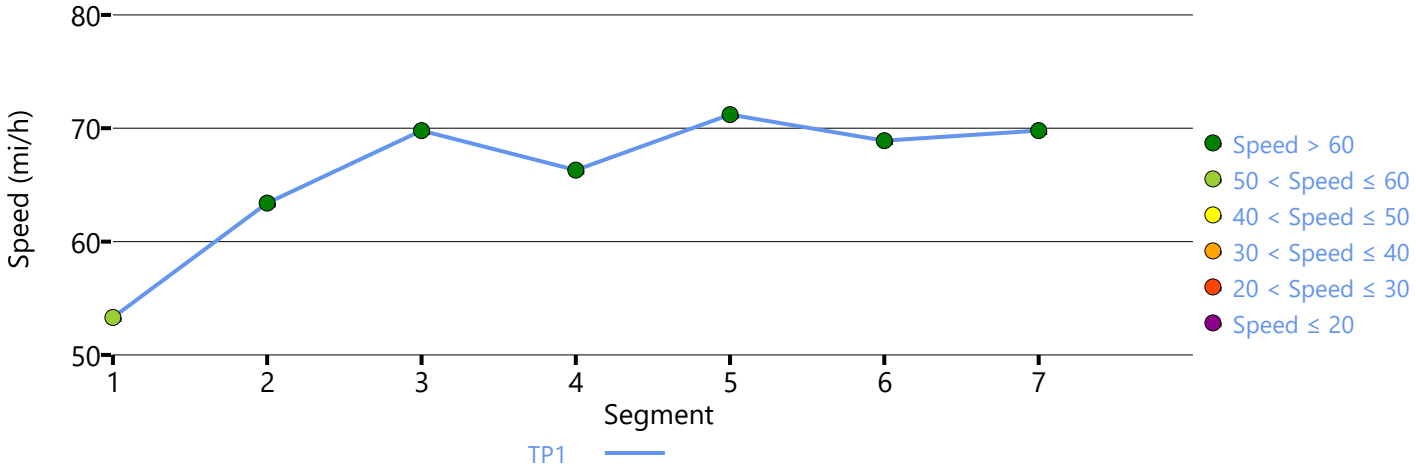
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist on segment 5, which is less than 300 feet. Due to time step size, these segments may produce unreliable results. Consider reviewing facility segmentation to resolve this warning.

Comments

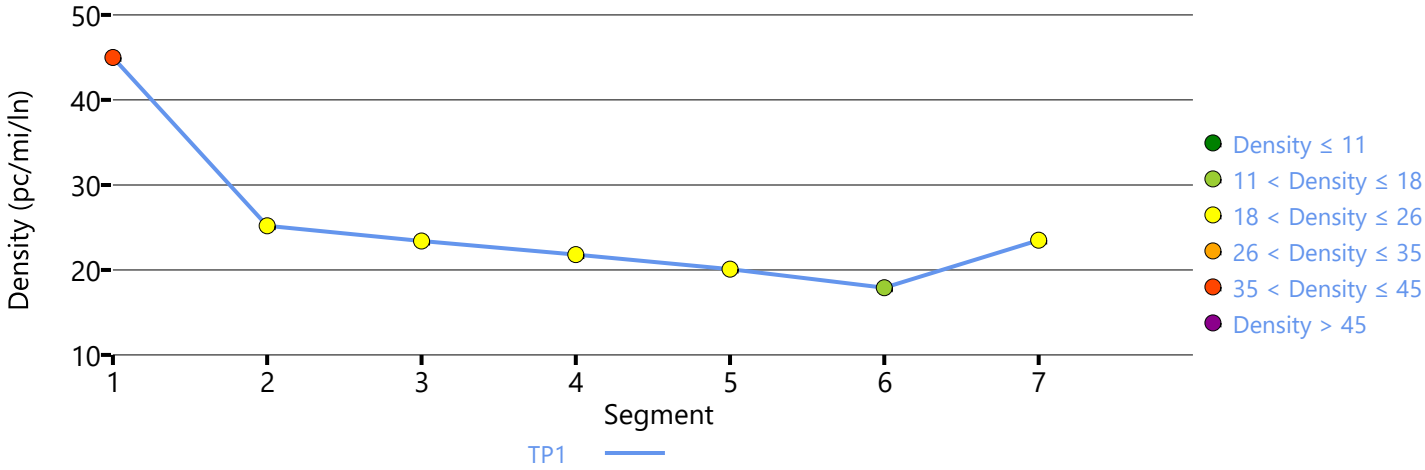
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_No-Build_2030_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.02	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	1249	7200	4000	0.68	0.31	64.6	57.4	24.8	17.9	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3551	4800	0.75	67.8	26.2	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4070	519	7200	2000	0.57	0.26	67.1	67.1	20.2	20.2	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4070	4800	0.86	63.2	32.2	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4752	682	7200	2000	0.67	0.34	66.0	66.0	24.0	24.0	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4752	4800	1.01	54.1	43.9	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	58.1	35.1	34.4	2.70	E

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	58.1	24.2	23.7	2.70	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	58.1	Density, veh/mi/ln	34.4
Average Travel Time, min	2.70	Density, pc/mi/ln	35.1

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

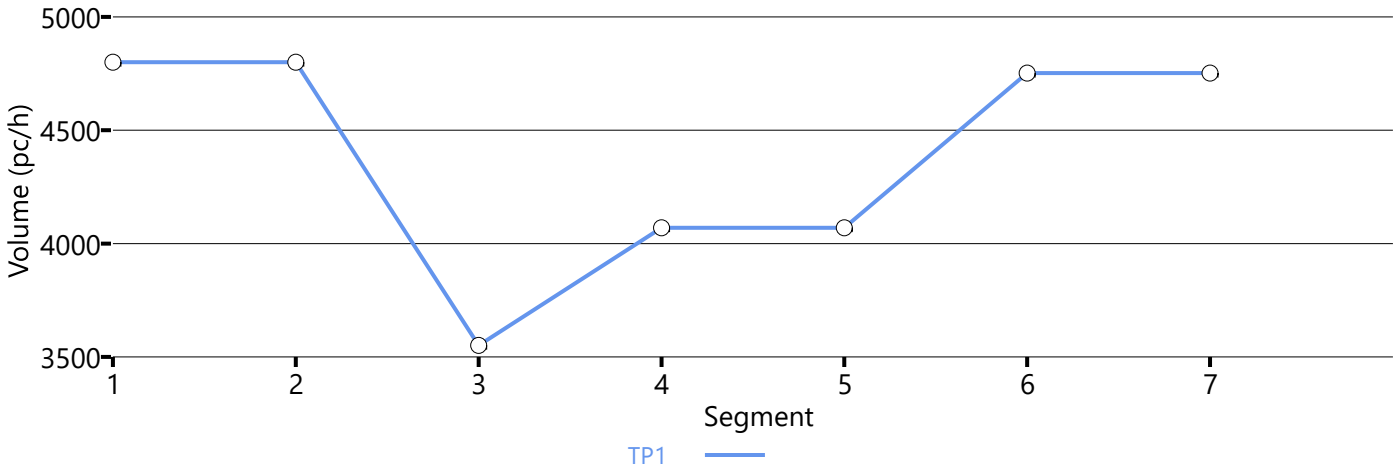
Space Mean Speed, mi/h	58.1	Density, veh/mi/ln	23.7
Average Travel Time, min	2.70	Density, pc/mi/ln	24.2

Messages

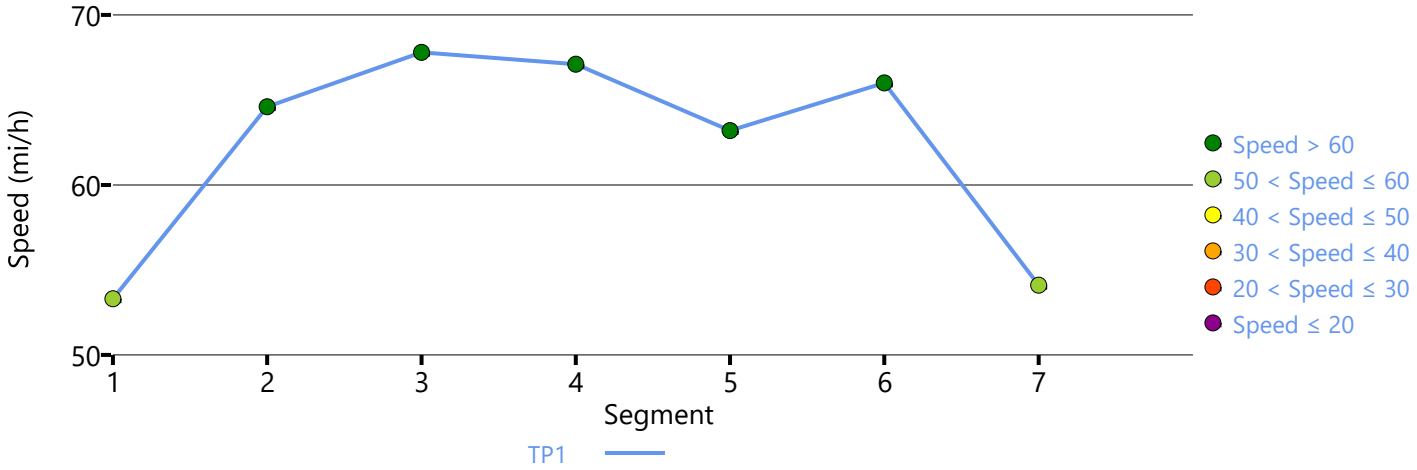
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary segment 7. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.

Comments

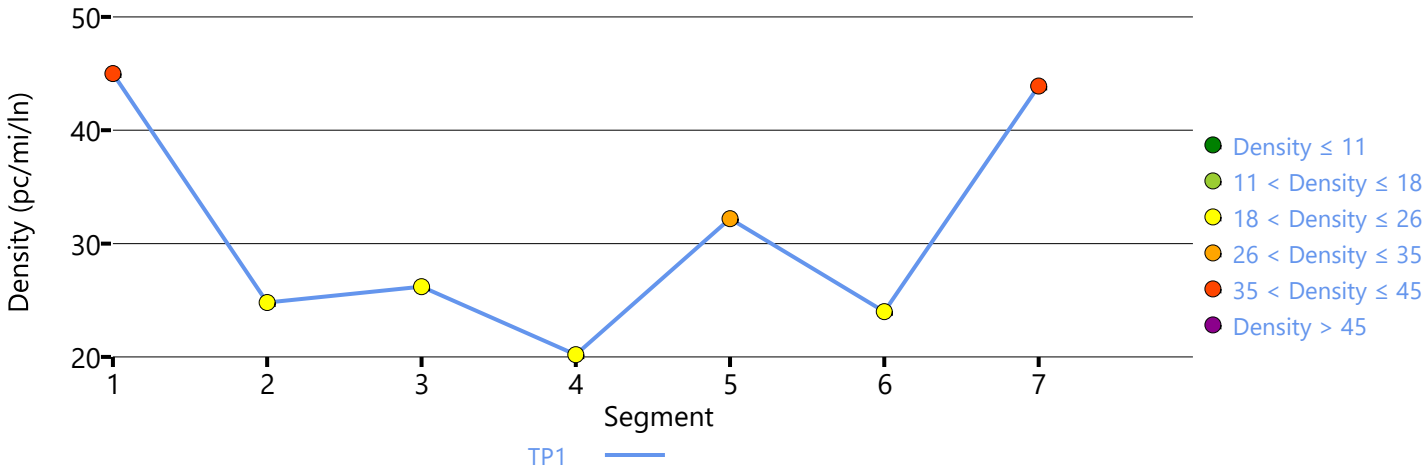
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_No-Build_2030_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3860	4800	0.80	65.0	29.7	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3860	1350	7200	4000	0.54	0.34	63.8	57.0	20.2	14.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2483	4800	0.52	73.0	17.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2851	368	7200	2000	0.40	0.18	75.1	75.4	12.6	12.6	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2858	4800	0.60	73.2	19.5	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3702	844	7200	2000	0.51	0.42	74.7	74.7	16.5	16.5	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3719	4800	0.77	66.3	28.1	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.6	23.3	22.9	2.30	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.6	16.1	15.8	2.30	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	67.6	Density, veh/mi/ln	22.9
Average Travel Time, min	2.30	Density, pc/mi/ln	23.3

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

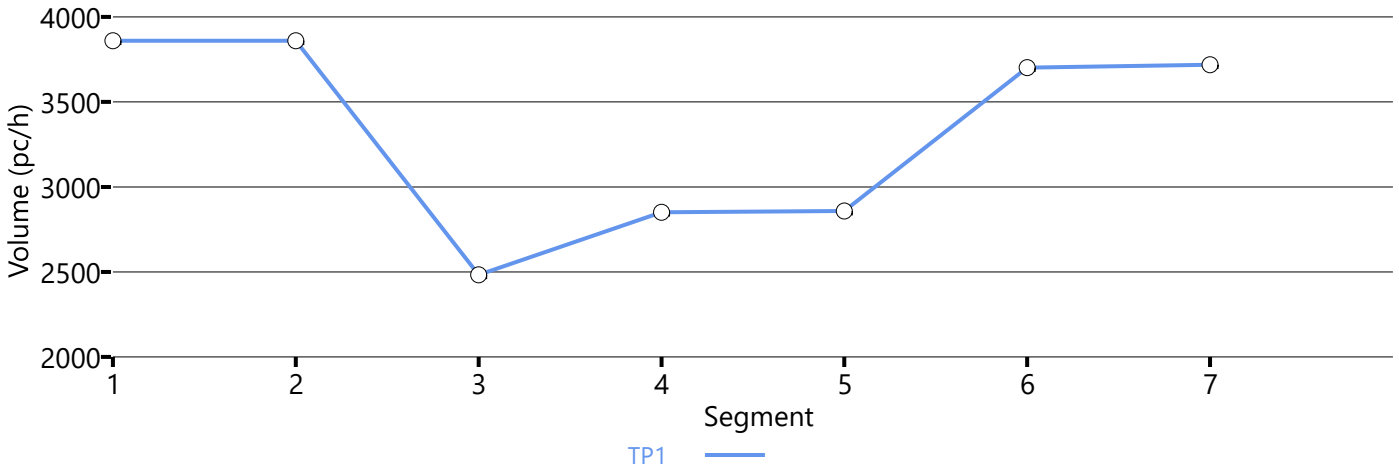
Space Mean Speed, mi/h	67.6	Density, veh/mi/ln	15.8
Average Travel Time, min	2.30	Density, pc/mi/ln	16.1

Messages

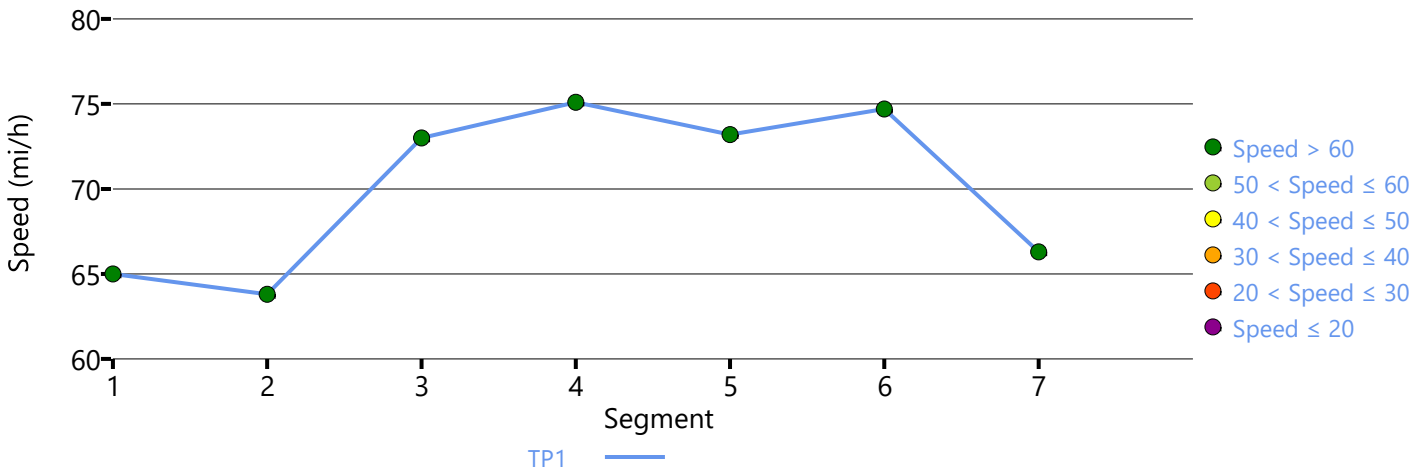
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.

Comments

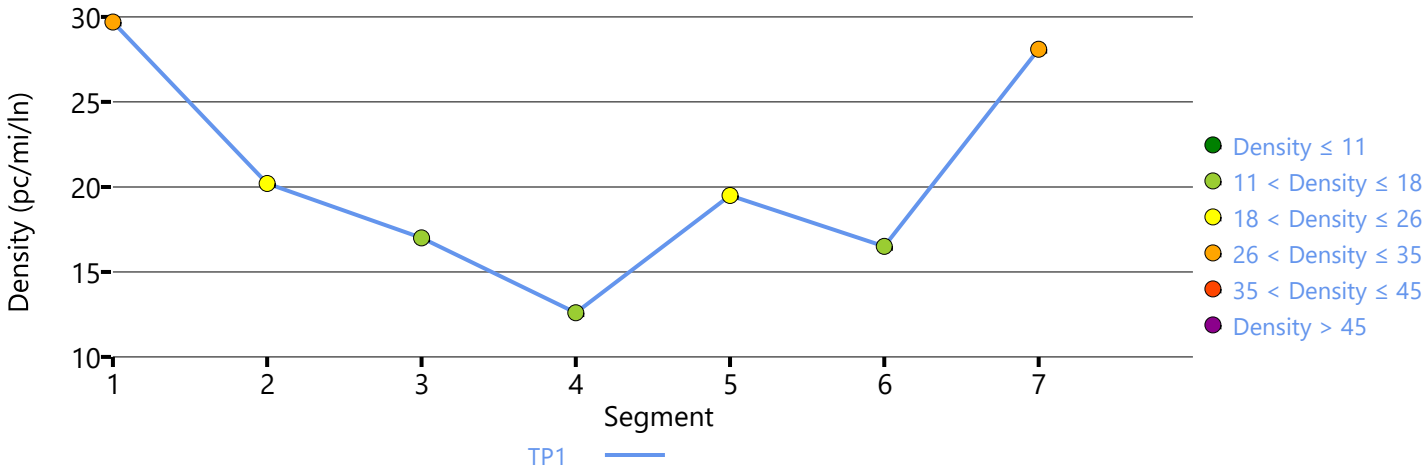
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_Build_2030_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3485	4800	0.73	68.3	25.5	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3485	1138	7200	4000	0.48	0.28	64.7	57.7	18.0	12.3	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2323	4800	0.48	73.2	15.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2808	485	7200	2000	0.39	0.24	75.3	75.4	12.4	12.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2818	7200	0.39	73.6	12.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3158	340	9600	2000	0.33	0.17	74.5	75.4	10.5	10.5	A

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3165	7200	0.44	73.6	14.3	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	70.9	16.7	16.4	2.20	B

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	70.9	12.1	11.9	2.20	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	70.9	Density, veh/mi/ln	16.4
Average Travel Time, min	2.20	Density, pc/mi/ln	16.7

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

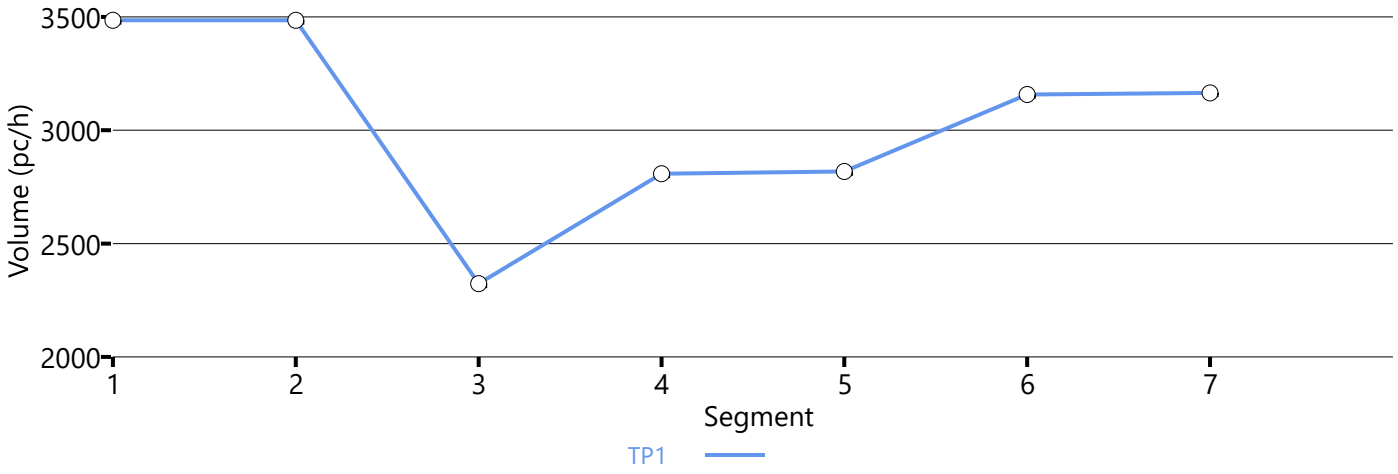
Facility Overall Results

Space Mean Speed, mi/h	70.9	Density, veh/mi/ln	11.9
Average Travel Time, min	2.20	Density, pc/mi/ln	12.1

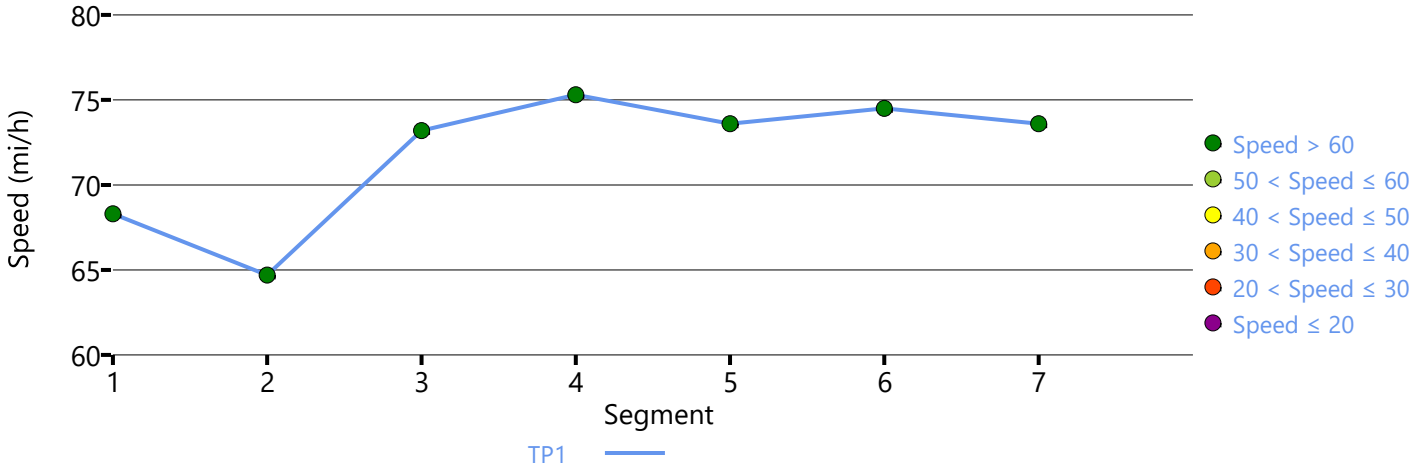
Messages

Comments

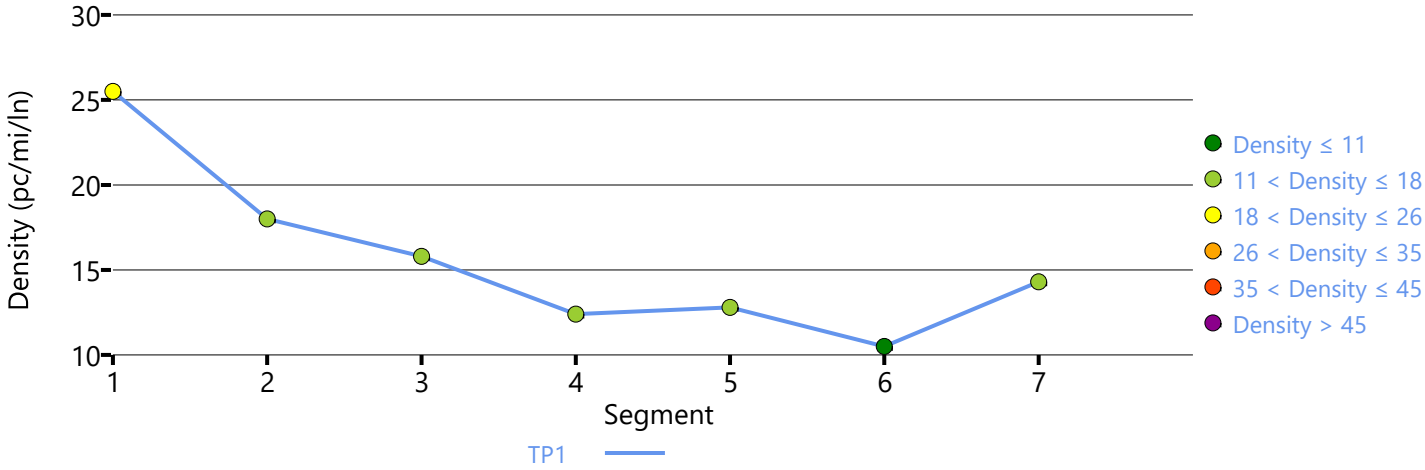
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_Build_2030_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.04	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	1550	7200	4000	0.69	0.39	63.3	56.4	25.3	19.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3250	4800	0.71	70.0	23.2	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4310	1060	7200	2000	0.62	0.53	66.3	66.3	21.7	21.7	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4310	7200	0.62	71.2	20.0	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4927	617	9600	2000	0.53	0.31	68.8	68.8	17.9	17.9	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4927	7200	0.71	69.7	23.6	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.0	27.5	26.9	2.50	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.0	19.9	19.5	2.50	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	63.0	Density, veh/mi/ln	26.9
Average Travel Time, min	2.50	Density, pc/mi/ln	27.5

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

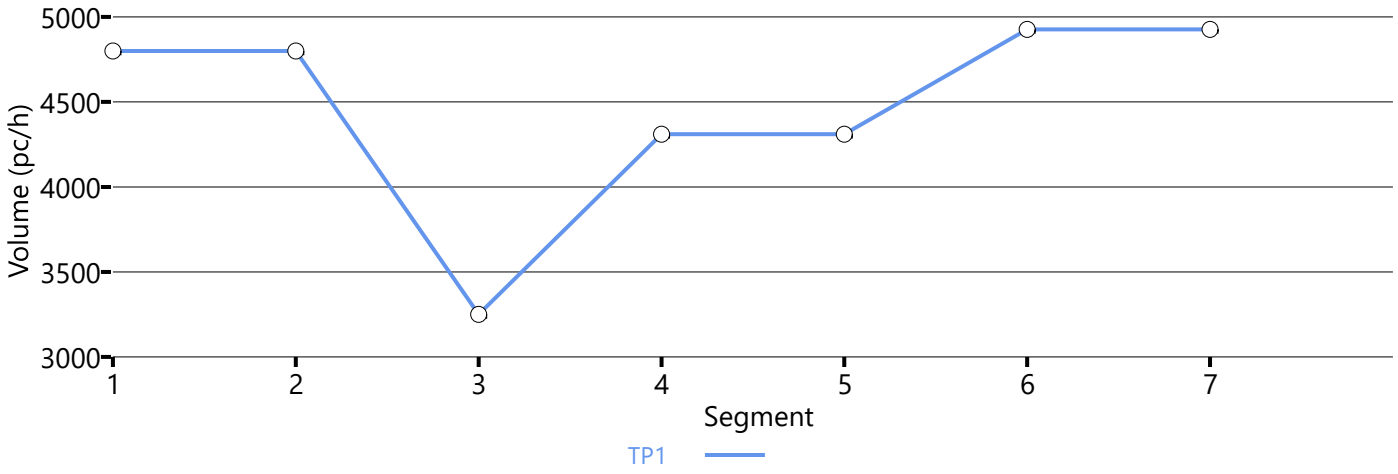
Space Mean Speed, mi/h	63.0	Density, veh/mi/ln	19.5
Average Travel Time, min	2.50	Density, pc/mi/ln	19.9

Messages

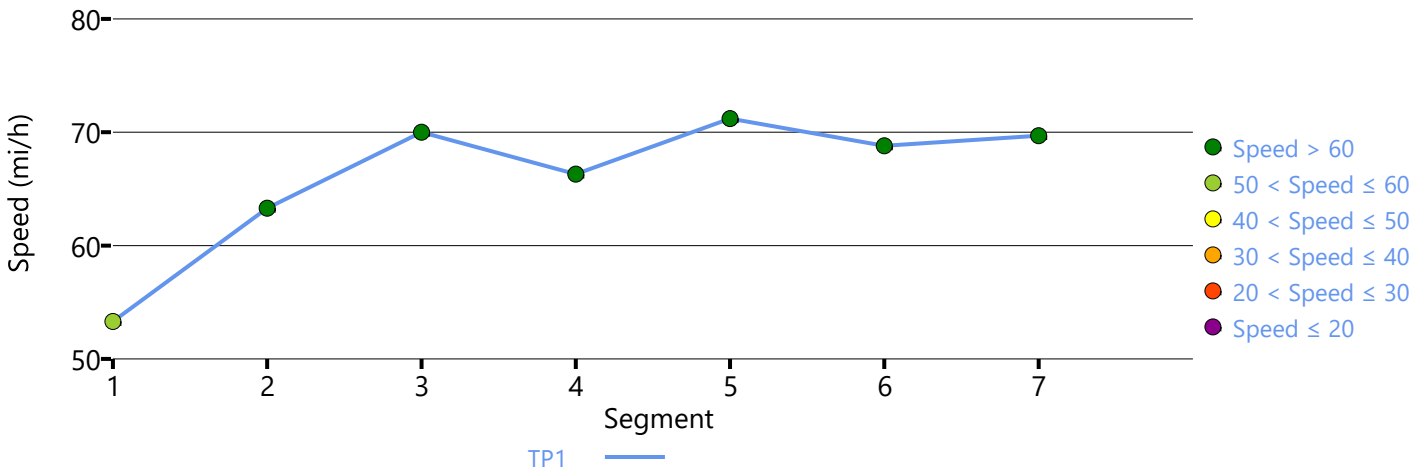
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist on segment 5, which is less than 300 feet. Due to time step size, these segments may produce unreliable results. Consider reviewing facility segmentation to resolve this warning.

Comments

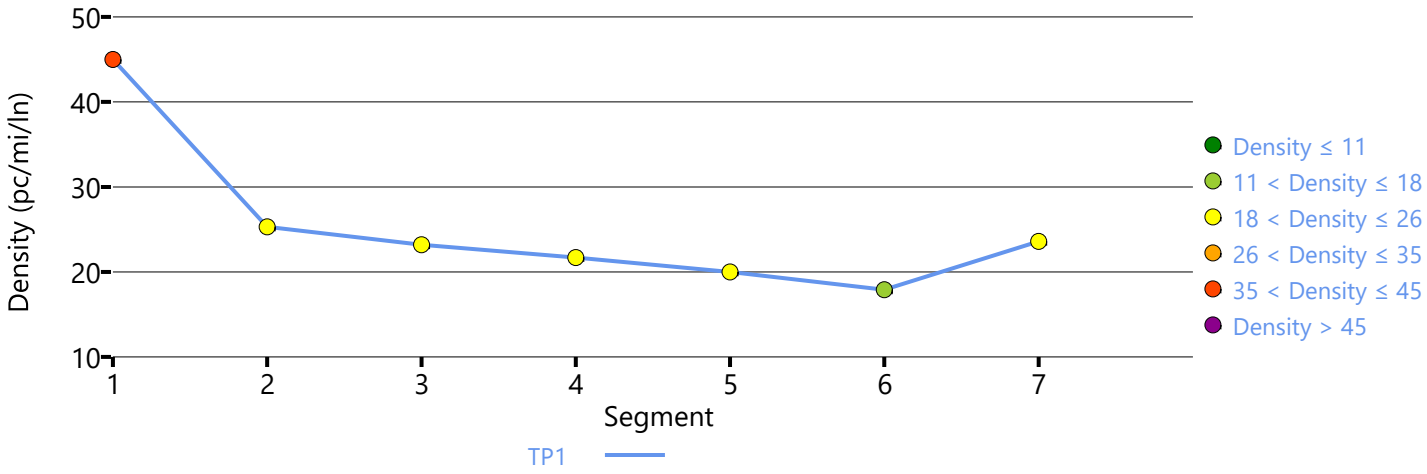
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_Build_2030_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.02	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	1271	7200	4000	0.68	0.32	64.5	57.3	24.8	18.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3529	4800	0.75	68.0	25.9	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4062	533	7200	2000	0.58	0.27	67.1	67.1	20.2	20.2	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4062	4800	0.87	63.3	32.1	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4744	682	7200	2000	0.67	0.34	66.1	66.1	23.9	23.9	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4744	4800	1.01	54.2	43.8	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	58.2	35.0	34.3	2.70	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	58.2	24.1	23.6	2.70	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	58.2	Density, veh/mi/ln	34.3
Average Travel Time, min	2.70	Density, pc/mi/ln	35.0

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

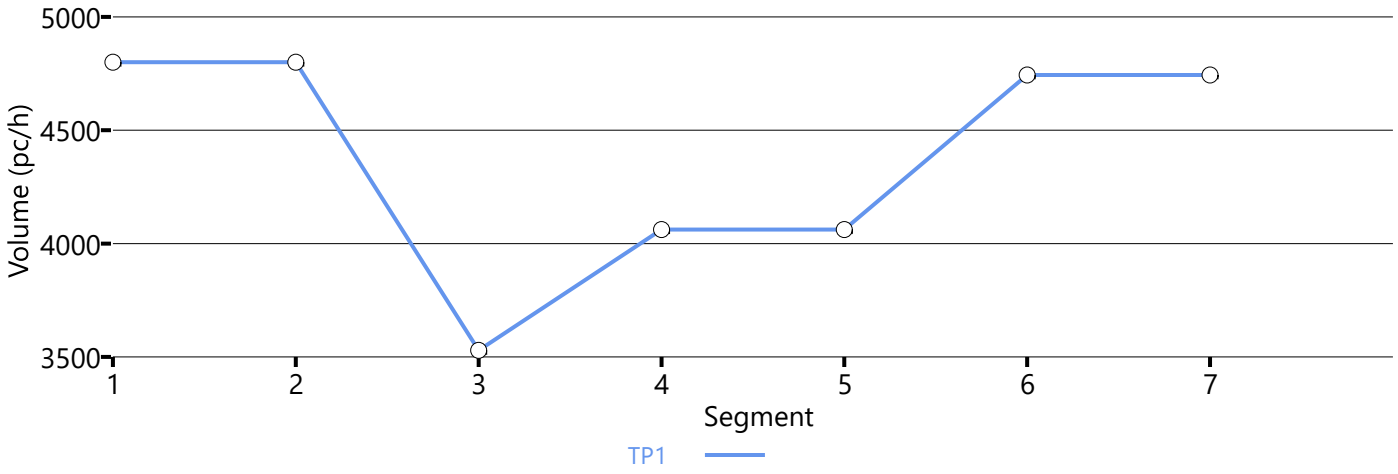
Space Mean Speed, mi/h	58.2	Density, veh/mi/ln	23.6
Average Travel Time, min	2.70	Density, pc/mi/ln	24.1

Messages

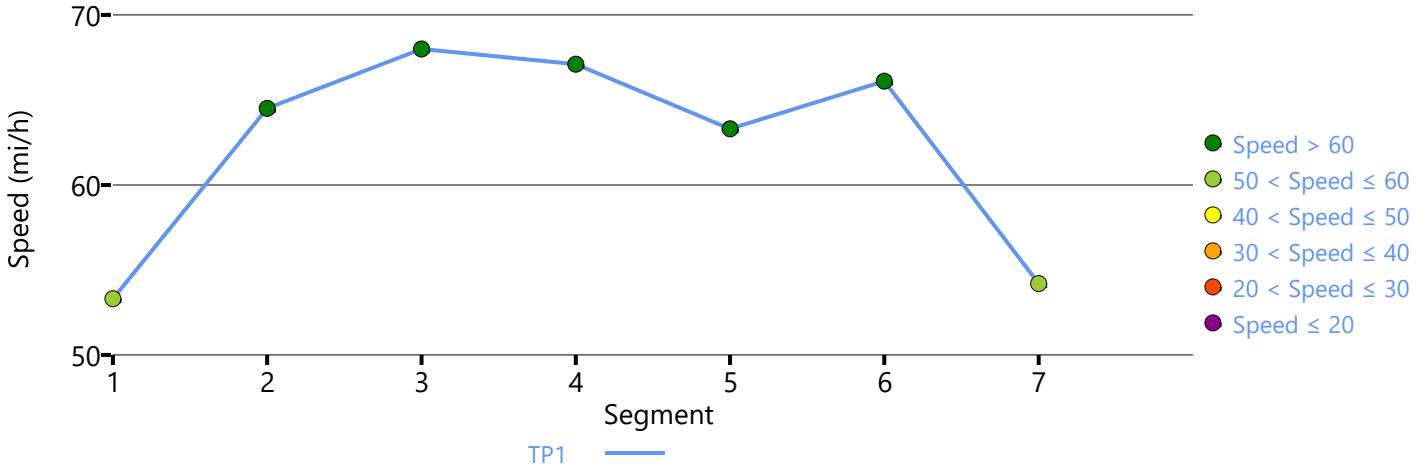
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary segment 7. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.

Comments

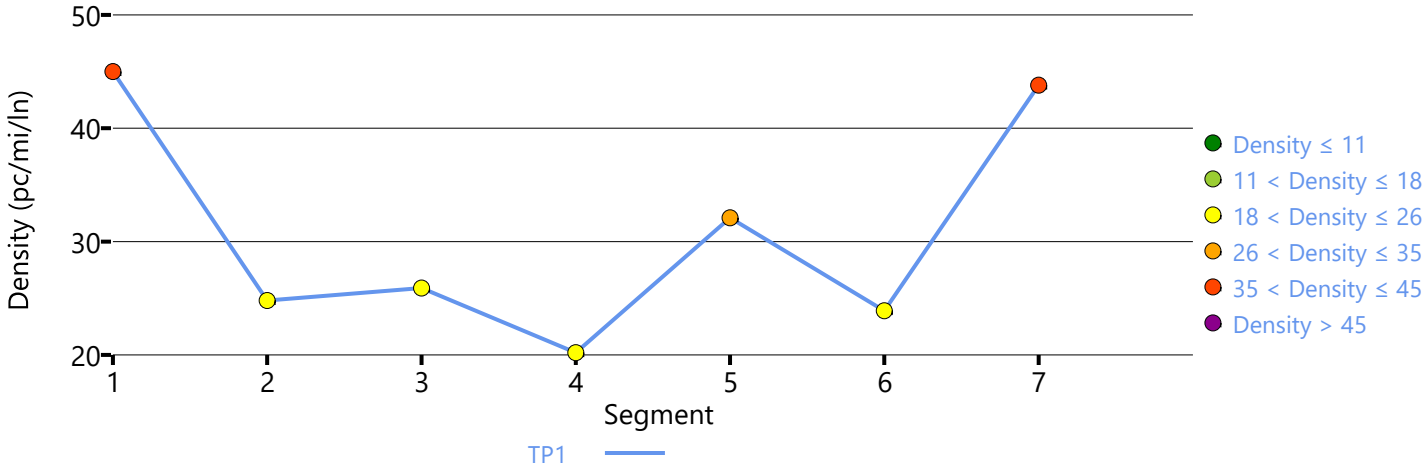
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_Build_2030_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3870	4800	0.81	64.9	29.8	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3870	1360	7200	4000	0.54	0.34	63.8	57.0	20.2	14.9	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2483	4800	0.52	73.0	17.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2900	417	7200	2000	0.40	0.21	75.1	75.4	12.8	12.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2908	4800	0.61	73.0	19.9	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3752	844	7200	2000	0.52	0.42	74.6	74.6	16.8	16.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3769	4800	0.79	65.9	28.6	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.5	23.6	23.1	2.30	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.5	16.2	15.9	2.30	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	67.5	Density, veh/mi/ln	23.1
Average Travel Time, min	2.30	Density, pc/mi/ln	23.6

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

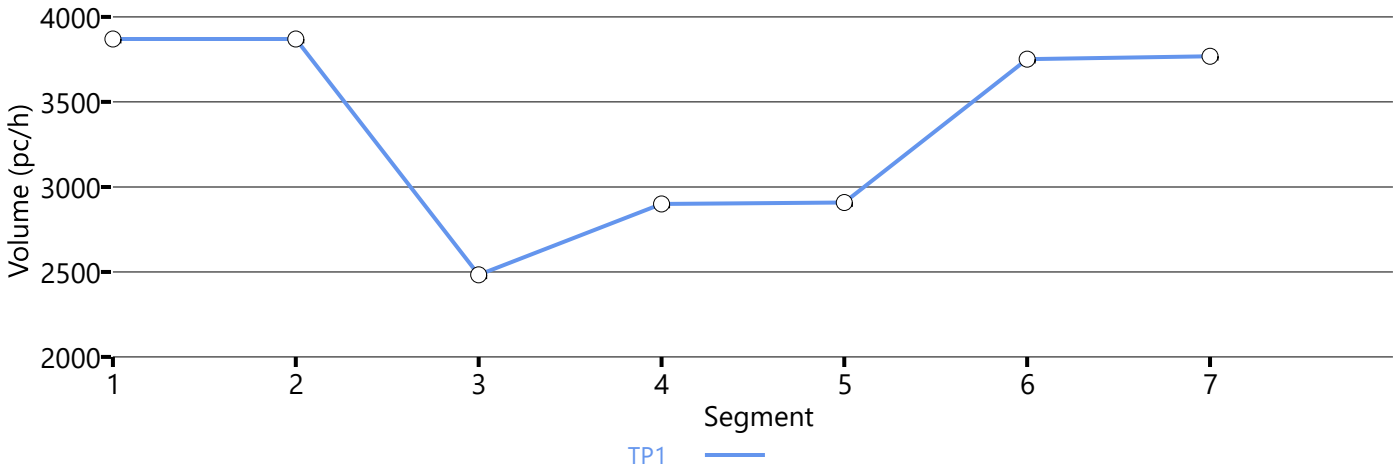
Space Mean Speed, mi/h	67.5	Density, veh/mi/ln	15.9
Average Travel Time, min	2.30	Density, pc/mi/ln	16.2

Messages

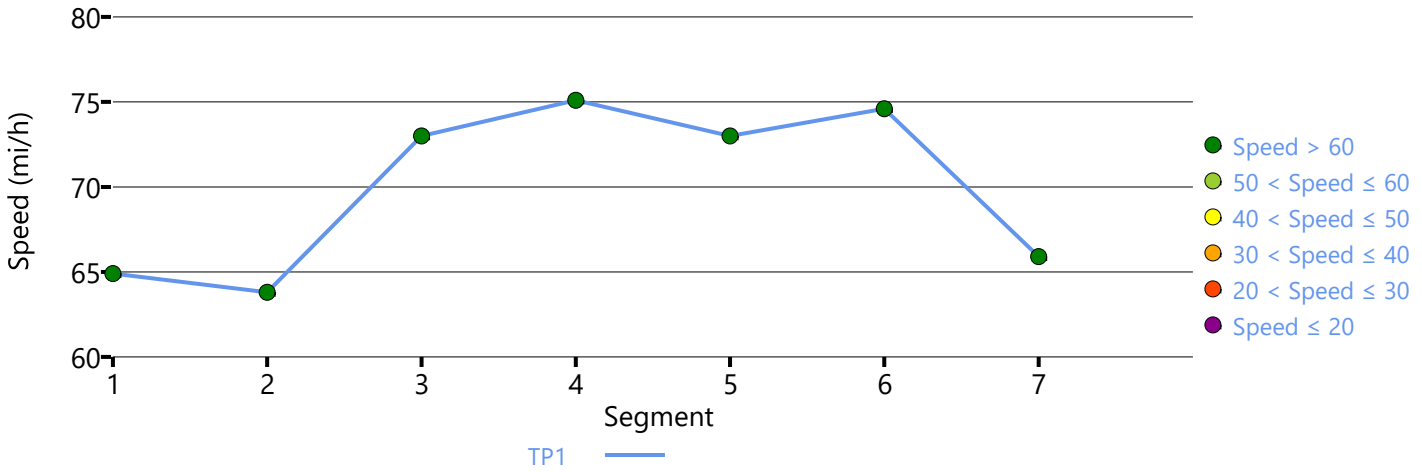
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.

Comments

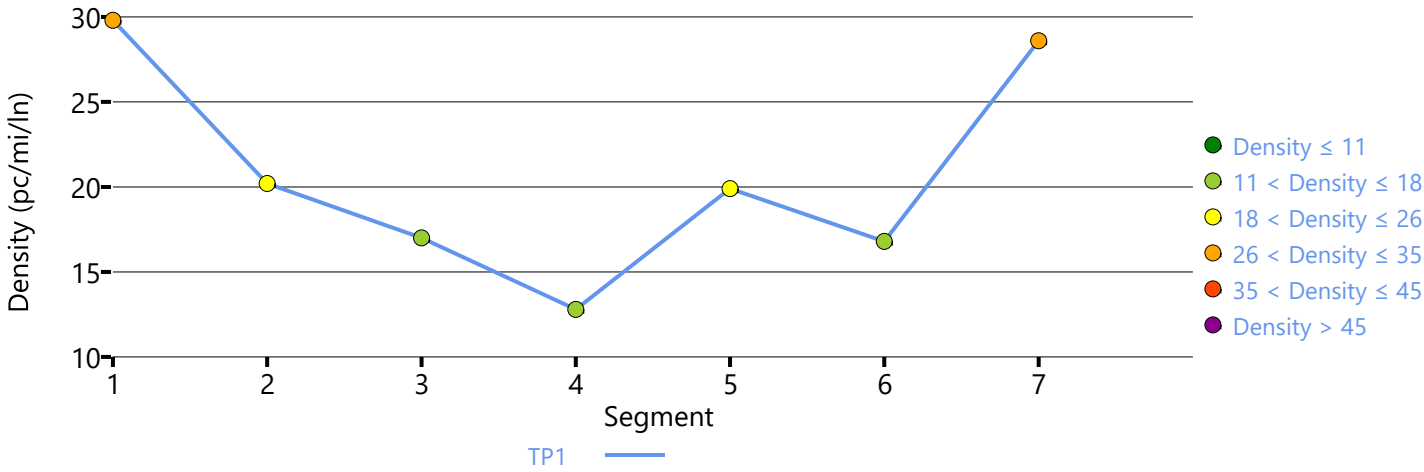
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_No-Build_2034_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3678	4800	0.77	66.7	27.6	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3678	1101	7200	4000	0.51	0.28	65.0	57.8	18.9	12.9	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2554	4800	0.53	73.1	17.5	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2948	394	7200	2000	0.41	0.20	75.3	75.4	13.0	13.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2956	7200	0.41	73.6	13.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3441	485	9600	2000	0.36	0.24	74.5	75.4	11.4	11.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3451	7200	0.48	73.5	15.6	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	70.4	18.1	17.7	2.20	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	70.4	13.1	12.8	2.20	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	70.4	Density, veh/mi/ln	17.7
Average Travel Time, min	2.20	Density, pc/mi/ln	18.1

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

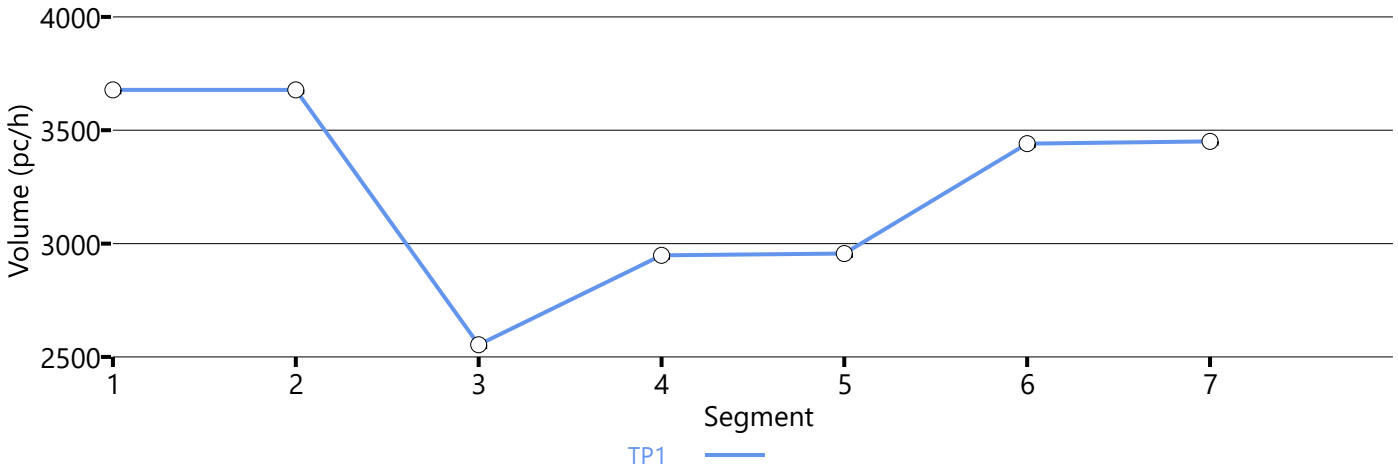
Facility Overall Results

Space Mean Speed, mi/h	70.4	Density, veh/mi/ln	12.8
Average Travel Time, min	2.20	Density, pc/mi/ln	13.1

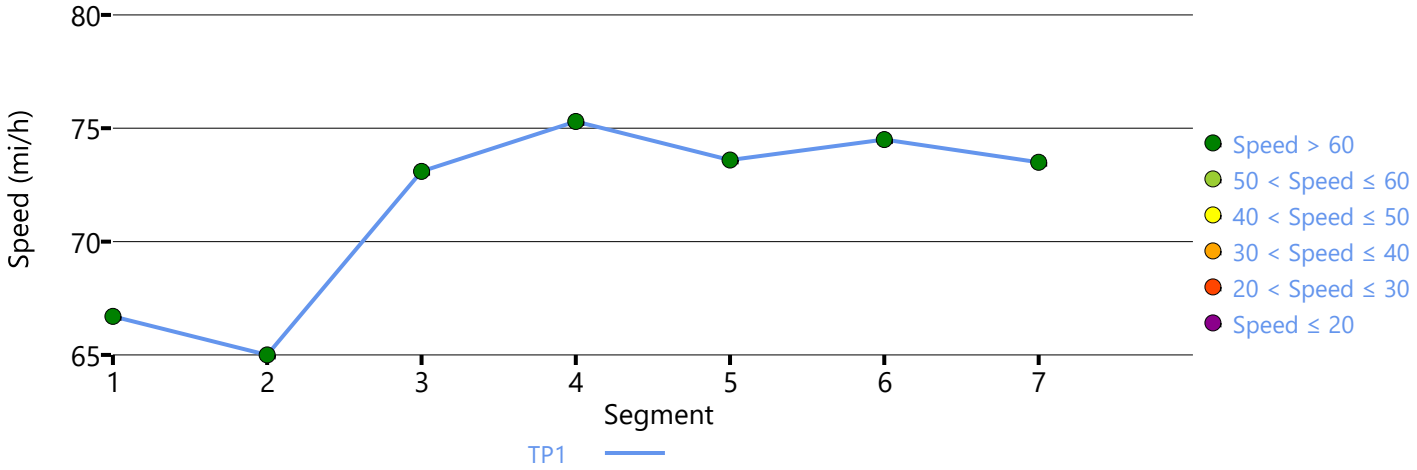
Messages

Comments

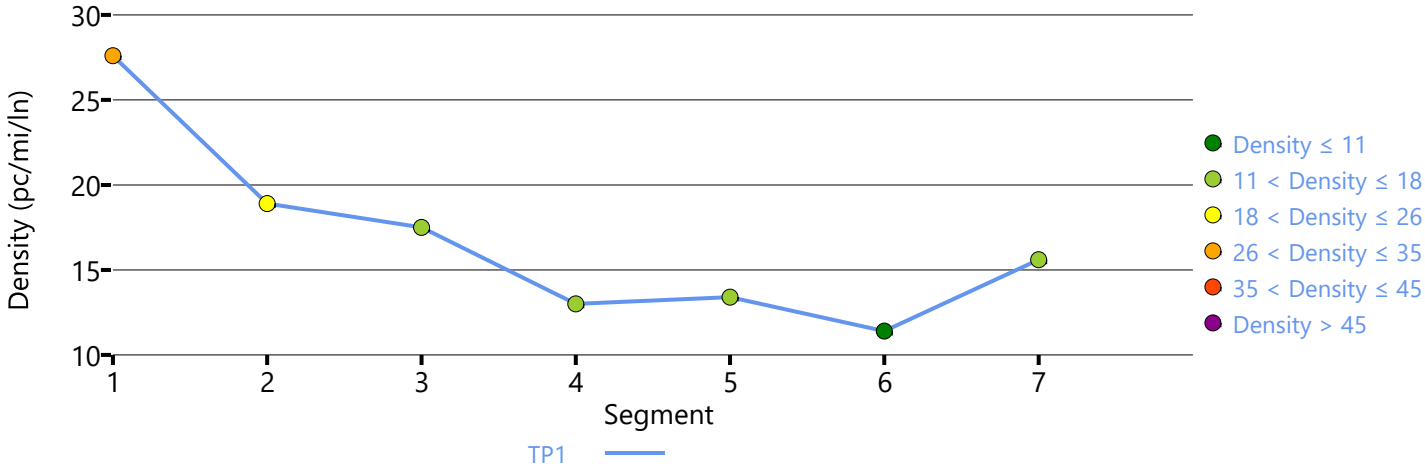
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_No-Build_2034_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.04	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	1273	7200	4000	0.69	0.32	64.5	57.3	24.8	18.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3527	4800	0.77	68.0	25.9	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4391	864	7200	2000	0.63	0.43	66.4	66.4	22.0	22.0	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4391	7200	0.64	71.2	20.4	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	5063	672	9600	2000	0.55	0.34	68.8	68.8	18.4	18.4	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	5063	7200	0.73	69.1	24.4	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	62.9	28.1	27.6	2.50	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	62.9	20.4	20.0	2.50	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	62.9	Density, veh/mi/ln	27.6
Average Travel Time, min	2.50	Density, pc/mi/ln	28.1

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

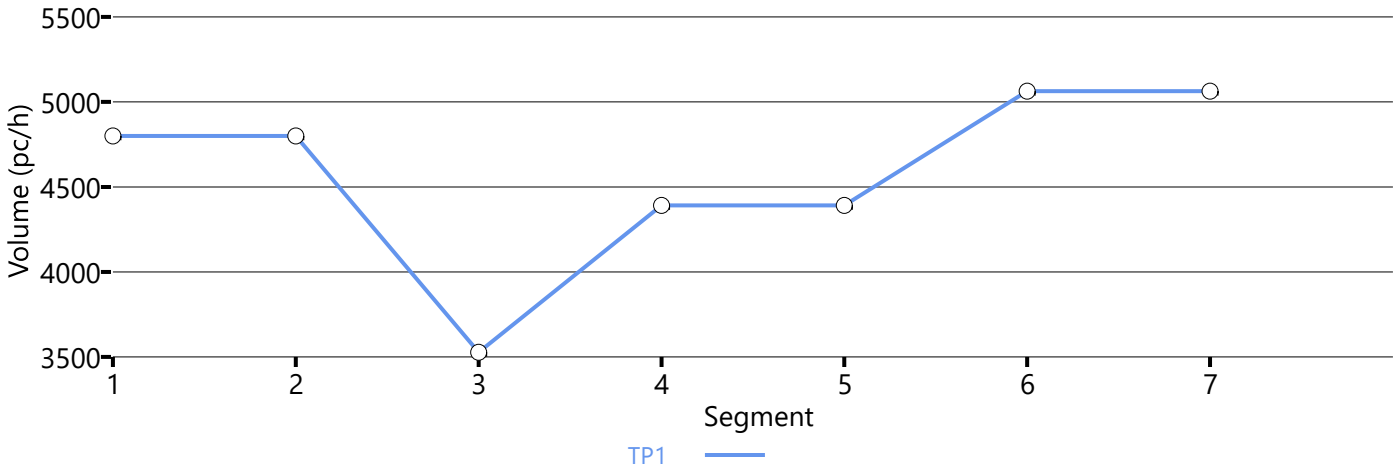
Space Mean Speed, mi/h	62.9	Density, veh/mi/ln	20.0
Average Travel Time, min	2.50	Density, pc/mi/ln	20.4

Messages

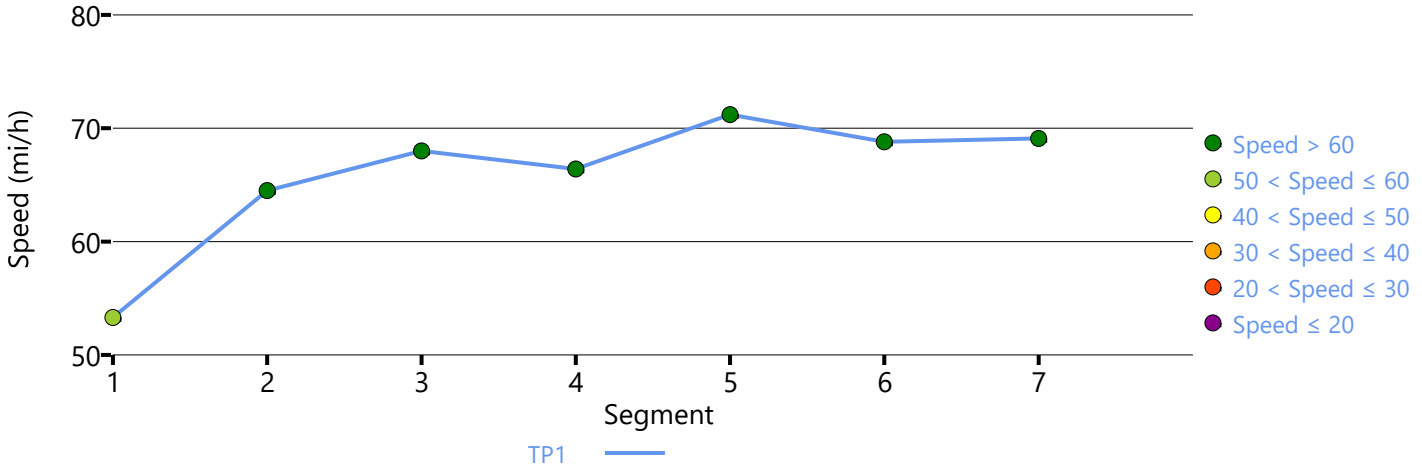
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist on segment 5, which is less than 300 feet. Due to time step size, these segments may produce unreliable results. Consider reviewing facility segmentation to resolve this warning.

Comments

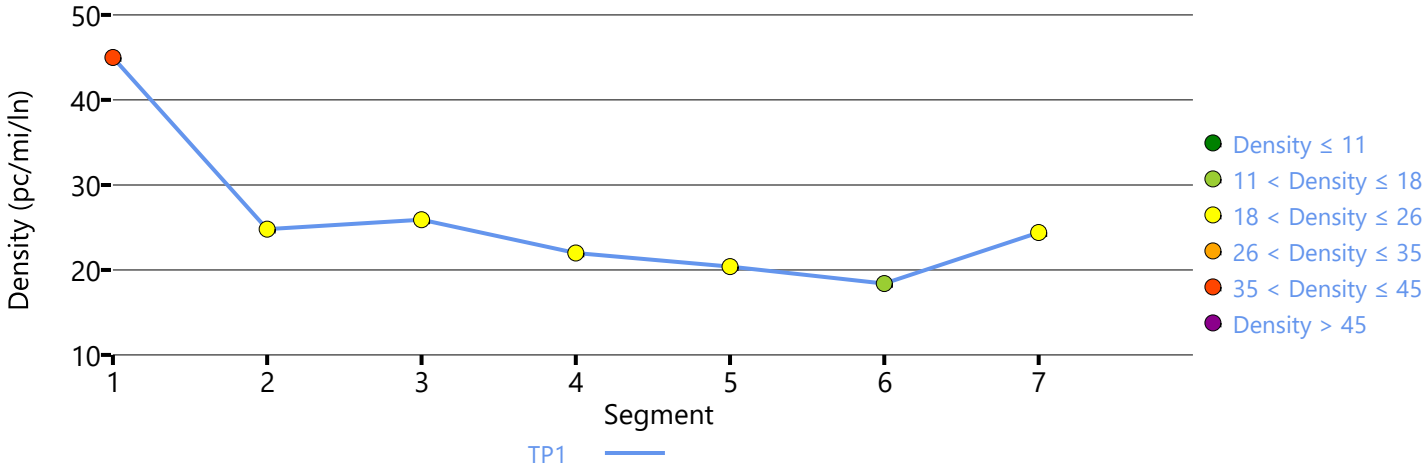
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_No-Build_2034_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.07	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	1187	7200	4000	0.71	0.30	64.8	57.5	24.7	17.6	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3613	4800	0.82	67.3	26.8	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4065	452	7200	2000	0.61	0.23	67.1	67.1	20.2	20.2	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4065	4800	0.91	63.3	32.1	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4597	532	7200	2000	0.68	0.27	66.4	66.4	23.1	23.1	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4597	4800	1.02	56.3	40.8	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	58.9	34.3	33.6	2.60	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	58.9	23.6	23.1	2.60	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	58.9	Density, veh/mi/ln	33.6
Average Travel Time, min	2.60	Density, pc/mi/ln	34.3

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

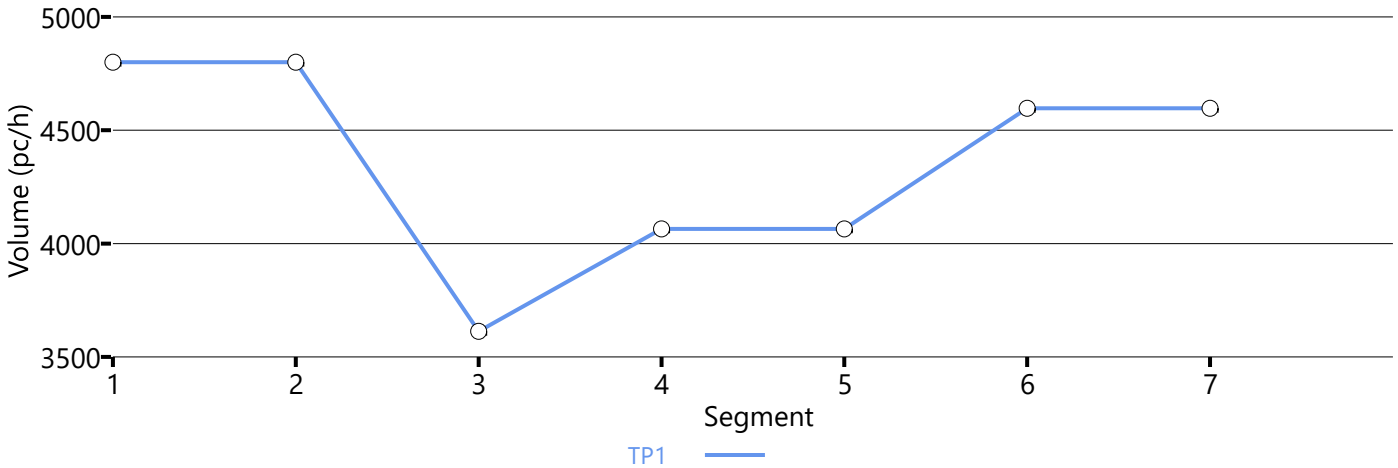
Space Mean Speed, mi/h	58.9	Density, veh/mi/ln	23.1
Average Travel Time, min	2.60	Density, pc/mi/ln	23.6

Messages

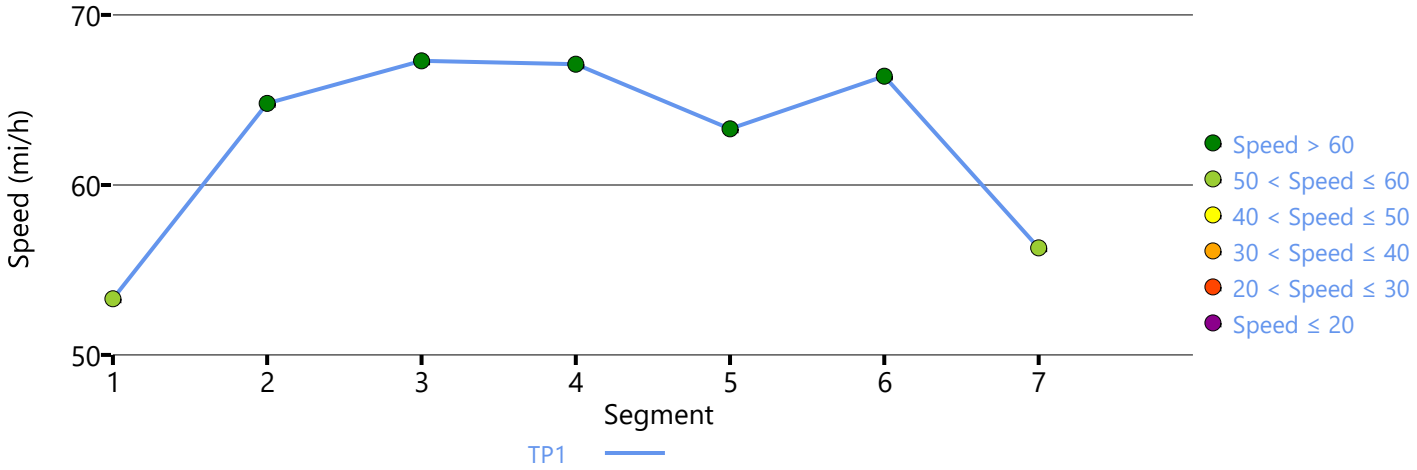
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary segment 7. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.

Comments

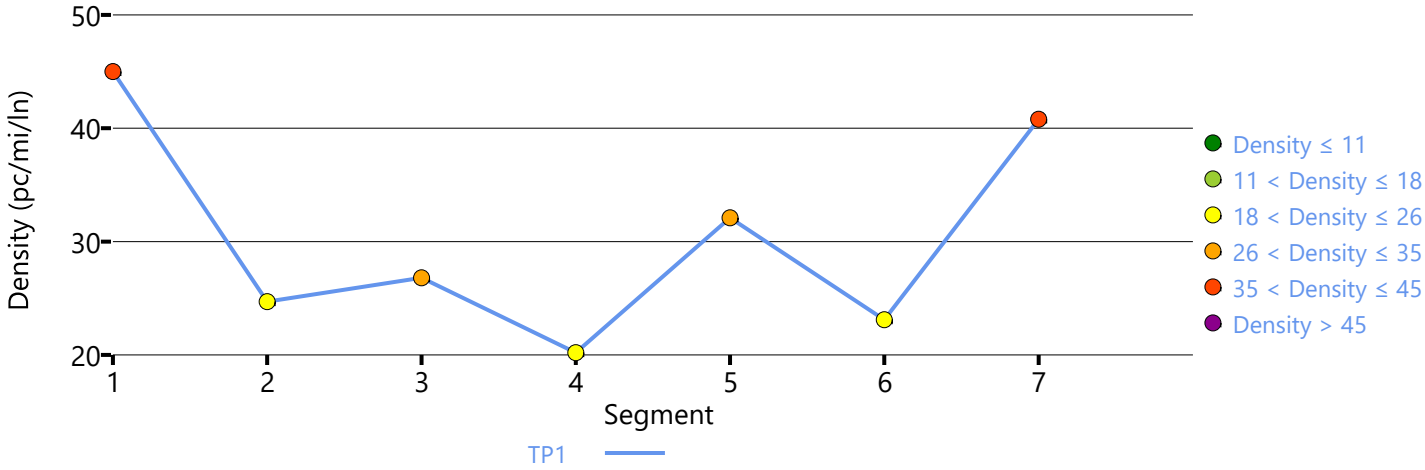
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_No-Build_2034_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3946	4800	0.82	64.2	30.7	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3946	1220	7200	4000	0.55	0.31	64.5	57.4	20.4	14.5	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2701	4800	0.56	72.6	18.6	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3015	314	7200	2000	0.42	0.16	75.0	75.4	13.3	13.3	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3021	4800	0.63	72.4	20.9	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3755	734	7200	2000	0.52	0.37	74.6	74.6	16.8	16.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3770	4800	0.79	65.9	28.6	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.3	24.1	23.6	2.30	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.3	16.6	16.3	2.30	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	67.3	Density, veh/mi/ln	23.6
Average Travel Time, min	2.30	Density, pc/mi/ln	24.1

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

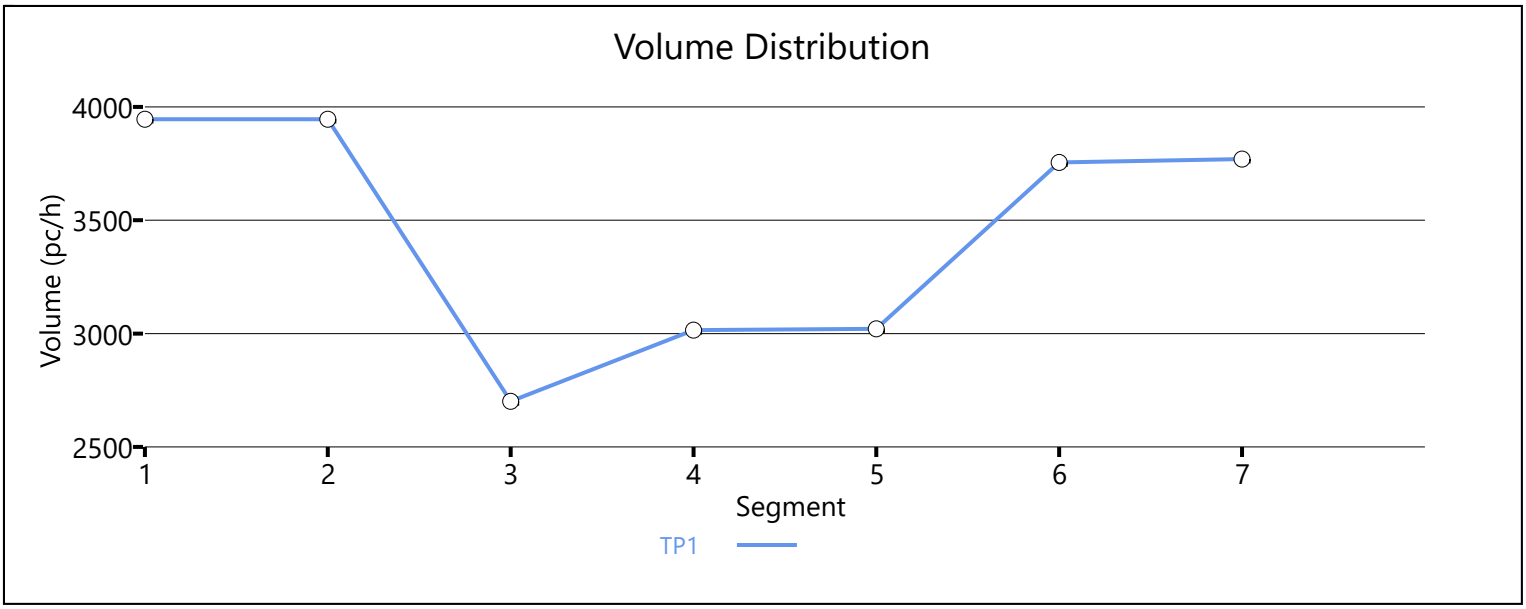
Facility Overall Results

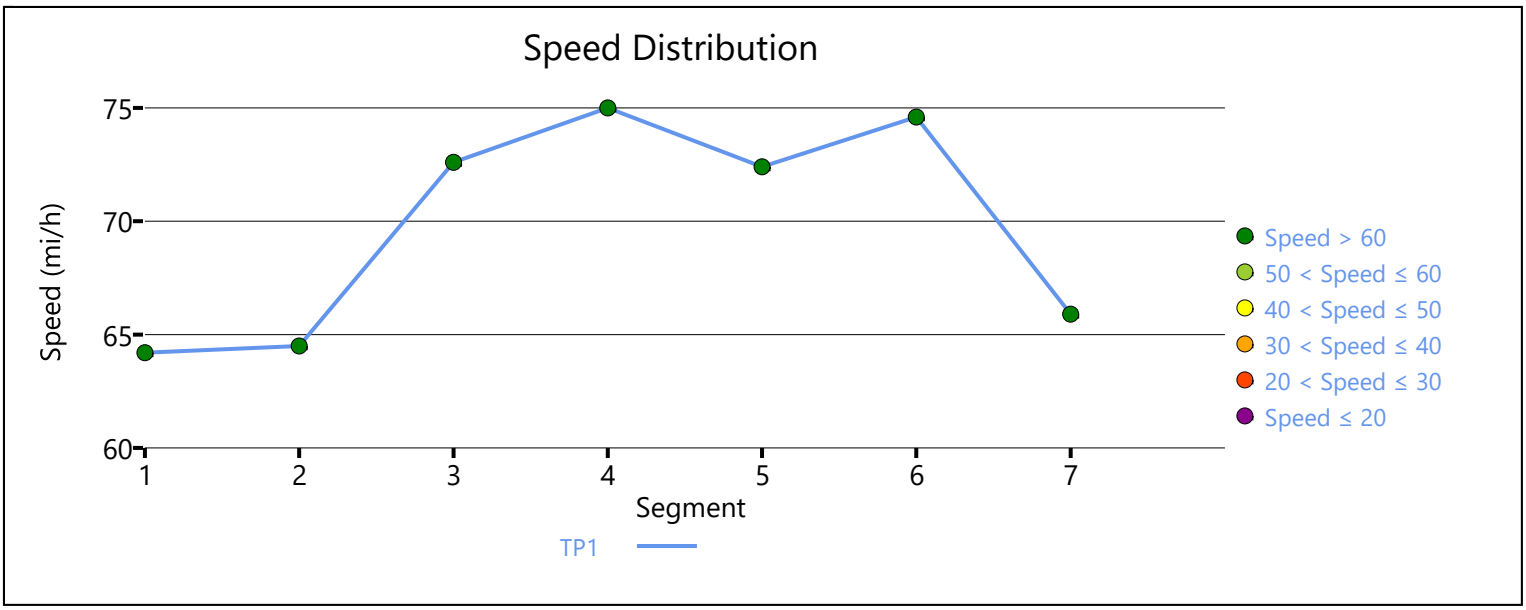
Space Mean Speed, mi/h	67.3	Density, veh/mi/ln	16.3
Average Travel Time, min	2.30	Density, pc/mi/ln	16.6

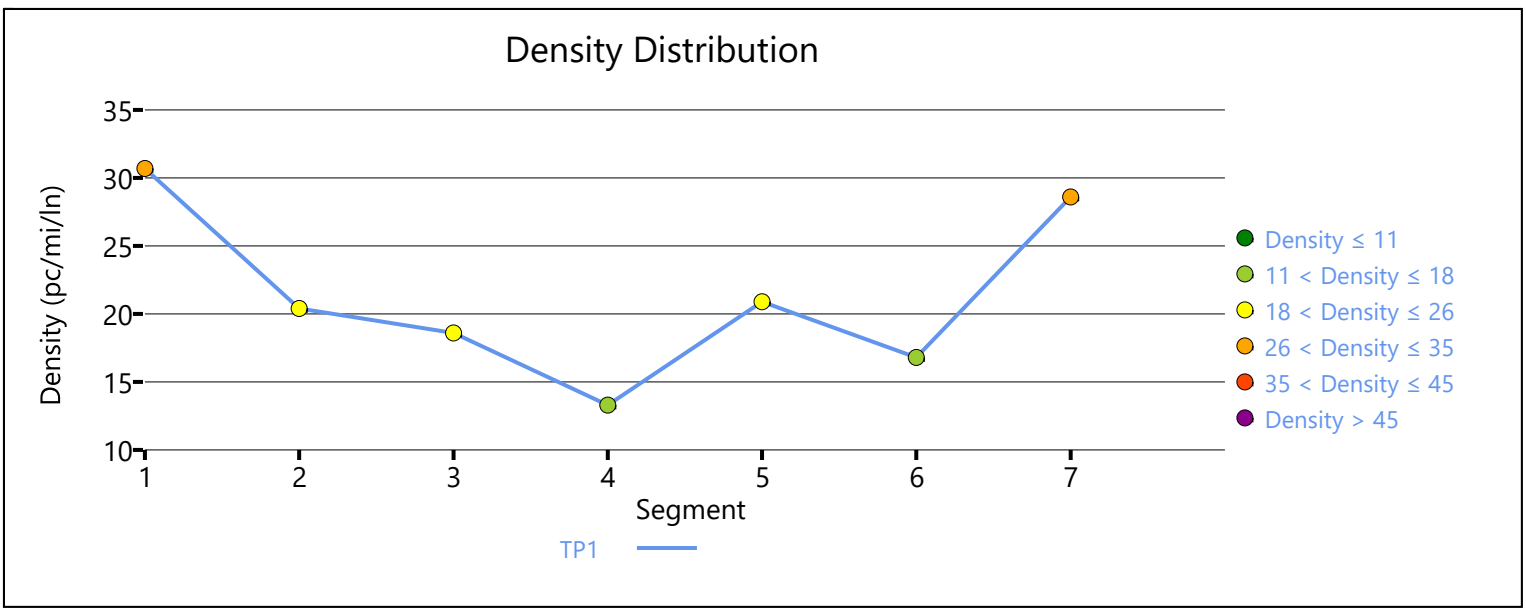
Messages

ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.

Comments







Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_Build_2034_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3738	4800	0.78	66.2	28.2	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3738	1160	7200	4000	0.52	0.29	64.7	57.6	19.3	13.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2554	4800	0.53	73.1	17.5	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	2948	394	7200	2000	0.41	0.20	75.3	75.4	13.0	13.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2956	7200	0.41	73.6	13.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3451	495	9600	2000	0.36	0.25	74.5	75.4	11.4	11.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3461	7200	0.48	73.5	15.7	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	70.1	18.3	17.9	2.20	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	70.1	13.2	13.0	2.20	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	70.1	Density, veh/mi/ln	17.9
Average Travel Time, min	2.20	Density, pc/mi/ln	18.3

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

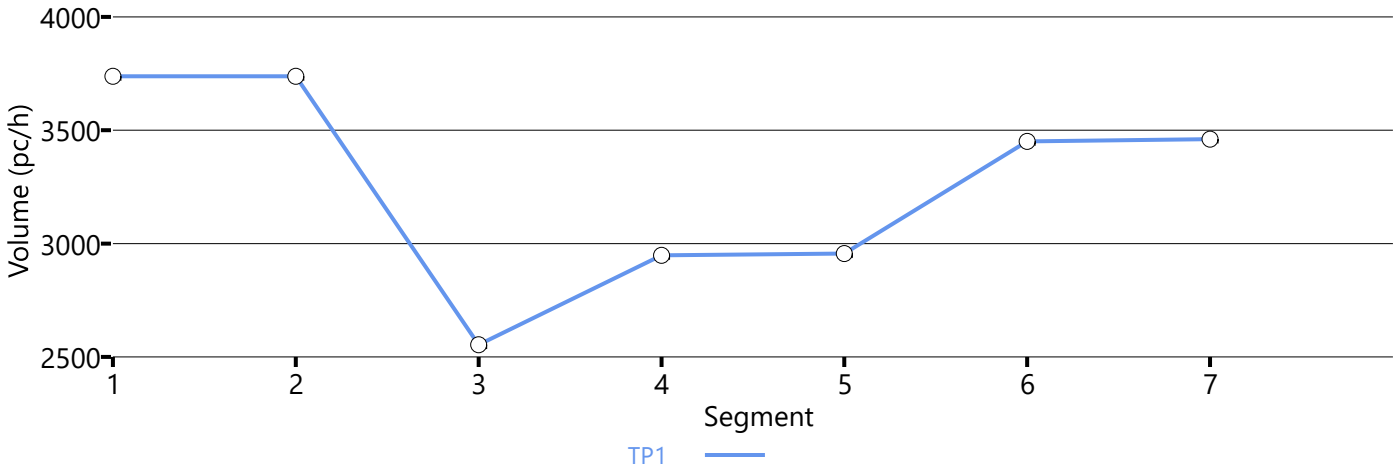
Facility Overall Results

Space Mean Speed, mi/h	70.1	Density, veh/mi/ln	13.0
Average Travel Time, min	2.20	Density, pc/mi/ln	13.2

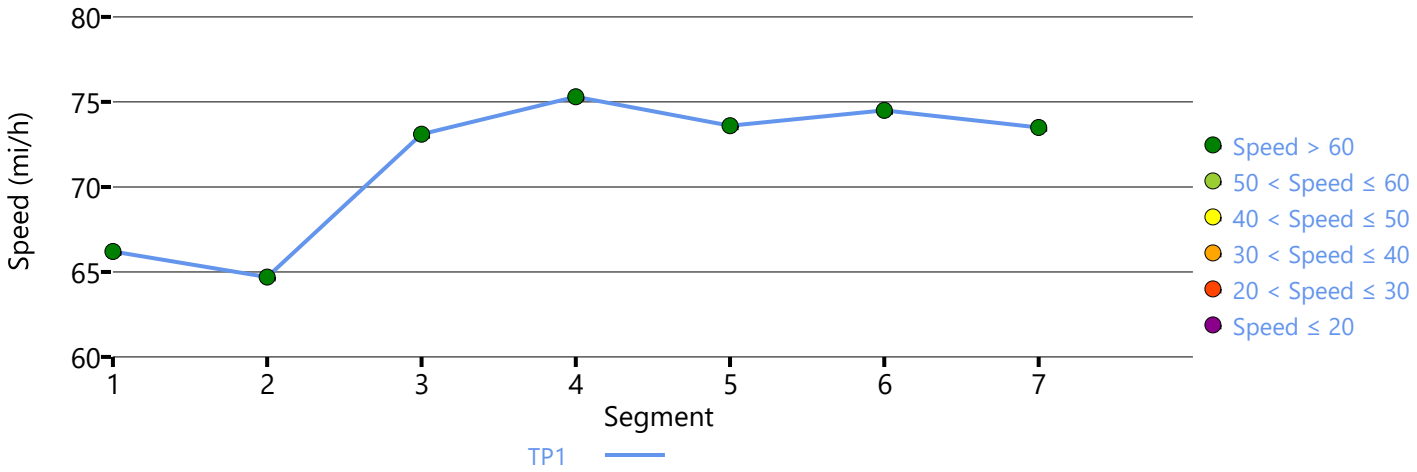
Messages

Comments

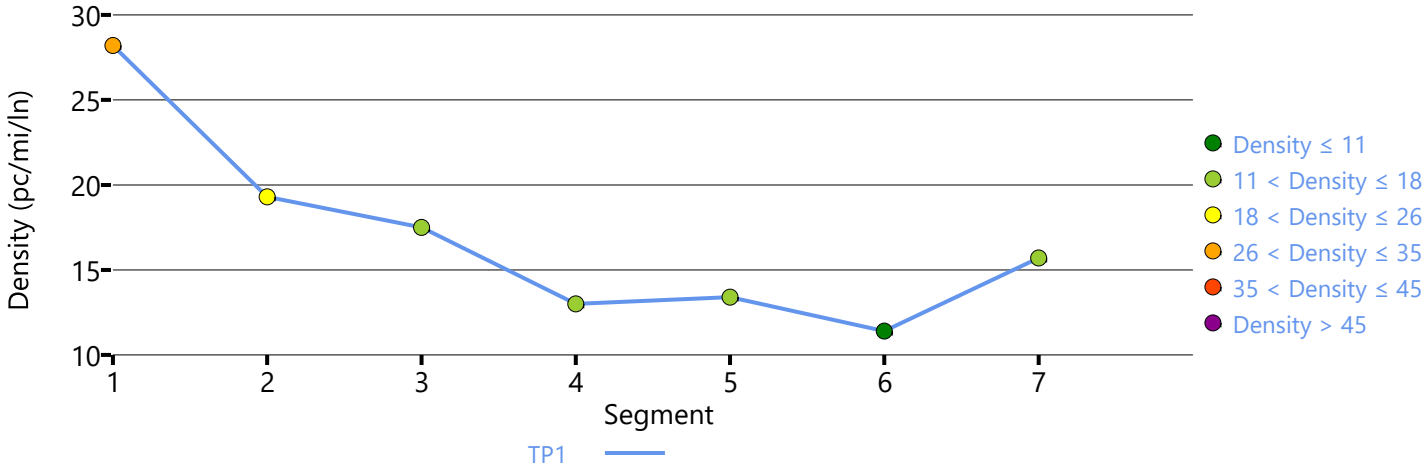
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_Build_2034_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.05	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	1298	7200	4000	0.70	0.32	64.3	57.2	24.9	18.2	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3502	4800	0.77	68.2	25.7	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4366	864	7200	2000	0.63	0.43	66.4	66.4	21.9	21.9	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4366	7200	0.64	71.2	20.3	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	5070	704	9600	2000	0.55	0.35	68.7	68.7	18.4	18.4	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	5070	7200	0.74	69.1	24.5	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	62.8	28.1	27.6	2.50	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	62.8	20.4	19.9	2.50	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	62.8	Density, veh/mi/ln	27.6
Average Travel Time, min	2.50	Density, pc/mi/ln	28.1

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

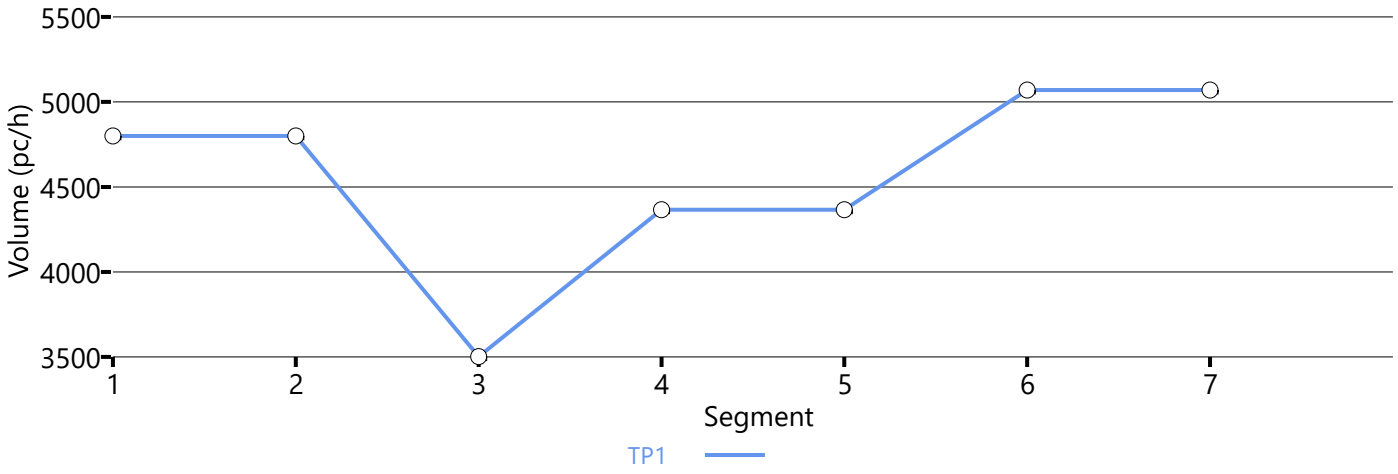
Space Mean Speed, mi/h	62.8	Density, veh/mi/ln	19.9
Average Travel Time, min	2.50	Density, pc/mi/ln	20.4

Messages

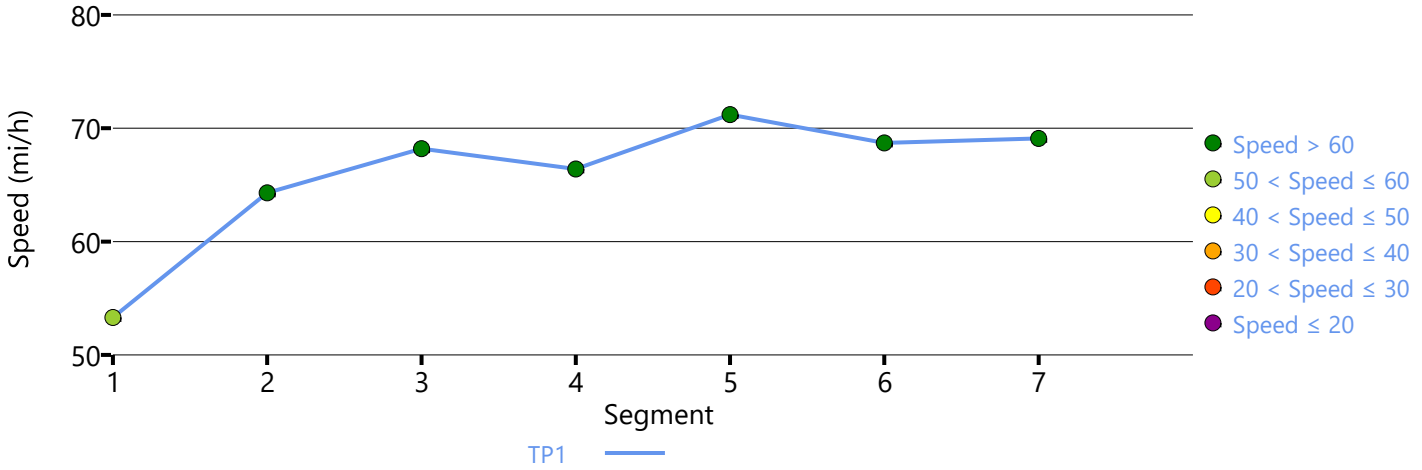
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist on segment 5, which is less than 300 feet. Due to time step size, these segments may produce unreliable results. Consider reviewing facility segmentation to resolve this warning.

Comments

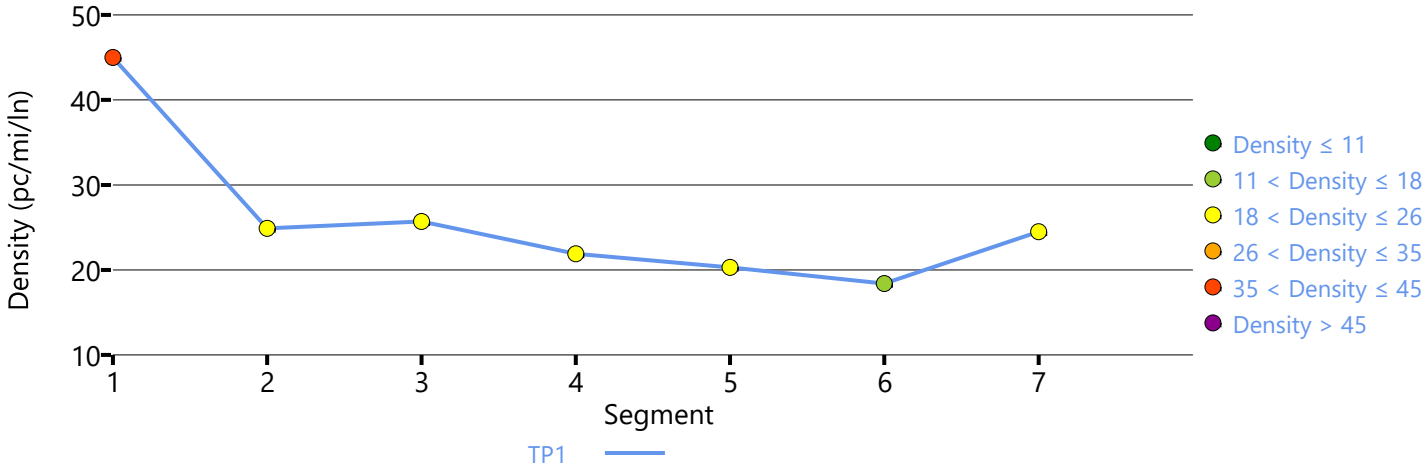
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_Build_2034_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.07	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	1216	7200	4000	0.72	0.30	64.7	57.5	24.7	17.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3584	4800	0.82	67.5	26.5	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4055	471	7200	2000	0.61	0.24	67.1	67.1	20.1	20.1	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4055	4800	0.92	63.4	32.0	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4587	532	7200	2000	0.68	0.27	66.4	66.4	23.0	23.0	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4587	4800	1.03	56.4	40.7	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	58.9	34.1	33.5	2.60	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	58.9	23.5	23.1	2.60	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	58.9	Density, veh/mi/ln	33.5
Average Travel Time, min	2.60	Density, pc/mi/ln	34.1

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

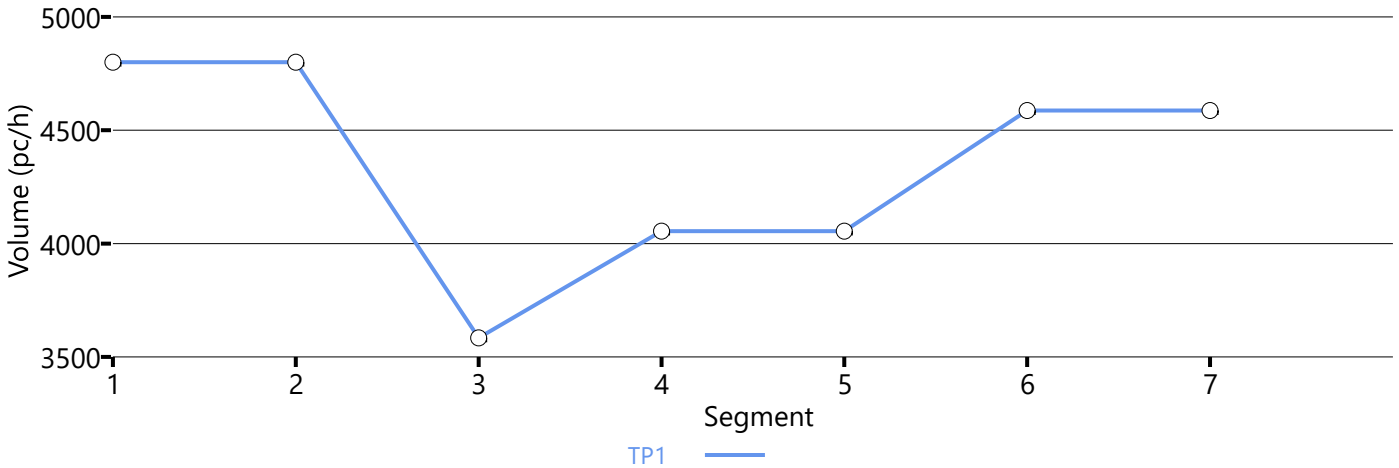
Space Mean Speed, mi/h	58.9	Density, veh/mi/ln	23.1
Average Travel Time, min	2.60	Density, pc/mi/ln	23.5

Messages

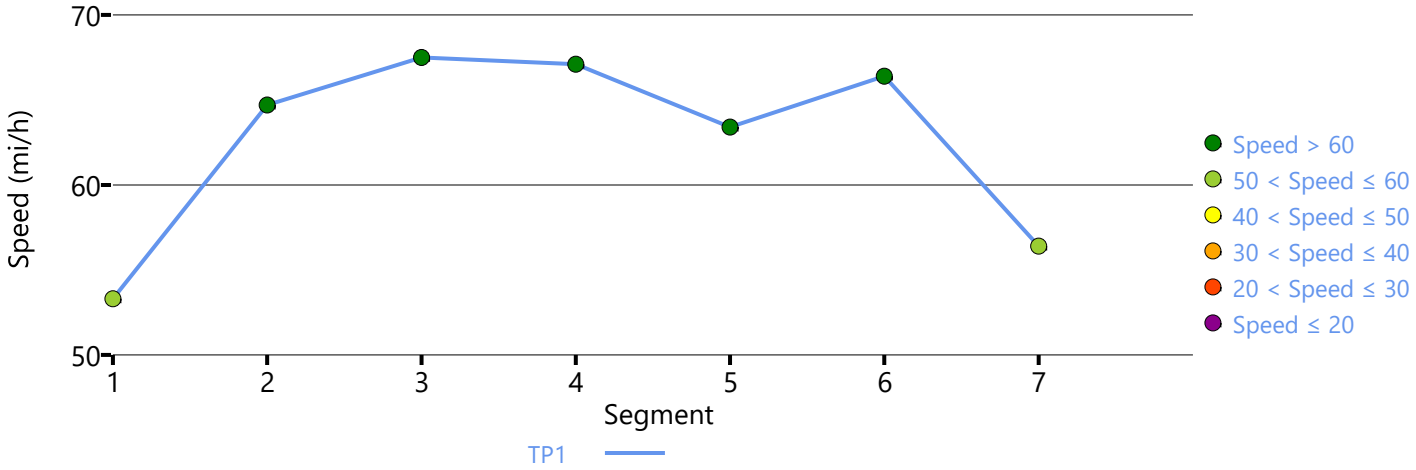
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary segment 7. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.

Comments

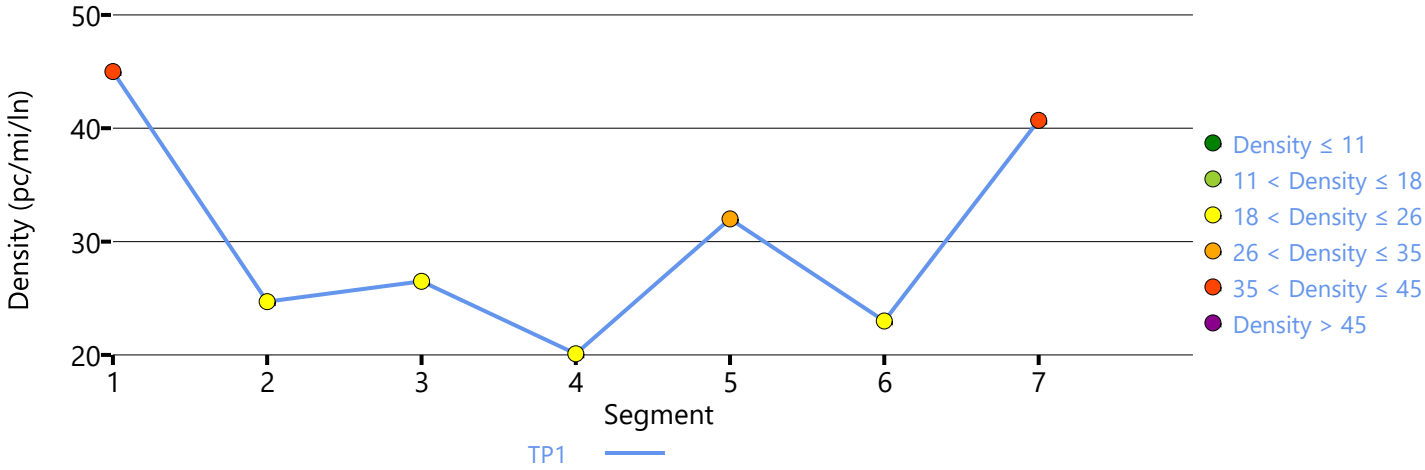
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_Build_2034_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3959	4800	0.82	64.0	30.9	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3959	1233	7200	4000	0.55	0.31	64.5	57.4	20.5	14.6	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2701	4800	0.56	72.6	18.6	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3079	378	7200	2000	0.43	0.19	75.0	75.4	13.6	13.6	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3086	4800	0.64	72.0	21.4	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3820	734	7200	2000	0.53	0.37	74.5	74.5	17.1	17.1	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3835	4800	0.80	65.3	29.4	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.0	24.5	24.0	2.30	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.0	16.9	16.5	2.30	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	67.0	Density, veh/mi/ln	24.0
Average Travel Time, min	2.30	Density, pc/mi/ln	24.5

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

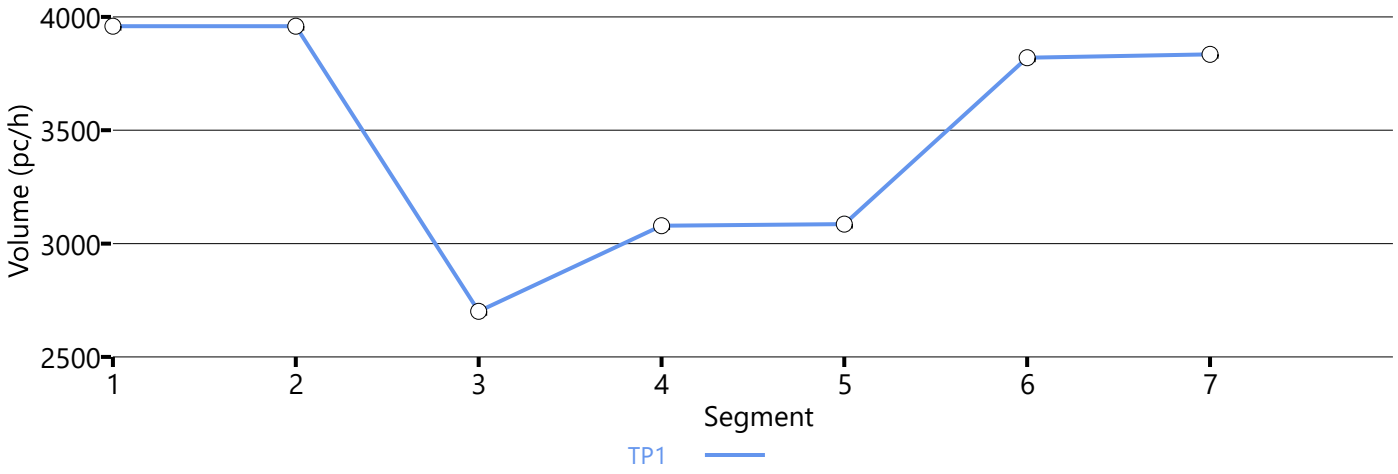
Space Mean Speed, mi/h	67.0	Density, veh/mi/ln	16.5
Average Travel Time, min	2.30	Density, pc/mi/ln	16.9

Messages

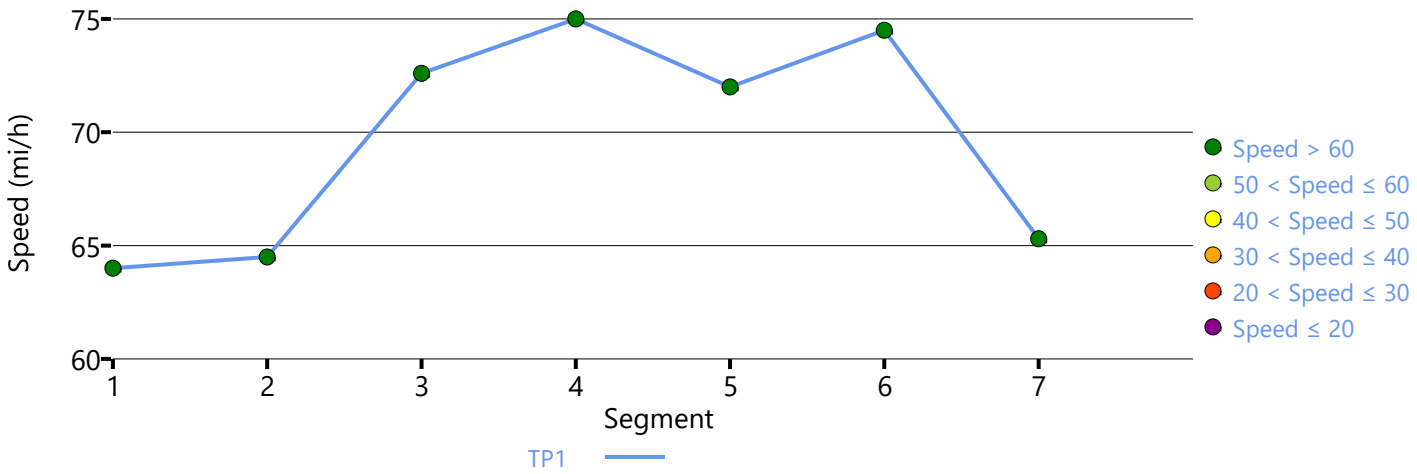
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.

Comments

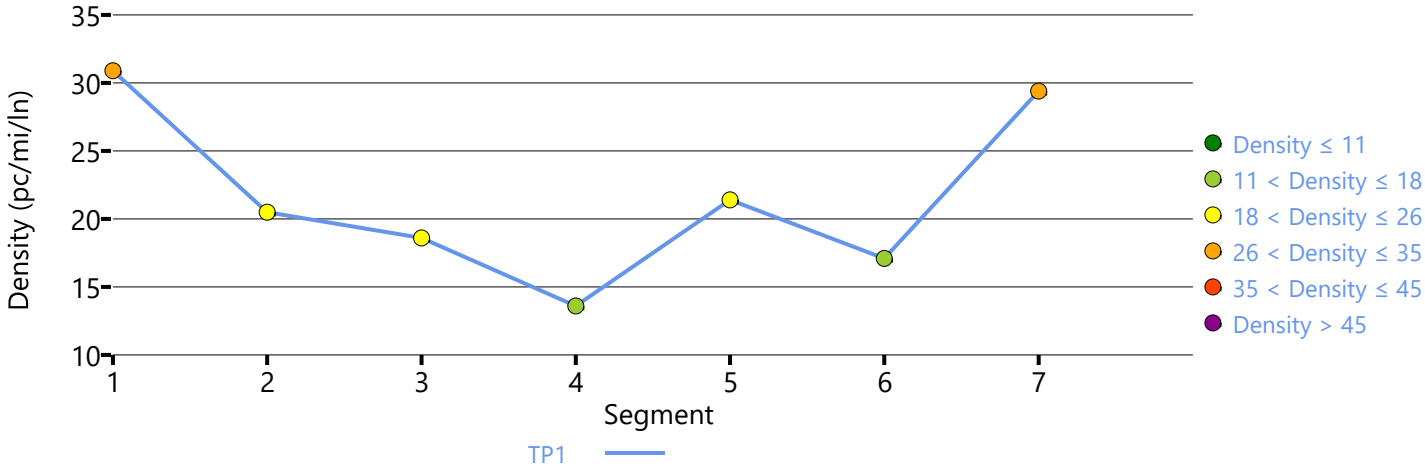
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_CUMULATIVE_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4034	4800	0.84	63.2	31.9	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4034	1112	7200	4000	0.56	0.28	65.1	57.8	20.7	14.3	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2899	4800	0.60	71.9	20.2	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3155	256	7200	2000	0.44	0.13	75.2	75.3	14.0	14.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3161	7200	0.44	73.6	14.3	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3875	714	9600	2000	0.40	0.36	74.5	75.4	12.8	12.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3889	7200	0.54	73.0	17.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	68.9	20.5	20.1	2.30	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	68.9	14.9	14.6	2.30	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	68.9	Density, veh/mi/ln	20.1
Average Travel Time, min	2.30	Density, pc/mi/ln	20.5

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

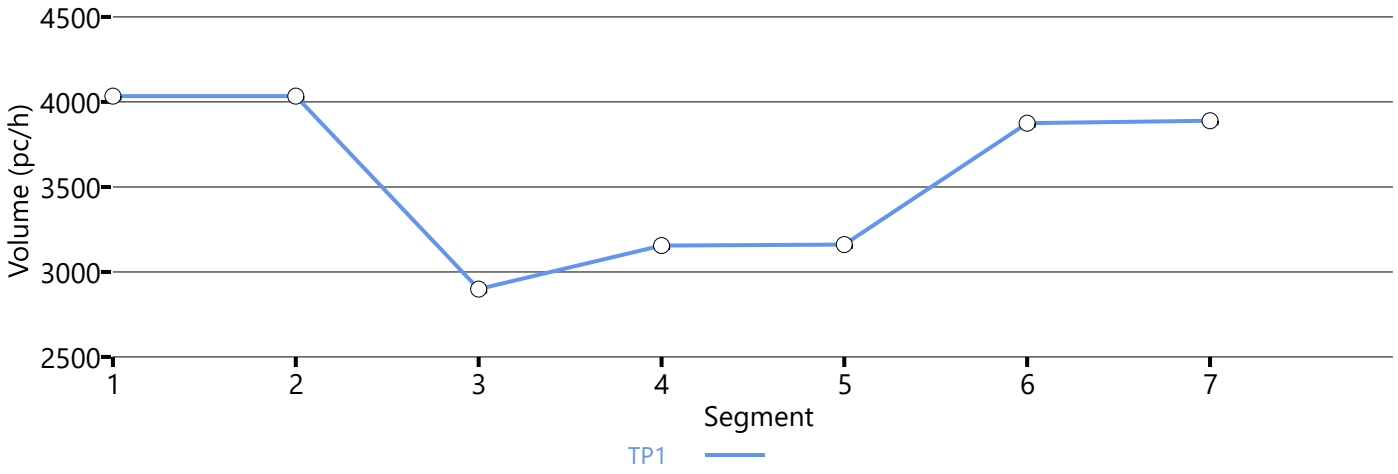
Facility Overall Results

Space Mean Speed, mi/h	68.9	Density, veh/mi/ln	14.6
Average Travel Time, min	2.30	Density, pc/mi/ln	14.9

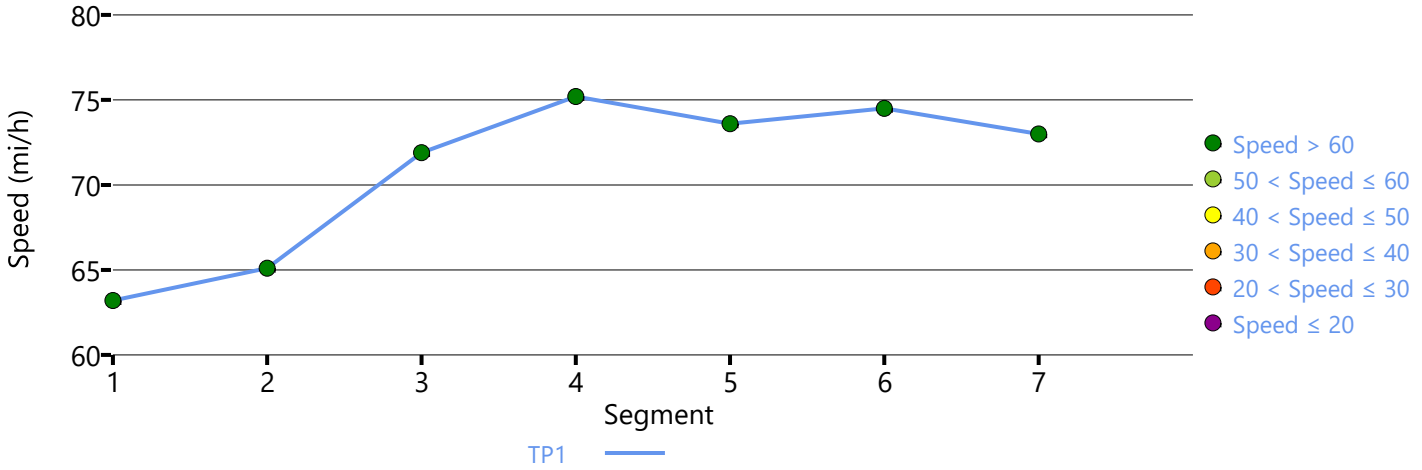
Messages

Comments

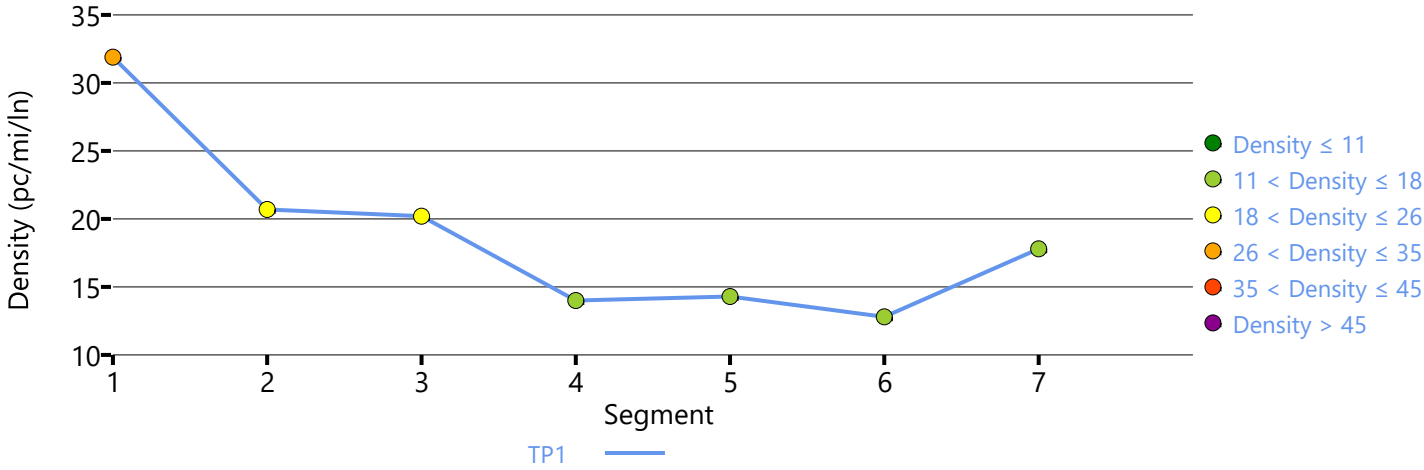
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_CUMULATIVE_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.05	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	889	7200	4000	0.70	0.22	65.6	58.4	24.4	17.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3911	4800	0.86	64.5	30.3	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4480	569	7200	2000	0.65	0.28	66.5	66.5	22.5	22.5	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4480	7200	0.65	71.2	20.9	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	5274	794	9600	2000	0.57	0.40	68.5	68.5	19.2	19.2	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	5274	7200	0.77	68.1	25.8	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	62.4	29.3	28.7	2.50	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	62.4	21.2	20.7	2.50	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	62.4	Density, veh/mi/ln	28.7
Average Travel Time, min	2.50	Density, pc/mi/ln	29.3

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

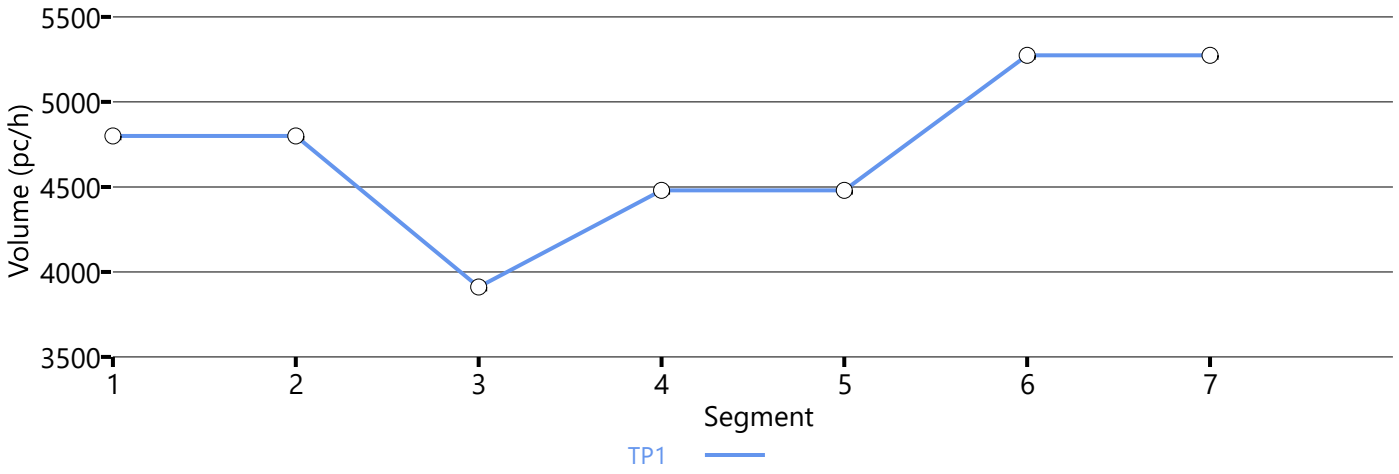
Space Mean Speed, mi/h	62.4	Density, veh/mi/ln	20.7
Average Travel Time, min	2.50	Density, pc/mi/ln	21.2

Messages

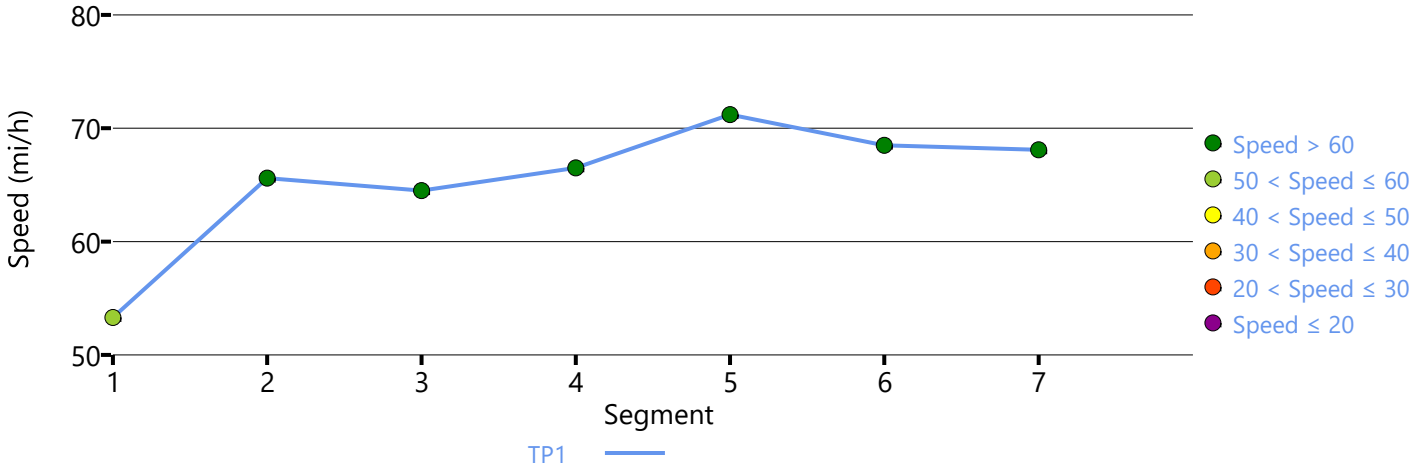
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist on segment 5, which is less than 300 feet. Due to time step size, these segments may produce unreliable results. Consider reviewing facility segmentation to resolve this warning.

Comments

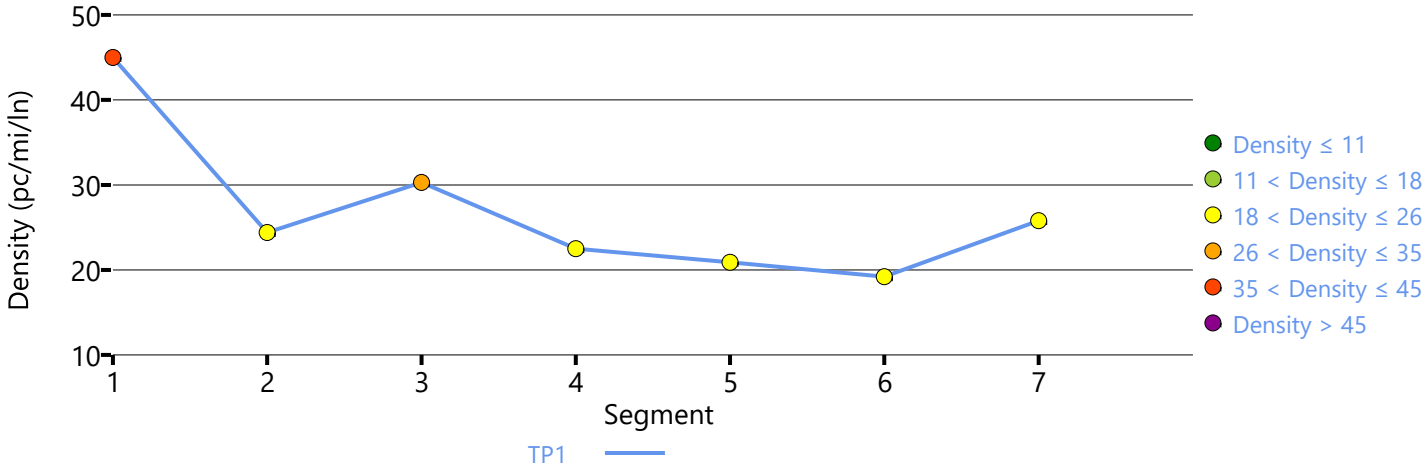
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_CUMULATIVE_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.14	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	1093	7200	4000	0.76	0.27	65.1	57.8	24.6	17.2	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3707	4800	0.91	66.5	27.9	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4058	351	7200	2000	0.65	0.18	67.2	67.2	20.1	20.1	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4058	4800	0.98	63.4	32.0	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4364	306	7200	2000	0.70	0.15	66.9	66.9	21.7	21.7	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4364	4800	1.05	59.4	36.7	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	59.8	33.2	32.5	2.60	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	59.8	22.9	22.4	2.60	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	59.8	Density, veh/mi/ln	32.5
Average Travel Time, min	2.60	Density, pc/mi/ln	33.2

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

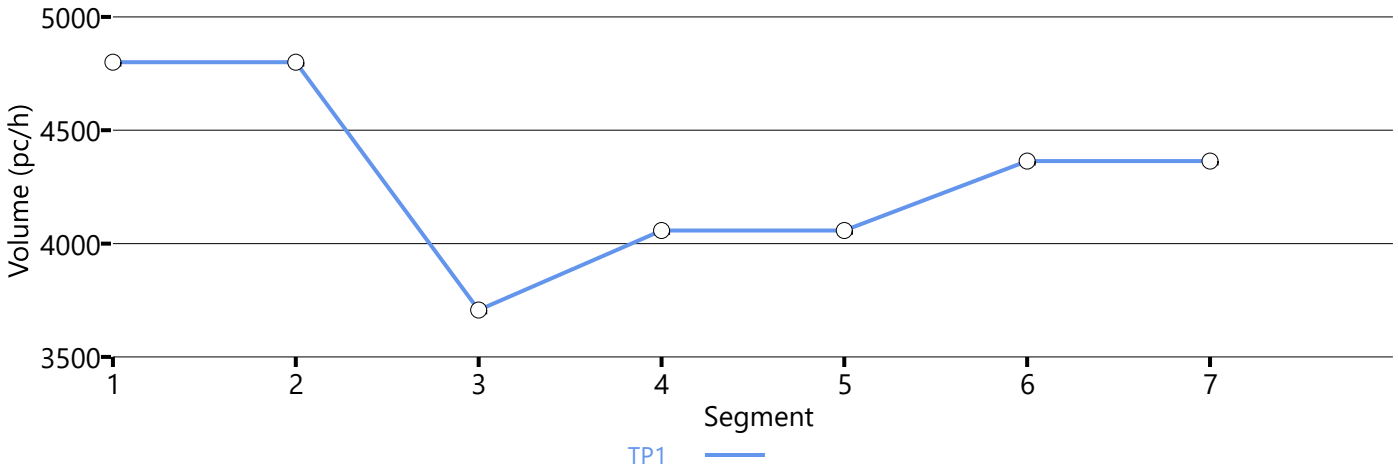
Space Mean Speed, mi/h	59.8	Density, veh/mi/ln	22.4
Average Travel Time, min	2.60	Density, pc/mi/ln	22.9

Messages

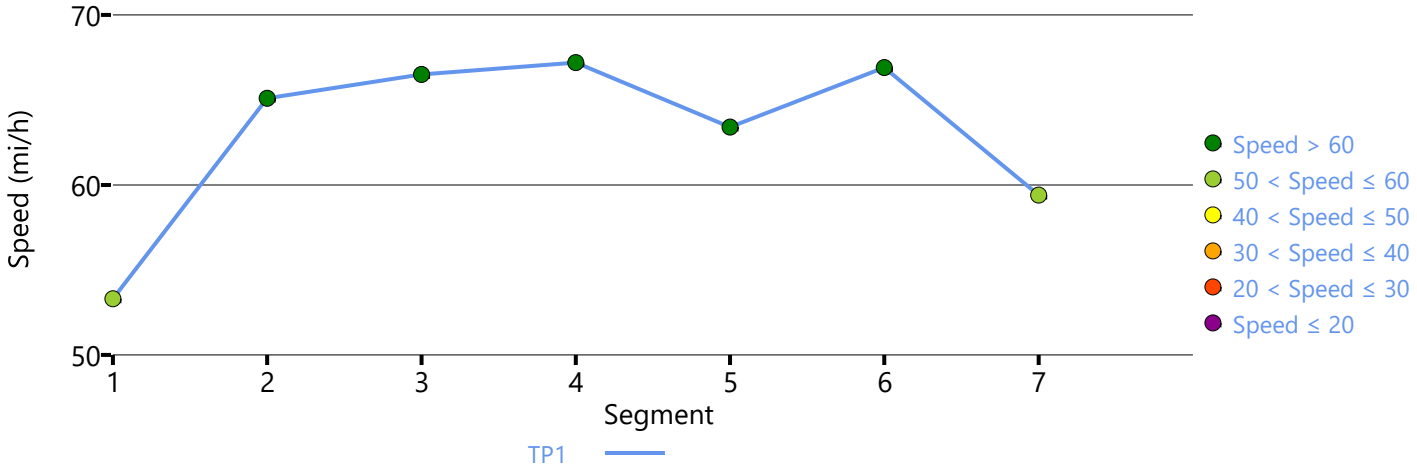
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary segment 7. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.

Comments

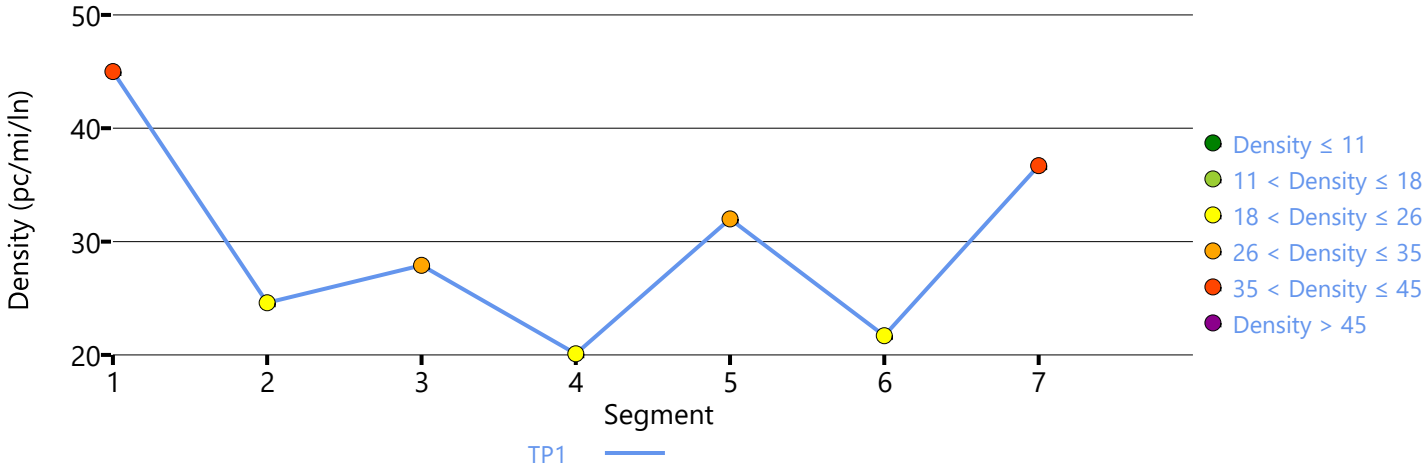
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_CUMULATIVE_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4074	4800	0.85	62.8	32.4	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4074	1027	7200	4000	0.57	0.26	65.4	58.0	20.8	14.1	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3026	4800	0.63	71.3	21.2	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3258	232	7200	2000	0.45	0.12	74.8	75.3	14.4	14.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3263	4800	0.68	70.8	23.1	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3832	569	7200	2000	0.53	0.28	74.5	74.5	17.1	17.1	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3844	4800	0.80	65.2	29.5	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.5	25.4	24.9	2.30	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.5	17.5	17.2	2.30	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	66.5	Density, veh/mi/ln	24.9
Average Travel Time, min	2.30	Density, pc/mi/ln	25.4

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

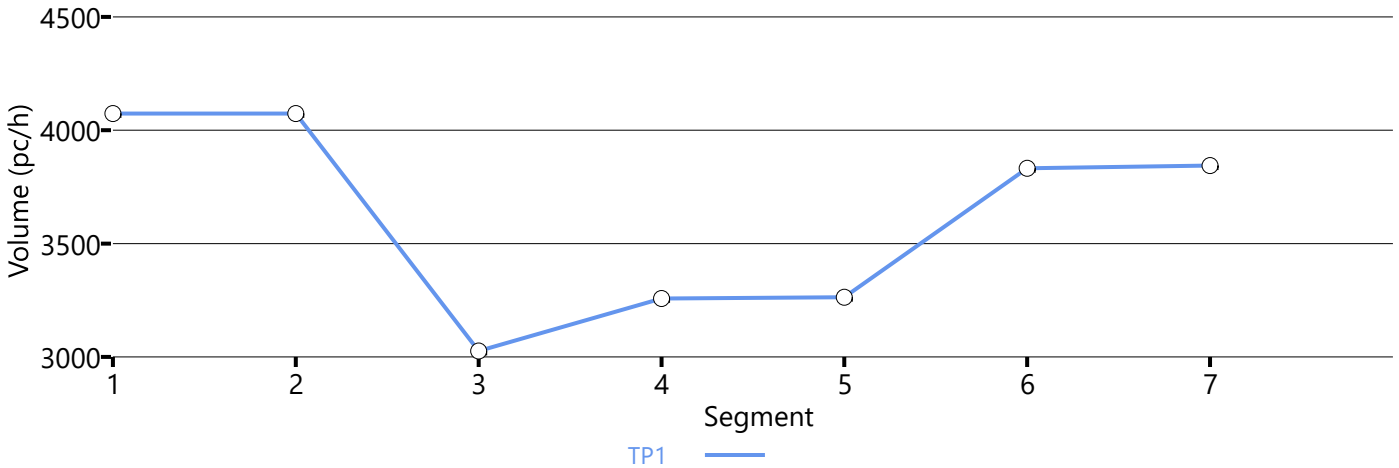
Space Mean Speed, mi/h	66.5	Density, veh/mi/ln	17.2
Average Travel Time, min	2.30	Density, pc/mi/ln	17.5

Messages

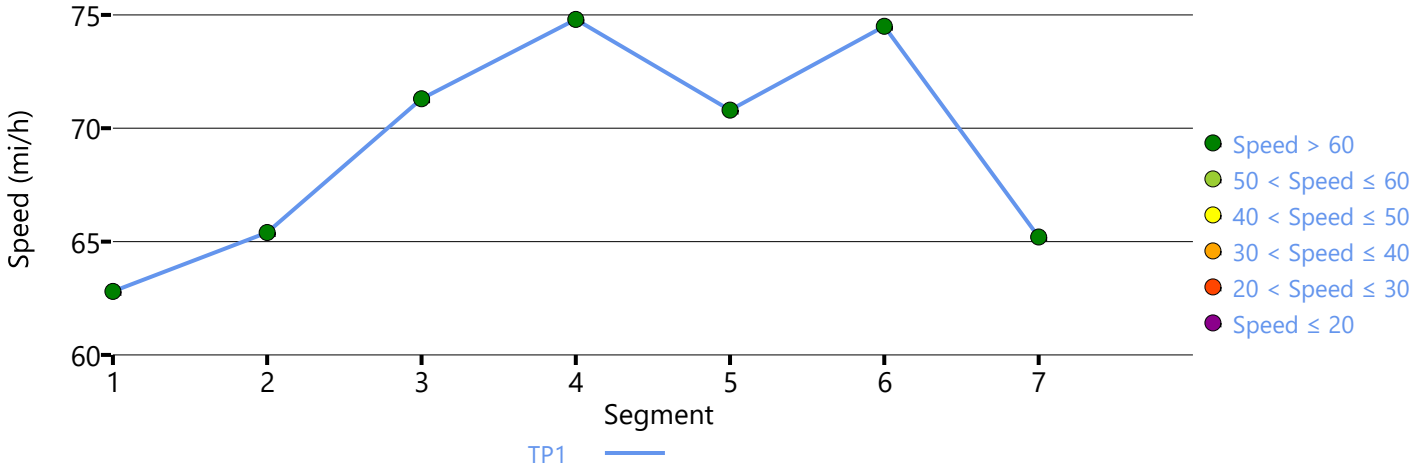
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.

Comments

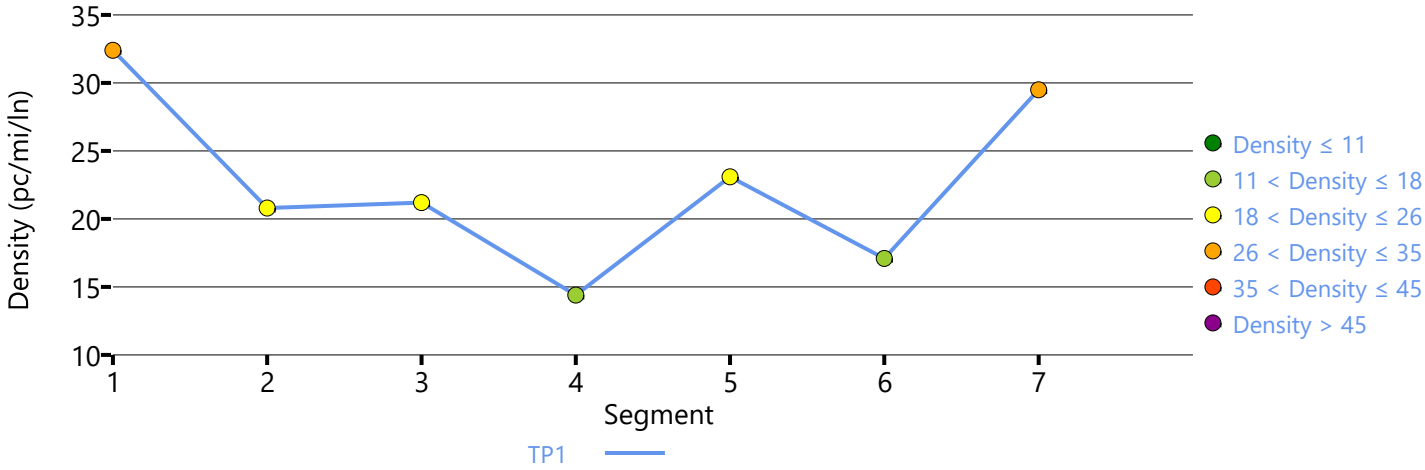
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_CUMULATIVE+PROJ_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4108	4800	0.86	62.4	32.9	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4108	1184	7200	4000	0.57	0.30	64.7	57.5	21.2	15.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	2899	4800	0.60	71.9	20.2	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3155	256	7200	2000	0.44	0.13	75.2	75.3	14.0	14.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3161	7200	0.44	73.6	14.3	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3888	727	9600	2000	0.41	0.36	74.5	75.4	12.9	12.9	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3903	7200	0.54	72.9	17.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	68.5	20.8	20.4	2.30	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	68.5	15.1	14.7	2.30	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	68.5	Density, veh/mi/ln	20.4
Average Travel Time, min	2.30	Density, pc/mi/ln	20.8

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

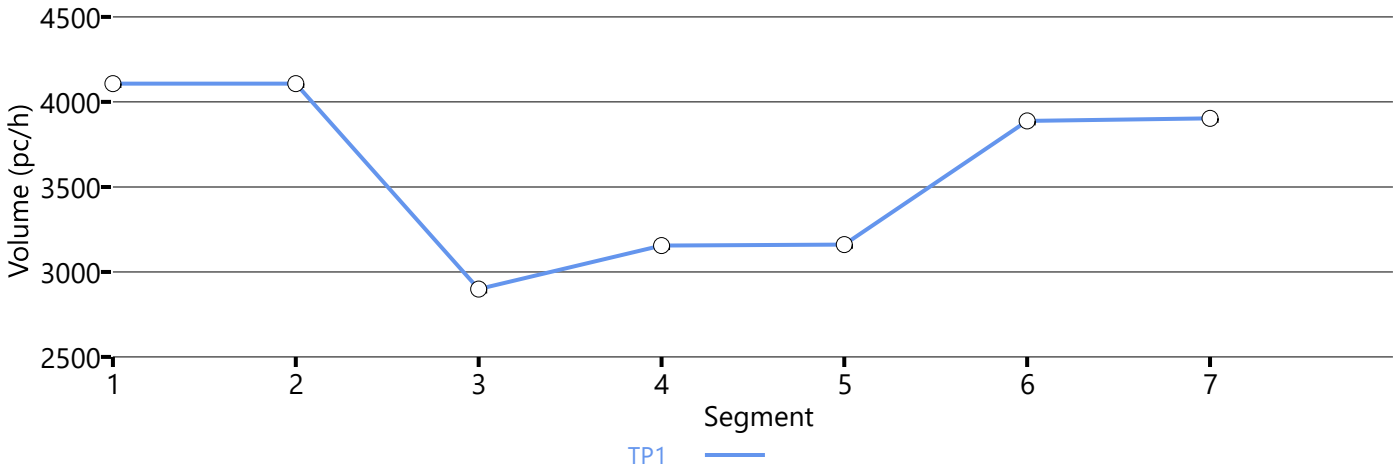
Facility Overall Results

Space Mean Speed, mi/h	68.5	Density, veh/mi/ln	14.7
Average Travel Time, min	2.30	Density, pc/mi/ln	15.1

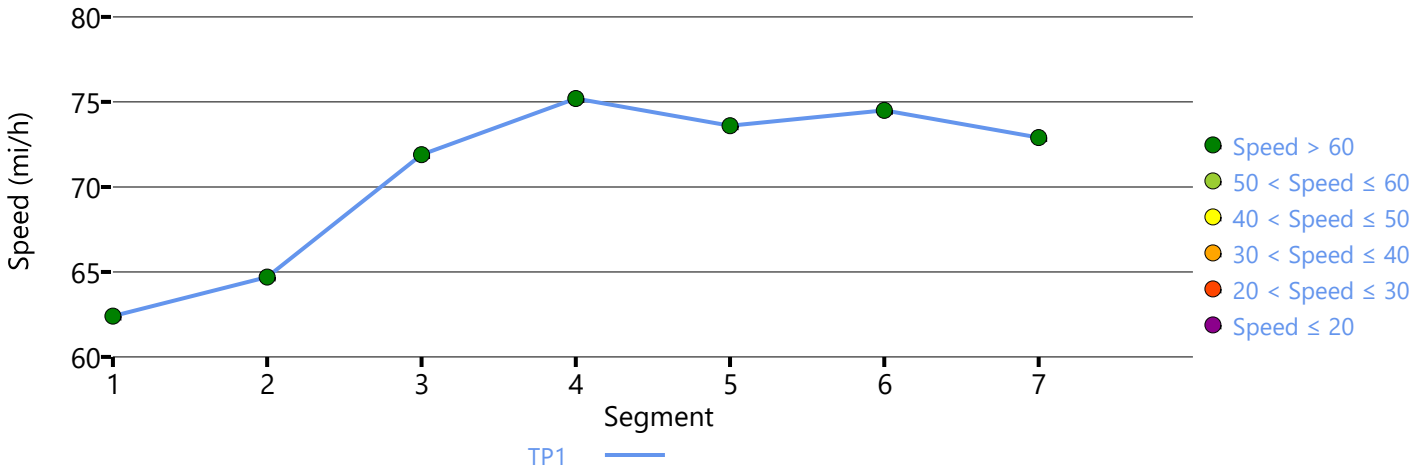
Messages

Comments

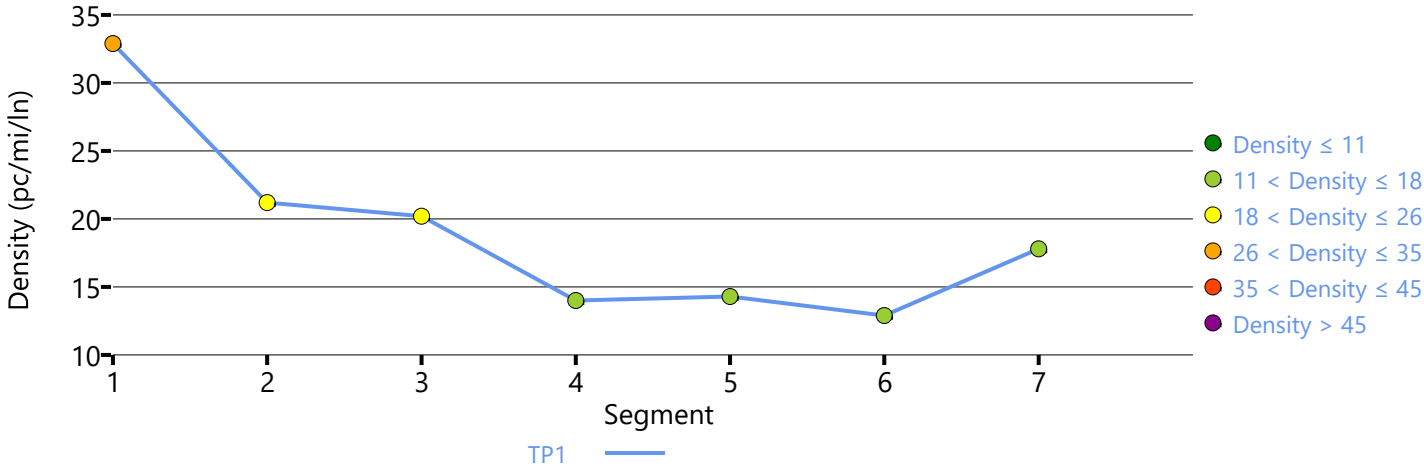
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	EB_CUMULATIVE+PROJ_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1500	3	Continuous Access	1
3	Basic	Basic		2350	2	Continuous Access	1
4	Merge	Basic	_	1350	3	Continuous Access	1
5	Basic	Basic		1	3	Continuous Access	1
6	Merge	Basic	_	900	4	Continuous Access	1
7	Basic	Basic		3780	3	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.05	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	920	7200	4000	0.70	0.23	65.6	58.3	24.4	17.0	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3880	4800	0.86	64.8	29.9	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4449	569	7200	2000	0.65	0.28	66.6	66.6	22.3	22.3	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4449	7200	0.65	71.3	20.7	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	5282	833	9600	2000	0.58	0.42	68.4	68.4	19.3	19.3	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	5282	7200	0.77	68.0	25.9	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	62.4	29.2	28.6	2.50	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	62.4	21.1	20.7	2.50	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	62.4	Density, veh/mi/ln	28.6
Average Travel Time, min	2.50	Density, pc/mi/ln	29.2

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

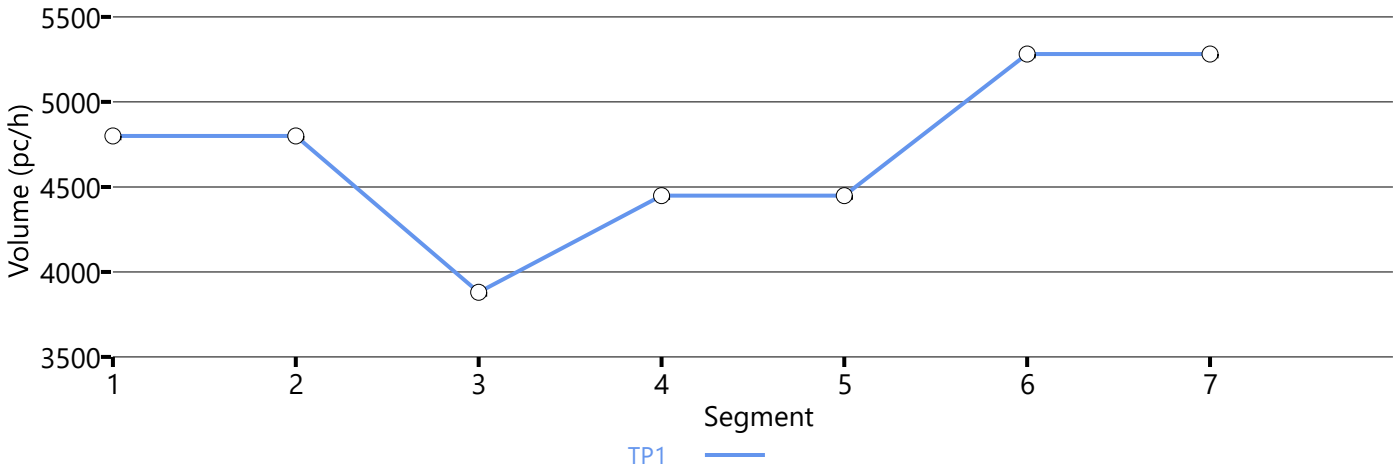
Space Mean Speed, mi/h	62.4	Density, veh/mi/ln	20.7
Average Travel Time, min	2.50	Density, pc/mi/ln	21.1

Messages

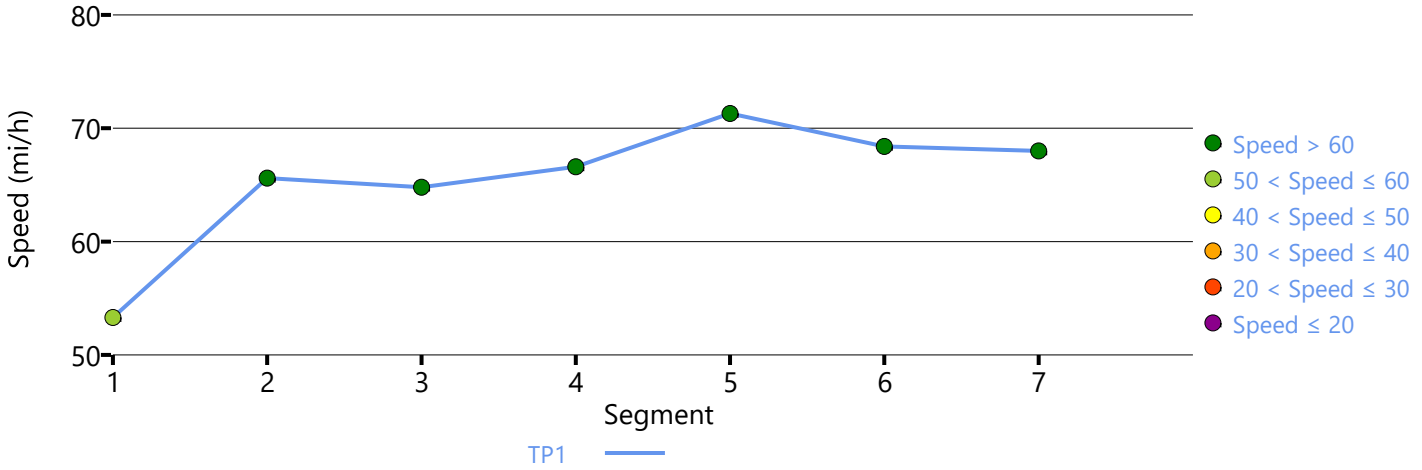
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist on segment 5, which is less than 300 feet. Due to time step size, these segments may produce unreliable results. Consider reviewing facility segmentation to resolve this warning.

Comments

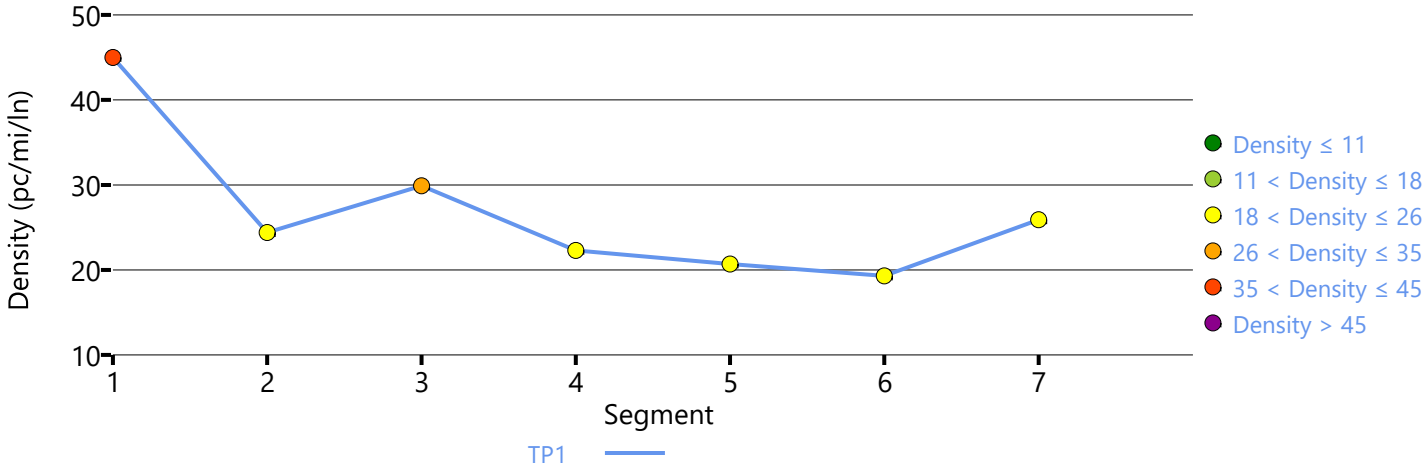
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_CUMULATIVE+PROJ_AM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4800	4800	1.15	53.3	45.0	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4800	1129	7200	4000	0.77	0.28	65.0	57.7	24.6	17.4	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3671	4800	0.91	66.8	27.5	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4048	377	7200	2000	0.66	0.19	67.2	67.2	20.1	20.1	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4048	4800	0.99	63.5	31.9	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4354	306	7200	2000	0.70	0.15	66.9	66.9	21.7	21.7	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4354	4800	1.05	59.5	36.6	F

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	59.8	33.1	32.4	2.60	D

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	59.8	22.8	22.3	2.60	F

General Purpose Lane Overall Results

Space Mean Speed, mi/h	59.8	Density, veh/mi/ln	32.4
Average Travel Time, min	2.60	Density, pc/mi/ln	33.1

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

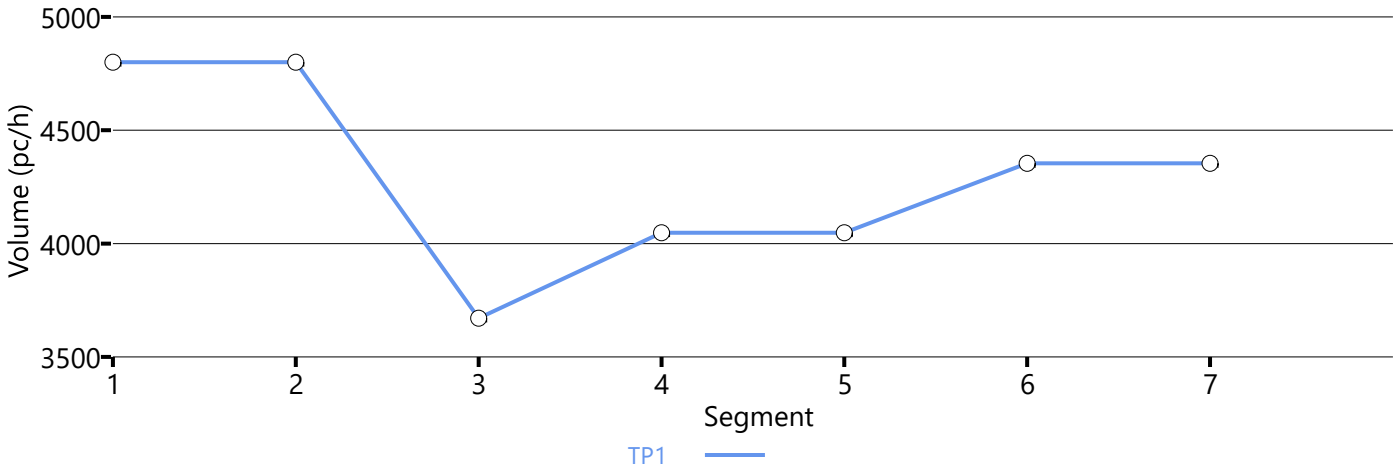
Space Mean Speed, mi/h	59.8	Density, veh/mi/ln	22.3
Average Travel Time, min	2.60	Density, pc/mi/ln	22.8

Messages

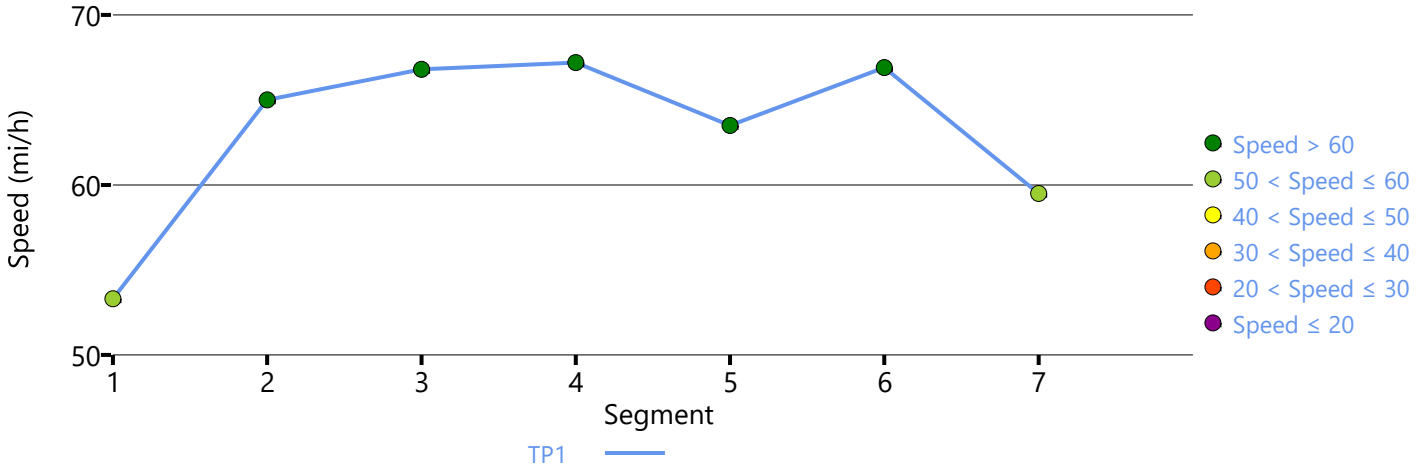
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.
WARNING 1	Oversaturated conditions currently exist in boundary segment 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	Oversaturated conditions currently exist in boundary segment 7. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 3	Oversaturated conditions currently exist in boundary time period 1. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.

Comments

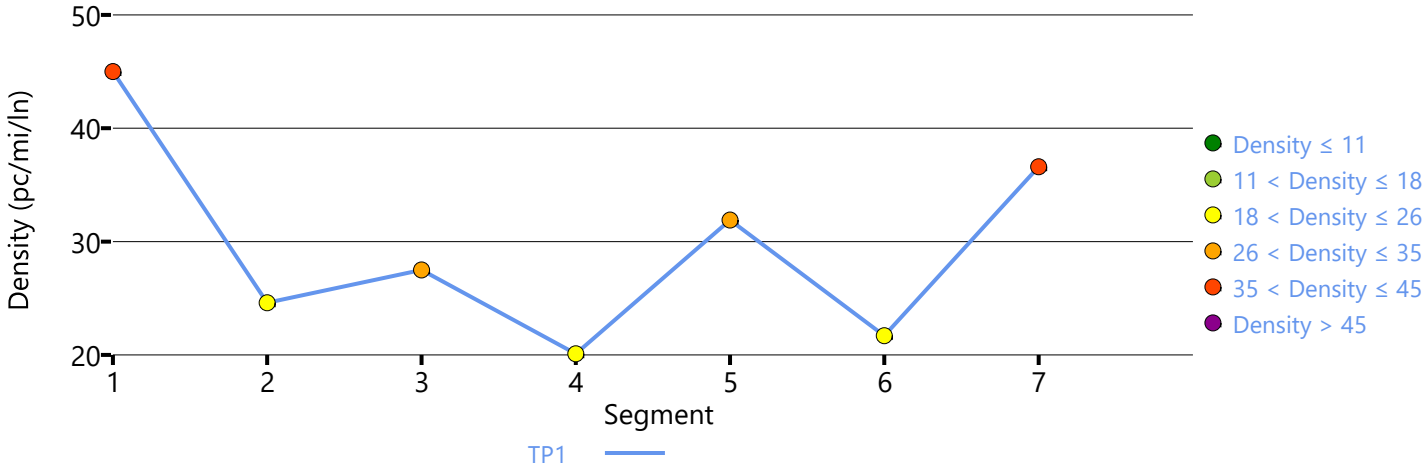
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

HCS7 Freeway Facilities Report

Project Information

Analyst		Date	2/16/2021
Agency		Analysis Year	2021
Jurisdiction		Time Period Analyzed	
Project Description	WB_CUMULATIVE+PROJ_PM	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Time Periods	1	Time Period Duration, min	15
Facility Length, mi	2.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	GP Lane, ft	ML Type	ML Lanes
1	Basic	Basic		3780	2	Continuous Access	1
2	Diverge	Diverge	_	1300	3	Continuous Access	1
3	Basic	Basic		2150	2	Continuous Access	1
4	Merge	Basic	_	300	3	Continuous Access	1
5	Basic	Basic		1000	2	Continuous Access	1
6	Merge	Basic	_	1350	3	Continuous Access	1
7	Basic	Basic		3780	2	Continuous Access	1

Facility Segment Data

Segment 1: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	4089	4800	0.85	62.6	32.7	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 2: Diverge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	4089	1041	7200	4000	0.57	0.26	65.4	58.0	20.8	14.2	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 3: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3026	4800	0.63	71.3	21.2	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 4: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3336	310	7200	2000	0.46	0.16	74.8	75.2	14.8	14.8	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 5: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3342	4800	0.70	70.2	23.8	C

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 6: Merge

General Purpose Lane

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.94	0.980	1.000	3911	569	7200	2000	0.54	0.28	74.3	74.3	17.5	17.5	B

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

Segment 7: Basic

General Purpose Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.980	3923	4800	0.82	64.4	30.5	D

Managed Lane

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	0	1804	0.00	75.4	0.0	A

General Purpose Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.2	25.8	25.3	2.30	C

Managed Lane Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	75.4	0.0	0.0	2.10	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.2	17.8	17.4	2.30	B

General Purpose Lane Overall Results

Space Mean Speed, mi/h	66.2	Density, veh/mi/ln	25.3
Average Travel Time, min	2.30	Density, pc/mi/ln	25.8

Managed Lane Overall Results

Space Mean Speed, mi/h	75.4	Density, veh/mi/ln	0.0
Average Travel Time, min	2.10	Density, pc/mi/ln	0.0

Facility Overall Results

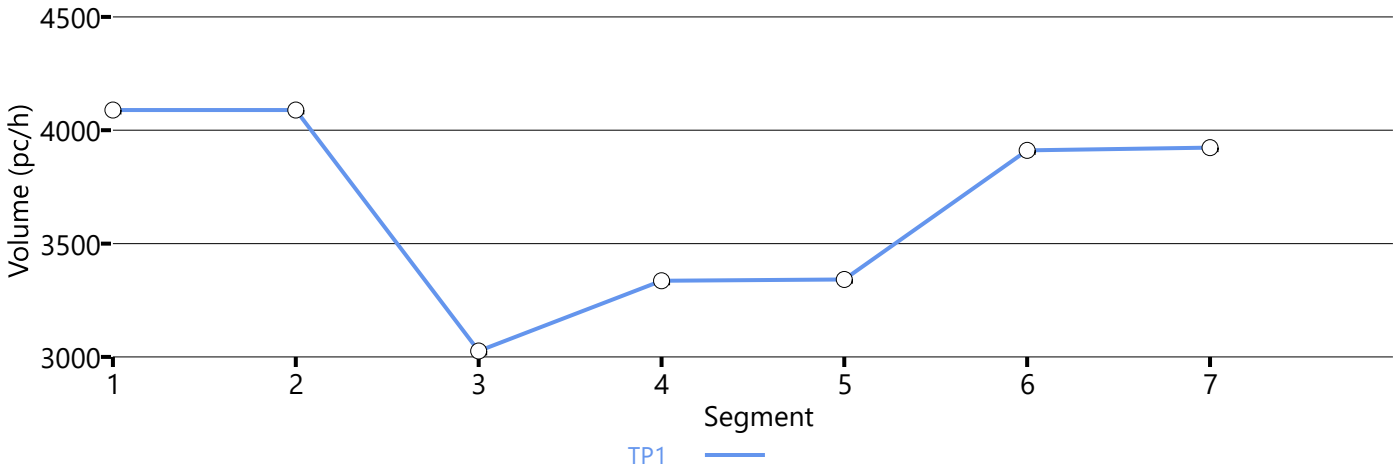
Space Mean Speed, mi/h	66.2	Density, veh/mi/ln	17.4
Average Travel Time, min	2.30	Density, pc/mi/ln	17.8

Messages

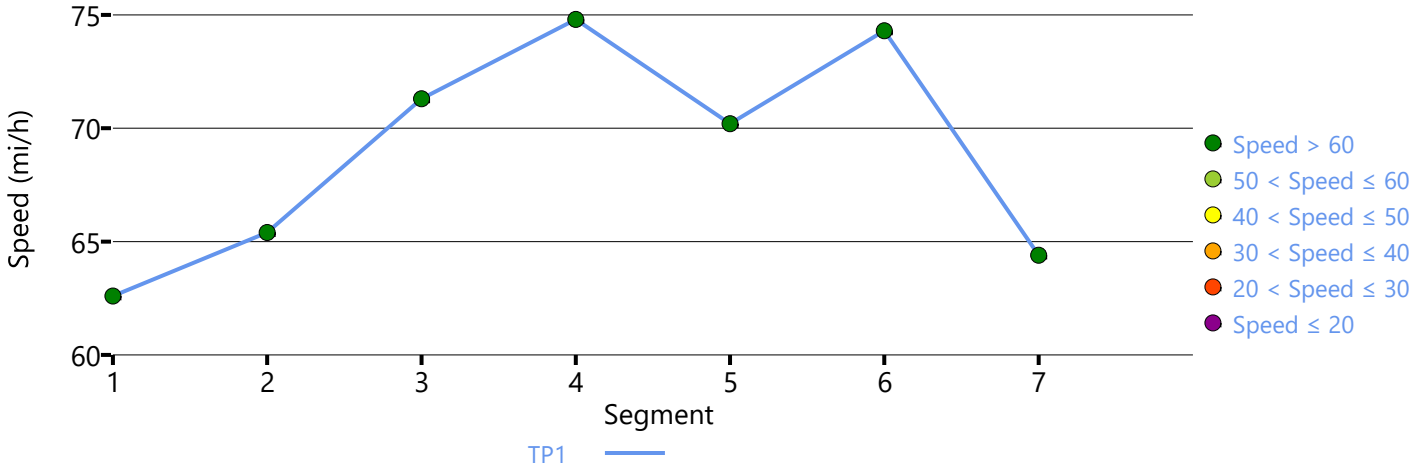
ERROR 1	Acceleration lane length is longer than the segment length for merge segment 4.

Comments

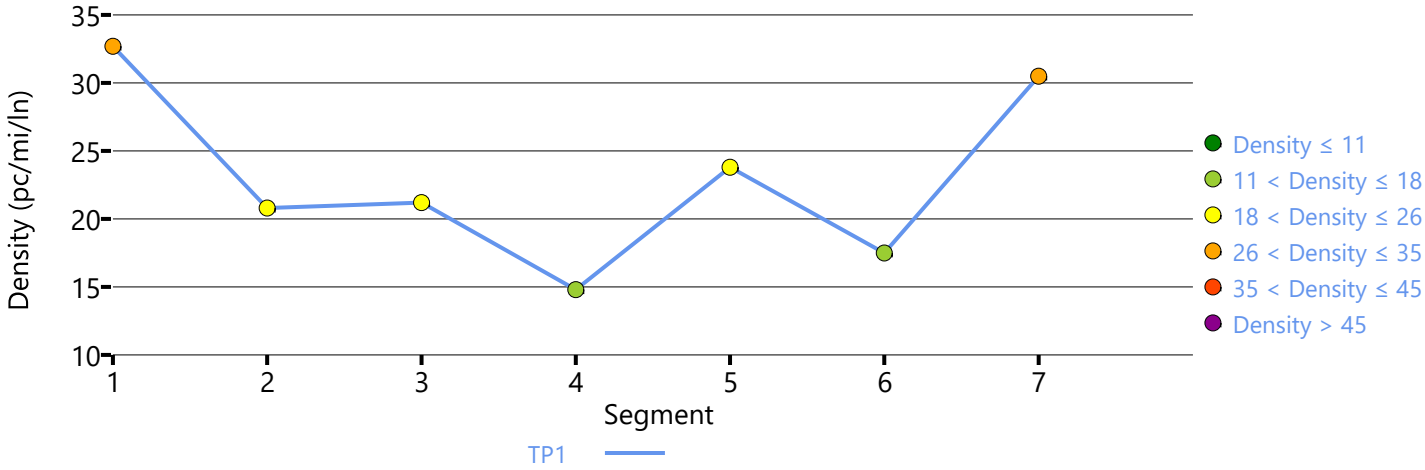
Volume Distribution



Speed Distribution



Density Distribution



Copyright © 2021 University of Florida. All Rights Reserved.

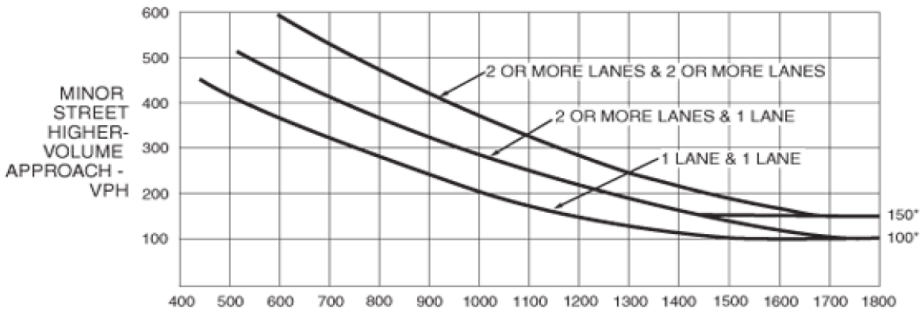
Section 3: Signal Warrant Analysis

Traffic Signal Warrant Analysis
Alder Creek Pkwy & McCarthy Ave (2034 Build)

Hour	Vehicles per hour on major street (total of both approaches)	Vehicles per hour on Minor Street (One Direction Only)	Warrant Met?
	Alder Creek Pkwy	McCarthy Ave	
AM Peak Hour Vol.	1036	127	No
PM Peak Hour Vol.	879	411	No

2009 Edition Part 4 Figure 4C-3. Warrant 3, Peak Hour

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Table for Figure 4C-3

One lane and one lane		Two or more lanes and one lane		Two or more lanes and two or more lanes	
VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)
1800	100	1800	100 or 150*	1800	150
1700	100	1700	100 or 150*	1700	150
1600	100	1600	120 or 150*	1600	170
1500	100	1500	145 or 150*	1500	180
1400	120	1400	155	1400	220
1300	130	1300	190	1300	250
1200	150	1200	220	1200	285
1100	175	1100	250	1100	340
1000	200	1000	285	1000	370
900	245	900	325	900	425
800	285	800	360	800	475
700	325	700	420	700	540
600	360	600	460	600	590
500	420	500	Not available	500	Not available

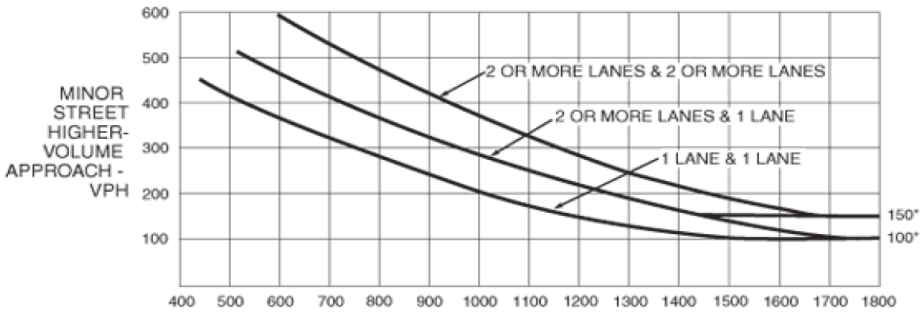
* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Traffic Signal Warrant Analysis
Alder Creek Pkwy & McCarthy Ave (2040 Cumulative + Project)

Hour	Vehicles per hour on major street (total of both approaches)	Vehicles per hour on Minor Street (One Direction Only)	Warrant
	Alder Creek Pkwy	McCarthy Ave	
AM Peak Hour Vol.	1442	162	No
PM Peak Hour Vol.	1151	505	Yes

2009 Edition Part 4 Figure 4C-3. Warrant 3, Peak Hour

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Table for Figure 4C-3

One lane and one lane		Two or more lanes and one lane		Two or more lanes and two or more lanes	
VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)
1800	100	1800	100 or 150*	1800	150
1700	100	1700	100 or 150*	1700	150
1600	100	1600	120 or 150*	1600	170
1500	100	1500	145 or 150*	1500	180
1400	120	1400	155	1400	220
1300	130	1300	190	1300	250
1200	150	1200	220	1200	285
1100	175	1100	250	1100	340
1000	200	1000	285	1000	370
900	245	900	325	900	425
800	285	800	360	800	475
700	325	700	420	700	540
600	360	600	460	600	590
500	420	500	Not available	500	Not available

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Section 4: Alternative Control at Alder Creek Parkway & McCarthy Way Scenario Analysis

This Appendix provides a summary of supplemental operational and design considerations for alternative control options at the intersection of Alder Creek Parkway and McCarthy Way. While the programmed configuration is consistent with the Folsom Plan Area Specific Plan and results in no operational deficiency with full buildout and recommended improvements for queue management, the following three additional control scenarios were analyzed at the request of the City and applicant:

- Alternative A: Median restricting Left-Turn Access to McCarthy Way
- Alternative B: Roundabout at Alder Creek Parkway & McCarthy Way
- Alternative C: Signalization of Alder Creek Parkway & McCarthy Way

This analysis provides analysis of queuing, delay, operations, and potential interactions with planned BRT operations along Alder Creek Parkway.

ALTERNATIVE A: MEDIAN RESTRICTING LEFT-TURN ACCESS TO MCCARTHY WAY

OPERATIONS ANALYSIS

Alternative A consists of two-way stop-control at McCarthy Way & Alder Creek Parkway and a median that prevents left turn access to McCarthy Way. This would force traffic entering the project site to travel east past the main access point at McCarthy Way and either U-turn at Westwood Drive & Alder Creek Parkway to turn right at McCarthy Way, or turn left at Westwood Drive & Alder Creek Parkway and enter by turning left at Mercy Drive. The results are shown in **Table 1**.

TABLE 1: ALTERNATIVE C: TWO-WAY STOP CONTROL WITH MEDIAN – MICROSIMULATION RESULTS

INTERSECTION	MOVEMENT	95TH %TILE Q (FT)* SCENARIO		DESIGN POCKET LENGTH (ft)	DELAY & LOS SCENARIO	
		AM	PM		AM	PM
Alder Creek & Bidwell	SBL	222	242	400	51.3 / D	46.1 / D
	WBT	263	122			
	WBR	165	127	310		
Alder Creek & McCarthy	SBR	62	**742**	250	11.5 / B	116.6 / F
Alder Creek & Westwood	EBL	168	53	215	31.6 / C	22.6 / C

* 95th percentile queue length results based on Vissim simulation, **red text** denotes a queue that exceeds pocket length or distance to closest upstream intersection

The addition of a median and resulting project traffic diversion alternative results in significant queueing for southbound McCarthy Way during the PM peak, though this can be mitigated similarly to the baseline configuration with a second southbound right-turn pocket. There is also increased queuing at Westwood and for the U-turn traffic up returning towards McCarthy Way, while the remainder of movements see reduced queues.

This alternative also results in a more circuitous routing along Westwood that includes a continuous visual sight line to the hospital that a patron would have to drive past and away from, lose sight line with, to eventually execute the access route to arrive at the hospital visitor/patient entrance. It also requires five decision-points (i.e., intersections) to be negotiated by visitor/patients versus three when hospital access is allowed from McCarthy Way. These access characteristics run counter to two basic wayfinding criteria in hospital access planning: 1) continuous visual connection; and, 2) minimize the number of decision-making points during route navigation. Given the varied physical abilities and cognitive/emotional states of hospital patrons, wayfinding and efficient/intuitive spatial organization (i.e., direct routing to building entry) are critical issues[1].

BRT OPERATIONS AND ALIGNMENT ANALYSIS

Two alignment scenarios are presented, both with center-running westbound operations, but one with center-running eastbound operations and the other with right-running eastbound operations.

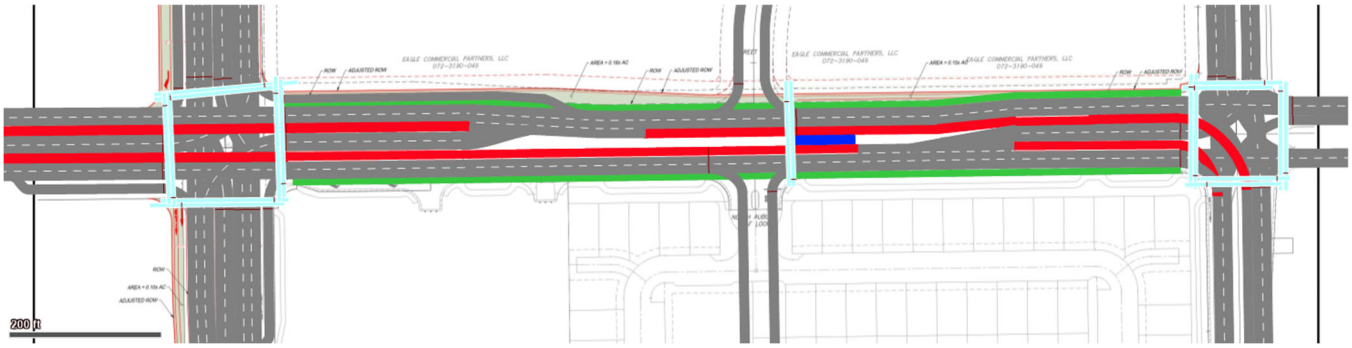


FIGURE 1: MEDIAN CENTER RUNNING

Westbound BRT Operations Summary

- Northbound left turn from Westwood Drive directly into bus-only lane on Alder Creek Parkway
- No westbound left turn at McCarthy Way
- Near-side station at McCarthy Way with signalized crosswalk
- Bus-only lane transitions to general purpose lane west of McCarthy Way to allow vehicles turning left onto East Bidwell access to the turn lanes (128 vph PM peak)
- BRT has distance to get up to speed after departing station prior to vehicle traffic merging into lane
- Bus-only lane approaching East Bidwell with opportunity for advanced transit signal priority
- Westbound center-running BRT allows for transit to operate concurrent with vehicle phases taking advantage of signal progression

---

[1] Wayfinding Design: Logic, Application and Some Thoughts on Universality (Romedi Passini, School of Architecture, University of Montreal, C.P. 6128, Succ. A, Montreal, H3C 3J7, Canada)

- Avoids heavy vehicle demand in right lanes along Alder Creek Parkway.

Eastbound BRT Operations Summary

- Eastbound BRT in bus-only lane across East Bidwell Street through McCarthy Way
- Far-side station at McCarthy Way with signalized crosswalk
- Bus-only lane ends immediately east of station to allow eastbound left and u-turn vehicles access to the turn lane at Westwood Drive (394 vph AM peak)
- Significant weave of vehicles in front of BRT departing station poses potential safety and performance issues.
- BRT enters bus-only lane approaching Westwood Drive where bus needs to wait for exclusive eastbound right turn phase from the left side of the through lanes, resulting in additional transit and vehicle delay with possible impacts to vehicle progression

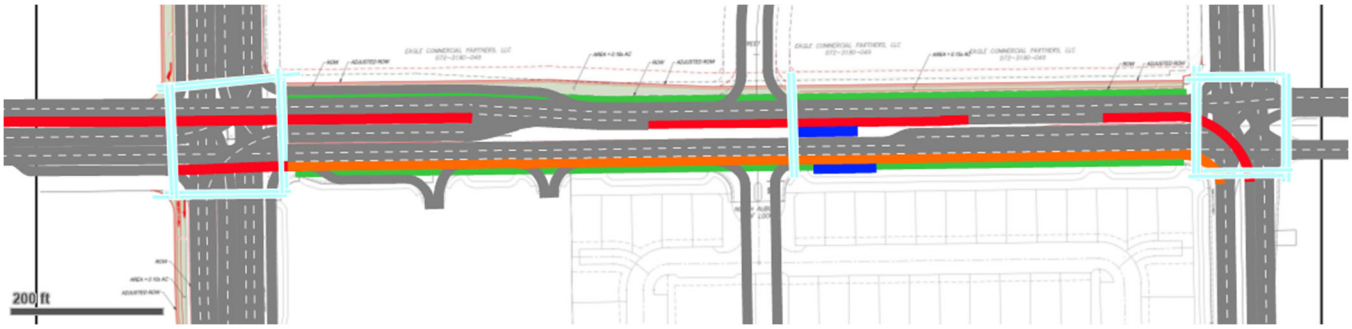


FIGURE 2: CENTER RUNNING WESTBOUND / RIGHT RUNNING EASTBOUND

Westbound BRT Operations Summary

- Same above

EASTBOUND BRT OPERATIONS SUMMARY

- Eastbound BRT crosses East Bidwell Street to a right BAT lane using one of two options:
  - BRT transitions from center-running alignment to right-running west (TBD) of East Bidwell arriving at East Bidwell in right turn/queue jump lane and times with adjacent through phase reducing delay for vehicles and transit [shown]
  - BRT arrives at East Bidwell in center bus-only between through and left turn lanes. Requires significant and exclusive queue jump phase to transition two lanes to far-side right BAT lane. Results in increased delay for vehicles and transit [not shown]
- BAT lane allows only bus through movement and right turn access to driveways and intersections
- Far-side station at McCarthy Way with signalized crosswalk
- Station design can incorporate bike lane behind platform to eliminate bus/bike conflict
- Bus departs station in BAT positioned to make right turn at Westwood Drive
- Bus right turn from right lane at Westwood Drive allows bus to operate with progression of through vehicles minimizing delay for vehicles and transit

- Optional right turn lane at Westwood Drive (not shown) allows further vehicle and transit performance with right turn overlap phase
- No transit phase needed for right turn at Westwood Drive
- Transit signal priority can be used for early green or green extension to progress the BRT through the right turn at Westwood Drive as the BRT operates concurrent with the eastbound through phase
- BRT in right BAT lane avoids heavy traffic in left lane of Alder Creek Parkway

ALTERNATIVE B: ROUNDABOUT AT ALDER CREEK PARKWAY & MCCARTHY WAY

OPERATIONS ANALYSIS

Alternative B consists of a two-lane roundabout at the intersection of McCarthy Way & Alder Creek Parkway (Alternative B). The results for this alternative are shown in **Table 2** below.

TABLE 2: ALTERNATIVE B: ROUNDABOUT – MICROSIMULATION RESULTS

INTERSECTION	APPROACH/ MOVEMENT	95TH %TILE Q (FT)* SCENARIO		DESIGN POCKET LENGTH (ft)	DELAY & LOS SCENARIO	
		AM	PM		AM	PM
Alder Creek & Bidwell	SBL	239	227	400	41.9 / D	37.0 / D
	WBT	269	113	-		
	WBR	163	138	310		
Alder Creek & McCarthy	SBR	38	93	250	5.1 / A	2.6 / A
	EBL	136	142	-		

* 95th percentile queue length results based on Vissim simulation, **red text** denotes a queue that exceeds pocket length or distance to closest upstream intersection

A roundabout at McCarthy Way increases queues along Alder Creek, however almost all other queues and delays are reduced, at the cost of significant right-of-way take.

BRT OPERATIONS AND ALIGNMENT ANALYSIS

Two alignment scenarios are presented, both with center-running westbound operations, but one with center-running eastbound operations and the other with right-running eastbound operations.

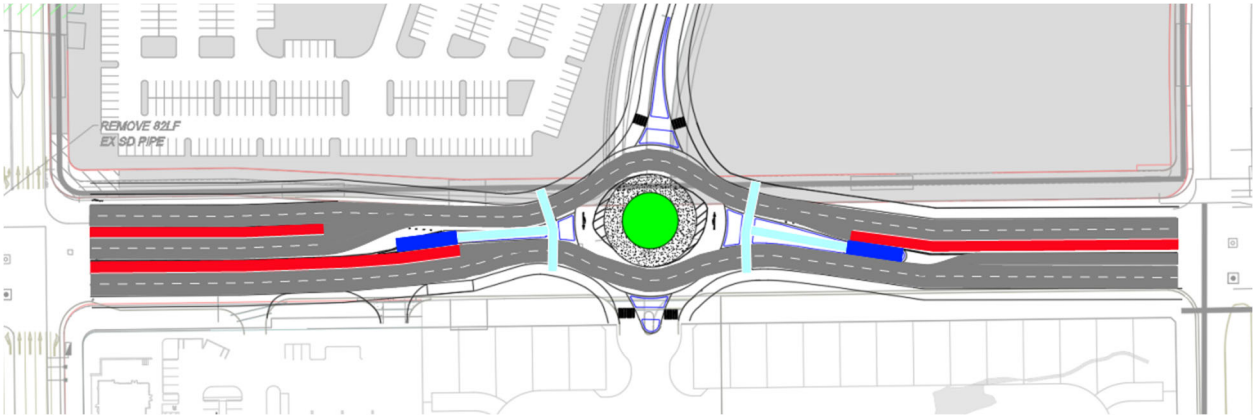


FIGURE 3: ROUNDABOUT CENTER RUNNING

Westbound BRT Operations Summary

- Northbound left turn from Westwood Drive directly into bus-only lane on Alder Creek Parkway

- Near-side station at McCarthy Way with crosswalk access across Alder Creek Parkway
- Station platform location to allow distance for BRT to merge into left approach lane prior to crosswalk
- BRT proceeds through roundabout in left through lane
- Downstream of roundabout BRT enters bus-only lane through East Bidwell Street

Eastbound BRT Operations Summary

- Eastbound BRT crosses East Bidwell Street in bus-only lane
- Near-side station at McCarthy Way with crosswalk access across Alder Creek Parkway
- Station platform location to allow distance for BRT to merge into left approach lane prior to crosswalk
- Station location requires shortening of the westbound left turn lanes at East Bidwell Street
- BRT would need to merge into left lane with heavy traffic going through and turning left at McCarthy Way, resulting in increased BRT delay
- BRT proceeds through roundabout in left through lane
- Downstream of roundabout BRT merges into right lane to make right turn at Westwood Drive
- Eastbound center running alignment east of the McCarthy roundabout is not recommended as the addition of a bus only lane would widen the splitter island impacting the roundabout geometry and leave little effective bus lane length before the BRT would need to call an exclusive right turn transit phase resulting in higher vehicle and transit delay

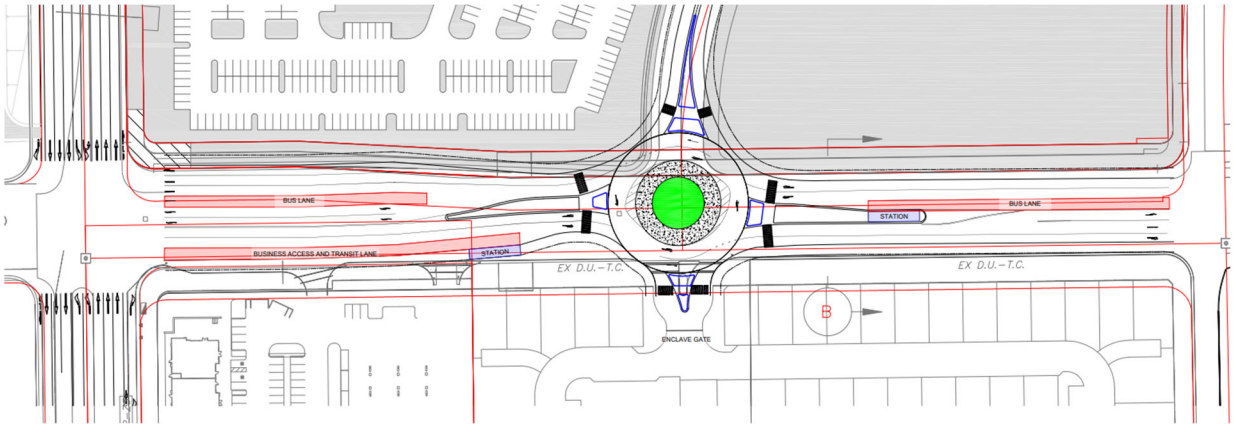


FIGURE 4: ROUNDABOUT CENTER RUNNING WESTBOUND / RIGHT RUNNING EASTBOUND

Westbound BRT Operations Summary

- Same as above

Eastbound BRT Operations Summary

- Eastbound BRT crosses East Bidwell Street from right or left queue jump operations as described for the right-running alternatives previously described
- Right BAT lane between East Bidwell and station
- Near-side station at McCarthy Way with crosswalk access across Alder Creek Parkway

- Station platform location to allow distance for BRT to merge into right approach lane prior to crosswalk
- BRT avoids merging into left lane with heavy traffic going through and turning left at McCarthy Way, resulting in reduced BRT delay
- BRT proceeds through roundabout in right through lane
- Downstream of roundabout BRT right lane alignment to make right turn at Westwood Drive
- No transit phase needed for right turn at Westwood Drive
- Transit signal priority can be used for early green or green extension to progress the BRT through the right turn at Westwood Drive as the BRT operates concurrent with the eastbound through phase

ALTERNATIVE C: SIGNALIZATION OF ALDER CREEK PARKWAY & MCCARTHY WAY

OPERATIONAL ANALYSIS

Alternative C consists of a signal at the intersection of Alder Creek Parkway & McCarthy Way. See **Table 3** below for the 95th percentile queue, intersection delay, and LOS for the intersections of East Bidwell Street & Alder Creek Parkway and McCarthy Way & Alder Creek Parkway under this alternative.

TABLE 3: ALTERNATIVE A: SIGNAL – MICROSIMULATION RESULTS

INTERSECTION	MOVEMENT	95TH %TILE Q (FT)* SCENARIO		DESIGN POCKET LENGTH (ft)	DELAY & LOS SCENARIO	
		AM	PM		AM	PM
Alder Creek & Bidwell	SBL	239	229	400	52.6 / D	38.1 / D
	WBT	339	121	-		
	WBR	259	146	310		
Alder Creek & McCarthy	SBR	56	197	250	28.2 / C	17.4 / B
	EBL	186	68	315		

* 95th percentile queue length results based on Vissim simulation, **red text** denotes a queue that exceeds pocket length or distance to closest upstream intersection

As shown, queues and delays stay within an acceptable range for both the AM and PM peak periods for the signalized alternative. Signalization at McCarthy Way increases queues along Alder Creek, however the coordination with the signal at East Bidwell Street allows for reduced delay at Alder Creek Parkway & East Bidwell Street during the PM Peak hour.

BRT OPERATIONS AND ALIGNMENT ANALYSIS

Three alignment scenarios are presented, both with center-running westbound operations, but two with center-running eastbound operations and the other with right-running eastbound operations.

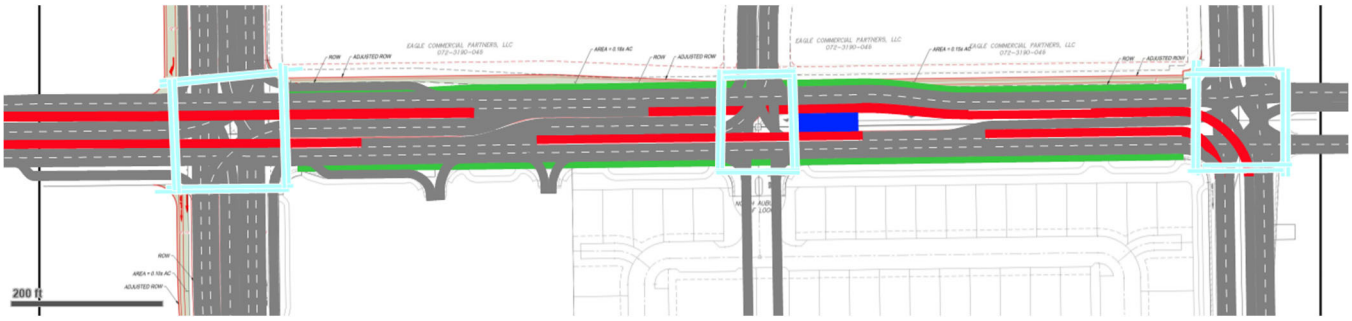


FIGURE 5: SIGNALIZED CENTER RUNNING – OPTION A: LEFT TURN LANE MERGE

Westbound BRT Operations Summary

- Northbound left turn from Westwood Drive directly into bus-only lane on Alder Creek Parkway
- No westbound left turn at McCarthy Way
- Near-side station at McCarthy Way with signalized crosswalk
- Bus-only lane transitions to general purpose lane west of McCarthy Way to allow vehicles turning left onto East Bidwell access to the turn lanes (128 vph PM peak)
- BRT has distance to get up to speed after departing station prior to vehicle traffic merging into lane
- Bus-only lane approaching East Bidwell with opportunity for advanced transit signal priority
- Westbound center-running BRT allows for transit to operate concurrent with vehicle phases taking advantage of signal progression
- Avoids heavy vehicle demand in right lanes along Alder Creek Parkway.

Eastbound BRT Operations Summary

- Eastbound BRT in bus-only lane across East Bidwell Street
- Bus-only lane ends east of East Bidwell to allow significant weave of eastbound left vehicles access to the turn lanes at McCarthy Way (369 vph AM peak)
- Bus-only lane resumes approaching McCarthy Way
- Far-side station at McCarthy Way with signalized crosswalk
- Bus-only lane ends immediately east of station to allow eastbound left turn vehicles access to the turn lane at Westwood Drive (57 vph AM peak)
- BRT enters bus-only lane approaching Westwood Drive where bus needs to wait for exclusive eastbound right turn phase from the left side of the through lanes, resulting in additional transit and vehicle delay with possible impacts to vehicle progression

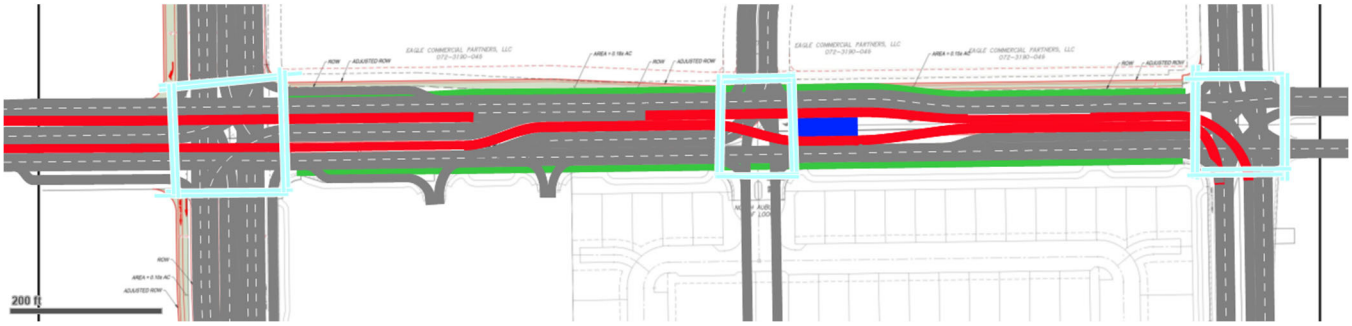


FIGURE 6: SIGNALIZED CENTER RUNNING – OPTION B: NO LEFT LANE MERGE

Westbound BRT Operations Summary

- Operations same as previous option

Eastbound BRT Operations Summary

- Eastbound BRT in bus-only lane across East Bidwell Street
- Instead of left turning vehicles merging across the bus lane, the bus lane maintains an alignment left of the left turn lanes avoiding the Option A conflict

- BRT need to wait at McCarthy for transit exclusive phase impacting vehicle progression or truncating the eastbound left phase
- Far-side station at McCarthy Way with signalized crosswalk
- Bus-only lane continues from station and maintains alignment left of the left turn lane approaching Westwood Drive
- BRT enters bus-only lane approaching Westwood Drive where bus needs to wait for exclusive eastbound right turn phase from the left side of the through lanes, resulting in additional transit and vehicle delay with possible impacts to vehicle progression
- Option B avoids the two merge conflicts with left turning vehicles with Option A, but requires shortening the left turn lane storage for westbound left at East Bidwell Street and the eastbound left at McCarthy Way

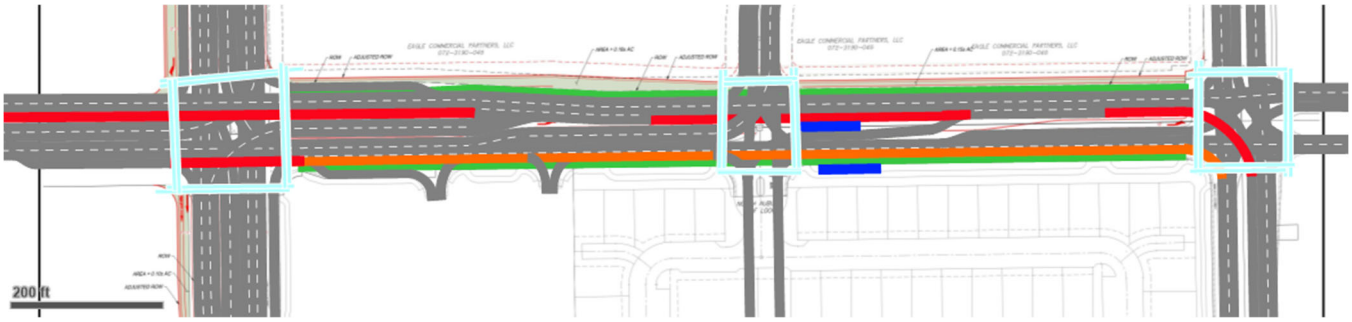


FIGURE 7: SIGNALIZED CENTER RUNNING WESTBOUND / RIGHT RUNNING EASTBOUND

Westbound BRT Operations Summary

- Operations same as the previous option, except option of westbound left turn lane at McCarthy Way with narrow eastbound Alder Creek Parkway concept with one eastbound through lane and one eastbound BAT lane

Eastbound BRT Operations Summary

- Eastbound BRT crosses East Bidwell Street to a right BAT lane using one of two options:
  - BRT transitions from center-running alignment to right-running west (TBD) of East Bidwell arriving at East Bidwell in right turn/queue jump lane and times with adjacent through phase reducing delay for vehicles and transit [shown]
  - BRT arrives at East Bidwell in center bus-only between through and left turn lanes. Requires significant and exclusive queue jump phase to transition two lanes to far-side right BAT lane. Results in increased delay for vehicles and transit [not shown]
- BAT lane allows only bus through movement and right turn access to driveways and intersections
- Far-side station at McCarthy Way with signalized crosswalk
- Station design can incorporate bike lane behind platform to eliminate bus/bike conflict
- Bus departs station in BAT positioned to make right turn at Westwood Drive
- Bus right turn from right lane at Westwood Drive allows bus to operate with progression of through vehicles minimizing delay for vehicles and transit

- Optional right turn lane at Westwood Drive (not shown) allows further vehicle and transit performance with right turn overlap phase
- BRT in right BAT lane avoids heavy traffic in left lane of Alder Creek Parkway
- Eastbound BAT lane concept allows for 7-lane cross-section, whereas center-running alignments require an 8-lane cross-section impacting right-of-way to the north
- No transit phase needed for right turn at Westwood Drive
- Transit signal priority can be used for early green or green extension to progress the BRT through the right turn at Westwood Drive as the BRT operates concurrent with the eastbound through phase

DKS 8950 CAL CENTER DRIVE, SUITE 340, SACRAMENTO, CA 95826 • 916.368.2000 • DKSASSOCIATES.COM

VISSIM MODEL ASSUMPTIONS AND QUEUE RESULTS

DATE: August 26, 2020

TO: Mark Rackovan | City of Folsom

FROM: Josh Pilachowski | DKS Associates
Jim Damkowitch | DKS Associates
Randy Johnson | DKS Associates

SUBJECT: City of Folsom Dignity Health Medical Campus Project # 20105-000

This memorandum documents the assumptions and queue results of the Vissim micro-simulation models developed for the future Dignity Health Medical Campus in Folsom, CA. Three hospital access/circulation alternatives were modeled to determine their relative operational performance.

The following four key intersections were analyzed for queue interaction, progression and potential operational issues.

- E Bidwell Street / US-50 Eastbound Ramps
- E Bidwell Street / Alder Creek Parkway
- Alder Creek Parkway / McCarthy Way
- Alder Creek Parkway / Westwood Drive

Additionally, the following four intersections were also analyzed to determine the operational effect of an access alternative that re-routes eastbound/westbound left turning traffic at Alder Creek Parkway / McCarthy Way intersection to adjacent intersections.

- E Bidwell Street / Driveway
- McCarthy Way / Driveway
- McCarthy Way / Mercy Way
- Westwood Drive / Mercy Way

MODEL ASSUMPTIONS

The modeling efforts focus on the fully built-out condition in year 2045. Traffic volume input is based on the forecast documented in a separate trip generation memo submitted on July 20, 2020. Both AM and PM peak hours are modeled. Driving behavior was kept at default values except at certain locations to allow for realistic merging behavior.

ALTERNATIVES

The following three hospital access/circulation alternatives were analyzed:

- Alternative A: traffic signal at Alder Creek Parkway / McCarthy Way with dual eastbound left-turn lanes
- Alternative B: 2-by-1 roundabout at Alder Creek Parkway / McCarthy Way intersection
- Alternative C: two-way stop control with right-in/right-out operations at Alder Creek Parkway / McCarthy Way intersection

Table 1, Table 2 and Table 3 show the assumptions for the key intersections under Alternative A, B and C respectively. Each hospital access/circulation alternative aims to meet mobility needs while minimizing right-of-way impacts.

TABLE 1: KEY ASSUMPTIONS (ALTERNATIVE A)

KEY INTERSECTION	LANE GEOMETRY	TRAFFIC CONTROL	BRT
ALDER CREEK & BIDWELL	Dual Lefts for all approaches	Actuated-coordinated Signal	WB center, EB shared with queue jump
	Right turn pockets for all approaches		
	Two through lanes EB/WB		
	Three through lanes NB/SB		
ALDER CREEK & MCCARTHY	Dual left EB, single left WB	Actuated-coordinated Signal	WB center, EB shared
	SB right turn pocket, other rights shared with through		
	Two through lanes EB/WB		
	Shared NB through/right, no left		
ALDER CREEK & WESTWOOD	Single lefts for all approaches	Actuated-coordinated Signal	NB left to center bus lane, EB shared
	Shared right/through movements		
	Two through lanes in all directions		

TABLE 2: KEY ASSUMPTIONS (ALTERNATIVE B)

KEY INTERSECTION	LANE GEOMETRY	TRAFFIC CONTROL	BRT
ALDER CREEK & BIDWELL	Dual Lefts for all approaches Right turn pockets for all approaches Two through lanes EB/WB Three through lanes NB/SB	Actuated-coordinated Signal	WB center, EB shared with queue jump
ALDER CREEK & MCCARTHY	Roundabout with dual E/W lanes and single N/S lanes	Roundabout	WB center, EB shared, merge prior to roundabout
ALDER CREEK & WESTWOOD	Single lefts for all approaches Shared right/through movements Two through lanes in all directions	Actuated-coordinated Signal	NB left to center bus lane, EB shared

TABLE 3: KEY ASSUMPTIONS (ALTERNATIVE C)

KEY INTERSECTION	LANE GEOMETRY	TRAFFIC CONTROL	BRT
ALDER CREEK & BIDWELL	Dual Lefts for all approaches Right turn pockets for all approaches Two through lanes EB/WB Three through lanes NB/SB	Actuated-coordinated Signal	WB center, EB shared with queue jump
ALDER CREEK & MCCARTHY	No left-turn for any approach NB/SB right turn, EB/WB rights shared with through Two through lanes EB/WB Physical barrier within intersection	Actuated-coordinated Signal	WB center, EB shared
ALDER CREEK & WESTWOOD	EB dual left with single lefts for all other approaches Shared right/through movements Two through lanes in all directions	Actuated-coordinated Signal	NB left to center bus lane, EB shared

Figure 1 shows a screenshot of the channelization used in the Vissim model for Alternative A. Red lane coloring indicates bus-only lanes, blue shows the BRT station platform locations, and green indicates bicycle lanes. Grey and white links in the model indicate general purpose vehicle lanes and crosswalks respectively. North-South signal coordination is assumed along Bidwell with the eastbound movement at Alder Creek Parkway / McCarthy Way coordinated with the southbound left from Bidwell.

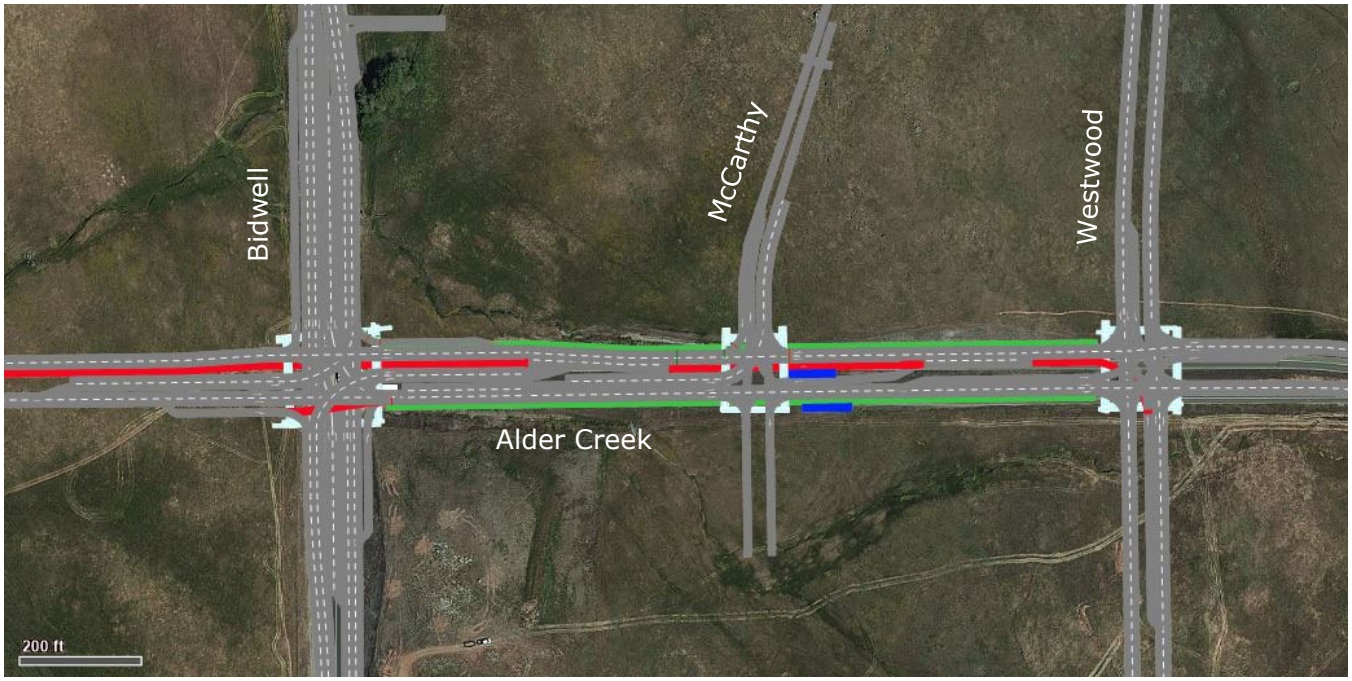


FIGURE 1: VISSIM CHANNELIZATION LAYOUT (ALTERNATIVE A)

Alternative B assumes a multi-lane (2 lanes in E/W direction and 1 lane in N/S direction) roundabout at Alder Creek Parkway / McCarthy Way intersection (Figure 2). The roundabout allows full movements at the intersection, which also slightly increases the traffic demand at adjacent intersections as a result of full movement access from the Enclave development at the Alder Creek Parkway / McCarthy Way intersection. Bidwell maintains north-south signal coordination while Westwood under this scenario operates uncoordinated. BRT is assumed to share lanes with other vehicles through the roundabout with a dedicated center running lane on the westbound approach and a right-running pullout station on the eastbound approach. All other assumptions are consistent with Alternative A as shown in Table 2.

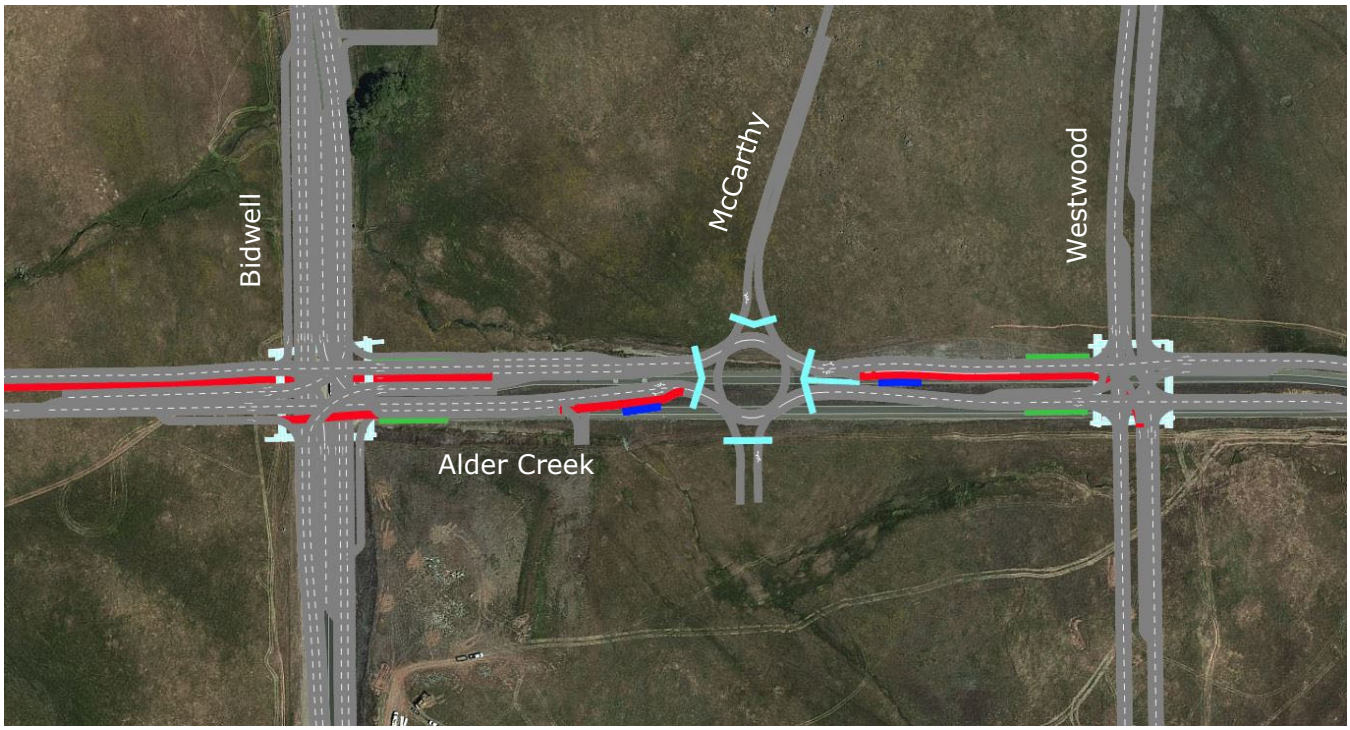


FIGURE 2: VISSIM CHANNELIZATION LAYOUT (ALTERNATIVE B)

Alternative C assumes two-way stop control and right-in-right-out restriction with no eastbound/westbound left turn at Alder Creek Parkway / McCarthy Way intersection (Figure 3). Bidwell maintains north-south signal coordination while Westwood under this scenario operates uncoordinated. The Alder Creek Parkway / Westwood Drive intersection is expected to have dual eastbound left-turn lanes to handle the increased U-turn demand. BRT operations are similar to Alternative A, but the pedestrians are accommodated with a pedestrian signal on the east leg connecting the stations and Enclave development with the Dignity and multi-family developments on the north side of Alder Creek Parkway. All other assumptions are consistent with Alternative A as shown in Table 3.

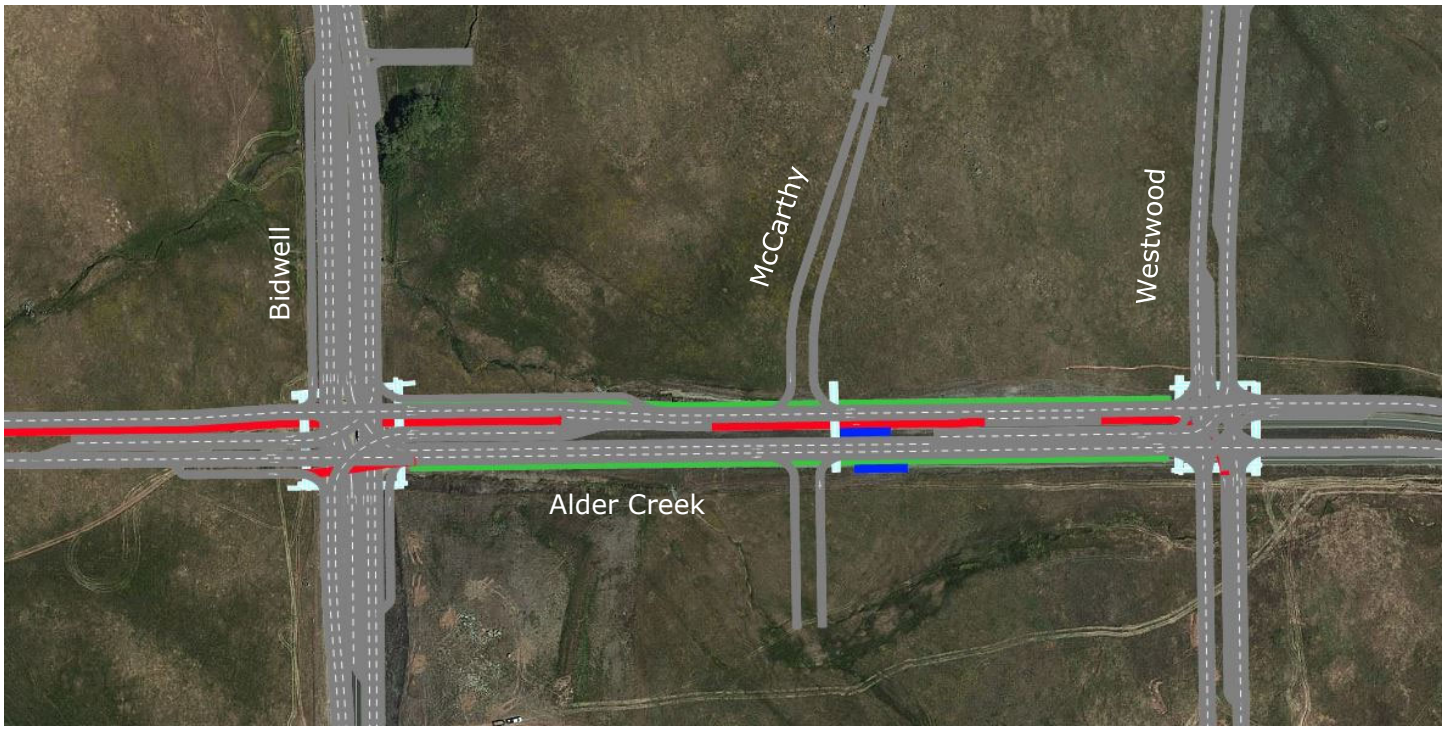


FIGURE 3: VISSIM CHANNELIZATION LAYOUT (ALTERNATIVE C)

QUEUE RESULTS

ALTERNATIVE A: COORDINATED SIGNALS

Queuing for much of the study area under Alternative A was minimal with movements within capacity for the intersection layout and signal timing. Key movements that experienced longer queues or would affect operations/design decisions are summarized in Table 4 below. Queue lengths that would determine turn pocket sizing are bolded in the following table.

TABLE 4: 95TH PERCENTILE QUEUE LENGTH (ALTERNATIVE A)

INTERSECTION	MOVEMENT	95TH %TILE Q (FT)* SCENARIO		DESIGN POCKET LENGTH (ft)	DELAY & LOS** SCENARIO	
		AM	PM		AM	PM
Alder Creek & Bidwell	SBL	**280**	253	400	48.0 / D	38.2 / D
	WBT	349	161	-		
	WBR	**304**	212	310		
Alder Creek & McCarthy	SBR	117	**289**	250	15.3 / B	24.9 / C
	EBL	**260**	116	315		

* 95th percentile queue length results based on Vissim simulation

** Capacity analysis results based on Synchro 10. Delay in seconds per vehicle. LOS based on HCM 6th Edition.

The proposed layout and signal timing are able to meet the traffic demand. Westbound queues between Bidwell and McCarthy on Alder Creek do not exceed available storage and are typically cleared during a single green indication. Note, additional right-of-way on the Dignity property is needed to extend the turn pocket to accommodate the estimated 95th percentile westbound queues. The eastbound right turn at McCarthy may experience occasional queuing due to the gated entry at Enclave. The gate was explicitly modeled in Vissim using a stop sign with a dwell time distribution of 10 seconds. However, due to the relatively low volume, there is not a significant impact to eastbound Alder Creek Parkway operations. The dual eastbound left turn lane at Alder Creek Parkway / McCarthy is able to accommodate peak hour demand without compromising through traffic operations. All other turning movement queues do not exceed storage assumed in the Vissim model.

ALTERNATIVE B: 2-BY-1 ROUNDABOUT

Queuing for much of the study area under Alternative B was minimal with movements within capacity for the intersection layout and signal timing. Key movements that experience longer queues or would affect operations/design decisions are summarized in Table 5 below. Queue lengths that influence turn pocket sizing considerations/design are shown as bolded.

TABLE 5: 95TH PERCENTILE QUEUE LENGTH (ALTERNATIVE B)

INTERSECTION	APPROACH/ MOVEMENT	95TH %TILE Q (FT)* SCENARIO		DESIGN POCKET LENGTH (ft)	DELAY & LOS** SCENARIO	
		AM	PM		AM	PM
Alder Creek & Bidwell	SBL	248	**273**	400	52.7 / D	41.6 / D
	WBT	325	140	-		
	WBR	**300**	178	310		
Alder Creek & McCarthy	SB	120	183	-	6.8 / A	5.6 / A
	EB	142	162	-		
	WB	228	49	-		

* 95th percentile queue length results based on Vissim simulation

** Capacity analysis results based on Synchro 10 or SIDRA 8. Delay in seconds per vehicle. LOS based on HCM 6th Edition.

The proposed layout and signal timing result in acceptable operations under peak hour conditions. Westbound queues between Bidwell and McCarthy on Alder Creek do not exceed storage and are typically cleared during a single green indication. The westbound right turn queue at Alder Creek/Bidwell does extend beyond the pocket and can cause some through lane blocking but does not result in queue spillback to the McCarthy intersection. The queuing and delay at the roundabout are minimal, while additional right-of-way on the Dignity property would be needed to accommodate its footprint. The eastbound right turn at McCarthy may experience occasional queuing due to the gated entry at Enclave. The low occurrence of vehicles arriving at the gate however does not result in queueing sufficient to adversely affect operations along Alder Creek. All other turning movement queues do not extend beyond the assumed pocket storage in the Vissim model.

ALTERNATIVE C: TWO-WAY STOP WITH EASTBOUND LEFT RESTRICTION

Queuing for much of the study area under Alternative C was minimal with movements within capacity for the intersection layout and signal timing. Key movements that experienced longer queues or would affect operations/design decisions are summarized in Table 6 below. Queue lengths that influence turn pocket sizing considerations/design are shown as bolded.

TABLE 6: 95TH PERCENTILE QUEUE LENGTH (ALTERNATIVE C)

INTERSECTION	MOVEMENT	95TH %TILE Q (FT)* SCENARIO		DESIGN POCKET LENGTH (ft)	DELAY & LOS** SCENARIO	
		AM	PM		AM	PM
Alder Creek & Bidwell	SBL	253	**263**	400	46.8 / D	37.7 / D
	WBT	245	118			
	WBR	**216**	157	310		
Alder Creek & McCarthy	SBR	38	**1096**	-	11.7 / B	32.9 / D
	EBTR	20	25	-		
Alder Creek & Westwood	EBL	**215**	143	215	34.7 / C	22.6 / C
Westwood & Mercy	EB	20	0	-	10.7 / B	10.3 / B

* 95th percentile queue length results based on Vissim simulation

** Capacity analysis results based on Synchro 10. Delay in seconds per vehicle. LOS based on HCM 6th Edition.

The proposed layout and signal timing result in acceptable operations under peak hour conditions except for the southbound right turn at Alder Creek and McCarthy in the PM peak hour. In this scenario, the southbound approach volume is 603 vehicles per hour which overloads the stop sign, leading to long queues extending a couple hundred feet north of Mercy Way (i.e., queue spillback). Conversely, westbound queues between Bidwell and McCarthy on Alder Creek do not exceed storage and are typically cleared during a single green indication. The eastbound right turn at McCarthy may experience occasional queuing due to the gated entry at Enclave. All other turning movement queues do not extend beyond the assumed pocket storage in the Vissim model.

KEY FINDINGS

The three scenarios studied offer different results for queuing, delay, site access/way finding and right-of-way impact. These are summarized below:

- Queuing and delay from the **Signalized** and **Roundabout** alternatives do not result in any significant queue spillback or blocking. Dual lane roundabout minimizes impact of gated entry to the south at McCarthy.
- Queuing and delay from the **No left at McCarthy** alternative results in *significant queuing southbound on McCarthy Way during the PM peak period spilling back north of Mercy Way*.
- Both the **Signalized** and **Roundabout** alternatives provide direct access to the hospital and other developments with opportunities for clear/intuitive way finding.
- The **Roundabout** alternative provides the benefit of full turning movements at McCarthy, while the **Signalized** and **No left at McCarthy** alternatives restrict select movements.
- The **No left at McCarthy** alternative requires out-of-direction travel with a required U-turn or routing via Westwood and Mercy, posing challenges for wayfinding.
- The **Roundabout** alternative results in significant right-of-way impact to the north of Alder Creek Parkway, while the **Signalized** and **No left at McCarthy** alternatives result in minor right-of-way impact on the Dignity site.
- All alternatives accommodate future BRT operation, however the **Signalized** and **No left on McCarthy** alternatives are able to provide increased length of dedicated BRT lanes as compared to the roundabout scenario.

APPENDIX A: SIGNAL TIMING

AM NO EBLT AT MCCARTHY

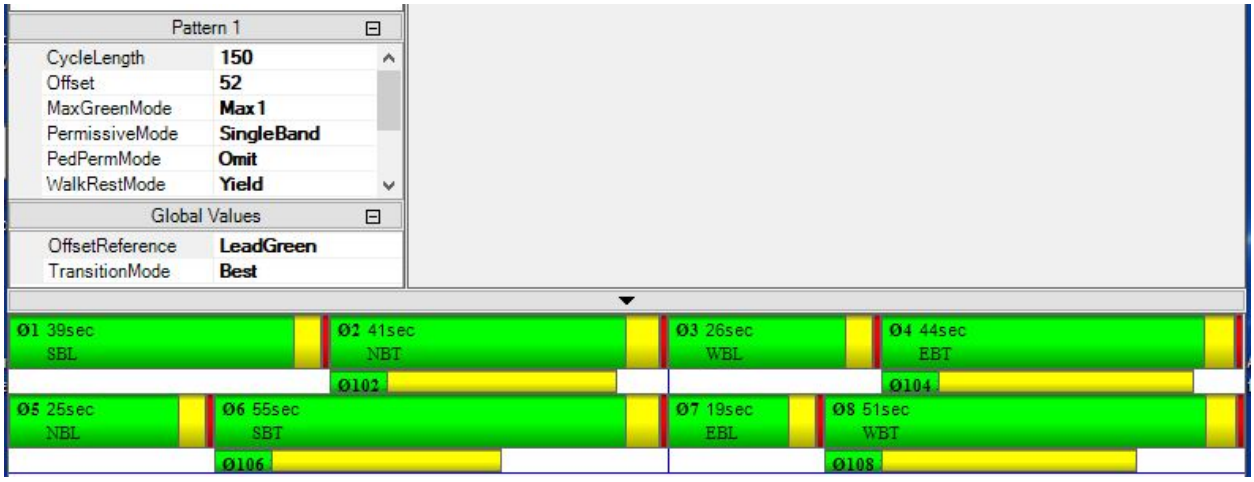


FIGURE 4: ALDER CREEK AND BIDWELL AM NO EBLT AT MCCARTHY

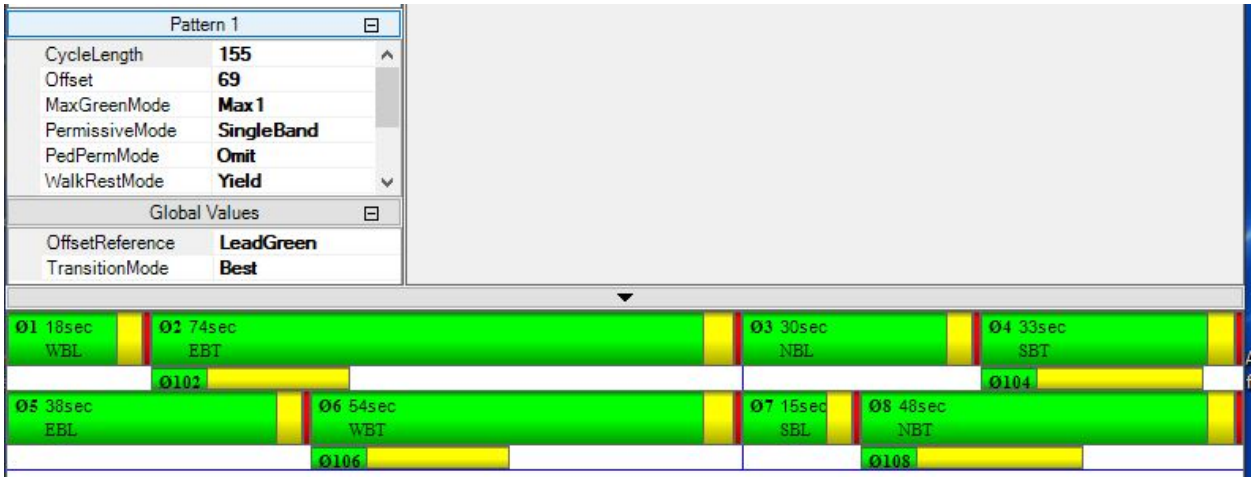


FIGURE 5: ALDER CREEK AND WESTWOOD AM NO EBLT AT MCCARTHY

PM NO EBLT AT MCCARTHY



FIGURE 6: ALDER CREEK AND BIDWELL PM NO EBLT AT MCCARTHY

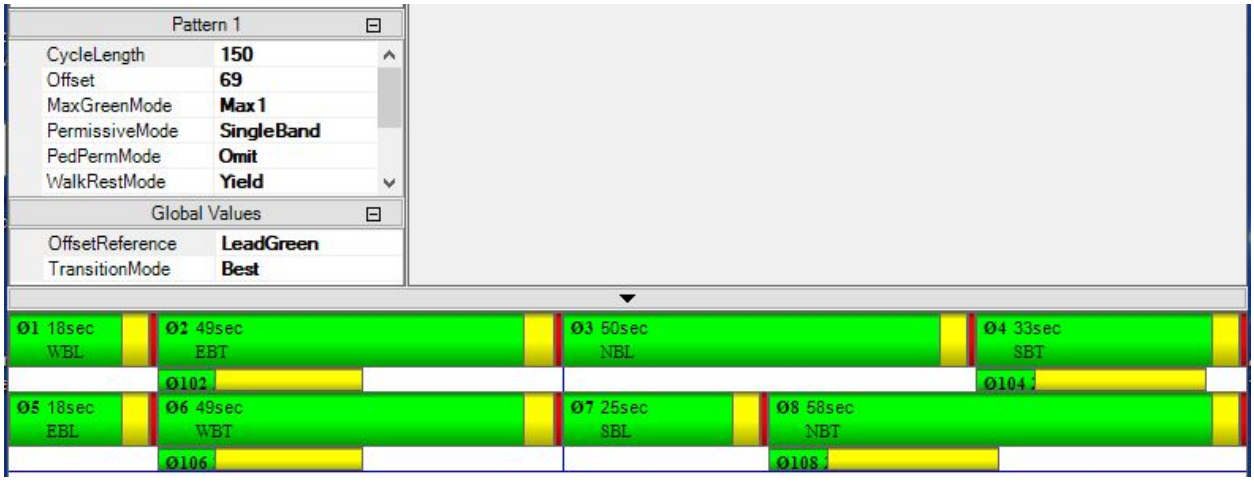


FIGURE 7: ALDER CREEK AND WESTWOOD PM NO EBLT AT MCCARTHY

AM SIGNAL AT MCCARTHY

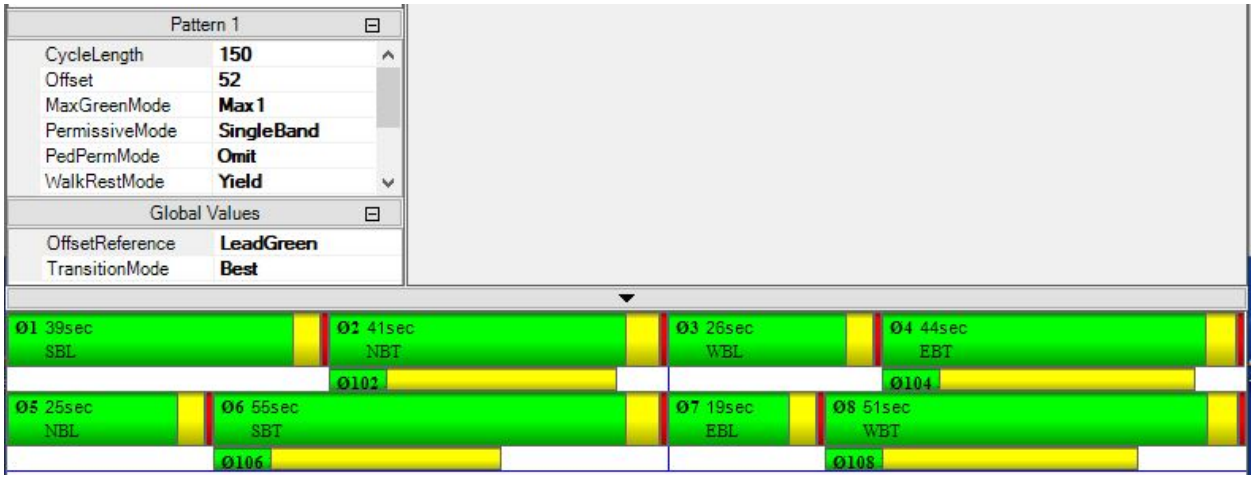


FIGURE 8: ALDER CREEK AND BIDWELL AM SIGNAL AT MCCARTHY

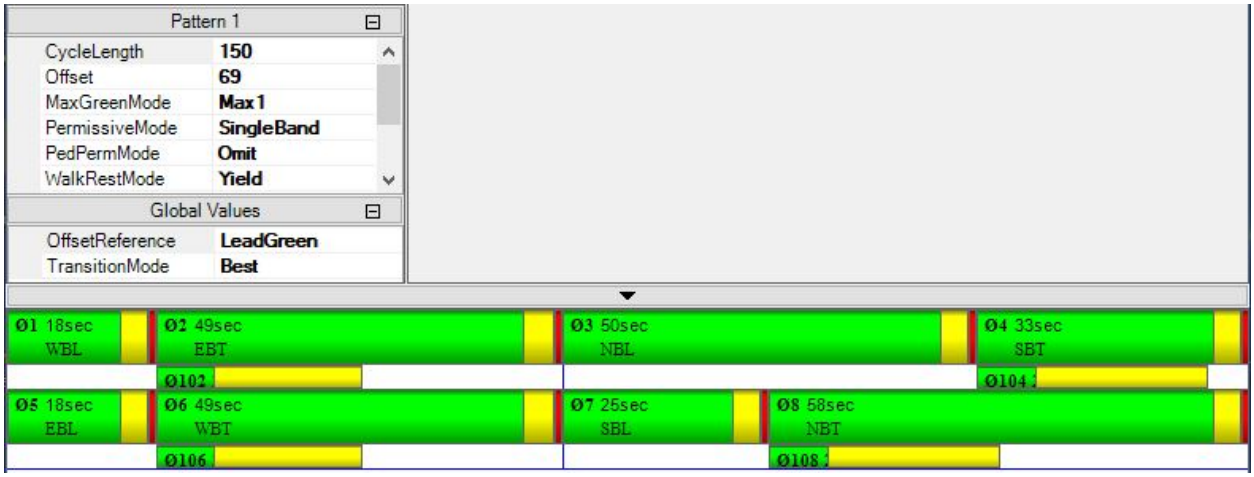


FIGURE 9: ALDER CREEK AND WESTWOOD AM SIGNAL AT MCCARTHY

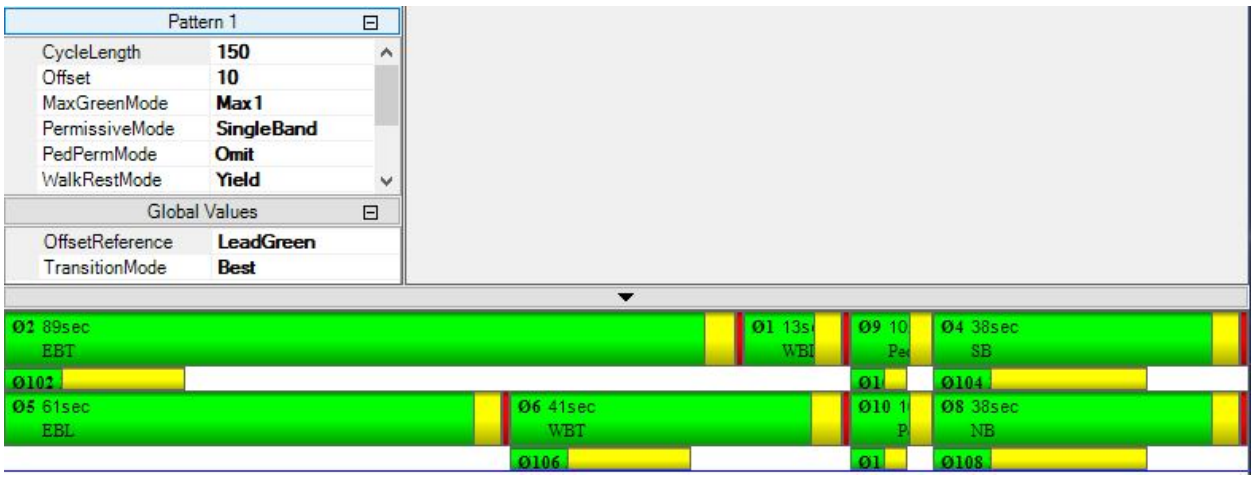


FIGURE 10: ALDER CREEK AND MCCARTHY AM SIGNAL AT MCCARTHY

PM SIGNAL AT MCCARTHY



FIGURE 11: ALDER CREEK AND BIDWELL PM SIGNAL AT MCCARTHY



FIGURE 12: ALDER CREEK AND WESTWOOD PM SIGNAL AT MCCARTHY



FIGURE 13: ALDER CREEK AND MCCARTHY PM SIGNAL AT MCCARTHY

ROUNDABOUT AM AT MCCARTHY

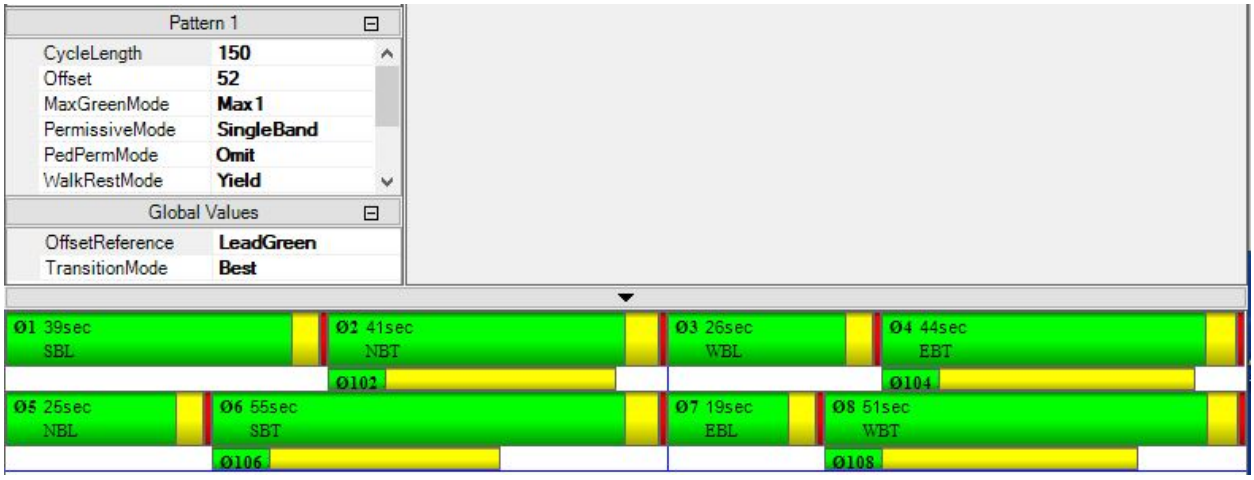


FIGURE 14: ALDER CREEK AND BIDWELL AM ROUNDABOUT AT MCCARTHY

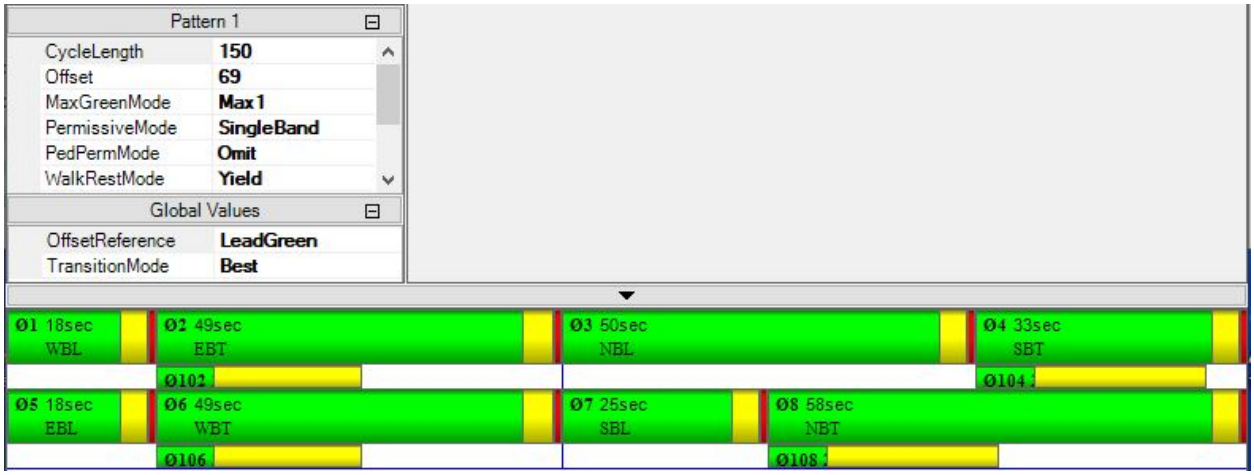


FIGURE 15: ALDER CREEK AND WESTWOOD AM ROUNDABOUT

PM ROUNDABOUT AT MCCARTHY



FIGURE 16: ALDER CREEK AND BIDWELL PM ROUNDABOUT

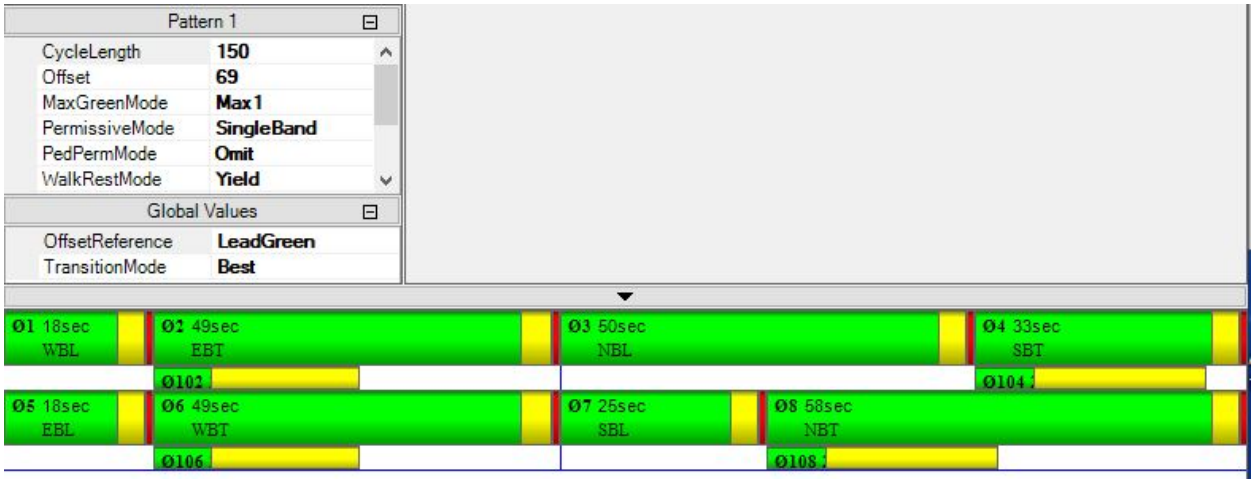


FIGURE 17: ALDER CREEK AND WESTWOOD PM ROUNDABOUT